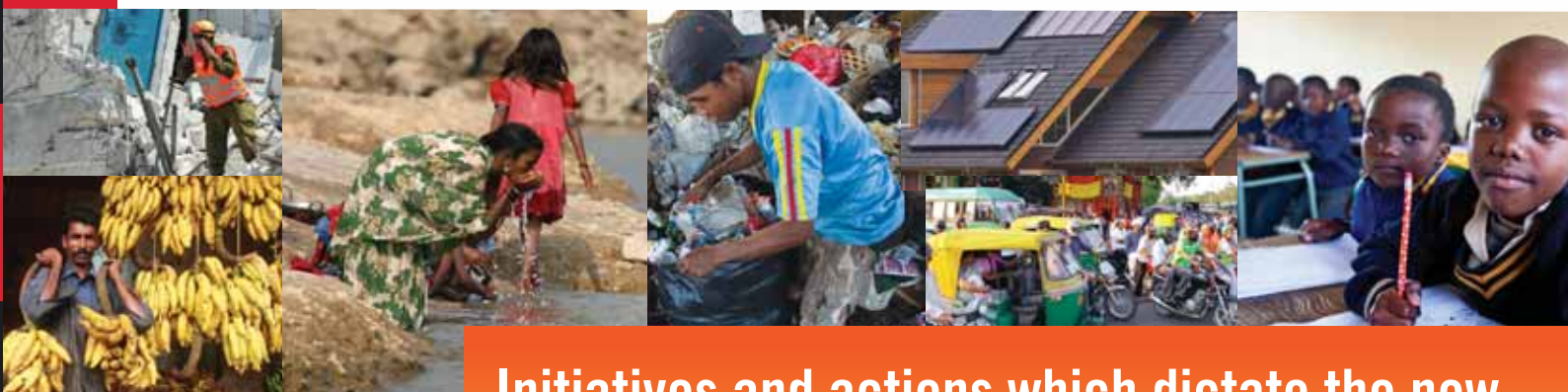


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tion of global rules for the commitment of all in balanced consumption of the resources that the environment offers, the compliance with international commitments to financing for development in the poorest countries, the strengthening of cooperatives and associations, the universalization of food security, and provide access for the population

to basic features such as employment, food, water, health and education.

We join in this publication, the contributions of leaders and Government representatives, in synergy with potential enterprises, giving us their testimonials about their implications and efforts into actions and initiatives that seek advances in best practices in sustainable development.

Our thanks to all those who collaborated with this initiative.



EDUARDO TEIXEIRA,  
ABRAPRESS DIRECTOR

**COVER:** VIEW OF RIO DE JANEIRO FROM TIJUCA NATIONAL PARK. IN THE FOREGROUND LEFT, THE CORCOVADO MOUNTAIN  
RIO DE JANEIRO/RJ, BRAZIL  
(PHOTO: RICARDO ZERRENER/RIOTUR)



Eduardo Teixeira

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## Conference Venues

### BARRA DA TIJUCA

#### RIOCENTRO

Salvador Allende Avenue, 6555. Barra da Tijuca

The exhibition center will be UN boundaries during Rio+20. There, the plenary sessions and the official negotiations of the Conference will take place. Moreover, it will host the "Sustainable Development Dialogues", a series of debates in which civil society will discuss priority themes on the international agenda for sustainable development. There will also be areas for side events of civil society entities. It must be highlighted that the access to the site depends on accreditation with the United Nations, which coordinate all official events of the Conference.

#### ATHLETES' PARK

Salvador Allende Avenue, N/A. Barra da Tijuca

This large open space near Riocentro will be reserved for governmental and intergovernmental exhibitions. On the site, there will be pavilions and exhibitions set up by foreign countries, international organizations, and by the Brazilian Government at different levels (municipal, state and federal) and branches (Executive, Legislative, and Judicial). With its exhibition on programs and projects oriented towards sustainable development, the Brazil Pavilion stands out. Moreover, the Athletes Park will be a venue for debates, seminars, talks and roundtables. Partner companies will also participate with events showcasing innovation and management in sustainability.

#### BARRA ARENA

Embaixador Abelardo Bueno Avenue, 3401. Barra da Tijuca

The multifunctional structure of the Barra Arena will concentrate most of the civil society activities in the vicinity of Riocentro. Its rooms, auditoriums and gymnasium will host lectures, seminars and other activities. The Barra Arena will also serve as a rebroadcasting center for the official events of Riocentro and other Conference venues.

### CITY CENTER

#### FLAMENGO PARK (PARQUE DO FLAMENGO)

Having a historic importance which dates back to civil society's participation in Rio-92, the Flamengo Park will be once again the location of the People's Summit. The coordination of the event is under the responsibility of the Civil Society Facilitating Committee for Rio+20. For additional information, please visit the People's Summit website – [www.cupuladospovos.org.br](http://www.cupuladospovos.org.br).

### MAM – MUSEUM OF MODERN ART

During the Conference, the Museum galleries will host thematic art shows by well-known Brazilian artists as well as an exhibition on the campaign "The Future We Want". Its film library will host lectures and seminars organized by civil society entities and showcase films on the sustainable development theme. The Museum will also host the Socio-Environmental Arena, a series of events coordinated by the Ministry of Social Development.

#### MAM ARENA

Av. Infante Dom Henrique, 85 - Parque do Flamengo

During Rio+20, this show house will host musical and other cultural events sponsored by Conference partners, as well as debates and seminars of civil society entities organized within the context of the People's Summit.

#### PÍER MAUÁ

Avenida Rodriguez Alves, 10. Praça Mauá

The old port of Rio de Janeiro, located in a central area, will host presentations on innovation, sustainable technologies and governmental programs. The Federal Government, the Financing Agency for Studies and Projects (FINEP) and the civil society will showcase their projects as follows:

WAREHOUSE 1: Civil society

WAREHOUSE 2: Ministries of Health; Agrarian Development; Communications; and National Integration

WAREHOUSE 3: FINEP (Financing Agency for Studies and Projects)

WAREHOUSE 4: Ministry of Science, Technology and Innovation.

#### CITIZENSHIP ACTION CULTURAL CENTER (GALPÃO DA CIDADANIA)

Avenida Barão de Tefé 75, City District: Saúde

Located near Pier Mauá, the Citizens Action Cultural Center will host a series of cultural events organized by the Ministry of Culture. Among other events in various fields of cultural production, there will be seminars, musical presentations, exhibitions, workshops, audiovisual installations, and gastronomy exhibitions with a focus on sustainability. "Rio+20 Culture" constitutes a forum for reflection and debate on the importance of culture as a strategic axis for sustainable development. Please find the special program of the Ministry of Culture on their official website.

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Ambassador André Corrêa do Lago, Brazilian negotiator for the United Nations Conference on Sustainable Development - Rio+20, outlined the main points of the event and claims to be confident of the success of the Conference. Among the detailed points, he highlighted the themes that will be at stake in the Conference, the participation of civil society, the Brazilian perspective, and the global perspective. The diplomat also announced the development of a digital platform that will reap suggestions of civil society representatives. The goal is to submit them to the Heads of State during the Conference in Rio.

## Conference themes

The conference themes are adopted by all United Nations members within the framework of its General Assembly. The themes to be dealt with in Rio+20 are "Green Economy in the Context of Sustainable Development and the Eradication of Poverty" and "International Governance for Sustainable Development," which addresses the issue of the Commission for Sustainable Development (CSD) and deals with strengthening the environmental pillar within the concept of sustainability.

# A unique opportunity for future generations

Brazilian Negotiator for Rio+20 says that the Country will give an example to the world

## Civil society in Rio+20

The participation of civil society in the United Nations became relevant in Rio92, which encouraged the organization of a large parallel event, called the People's Summit, a major meeting of world civil society around the themes that were being dealt in the official conference. In this context, Rio92 was a milestone for the participation of civil society in international meetings and it promoted an effective position for representatives of non-governmental organizations. Many countries, including Brazil, began to integrate civil society members in their official delegations.

In Rio+20, the desire of the Brazilian Government is setting a new milestone in the involvement of civil society. At this time, we want to emphasize all the technological advances available. The Brazilian Government proposed to the UN the achievement of the "Dialogues for Sustainable Development," a meeting prior to Rio+20 to be held between June 16 and 19 in Riocentro, and will allow the participation of NGOs, scientists, academics, business sector and media. The four days will be used for the main experts on sustainable development to discuss and prepare documents to be sent to the Heads of State present at Rio+20. This process was developed by the United Nations Development Programme (UNDP) in partnership with 27 universities in Brazil and abroad (9 developed countries, 9 developing countries and 9 Brazilians), the digital platform "Riodialogues" ([www.riodialogues.org](http://www.riodialogues.org)), which

is able to gather the opinions and proposals of up to 400 thousand people. The platform allows greater popular participation in the discussions prior to the Conference to more than 100 Heads of State.

The suggestions will be selected and voted in a second step, until it reaches ten themes. These themes will serve as guidelines for the discussions that will take place in open spaces for the local population as Aterro do Flamengo, Quinta da Boa Vista and Parque dos Atletas, near Riocentro. At the end, three specific suggestions will be presented for consideration by the leaders at the Conference.

This project is extremely innovative. We hope that this may have continuity. The Brazilian Government believes that for a better governance of the UN, the participation of civil society needs to be stronger, and should take the desire of their representatives into account. This platform can be the beginning to achieve this goal.

## Brazilian perspective in Rio+20

Brazil has a great responsibility for the success of Rio+20. The country has changed a great deal since 1992. When observing the Brazilian development in all three pillars of sustainable development, we note that there are good results. On the economic plan, Brazil managed to stabilize with one of the world's major economies. From an environmental point of view, Brazil made immense

progress. The Brazilian Government has pledged to reduce by 80% the deforestation until 2020, and in other environmental dimensions, Brazil is acting in a very significant manner. On the social matters, the country has achieved major advances in recent years, with an immense effort to reduce inequalities, showing a remarkable growth of the Brazilian middle class, and at the same time, poverty eradication efforts have had notable advances.

Rio+20 will show the world that Brazil is very integrated with the pillars of sustainability. If this meeting becomes the paradigm for the coming decades, it will represent to Brazil a very difficult challenge and a great opportunity to have a strengthened role in its relations with the world. The Conference can make a major impact on the Brazilian economy and on the perception of the country abroad. Therefore, our mission for Rio+20 is, on one hand, to show the world what Brazil has done and, on the other hand, to define about what the Country can absorb from contemporary ideas and thoughts on the issues of sustainability. Thus, Brazil may give even greater steps in those directions that are already being taken and become a leader in several areas.

This is Brazil's turn to be a protagonist in another direction. If in Rio92 the country acted defensively, in Rio+20 Brazil will be able to show up to the world as a champion of sustainable development. Then, the Brazilian perspective for Rio+20 is of great expansion of its international perception within the sustainability agenda.

