Message to the Ocean Leaders

v 1

Contents

Last update : April 19th, 2016

Forewords

TIME to ACT

I grew up on the coast of the Mediterranean, in the south of France, and began diving at the age of 7. With my father, Jacques-Yves Cousteau, and his team, I have produced countless documentary films presenting the wonders of the ocean.

In the course of my 70 years of diving, I have discovered magnificent places in the world. I have also witnessed the destruction of our planet. Today, we face an unprecedented challenge in human history - the acceleration of climate disruption. The Paris Agreement only sets the pace for critical actions, their momentum must grow, and with much more ambition than the text provides for.

Our time is more than counted. There have been enough speeches. The time has come to take action, **now**, to alter the trajectory of our joint future. We must focus on solutions. No nation can triumph in the face of increasing greenhouse gas emissions, rising temperatures or failing ocean health. Victory means protecting our land and oceans.

Every nation of the world can be victorious **if we join forces to find solutions**, one of the goals of Oceania 22. Every nation stands to gain something by realizing that the quality of our future depends on the health of our planet. Faced with this challenge, humankind will innovate in remarkable ways; it is able to adapt to the changing needs of our times. We are the only species on the planet capable of choosing not to become extinct.

The Pacific region is paying the high price of climate disruption, faced with the increased frequency and severity of cyclone damage, such as Pam last year in Vanuatu and Winston this year in the Fijian Isles, but also with climate disruption, rising sea levels, changing fish behaviors and harvest and planting periods. Far from being passive, it is engaging in regional cooperation to adapt. But this is not enough, much remains to be done now, particularly in terms of resilience, food safety, ensuring a peaceful future for all, and mobilizing funding that is up to the challenge.

With communication methods that enable us to reach the whole world, we have more knowledge than ever before. We know that our climate is being disrupted faster than ever, that our biodiversity has been altered, that everywhere on the planet, water is increasingly polluted. But together, we can find solutions. Opportunities for creation are endless. We can learn to better tap energy from the sun, the wind, tides and currents. We can reuse or recycle chemical products before they end up in the sea, and cultivate our oceans in a sustainable manner. There are countless possibilities for developing human communities while protecting our common assets.

There is only one water system; together, we live on a single planet of earth and water. Our lives are interconnected, our futures intimately entwined. Let's build a future for water and clean energy that will allow us to live. **The time for action is now.**

Jean-Michel Cousteau, *President of* ***Green Cross France and Territories***

I. From COP21 to COP22: Where Does Ocean Fit in?

The Paris Agreement, signed on December 12th, 2015 following COP21, is a success. It has halted five years of international negotiations which had failed to give way to any agreements or structure, and has given new impetus to international negotiations, thereby ending the infernal spiral which was initiated by the Copenhagen fiasco.

It should not be seen as a result, but as the beginning of a process: the Paris Agreement offers a framework, determines working areas in which the road map is yet to be determined - urgently so.

Prior to the Paris Agreement, nations communicated their INDCs (Intended National Determined Contributions), which must now be transcribed into NDCs (National Determined Contributions). Together, these national contributions will more or less lead to a climate disruption in the order of 3°C by 2050. Based on an assumption of non-regression when the transition between Intended National Determined Contributions (INDCs) and National Determined Contributions (NDCs) occurs, 1°C will still need to be mitigated via innovation, territorial and business efforts, in advance of commitments. It will both be challenging and necessary to accelerate the resilience of Pacific territories.

The Paris Agreement is a multilateral approach, with the involvement of non-state actors (such as Oceania Meetings) and of operational, inclusive operations involving civil society and local authorities, the commitment of businesses and associations, connections between traditional and scientific knowledge, in view of implementing tangible, collective actions and fighting climate disruption to meet the challenges.

In its preamble, the text reminds us of the importance of resilience, food safety, and of the health of terrestrial and marine ecosystems in terms of fighting climate disruption. Through the Green Fund, by recognizing the specific needs of islands and insular territories and by demanding plans that will address these needs, it proposes financing mechanisms and tools which are yet to be defined and established. Finally, it encourages transitioning to a low carbon economy, whose main thrust (energetic transition, construction, mobility, agriculture, fisheries and food, circular economy...) remains to be written and structured.

The road map for the next steps is already very busy, and will begin over the next few weeks. The signing ceremony for the Paris Agreement, from April 20th-22nd in New York, will provide a fresh opportunity for mobilizing businesses and territories. Morocco is organizing and setting into motion preparations for COP22, around key themes (coordinated by Madam Minister Hakima El Haïté, the King's special envoy for combating climate) and around the structuring of international civil societies (coordinated by Mr Driss El Yazami, president of the National Human Rights Council).

Many themes must be specified between April and June in preparation for these COP22 decisions. Amongst these:

- **Funding mechanisms**, in which the Pacific should strive to participate in inclusive projects on the scale of the territory, and perhaps in delegated management of a portion of the Green Fund, via a dedicated entity,
- **Mechanisms for loss and damage,** which have not progressed since COP20,
- **Thematic advocacy** (nexus): water, food safety, coastlines and oceans, resilience, circular economy... We aim to engage with the French and Moroccan presidencies, and to highlight the need for solidarity and cooperation between major world regions (especially between the Mediterranean and the Pacific).

