

# L'ENVIRONNEMENT en Principauté de Monaco

in the Principality of Monaco





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Under the leadership of His Serene Highness Prince Albert II, the Government's policy on sustainable development and the environment is organised around four strategic priorities:

- The energy and climate policy;
- Managing the natural heritage and protecting biodiversity;
- Measures to promote a sustainable city and lifestyle;
- Getting the Monegasque community more involved.

This political will for sustainable development is also reflected in Act No. 1.456 of 12/12/2017 concerning the Environment Code, which covers all aspects related to protecting nature and habitats, pollution, risks and noise pollution, enhancing the quality of life and managing energy.



## HSH PRINCE ALBERT II A COMMITTED HEAD OF STATE

THE 2017-2018 ENVIRONMENTAL DIARY OF HSH PRINCE ALBERT II OF MONACO

### MONACO EXPLORATIONS

#### ■ 4 APRIL 2017 ■ LAUNCH OF THE MONACO EXPLORATIONS AT THE OCEANOGRAPHIC MUSEUM OF MONACO

On 4 April 2017, HSH Prince Albert II presented the launch of the 2017/2020 Monaco Explorations campaign at the Oceanographic Museum, reviving the maritime scientific explorations initiated by His great-great-grandfather, Prince Albert I, some 120 years ago.

The objective of Monaco Explorations is to help gain a better understanding of the seas and oceans and raise awareness amongst the public and decision-makers throughout the world in order to promote conservation work both locally and internationally.

Monaco Explorations is based on the Yersin, a versatile and modular ship equipped with 6 research laboratories, so that its occupants can travel, explore and teach in the best possible working and safety conditions. The scientific programme will last three years.

Its aim: to provide the international scientific community with a travelling research platform on which scientists will come and go during this period. This research programme is actively supported by the Prince's Government, the Prince Albert II of Monaco Foundation, the Prince Albert I of Monaco Institute of Oceanography and the Monaco Scientific Centre by providing human, material and financial resources.

The scientific programme is based on the recommendations of a Scientific Steering Committee (SSC) composed of 10 internationally renowned scientists and led by Professor Rampal. Its primary



- 1 • Launch of the Monaco explorations at the Oceanographic Museum of Monaco © Michel DAGNINO / Musée océanographique
- 2 • Departure of the Yersin from the Monaco Yacht Club © Gaetan LUCI / Palais Princier
- 3 • HSH The Prince in Madeira on the Yersin - 1<sup>st</sup> stop in Macaronesia © Olivier Borde / Monaco Explorations

objective is to select research programmes and manage the selected projects. The campaign will also include awareness-raising, communication and mediation measures.

### **■ 27 JULY 2017 ■ DEPARTURE OF THE YERSIN FROM THE MONACO YACHT CLUB**

On July 27, 2017, the Princely Couple and Their Children, Crown Prince Jacques and Princess Gabriella, were on board the research vessel, the Yersin to take part in the ship's departure ceremony from the Monaco Yacht Club. It is scheduled to return to the Principality in June 2020.

### **■ 5 SEPTEMBER 2017 ■ HSH THE PRINCE IN MADEIRA ON THE YERSIN - 1<sup>ST</sup> STOP IN MACARONESIA**

HSH Prince Albert II visited Portugal from 5 to 7 September 2017 for a diplomatic, historical and scientific visit.

On 5 September, at the Belém National Palace in Lisbon, the Sovereign Prince met HE Mr. Marcelo Rebelo de Sousa, President of the Republic of Portugal.

Together, they discussed relations between the two countries, environmental protection issues and more particularly, the subject of Marine Protected Areas (MPAs).

During the day, HSH. the Prince visited Funchal, on the Portuguese island of Madeira, for Monaco Explorations' the first scheduled stop on board the Yersin in Macaronesia.

This first leg of the scientific expedition also had an historical character because HSH Prince Albert II is following in the footsteps of his great-great-grandfather, Prince Albert I.

During his visit to the island of Madeira, the Sovereign Prince inaugurated the Albert I Square in Funchal, in the presence of the government of Madeira, a delegation from Monaco and local residents.

HSH Prince Albert II then attended the opening of the exhibition '*An explorer Prince. Albert I of Monaco's expedition to Madeira*' which was held at the Natural History Museum in Funchal until January 7, 2018.

This exhibition, curated by the Archives of the Prince's Palace in coordination with the Oceanographic Museum, the Audiovisual Archives of Monaco and the Natural History Museum of Funchal, was

designed as a travel diary following Prince Albert I's journey to Madeira between 1879 and 1912 through his correspondence, his personal diary, numerous historical photographs, scientific instruments and paintings by Louis Tinayre.

During his many travels on the island, Prince Albert I made scientific observations, carried out experiments with oceanographic equipment and six of his oceanographic research campaigns took place in Madeiran waters.

In Madeira, HSH. Prince Albert II stayed on board the Yersin, with the crew and scientists from Monaco Explorations.

### **■ 6 SEPTEMBER 2017 ■ WORKSHOP ON MONK SEALS ON THE YERSIN, ORGANISED BY FPAII IN MADEIRA**

On 6 September, HSH. Prince Albert II participated in an expert workshop organised by the Prince Albert II of Monaco Foundation presenting a report on monk seals, the most threatened pinniped species today.

The Mediterranean monk seal is one of the most threatened mammals in the world with only 500 individuals recorded in the Mediterranean and the Atlantic coastal area. Two major problems are responsible for the monk seal's vulnerability: firstly, fishermen see it as a competitor for fish stocks and, secondly, this species is affected by habitat degradation due to urbanisation and tourism.

As part of the protection programme implemented by the local government, Monaco Explorations invited teams from the Instituto das Florestas Conservação e Natureza, to make use of the Yersin and specialised divers to complete the mapping of the monk seal's habitat on the north of Madeira Island. A rota of ten researchers from three different organisations were able to create an inventory of the biodiversity of the waters of the little-known archipelago.

### **■ 21 AND 22 SEPTEMBER 2017 ■ HSH THE PRINCE VISITS THE REPUBLIC OF CAPE VERDE ON THE YERSIN**

On 21 and 22 September 2017, HSH Prince Albert II paid an official visit to the Republic of Cabo Verde (Cape Verde) as part of the Monaco Explorations.

In Mindelo (Sao Vicente Island), HSH the Prince was received by the President of Cape Verde, HE Mr. Jorge Carlos De Almeida Fonseca, as well as their delegations, the Mayor of Sao Vicente, and by Mr. Robert Calcagno,

Director of the Oceanographic Museum of Monaco and Head of the Monaco Explorations Campaign Unit.

HSH the Prince visited the Ocean Science Centre Mindelo (OSCM), where he was welcomed together with Professor Astrigilda Silveira, Vice-Chancellor of the University of Cape Verde, Dr Osvaldina Silva, President of the Instituto Nacional de Desenvolvimento das Pescas (INDP), Professor Peter Herzig, Director of GEOMAR Helmholtz Centre for Ocean Research Kiel by Mr. Paulo Cafôfo, Mayor of Funchal (Madeira).

Mr Carlos Ferreira Santos, Honorary Consul of Germany in Cape Verde, Head of the OSCM, acted as the Master of Ceremonies for the event. After the welcome speeches of the three leaders, HSH the Prince delivered a speech.

Subsequently, Mr. Robert Calcagno, Mr. Rui Freitas, Scientific Director of the Cape Verde Mission of Monaco Explorations and Dr. Björn Fiedler of GEOMAR, presented the mission.

At the end of these presentations, HSH the Prince headed to the OSCM's video conferencing room to talk to 267 children from primary schools, middle schools and high schools in Monaco who had assembled in the conference room of the Oceanographic Museum of Monaco.

At lunch, the Sovereign presented the Republic of Cape Verde with a Cape Verde giant skink, Chioninia coctei, collected by Prince Albert I on Branco islet in 1901. This donation was very special because the giant skink is now considered extinct. Cape Verde has not conserved any specimens of this species and this donation means that an important genetic, scientific and cultural heritage has been returned.

HSH the Prince invited President Fonseca and his delegation on board the Yersin.

After the departure of President Fonseca and his delegation, the ship left the port of Mindelo to reach the small island of Branco in late afternoon.

During the dinner aboard the Yersin, HSH the Prince reviewed the current research with Dr Raquel Vasconcelos of the University of Porto, Dr Aurélien Mirallès of the National Natural History Museum of Paris, Ms Sonia Araujo-Lopes, Director of the Nature Conservation Department at the Cape Verde National Department of Environment and Mr Kenny Delgado, naturalist (Local Association Biosfera).

The Yersin sailed to the island of Boa Vista and docked in the early morning at the port of Sal Rei.



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4 • HSH The Prince visits the Republic of Cape Verde  
© Olivier Borde / Monaco Explorations

5 • HSH The Prince in Martinique  
© Olivier Borde / Monaco Explorations



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Subsequently, HSH the Prince welcomed aboard Mr Christophe Eizaguirre from the 'London Queen Mary University' accompanied by 15 officials from 10 Cape Verdean non-governmental and scientific organisations which are involved in protecting sea turtles.

After discussions with these dignitaries, all the participants visited Curral Velho beach at the south of the island, where they listened to presentation of research carried out by scientists to better understand the life of marine turtles, study their movements and behaviour using different beacons, their metabolism, and determine the sex of sea turtles after they hatch.

HSH the Prince was also able to observe the nursery, which is home to relocated nests of sea turtles from which baby turtles hatch.

A group of young children whose daily school activities included the sea turtles received the environmental education booklet, thanks to the contribution of Monaco Explorations.

## ■ 26 OCTOBER 2017 ■ HSH THE PRINCE IN MARTINIQUE ON THE YERSIN

HSH Prince Albert II of Monaco paid tribute to former Calypso captain Albert Falco, Jacques Cousteau's long-time diving companion, at the island's Precheur marine nature reserve.

Albert Falco, a French scuba diving veteran and champion of underwater conservation, played a significant role in discovering and preserving Martinique's aquatic ecosystems. The 'Precheur' reserve bears his name.

In the evening, Prince Albert organised a meeting in Fort-de-France to share the work of Monaco Explorations, and more particularly its Sargasso mission in Martinique with an audience of more than 150 people.



6 • HSH The Prince in Malpelo, Colombia (marine sanctuary) © Olivier Borde / Monaco Explorations

7 • HSH The Prince on Badu Island - Torres Strait © Ariel Fuchs / Monaco Explorations

## ■ 20 AND 21 MARCH 2018 ■ HSH THE PRINCE IN MALPELO, COLOMBIA (MARINE SANCTUARY)

HSH Prince Albert II visited the island of Malpelo, off the coast of Colombia, accompanied by Mr. Patti Londoño Jaramillo, Colombian Deputy Minister of Foreign Affairs, Admiral Juan Soltau, responsible for the Colombian Navy's maritime interests, and Robert Calcagno, Director of Monaco Explorations.

The Sovereign was thus able to participate in the work of the scientific teams working on the island of Malpelo. He also dived and tagged sharks near the coast with members of the *Fundación Malpelo*.

Prince Albert II also took part in the work of the Invermar Columbia team, which collects samples and identifies species, and the work of the ROV operators of the Monaco Scientific Centre.

## ■ 1 TO 4 NOVEMBER 2018 ■ HSH THE PRINCE ON BADU ISLAND - TORRES STRAIT

HSH Prince Albert II visited the small island of Badu in the middle of the Torres Strait between Australia and Papua New Guinea. The purpose of this project of Monaco Explorations was to explore the culture of the Strait Islanders in depth.

The Sovereign Prince and the Monaco Explorations team, including Robert Calcagno, Director General of the Oceanographic Institute, met the Badulgal people (200 to 300 people). The art of this people, which since ancient times, has always been focussed on the marine environment and still plays an integral part in their daily lives, is entirely infused with marine life, ocean

legends and totems of marine animals. Some of the island's artists exhibited their culturally infused art at Taba Naba, the major exhibition at the Oceanographic Museum of Monaco, in 2016. Alick Tipoti, an active artist from Badu Island, was among them; she first met HSH Prince Albert II at that exhibition.

After being welcomed by local authorities, the island's elders and children, Prince Albert and the artist Alick Tipoti notably discussed the problems of coastal erosion around the island at spring tides ('the king's tides') and the disappearance of coral. These remote islands are paradoxically highly impacted by the effects of human activity, whether from plastic pollution, drift nets or global warming.

As the first senior Western official to visit Badu Island, HSH the Prince witnessed the effects of global warming on the coral reefs of the Strait of Torres, which suffer repeated bleaching episodes.

The Sovereign Prince and the Monaco Explorations team then participated in a meeting with the elders during which they were able to discuss the islanders' relationship with nature, their use of resources, the impact of climate change on their society and the influence of the Western world on their way of life.

Prince Albert II was particularly sensitive to the people's worries given the threats posed by global environmental changes, not only to their physical environment but also to the future of their society. The erosion of their island's coastline, together with the erosion of their ancestral culture, raise fears that their communities and way of life will disappear.



8 • Monaco Ocean Week In The Principality – Signature of the Pelagos Headquarters Agreement (3 april 2017) © Eric MATHON / Palais Princier

## PROTECTING THE OCEANS

### **■ 30 MARCH TO 4 APRIL 2017 ■ MONACO OCEAN WEEK IN THE PRINCIPALITY - SIGNATURE OF THE MONACO MANIFESTO DURING THE 8<sup>TH</sup> YEAR OF THE MONACO BLUE INITIATIVE (3 APRIL 2017) AND SIGNATURE OF THE PELAGOS HEAD- QUARTERS AGREEMENT (3 APRIL 2017).**

The Principality's commitment to preserve marine ecosystems has a historical context, from the inauguration of the Oceanographic Institute in 1911 by Prince Albert I of Monaco to the creation, in 2006, of the Prince Albert II of Monaco Foundation. The aim of gaining a better understanding of the threats to the planet's environment, and in particular to the oceans, is once again part of Monaco's agenda.

Thus, the *Monaco Ocean Week* is an opportunity for local stakeholders and international organisations based in Monaco to share their experiences and deepen their thinking on marine environment conservation and developing a sustainable 'blue' economy.

More than 30 events were organised in iconic locations around the Principality attended by local and international experts, the scientific community, not-for-profit organisations and public authorities.

### **■ SIGNATURE OF THE MONACO MANIFESTO DURING THE 8<sup>TH</sup> MONACO BLUE INITIATIVE**

As part of the *Monaco Ocean Week*, attended by nearly 1,000 visitors, The *Monaco Manifesto for the Ocean* was published to alert States, NGOs, national & international institutions, companies and scientists to the need to unite all their efforts to preserve oceans and all the planet's marine ecosystems.

Conserving life below water is the 14<sup>th</sup> out of 17 Sustainable Development Goals (SDGs) set by the United Nations. The *Monaco Manifesto for the Ocean* stresses the ocean's decisive role of the ocean in not only managing climatic and meteorological balances, but also the daily life of all the planet's inhabitants.

Today, more than a billion of our fellow humans use fish stocks as their main source of animal protein. Nearly half of the world's population lives in coastal areas. More than 80% of our trade is by sea. Tomorrow, a large part of our energy, food and raw materials will come from the ocean.

More than 150 participants have already signed the *Monaco Manifesto for the Ocean* and are calling on all stakeholders to coordinate their efforts to create a new alliance between humanity and the ocean, because this alone can guarantee our future and that of the Earth.

### **■ SIGNATURE OF THE PELAGOS HEADQUARTERS AGREEMENT**

On 3 April 2017, the Residence of the Minister of State for Monaco was the chosen location for the Signing Ceremony of the Headquarters Agreement between the Government of Monaco, the Parties and the Permanent Secretariat of the Pelagos Agreement.

This important event, which took place at the same time as the *Monaco Ocean Week*, was attended by HSH Prince Albert II and the French and Italian Ministers of the Environment, Sérgolène Royal and Gian Luca Galletti respectively. The signature of the Headquarters Agreement recognises the legal status of the Permanent Secretariat of Pelagos, in the Principality.



## **■ 10 APRIL 2017 ■ 32<sup>ND</sup> MEETING OF OCEAN ENERGY SYSTEMS (OES) IN THE PRINCIPALITY**

On 10 April 2017, the 32<sup>nd</sup> meeting of *Ocean Energy Systems* was held in Monaco, in the presence of HSH Prince Albert II of Monaco and delegates from the organisation's 24 member countries.