## Global Debate: where are we?

The processes of negotiation in the UN are very complex. All members of the institution have the same weight. Therefore, the major challenge is to reach a consensual document. It is clear that to achieve the goal in which needs to reach a consensus in 190 countries, it is necessary to prepare documents increasingly

less impactful because the process dilutes in various directions and in different countries. For that reason, the consensus is so time-consuming.

It is necessary a maturation on the topic, several debates in conferences and that the countries govern internally to get the results of the agreements. An example is the "Conference of Parties" (COP) about the climate, even if process generates great frustration with the results. Nevertheless, it should be noted that there are conferences throughout the year to discuss the implementation's data agreed at the Convention on Climate Change, signed in 1992. However, this Convention brought the world the importance of the subject. Previously, this debate was restricted to academic circles. Due to the signing of the Convention, all countries were forced to work on the subject and began to measure their emissions, promoting important incentives for further scientific research. Then, the time-consuming for the effectiveness of the points agreed in the Convention does not occur because of a process initiated by the UN, but in the light of the political and legislative peculiarities of each country member. However, the fact is that this process makes things move.

It is expected that, in the Conference, arises a document that challenges the world to address certain issues in which there is some reluctance. There will be also a debate in order to initiate the process for defining the principles of Sustainable Development objectives. In the same way as the principles of the Millennium Goals was developed, which had a very positive effect for the advancement of certain areas, we are convinced that there is a need to address such issues as combating unsustainable patterns of production and consumption. When approving the document on the principles of Sustainable Development objectives, the world will be taking the first step towards the future.

The negotiations are advancing and will have a series of decisions and projects that will make the Conference become a stage of the utmost im-

## Brazil data

CAPITAL	Brasilia
LARGEST CITY	Sao Paulo
OFFICIAL LANGUAGE	Portuguese
GOVERNMENT	Federal Presidential Constitutional Republic President – Dilma Rousseff
INDEPENDENCE	September 7, 1822
AREA	- Total: 8,502,728.269 km <sup>2</sup> - Water: 0.65 %
POPULATION	Estimate (2011): 196,655,014 inh Census (2010): 190,732,694 inh Density: 22/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 2.282 trillion Per capita: \$ 11,600
SOCIAL INDICATORS	Gini (2008): 49.3 (low) HDI (2010): 0.699 (high) Life expectancy: 72.4 years Infant Mortality: 19.3/1000 birth Literacy: 90.0 %
CURRENCY	Real (BRL)
ISO CODE	BR
INTERNET CODE	.br
PHONE CODE	+55
WEBSITE	www.brasil.gov.br

portance and something remarkable for the next generation. Comparing Rio+20 with Rio92 is tempting, but inappropriate. In Rio92, a series of documents that had been negotiated in previous years were approved and signed. In addition, Rio+20 will function more as a Conference that will begin processes than a meeting to achieve a final decision, as it happened in Rio92. Therefore, Rio+20 can be much more ambitious to open the doors to a new global stage. In 1992, we did not think it was possible, but today, we are able to provide effective possibilities of sustainable projects. ■





# RIO+20: A FAIR FUTURE FOR ALL



JANEZ POTOČNIK, EU COMMISSIONER FOR ENVIRONMENT

As the Rio+20 UN Conference on Sustainable Development approaches, the EU is engaging strongly to help arrive at the outcome that can deliver a transition to an inclusive green global economy, eradication of poverty and better governance. The appetite for environmental change is often tempered by a fear that it might harm the economy, as though in some way there was a choice to be made between the two. Our task as leaders is to remove those fears by demonstrating that “going green” and boosting the economy are two sides of the same coin.

**T**he inclusive green economy is just as much about economic growth, poverty eradication and social justice as it is about the environment. We need to be clear that this is the only way of addressing all three dimensions of sustainable development. We have a great responsibility to ensure

that everyone understands the advantages offered by a greener world economy. As we will show in Rio, that approach is ultimately the most ambitious and the most fair to all.

The reasons behind this are clear. A greener and more inclusive economy is not just an option – it is now a global necessity. Unless we learn to manage our natural assets and resources in a more sustainable manner, our economies and environment will suffer, and efforts to alleviate poverty and achieve more equity will never be successful. The poorest in our societies will suffer disproportionately as they depend most directly on water, land, seas, forests and soil.

To pass that message, politicians need to stress the transformative capacity of the green economy. We need to show that green growth is the agenda that will also help developing countries eradicate poverty, that we are all determined to improve social inclusion and that we want to ground our development on a solid sustainable basis.

Businesses too must engage, and demonstrate that the narrative of the inclusive green economy is their economic reality and not an invention of the political class.

Industry should demonstrate to developing countries that it is willing to invest in a green economy, because it means growth and jobs in the long term. This is impossible to achieve without a sensible use of natural resources. Most of the productivity gains offered by resource efficiency actually lie in developing countries.

There are numerous examples of how the green economy can work and turn efforts into concrete benefits. Let me give just a few.

- A recent McKinsey report on resource efficiency estimates productivity gains of \$280 billion by 2030, mainly in developing countries, as a result of better irrigation techniques and cutting water leakages. Those potential gains dwarf the entire EU budget for development.
- Increasing resource efficiency, reducing waste and energy consumption implies reduced costs and increased profits. Waste reuse and recycling may also reduce GHG emission in a cost effective way.
- Waste generation is predicted to rise sharply particularly in emerging economies with business as usual ap-



proach. The UN is foreseeing increases in the order of several hundred per cent over the coming years in countries such as China and India. Improving waste and materials management is therefore a clear priority for many quickly emerging economies.

- Sustainable resource use has also beneficial longer term implications for the resilience of the economy, security of resource supply, stability and reduced resource price volatility. It can prevent resource bottlenecks and open new markets, when prevention, reuse and recycling become more economically attractive and benefits from launching innovative technologies or business models.
- Nutrition, housing and mobility are typically responsible for 70-80% of all environmental impacts in industrialised countries. Improving resource efficiency in these sectors would help solve the challenges in energy and climate change.
- The phasing out and better management of hazardous chemicals will improve the health and working conditions of many people across the globe. In this context, sustainable and predictable long-term funding, through an integrated approach, will be crucial.

Declarations or processes alone will not suffice. To make these objectives a reality, we must be as operational and precise as possible. Goals and targets will help focus everybody's efforts towards sustainability. We will need to put in place the economic and market conditions that can make this happen. I strongly believe we are in a position to develop global targets that can drive and accelerate progress. These would help steer the national action towards globally shared objectives.

But, there is little point in having such targets if there is no capacity to deliver. This is why the EU is calling for international organisations that have the necessary profile and adequate tools to accom-



POOR PEOPLE FROM JAVA ISLAND WORKING IN A SCAVENGING AT THE DUMP ON APRIL 11, 2012 IN BALI, INDONESIA. BALI PRODUCES DAILY 10,000 M<sup>3</sup> OF WASTE.

pany this process. We need to strengthen the global institutional framework for sustainable development and an important part of this would be to upgrade the United Nations' Environment Program (UNEP) to create a Specialised UN Agency for the environment with enhanced capacity.

On the societal side, it will not be enough to talk about inclusiveness "in principle." We must be operational and precise here too, showing how this can be implemented through policy instruments that create decent jobs and reduce poverty. The European Union has a robust track record in ensuring social inclusiveness and we are willing to work hard with our global partners to make sure this becomes reality everywhere.

We will also need to mobilize sufficient resources. Development co-operation and assistance can play an important role in catalysing investment and strengthen capacities, in particular in least developed countries. But, the bulk of opportunities for this transition lies in private sector investment, nationally and also internationally. All our interna-

**"A greener and more inclusive economy is not just an option – it is now a global necessity"**

JANEZ POTOČNIK  
EU Commissioner for Environment

tional institutions should be mobilised to design additional reinforced schemes for this. Public investment should leverage private resources, and the opportunities are simply too big to be taken forward by official aid alone.

As the Rio+20 summit approaches, keeping up the pressure is essential if we want to ensure an outcome that is ambitious, fair, and good for the planet. This is what we hear from civil society across the world, and the EU is committed to play its part to achieve such an outcome. ■



ENRIQUE IGLESIAS V., IBERO-AMERICAN SECRETARY GENERAL

# The future will mostly be “green,” or not green

BY ENRIQUE IGLESIAS V.  
Ibero-American Secretary General

“Latin America, although with noticeable differences among countries, has substantially improved the education of the people, universalizing the primary level, extending strongly the secondary level and expanding the opportunities of access to higher education. We must not forget that young people and children under the age of 24 are more than 42.8% of the population”

Those who have always believed in multilateralism should be happy that the World Conference on Sustainable Development, Rio+20, celebrates a landmark of the United Nations. Not in vain, the UN, since the Conference in Stockholm (1972), has attracted the world's attention on a problem that seemed almost exclusively reserved to conservationists and experts in environmental issues.

I believe that the sustainable development is obviously not just a problem of climate change, although this is undoubtedly an element in which we must work in the most accurate way possible. It is a complex issue, in which the causes, scope and approach, have failed even in a basic consensus by the international scientific community.

During the seminar held in Brasilia, in mid-October of 2011, I commented that climate change, along with the rise in oil and food prices, as well as speculation, it is one of the most serious problems facing a world in which more than 920 million people still suffer from hunger.

First, the countries must commit themselves through negotiations, to find a binding agreement that will help us to combat a phenomenon of such unpredictable consequences. I repeat this is not easy, because developed countries

that have contributed to most of the pollution sit at the table. Emerging-powers (or emerged powers) which do not want to limit their development according to anti-pollution measures; people are, essentially, victims of the effects of climate change.

The Cancun Climate Summit in 2010 managed to establish a mechanism to support technology innovation, and the development of new technologies, a Green Fund for Climate, and an agreement to reduce emissions, from both developed countries and those that are still in development.

## Ibero-America: young people, education and climate change

Regarding the Ibero-American Community, comprising 19 countries of Latin America and three from the Iberian Peninsula (Spain, Portugal, and Andorra), the objective is, once again, to find a common and agreed position in international forums.

For this purpose, we already have an Ibero-American Network of Climate Change Offices (RIOCC) and of course, the Ibero-American System of National Institutes for Agriculture.

Agriculture, incidentally is part of the problem of climate change but, it is also part of its solution. In Latin America, we need to boost the agricultural sector to increase productivity and at the same time, combat global warming.

In our region, Central America (16% of the planet's surface, but 40% of its biodiversity) is heavily punished with the frequency of calamities caused by climate change.

We should address the future of the Earth, its sustainable development and the impact of shocks in our environment, with much urgency with the focus always, in the long-term, because we must pass on a more stable world and as clean as possible for the generations to come.

In general, the youth has in my point of view, a special sensitivity towards the degradation of our environment, whether by natural reasons, or caused by man.