The next key step will be the signing and entry into force of the agreement, expected on **April 22nd**, with at least 55 signatory countries representing 55% of world carbon emissions.

The way ahead in order to instantiate the Paris commitments in Marrakesh is loaded. We recommend Oceania 22 as an initial, symbolic, and indispensable threshold, committed to:

- Ensuring that the **recognition of Universal Declaration of Humankind Rights** becomes an essential element of COP22,
- Upholding **adaptation and mitigation plans up to the pioneering challenges of Small Island Developing States (SIDS)**, and further developing **resilience,**
- Materializing solutions for **aquatic and marine ecosystems**,
- Earmarking funding tools dedicated to ecological transition,
- Implementing and structuring a **regional carbon price** during this funding, along with specific national, regional, and local fiscal tools,
- Demonstrating that **circular economies** and **decentralized cooperation** include solutions, and further boosting the Lima-Paris Action Agenda (LPAA).

II. 3 suggestions to highlight the goals of COP21

2.1 The universal declaration of humankind rights

60 years after the Universal Declaration of Human Rights, the project for a Declaration of Humankind Rights was devised at COP21, in order to legally define the rights of present, past and future generations, and structure; a common framework in which nature is legally understood in relation to humankind. It opens the path to recognizing environmental harm, or to crimes against the environment, in a humanistic and ecological perspective.

The project for a universal declaration of humankind rights and responsibilities meets a long-standing call from international civil societies, highlighted by the Club of Rome. It is at the crossroad between humanistic, ecological, and governance visions of human societies. The Declaration of Humankind Rights and the subsequent report on its implementation were instigated by the Lepage mission, entrusted by French President François Hollande to a team coordinated by Mrs Corinne Lepage, and to which Nicolas Imbert and Adam Koniuszewski participated on behalf of Green Cross.

Key dates on the path to actions towards a universal declaration project:

- **September 23rd, 2015**: the Lepage report is presented to the French President
- **September 24th, 2015**: mentioned in the United Nations presidential address
- **November 2nd, 2015**: citizen involvement for the Universal Declaration of Humankind Rights (UDHR) at the ESEC (Paris) – 1,000 international, European, and national delegates and representatives mobilized
- **December 9th, 2015**: the UDHR is presented within the COP21 framework (blue area) and to all the delegations
- **January 2016**: creation of the Friends of the Declaration of Humankind Rights Association
- **March 2016**: over 90 nations have informally expressed their interest in the text
- **April 12th, 2016** : the text is presented for its integration into the Bourail Declaration, following the Oceania 22 summit

PRINCIPLES

- Intra and intergenerational responsibility fairness, and solidarity
- Dignity of humankind and of its members
- Continuity of mankind's existence
- Non-discrimination due to belonging to a generation (Art. 4)

HUMANKIND RIGHTS

- Living in a healthy environment (Art. 5)
- Responsible, fair, inclusive, sustainable development (Art. 6)
- Protecting our common and world heritage (Art. 7)
- Preservation of public goods (Art. 8)
- Peace and human security (Art. 9)
- Freedom to determine one's own destiny (Art. 10)

HUMAN SAFETY

Economic Environmental Food

Political Public health

Ensuring long-term approaches

Respecting rhythms inherent to humankind and to nature

RESPONSIBILITY TO HUMANKIND

To present generations

- Ensuring the respect of humankind (Art. 11)
- Transmitting heritage with prudence, respect, and fairness (Art. 12)
- Saving air and climate. and prevent as long as possible climate-driven migrations (Art. 13)
- Orienting scientific and technical progress towards the preservation and health of humankind and of other species (Art. 14)

To nations, states and territories

- Integrating a long-term perspective and promoting sustainable humankind development (Art. 15)
- Ensuring that he principles, rights and responsibilities of the Declaration of Humankind Rights are effective (Art. 16)

All citizens of the world are invited to sign and share the Declaration:
http://droitshumanite.fr/DU/?lang=en

2.2 Climate: Objective - OCEAN

Following the Climate - Objective OCEAN conference (approved by COP21) at the European Space Agency on June 8th, 2015, local authorities, associations and economic stakeholders representing over 30 countries with a "sea economy" established the proposals described below. These were introduced at the 2015 Paris Climate Conference, in view of being implemented as quickly as possible, and will be at Oceania 22, at the Al Jedida *Forum de la Mer* (Sea Forum), during World Oceans Day and COP22.

Their goal is to unite humanity, oceans, and climate.

Oceans play an essential role in our planet's water systems. They offer sea food, a peaceful environment in which to live, and they regulate the climate.

Yet our oceans are suffering. Due to climate disruption, pollution, a sustainable and diverse exploitation of resources, their health is deteriorating, their biodiversity is vanishing, and their levels are rising, with negative impacts on sustainable sea activities. We have an obligation to act: our past, our present and our future must be harnessed to build a new relationship with the ocean.