Founded in 2001, *Ocean Energy Systems* (OES) is an international technology initiative dedicated to marine energy. This working group is part of the International Energy Agency in Paris. OES' aim is to ensure that energy from the sea becomes increasingly sustainable in the future. To this end, OES aim is to promote technological developments and, above all, share the most relevant information between the various member countries, explained Henry Jeffrey, President of OES. Research on ocean energy is being carried out in five main areas: waves, ocean temperature, tides, salinity and currents.

At this event, organised by the Monegasque National Committee of the World Energy Council, in partnership with the Prince's Government and the Prince Albert II of Monaco Foundation, Mr Henry Jeffrey presented the annual report of *Ocean Energy Systems* to the Sovereign Prince.

## **■ 9 JUNE 2017 ■ FIRST UNITED NATIONS OCEAN CONFERENCE – NEW YORK**

From 5 to 9 June 2017, the United Nations hosted its first Ocean Conference in New York, which addressed

the climate issues, and on this occasion supported the implementation of Sustainable Development Goal 14 (SDG 14), which provides for '*conserving and sustainably using oceans, seas and marine resources for sustainable development*' as a kind of '*Call for Action*.' The stated ambition of SDG 14 is to take measures capable of preserving 10% of the oceans by 2020, instead of less than 4% at present.

This five-day meeting was the first of its kind at the United Nations to discuss the problems facing the oceans, from coral bleaching to plastic pollution, overfishing and rising water levels due to climate change.

Opening the conference, UN Secretary-General Antonio Guterres urged States to put aside their own interests to save the oceans and avoid a "global catastrophe".

On the same day, HSH Prince Albert II addressed the United Nations plenary session: "*As this conference shows, we are finally deciding to draw up rules to meet the challenge of conserving the seas. Today, we also know the tremendous opportunities that the oceans bring, provided we are able to protect and exploit them in a sustainable way,*" said the Sovereign.

After bilateral meetings, with Mr. Petteri Talaas, Secretary General of the World Meteorological Organisation and Mr. Antonio Guterres, Secretary General of the United Nations, the Sovereign co-chaired the partner dialogue on ocean acidification.



9• 32<sup>nd</sup> Meeting Of Ocean Energy Systems (OES) in the Principality © Eric MATHON / Palais Princier  
10• Arrival of the London to Monaco Cycle Ride at the Place du Palais © Gaetan LUCI / Palais Princier

### **/ 17 JUNE 2017 / VISIT TO THE PELAGOS SANCTUARY**

HSH Prince Albert II visited the Pelagos sanctuary on 17 June 2017 with Giuseppe Notarbartolo di Sciaro, scientist, marine scientist and President of the Tethys Research Institute. He is one of the main architects behind the creation of the Pelagos sanctuary.

This visit was organised as part of filming of Danielle Ryan's documentary entitled '*The Map to Paradise*' which looks at the birth of the Marine Protected Areas movement and seabed conservation.

### **/ 8 SEPTEMBER 2017 / HSH THE PRINCE PARTICIPATES IN THE HIGH-LEVEL MEETING AT THE IMPAC 4 CONGRESS IN CHILE**

The 4<sup>th</sup> International Congress of Marine Protected Areas (MPA) was held in Chile from 4 to 8 September 2017. Every four years, the IMPAC congress brings together all sea managers to work on protecting marine biodiversity and developing sustainable activities.

The Prince Albert II of Monaco Foundation participated in the whole IMPAC 4 congress, at La Serena. In particular, it was an opportunity to work on strengthening the work of the Trust Fund for the Mediterranean by participating in various specific 'side-events' on MPA sustainable financing. Strongly involved in the development of MPAs, both in the most remote regions, in the Arctic and Antarctic, and in the Mediterranean, the Foundation is delighted that the MPA management networks are increasing around the world.

This Technical and Scientific Congress was followed by an international political meeting on 9 September in Vina del Mar, in which HSH Prince Albert II participated alongside Ms Michelle Bachelet, President of Chile and several ministers, mainly from Latin American countries. During this trip, on 8 September, the Sovereign Prince received the National Environment Prize in Santiago, Chile, awarded by the Recyclapolis Foundation.

### **/ 26 SEPTEMBER 2017 / ARRIVAL OF THE LONDON TO MONACO CYCLE RIDE AT THE PLACE DU PALAIS**

Organised by the *Blue Marine Foundation*, with the support of the Prince Albert II of Monaco Foundation, the 'London to Monaco cycle ride' took place from 17 to 26 September 2017. This event is intended to strengthen the collaboration between the two organisations on sea and ocean conservation projects. The cyclists left London and arrived at the Place du Palais, Monaco where, after cycling 1,400 kilometres, they were welcomed by HSH Prince Albert II.

*"The Oceans are more than ever at the heart of our shared future." The "London to Monaco cycle ride is a wonderful opportunity to raise awareness of the need to protect our fragile oceans," said HSH Prince Albert II of Monaco.*



11 • 1<sup>st</sup> Monte-Carlo Gala for the Global Ocean - in the presence of Leonardo Di Caprio who received the Prince Albert II Foundation Award presented by HSH the Prince - Casino Terraces © Getty Images / FPA  
12 • Our Ocean Conference in Malta © Eric MATHON / Palais Princier



## ■ 28 SEPTEMBER 2017 ■ 1<sup>ST</sup> MONTE-CARLO GALA FOR THE GLOBAL OCEAN - MONACO

On 28 September 2017, the Prince Albert II of Monaco Foundation organised an exceptional gala on the Terraces of the Monte-Carlo Opera House, which raised several million dollars thanks to the generosity of the donors attending the event, a sum that will finance initiatives to promote sustainable ocean management.

Chaired by HSH Prince Albert II, who was accompanied by HSH Princess Charlène, the first Monte Carlo Gala for the Global Oceans began with a speech by the Sovereign Prince, who stressed the importance of conserving our oceans and protecting marine natural habitats.

During this Gala, HSH the Sovereign Prince presented Oscar-winning actor and environmental activist Leonardo DiCaprio with the Prince Albert II of Monaco Foundation Prize for his outstanding work in protecting and conserving our planet.

## ■ 5 AND 6 OCTOBER 2017 ■ OUR OCEAN CONFERENCE IN MALTA

Organised by the European Union, the *Our Ocean* conference was held in Malta on 5 and 6 October 2017. This event, organised by Mr John Kerry, aims to inspire and strengthen a new generation of leaders, entrepreneurs, scientists and civil society to identify solutions and engage in projects for a sustainably managed ocean.

During this conference, the Prince Albert II of Monaco Foundation organised two conference Side-Events; The first, involving HSH Prince Albert II of Monaco and HRH the Prince of Wales, concerned corals and led to a joint statement proposed by HSH Prince Albert II of Monaco and HRH Prince Charles.

Australia, the Cook Islands, Fiji Islands, France, French Polynesia, Grenada (West Indies), Indonesia, Mexico City, Monaco, Niue (South Pacific), Palau and the Seychelles have also signed this declaration, underlining their commitment to working together to preserve corals and the lives of the many people who depend on them.

The second Side-Event jointly organized with the *International Sustainable Unit* of HRH the Prince of Wales, focused on the blue economy and demonstrated that sustainable ocean management represented a huge potential for economic development. The need to build partnerships between all stakeholders, including those in finance and business, was stressed.

A framework agreement was also signed on 5 October 2017 between the Tara Expeditions Foundation, the Prince Albert II of Monaco Foundation and the Scientific Centre of Monaco, as part of Monaco Explorations. This agreement will promote reaching common objectives between the parties and creating synergies, in order to optimise and develop their respective efforts to understand the Ocean.

On 6 October, the Sovereign Prince addressed the issue of Marine Protected Areas (MPAs), during a speech in which he announced the efforts of the Government



13 • High level event in the Principality between Monaco and Sweden - Signature of a Declaration of Cooperation between the two countries. Sweden and Monaco join forces to protect the oceans and ensure sustainable shipping © Axel BASTELLO / Palais Princier

of the Principality and His Foundation to support and pursue the creation of a Trust Fund for MPAs in the Mediterranean, an essential tool if MPAs are to be managed effectively.

HSH Prince Albert II also officially announced the launch of the second '*Beyond Plastic Med*' call for projects. This project aims to support the efforts of NGOs and local authorities who want to carry out innovative projects to combat plastic pollution on the shores of the Mediterranean.

### **■ 13 OCTOBER 2017 ■ HIGH LEVEL EVENT IN THE PRINCIPALITY BETWEEN MONACO AND SWEDEN - SIGNATURE OF A DECLARATION OF COOPERATION BETWEEN THE TWO COUNTRIES**

Sweden and Monaco join forces to protect the oceans and ensure sustainable shipping

In the presence of HSH Prince Albert II and HSH Prince Carl Philip of Sweden, the representatives of Sweden in France and Monaco (as well as their Monagesque counterparts, including the Prince Albert II of Monaco Foundation) jointly organised a high-level event from 12 to 14 October 2017 on protecting the oceans and sustainable shipping.

As a follow-up to the Oceans Conference held at the United Nations in New York in June 2017, Sweden and Monaco wished to join forces and take concrete action by exchanging experience and know-how on measures to protect the oceans.

Sweden and Monaco share a strong commitment to conserving the seas, but also to supporting the implementation of Sustainable Development Goal 14 (SDG 14), which is on the agenda of the United Nations in 2030.

The Baltic Sea and the Mediterranean Sea are at the heart of both countries' concerns, as are the links between these two seas. Commitments to improve the situation in these two seas have led Monaco and Sweden to develop research on this issue as well as initiate cooperation via stakeholders at different levels: governments, local authorities, universities and companies.

### **■ 8 ET 9 APRIL 2018 ■ 9<sup>TH</sup> MONACO BLUE INITIATIVE EDITION, EDINBURGH (SCOTLAND)**

Launched in 2010 by HSH Prince Albert II of Monaco, the *Monaco Blue Initiative* is a discussion platform jointly organised by the Oceanographic Institute - Albert I<sup>er</sup> Foundation, Prince of Monaco and the Prince Albert II of Monaco Foundation. It brings together its members once a year to address current and future global challenges in ocean management and conservation.

The 9<sup>th</sup> edition of the *Monaco Blue Initiative* was held from 8 to 9 April 2018 in Edinburgh in partnership with the University of Edinburgh and under the High Patronage of HSH Prince Albert II of Monaco and HRH Princess Anne, Chancellor of the University.

Some 100 participants from all over the world, ranging from political and governmental circles, international organisations, civil society, the scientific community and private sectors discussed their opinions and experiences on three topics: 'Blue Growth,' 'Marine Protected Areas and Climate Change,' 'Marine Protected Areas and aquaculture.'

### **■ 26 SEPTEMBER 2018 ■ 2<sup>nd</sup> MONTE-CARLO GALA FOR THE GLOBAL OCEAN - MONACO**

On 26 September 2018, HSH Prince Albert II of Monaco, accompanied by HSH Princess Charlène, presided over the second *Monte-Carlo Gala for the Global Ocean* in the presence of many international artists and philanthropists involved in the issue of protecting the Oceans. Under the watchful eye of auctioneer, Simon de Pury, an exceptional auction was organised, just one part of a prestigious evening on the theme of 'Twenty thousand leagues under the seas.' This fundraising evening to support of marine conservation projects managed by the Prince Albert II of Monaco Foundation was a huge success.

In his address, HSH Prince Albert II of Monaco stressed the threats to the marine environment "*Today, the oceans, these bodies of water, which represent more than a billion cubic kilometres, are under threat. Today, these ecosystems, which cover more than two-thirds of the planet, are threatened as never before in history. Today, the oceans need us (...) They need us to protect them. They need us to invent a new relationship with them: one that is more attentive, more responsible and more sustainable. This is what My Foundation has been doing for the last twelve years.*"

At this Gala, Orlando Bloom was honoured with the 'Gala of the Year Special Award of the Prince Albert II of Monaco Foundation' in recognition of his efforts to raise public awareness on environmental protection issues.

Accepting the award from the hands of the Sovereign Prince, the actor stressed: "*The urgency of climate change has never been greater than it is today. The science is clear. What will they say about us in a hundred years? That we knew and stood by and did nothing? The world is changing and with it, we must change our habits. So I challenge you to think about the impact you are having, as well as the legacy you will leave to your children and grandchildren, because I sincerely believe that each individual is capable of creating real and major change.*

The funds raised will be used to finance the Prince Albert II of Monaco Foundation's priority marine

conservation programmes: plastic pollution, scientific studies on acidification, protecting corals, marine protected areas, threatened species and innovative technologies. Thanks to last year's events, 37 international projects and 2 initiatives were supported. The Ocean, which covers more than 70% of the planet's surface, produces 50% of the oxygen we breathe, absorbs 25% of carbon dioxide emissions, playing a key role in climate regulation. Overfishing, illegal fishing, rising temperatures and increased pollution are dangerously threatening the environmental balance.

### **■ 30 OCTOBER 2018 ■ 5<sup>TH</sup> OUR OCEAN INTERNATIONAL CONFERENCE IN BALI**

HSH the Sovereign Prince participated in the 5th *Our Ocean* Conference on 29 and 30 October 2018 in Bali, accompanied by a delegation from Monaco composed of HE Mr Bernard Fautrier, Deputy Vice-Chairman and Managing Director of the Prince Albert II of Monaco Foundation, Mr Robert Calcagno, Director General of the Oceanographic Institute, Mr Francis Staub, Secretary of the International Coral Reef Initiative for Monaco, Mr Wilfrid Deri, Policy Officer in the Department of Foreign Affairs and Cooperation of the Prince's Government, and Auriane Pertuisot, Marine Projects Officer at the Prince Albert II of Monaco Foundation.

At the opening of the plenary session on climate change, HSH the Sovereign Prince recalled the importance of this conference, started by Mr John Kerry in 2014, which contributes to building the foundation for a new relationship between Humankind and the Sea, by promoting a fruitful dialogue between decision-makers from different horizons, enabling concrete solutions to emerge. The past year, marked by many devastating climatic events, also served as a reminder of the urgent need for action and the importance of preserving the Ocean in tackling climate change.

On this occasion, during the plenary session focussed on marine pollution, the Prince Albert II of Monaco Foundation, together with its partners Surfrider Europe Foundation, Tara Expeditions Foundation, MAVA Foundation and IUCN, announced their intention to invest 500,000 euros in 2019 to develop the Beyond Plastic Med - BeMed initiative, supporting concrete projects to reduce plastic pollution in the Mediterranean. Since its creation in 2015, BeMed has already supported 23 projects in 11 countries around the Mediterranean.



14 • 2<sup>nd</sup> Monte-Carlo Gala for the Global Ocean © Getty Images  
 15 • 5<sup>th</sup> Our Ocean International Conference in Bali © AntaraFoto



During the plenary session on climate change, the Prince Albert II of Monaco Foundation also announced the committed funding to pursue sea conservation projects and also to encourage studies and research to improve the sustainable management of the Ocean: in 2018, the Foundation invested 4.5 million euros and has already raised 3.5 million euros for 2019.

Highlighted by the recent report of the Intergovernmental Panel on Climate Change, coral reefs require urgent measures to be taken if they are to avoid being wiped out by the middle of the century.

The International Coral Reef Initiative (ICRI), of which Monaco is co-president alongside Australia and Indonesia until 2020, organised a high-level event on the *future of coral reefs in a sustainable economic perspective*, in which HSH the Sovereign Prince, HE Mr. Tommy E. Remengesau, Jr., President of the Republic of Palau, Mr. Erik Solheim, Executive Director of the UN Environment and the Monegasque delegation participated.

HE Mr Bernard Fautrier, Joint President of ICRI for Monaco, recalled the Principality's historic commitment to protecting the seas, providing constant support for research, particularly through the work of the Monaco Scientific Centre but also through the various projects supported by the Foundation. The goals of Monaco's joint presidency during its term of

office is in line with this approach and is based on two main strategies: on the one hand, encouraging new countries to join ICRI but also adopting a realistic, effective and inspiring action plan.