With the very serious problem of youth unemployment that we have especially nowadays, in highly developed countries, we must promote the participation of young people in designing, programming, and developing "green" work projects. In order to prepare them we must look once more in education, because it is evident that there is a close connection between the educational reform and climate change. Both factors are today, and will be tomorrow, what will largely determine the future of the world.

It is obvious to me that education is closely related to the potential for economic growth. There is in fact, a clear relationship between the amount of human capital and the cognitive skill level of the workforce. What we would call quality of human capital; related to the level of schooling and later educational development.

One of our challenges from now on will be, for some countries, getting out of the crisis and for others, coping with its economic growth, taking into account the need to adapt and to intervene, towards the transformations that will bring climate change.

In relation to educational reform programmes, these cannot be based only on institutional reforms, but they have to identify and if possible, quantify the factors that impede and limit the learning process of children and young people.

Latin America, although with noticeable differences among countries, has substantially improved the education of the people, universalizing the primary level, extending strongly the secondary level and expanding the opportunities of access to a higher education. We must not forget that young people and children under the age of 24 are more than 42.8% of the population.

We should also consider that the crucial problem is the financing of educational systems that offer a higher quality, because despite the efforts of countries and the investment made in relation to the GDP, the spending of the public sector per student, remains below the necessary that guarantees better standards for learning. The crossroads are clear: how to finance today a quality education that will boost growth if today's growth is not sufficient for this.

Back to climate change. The participation of Latin America countries in total GHG emissions in the world is relatively low (13.69%), the same as its accumulation in the atmosphere. However, emissions associated with the change of the soil use and deforestation represent 46.4% global emissions in this area.

The region is one of the most vulnerable to the impacts of climate change, due for example, to enormous fluctuations in temperatures and precipitations. Degradation of soils and forests, increase the risk of extinction of species, and changes in the equilibrium of ecosystems...

The so-called Clean Development Mechanism (CDM) is an instrument to provide resources and fund emission reduction projects however, few countries have benefited significantly. We have to find ways to integrate the CDM with policies for combating deforestation and degradation of land-use.

"The so-called Clean Development Mechanism (CDM) is an instrument to provide resources and fund emission reduction projects however, few countries have benefited significantly. We have to find ways to integrate the CDM with policies for combating deforestation and degradation of land-use"

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ENRIQUE IGLESÍAS V.  
Ibero-American Secretary General

Regarding agriculture, the World Bank estimates that by 2050, total losses in Latin America could be around US\$ 91million, or approximately 1% of GDP, if the increase in the average temperature reaches 1.79 degrees Celsius compared to 2008.

In conclusion, I think that without wishing to forecast the future, sustainable development and climate change are vital to our future, and will be an increasing problem in the agendas of international forums. It is true that this is a complex and difficult issue, but we recognize that so far we have not been sufficiently effective.

The approach related to youth, education, and environment, in my view, is clear. Because education is the basis of progress and development, and it is up to the youth to manage a future that will mostly be "green" or not green. ■





# GOOD RECEPTION GUARANTEED



“Rio has already  
proven its ability  
to host major  
events”

**AMBASSADOR STELIO  
MARCOS AMARANTE**  
*Coordinator of International  
Relations at Rio de Janeiro  
City Hall*

The Coordinator of International Relations at Rio de Janeiro City Hall talks about preparing the city for the Rio+20 Conference

**R**io+20 is the most important event to be held in Brazil in 2012 and it will mobilize the whole infrastructure of the city. Therefore, efforts have been made to ensure that all the meetings planned occur unhindered, thus ensuring safety and comfort for the authorities and visitors. The Coordination of International Relations at the Rio de Janeiro City Hall is one of the agencies involved in the proceedings for the conference. In an interview with Missão Empresarial Magazine, Special Edition / Rio+20, the Coordinator, Ambassador Stelio Amarante, said that the city of Rio de Janeiro is prepared for the event – which is expected to attract about 50,000 visitors, including many Heads of State. “Rio has already proven its ability

to host major events. On New Year’s Eve, the city receives hundreds of thousands of tourists and everything runs perfectly well,” said the Ambassador.

According to him, Rio+20 is well provided in regards to physical space. Amarante tells us that City Hall has granted strategic public areas to be used for the conference. Parque dos Atletas, which recently hosted the Rock in Rio festival, will be used for all nation’s stands and exhibitions. Several locations in Aterro do Flamengo will host the People’s Summit and its participants will be housed in public schools and at Quinta da Boa Vista. The Brazilian foreign Ministry reserved several former warehouses on the Water Front for other side events. This way the conference will

FOTO: Pedro Kirilos/Ascom-Riotur



ATERRO DO FLAMENGO PARK

occur in all areas of the city. Amarante also said that during the event, the city will promote various cultural events to promote environmental awareness. “Visitors will experience our music, theatre and other forms of artistic expression.”

## Urban centers and sustainability

The Coordination acts as an intermediary agency between foreign entities (public or private) and other municipal departments of the City Government, helping to negotiate agreements and evaluate proposals that may be of great value to Rio. In this context, Rio+20 is of great importance since it turns Rio de Janeiro into a center for discussions on sustainability



THE WATERFRONT AREA



QUINTA DA BOA VISTA PARK

– especially about large urban centers. “Private entities will build at Forte de Copacabana a venue for conferences where the City Hall will host meetings among the world’s cities. The program includes a Special Meeting of the C40, an organization representing the world’s 40 largest cities, attended by mayors,” said the Coordinator.

The topics to be discussed at these meetings are the steps for the reduction and adaptation to the climate changes, promote sustainable urban growth and the development of an effective agenda with clear goals in order to support the planning for damage mitigation.

“Rio+20 will not be only a forum to discuss environ-

“Visitors will experience our music, theatre and other forms of artistic expression”

mental issues. We will also address the issues raised by the social and economic impacts. This is an opportunity to establish an international political commitment to combat climate change since the cities play an important role in this discussion,” said Amarante. “In fact, according to studies published by environmental agencies, the urban centers account for 70% of the emissions of greenhouse gases. Therefore, they must be included in negotiations on a global deal,” he affirms.

He made a point of emphasizing that the City of Rio de Janeiro already has legislation on greenhouse gas emissions. “We have established targets the City has to achieve. So, we are highly rated in this regard. I believe that with the implementation of the BRTs (Bus Rapid Transit), will play a key role in reducing emissions.” The Law on Climate Change and Sustainable Development, enacted in 2011, also encourages the application of carbon offsets on several projects such as waste management, transport, energy, reforestation and others. The targets of reducing greenhouse gas emissions are 8% for 2012 (which will be achieved this semester with the closing of the Gramacho landfill), 16% for 2016 and 20% for 2020. ■





# Rio as the vanguard of sustainability

The President of the Chamber of Sustainable Development in Rio bets on the relevance of the city so that there is progress on the issue regarding global sustainability

Sérgio Besserman, president of the Chamber of Sustainable Development of Rio City Hall, is a renowned scholar of the economic impacts on the environment. Graduated in Economics, Besserman was appointed by the mayor of Rio, Eduardo Paes, to chair the working group of the City Hall of Rio de Janeiro for the Rio+20, organization of the big meeting regarding the future of global sustainability. To Besserman, even though the environmental policies prepared by the governments of countries are priorities, the cities are the main characters in the process of consciousness-raising about the importance of sustainability. And, in his assessment, Rio de Janeiro is meant to solidify itself as a global center for the discussions on the conference's theme. "We got everything to fight to be the 'Davos' of discussions regarding sustainable development," he says. Between meetings, Besserman spoke to *Missão Empresarial Magazine* - Special Edition / Rio+20. Read next the main passages of the interview.

**For you, what is the importance of Rio+20 for the city?**

SÉRGIO BESSERMAN - Rio+20 is a United Nations Conference with wide participation of the global civil society. The city of Rio de Janeiro, as host, is looking forward for the event to occur with perfection concerning the logistical standpoint. And, consequently, that Rio establishes itself as the global "locus" of discussions on sustainable development, the central issue of the economic, political, and social agenda in the coming years and decades.

**After 20 years, since the UN Conference on Climate, also held in Rio de Janeiro, what has changed since then in your assessment?**

SÉRGIO BESSERMAN - The positive side is that all the group of actors participating in the discussions on sustainable development has grown enormously. In 1992, along with diplomats and official delegations, NGOs were also present representing various segments. Today, in addition to them (which grew too) are all large companies in the world, the most diverse networks, major cities on the planet, etc. Now we are all connected: in 1992, in order to press the chiefs of state, it was necessary to come to Rio, today anywhere in the world you

can join the conference via Internet.

The negative side is that very little has been done around the world in these 20 years, and new knowledge generated by scientific research shows that the situation is far more serious than it was previously thought 20 years ago. Civilization is heading towards a crisis. To avoid it, it is necessary changes much deeper than those - naively - imagined in 1992.

**What is the assessment of the measures adopted by the Brazilian government which helped expand the sustainability policies? Can you cite any examples?**

SÉRGIO BESSERMAN - The Brazilian government has obtained advances on several fronts, with emphasis on reducing deforestation in the Amazon rainforest. But it must be clear that the size of the transformations that must happen in the coming years and decades is much larger than anything being performed right now.

**In your assessment, how cities and states can work together with the federal government so that the environmental and economic problems are treated in a more integrated form?**

SÉRGIO BESSERMAN - Cities are fundamental in the transition between the civiliza-





LEBLON BEACH

tion of fuel fossils and low carbon economy which is the most fundamental and profound process of the transformations that must occur in order to avoid a major crisis. The central issues of the cities are energy, transport, waste, and sustainable territory management. In macroeconomics, whether national or global, however, the world's cities still have little influence. This field is more important to change.

**How the city's economy may be affected with the progress of the sustainability discussion?**

**SÉRGIO BESSERMAN** - All the world's cities will be much affected, and there is no other reason why they became active participants in this process. In the case of Rio, a critical intangible asset, which is our brand, how the world sees us, is inextricably connected to the issue



of sustainability. Rio is unique in the world because it is the only major metropolis on the planet with impressive natural assets, becoming a candidate for World Heritage Site in the category of natural landscape. This means that, besides investing in the knowledge economy, based on the low carbon future, our brand is concerned. In Rio, the cost-benefit analysis for investment in sustainability is easier: the feedback in image is too large.

**In relation to the poorest areas of the city, which seeks to develop themselves economically, how to bring them the importance of sustainability so that they find improvements in the poverty reduction?**

**SÉRGIO BESSERMAN** - In fact, without these investments, the fight against poverty will be lost. The environmental crisis affects mainly the poor, who are in the most vulnerable positions and have fewer resources to defend themselves. There is much to be done in many fields, but there is the mother of all battles and it is social and environmental: basic sanitation.