Signatories have defined a common, operational road map. Effective solutions have already proven their worth in terms of preserving ocean health, particularly with regard to the climate, and are ready to be implemented. They are the purpose of this declaration, and revolve around powerful, consensual proposals in four key areas:

- Harmonized management of coastal activities
- Health and Nourishment of Oceans and Humans,
- The future of transportation and ships
- Security and surveillance for sustainable development.

The full text, the list of signatories and the 18 proposals can be found on http://ocean.cop22.mobi. It has already been signed by 60 network leaders, representing 30,000 organizations in over 30 countries.

Here are the proposals:

PROPOSITION 1	HARMONIZED MANAGEMENT OF COASTAL ACTIVITIES
Assessment	Coasts are at once attractive and sensitive areas. The growing amount and diversity of coastal and marine activities carried out are ongoing sources of tension and conflict. Climate change has severe consequences for the coasts (rising sea levels, unstable weather, disruption of ecosystems) which local populations are often ill-equipped to combat. The challenge is to reconcile marine preservation with the socio-economic factors at stake.
Proposal	Developing *circular economy* groups that can come together and facilitate dialogue between public and private stakeholders, sea users and environmental associations.
Guidelines and commitments	1. Implementing tools for integrated maritime space management and planification, in accordance with the guiding principle of constructive dialogue between stakeholders, as well as recommendations from the United Nations, European Union and groups of local representatives. 2. Developing, in partnership with relevant stakeholders, Marine Protected Areas (MPAs) that showcase the importance of re-invigorating ecosystems in line with the development of local economies. 3. Acknowledging marine space as an estate where human activity can be pursued, with full respect for marine ecosystems, so as to improve living conditions for local populations and to complement the land ecosystems (especially through renewable marine energy). 4. Mobilising, more and better, tangible Green Climate Fund (GCF) environmental compartments and REDD+ mechanisms which are connected to the carbon stored in marine ecosystems – so as to accelerate carbon dioxide emission reductions before 2020, and to contribute to the reconstruction of coastal ecosystems and the completion of MPAs. 5. Reinforcing the local resilience of vulnerable coastal human populations, through local policies in line with National Adaptation Plans.

PROPOSITION 2	HEALTH AND NOURISHMENT OF OCEANS AND HUMANS
Assessment	Climate change, along with a number of common human behaviours, is impacting the ocean and its resources – which are not only key to climatic equilibrium but also provide for humanity. The – imperative - sustainable exploitation of ocean resources requires that uses be monitored and measured, but also kept safe from the effects of climate change. It is crucial to raise awareness among consumers so that they can adapt their behaviours. The resulting change in exploitation must allow for the preservation of the planet's "capital", by ensuring its use is sustainable and renewable.
Proposal	Consolidating a unified methodology to identify the footprint of each human activity on the ocean, relying on scientific analysis, impact studies and informed stakeholder consultations.
Guidelines and commitments	6. Building a constructive dialogue between stakeholders, basin by basin, on ensuring sustainable management and preservation of marine food stocks, both collected and farmed. 7. Developing scientific intelligence around ecosystems, focusing specifically on the impacts of climate disturbance, pollution and local human activities. 8. Making labels more inclusive, encouraging their use by professionals as well as by consumers. 9. Raising awareness and foster education about the fragility, seasonality and origins of ocean resources.

PROPOSITION 3	THE FUTURE OF TRANSPORTATION AND SHIPS
Assessment	Compared to land and air, maritime transport is by far the cleanest method per tonne transported. It is also increasingly respectful of the environment (due to evolving regulations, new technologies including gas propulsion or oil-spill prevention techniques). The use of these technologies must be spread as much and as fast as possible.
Proposal	Fostering and facilitating the adoption of the necessary port and marine infrastructures to allow the application of new emission standards (on smoke and CO2) and the treatment of ballast water.
Guidelines and commitments	10. Drawing from existing examples (European and national) to develop LNG (liquefied natural gas) terminals in ports worldwide. 11. Creating better waste reclamation infrastructures relating to ballast water, treatment of petrol residues, and circular port economies. 12. Installing green taxation locally (notably for CO2), which can then gradually be advocated for at an international level to trigger huge efficiency gains.

PROPOSITION 4	SECURITY AND SURVEILLANCE FOR SUSTAINABLE DEVELOPMENT
Assessment	Preserving the ocean in the face of a changing climate and pollution requires first and foremost active surveillance, and adaptation and mitigation measures that match the extent of the challenge, at a global level. The development of satellites and in-situ observation methods permitting efficient governance must be subject to a forceful and ambitious plan of action, on par with the immense size and importance of the ocean. Pooling all means available and kick-starting synergies between states, local authorities, private enterprises and civil society associations will be necessary if this is ever to be achieved.
Proposal	Developing precise knowledge of how the ocean works, how it interacts with the climate, and how it functions when in a healthy state. This calls for a global, shared and open database.
Guidelines and commitments	13. Developing an Open Data compendium bringing together public and private data in the service of research and action by different stakeholders, with efficient and virtuous financial models. 14. Building up data acquisition and processing means across all possible platforms, whether terrestrial, aerial, marine, sub-marine or orbital, manned or unmanned. 15. Synergising existing national, regional and international scientific programmes with community or private initiatives. 16. Fostering knowledge-sharing, exchanges and decentralised cooperation – in particular, by advancing the Nairobi Work Programme (NWP), circular economy networks, local governments and affected enterprises. 17. Structuring the oversight and sharing of information and experience on predicting extreme weather events, territorial resilience and the continuity of human and economic activities. 18. Setting up an international process guaranteeing the Antarctic's lasting preservation and perpetuating the recognition of its international status, and ensuring a sustainable and peaceful governance of the Arctic.