At the end of this *side-event*, HSH the Sovereign Prince invited those countries that had not already done so, to commit themselves by signing the 'Coral Reef Life Declaration' which he championed alongside HRH the Prince of Wales during the 2017 *Our Ocean* in Malta. Consequently, New Caledonia, represented by the President of the Government, Mr. Philippe Germain, joined the list of signatories to the declaration, as did the Republic of Vanuatu\*.

HSH Prince Albert II of Monaco then welcomed the initiative taken by His Foundation and the Vulcan Group to mutually commit to invest US\$250,000 in a Global Coral Reef Fund dedicated to protecting, conserving and adapting coral reefs to climate change.

Throughout the conference, HSH Prince Albert II and the delegation of Monaco also supported setting up effective, well-managed Marine Protected Areas (MPAs) throughout the world. In particular, they talked to Ms. Donna Bertarelli about the Pew Bertarelli Global Ocean Legacy initiative to create very large MPAs with high levels of protection.



16 • Presentation of the White Paper on Energy Transition

© Eric MATHON / Palais Princier

17 • HSH The Prince, first signatory of the charter of commitment of the National Energy Transition Pact - Monaco © Gaetan LUCI / Palais Princier



## ENERGY TRANSITION

### ■ 24 MARCH 2017 ■ PRESENTATION OF THE WHITE PAPER ON ENERGY TRANSITION - MONACO

On 24 March 2017, at the Yacht Club de Monaco, Marie-Pierre Gramaglia, Minister of Public Works, the Environment and Urban Development, and Jean-Luc Nguyen, Director of the Mission for Energy Transition, presented the White Paper on Energy Transition of the Principality of Monaco to all stakeholders involved in preparing for it, in the presence of HSH the Sovereign Prince.

Concluding this presentation, HSH the Prince stressed how important the Principality's Energy Transition was to him, in view of the commitments made to reduce greenhouse gas emissions: -50% by 2030, compared to 1990, and carbon neutrality by 2050.

These objectives imply reducing emissions 4 times faster than previously followed and require the commitment and involvement of the entire Monegasque community. A policy supported by the Government with 3 priority areas: mobility, waste treatment and energy efficiency of buildings.

Thus, incentives and a regulatory framework will be implemented to encourage the behavioural changes necessary to lead the Principality towards the path of decarbonisation.

### ■ 16 JANUARY 2018 ■ HSH THE PRINCE, FIRST SIGNATORY OF THE CHARTER OF COMMITMENT OF THE NATIONAL ENERGY TRANSITION PACT - MONACO

At the Prince's Palace in Monaco, HSH Prince Albert II signed the commitment charter of the Principality's national energy transition pact.

The National Pact, a progress tool of a simple commitment charter and sectoral action plans, allows everyone, to the extent that they are able, to play a part in Monaco's energy transition, whose objectives are clear: reducing greenhouse gas emissions, working to improve the Principality's energy efficiency and increasing local renewable energy production.

### ■ 4 APRIL 2018 ■ 1<sup>ST</sup> ANNIVERSARY OF THE WHITE PAPER ON ENERGY TRANSITION MONACO

The event, *'At the Heart of the Energy Transition: The Actors on Stage'* took place in the Principality on 4 April 2018, in the presence of HSH the Sovereign Prince.

Marie-Pierre Gramaglia, Government Minister for Public Works, the Environment and Urban Development, reviewed the work carried out by the Mission for the Energy Transition, one year after publishing the White Paper. She also pointed out that the Sovereign Prince, the first signatory to the Charter of Commitment of the National Pact for the Transition

18 • 1<sup>st</sup> anniversary of the White Paper on Energy Transition - Monaco © Gaetan LUCI / Palais Princier19 • Address by HSH The Prince at the 72<sup>nd</sup> session of the UN GA with a reminder of the commitment to the oceans and to implement SDG 14 on underwater life © Gaetan LUCI / Palais Princier

20 • HSH The Prince attends COP 23 in Bonn, Germany © Gaetan LUCI / Palais Princier

to Energy, "had given the Pact, which now has more than 350 members a tremendous boost."

Seven representatives from Civil Society then took the floor to discuss their work to promote energy transition in their own fields on a daily basis.

To conclude the evening, HSH the Sovereign Prince, who had wished for a National Energy Transition Pact to be set up, insisted on the need for collective responsibility in view of "the need to reduce greenhouse gases so as not to mortgage our children's future". The Sovereign concluded his address by repeating Ban Ki-moon's statement: "There is no plan B because there is no planet B".

## INTERNATIONAL VISITS, MEETINGS AND CONFERENCES

### ■ 19 SEPTEMBER 2017 ■ ADDRESS BY HSH THE PRINCE AT THE 72<sup>ND</sup> SESSION OF THE UN GA WITH A REMINDER OF THE COMMITMENT TO THE OCEANS AND TO IMPLEMENT SDG 14 ON UNDERWATER LIFE - NEW YORK

HSH Prince Albert II took part in the opening of the General Debate of the 72<sup>nd</sup> session of the United Nations General Assembly on 19 September 2017. Before delivering his address, the Sovereign Prince deposited the Ratification Instrument of the Convention on the Rights of Persons with Disabilities.

In addition, as part of the Monaco Explorations scientific campaign, HSH Prince Albert II met with the President of the Republic of Colombia, HE Mr Juan Manuel Santos and the Prime Minister of the Republic of Cape Verde, HE Mr Ulisses Correia e Silva.

During the day, the President of the French Republic, HE Mr Emmanuel Macron presented the draft Global Pact for the Environment. HSH Prince Albert II expressed his great interest in this universal and binding document, which recognises future generations' right to sustainable development and aims to establish a monitoring mechanism made up of independent experts.

Closing the day, HSH Prince Albert II attended the traditional reception hosted by the President of the host country of the United Nations, HE Mr Donald J. Trump and Mrs. Melania Trump.

### ■ 14 NOVEMBER 2017 ■ HSH THE PRINCE ATTENDS COP 23 IN BONN, GERMANY

From 6 to 17 November, the United Nations held its 23<sup>rd</sup> Climate Conference, COP 23, in Bonn, Germany. It was an opportunity for the international community to take stock of the Paris Agreement, concluded on 12 December 2015, and to recall the urgent need to take action to contain global warming. The 23<sup>rd</sup> United Nations Climate Change Conference was the first climate meeting chaired by a small island state, Fiji. It brought together nearly 17,000 participants in the Rhine city.



21 • HSH The Prince visits Canada © Frédéric NEBINGER / Palais Princier

On 14 November 2017, HSH Prince Albert II of Monaco participated in the event organised by Bertrand Piccard entitled 'The world alliance for effective solutions.' The meeting was attended by Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC), Eric Solheim, Executive Director of the United Nations Environment Programme (UNEP), Rafael Pachiano Alaman, Mexican Secretary of State for the Environment and Natural Resources and Maros Sefcovic, European Commissioner for the Energy Union.

At the end of the event, the Sovereign officially kicked off the countdown for '1000 effective solutions,' an event which was similar in style to the departure of the Solar Impulse pilots.

#### ■ 12 DECEMBER 2017 ■ HSH THE PRINCE TAKES PART IN THE ONE PLANET SUMMIT IN PARIS

HSH the Sovereign Prince, invited by the French President Emmanuel Macron, participated in the *One Planet Summit*, organised in Paris on 12 December 2017. This event, which marked the two-year anniversary of the Paris Agreement to the day, made it possible to continue the effort by bringing together both the public and private financial community.

In response to the ecological emergency for the planet, the President of the French Republic, the President of the World Bank Group and the Secretary-General of the United Nations brought together international leaders and committed citizens from around the world.

More than fifty speakers: NGOs, entrepreneurs, investors, members of government, local stakeholders, scientists, who took part in four round tables, with the objective of identifying and implementing concrete solutions but also to raise public and private funds, including in the most vulnerable countries.

In this context that the Sovereign Prince spoke alongside Allen Michael, Antonio Gutteres, Richard Branson, Franck Bainimarama and Pravinol Kumar Jugnautha, on the topic of '*Increasing financing for adaptation and resilience*'. His speech focused mainly on the oceans, Marine Protected Areas, coastal ecosystems, fishing and protecting international waters.

#### ■ 7 MAY 2018 ■ HSH THE PRINCE VISITS CANADA

On Monday, 7 May 2018, upon his arrival in Ottawa, Canada's capital, HSH Prince Albert II of Monaco was received by Mr Justin Trudeau, Canadian Prime Minister in the Canadian Parliament.

During this meeting, the two leaders, who share a common interest in environmental issues, discussed commitments made under the Paris Agreement, threats related to climate change, particularly in the Arctic and Antarctic, and the conservation of the Oceans. These are common concerns that have long contributed to the close ties between the two countries.

Indeed, the poles are among the first regions to be affected by global warming A situation that Canada



22 • The President of Cape Verde makes a working visit to the Principality © Michel DAGNINO / Musée océanographique  
23 • Participation in the 'Flowers for bees' Project at the Park School © Eric MATHON / Palais Princier



is experiencing close up and which has been one of the action areas of the Prince Albert II of Monaco Foundation since it was founded in 2006.

The visit of the Sovereign Prince and his delegation was followed by a lunch hosted by Mr. Dominic LeBlanc, Minister of Fisheries, Oceans and the Canadian Coast Guard, during which topics of common interest to both countries on ocean conservation and marine pollution were discussed.

At the end of this lunch, which further strengthened the friendship between Canada and Monaco, Prince Albert visited the Canadian Museum of History to explore the exhibition, 'Perished in Ice: The Mystery of the Franklin Expedition' then the Sovereign was received by George J. Furey and Geoff Regan, Speaker of the Senate and Speaker of the Canadian House of Commons, respectively.

#### **■ 11 APRIL 2018 ■ THE PRESIDENT OF CAPE VERDE MAKES A WORKING VISIT TO THE PRINCIPALITY**

On 11 April at the Prince's Palace, HSH Prince Albert II received H.E. Mr Jorge Carlos De Almeida Fonseca, President of Cape Verde, in the context of the 2<sup>nd</sup> Monaco Ocean Week.

On this occasion, the Sovereign Prince and Mr. De Almeida Fonseca discussed relations between the two countries before visiting the 13<sup>th</sup> Ever Exhibition

(Exhibition on renewable energies and ecological vehicles) together at the Grimaldi Forum.

In the afternoon, HSH Prince Albert II and HE Mr Jorge Carlos De Almeida Fonseca together attended the screening of the film on the Museum Cabo Verde at The Oceanographic Museum from Monaco Explorations, in which the Sovereign Prince participated in October 2017, and the presentation of the results the work carried out in the Sargasso sea region (French West Indies).

Subsequently, a framework cooperation agreement aimed at strengthening relations between the Republic of Cabo Verde and Monaco was signed in the presence of the two Heads of State. This working visit ended with a dinner hosted by HSH Prince Albert II at the Prince's Palace.

#### **■ 21 JUNE 2018 ■ PARTICIPATION IN THE 'FLOWERS FOR BEES' PROJECT AT THE PARK SCHOOL - MONACO**

Aware of the major challenges presented by the problem of bee mortality, creating a proven imbalance in biodiversity, the Prince Albert II of Monaco Foundation is committed to working alongside the French Observatory of Apidology as part of the 'Flowers for bees, everyone's planet, a everyone's responsibility' initiative.

Intended to generate awareness among the general public and decision-makers about the importance of



protecting these pollinating insects, the first campaign resulted in planting 100,000 packets of bee-friendly flower seeds in 2017, each representing 10 sq. m across France.

For this year's event, which took place from 15 to 24 June 2018, seed packets were again distributed to improve the bees' diet during the summer period. Nursery growers, horticulturists, florists and garden centres have joined this major campaign to get people to take action and care for an endangered species.

Young kindergarten and primary school children in Monaco's schools have been made aware of this through several events carried out jointly by the Prince Albert II of Monaco Foundation and the French Observatory of Apidology. Educational bags and booklets were distributed in all schools, as well as during Monacology, Monaco's environmental awareness for children week.

On 21 June 2018, the Sovereign Prince, who is very concerned about protecting bees, visited the Park nursery school in Monaco accompanied by HE Mr Bernard Fautrier, Vice-President of the Prince Albert II of Monaco Foundation, and by Thierry Dufresne, President of the French Apidology Observatory. About twenty children aged between 4 and 5 presented to the Sovereign their work on bees over the year: explanatory video, hives built by the

*24 • Signature of an MOU (Memorandum of Understanding) between the IOC and C40*  
© Eric MATHON / Palais Princier

pupils, robotic bees. There was also the opportunity to sow a few seeds with the children in the school garden, which had been prepared for the occasion.

#### **■ 26 JUNE 2018 ■ SIGNATURE OF AN MOU (MEMORANDUM OF UNDERSTANDING) BETWEEN THE IOC AND C40 - MONACO**

The 1<sup>st</sup> Monaco Transition Forum was held in the Principality on 26 June 2018, in the presence of HSH Prince Albert II, Mrs Anne Hidalgo, Mayor of Paris, and Mr Richard Attias, its President. The objective of these two days of discussion: To encourage the development of companies and initiatives in favour of the Environment. The first major event was the signing of a MOU between C40 Cities, an NGO that aims to fight climate change through the efforts of nearly 80 of the world's largest cities, and the International Olympic Committee (IOC).

#### **■ 4 JULY 2018 ■ MONACO TAKES OVER THE CO-PRESIDENCY OF ICRI IN PARIS**

On 4 July 2018, in the presence of HSH Prince Albert II, France handed over the Presidency of the International Coral Reef Initiative (ICRI) to Monaco, Australia and Indonesia at a ceremony held at the National Museum of Natural History in Paris.



25 • Monaco takes over the co-presidency of ICRI in Paris  
© Eric MATHON / Palais Princier

In His address, HSH the Sovereign Prince restated the great responsibility of human societies whose development paradigm, based mainly on short-term interests, is threatening the diversity of coral reefs. In this regard, during this co-presidency, Monaco will focus on enhancing policy tools on managing and preserving reefs, understanding the evolution of human-reef interactions, and getting public involvement and developing new financial capacities.

HE Mr Bernard Fautrier, Vice-President of the Prince Albert II of Monaco Foundation, participated in a session focussed on presenting an assessment of international commitments on those reefs facing large-scale bleaching and ocean acidification as a result of the increase in greenhouse gas emissions.

The co-presidency of ICRI until 2020 is in line with the Principality of Monaco's efforts to preserve and understand coral ecosystems. The Principality's commitments will continue through research on the physiology of corals at the Monaco Scientific Centre, projects supported by the Prince Albert II of Monaco Foundation, the Prince Albert II of Monaco Government and the Coral Reef Life Declaration, launched in October 2017 by the Sovereign Prince and HRH the Prince of Wales.

## ■ 11 DECEMBER 2018 ■ HSH THE PRINCE PARTICIPATES IN THE COP 24 IN KATOWICE - POLAND

On 11 December 2018, as part of COP24 in Katowice, Poland, HSH Prince Albert II participated in the 'Sports for climate action' event in his capacity as Chairman of the Sustainability and Heritage Commission of the International Olympic Committee (IOC).

This initiative launched by the United Nations Framework Convention on Climate Change, in partnership with the IOC, was held during a high-level meeting of sports governing bodies, federations, leagues, clubs and athletes. It aims to tackle climate change through concrete measures and partnerships, while applying recognised standards to quantify, reduce and report greenhouse gas emissions in line with the Paris Agreement.

In His speech, HSH the Prince stated: "*With its global reach, universal appeal and ability to inspire and influence millions of people around the world, sport is uniquely positioned to inspire global climate action and encourage crowds to join in [...] The IOC is proud to take the lead in the "Sports for climate action initiative." As the countries gathering here in Katowice prepare to put their climate commitments into practice, we are ready to harness the power of sport to support their efforts*".



26



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- 26 • Doctor Honoris Causa of the University of Paris - La Sorbonne – For His commitment to tackle climate change, encourage biodiversity and His considerable efforts to protect the seas and oceans through His Foundation (FPA2) © Gaetan LUCI / Palais Princier  
27 • Doctor Honoris Causa Ecologia Marina from the University of Palermo (Sicily) - a distinction awarded in recognition of HSH the Prince's work to conserve the Environment and the Oceans through His Foundation © Gaetan LUCI / Palais Princier

This initiative has already received the support of 17 signatories such as the International and European Football Federations (FIFA and UEFA), France's Roland Garros tennis tournament, the organising committees of the Tokyo 2020 and Paris 2024 Olympic Games, the International Sailing Federation and the World Surf League.