**How do you observe the role of Rio de Janeiro in the sustainability discussion nationally and internationally?**



PEDRA DA GÁVEA TAKEN FROM THE CHINESE VIEW IN THE TIJUCA NATIONAL PARK

“Rio is unique in the world because it is the only major metropolis on the planet with impressive natural assets, becoming a candidate for World Heritage Site in the category of natural landscape”

**SÉRGIO BESSERMAN** - For the unique interaction between nature and built environment, history (replanting the Tijuca forest, achievement of Rio 92, etc.) we got everything to fight to be the ‘Davos’ (Swiss city where the conjectures and the leads of the world economy are annually discussed) of the discussions regarding sustainable development. And we got everything to be among the leading cities which walk in the direction of necessary changes. ■



FERNANDO LYRIO, SPECIAL ADVISOR OF THE MINISTRY OF ENVIRONMENT FOR RIO+20

# Rio+20: A milestone for promotion of sustainability

“The event will outline the future of sustainable development with Brazil in the forefront of the debate”

By consecrated and recognized abundance of natural resources, the Brazilian environmental issue has had great prominence in international debate on challenges to sustainability. Therefore, the country was chosen to host one of the most important UN's meetings on ecological themes, coinciding with the celebration of twenty years of holding the first large Conference about the environment, Rio92. The country is recently calling attention by its economic emergency and seeks to give new directions about sustainable development. With 519 million hectares of forests, in which 96% of this area correspond to “Legal Amazon,” the entire forest occupies more than half of Brazilian territory. These numbers might affect the advances of sustainable policies globally and will be one of the key points of Rio+20. “Our expectations are that Rio+20 will be a political milestone for the coming years and establishing a new international agenda for sustainable development. It is also expected that the declaration to be adopted as product of the Conference becomes a document in which the international community renews and strengthens its commitment to sustainable development,” said Fernando Lyrio, Special Advisor of the Ministry of Environment for Rio+20. In an exclusive interview to *Missão Empresarial Magazine – Special Edition / Rio+20*, Lyrio said to believe that, in the national sphere, the event will leave a legacy for social and environmental areas in Brazil, making the issues part of everyday life of the population and that the debates on development will be associated to sustainable expression.

**Brazil has taken a role of great prominence in the debate on sustainable development. How has the Brazilian Government dealt with internal and external demands on the issue?**

**FERNANDO LYRIO** – In recent years, Brazil has managed to incorporate, through a broad and diverse set of public policies, the idea of sustainable development, making the Country a reference and a world leader in the debate about sustain-

ability. The major advances in social inclusion policies and environmental conservation, notwithstanding the country's economic growth in this dramatic period, illustrate the possibilities of integration between the three dimensions of sustainability. I should like to highlight among these policies, which implemented the “Action Plan for Protection and Control of Deforestation in the Amazon”

(PPCDAM), responsible for expressive rates reduction of deforestation in the region. In addition, I highlight the adoption of the “National Policy on Solid Waste” and the substantial jump in number of conservation areas created in recent years. There were also created programmes and plans such as “Brazil without Poverty” and “Solidarity in Literacy.” We adopted voluntary commitments and an

audacious sectoral plan to reduce emissions; we advanced in conservation of biodiversity, combating deforestation and the expansion of the energy matrix with an emphasis on renewable sources, all this by dropping the false premise that social and environmental policies constitute obstacles to economic development. These policies have increased the income, the conditions of population's well-being and provided a better conservation of the environment.

**Do you think that Brazilian companies are embracing the concept of sustainable development in a satisfactory manner and acting in partnership with the Government?**

**FERNANDO LYRIO** – The whole discussion about sustainability crosses necessarily by discussion on the role of the private sector and on production and consumption patterns. The companies are partners in this debate and in construction of social inclusion solutions associated with economic development and environmental preservation. On one hand,

the private sector is governed by market rules and by dialogue with consumers for changing paradigms of production. On the other hand, this sector is also influenced by Government policies of positive incentives to adopt sustainable practices. In this sense, the Brazilian Government has been preparing for Rio+20 with strong participation of the business sector, concerning both national and international processes. To do so, the Brazilian Government has been partner of various private sector initiatives that establish the outlines of business vision on sustainability.

#### **Do you believe that the current crisis might divert the focus on sustainable development?**

**FERNANDO LYRIO** – The crisis should be seen as an opportunity. It spells out the bankruptcy of the current model of development. This is the time to review globally the economic, social, and environmental standards.

Many Nations are involved in the process; more than 80 Heads of State confirmed their presence in Rio+20. It is clear that a crisis scenario demands short-term responses, but the challenge is to reconcile them with the sustainable development that, by definition, motivates a look toward the future, to the long-term. If this long-term look does not happen during Rio+20, the foundations of development models that have produced successive social, economic, and environmental crises of our planet are not going to change.

#### **Brazil has raised certain divergences with the**

#### **core countries related to environmental issues. How the event may consider certain existing impasses to more integration between emerging and developed countries?**

**FERNANDO LYRIO** – One of the main differences between Rio92 and Rio+20 is the new role played by developing countries, particularly the emerging, which acquire differential weight in forwarding to major global challenges. Any results from Rio+20 will only be concrete and implementable if they are accepted and recognized by all countries, and not by some countries' imposition to others. It is hoped that this circumstance can make a significant contribution to some important results of Rio+20, particularly, the strengthening of the multilateral system and reducing of perverse North-South polarization that has been making it impossible to achieve a consensus in several international processes. In this context, it is of great importance the discussion of one of the Conference's basic themes: the institutional structure on sustainable development.

Such institutions should promote coordination and coherence to the actions of the United Nations and other international institutions in sustainable development-related themes.

#### **Do you believe that this process of cooperation will happen in Rio+20?**

**FERNANDO LYRIO** – The debate about the role of developed and developing countries, including emerging ones, still happens with the reaffirmation of the principles adopted

at Rio92. In particular, there is recognition and expectation that this reaffirmation of principles establishes new foundations to deficit reduction of Rio92 commitments' implementation. We highlight the need for developed countries to maintain their commitments to support developing countries in their transition to sustainable models of development through the adequate offer of financial resources and technology transfer.

#### **In recent years, Brazil has achieved greater integration into international trade. Can the concept of sustainability influence international trade?**

**FERNANDO LYRIO** – Debates involving international trade and sustainability are often permeated of controversies and polemics, often reasoned by predatory practices that aim to gain competitiveness at expense of social exploitation, relating to low remuneration of workforce and environmental degradation, whether by overload of natural resources or environmental cost of certain productive chains.

There are, however, positive approaches around this interaction, for example, transfer of technologies, changes in the patterns of production and consumption, improvement of the environmental legislation tied to consumer market demand and the harmonization of laws between countries.

International trade is undeniably a vector of economic development, once well disciplined, can be reversed in benefits to social well-being and environmental of the

#### **"The Brazilian Government has been preparing for Rio+20 with strong participation of the business sector, concerning both national and international processes"**

countries. This is the content of the "Marrakesh Agreement," which is the World Trade Organization and states that the increase of commercial trade must occur in an integrated manner to increase the life quality of population, of rational use of natural resources and respect the different national levels of development.

The logic behind the multilateral trading system assumes non-discrimination between countries and the veto to measures that are shiftily protectionist measures. In this context, it is expected the use of technical measures laid down by WTO, with the aim of limiting trade and which are motivated by compliance of sustainability issues. Additionally, there are some "Environmental Agreements," which complement the commercial disciplines, regarding to specific matters, such as trade in "Genetically Modified Organisms." Even so, there is still a great deal to advance in integration and improving of international regimes on trade and sustainable development. ■





The State of Rio de Janeiro presents important environmental assets, while combating many existing liabilities, in terms of its complicated history and socio-economic development process. In order to intensify the debate and public policies in favor of sustainability, the government of Rio de Janeiro State created, in 2011, the State Secretariat for Green Economy (organ connected to the Secretariat of State for Environment of Rio de Janeiro), the first one in this category in Brazil. Since the beginning of the Secretariat, Professor Suzana Kahn, active in the area of environmental preservation, reveals that, in one year, several environmental projects in the state are in progress and that Rio+20 will function, among other things, as an important channel for dissemination of policies results undertaken. Mechanical engineer with a master's degree in Energy Planning and PhD in Industrial Engineering, she is part of Transport Engineering Program of COPPE-UFRJ.

# For a greener Rio

Green Economy Undersecretary of Rio de Janeiro bets on sustainability programmes to foster sustainable development indexes of the State



SUZANA KAHN – GREEN ECONOMY UNDERSECRETARY OF RIO DE JANEIRO

**What are the actions of Rio de Janeiro State Government in relation to environmental policies?**

**SUZANA KAHN** – The participation of Rio de Janeiro state has been quite interesting, not only internally, but also in approximation with other regions and other states in Brazil and in the rest of the world. I believe that many of initiatives toward a green economy and actions that seek development with more quality are more likely to succeed at regional level. It is possible to construct a series of actions located in states and municipalities, but without taking off the country's reality. You must walk along, despite having different approaches. To coordinate environmen-

tal policies at national level is a process much more complex, more sophisticated and, often, more time consuming. This is not the case with member states, which have different profiles, enabling greater agility in decision-making. The Environment Secretariat of Rio de Janeiro will be receiving representatives of states from various parts of the world to discuss, share experiences and draw goals. In Brazil, we are working closely with several states, notably the Amazonian regions. In this regard, we seek to promote complementarity, since the Brazilian southeast is more industrialized and the northern states have their economy based on forest assets. These contacts would

intensify in Rio+20. The dialogues are flowing and are being very productive.

**How are the projects being conducted?**

**SUZANA KAHN** – In relation to projects conduction in the state of Rio de Janeiro, the Secretariat is making a series of actions and the fact that Rio+20 will be held in Rio, helps give more visibility to the projects. However, we must remember that these actions are long term, regardless of the Conference. One of the projects led by the Secretariat is the creation of *Bolsa Verde Rio* (Green Market – BVRIO), which will start its operations during the Rio+20. The *Bolsa Verde Rio* is the purchase of carbon credits, which will operate within a trading platform, and may transacting a variety of assets, which begins with purchase of carbon, and then, with purchase of legal reserve areas and other spaces of environmental preservation. The state of Rio is mobilizing. Rio is the only state in Brazil that has a Secretariat for the Green Economy. Rio already has a law, which states on climate change, we have the Guanabara Bay Cleanup Plan (PDBG), the Zero Garbage Dump Program and other environmental measures consistent (below, more details on some of

the projects developed by the Secretariat for the Environment). However, the most important thing is to see that Rio is going in a good direction.

**Do you agree that Rio+20 runs the risk of failing to close a consensus, as some experts believe?**

**SUZANA KAHN** – I believe that Rio+20 will not be a failure. There is a lot of work for the sustainable development goals to be reached. Of course, failure and success depend heavily on expectations that people have. If there is an expectation that Rio+20 will be a revolutionary conference, this feeling may be frustrated. Rio+20 would not have this goal. The Conference is yet another step further. What will be discussed is whether this step will be large or small. It will be an important meeting place for the discussion of green economy, forms of development and social inclusion.