2.3 2017 in Fiji –UN Sea & Ocean Conference

Switzerland has committed to assist the Fijian Islands to host a high level United Nations conference on the seas and oceans in June 2017, the objective of which will be to promote and maintain the political will to achieve the sustainable development objective (DDO) n. 4, dedicated to the ocean and maritime resources, and the establishment of an "ocean" working group in 2016 under the aegis of the convention-framework of the United Nations on the climate change (CCNUCC).

The preparation of this event reinforces the importance of the resilience of the ocean for humanity. This is a major step in terms of economic prosperity, as the oceans are estimated to contribute between 3,000 and 6,000 billion USD annually to the world economy: 90% of commercial goods are transported by sea, fishing provides 4.3 billion individuals with more than 15% of their consumption of animal proteins and coastal areas provide indispensable services to local communities. Moreover, increased temperatures cause irreversible damage to coral reefs as well as other ecosystems and species, cause ever more violent storms and accelerate the propagation of foreign species, and the higher water tables have already begun to create millions of climate refuges in particular from low regions and small island states.

III. Some Inspiring returns on experience

3.1 The Cook Islands receive a green fund loan to improve their preparations for climate deregulation

Readiness for a climate loan is a relatively new term. It is defined as the ability to plan for a climate loan, access it, use it and control it, both at international and national level, as well as preparing the relevant reports, so that they can be catalysts fully integrated with national priorities regarding development and the achievement of the OMD. This definition includes following four principal elements: national skills in place for planning the loan, ability to access various forms and types of loan at national level, abilities to sue the loan and to implement/execute activities, ability to measure, notify and verify financial expenditure and the associated transformational results/impacts.

International policy discussions on the climate loan have demonstrated increasing attention to these questions. In particular, a greater accent has been placed on the consolidation and reinforcement of national systems, so that they can be "ready" to use the climate loan effectively, in order to promote transformations at the level of models of production and national consumption. This emphasis has entered recent international and national policy discussions on the concept of "readiness". Specific reference to this term is made within the documents governing the Green Climate Fund which state that "the Funds shall provide resources for preparatory activities and technical assistance".

The "preparation" loans are designed to assist countries to work with the Green Climate Fund and progress towards development with fewer emissions and greater resilience to climate.

The Green Fund has set aside a total of 16 million USD in order to immediately provide this type of aid and can increase the amount available according to specific country needs. This assistance goes as a priority to the most vulnerable countries including the least developed nations, such as small island states and various African countries.

The Cook Islands also received financial resources from the Green Fund in March 2016 in order to reinforce their capacity to access the loans. Thus, the Cook Islands are the first country in Pacific region and the first small developing island state (SDIS) to receive such a loan.

The Cook Islands have received an initial payment of 75,000 USD of the total amount of 150,000 USD. This amount must assist the country to reinforce their Designated National Authority (NDA), in order to commence consultations with their national participants and also to establish processes which will facilitate access to the fund.

The Cook Islands were one of the first countries in the Pacific to appoint a Designated National Authority, in June 2014. “Climate Change Cook Islands” (CCCI) is a department within the Prime Minister’s office, created in 2011, responsible for national development and coordination of the struggle against climate deregulation.

The Cook Islands have gathered funds for this entity through various channels, both bilateral and multi-lateral accords. Since its creation in 2011, the CCCI has received financing amounting to 8 million USD.

The largest investment for the adaptation of the Cook Islands is 4.5 million USD from the Adaptation Fund. Their efforts principally focus on renewable energy with an objective of 100% renewable energy by 2020. Currently, 50% of this objective has been reached.

Nonetheless, the climate loan needs to be rationalized and harmonized at a national scale in order to reduce transaction and administrative costs as well as increasing continuity of the system, hence the importance of the assistance that the Green Fund brings to the Cook Islands.

3.2 Papua New Guinea accelerates its ecological transition

With a land mass of 463,000 square kilometers, Papua New Guinea (PNG) is the largest island state in the Pacific. PNG includes the eastern half of the island of New Guinea, four additional islands (Manus, New-Ireland, New-Britain and Bougainville), and 600 small islets and atolls to the north and to the east.

PNG is home to a large range of ecosystems, including glaciers, tropical rain forests, wetland areas and immaculate coral reefs. Approximately 30 % of the surface area of the country is covered by forests and it is home to four of the most important forests in the world. As well as being rich in natural resources such as gold, copper, petroleum and natural gas, PNG is home to 7% of the world’s biodiversity.