## AWARDS IN THE ENVIRONMENTAL FIELD

### ■ 23 MARCH 2017 ■ DOCTOR HONORIS CAUSA FROM THE UNIVERSITY OF PARIS - LA SORBONNE

On March 21, 2017, at the Sorbonne in Paris, HSH Prince Albert II received his title of Doctor Honoris Causa from Mr Jean Chambaz, President of the Pierre and Marie Curie University (UPMC).

UPMC has chosen to award this distinction to Prince Albert II in order to honour his commitment

to tackle climate change, encourage biodiversity and his considerable effort to protect the seas and oceans through his Foundation (FPA2).

The 'Doctorat Honoris Causa' (DHC) is an honorary distinction granted to French or international scientific personalities from outside the institution.

This ceremony took place in the presence of a large audience composed of academics, scientists, sixth form and high school students and eminent figures in Monaco.

UPMC is France's leading scientific and medical university. It has a unique, world class network of marine stations. The three biological research centres/observatories in Banyuls-sur-Mer, Roscoff and Villefranche-sur-Mer have played a major role in the development of marine biology and oceanography in Europe and now cover all the disciplines of marine science.

These disciplines make UPMC the leading European university in marine sciences. For years, the Prince Albert II Foundation has specifically supported



28 • Doctor Honoris Causa of the University of Naples 'Parthenope' © Gaetan LUCI / Palais Princier

research carried out in two of them, in Banyuls and Villefranche.

#### ■ 9 OCTOBER 2017 ■ DOCTOR HONORIS CAUSA ECOLOGIA MARINA FROM THE UNIVERSITY OF PALERMO (SICILY)

From 9 to 11 October 2017, HSH Prince Albert II visited Sicily for a friendly environmental visit.

At the University of Palermo, the Sovereign Prince received the insignia of Doctor Honoris Causa in marine ecology, a distinction awarded in the context of his efforts to conserve the environment and the oceans through His Foundation.

HSH the Prince also took part in the gala evening of the Italian branch of the Prince Albert II Foundation, which took place at the Palazzo Mazzarino, in the presence of HE Mr. Bernard Fautrier, Vice-President of the Foundation and Mr. Maurizio Codurri, President of the Italian branch of the Foundation.

#### ■ 16 MAY 2018 ■ DOCTOR HONORIS CAUSA OF THE UNIVERSITY OF NAPLES 'PARTHENOPUS'

On May 16, at Villa Doria d'Angri, an annex of the University of Naples' Parthenopus, HSH Prince Albert II received the insignia of Doctor Honoris Causa in shipping sciences and techniques; this distinction is awarded for his actions for biodiversity, sustainable development and tackling global warming, particularly in the Mediterranean, in his capacity as Head of State and President of the Prince Albert II of Monaco Foundation. The ceremony was attended by university dignitaries and many students.

#### ■ 8 JUNE 2018 ■ EUROPEAN INITIATIVE PRIZE FOR ENVIRONMENTAL PROTECTION IN DRESDEN, GERMANY

At the 2018 *European Culture Award* ceremony held at the Frauenkirche Church in Dresden on 8 June 2018, HSH Prince Albert II received the *European Initiative Prize for Environmental Protection* for the work both His Foundation and the *German Ocean Foundation* have carried out, particularly in the field of ocean conservation.

Since 1993, the *European Culture Awards* have rewarded exemplary figures and initiatives that contribute to bringing Europe's cultural excellence to the fore. This year's theme was *European Culture Award* 'We are Europe.' 'We are Europe' should be seen not only as a reference to a common cultural heritage but also to the planet, our ecological heritage, whose defence and conservation must be the focus of debates.

By welcoming the involvement of the Prince Albert II of Monaco Foundation in the protection of the oceans, as well as the work carried out by the *German Ocean Foundation*, the organisers wanted to send a strong message to the entire European community about the importance of uniting to conserve the marine world.



## PROTECTING BIODIVERSITY A PRIORITY

The Principality of Monaco is a densely-urbanised city state of 2 square kilometres. The major challenge for the Principality in terms of protecting biodiversity is to reconcile economic and demographic development with a concerted, forward-looking and sustainable management of its territory.

The Government is being particularly proactive in protecting its sometimes surprisingly rich land and marine biodiversity. The policy for managing the Principality's natural heritage is being implemented using several tools: inventory programmes, mapping, monitoring fauna and flora, monitoring habitats and pollution, as well as conservation measures.

### ■ BIODIVERSITY STRATEGY

Maintaining a pleasant living environment on its territory is a major priority for the Prince's Government. Conserving biodiversity and green spaces contribute to this balance, which is essential if the Principality is

to maintain its attractiveness. In this context and in accordance with the requirements of the Convention on Biological Diversity (CBD), the Government has undertaken to strengthen its commitment to biodiversity conservation by developing its National Biodiversity Strategy (SNB). The objectives of this Strategy, by 2030, are to:

- Organise, provide consistency and promote all projects and programmes in favour of biodiversity;
- Increase nature in the city in order to improve the living environment and adapt the territory to climate change (reducing noise, improving air quality, tackling heat islands, making spaces friendlier, etc.);
- Include biodiversity protection in an integrated approach covering sectors as diverse as public health, urban development, trade and the economy;
- Establish priorities by identifying biological resources which should be subject to regulations and draw up a list of species that require recovery plans;



- Guide and assess measures to meet the three main objectives of the CBD and the 20 Aichi objectives, with SNB contributing to their implementation.

- The Spélugues marine reserve, a 'coralline drop off' is home to coralline algae formations, as well as many habitats and iconic species, (red coral, sponges, hatpin urchins and noble pen shells).

## **/ MARINE BIODIVERSITY MARINE PROTECTED AREAS**

The policy of sustainably managing the marine resources is based on creating 2 protected Marine Protected Areas to both maintain the ecosystems and protect species.

The Principality has two marine protected areas (Article O.230-3 of the Maritime Code):

- The Larvotto Marine Reserve, mainly aimed at conserving and revitalising a field of Posidonia sea grass. It covers an area between the shoreline and about 600 m offshore, its area is 33.6 ha, of which 23 ha is classified as a Ramsar area (wetlands of international importance).

## **> MONITORING MARINE BIOCENOSSES**

The strategy for monitoring and protecting marine biodiversity, implemented by the Environment Department, is based on inventories, mapping and monitoring medium- and long-term indicators.

By carrying out regular inventories, this natural heritage can be monitored over time and also understand if the protection and recovery measures are effective or consistent with a policy of conserving marine ecosystems.

Specific attention has been given to 'heritage' or protected species (posidonia sea grass, noble pen shells, brown groupers, red corals, sea fans, etc.), remarkable habitats (coral drop off, St Martin rocks, St Nicolas rocks, etc.), and the Marine Protected Areas.



© R. SIMONE

### > POSIDONIA SEA GRASS FIELDS

Posidonia (*Posidonia oceanica*) or Neptune grass is a marine phanerogam (flowering plant) endemic to the Mediterranean, which grows in vast sub-marine fields (or meadows), from just under the surface of the water to depths of 40 m. In the Larvotto marine reserve, the Department of Environment placed 48 permanent markers around the entire lower limit of the posidonia sea grass meadows (1 km in length) in 2002.

Through regular monitoring reports on the sites, the development of this field of Posidonia sea grass can be monitored over the long term.

### > CORALLINE ALGAE

Coralline algae create a true marine landscape that is rich yet fragile. Sea fans and corals, symbols of coralline algae, play a role in its construction. In the Principality, these Coralline colonies are mainly found in the Réserve du Tombant des Spélugues, the rocks of Saint-Martin, Saint-Nicolas and the rocks off the coast.

In 2003, the exploration of the Saint-Martin rocks, located off the great dike at a depth of 60 m, resulted in identifying clusters of large bryozoans & sponges, large colonies of sea fans, as well as red coral. Among

the species identified on the Saint-Martin rocks, more than thirty are regarded as remarkable or determinative by the French network of Sites of Ecological Interest, Fauna and Flora (ZNIEFF sea). After the sea floor of the Principality was mapped in 2010, new zones likely to shelter coralline algae colonies were identified.

These sites were confirmed by dives carried out by the Department of Environment and led to the discovery of a rich Coralline colony, including the first recorded sighting of the black coral (*Antipathes spp*) in the waters of Monaco. These rocks were the focus of a characterisation campaign for species under the RAMOGE agreement (Saint-Raphaël - Monaco - Genoa).

### > FISH INVENTORY

224 species of fish grouped into 87 families have been recorded in the waters of Monaco. This inventory was supplemented by regularly counting the population of brown grouper, a protected species in the Principality.

### > NOBLE PEN SHELLS

The mapping of noble pen shells (*Pinna nobilis*) carried out by the Department of Environment resulted in 650 individuals being identified over a little less than half the area of the Larvotto Reserve. The reserve's



current population is estimated at more than 1,000 individuals. These pens shells are being monitored over time in order to assess the healthiness of this colony over the long term. This iconic mollusc of the Mediterranean maritime environment is a sentinel species, a bioindicator of the good overall quality of marine waters.

#### > ECOLOGICAL RESTORATION OF MONACO'S HARBOURS

With 40 nurseries in place, Monaco's harbours are now the first harbours on the Mediterranean coast to take an interest in the restoring the function of nurseries, by committing to a NAPPEX project (Artificial Nurseries for Exemplary Ports) in 2014. This project aims to develop nurseries, the role usually played by shallows waters, to encourage biodiversity within human infrastructures.

In 2015, more than 40 artificial habitats, known as Biohuts, placed under pontoons, were set up in Monaco's harbours. The sites are subject to regular scientific monitoring following a precise protocol, three times a year.

In total, these three years of study have resulted in recording almost 1,300 individuals and 76 different species around these artificial nurseries.

15 species of post-larvae fish were identified, including 5 of commercial interest for fishing (White sea bream, common two-banded sea bream, sharp snouted sea bream, gilt-head bream and mullet).

Following these encouraging results, the Department of Maritime Affairs and the Department of Environment renewed this NAPPEX project for four years (2018-2021) with the addition of 10 additional modules. The programme also includes educational days in schools as well as a photographic exhibition.

#### > COASTAL WATER QUALITY AND POLLUTION CONTROL

The Department of Environment monitors the physical, chemical and bacteriological quality of coastal waters, based on samples and analyses of the marine environment (water and sediments), but also through the knowledge of activities or natural and anthropogenic inputs likely to affect the quality of the environment. The quality of swimming water is monitored from May to September at each beach on the Monaco coast.

Since 2007, a health and environmental monitoring scheme, together with the preventive management of



risks due to the presence of the algae, *Ostreopsis ovata* have been implemented around the swimming areas at Larvotto.

## LAND BIODIVERSITY

The Principality's land biodiversity is part of the bio-geographic area of Alpes-Maritimes and Liguria, forming one of the 10 regional "biodiversity hot spots" in the Mediterranean basin.

The land inventories of the wild flora, insects and birds carried out by the Department of Environment since 2006, have revealed a hitherto unsuspected richness, and led to several remarkable discoveries.

What makes Monaco unique as an urban country, in maintaining and developing this biodiversity, is that it seems to have certain specific characteristics:

- The geological and urban configuration of the territory. The cliffs of the 'Rocher' (Rock) are true sanctuaries where wildlife can survive and prosper away from any anthropogenic pressure;
- 'Green confetti' (gardens, terraces, green walls, etc.). These green spaces are particularly important as habitat for birds and insects.

• Green spaces, managed on environmentally friendly principles, are an oasis of greenery for bird life.

Out of all the different habitats found, five are protected at the European level:

- Humid continental cliffs;
- Vegetated sea cliffs of Mediterranean coasts;
- Rocky limestone slopes with chasmophytic vegetation (plants which live in the cracks of rocks or in the cracks of walls);
- Thermo-Mediterranean brush with Tree-spurge formations;
- Thermo-Mediterranean bush with dwarf palms

The Principality is home to original ecological elements and a remarkable natural heritage of flowers of the thermo-Mediterranean belt, located very specifically on the cliffs of the Rock. Among the most remarkable sectors in terms of number of species, and heritage species, are the cliffs of the Hospital, the Exotic Garden, those of Fontvieille harbour, the chemin des Pêcheurs and above all the bank of the Prince's Palace

### > LAND FLORA

The inventory of land flora native to the Principality's territory, carried out in 2006 identified 347 species and



subspecies, including 6 endemic species and 18 species of significant scientific interest. The Nice Snowflake (*Acis nicaeensis*), a rare and highly threatened species, endemic to the Nice region has been found at 4 sites in the Principality. This inventory was also a chance to draw up a map of the remarkable sectors of the Principality.

#### > LOCAL ACTION PLAN TO PROTECT AND MANAGE THE NICE SNOWFLAKE

This endemic plant species restricted to Alpes Maritimes is protected throughout the French and Italian national territory, and is listed in Annexes 2 and 4 of the European Union's 'Wildlife Flora Habitats Directive' and Annex I of the Berne Convention.

In the Principality of Monaco, this species has a very high heritage value, especially since recent results have shown that Monegasque populations form a unique Evolutionary Significant Unit (ESU). It is therefore necessary to prioritise the conservation and evolution of this rare and localised species.

The Local Action Plan, managed by the Department of Environment in collaboration with scientists from the National Mediterranean Botanical Conservatory

(CBNMed) and the Mediterranean Institute of Biodiversity and Ecology (IMBE), covers:

- Improving our understanding of the species in the Principality's territory;
- Coordinating the different organisations which may get involved in this programme;
- Reintroducing two populations in the Principality on those sites it has disappeared from;
- Conserving seeds and establishing an onsite conservation protocol in the Principality.

At the start of 2019, the preliminary results for cultivating the various seeds of the Nice Snowflake (*Acis nicaeensis*) at the stations in Monaco, are already excellent. This first step to cultivate the plant in order to increase the population with a view to reintroducing it, has been a success. The second step of seedling survival will also be an important element for the *in situ* planting operation in 2020.

#### > ENTOMOFAUNA (INSECTS)

The inventory of entomofauna (insects) produced very interesting results, with more than 330 species of coleoptera (beetles, ladybirds and weevils) and 101 species of heteroptera (shield beetles) being identified



and the discovery of two species of coleoptera, which are entirely new to science. In 2014 and 2015, this inventory was completed by a further study of mesofauna and macrofauna in the soil of green spaces maintained by the Principality of Monaco. The study was particularly focussed on finding four classes of Anthropods: Springtails (Collembola), insects, especially beetles, Isopoda (woodlice) and Miriapoda (millipedes, centipedes). The encouraging results point to the excellent health of the soil.

#### > AVIFAUNA

The ornithological inventory helped identify 60 species of birds, including 10 species protected at the European level and 7 that are considered as endangered.

The Principality is now home to two iconic nesting species in its territory: the peregrine falcon and the European shag. These results confirm Monaco's remarkable biodiversity. The cliffs of the Rock (Rocher), with their island habitat in a marine environment, provide the richest diversity.

#### European shag

2015 was marked by the successful nesting of the Mediterranean subspecies of the European shag. This species, relatively rare on our coast, is protected in

the Principality. The only known colony in mainland France is located in the Bouches-du-Rhône, and one pair has only been shown to have been breeding successfully in the Var since 2006. This discovery is the first official nesting site for the species in this sector of the Mediterranean coast.

The population of shags on this site continues to increase, with at least 15 birds counted.

#### Peregrine falcon

The cliffs of the Rock are home to a pair of Peregrine Falcons. Ongoing observations show the presence of young Peregrine Falcons born in 2017 and 2018 in a cavity in the cliffs of the Rock. Once again, the breeding of the Peregrine falcon in the Principality testifies to the overall good conditions for this iconic protected species.

#### > CITY NESTING BOXES PROGRAMME

In an urbanised context where shelters are becoming scarcer, the Department of Environment has set up a programme to put up artificial nesting boxes to encourage small passerines and other species to nest. The target species are small passerines accustomed



to the urban environment (coal and blue tits, house sparrows, black redstarts, European greenfinches, etc.) as well as two small birds of prey: the Eurasian Scops Owl and the Kestrel.