**What would be the best definition of green economy?**

**SUZANA KAHN** – Green economy is a process. The definition exists and consists of an economy that can develop with less pressure on natural resources, and this is an international consensus. The problem is how this account shall be paid. In addition, when this discussion deepens, it turns out that there are some risks such as the creation of environmental protectionism on the part of some countries, and the need of having to adopt certain technologies and, consequently, become dependent on these technological inno-

vations developed in richer countries. We must look, however, at the development in which considers discussing the current consumption level. Previously, the development was measured according to the GDP growth. So, it is important to seek a consensus on the use of best available technologies and on the use of natural resources available, which is becoming smaller, and to seek ways of reducing consumption of rich countries.

## Projects Developed by The Secretariat for The Environment

### Guanabara Bay Clean Up

The State Government is investing R\$ 1.7 billion in clean-up Guanabara Bay, to solve one of the major environmental liabilities of the wonderful city. One of the axes of these actions is the Environmental Sanitation Programme of the Municipalities Surrounding the Guanabara Bay (Psam), of Secretariat of State for the Environment (SEA), which has the most features: R\$ 1.13 billion – R\$ 800 million loan from IDB (Inter-American Development Bank) and R\$ 330 million of State Fund for Environmental Conservation and Urban Development (Fecam).

### Fundão Channel

The works of Environmental Recovery and Revitalization Program of the Fundão

**Rio de Janeiro is, historically, the main oil-producing state of Brazil and, in recent years, increased its capability to discover huge reserves of oil in the pre-salt layer. How do you reconcile the discussion about green economy when there is stimulus for production of fossil fuels?**

**SUZANA KAHN** – The oil will continue, for a few decades, being one of the main energy sources in the world. Then, it would be a great irresponsibility of the state turning its

back to a wealth of this business. However, what I find important is to use this feature as a way to finance the transition to renewable energy. Moreover, the oil provides income to the state for the use of clean energy sources that, currently, are more expensive. Therefore, this income must be used intelligently so that Rio has access to that resource generated by oil and gas production, and develop the state's environmental projects.

Channel and its surroundings are budgeted at R\$ 320 million. In addition to planting mangroves and renew the area of university city and its residential village, there is also the process of dredging of more than 3 million m<sup>3</sup> of contaminated sediments, over 7 km of channel, was adopted modern technology to encapsulate material removed in geobags structures, with decontaminated water returning to the Guanabara Bay.

### Zero Garbage Dump

The goal of the program is to eradicate all dumps in the state of Rio de Janeiro until 2014, with 92 municipalities giving suitable target to their solid waste, is being achieved. Coordinated by the SEA and by the State Institute of the Environment (Inea), the program Zero Garbage Dump, in 2012, registers 19 sani-

tary landfills installed and other 3 in finalization phase. So far, 24 municipal waste dumps have been treated or are in the process of remediation. The Secretariat for the Environment coordinates actions to provide alternative income to trash recyclers.

### Atlantic Forest

The SEA promotes policies and strategic actions for the conservation of biodiversity and the Atlantic rain forest, developing, among others, reforestation projects in major basins from Rio de Janeiro and the creation and expansion of conservation units (UCs) and ecological corridors.

The Atlantic Forest Fund earmarked R\$ 5 million to date for the deployment of municipal UCs and invested R\$ 75 million in infrastructure in eight of the nine state parks, such as the construc- ▶



"I believe that many of initiatives toward a green economy and actions that seek development with more quality are more likely to succeed at regional level"

SUZANA KAHN  
GREEN ECONOMY UNDERSECRETARY  
OF RIO DE JANEIRO

tion of visitor centers and nature trails.

## Biodiversity

The SEA works in the preservation of ten species of endangered Brazilian fauna – most originating in the Atlantic forest, biodiversity-rich biome that covers 20% of the state of Rio de Janeiro. It is the first step to encourage society to get involved with conservation actions. The list of endangered animals is *preguiça-de-coleira*, *formigueiro-do-litoral*, *lagarto-branco-da-areia*, *muriqui*, *mico-leão-dourado*, *jacutinga*, *cágado-do-paraíba*, *boto-cinza*, *tatu-canastra* e *surubim-do-paraíba*.

## Green Economy

The initiative of the SEA, with support from the Secretariat of State of Planning and Management (Seplag), the Green Economy Roadmap aims to identify the main initiatives of sustainable development and green economy promoted by the State's Secretaries of Government. From this survey, specific goals and strategies will

be designed to consolidate a new development model in Rio de Janeiro.

The Green Economy Roadmap takes into consideration key areas such as energy, transport, industry, agriculture, creative economy, and culture – in addition to identifying tools and cross-cutting policies of state. The goal is to indicate how the government can promote a new model of long-term development and transverse governance, which promotes sustainability in all governmental sectors.

## Green Market - BVRio

Conceived from a partnership between the SEA and the Municipal Secretariat of Finance of Rio de Janeiro (SMF), a non-profit civil association, BVRio, was formed to develop an innovative market of environmental assets to foment the green economy in the state of Rio de Janeiro and in Brazil.

To assemble a negotiating platform that becomes a reference in the country for the marketing of environmental assets – covering regulatory nature rights related to compliance with environmental obligations, such as recovery from forested areas, waste treatment and emissions or effluents –, BVRio will act in two main fronts to enable its operations.

The first one is the trading platform in itself, which has a registration system for environmental assets – a traditional architecture of stock exchanges around the world. The second one is even more innovative: will be part of these environmental assets,

working groups devoted to creating these new assets, but to exist, must go through the regulatory process of existing laws. This think tank brings to Rio the state of art of environmental finance discussions, being a source of creative solutions to environmental problems.

## Green Zone

The governments of the state and the municipality of Rio de Janeiro will launch in Rio+20 the foundation stone of the Green Zone of Ilha do Bom Jesus, in the Guanabara Bay. In area of 240 000 km<sup>2</sup>, an extension of the Technological Park of the Campus of Federal University of Rio de Janeiro (UFRJ), on Ilha do Fundão, the Green Zone is the first technological park in the country with sustainable infrastructure, integrating government, private enterprise and university.

The park of Ilha do Bom Jesus is the first project of Green Zone Program, which aims to inaugurate a similar pole per year, targeting high-tech companies, researchers, and specialized professionals, technological incubators, and infrastructure geared to sustainable development.

The Green Zone of Ilha do Bom Jesus should be the first region of Latin America to obtain international certification for specific neighborhoods built aimed at energy efficiency and minimizing environmental impacts. One of the highlights will be the installation of central utilities, common to all users, to distribute electricity and steam, centralized and optimized.

There will be a garbage's recycling system, lighting with LED lamps (which consume less power), paving of streets with asphalt rubber (taking advantage of used tires recycled), greater mobility with electric bicycles and bike lanes and vast green areas.

The buildings, which also will request international certification, will count with photovoltaic solar energy, lighting with LED lamps and rainwater recovery.

## Letter of The Sun

In partnership with the State Department of Economic Development, Energy, Industry and Services (Sedeis), the SEA is encouraging the use of photovoltaic solar energy in Rio. When posting, in 2011, the Letter of the Sun, the two secretariats seek to define and consolidate, in Municipal, State and Federal governments, public policies and actions geared to carry out efficiently and orderly operation of national potential of solar energy as a source of energy.

For the construction and consolidation, in Brazil, of an industrial production's chain and industry services, the Letter of the Sun proposes, including exemption of costs in power transmission and distribution, the definition of attractive alternatives to the establishment of specific auctions for photovoltaic solar energy, within the framework of a strategy of short, medium and long term; and the promotion of workforce's training programmes to act in steps of the production chain of photovoltaic solar energy.■





## changing diabetes is a goal beyond our bottom line

As a fitness trainer, Jonathan knows that individual change requires goals, a system for working towards those goals and support to overcome challenges. We take a similar approach to driving change happen at a societal level. Our Triple Bottom Line principle ensures we consider the economic, social and environmental impact of every action as we work towards the goal of a healthier future.

Triple Bottom Line thinking drives our efforts to combat climate change, which shares with the diabetes pandemic a link to unsustainable consumption and unhealthy lifestyles. Since 2004, we have halved our CO<sub>2</sub> emissions in partnership with the World Wildlife Foundation, while meeting the growing demand for our treatments and changing the lives of more people with diabetes than ever before.

Discover more about changing diabetes at [novonordisk.com](https://novonordisk.com).

JONATHAN CHARLESWORTH  
In training to change diabetes, South Africa  
Jonathan has type 1 diabetes



# New Danish energy agreement: 50 % of electricity consumption from wind power in 2020



MARTIN LIDEGAARD; MINISTER FOR CLIMATE, ENERGY AND BUILDING

**W**ith an ambitious energy agreement, Denmark takes a decisive step towards a society free of coal, oil and natural gas.

In 2020 half of the electricity consumption will come from wind power (today it's 25 %), and the energy consumption will decrease by more than 12 % in 2020 compared to 2006.

The parties behind the agreement represent 171 seats out of 179 in the parliament. The agreement establishes a framework for the policy on climate and energy up to 2020 and outlines the direction Denmark will take until 2050.

"It is the broadest, the greenest and the most long-term energy agreement that has ever been reached in Denmark. In our everyday political work, the parties are different shades of red and blue. But together we have laid down the foundation for a green future," says Martin Lidegaard, Minister for Climate, Energy and Building.

The initiatives in the agreement will lead to CO<sub>2</sub> emissions in 2020 being 34% lower than they were in 1990. At the same time, the agreement will ensure a stable framework for the business community as a whole, and the energy sector in particular.

The parties behind the agreement have decided to continue the development that has made Denmark one of the most energy-efficient countries in the world.

It has also been decided to build a total of 3300 MW new wind power which will enhance the capacity with 2000 MW wind power before 2020. A part of it is two new large offshore wind farms at Kriegers Flak between Denmark and Germany (600 MW) and at Horns Rev of the west coast of Jutland (400 MW). The rest is coming from wind turbines on land and offshore wind turbines in coastal areas. Investments in biomass and biogas will also be made.

"Denmark will once again be the global leader in the transition to green energy. This will prepare us for a future with in-

creasing prices for oil and coal. Moreover, it will create some of the jobs that we need so desperately, now and in the coming years," says Martin Lidegaard.

In 2020, an average household will pay DKK 1300 (173 euro) more for energy. Companies will pay DKK 200 per employee. The total bill will amount to DKK 3.5 billion (467 million euro) in 2020. In return, there is money to be saved, because we will use less energy, and because we will be less vulnerable to rising prices for oil, coal and natural gas.