PNG has a total population of approximately 6.7 million, and the majority (87%) lives in rural areas where access to markets, services and opportunities for generating revenue is limited. Agriculture, fishing, community forestry, arts and crafts and small scale mining are the primary subsistence activities of subsistence in these zones. It is believed that more than 50% of the population lives below the poverty level, and that the number of individuals living on less than 1 USD per day has increased from 25% to 39% between 1996 and 2006.

In July 2015, the government of Papua New Guinea received the green light for 24.25 million USD of aid from the Strategic Climate Fund within the framework of the Pilot Program for climate resilience (PPCR) to reinforce resilience to climate change in Papua New Guinea.

The planned project is designed to implement strategic programs for climate resilience (SPCR) in PNG.

The SPCR seeks to achieve transformational change in the struggle against current and future threats from climate change and associated dangers, by supporting implementation of the national strategies of the PNG, described in Vision 2050 (PNG strategic development plan 2010-2030), which includes climate change as a tangential matter and the PNG plan for medium term development (2011-2015), which emphasizes the “joint development of the governance and institutional abilities via essential infrastructures and policies... in order to improve quality of life“, and the 2014 national policy of compatible climate development.

The project shall deal with the major obstacles to climate change resilience, in particular:

- human, technical and financial resources not adapted to the level of the nationals, regionals, of the district and community issues,
- limited knowledge of the management of risks associated with climate change in key sectors, including food security, health and critical infrastructures,
- and the poor design of infrastructures which make them vulnerable to impacts from climate change.

The overall objective will be reached by integrating climate resilience in the developmental planning for vulnerable communities in the 21 principal islands/atolls, in the provinces of Bougainville, New Bretagne, Manus, Milne Bay, and Morobe, where the population is almost 600,000.

PNG is a country with few revenues and a population of 6.5 million who are extremely vulnerable to volcanic eruptions, earthquakes, tsunamis, cyclones, droughts and other extreme meteorological conditions. Climate variability and changes such as the elevation of the sea level and storm waves, droughts or floods and extreme temperatures further aggravate this vulnerability, and deplete the basic resources for subsistence. A recent study has indicated that climate change will result in losses of up to 15.2% of the GDP of PNG by 2100 (if the status quo remains unchanged), agriculture being the sector most affected.

The analyses indicate that climate change results in the loss of coral reefs in the Pacific, with repercussions on tourism, protection of the coastline, habitat and incubator functions for commercial fishing and of other goods and services of economic importance. Furthermore, the loss of wetlands and sources of fresh water is expected due to the intrusion of sea water. Approximately 4,000 kilometers of the total 17,100 kilometers of coastline would be moderately to severely flooded, affecting up to 30% of the population of PNG.

The individuals most vulnerable to climate change live in the 2,000 coastal villages with a combined population of approximately 800,000 habitants. These individuals live in a great variety of coastal habitats, including low lying delta areas susceptible to flooding, estuaries, marshes, mangroves, beaches, bays, lagoons, maritime vegetation and coral reefs. They make their living from agriculture and fishing, not only as the principal financial resource but also food. Thus, food shortages are frequent in island regions and the rate of poverty remains high and even increases: during the period 2003/2008, it increased from 37% to 54%.

The objective of the project is to improve the ability of the vulnerable communities in the atolls and the islands, as well as governmental bodies and civil society to plan for and respond to the impacts of climate change. The project involves three parts:

- evaluation of the climate change and of the vulnerability and the achievement of plans of adaptation for the communities impacted,
- investment in sustainable fishing and food security in nine vulnerable island communities,
- and the establishment of an appropriate framework for climate resilience and an early warning communication network.

Furthermore, Papua New Guinea is committed to an inclusive biomass project.

The PNG biomass project is an energetic, integrated biomass project which seeks to provide solutions for reliable renewable, sustainable and competitive energy for PNG.

The project includes the development of 18,000 hectares of FSC certified forest plantations, using the under-developed kunai prairies of the Markham valley, and the development of a 30 MW electricity plant fed by biomass which would produce the electricity required to feed the RAMU Grid.

Forestry development will require the plantation of more than 20 million trees and will be managed in a sustainable manner on an international scale. The plantations will provide a dedicated source of fiber for the electrical plant, which will require the annual production and harvest of more than 200,000 tons of dry wood to support the 30 MW power project. The trees will be harvested every 4-7 years.

The trees will be harvested in the plantation, then transported in lorries to storage areas at the electrical plant where they will be dried and transformed into wood shavings for fuel. The shavings will be later burnt in the electrical plant to produce high pressure steam which drives the turbine. When the wood shavings are burnt, they produce carbon dioxide (CO_2) in the atmosphere. This CO_2 is then consumed again by the trees in the nearby plantations. This process is known as photosynthesis. The electricity produced by the turbines will later be transferred directly to the Erap sub-station nearby to provide energy for the Ramu Grid.

PNG biomass will offer significant environmental, social and employment advantages as well as very significant economic advantages from businesses and of the households with access to reliable energy.

It is expected that PNG biomass will create more than 500 full time local jobs at the Lae industrial station and several thousand households will be connected to the Ramu electric network.