A study, carried out in 2017, identified target species and specifically adapted nesting boxes, then determined the strategic location of future artificial nesting boxes and gave management recommendations for maintaining nesting boxes and feeders. More than 40 nesting boxes have therefore been installed in the Principality's gardens in 2018 and will be monitored over time.

Nesting boxes for coal tits were also designed by a Year 10 class at the Charles III secondary school as part of an Interdisciplinary Practical Project in Life Sciences and Technology. These have been installed in the Principality's gardens and supplement this City nesting boxes' programme.

#### > BEES 'SENTINELS FOR THE ENVIRONMENT'

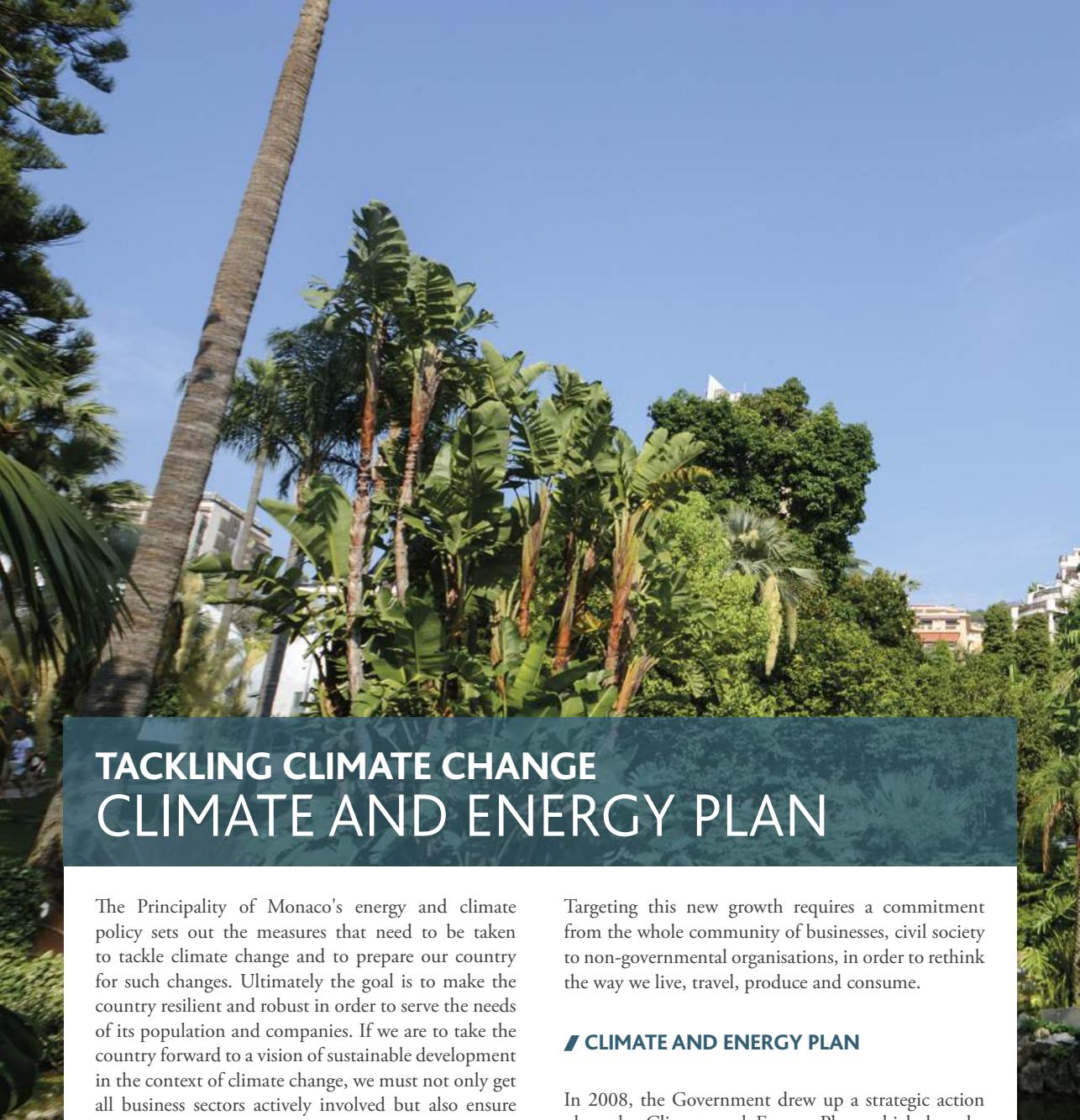
By helping to pollinate more than 80% of plant species in our planet, bees play an essential role for the environment. As part of an awareness raising campaign to protect this threatened species, the Principality signed a partnership agreement with the

Union Nationale de l'Apiculture Française (UNAF) (National Union of French Beekeepers) which led to six hives being installed on the roof-terrace of the Musée des Timbres et des Monnaies (Museum of stamps and coins) in Monaco.

In addition, in partnership with the National Office of Forests (ONF), an insect hotel was set up in the Saint Martin gardens in 2013. These programmes have been made possible by the Department of Urban Amenities' policy of managing green space ecologically and creating nectar-filled meadows.

#### > THE WASHINGTON CONVENTION (CITES)

The CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) aims to protect wild species from commercial overexploitation, which is partly responsible for the decline of global biodiversity. An online procedure has been set up on the Government's website, making it easier for both individuals and professionals to request CITES documents from the Department of Environment.



# TACKLING CLIMATE CHANGE CLIMATE AND ENERGY PLAN

The Principality of Monaco's energy and climate policy sets out the measures that need to be taken to tackle climate change and to prepare our country for such changes. Ultimately the goal is to make the country resilient and robust in order to serve the needs of its population and companies. If we are to take the country forward to a vision of sustainable development in the context of climate change, we must not only get all business sectors actively involved but also ensure that the entire community of Monaco is on board and committed.

## REDUCING GREENHOUSE GAS EMISSIONS

The biggest sources of greenhouse gases in the Principality are the transport, building heating and waste management sectors. In this context, successfully transitioning to a carbon free energy mix and continuing to reduce energy consumption are the main challenges if we are to play our part in tackling climate change.

Targeting this new growth requires a commitment from the whole community of businesses, civil society to non-governmental organisations, in order to rethink the way we live, travel, produce and consume.

## CLIMATE AND ENERGY PLAN

In 2008, the Government drew up a strategic action plan, the Climate and Energy Plan, which has the following objectives:

- Reduce greenhouse gas emissions by 50% by 2030 (compared to 1990) and achieve carbon neutrality by 2050;
- Control demand-side energy and improve energy efficiency;
- Increase local generation of renewable energy.

In order to create an interdisciplinary management system capable of promoting continuous improvement and get its policy recognised at European and



international level, the Principality's Climate and Energy Plan for 2020 was approved by the EEA (European Energy Award) in 2014 and will be reassessed in 2019.

In 2019, the Department of Environment is developing the new 'Energy, Air and Climate Plan' for the Principality with the objective of setting the climate and energy strategy for 2030. These far sighted efforts, together with the programme of measures, constitutes the policy's operational link to tackle climate change and improve air quality. The aim is to add it into the medium- and long-term urban development plans.

## **ENERGY TRANSITION WHITE PAPER**

The path to reduce GHG emissions requires going four times faster to achieve the targets set, by working on the three sectors which emit the most GHG in the Principality, each of which accounts for around 30% of emissions: Mobility, waste treatment and heating and cooling buildings. To achieve this, all public and private stakeholders must be involved in the process.

The aim is to create the conditions to move towards more energy-efficient behaviour and projects that

emit less greenhouse gases and are more resilient to climate change.

The Mission for Energy Transition was created in 2016 to support this process. In parallel, the *Fonds Verts National* (National Green Fund) was set up, whose objective is to give the Principality the financial resources to implement long-term measures to transition energetically. The Energy Transition White Paper was the first step in getting the people of Monaco on-board. Through this process, the views, actions and expectations of the Principality's stakeholders were collected and analysed in order to set the common roadmap for the Monegasque Community for 2050.

## **NATIONAL ENERGY TRANSITION PACT**

Launched in January 2018, the purpose of the Pact is to maintain the momentum created by the White Paper over time and to provide a framework to support the initiatives of the Monegasque Community. The National Energy Transition Pact aims to express members' commitment to energy transition and help them share good practices. To date, the Pact, which has more than 500 members, includes:



- A simple and readable Charter of Commitment, which unites all the stakeholders and sets out the three main themes for energy transition measures (mobility, waste, energy);
- Sectoral action plans setting out the concrete actions to be carried out.

## **MANAGING ENERGY DEMAND AND DEVELOPING DISTRIBUTED GENERATION FACILITIES LOCALLY**

By managing energy demand and developing local distributed generation facilities in new buildings or in the old building stock, GHG emissions are being reduced in this sector (environmental certifications, thermal regulation, encouraging the development of renewable energies, etc.).

### **> A NEW ENERGY REGULATION**

A new energy regulation for new and existing buildings came into effect in 2018 (Ministerial Order No. 2018-613 of 26 June 2018 on the thermal characteristics of new buildings, renovating existing buildings and extensions). In particular, it includes:

- A ban on oil-fired heating in old buildings as of 2022;
- As of 2022, buildings built between 1930 and 1990 will be obliged to undergo an energy audit;
- Thermal insulation work will become mandatory during certain building renovation works.

## **> MEDITERRANEAN SUSTAINABLE BUILDINGS: THE PRINCIPALITY COMMITS TO SUSTAINABLE CONSTRUCTION**

To support the ambitious goal of reducing GHG emissions, the environmental and energy performance of buildings is a priority. In the context, the Mission for Energy Transition invited everyone from the building and urban development sector to a meeting to discuss these key issues.

The Mediterranean Sustainable Buildings (BDM) approach, set up in the PACA region in 2009, is a voluntary and innovative approach, whose ambition is to promote good construction practices (reduce the impact of materials and water and energy consumption, bio-climatism, etc.) to maintain comfort and health, while taking environmental, social and economic issues into account.



By the end of 2019, these measures will be tailored to the specific context in Monaco and will be known as BD2M; Bâtiments Durables Méditerranéens de Monaco (Sustainable Mediterranean Buildings of Monaco).

#### > DEMAND SIDE MANAGEMENT IN PUBLIC BUILDINGS

In 2003, the State launched a policy to manage the energy demand of its public buildings. By managing energy demand and developing local distributed generation facilities in new buildings or in old building stock, GHG emissions are being reduced in this sector (environmental certifications, thermal regulations, encouraging the development of renewable energies, etc.).

The challenges of managing the demand side in the State's real estate assets are particularly crucial, given that this represents almost 1 million square metres, more than half of which are accounted for by multi-storey car parks.

The process of managing and monitoring energy implemented by the Public Buildings Maintenance Office means the energy consumption data for the

buildings can be pooled, making remote corrective action possible. This system, which has been deployed in all public buildings, has already managed to reduce energy consumption by 30%.

#### > STREET LIGHTING

Société Monégasque de l'Électricité et du Gaz (SMEG) in collaboration with the Department of Urban Amenities (DAU) has established an action plan to replace mercury vapour lamps with LED lighting. Over time, 95% of the street lamps using mercury vapour will be replaced.

#### > SMART +

To manage their energy demand, consumers first need to know about their energy use and behaviour. To this end, an innovative solution called SMART+ was launched in February 2018 and assigned to SMEG. The largest electricity clients in the hotel sector and residential buildings (to heat their common areas) will have access to more accurate energy consumption data. The aim is to encourage these organisations to manage their demand. By identifying unnecessary uses, this technology reduces electricity use by between 5% and 10%.



## ■ DEVELOPING RENEWABLE ENERGY

Renewable energy generation in the Principality is mainly provided by waste-to-energy conversion, seawater heat pumps and solar energy. In terms of renewable energy development, the government has committed to three main measures: setting up a solar survey, setting up a company to invest in renewable energy sites and developing seawater district heating and cooling networks.

### > THE SOLAR SURVEY OF THE PRINCIPALITY

Developing photovoltaic installations is now a priority for the Government in terms of renewable energy development. Through the Principality's solar survey, created in June 2017, residents can discover the solar radiation readings for each roof, the surface area that can be used for installing solar panels and the annual production. This tool offers owners, management agents and individuals the possibility to quickly view decision support data for installing solar arrays on their buildings' roofs.

To encourage people to invest in this technology, the Government implemented financial incentives in 2014. The feed-in tariff was set at €360/MWh ex. VAT for panels on flat roofs which cannot be integrated into

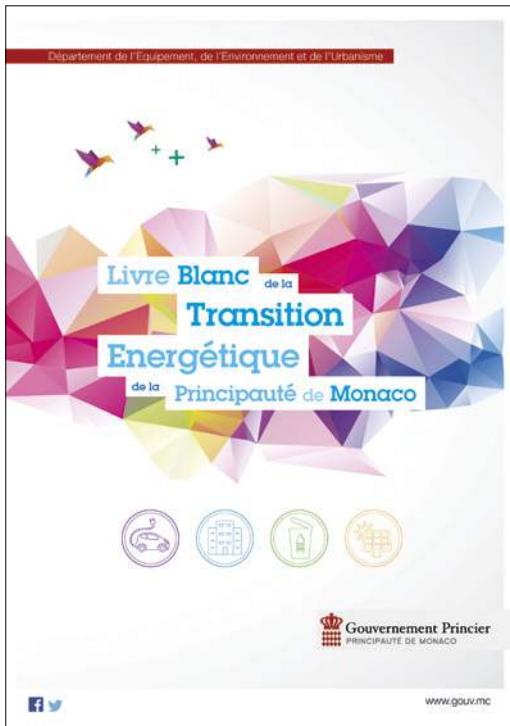
the building, and €530/MWh ex. VAT for other cases. A 15-year guaranteed subsidy for photovoltaic energy production.

### > CREATION OF RENEWABLE ENERGY MONACO (M.E.R.)

With respect to renewable energy, the Principality has also decided to invest in distributed renewable energy power plants (solar, wind, hydro). Monaco Energies Renouvelables, a joint venture between the State and SMEG, was created in November 2017 to carry out these investments. The target is to have cross-border renewable energy generation assets to meet the Principality's demand by 2030. The aim is to be able to ensure that the Principality has access to green electricity at a manageable price over the long-term.

### > CREATION OF TWO NEW SEA WATER DISTRICT HEATING & COOLING NETWORKS

A pioneer in this technology since the 1960s, the Principality has more than 70 seawater heat pumps along its coastline, producing approximately 17% of Monaco's energy. By using heat recovered from the sea, these heat pumps are replacing traditional heating



and air conditioning systems, thereby limiting the use of fossil fuels and greenhouse gas emissions. Seawater heat pump technology significantly increases the energy efficiency of an energy generation system. The development of the seawater heat pumps will become more important in coming years, since two new district heating and cooling networks are being developed in two of the Principality's districts: Larvotto and Condamine.

#### > RENEWABLE ENERGY GUARANTEE OF ORIGIN (REGO) DEAL

SMEG is offering all users a REGO deal whereby it certifies that it has sourced an equivalent proportion of power from renewable energy sources to cover the customer's electricity consumption.

REGO contracts represented 43% of energy supplied in 2017, representing a 15% increase compared to 2016.

#### > CARBON OFFSETTING DEAL

The 'Eco2' deal offered by SMEG, offsets the CO<sub>2</sub> emissions from burning natural gas by purchasing carbon credits from the 'Monaco Carbon Offsetting Programme' set up by the Prince Albert II

Foundation. Eco2 sales offset 43% of CO<sub>2</sub> emissions from natural gas consumption, an increase of 12% in 2017 compared to 2016.

### ADAPTING TO CLIMATE CHANGE

By implementing the Energy Climate Plan, Monaco is committed to developing an adaptation strategy for global warming. This forward-thinking strategy has many objectives: preventing potential impacts, limiting their cost and taking advantage of local opportunities. A detailed analysis of climate projections conducted at the global, then regional level, has enabled to Principality to gain an initial understanding of what the likely impacts of climate change will be.

This warming could translate into an increase in heat waves, but also by a decrease in the risk of cold and frost in winter. A change in rainfall patterns is also highly probable. Given that Monaco is exclusively a coastal state, the rise in sea levels must also be considered when assessing its vulnerability. According to the measurements taken in Monaco between 1999 and 2014, this level has risen twice as fast as that observed since 1900. By the end of the century, the sea level could have risen by 80 cm.