"Investments are necessary if we are to switch society towards green energy. And the bill will be much bigger if we do not act in time. With this agreement, the parties are sending a clear message that we all assume responsibility and are taking the challenges of the future seriously. It is truly a great day for energy policy in Denmark," says Martin Lidegaard, Minister for Climate, Energy and Building.

The new energy agreement has been applauded by both the green community and the industrial organisations in Denmark.■

Leonard G./Wikipedia Commons



OFFSHORE WIND FARM NEAR COPENHAGEN, DENMARK

“Investments are necessary if we are to switch society towards green energy. And the bill will be much bigger if we do not act in time”

**MARTIN LIDEGAARD**

*Minister for Climate, Energy and Building*



IN THE NORDIC FOOD LAB, THE REVOLUTION OF NORDIC FOOD IS CO-DRIVEN BY CHEF LARS WILLIAMS

## Denmark data

CAPITAL AND LARGEST CITY	Copenhagen
OFFICIAL LANGUAGE	Danish
GOVERNMENT	Unitary Parliamentary Democracy and Constitutional Monarchy Queen – Margrethe II Prime Minister – Lars Lokke Rasmussen
INDEPENDENCE	Before 8th century
AREA	- Total: 43,075 km <sup>2</sup> - Water: 1.64 %
POPULATION	Estimate 2010: 5,557,709 inh Density: 129/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 200.796 billion Per capita: \$ 36,336
SOCIAL INDICATORS	Gini 2009): 24.7 (low) HDI (2010): 0.866 (very high) Life expectancy: 78.3 years Infant Mortality: 4.4/1000 birth Literacy: 99.0 %
CURRENCY	Danish Krone (DKK)
ISO CODE	DK
INTERNET CODE	.dk
PHONE CODE	+45
WEBSITE	www.denmark.dk

THE DANISH MINISTER FOR CLIMATE, ENERGY AND BUILDING, MARTIN LIDEGAARD CAN BE CONTACTED VIA HEAD OF PRESS, CLAUD KAAE-NIELSEN AT CLKAA@KEBMIN.DK OR +45 41 72 90 11.

## Sustainability as a gastronomic concept

The team behind the Noma, elected for the third time in a row, the best restaurant in the world in the competition “The World’s 50 Best Restaurants”, created a research institution, The Nordic Food Lab, in order to change society through experimentation of a new flavor.

Driven by the pursuit of a sustainable cuisine and by the idea that the Nordic landscape must define Nordic food, René Redzepi and Claus Meyer, transformed their kitchen in a creative space, using only Nordic ingredients and letting the wild, the herbal and the nature from the coldest lands of Europe define this gastronomic language that goes far beyond an exotic flavor, and explores something completely new.

This could never be fully realized with processed foods picked down from the shelves. It started with a few, but precious Scandinavian products, all of excellent quality, and a few suppliers. From the outset, those who wanted to create a Nordic vocabulary of flavors had to collaborate with farmers and botanists to develop this new vernacular from scratch. Therefore, a massive amount of work, experiments, travels, and studies lie behind gastronomic achievements of Noma.

The aim of Noma’s team and of the movement that leads across Denmark and Scandinavia is intended to alter and improve the food culture of the Nordic re-

gion. It is the rediscovery of earth’s riches to the foundation of modern cooking, creating food that transmits the splendor of biodiversity, of the unknown and pleasant aspects of the great, wild vegetation – it is an environmentalism fused with a gastronomic explosion of creativity. This is consciousness of beauty and richness of flavor in nature that will nurture the instinct in modern man to protect and preserve the wild landscape and its biodiversity.

The Nordic Food Lab situated on a houseboat in the canals of Copenhagen, has become, since its foundation three years ago, on a reference in the movement to cultivate a new food culture based locally. This was accomplished by working with universities, producers, and industry to expand the culinary horizon of the entire food community, funneling the knowledge, and cultural ideology of Noma and its two founders.

The Nordic Food Lab has been established as a foundation with an altruistic objective - to spread as much knowledge and findings as possible for those interested in the subject. The long-term goal is that the existence of the lab and its work’s continuity influence the improvement of the selection of products available in the market. It is a long way, but it is what needs to be taken for a healthier and sustainable food culture to make part of the everyday life in future generations.





SVEND ROED NIELSEN

# Danish actions for sustainability

Ambassador of Denmark in Brazil highlights the country's commitment to the green economy

Currently serving as president of the European Union, Denmark is in conformity with sustainable policies in line with the environmental initiatives implemented in the region. Concerns about the future of humanity and the search for international partnerships are valuable themes to the government of the country, says the Ambassador of Denmark in Brazil, Svend Roed Nielsen.

## Denmark and the Rio+20 Conference

The Rio+20 Conference is an important milestone and offers a unique opportunity for our mutually interdependent world to secure renewed political commitment for sustainable development and its implementation. Denmark currently holds the EU presidency and will work towards achieving ambitious and concrete results promoting a transition to a green economy for all countries. Transitioning to a green economy must be seen as something that offers win-win opportunities to all countries. It holds a strong potential to promote long-term sustainable and inclusive growth.

In the course of the next decades, the global demand for resources will grow 40-60 % according to estimates and by 2050, we expect a world population of 9 billion people. While some progress has been made in advancing sus-

tainable development over the last decades, around 1.4 billion people still live in extreme poverty and the pressure on our limited natural resources and ecosystems is increasing day by day. Twenty years ago, the concept of sustainable development was brought onto the international agenda. Now, twenty years later, the Rio+20 Conference is a unique opportunity to act before it is too late; to secure renewed political commitment in order to move forward the sustainable development agenda and take the necessary steps to deal with current and future challenges.

## Environmental policies commitments

The Danish government is focusing on policy measures and initiatives integrating all three dimensions of sustainability e.g. through our national green energy plan - with

the objective of achieving independence of fossil fuels by 2050, our green growth strategy and our green technology action plan. We work with all private sectors to integrate resource efficiency and environmentally sound performance into business models and production processes and to ensure decent jobs. Through regulations, we protect natural environments, minimize pollution and degradation of waters, marine environments, ground water, soils, ecosystems, and biodiversity, and at the same time invest in restoring the environment.

The Danish government maintains permanent business dialogue fora for major regulatory areas, where business organisations and individual companies are involved in development and adjustment of policies and regulation. In addition, it is common practice to establish fora involving industry, NGO's and the research com-

munity in the early stages of the development of new policies. A recent example is the business panel established for producing ideas and recommendations for enhancing the transition to a green economy.

International development efforts should be coordinated and development projects integrated in order to create sustainable development and maximising benefits for the poor and vulnerable. In 2011 Brazil, China, India and South Africa took an important step as new development partners when signing the Busan declaration on Partnership for Effective Development Cooperation. The declaration is an essential basis for fruitful development partnerships between traditional donor countries and new development partners creating novel opportunities for cooperation in areas of mutual interest, including in the environmental field and other areas of sustainable development.

The private sector is essential to sustainable development and green economy. Through trade, investment, public-private partnerships, research and innovation, promotion of sustainable consumption and production, corporate social responsibility and technology diffusion the private sector has the potential to deliver sustainable development including green and inclusive growth. Opening up markets for sustainably produced goods and services would boost trade in green technologies and strengthen incentives for companies to invest in re-

search and development. A commitment to open markets is central for green economy. It is also important to emphasise that a transformation to a green economy should not be used to introduce new trade barriers.

## Green economy

A transition to an inclusive green economy holds the key to achieve sustainable development and long term green, inclusive and equitable growth, decent jobs, human health and well-being and hence eradicate poverty. Green economy addresses all three dimensions of sustainability: the economic, the environmental and the social dimension.

Green economy offers valuable win-win opportunities for all countries, regardless of the structure of their economy and level of development. To accelerate the transition to a global green economy, one of the main operational outcomes of Rio+20 should be the adoption of specific goals, objectives and actions at the international level. The EU has suggested specific goals, objectives and actions in areas such as sustainable energy, management of land and ecosystems, resource efficiency and waste management, water and oceans.

It is estimated that 2 billion of the world's poorest people depend directly on ecosystems for their livelihoods. Actively addressing land and soil degradation, protection of water resources and resource efficiency are vital for poverty alleviation and food security. Concrete goals can

“While some progress has been made in advancing sustainable development over the last decades, around 1.4 billion people still live in extreme poverty and the pressure on our limited natural resources and ecosystems is increasing day by day”

SVEND ROED NIELSEN  
*Ambassador of Denmark in Brazil*

guide countries in their strategies and plans for transition towards green economy – of course, with help and support from international institutions and based on the principle of ownership and national differences.

## Cooperation

The impressive economic and social development places Brazil in a unique position to use its own recent experiences in promoting global sustainable development. Also, Brazil's ambitions within development cooperation are warmly welcomed. Brazil is

very engaged in the aid effectiveness agenda and actively involved in the discussions on working arrangements for the new Global Partnership for Effective Development Cooperation based on the Busan declaration.

Denmark and Brazil signed a memorandum of understanding on a partnership for development dialogue and cooperation in March 2012 when the Danish Minister for Development Cooperation Christian Friis Bach visited Brazil.

The memorandum of understanding is a first important step in the enhanced future development cooperation between Denmark and Brazil with, inter alia, the aim of promoting sustainable development globally and reduce poverty. Brazil's great experience with social development, tropical agriculture, energy and combating HIV/AIDS combined with decades of Danish experience with development cooperation makes a very promising partnership for future trilateral development projects in third countries.

A common way of behaving in times of crises and economic restraint is to look inwards and place less emphasis on international cooperation. We cannot afford to fall into this trap. If we are to realise ambitious goals and actions after Rio+20 we have to seek compromises and mutual understanding. The international economic crisis also forces us to use existing resources more efficiently and to mobilize new and innovative sources of public and private finance. ■



# Green growth, good business

Novo Nordisk discovers, develops and markets therapeutic treatments to people with diabetes, haemophilia and growth hormone deficiency. Our business philosophy is to always seek to optimise our financial, social and environmental performance with an aim to create long-term value to the patients we serve, our shareholders and the communities we are part of.

## Facing up to the climate change challenge

In 2006 Novo Nordisk joined the World Wide Fund for Nature (WWF) Climate Savers Programme. The agreement between the WWF and Novo Nordisk commits the company to restructure its energy consumption from global production sites so that total CO<sub>2</sub> emissions will be 10% below 2004 emissions by 2014. The absolute target represented a relative reduction of approximately 65% when the agreement was made. In light of the projected significant growth in production capacity, meeting the target required that growth in production was decoupled from growth in energy consumption. The reduction was to be achieved through three levers; optimisation through the Novo Nordisk LEAN programme, cLEAN®, a global energy saving programme and conversion to renewable energy.