3.3 Vanuatu uses Vetiver to develop local agriculture and requests decentralized cooperation

Concept: Vanuatu is a particularly vulnerable zone due to the many cyclones which affect and threaten its environment. In 2015, cyclone Pam devastated the country which had to request foreign aid for water, food and shelter. Vetiver can assist in controlling these damages as well as offering a potential resource for improvements.

Innovation: Vetiver is a plant with many uses. It can be used to filter heavy metals and chemical products from a contaminated zone. It can be planted directly into sterile or contaminated ground or left alone. In order to be used in contaminated water sources, it is possible to create a pontoon using bamboo and recycled plastic water bottles or other floating materials. Most of the known uses of the Vetiver system can be applied by communities and therefore indirectly create opportunities for local employment and improvement to the general quality of life. This system is not only achievable but can also be applied in another country.

Vanuatu can use the Vetiver system to improve its agriculture: it makes it possible to protect against soil erosion, to rehabilitate areas which have not been exploited, to increase the harvest yields, to replenish subterranean waters, improve water quality and process domestic waste.

The Vetiver system reduces the erosion of agricultural soil to 90% and reduces precipitation to 70%, significantly increasing water resources for collection. As the plant develops, its roots make it possible to stabilize the soil. Subterranean water then is therefore replenished in so far as ephemeral water sources run longer and more strongly: wetlands are regenerated and the uncultivated habitat is improved as is soil fertility, thus resulting in yields increasing by up to 40%.

Feasibility: Vetiver protected El Salvador during hurricane Mitch in 1998. In Madagascar, Vetiver has been used against destruction caused by annual cyclones which, previously, would close roads for months. It was also used in Vietnam for the protection of maritime dykes, in China for the stabilization of their roads and in Malaysia and Vietnam against landslides due to tropical showers.

The Vetiver system offers long term protection of the resources. It provides fodder, thatch, mulch, protection against insects, rudimentary medicine, materials for artisans and many other advantages. Traditionally, the inhabitants of Vanuatu have used the plant for weaving and therefore they can use Vetiver to create commercial products. Artisans can use the Vetiver roots and leaves to produce shoes, hats, belts …. Vetiver can also be used for the organization of rural and urban land, as well as to decorate roads, divide traffic and mark out traffic lanes.

3.4 Tonga plans its accelerated energy transition via renewable energies, in 4D (Decarbonized, Diversified, Deconcentrated, Democraty-based[1])

Tonga started to use solar energy for rural electrification at the end of the 1980s. Over the years most households on the outer islands have been powered by solar energy, even though a certain number of plants now need to be repaired or replaced. Biomass remains the main source of renewable energy and is used for cooking and drying (mainly fish and copra). There is no usable hydro resource on the islands. Geothermal energy is potentially present because of Tonga's volcanic activity, but it is not useful to draw on this resource. Wind power appears to be usable, but could be difficult to use on a grand scale because of land ownership issues and the prevalence of coconut trees which interfere with the wind direction across the island. Biogas can be used by waste treatment centers at a reasonable cost but the quantity would be modest. Biofuel from coconut oil could be used and could rejuvenate the coconut industry, which is experiencing difficulties, as well as reducing the use of imported fuels. Whilst cyclones pose a serious problem for wind and ocean power, wave power is first choice as a potential tidal resource on Vava'u,

[1] Both accessible and base on a human-right based participative approach with

Biomass

Tonga estimates that 25% of its energy consumption comes from biomass with the rest being provided by oil and solar power. The vast majority of biomass used for energy is for cooking, although a significant amount is also used for the drying of fish and copra.

Nevertheless, the cost of production, the transportation of raw materials and the production of electricity for the production of biomass would not be economical, especially as the area required would be enormous and better used for food and export crops.

At the present time, there seems to be enough shredder residues to supply the necessary amount of biomass needed for energy production, even if a large amount of the energy produced would be allocated to the factory itself.

Biofuel

Of all the possible raw materials for biofuels, coconut oil is the one that makes most sense for Tonga. The production of coconut oil has a long local history and a large part of Tongatapu and the outer islands are covered in coconut trees. However, their productivity is not optimized.

In 1995, the production of potential copra was estimated to be sufficient to produce around 10ml of coconut oil per year, which represents around 75% of the amount of diesel fuel currently used to produce electricity. If the long-term results aimed at reducing the consumption of fuel by 50% are reached, the rest could easily be provided by coconut oil.

An immediate reduction of fuel imports would be possible by mixing coconut oil with diesel fuel. A number of tests in Samoa, Vanuatu and other countries indicate that a mixture using 15% of coconut oil does not pose a problem with traditional engines.

Biogas

No official evaluation of the global resource has been made, but it seems that wastewater, urban waste and animal manure could represent a useful resource. However, this would not be enough to offset the high percentage of oil imports. The estimations show that the existing waste could compensate for up to 3% of the Tongatapu fuel for the production of electricity over a number of years. If new wastewater treatment plants or landfill facilities are developed, including for the production of biogas, they could provide enough energy to run the plants themselves.