# SUSTAINABLE CITY AND LIFESTYLE

In 2016, the Principality had approximately 54,000 employees and 37,000 residents who travel around the territory of 2 square kilometres every day. As a business and tourist destination, Monaco also welcomes almost 5 million visitors per year. These figures clearly illustrate the importance of traffic flows and their impact on the city. The Prince's Government is developing a sustainable urban policy aimed at preserving and even enhancing a quality of life that is both acknowledged and appreciated.

This policy is centred around the following areas:

- **Urban development, construction and environment;**
- **Mobility and transport;**
- **Waste and waste-water management;**
- **Management of green spaces;**
- **Pollution and risk management;**
- **Increasing the involvement of the Monegasque Community.**

## ■ URBAN PLANNING, CONSTRUCTION AND ENVIRONMENT

The need to consider environmental aspects when developing urban development projects results in Environmental Impact Studies (EIS) being conducted. They aim to avoid and reduce the negative impacts of a project on the environment (natural and anthropogenic) and to implement mitigation measures.

## ■ MOBILITY AND TRAVEL

The Government's mobility policy aims to reduce the negative impacts of road transport (traffic, air quality, noise pollution, etc.), but also aims to encourage alternative transport methods.



## > DEVELOPING PUBLIC TRANSPORT

The State is focussing its mobility efforts on public transport services both within the city state and for travel to the neighbouring towns and regions.

The Principality is served by the Côte d'Azur network of express buses, which run regular services between Nice airport, Nice, Monaco and Menton. The State is also encouraging train/bus inter-modality, between the Compagnie des Autobus de Monaco (CAM) bus network, SNCF, bordering towns and the French departmental bus services. Interoperability between public transport systems has also developed between CAM, the TER (Transport Express Regional) and the neighbouring regional bus networks.

Inter-modality has also developed with the 'Carte d'Azur', a scheme whereby people can use both the buses in Monaco and those in the Alpes Maritimes department seamlessly.

One of the main focuses of this mobility policy is to encourage people to use public transport when moving around the city. CAM has improved its services by providing better information to users, using GPS geolocation and real time data, increasing the number of buses running, introducing incentive ticket pricing as well as a bus service running on Friday and Saturday nights.

## Traffic information site

The site 'infotrafic.mc' or 'infochantiers.mc' is a tool that gives a real-time views of road traffic in the Principality. This site also lists all the Principality's public and private construction sites and road works.

For each project, it provides information on noise pollution and visual, environmental, traffic or pedestrian mobility problems. Available on all types of smartphones, it includes a text message alert feature for incidents or traffic jams on public roads.

## Public car parks

The Monaco Public Car Parks Office website has an interactive map showing all public car parks. For each car park, the Internet user can see the total number of spaces, the number of levels, the exact location of the car park entrances as well as the maximum height, but above all the number of spaces available in real time.

For tour coaches visiting the Principality, the department has developed a booking system via the website 'i-cars.mc' based on innovative technologies, optical reading of number plates, touch screens.



## > SOFT MOBILITY

In the context of soft mobility, low impact transport methods (walking, cycling, etc.) are encouraged. Consequently, Monaco has 80 lift links, 35 escalators and 8 travelators.

To help people move around the city, the 'Monaco Malin' guide includes all alternative modes 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 accept bicycles (provided you push them).

## > PROMOTING ELECTRIC AND HYBRID VEHICLES

The Government has adopted a concerted policy to encourage clean or low emission vehicles. Since they were introduced in 1994, the subsidy levels have increased in order to focus on the cleanest vehicles and factor in technological developments.

The Ministerial Order No. 2018-1182 of 18 December 2018 on assistance for purchasing environmentally friendly vehicles sets out the new subsidy levels, in particular:

- Introducing a subsidy for pedal-assist bicycles (pedelecs) with a capacity of 250 W or less, which

are not registered, whose owners reside in the Principality, will now be able to get a grant of 30% of the purchase price of the vehicle inclusive of VAT, capped at 400 euros;

- In order to encourage the purchase of environmentally friendly vehicles, the maximum purchase grant cap has been raised from €9,000 to €10,000 for four-wheeled electric vehicles and from €8,000 to €10,000 for plug-in hybrid vehicles emitting less than 21 g/km of CO<sub>2</sub>;
- In order to encourage taxi drivers and large discount companies to acquire cleaner vehicles as part of their business, they will be offered an additional flat-rate subsidy of 3,000 euros, which is added to the subsidy granted under the scheme.

In order to promote electric mobility, The Public Car Parks Office is providing more than 600 free recharging sockets to users of electric vehicles and offers discounts on its car park season tickets. Electric vehicles are also exempt from vehicle registration and can park on roads free of charge.

In 2018, the number of electric and hybrid vehicles registered in the Principality accounts for 4% of total vehicles. The Government's fleet of electric and hybrid vehicles is also increasing, and it now has a fleet of 17 electric Smarts.

## Pedal-assist bicycle (pedelec) service

Since 2010, the Compagnie des Autobus de Monaco and the Government have been developing a pedelec service that covers the entire Monegasque territory.

## > CAR SHARING SERVICE MOBEE

Launched in 2014, 'Mobee' is a free-floating car-sharing system for electric vehicles using a fleet of 25 Renault Twizys. A smartphone application geolocates and reserves the closest vehicle. This scheme is notable for its 'free-floating' or 'open loop' system, by which the user can return the car to anywhere in the Principality, without being required to return it to a specific parking space.

## WASTE MANAGEMENT

In 2017, the Principality drew up a waste disposal plan, whose aim is to increase consistency and coordinate all measures required to rationally manage the waste generated in the territory by 2030.

### Materials recovery of waste

Given the Principality's commitments in terms of reducing GHG emissions, the waste management policy aims to reduce waste at source, optimise collection, waste recycling and disposal, notably via resource recovery. The Government is therefore working to intensify selective recycling and develop recycling awareness building campaigns with residents. All household and similar waste is recovered either as a resource or energy recovery.

Food waste, which represents 31.7% of the waste collected, generates only 1% of GHG emissions. On the other hand, plastics, which account for 11.6% of waste, are responsible for 83% of the sector's GHG emissions.

### Single-use plastics reduction policy

In the Principality, reducing plastics is a major challenge. This reduction process began in 2016 with the banning of single-use plastic bags. The Sovereign Order n°7.254 of 14 December 2018 and Ministerial Order n°2018-1189 on disposable plastic bags and utensils has banned the use of plastic straws and swizzle sticks since 1 January 2019. From 1 January 2020, this ban will extend to plastic cotton ear swabs, plates, cups and glasses.

## Enhanced selective recycling

The Government's priority is to increase selective recycling. The legislative texts relating to the collection and treatment of waste in the Principality have been updated and aim to improve traceability, specify collection methods and requirements for bin storage areas. One of the elements of these texts is based on implementing selective recycling in all buildings by adding areas to store recycling bins.

- Thus, for new buildings: plans for such an area must be included in the planning application or during major modifications of common areas facing the public roads (work covering more than 50% of the surface area of the common areas facing public roads).
- For existing buildings: unless otherwise agreed, there must be an area which meets the standards, so that household and similar waste can be collected in a satisfactory area.

There are two exceptions: if it is technically impossible or economically unacceptable to install the facility. An alternative solution must be proposed by the owner or his representative.

### New resources and waste collection 2.0

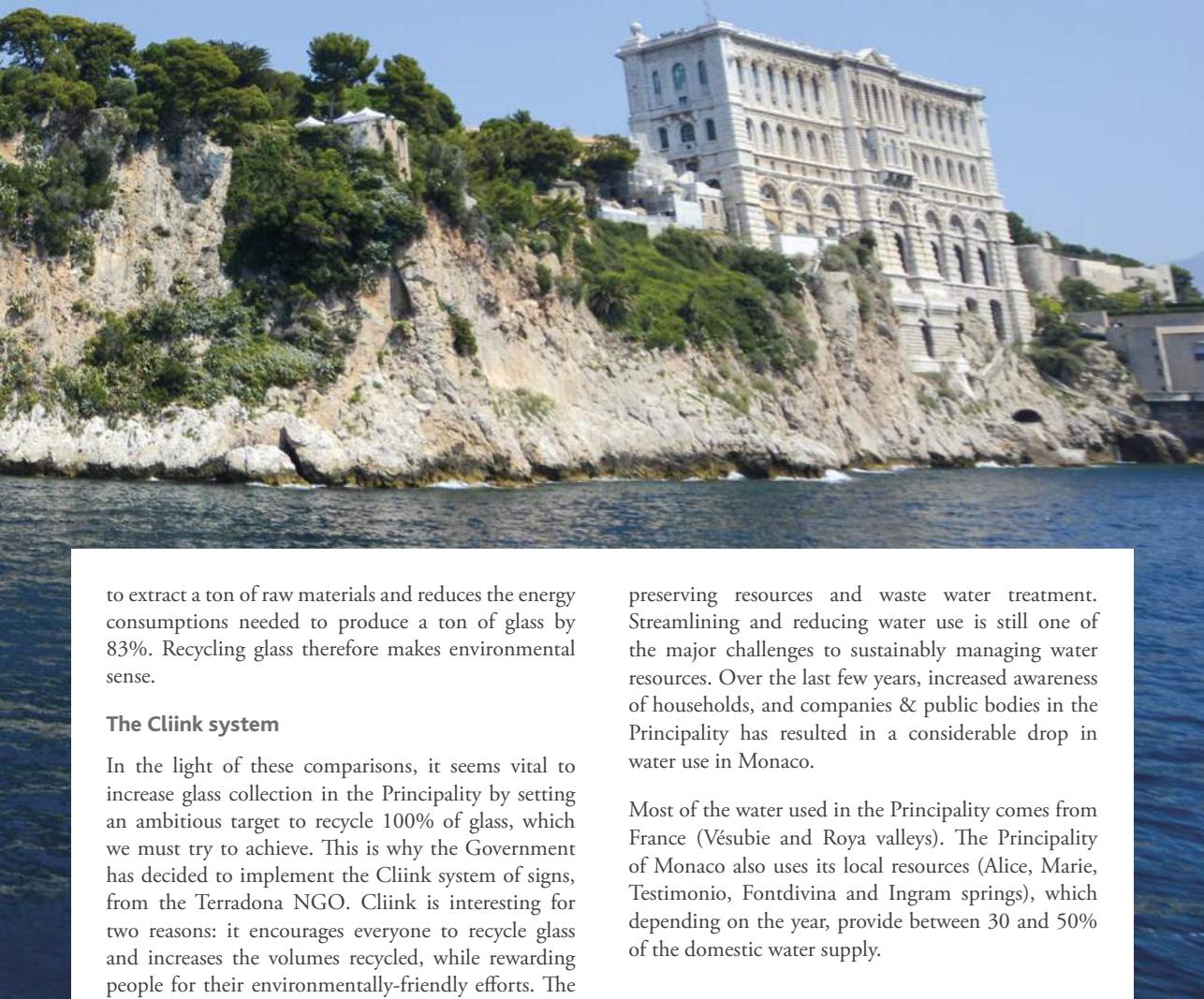
Among the actions planned by the Société Monégasque d'Assainissement (SMA) are:

- A fleet of tipper trucks with electric or hybrid engines;
- Digital collection with containers identified by electronic chips and static and dynamic weighing devices introduced;
- Simplified recycling instructions (grouping blue and yellow bins together, extension to all types of plastic);
- Free recycling bags.

### Infinitely recyclable glass

One type of waste, glass, is very important, since its initial manufacturing process requires extracting the raw material from nature (silica sand, limestone, etc.) and generates various types of pollutions when transforming this opaque material into transparent glass. This process also has the disadvantage of being highly energy intensive.

Yet, unlike other waste, glass is particularly easy to recycle. Therefore, from a ton of glass waste, we can get a ton of reusable glass. This means we do not need



to extract a ton of raw materials and reduces the energy consumptions needed to produce a ton of glass by 83%. Recycling glass therefore makes environmental sense.

### The Cliink system

In the light of these comparisons, it seems vital to increase glass collection in the Principality by setting an ambitious target to recycle 100% of glass, which we must try to achieve. This is why the Government has decided to implement the Cliink system of signs, from the Terradona NGO. Cliink is interesting for two reasons: it encourages everyone to recycle glass and increases the volumes recycled, while rewarding people for their environmentally-friendly efforts. The green public recycling stations for glass are fitted with smart meters on the seals' of the recycling containers. Everyone can then deposit their bottles and jars, cumulate points and enjoy special offers from the Principality's partner retail outlets.

## WATER MANAGEMENT

### WATER RESOURCE MANAGEMENT

The Principality's policy for managing waste resources meets efficient environmental objectives related to

preserving resources and waste water treatment. Streamlining and reducing water use is still one of the major challenges to sustainably managing water resources. Over the last few years, increased awareness of households, and companies & public bodies in the Principality has resulted in a considerable drop in water use in Monaco.

Most of the water used in the Principality comes from France (Vésubie and Roya valleys). The Principality of Monaco also uses its local resources (Alice, Marie, Testimonio, Fontdivina and Ingram springs), which depending on the year, provide between 30 and 50% of the domestic water supply.

### > WASTE WATER TREATMENT

All the waste water in the Principality, in Beausoleil and a large part of the water from the municipalities of Cap d'Ail and La Turbie are collected and treated. The treatment of residual water is separated into two distinct sites:

- An underground sewage pre-treatment plant (UPTER), located under the Rock of Monaco, which physically treats the effluent: by removing large objects, screening, removing grit and sand, removing fat and grease;



• a residual Water Treatment Plant (UTER), located in the basement of an industrial building in Fontvieille which handles primary and secondary treatment of the sewage. It was designed to meet specifications for compactness and absence of pollution.

The Government is working to optimise the sewage collection system and its treatment in order to limit pollution in natural environments and health impacts on humans.

## MANAGING GREEN SPACES

The Principality has more than 270,000 sq. m. of public green spaces maintained by the Department of Urban Amenities (DAU), mainly comprising public parks, which contribute to the quality of life in Monaco. The Principality has more than 11,000 trees in its territory, more than 900 of which are heritage trees. Green spaces are managed using environmentally friendly practices, by stopping all chemical treatments, using organic fertilisers and pest controls. It also manages water use, by:

- Using valley water for watering the gardens in the Larvotto sector;
- Recovering, storing and using rainwater (Roseraie Princesse Grace, Villa Paloma, Villa Girasole, etc.);

- Managing watering centrally, using rainwater gauges and monitoring the network for leaks;
- Using plants that don't need much water;
- Implementing mulching to reduce water evaporating from soils.

Thanks to these innovative and rigorous management methods, put in place over the last few years by the Department of Urban Amenities, several parks and gardens have been awarded the Espace Végétaux Ecologique (EVE) certification (Ecological Green Space): the Japanese Garden, Villa Sauber, Grimaldi Forum and the Princess Grace Rose Garden.

This international award represents a real recognition of the policy for managing public green spaces implemented by the DAU for many years.

In order to improve the Principality's policy to promote a 'green natural heritage,' the Tree Code has been drawn up. The aim of the Tree Code is to set out the measures needed to manage and conserve the tree heritage. It applies to all public and private green spaces in the Principality. Consequently, more than a thousand plant species have received the status of remarkable trees, based on a number of different biological, botanical, social and environmental criteria.

## **/ MANAGING POLLUTION AND DISASTERS**

The Department of Environment continuously monitors the quality of the environment throughout the year, through the air, water and noise pollution quality monitoring networks to tackle two priority challenges: countering pollution and improving the quality of life in the Principality.

In a territory of around 2 square kilometres, the Principality of Monaco has a dense monitoring network of different measured parameters, enabling it to have a robust sample of the changes in an urban environment. This monitoring network of different environments is supplemented by a monitoring network of natural disasters, which aims to ensure that the Principality has access to reliable local data, while keeping in constant contact with the data and alerts recorded by the monitoring networks in the neighbouring region. The natural disaster monitoring network comprises:

- A system of seismic sensors;
- A tide gauge in cooperation with the (French) Naval Hydrographic and Oceanographic Department (SHOM);
- An environmental radioactivity detection system;
- A network of 3 meteorological monitoring stations to collect data on temperature, precipitation, wind, humidity and solar radiation.