## Driving the market for renewable energy

Producing the active pharmaceutical ingredient in our insulin products is an energy-intensive process which takes place in Denmark. In 2006, Danish production facilities accounted for approximately 85% of our global CO<sub>2</sub> emissions from production. In May 2007, Novo Nordisk signed a partnership agreement with the Danish energy supplier DONG Energy. Under the first of its kind partnership we pledged to convert energy savings realised at our Danish production sites into the purchase of renewable energy certificates from a new wind farm DONG Energy was planning to build in the North Sea.



NOVO NORDISK MANUFACTURING SITE IN MONTES CLAROS, MINAS GERAIS

With this agreement Novo Nordisk devised a cost-neutral way to achieve significant reductions in CO<sub>2</sub> emissions and at the same time helped build the market for renewable energy in Denmark.

The wind farm – Horns Rev 2 – was inaugurated in 2009 and in 2010 electricity supplied to all Novo Nordisk's facilities in Denmark was converted to wind energy from Horns Rev 2.

## Breaking the curve with short pay-back

Since 2004, CO<sub>2</sub> emissions from our global production have decreased by more than 55% while sales have doubled. From 2005 to 2011, Novo Nordisk has implemented approximately 580 energy saving projects with an average pay-back period of two years. Global energy costs have been reduced by approximately 10%.

## Change starts from within

Following the Triple Bottom Line philosophy (environmentally, financially and socially responsible), Novo

Nordisk Brazil runs several projects at its Montes Claros production site which bring about a sustainable work environment.

In order to enhance its interaction with the community it is part of, Novo Nordisk shares its knowledge with the aim of reducing the environmental impact of its business. One good example of this is NovoEco, a project involving activities such as a seedling nursery for trees native to the Mata Seca and Serrado regions in order to recover green areas and distribute nursery plants to its employees; calculation of CO<sub>2</sub> capture based on the plant species already planted; accompanying external visitors like schools and universities to the environmental areas of the plant.

NovoEco also gives lectures aiming at showing its environmental responsibility, and takes active part in external events aimed at helping the population to create a more sustainable world.

Since its implementation last year, NovoEco grants its employees and visitors access to the ecological tracks in company's premises; the relaxing meeting areas and the multiuse space for workshops and other activities. ■



# State of Green

Sustainable economic growth and security of energy and water supply are among the greatest global challenges today. As the first country in the world, Denmark has decided to lead the transition and become a green growth economy entirely independent of fossil fuels by 2050.

## Sharing solutions for green growth

This ambitious goal rests on solid rock. Completely dependent on imported oil for decades, Denmark was severely affected by the oil crises of the 1970s. It was decided to take a new path to meet growing energy needs and, at the same time, to cater for environmental concerns. As a result, green issues such as energy efficiency, renewables, waste and resource management, clean air and water and sustainable cities have become deeply embedded in the mindsets of the Danes. And time has shown that economic and environmental policies can indeed go hand in hand. Since 1980, Denmark has grown to become a global leader in the development of new sustainable technologies and solutions. During the same period, the Danish economy has grown by almost 80 per cent without increasing gross energy consumption.

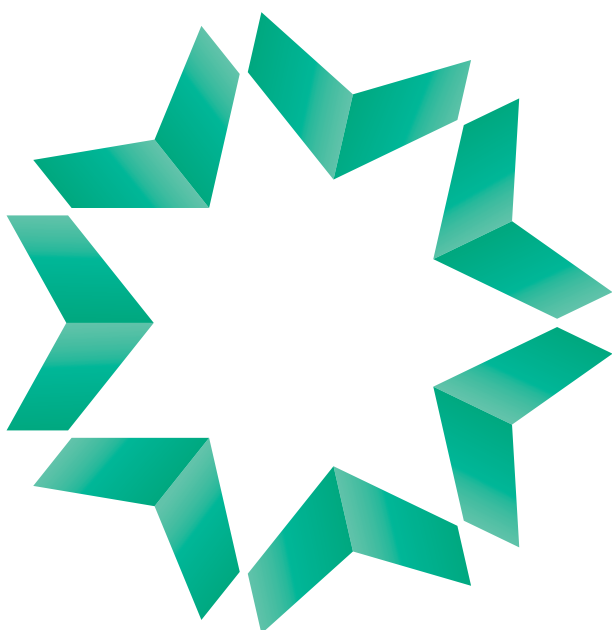
Denmark is proud to be able to share its solutions and inspire nations, companies and citizens all over the world to invest in green growth.

## Fossil free by 2050

Denmark's decision to become independent of fossil fuels by 2050 is backed by an ambitious policy framework as well as a multiple-solutions approach. The ambitious goal will be reached by increasing energy efficiency and resource optimisation; by expanding the share of renewable energy from sources such as wind and biomass; and by driving the development of an intelligent energy system capable of managing the fluctuations of renewable energy.

No single technology can ever do the trick all by itself – no matter how innovative and effective it is. Danish companies know that. Instead, they successfully complement each other. As a result, Denmark has become a global leader in producing integrated end-to-end solutions to match the growing needs internationally.

**Join the Future. Think Denmark**



## Wind Power

Denmark was the first country to install wind turbines more than 30 years ago and has been first mover in the wind industry for decades. On- and offshore wind turbines provide more than 28 per cent of Denmark's electricity consumption today. This is the highest level of wind power integration in the world. By 2020, wind power will account for 50 per cent of the electricity supply, according to recent government targets.

### Global hub for wind energy innovation

Denmark is a global hub for wind power innovation and development. The Danish wind industry encompasses more than 350 companies and employs 25,000 people. Companies working with wind from all over the world have located central parts of their R&D operations in Denmark, and the concentration of companies covering the entire wind power value chain is unparalleled elsewhere in the world.

Companies located in Denmark are able to deliver end-to-end solutions all the way from research and development through production and assembly to operations and maintenance.

As a consequence of the strong Danish competences, one in every three wind turbines and nine out of ten offshore turbines in operation worldwide are based on Danish technology or know-how.

The availability of a highly skilled workforce, superb facilities for testing prototypes and a comprehensive network of companies, research institutions and government research programmes make up an innovative R&D environment like no other place in the world.

### Securing a stable supply

Phasing out fossil fuels and replacing them with renewable energy sources such as wind will require a flexible power grid capable of handling fluctuations in the energy supply on days when the wind is not blowing. Denmark's large-scale wind power integration is made possible by a well-developed transmissions infrastructure. The Danish grid is connected to the neighbouring countries, allowing for the import and export of energy during peak periods. As Denmark continues to develop and expand a flexible and intelligent national power grid it will be possible to integrate even more wind power in the system.

**Join the Future. Think Denmark**

# Water

Water is a scarce but essential resource that is under increasing pressure. According to the UN, the global water consumption will increase by 30 per cent by 2030 due to population growth and increased wealth. It has therefore never been more important to find new solutions, and climate changes only increase the need for proper management of water resources.

## Denmark knows water

Surrounded by water, Danes have always taken pride in preserving it. Denmark holds a long tradition of integrated water management and is willing to take responsibility and contribute to solving the major global water challenges.

Water consumption in Denmark comes entirely from groundwater that is clean, safe and drinkable – even tap water is not chlorinated. Thanks to a highly efficient distribution system, bacteria and other impurities are minimized and water loss in pipelines is reduced to less than 7 per cent. Water supply is highly decentralized, with large and small waterworks situated all over the country. Even though agriculture and industry account for two thirds of the total water consumption in Denmark, significant reductions in water footprint have already been achieved, particularly within the processing industries.

## From sewer to harbour bath

Waste water treatment is another area where Denmark offers expertise and is acclaimed internationally for its in-depth know-how, technology and solutions. The first national wastewater plan was passed back in 1976 and today wastewater is handled by around 1,400 water treatment plants before it is released back into nature.

A great example of this is the capital of Copenhagen where the harbour is clean enough to swim in. Previously, the harbour water was badly polluted from the city's old sewage system and local industry. Investing in a complete modernisation of the sewage system improved water quality so much that the City of Copenhagen was able to open the first public harbour bath in 2002. This has contributed significantly to the revitalisation of the city centre area.

**Join the Future. Think Denmark**







“The 1992 Rio Summit was visionary: it brought home the links between economic, social and environmental policies and showed that together they form a whole. We must take the next step in 2012: The transformation of our economies to a green economy. This means reducing emissions, closing material cycles and placing a clear focus on efficiency and renewable energies. Our agenda is to agree on the green economy as a global goal and to define the standards needed for this. This is the only way to achieve progress, which is not at the expense of future generations. Good economic sense and global justice both require it!”

PETER ALTMAIER

Federal Minister for the Environment, Nature Conservation and Nuclear Safety

# Ten years of sustainability in Germany

*National Strategy for Sustainable Development*

## 20 years after Rio

Twenty years ago, at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, the international community resolved that sustainability should be the guiding principle for all actions worldwide.

Much has changed since then. We have become more accustomed to thinking about the long-term consequences of our actions. However, we are still facing major challenges. By 2050, there will probably be more than nine billion people on Earth. They all have a right to development. How can we secure decent lives for a rapidly growing world population while conserving our natural resource base over the long term?

Sustainability must be accepted as a guiding principle at the global, national and local levels. Our goal is to build a world where economic prosperity for all goes hand in hand with social cohesion and the protection of our natural resource base – a world that is committed to equity between generations and peace among nations.

The United Nations conference in Rio de Janeiro in June 2012 offers an opportunity to make significant progress along the road toward more sustainability. Together with the European Union, Germany is working for an ambitious conference outcome.

## A decade of sustainability in Germany

If a nation commits to sustainability as an international vision, it also needs to make its national policies sustain-

able. For ten years now, Germany has been implementing its National Strategy for Sustainable Development. It was unveiled by the German government, in 2002, at the United Nations conference in Johannesburg, and has since been continuously updated.

## What the strategy is all about

Sustainable development is a guiding principle of the German government's policymaking. By adopting the strategy, the German government made sustainable development the goal and yardstick for all actions in all policy fields at the national, European and international levels.

The strategy is based on four guiding principles: intergenerational equity, quality of life, social cohesion and international responsibility.

Sustainability is a holistic, integrated concept. It is only by identifying how different factors impact on each other and taking these interdependencies into consideration that it will be possible to find viable answers to current problems and competing goals. Economic performance, environmental protection and social responsibility must be harmonised in such a way that any decision taken will be viable in the long term on all three counts and on a global scale. We can only demand of our planet what it is capable of providing. Those are the limitations, within which we must work when endeavouring to achieve our various political goals.

## Management concept for sustainable development

The management concept for sustainable development is based on management rules as well as targets and indicators for continuous monitoring.

The ten management rules summarise the vision and requirements of sustainable development. The basic rule is that *“each generation must solve its own problems and not burden the next generations with them. It must also make provision for foreseeable future problems.”* There are also sustainability rules for specific areas of action.

There are key indicators for 21 areas, linked to 38 (mostly quantified) targets. They show what actions are needed, and they are important for monitoring.