Solar Power

The solar resource is excellent in Tonga, in particular in the north, where satellite measurements indicate that sun insolation reaches up to 5.8 kW/m² /day. After nearly 25 years of working with rural solar rural power, it has demonstrated that it is a usable and economical resource.

Marine Energy

There is a potential wave power site on the main island of Vava'u. The bay covers an area of around five million square meters of water but has limited access to the sea with the construction of a jetty across the narrow mouth that includes a central bridge covering an opening of less than 100 meters. Even if high tide is around 1.5 meters, a large volume of water flows through this narrow inlet twice a day.

3.5 What are the features, challenges and financing for the energy transition in the Pacific?

The Pacific region is largely dependent on fossil fuel. According to the Asian Development Bank, the Pacific islands are some of the most vulnerable countries facing fluctuating oil prices, which have serious repercussions on their economy and the security of their energy. The rise in oil prices in recent years is thus responsible for 10% of public debt in the region.

Due to this dependence, the Pacific has very high carbon content: from 300 to 800 mg CO2/kWh, compared to 50 in Metropolitan France. Beyond this carbon content, energy production costs are also a major factor. It is therefore considered that the kilowatt-hour produced overseas is, depending on the country, five to ten times more expensive than in Europe.

Moreover, the energy issue is worsened due to specific challenges in the South Pacific:

- **Access** to electricity: on some islands, less than 20% of the population has access to electricity while on others, this figure is almost 100%. Differences can even be found within the same group of islands, depending on whether a person lives on one of the main islands or one of the isolated islands, where the interest in renewable energy systems is decentralized.
- The **need**: almost all inhabitants of the Pacific islands live in regions where air conditioning, produced by electric-powered units is largely prioritized over the need for heating or electricity. Furthermore, the energy usage on the islands is often not optimized.
- **Mobility** difficulties also contribute, due to the local characteristics and public transport networks which need to be developed.
- Financing the energy transition alone is impossible and therefore justifies intervention and funding by regional and international organizations. However, while these local organizations have developed administrative practices and inter-island dialogue over the years in order to analyze the projects, **these small Pacific island countries often find themselves ill-equipped to meet funder requirements.** Furthermore, the international funders lack knowledge as much as the local islands themselves of the specific requirements in the Pacific region, with poor communication sharing.
- The production of renewable electricity depends on the structure of the often obsolete network, which only provides a maximum of 30% of intermittent renewable energy.

Faced with these challenges, energy-demand management and the development of renewable energies are becoming imperative for the Pacific region.

Energy Demand Management

A consultation launched in 2007 by the Asian Development Bank identified five priority countries in the Pacific region (the Cook Islands, Papua New Guinea, Samoa, Tonga and Vanuatu) willing to participate in leading a program to reduce the consumption of fossil fuels. The PEEP (Promoting Energy Efficiency in the Pacific) project was intended to reduce the consumption of fossil fuels in these countries, by reacting to demand and not production. Completed in 2014, this project was divided into two phases:

- The first phase was completed in May 2011 and primarily defined the state of the areas and the program goals,
- Completed at the end of November 2014, the second phase aimed to improve the quality of street lighting while reducing the electricity bill for communities; produce energy diagnostics; promote energy labelling and the standards of minimal performance; revise construction codes; and lastly to revise public procurement practices.