### **> AIR QUALITY**

The Principality of Monaco is a small urban coastal zone. In this area, as in the whole of the Alpes Maritimes, the pollution predominantly comes from transport and oil heating. This pollution can be heightened by structural characteristics such as street canyons (which concentrate pollutants) or meteorological phenomena (lack of wind, heat waves, etc.).

#### **Air quality monitoring networks**

To assess this pollution, the Principality has been monitoring air quality since 1991 by implementing an automated network of 5 air-quality monitoring stations. The stations are located at: Quai Antoine 1<sup>er</sup> and Fontvieille, rue Grimaldi, place des Moulins, and boulevard Charles III).

The pollutants monitored are: nitrogen dioxide, sulphur dioxide, ozone, carbon monoxide and fine particulate matter. The air quality is assessed for all the

pollutants in relation to the thresholds and limit values used in Europe.

### **> PARTNERSHIP BETWEEN THE GOVERNMENT AND AIR PACA**

In order to strengthen regional feedback with neighbouring countries, a Framework Partnership Agreement between the Principality and AirPACA (AtmoSud) was signed at the end of 2015. This partnership concerns cooperation areas such as monitoring air quality:

- Maintaining the networks, calibrating measuring devices and validating data;
- Modelling and forecasting air quality;
- Information and awareness raising.

#### **Air Quality Index (AQI)**

The air quality of the Principality of Monaco is monitored on a daily basis by permanent stations located throughout the territory. In order to increase the amount of information disseminated, the general public has been able to view an air quality index (AQI) on the Principality's communication sites since 2018.

The AQI aims to provide territorial information on air quality, determined using the same methodologies used in the PACA region. The forecast for the next day is also estimated, considering the weather forecasts.

This index is calculated based on the concentrations of nitrogen dioxide ( $\text{NO}_2$ ), fine particulate matter ( $\text{PM}_{10}$ ) and ozone ( $\text{O}_3$ ) in the air. These pollutants are good indicators of the atmospheric pollution to which the population is exposed in urban areas.

#### **3D mapping of air and noise quality**

As part of its 'Quality of life - High resolution modelling and mapping platform for air quality and noise in Monaco' programme, the Department of Environment launched two air quality measurement campaigns (winter 2017 and summer 2018), setting up 52 passive sensors throughout Monaco.

The final results will validate high-resolution air quality modelling by considering pollutant dispersion. This mapping, coupled with noise mapping, will factor in the 3D effects (relief, building height, etc.) on the dispersion of pollutants.



## > NOISE ABATEMENT

The main sources of noise pollution in the Principality are building sites, road transport, the heliport, noise from night clubs & bars and neighbourhood noise.

The Government is focussing on two aspects: monitoring noise pollution and noise abatement for building sites.

### Noise measurement network

Managing noise pollution is an integral part of the quality of life in the Principality. The challenge for the Principality is to protect the living environment while delivering economic and urban development.

The network for measuring and monitoring noise pollution is provided by:

- 3 permanent stations to continuously measure noise: Fontvieille, heliport for air traffic noise and rue Grimaldi for road traffic noise;
- 2 multi-sensor mobile stations (weather-noise) sited in 'sensitive areas';
- Periodically producing a sound map of the Principality.

## > NOISE ABATEMENT ON BUILDING SITES

Given that there are many, sometimes highly complex building sites, the State makes every effort to reduce disturbances.

In order to improve the quality of life in the Principality, a new regulation on noise and construction site hours has been in force since the end of 2018:

- Ministerial Order n°2018-1116 of 3 December 2018 on managing construction sites;
- Ministerial Order n°2018-1117 of 3 December 2018 on construction site noise.

These new statutory texts aim to:

- Simplify and harmonise the applicable texts, in particular on the operating hours and periods for construction sites;
- Create or strengthen the rules governing work on construction sites, by understanding the resulting disturbances;
- Work towards the exemplary construction projects.



### **Construction site hours**

All construction sites must now stop work on Saturdays. During the week, work is authorised from 7.30 am to 7.30 pm, subject to implementing noise abatement and disturbance mitigation measures. In August, only low-noise interior work is permitted.

### **Construction site noise**

The aim of this Ministerial Decree on construction site noise is to reduce it, by using techniques and equipment that generate less disturbance or make it possible to effectively contain it. Short-term construction sites are required to:

- Use the best available equipment, techniques and materials for acoustic parameters;
- Implement the most appropriate and effective noise reduction devices;
- Keep residents in the area informed.

For longer-term construction sites, the contracting owner must also plan to:

- Commission an acoustician to conduct an initial study on construction noise;
- Draw up a noise prevention and abatement plan for the construction site which must include a communication plan for local residents.

The preliminary study is a noise assessment tool that will be ready before construction starts. It is indispensable and sets the level of exposure to noise which is bearable for local residents while remaining consistent with the requirements of the construction project. The contracting owner must also identify the most efficient techniques, equipment and materials available in terms of acoustics, as well as the noise reduction devices selected.

The obligation to monitor noise levels on the site using sound monitoring tools, which the State views as inspection tools, is a major step forward in tackling noise pollution. Strengthening dialogue with local residents is an important part of the new Decree that applies to all construction sites.

### **Noise observatory**

The Department of Environment has set up a ‘noise observatory’ in partnership with the association, ‘ACOUCITE’, a centre of expertise in urban environmental sounds. The aim of this observatory is to assess what measures are needed to facilitate the integration of the noise abatement issue across multiple sectors (traffic plan, appropriate development projects, clean building sites, setting up a network to build awareness and provide information, etc.), and have a



forward-looking vision on this issue. The aim of this tool is to gradually lead to controlling the Principality's sound environment.

## ■ GETTING THE MONEGASQUE COMMUNITY INVOLVED

The policy of the Government of the Principality in favour of sustainable development is fully reflected in the commitment and involvement of everyone in the community of Monaco and the different stakeholders in the private and voluntary sectors.

The Principality sees itself as a sounding board for major environmental issues. Meetings, conferences and debates are organised throughout the year. Therefore, at the initiative of HSH the Sovereign Prince, the Prince Albert II de Monaco Foundation, the Oceanographic Institute and the Albert I Foundation, the 'Monaco Blue Initiative' was set up in 2010, to protect the marine environment.

Every year since 2017, the Monaco Ocean Week is held, an event that builds consensus around the major issue of protecting the oceans.

The Monaco Scientific Centre and the Environmental Laboratory of the AIEA have joined forces to organise

workshops on ocean acidification. The issue of ocean acidification led to the 2008 'Monaco Declaration,' co-signed by 150 scientists from 26 countries. This text, prefaced by HSH the Sovereign Prince, aims to challenge political decision makers on this vital issue and encourage research in this field.

## > THE GOVERNMENT'S ENVIRONMENTAL RESPONSIBILITY

Since 2009, the Government of Monaco has developed a network of environmental experts representing all the State's Departments, to implement an environmentally responsible approach which involves including environmental concerns in every aspect of its work, with the aim of leading by example.

In addition, At the same time as its measures to reduce its environmental impact, the Government is offsetting GHG emissions for all its official journeys as well as the GHG emissions produced by the meals in school canteens.

Since 1 January 2013, all canteens in public or private schools, after-school centres, health and care centres in the Principality the obligation to provide meals which include produce from organic farming (Act n°1386 of 15 December 2011, Ministerial Order n°2012-578 of 4 October 2012).



Since 1 January 2015, the Government has signed up to SMEG's 'EGEO' deal for all the Government's electricity contracts, therefore encouraging the generation of renewable power.

In order to manage and reduce the impact on the environment, the Government departments have committed to environmental management systems. Therefore, the Public car parks office was the first office to obtain the ISO 14 14,001 and 9001 certifications. The Department of Environment has also just obtained the ISO 14001 certification for all its administrative, laboratory and field activities.

As for preserving biodiversity and natural resources, the Government is continuing to implement the campaign "Monaco takes action against deforestation" initiated by the Prince Albert II Foundation, to encourage the use of certified wood in new construction projects, and for any commercial business using wood, and also promote this sector within the Government. In 2018, 40 companies confirmed that they were renewing their commitment to the Charter and 98% of companies consider the Wood Charter useful for adding the issue of tackling deforestation into their Corporate Social Responsibility policies.

#### > TOWARDS ZERO PLASTICS: BAN ON SINGLE-USE PLASTICS

The Government is pursuing a concerted policy of reducing single-use plastics to combat marine pollution and reduce GHG emissions from plastics.

- Since 1 June 2016, all single use bags which are less than 50 micrometres thick and hold less than 25 litres have been banned from shops;
- Since 1 January 2017, all single use, non-compostable plastic bags used to package goods at a point of sale, with less than 30% of materials sourced from biomass (materials from plant or animal biomass) are banned. This proportion will progressively increase to reach 60% in 2025;
- Since 1 January 2019, plastic straws and swizzle sticks are banned;
- From 1 January 2020, disposable plastic cotton swabs, cups, plates and cutlery will be banned.

#### > 'COMMITTED RETAILER' CERTIFICATION LABEL

In 2018, the Prince's Government launched the free, participatory and scalable 'Committed Retailer' label.



It showcases the eco-friendly practices of retailers and supports retailers in implementing sustainable consumption measures. The aim of the label is to build a network of partners to share good practices, develop new measures and circulate information. Accompanied by an evolving set of specifications and drawn up in consultation with the Principality's retailers, the certification label commits the territory to concrete actions: waste reduction and recycling; returning and reusing packaging; procuring locally; saving energy and managing natural resources.

Currently, more than 70 retailers in the Principality have been awarded the label and in 2019 the Committed Restaurant certification label will be launched, which will focus more specifically on deploying glass recycling measures, tackling food waste and providing support for the ban on disposable plastic straws and utensils.



# NEWS OF THE YEAR



## MS MARIE-PIERRE GRAMAGLIA PARTICIPATES IN THE WORLD COMMITTEE OF WOMEN ENTREPRENEURS - MARCH 2017

During the World Committee of Women Entrepreneurs, which was attended by nearly 300 women entrepreneurs from more than 50 countries in the Principality, Marie-Pierre Gramaglia spoke at the 'Environment and Urban Development' workshop.



## BIODIVERSITY SIX EUROPEAN SHAGS HATCH ON THE CLIFFS OF THE ROCK APRIL 2017

The Department of Environment announced that 6 European Shags had hatched on the cliff face of the Rock. In 2015, the discovery of a successful nesting pair of the Mediterranean European Shag (*Phalacrocorax aristoteles desmarestii*) on the cliff of the Rock was the first official recording of the species' nesting in this sector of the Mediterranean coast. The population of shags on this site continues to increase, with at least 15 birds counted.



## EVER FAIR: KEYS OF 6 NEW ELECTRIC VEHICLES PRESENTED - APRIL 2017

During the EVER fair, Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, received the keys to 6 new 'La Poste Monaco' electric vehicles. She was presented the keys by Christophe Martinet, Sales and Marketing Director of Véhiposte.



## TWO PEREGRIN FALCONS CHICKS HATCH ON THE CLIFFS OF THE ROCK MAY 2017

A few weeks after the six Mediterranean European Shag (*Phalacrocorax aristoletis desmarestii*) chicks hatched, the Department of Environment identified two Peregrine Falcons chicks (*Falco peregrinus*), which hatched in a cavity in the cliffs of the Rock. Once again, the breeding of the Peregrine falcon in the Principality testifies to the overall good conditions necessary for this iconic protected species.

## GALERIE DE PÊCHEURS: 'SAVE THE AFRICAN ELEPHANTS' EXHIBITION MAY 2017

HSH the Sovereign Prince visited the exhibition alongside Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, Valérie Davenet, Director of the Environment, Olivier Wenden, Director of the Prince Albert II of Monaco Foundation and Ingrid Von Anthoni (SEA Association).

The 'Save the African Elephants' photographic exhibition, organised by the Department of Environment in partnership with the NGOs, SEA and David Sheldrick Wildlife Trust, aims to raise awareness of this endangered animal cause with as many people as possible. Threatened with extinction, the elephant is hunted for its ivory and in particular, suffers from a lack of access to water.





## SOLAR SURVEY - MAY 2017

The Mission for Energy Transition has set up a solar survey, an interactive map that the general public can view on the website, [www.cadastresolaire.mc](http://www.cadastresolaire.mc), which makes it quick and easy to discover the potential for sunlight, the area that can be used to install photovoltaic panels and the possible annual electricity produced for each roof in Monaco. It is an innovative tool which enhance the Principality's sustainable development and more specifically the development of solar energy.

This tool offers owners, management agents and individuals the possibility to quickly visualise decision support data for deploying solar panels on the roofs of their buildings.



## ENERGY AND CLIMATE POLICY OF THE PRINCIPALITY JUNE 2017

Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, invited to the Junior Chamber of Commerce breakfast, presented the Principality's energy and climate policy priorities: energy, buildings, mobility, waste, communication and awareness.

## SUSTAINABLE DEVELOPMENT GOALS: THE GOVERNMENT OF MONACO PRESENTS ITS VOLUNTARY NATIONAL REVIEW TO THE UN - JULY 2017

The Meeting of the High-Level Policy Forum for Sustainable Development, convened by the Economic and Social Council (ECOSOC), was held at United Nations Headquarters in New York in July 2017. At this meeting, HE Serge Telle, Minister of State, presented the Voluntary National Review, prepared by the Government, on implementing the Sustainable Development Goals (SDGs).



## BIODIVERSITY: THE PRINCE'S GOVERNMENT JOINS A NEW PROGRAMME CONVENTION AUGUST 2017

In the context of the partnership between the Prince's Government and the Mercantour-Alpi Maritime European Nature Reserve a new Programme-Agreement was signed on August 3. The 'Bees in the Mercantour-Alpi Maritime territory: diversity and pollination' programme aims to refine our understanding of the diversity of wild bees and to understand the interactions between wild bees and heritage natural environments (such as hay meadows). The Programme-Agreement also provides for an inventory to be carried out in the Principality to identify the various species of bees.

By producing an exhaustive list of species, and increasing our understanding of their way of life and interactions, the aim is to propose measures to ensure that biodiversity is maintained over the long term.



## 16<sup>TH</sup> EUROPEAN MOBILITY WEEK: 'SHARING TO GO FURTHER' SEPTEMBER 2017

At the initiative of the Department of Environment, Monaco took part in the 16th European Mobility Week. Over these two days, the public were able to try many two- and four-wheel electric vehicles.

Recreational and sports workshops for children and adults who were able compete in the different challenges.

On Sunday, Princess Grace Avenue was partially closed to normal vehicles to allow bicycles, rollerblades and skateboards to circulate within a safe area.





## LAUNCH OF THE 'COMMITTED RETAILER' LABEL - NOVEMBER 2017

The Department of Environment is launching the 'Committed Retailer' label in order to identify registered traders from an environmental, corporate and social responsibility perspective. This Committed Retailer label creates a network of partners to share good practices, develop new measures and circulate information. It showcases the eco-friendly practices of retailers and supports retailers in implementing sustainable consumption measures.

The Oceanographic Museum shop has joined the Committed Retailer programme. Being awarded this certification label is a testament to the store's eco-responsible approach and its commitment to a more sustainable way of consumption.



## MRS MARIE-PIERRE GRAMAGLIA SPEAKS AT COP 23 IN BONN NOVEMBER 2017

Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, spoke on behalf of the Principality of Monaco at the United Nations Framework Convention on Climate Change (COP 23) in Bonn.

In her speech, the Minister highlighted the Principality of Monaco's objectives in terms of reducing greenhouse gases and the decisive role of the Oceans played for the climate.



### CLEANING THE CLIFFS ON THE ROCK: FIRST PHASE OF THE OPERATION - DECEMBER 2017

In order to preserve local biodiversity, the Department of Environment and the Department of Urban Amenities are supporting the company responsible for this clean-up and facilitate its work in the field by providing it with species identification sheets.

In order to define the sectors of interest to conservationists, an inventory of the area carried out by the Department of Environment had resulted in establishing an exhaustive list of exotic species and species of interest to the natural heritage.

This cleaning operation will take place in three phases and is expected to end in late 2019 by cleaning areas below the Oceanographic Museum and will end by ensuring that invasive alien plant species at these sites have been eradicated. This entire programme is part of a biodiversity conservation strategy.