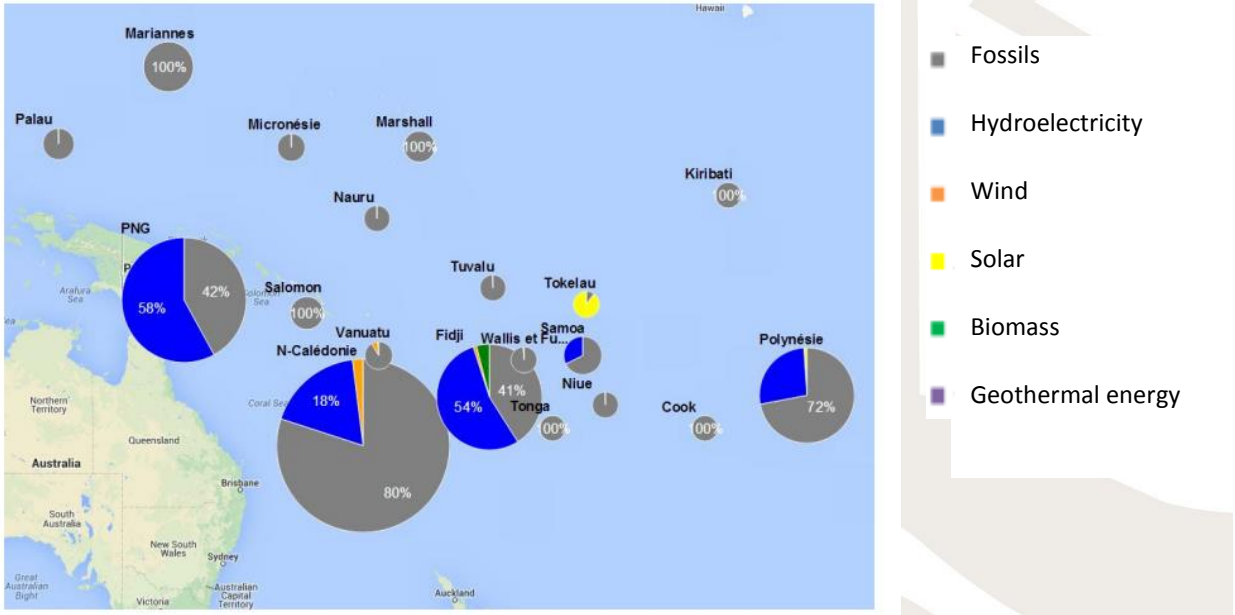
Development of Renewable Energies

For several years, assistance has been provided to introduce renewable energies to the energy mix of the Pacific islands (in the range of 20%). In a number of these countries, renewable energy solutions exist, both in the grid and off-grid power systems; notably solar power, which feeds the network of numerous islands such as Nauru, Niue, Samoa and Tuvalu.

Likewise, wave power contributes considerably to the Fiji islands, Papua New Guinea and Samoan power grids. Wind power is used in Fiji and Vanuatu and geothermal energy can be found in Papua New Guinea. Moreover, as described above, the off-grid systems, based on renewable energy, are being developed in a number of these countries.

Map 1 shows the energy mix by country. The map shows that the smallest islands are also the most dependent on fossil fuels.

Map 1. Mix of renewable energies on the islands



IV. Calendar

4.1 Calendar

- April 19th and 20th, 2016: Global Water Summit, Abu Dhabi
- May 23rd and 24th, 2016: World Humanitarian Summit, Istanbul
- June 5th, 2016: World Environment Day
- June 6th and 7th, 2016: Global Green Growth Forum, Copenhagen
- June 8th, 2016: World Oceans Day
- September 1st to 10th, 2016: IUCN World Conservation Congress, Honolulu
- September 26th to 28th, 2016: Global Chance, Nantes
- October 17th to 20th, 2016: Habitat III, Quito
- November 7th to 18th, 2016: COP22, Marrakech

APPENDIX 1 – What is in the Paris agreement ?

The Accord de Paris is an historical agreement (***http://bit.ly/ParisAgreement20151212).***

It not an end but the beginning of a new ambitious and difficult process.

The next key step will be the signing and entry into force of the Accord, expected on **April 22nd**, with at least 55 signatory countries representing 55% of world carbon emissions.

The adaptation has been satisfactorily presented. 2018 has been set as a realistic target to revise the INDC based on what is achievable in the current climate crisis, and the text recognizes the role of the non-governmental players, as well as the necessity for a concrete and operational approach on the territories. This means that there is a lot left to be accomplished by French and Moroccan presidencies of the COP in order to instantiate the commitments of Paris in Marrakech.

Our requirements in relation to the 8+1 essential keywords for the island territories:

1 - The role of local governments

Mentioned in heading 5, point 135

2 - Effective follow-up and revision of commitments

The INDC road map is recognized, with a meeting point in November 2016 and a target of 2°C (note the subtlety of the writing in Article 17), and a first review (facilitation of dialogue between parties, not necessarily constraining but transparent), in 2018.

3 - Losses and damages

Headings 48 and 52 indicate that there is nothing very new since Warsaw. The progress will probably be in the appendix.

4 - Inclusive approach on the territories

Recognition in the preamble (so not legally binding) of the essential role of food safety (but no mention of water), as well as the ocean. Article 2 insists on resilience and food safety, which is an important factor in the fight against climate change.

5 - Recognition of traditional knowledge

Mentioned explicitly in Article 5, and moreover recognition of traditional knowledge as an important factor in the adaptation initiatives on the territories.

6 - Financing (at territory level)

Heading 54 confirms the objective of 100 billion by 2025 and an approach that integrates adaptation and attenuation. Most of the financing will come from multilateralism, and the fixing of a target, the

modalities of engagement, and transparency and review conditions is most realistic from a legal standpoint.

7 - Acceleration of the implementation of system solutions

Continuation of the LPAA beyond Paris, but a lot remains to be constructed between Paris and Marrakech.

8 - Human Rights

The term "humankind" is expressly employed, in the preamble, opening the possibility of a fast recognition of the declaration of rights and duties of humankind. (http://www.humankindrights.org). Intergenerational equity Is also mentioned.

Here is the full citation:

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity

+1 Evolution of the governance for CoP22

Whilst obtaining an agreement might be difficult, it is now possible. Bravo to all delegations and to the work undertaken by the French, Peruvian and Moroccan presidencies for this success, which will be put into practice on April 22 and at COP22 in Marrakech. We are delighted that confidence has been restored to international negotiations, and that it is possible to move on from the stalemate experienced from Copenhagen to Paris, to turn the page and embark on the co-construction phase. It is necessary to ensure a vision for 2050, a better operation of the UN system and commitments that are fulfilled and reviewed.

GREEN CROSS
France & Territoires

33, rue Chaptal

92300 Levallois-Perret

contact@gcft.fr – http://www.gcft.fr

https://www.facebook.com/GCFetT

http://twitter.com/_gcft

http://linkd.in/_gcft