### PELAGOS AGREEMENT: MR CYRIL GOMEZ TAKES OVER AS PRESIDENT OF THE MEETING OF THE PARTIES TO THE AGREEMENT DECEMBER 2017

Within the framework of the 7<sup>th</sup> Meeting of the Parties to the Pelagos Agreement, the handover between the outgoing presidency and incoming Presidency provided by Monaco in the person of Cyril Gomez, Director General of the Department of Public Works, Environment and Urban Development.

Mr Cyril Gomez takes over from HE Mr Xavier Sticker, Head of the French delegation, as President of the Meeting of the Parties to the Agreement. He will be the President for the next two years.

Monaco's delegation to the Meeting of the Parties is composed of Valérie Davenet, Director of the Environment, Head of the incoming Delegation to the Meeting of the Parties, Sylvie Tambutté, Research Director at the Monaco Scientific Centre and National Focal Point, Armelle Roudaut-Lafon, Director of Maritime Affairs and Head of the Delegation to the Scientific and Technical Committee, Isabelle Rosabrunetto, Director General of the Ministry of Foreign Affairs and Cooperation, and representatives from the Ministry of Public Works, the Environment and Urban Development, the Department of Environment and the Department of Maritime Affairs.





## CREATION OF THE NATIONAL PACT FOR THE PRINCIPALITY'S ENERGY TRANSITION JANUARY 2018

Mrs Marie-Pierre Gramaglia, Minister of Public Works, the Environment and Urban Development, presented the launch of the Principality's National Energy Transition Pact to the media, as requested by HSH the Sovereign Prince.

A progress tool of a simple commitment charter and sectoral action plans, the National Pact allows everyone, to the extent that they are able, to play a role in Monaco's energy transition, whose objectives are clear: reducing greenhouse gas emissions (GHG), working to improve the Principality's energy efficiency and increasing local renewable energy production.

All the members of the Prince's Government have signed the National Pact's charter of commitment.

## HIGH RESOLUTION AIR QUALITY MAPPING - JANUARY 2018

As part of the "Quality of Life - High resolution air quality modelling and mapping platform in Monaco", the Department of Environment is carrying out a high-resolution mapping of the Principality's air quality, taking into account 3D effects (relief, building height, etc.).

52 sensors were deployed throughout Monaco for two measurement campaigns in winter and summer 2018. Carried out in partnership with Air PACA (Atmo Sud), these two measurement campaigns will make it possible to validate high-resolution air quality modelling by taking into account the dispersion of pollutants.





### **JEUN'ELEC: ELECTRIC VEHICLE TESTING FEBRUARY 2018**

As part of the 19<sup>th</sup> Jeun'Elec programme, the Electric Vehicles Club of Monaco, in close collaboration with the Department of National Education, Youth and Sports and the Department of Environment, offered willing pupils in Year 9 of the Charles III and François d'Assise Nicolas Barré high schools to take part in a day of electric vehicle testing.

All modes of electric transport (scooters, electric bicycles, cars and karts) were on show at this event.



### **MONACO OCEAN WEEK 2 : CONFERENCE LAUNCH - MARCH 2018**

The Prince Albert II of Monaco Foundation and its partners - the Prince's Government, the Scientific Centre of Monaco, the Oceanographic Institute and the Yacht Club of Monaco - reaffirm their determination to act in response to threats to the environment, particularly the ocean.

### **MS MARIE-PIERRE GRAMAGLIA AT THE ECONOMIC AND SOCIAL COUNCIL - FEBRUARY 2018**

Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, in accepting the invitation of André Garino, President of the Economic and Social Council, first presented the National Energy Transition Pact. Detailing the main ongoing and future projects, such as the launch the solar survey and a dedicated website, she then outlined the main focus areas of the Pact, its objectives and how to join its Charter of Commitment. Then, the main points of the project to set up a Dedicated Corridor Public Transport System (TCSP) were discussed.



### **THE MINISTER OF STATE AT THE 8<sup>TH</sup> WORLD WATER FORUM - MARCH 2018**

HE Mr. Serge Telle, participated in the 8<sup>th</sup> World Water Forum in Brasilia. Nearly 40,000 people from over 160 countries, including decision-makers, politicians, experts, civil society and all water stakeholders around the world gathered to discuss the topic: "Sharing water".

He stated that under the authority of HSH the Sovereign Prince, Monaco has made water a priority. The Minister of State then delivered a speech at the opening of the ministerial meeting and participated in a ministerial round table on climate change.





## THE DEPARTMENT OF ENVIRONMENT PARTICIPATES IN THE 6TH PLENARY SESSION OF IPBES, IN COLOMBIA - MARCH 2018

IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) created in 2012, is an intergovernmental body open to any member of the United Nations. About 800 people attended this 6<sup>th</sup> session, in which the Department of Environment participated as the Focal Point for the Principality.

Aimed at improving the links between knowledge and decision-making, the Platform aims to identify and develop decision-making support methods that take into account all relevant knowledge on biodiversity and ecosystem services, whether it comes from scientific research, governments, non-governmental organisations (charities, NGOs, companies, etc.) or local stakeholders.



## THE ENVIRONMENT IN THE PRINCIPALITY: 2018 DATA COLLECTION - APRIL 2018

The Department of Environment publishes the set of environmental data with the aim of making the data widely available. This book contains quantified data analysis of energy, waste, climate, air quality, water management, the marine environment and biodiversity.

In the document, the Department of Environment also explains the environmental challenges. It presents the data, how it is changing over time and interprets it by comparing it to the standards set or the policies implemented. It is therefore a reference for all, whether newcomers or specialists, who wish to access environmental information on Monaco.

## BIODIVERSITY NICE SNOWFLAKE ACTION PLAN - APRIL 2018

A Local Action Plan to conserve and manage the Nice Snowflake has been set up over 3 years (2018-2020) by the Department of Environment, in partnership with the Conservatoire Botanique National Méditerranéen de Porquerolles (CBNMed) and the Mediterranean Institute of Biodiversity and Marine and Continental Ecology (IMBE).

This programme includes several components, including an exhaustive survey of all Snowflake populations in Monaco.



The Nice Snowflake, an endemic species of plant restricted to the Alpes-Maritimes region, is protected in France and Italy and is included in Annex I of the Bern Convention. The Snowflake also has a very high heritage value in Monaco. Indeed, recent results have shown that Monaco populations form a single Significant Evolutionary Unit (SEU). It therefore appears necessary to prioritise the conservation and evolution of this rare and localised species. Some existing populations will also be reinforced and two populations will be reintroduced to sites from where they have disappeared.



## BIODIVERSITY IN THE CITY: CONSERVING BIRD POPULATIONS MAY 2018

In an urban setting, where these shelters are becoming rarer, the Environment Department is installing more than 40 artificial nesting boxes on Monaco's territory. The objective: encourage different bird species to nest in parks and gardens.

The target species are mainly passersines, accustomed to the urban environment, as well as two small birds of prey: the Eurasian Scops Owl and the Kestrel. A preliminary study identified the nesting boxes specifically adapted to these species and determined where they should be located in the Principality's gardens and parks. In the field, the most suitable trees, the height and aspect of the nesting boxes were precisely identified.

In addition, as part of cross-subject practical education in life sciences and technology, nesting boxes for coal tits were designed by Year 10 at Collège Charles III and installed in the Principality's gardens.



### 14<sup>TH</sup> MONACOLOGY - JUNE 2018

Monacology, Monegasque week of environmental awareness, is celebrating its 14<sup>th</sup> year in 2018. The exhibition, located on Quai Antoine 1<sup>er</sup>, which had been transformed into a real EcoVillage, was visited by HSH the Sovereign Prince and Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development.

At this event more than 1,500 students from the Principality and neighbouring municipalities discovered the basics of ecology. The Government of Monaco was represented by several stands at the show, including the Mission for Energy Transition, the Department of Environment, the Responsible Tourism section of the Tourism and Convention Authority.

In order to raise awareness among the young children about the problem of plastic pollution, the Department of Environment gave school children a bottle that they can personalise for their everyday use.

### CLEANING THE ST NICOLAS ROCKS - JUNE 2018



As part of its role to protect marine biodiversity, the Environment Ministry has been organising work to clean the St Nicholas Rocks over the last two years. This cleaning work has removed a large amount of waste in this area and are also an opportunity to for the various local stakeholders to work together on a common environmental project.

These coralline algae rocks, located at the entrance to Fontvieille harbour, are teeming with biodiversity that are worth conserving. The pressure of human activities is however having an impact on them, as illustrated by the presence of many large pieces of waste, mainly from leisure fishing activities (fishing lines, hooks).

## LAUNCH OF THE CLIINK GLASS PACKAGING RECYCLING REWARD PROGRAMME JUNE 2018

Launch of the Cliink smart-city system: the first reward programme for recycling glass packaging in partnership with retailers.

37 green public waste collection stations for recycling glass have been equipped with the smart-city system, 'Cliink', the first reward programme for recycling glass packaging. Users can therefore accumulate points which can be used on special deals offered by more than 50 retailers in the Principality or transformed into donations to charitable associations.



## 'CLEAN PORT' PROGRAMME: NEW CONTAINERS INSTALLED ON THE PORT - JUNE 2018

As part of the 'Clean Port' programme, the Department of Urban Development has installed new facilities in the port of Monaco. This new 'Clean Port' area is able to recycle waste (containers for waste packaging and glass) and also for waste from leisure boats: used oil and oil filters. In addition, hatches have been provided for those who produce large amounts of waste. The underground containers are completely waterproof.

## WORKSHOP TO RAISE AWARENESS ABOUT THE MARINE WORLD - AUGUST 2018

In collaboration with the Marine World Discovery Centre, the Department of Environment organised two awareness raising days for the general public about the marine world on Larvotto beach. Bibliomer, a fun mobile library, let young children to discover the riches of the Mediterranean Sea and the coastal region.

The focus was on the fun of learning and exploring while enjoying the many games on marine biodiversity conservation and waste management.





## MONACO HELIOPORT: THE WORLD'S FIRST CARBON ACCREDITED HELIOPORT OCTOBER 2018

As part of the Energy and Climate Plan, Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, took action to get the Airport Council International Europe ([www.aci-europe.org/](http://www.aci-europe.org/)) to give Monaco's Heliport a carbon accreditation.

Together with the Department of Environment, the Civil Aviation Authority set up a programme to achieve carbon neutrality in 2017. Through this approach, the Civil Aviation Director, who is also in charge of managing the Heliport, made a commitment to significantly reduce the GHGs emitted by the heliport.

Currently 189 airports are accredited worldwide under the programme. Monaco's Heliport recently received its carbon accreditation: it is the first heliport to obtain it.

## AIR QUALITY IN THE PRINCIPALITY: MONITORING, INFORMATION AND SOURCE REDUCTION - OCTOBER 2018

As part of the Government of Monaco's policy to promote quality of life, the Department of Public Works, Environment and Urban Development is gearing up to develop three areas: monitoring, information and the reducing sources of pollution.

Ms Valérie Davenet, Director of the Environment, highlighted that since 1991 an air quality monitoring network has been in place, via 5 permanent, approved and certified stations, which cover the entire territory and generate data on a daily basis. Valérie Davenet also announced that an Air Quality Index has been uploaded on to the Government's Internet portal, which everyone can access.

Mrs Armelle Roudaut-Lafon, Director of Maritime Affairs, then presented the Sovereign Order on the prevention of atmospheric pollution and the ban on heavy fuel oil for ships. With this strong measure, the Principality has chosen to take action before a zone is created in the Mediterranean to control emissions and the level of sulphur in heavy fuel oil drops in 2020.



## NEW BUILDING ENERGY REGULATIONS - OCTOBER 2018



Surrounded by her teams from the Mission for Energy Transition (MTE), the Department for Forward Planning, Urban Planning and Mobility (DPUM) and the Department of Environment (DE), Marie-Pierre Gramaglia, Minister of Public Works, the Environment and Urban Development, presented the Principality's new building energy regulation.

This new regulation supplements the list of many tools implemented by the Prince's Government to support companies during Monaco's energy transition.



## SUSTAINABLE MEDITERRANEAN BUILDINGS OF MONACO: THE PRINCIPALITY MAKES A COMMITMENT TO SUSTAINABLE CONSTRUCTION - OCTOBER 2018

In the context of reducing GHG emissions in the building sector, the Mission for Energy Transition invited everyone from the building and urban development sector to a meeting on this priority issue.

The objective?: to present the Sustainable Mediterranean Buildings programme (BDM) created in PACA in 2009. This programme, which is both voluntary and innovative, aims to promote best practices in construction to preserve comfort and health, while taking account of environmental, social and economic issues.

By the end of 2019, these measures will be adapted to the specific Monegasque context and will be known as BD2M; Bâtiments Durables Méditerranéens de Monaco (Sustainable Mediterranean Buildings of Monaco).

## INSTALLATION OF SOLAR PANELS AT THE RÉVOIRES SCHOOL - NOVEMBER 2018

Marie-Pierre Gramaglia, Minister of Public Works, Environment and Urban Development, visited the roof of the School of Revenues where solar panels are been installed by the Public Building Maintenance Department. This facility includes 161 square metres of photovoltaic panels, installed on the roof. A screen placed in the school hall will allow students to see how much electricity is generated moment by moment and the cumulative amount of CO<sub>2</sub> emissions avoided. The average annual generation of 32,000 kWh, will cover about 15% of the establishment's annual needs.





## MONACO COMMITS TO TACKLE DEFORESTATION: CHARTER ON THE SUSTAINABLE USE AND MANAGEMENT OF WOOD - DECEMBER 2018

The Charter on the using and managing wood sustainably is part of the 'Monaco against deforestation', campaign initiated in 2011 and the result of a partnership between the Prince Albert II of Monaco Foundation, the MC2D association and IMEDD. In 2017, 40 companies participated in this study and confirmed that they were renewing their commitment to the Charter and their own commitments. After this individual assessment, individual signatories can take stock of his situation and determine areas for improvement.

## NEW REGULATION ON CONSTRUCTION SITE NOISE AND OPERATING HOURS DECEMBER 2018

Two Ministerial Orders on noise and operating hours on construction site were published in the Journal de Monaco (Monaco's Official Gazette) on 7 December 2018 with the aim of optimising the quality of life in the Principality. They concern reinforcing the monitoring of construction site operating hours and introducing measures to reduce construction site noise.





**PEDAL-ASSIST BICYCLES (PEDELECS)  
INCLUDED IN THE ECO-VEHICLE  
PURCHASING SUBSIDY SCHEME  
AS OF 1 JANUARY 2019**

As part of its mobility projects, the Government has adopted a concerted policy to encourage clean or low emission vehicles. The Government wished to change the system by introducing a subsidy for unregistered electric bicycles with a capacity of 250 W or less, and whose owners live in the Principality. From now on, they will be eligible for a 30% subsidy on the total vehicle price (inc. VAT) capped at 400 euros.

Furthermore, in order to encourage people to purchase environmentally friendly vehicles, the maximum purchase grant cap has been raised from €9,000 to €10,000 for four-wheel drive vehicles and from €8,000 to €10,000 for plug-in hybrid vehicles emitting less than 21 g/km of CO<sub>2</sub>.

Furthermore, in order to encourage taxi drivers and large discount companies to acquire cleaner vehicles as part of their business, they will be offered an additional flat-rate subsidy of 3,000 euros, on top of the subsidy already granted under the scheme. The new system comes into force on 1 January 2019.

**BAN ON PLASTIC STRAWS  
AND SWIZZLE STICKS  
AS OF 1 JANUARY 2019**

As part of its policy to reduce plastic pollution plastic straws and swizzle sticks have been banned in the Principality since 1 January 2019.

Consumers can replace them with those made of metal or bamboo, for example.

This process of reducing plastics began in 2016 when single-use plastic bags were banned.

From 1 January 2020, this ban will extend to plastic ear swabs, plates, cups, glasses and cutlery.

In 2019, the Department of Environment will launch the 'Committed Restaurant' certification label specifically tailored to restaurants.

This certification programme is aimed at both reducing plastics and food waste.





## DEPARTMENT OF THE ENVIRONMENT



# PUBLICATIONS OF THE DEPARTMENT OF THE ENVIRONMENT

## INSTITUTIONAL BROCHURES



## DATABASES



## BROCHURES







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