Regular implementation reports are produced as are part of a continuous monitoring process. Every two years, the German Federal Statistical Office publishes a status report on the sustainability indicators. It draws up its analysis independently and is responsible for the content of the report.

Every four years, the German government reports on the strategy itself. This includes a progress report, which analyses the status of the strategy's implementation, presents measures for the achievement of defined targets, and develops the strategy further. The public are fully involved in this process from an early stage.

In order to ensure that the strategy is reflected in the legislative process, a sustainability check was introduced. In 2009, the German government included sustainability in its Joint Rules of Procedure as a mandatory check when assessing the impact of laws and statutory instruments proposed by the German government. In other words, whenever the German government makes such a proposal, it must provide information about the potential impact on sustainable development.



GERMANY RANKS AMONG THE DENSELY WOODED COUNTRIES IN EUROPE - ONE THIRD OF THE NATIONAL TERRITORY (CA. 11 MILLION HECTARES) IS COVERED WITH FORESTS.

## Current challenges

### Sustainable economic management

More than ever before, economies are facing the challenge of global megatrends. They include urbanisation, growing demand for raw materials and energy, changing consumption patterns and lifestyles, climate change, and demographic change.

The transition to low-carbon, resource-efficient production patterns will require considerable investment. At the same time, it can open up economic opportunities and create jobs. Using raw and other materials efficiently is absolutely crucial if enterprises are to remain competitive and strong in the long term and if raw materials are to remain available in the long term.

For businesses, sustainable economic management means adapting to the challenges of our time, seizing economic opportunities and living up to their responsibility for the future. It is becoming more and more clear that sustainability,

interpreted correctly, can give companies a major competitive edge.

Sustainable economic management can be achieved through the right legal framework, through farsighted business decision-making and through enlightened consumer choices. One aspect of special importance is that a growing number of people are not only basing their consumer decisions on price, brand and quality but also on environmentally and socially responsible production and processing of the products they buy. In this way, they are supporting sound production patterns – not only at home but also worldwide.

The German government will continue to do its part, both within Germany and internationally, to strengthen sustainable economic management. This includes supporting and promoting the concept of Corporate Social Responsibility (CSR). CSR combines responsible business activities with the voluntary shouldering of social responsibility beyond what is required by law. ►

## Climate protection and the transformation of the energy system

Securing a reliable, affordable and environmentally sound energy supply is one of the greatest challenges of the 21st century. It is clear that the most serious consequences of climate change can only be prevented if the Earth's average surface temperature does not rise by more than two degrees Celsius compared to pre-industrial times. Under the Kyoto Protocol, Germany committed to reducing its average greenhouse gas emissions in the years 2008 to 2012 by 21% compared to 1990. By 2011, emissions in Germany had already fallen by 26.5% against the reference year.

In 2007/2008, the EU committed itself to the 20-20-20 initiative, which aims to reduce greenhouse gas emissions by 20%, and possibly even 30%, by 2020 while increasing the share of renewable energy sources in energy consumption to 20% and raising energy efficiency by 20%. At a national level, the German government is taking it further:

In its Energy Concept and the subsequent decisions and package of measures on the transformation of the energy supply, the German government set course for the age of renewable energies. The government has itself set the target of reducing Germany's greenhouse gas emissions by 40% by 2020, 55% by 2030, 70% by 2040 and 80 – 95% by 2050, compared to 1990 levels.

There are two pillars to the transformation of the energy system: accelerating the expansion of renewable energies and substantially increasing energy efficiency.

Germany already obtains around 20% of its electricity from renewable energies. One of the main reasons for the success of our renewables expansion are the legal framework conditions such as the feed-in tariff under the Renewable Energy Sources Act (EEG). The investment security that these conditions provide has generated dynamic growth in



BMU/Christoph Busse/transit

PRODUCTION OF SOLAR PANELS - GERMANY SET COURSE FOR THE AGE OF RENEWABLE ENERGIES



BMU / Konrad Hölzl

OFFSHORE WINDFARM ALPHA VENTUS IN THE NORTH SEA

“Germany already obtains around 20% of its electricity from renewable energies”

Energy efficiency has a key role in raising the share of renewables and achieving the targets laid down in the Energy Concept in an economically viable way.

In Germany, there is still considerable potential for saving energy and electricity, and we want to take greater advantage of this within our economic and technical capabilities. In this context, the German government's approach is to promote personal responsibility among the business community and the public rather than introduce more bureaucracy.

The ongoing expansion of renewable energies calls for continual improvements to the interaction between renewable and conventional energies. Grid infrastructure plays a key role here. In Germany, electricity generation is relatively near to the centres of consump-



## Germany data

CAPITAL AND LARGEST CITY	Berlin
OFFICIAL LANGUAGE	German
GOVERNMENT	Federal Parliamentary Republic President: Christian Wulff Prime Minister: Angela Merkel
FORMATION FEDERAL REPUBLIC	May 23, 1949
AREA	- Total: 357,021 km <sup>2</sup> - Water: 2.416 %
POPULATION	Estimate (2010): 81,757,600 inh Density: 229/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2010 (USD)	Total: \$ 2.932 trillion Per capita: \$ 40,511
SOCIAL INDICATORS	Gini (2006): 27 (low) HDI (2010): 0.885 (very high) Life expectancy: 79.4 years Infant Mortality: 4.08/1000 birth Literacy: 99.0 %
CURRENCY	EURO (EUR)
ISO CODE	DE
INTERNET CODE	.de
PHONE CODE	+49
WEBSITE	-----

tion. In future far, more power will be generated offshore or in the coastal regions, and many decentralised installations, such as photovoltaic and biomass plants will also feed electricity into the grid. A modern, efficient grid is therefore vital for securing an electricity supply with a continually growing renewables' share.

The German government aims to make Germany one of the most advanced and energy-efficient economies in the world, while maintaining competitive energy prices, security of supply and a high level of prosperity.

On the road to a sustainable future, it is important to be open and to draw lessons from new circumstances. The German government has decided to gradually phase-out the use of nuclear power by 2022.

## Goals and development paths of German energy policy

Developing renewable energies into a key pillar of energy supply:

Raising the renewables' share in gross final energy consumption from around 10% in 2010 to 60% in 2050; we aim for a renewables' share of at least 80% in gross electricity consumption by 2050 at the latest (note: target updated in the EEG 2012)

### Long-term reduction of energy consumption:

Primary energy consumption to fall by 50% compared to 2008. This means raising energy productivity by an average of 2.1% per year in relation to final energy consumption.

Electricity consumption to fall by 25% by 2050 compared to 2008, with a fall of 10% being achieved as early as 2020.

The modernisation rate of buildings is to be doubled from the current 1% per year to 2% of the total building stock.

In the transport sector, final energy consumption to decline by around 40% by 2050 compared to 2005.

### Sustainability as a driving force for progress

At regional, national and global level, sustainability can help ensure quality of life while at the same time preserving our common natural heritage for the long-term. In this way, sustainable development can become a driving force for social and political progress.

With the Nexus Conference in Bonn in 2011, the German government also gave important international momentum to improving the links between global future issues of water, energy and food supply security. ■



"We need inclusive economic development in order to lift people out of poverty in the countries with which we cooperate. And, we need a sustainable economy – one which is ecologically sound, socially responsible, and politically and economically viable. Our long-standing experience on renewable energy, recycling and organic farming can help support our partners in their own efforts. More and more frequently, we work together with the private sector on such endeavours. It is vital to build a future for the international community which guarantees quality of life for our own and future generations everywhere in the world."

**DIRK NIEBEL**  
Federal Minister for Economic Cooperation  
and Development



# Rio+20: an anniversary to think in our common future

From its very early days, Portugal has backed Brazil's initiative in hosting the United Nations Conference on Sustainable Development in 2012, twenty years after the Earth Summit. Since 1992, progress has been made in the international, national and local levels in the implementation of commitments made with the shared awareness that, more than ever, it is our common future that is at stake.

Despite all the progress made, we know that there is still a long way to go and that there is no time to waste.



PEDRO PASSOS COELHO, PRIME MINISTER OF PORTUGAL

before us. In this context, Portugal along with the European Union supports the transformation of the United Nations Environment Programme (UNEP) into a UN specialised agency, equipped with the necessary means to become an eloquent and credible voice that is instrumental in strengthening international administration of the environment.

The discussion about our challenges, however, cannot merely boil down to a compilation of risks and threats. It also means that we should know how to face and take advantage of the opportunities presented to us by sustainable development and the green economy in the creation of jobs, our battle against poverty and the promotion of prosperity for our societies. This will require all human capacity, without any gender bias, providing innovation and creating new solutions that foment growth, optimizing the important role that companies can have, based on an effective social dialogue, that translate a strategic vision of social responsibility, implemented in excellence practices, based on the economic, environmental and social pillars.

We believe that this is the message that shall come out of Rio, obviously, this expected transition does not belong exclusively to one country or group of countries, but it is in fact a collective effort involving all. Not only States and International organisations, but also companies, universities, research centres, non-government organisations and other civil society sectors, through the exchange of best practices and experiences, sharing technological knowledge and setting up mutual benefit partnerships.

As Brazil once again gathers the international community in Rio, demonstrat-

Climate changes, desertification, loss of biodiversity are not abstract concepts or secrets only revealed to experts. In actuality they are, in the globalised and interdependent world we live in, concrete realities, clearly understood by our citizens, who question us about the changes that affect the environment and also warn us of the economic, social and safety consequences therein.

We therefore believe that Rio+20, under the leadership of President Dilma Rousseff and the UN Secretary General, Ban Ki-moon, shall render a renewed thrust to our common agenda, we wish, as do our fellow European Union (EU) partners, that the Conference results in a pragmatic political document, geared towards action, in the perspective of a world transitioning into a "green economy" integrated in a broad strategy for sustainable development.

Likewise, it is also our expectation, given the importance that we place on the "blue economy", that a special light is shone on the sustainable exploitation of marine resources as part of a modern vision of our oceans, not only as a source of wealth and our planet's "life support", but also as the means to promote the well-being of population.

This perspective is reflected in the EU Maritime Strategy for the Atlantic Ocean area, released last November in Lisbon. In addition, the objective that unites Portugal and Brazil, striving to enhance knowledge on the marine environment, its living and non-living resources of the seabed, identifying potentials and watching over its sustainability.

It is also our hope that the Conference may generate a more coherent international architecture for the environment, rendering it more fitting and capable of efficiently responding to the challenges

# Among so many big and expressive figures related to sustainability, one in particular has caught our attention. **Braselco 15 years.**

estadunet

Time passed by blowing like the wind and Braselco continues to develop specific solutions for its project, focused on the distribution of clean energy for the entire society.

For the next 15 years we want more solar power, more wind power and the reinforcement of new sources, so that every day can start renewed, just like our energies.

**No figure is as important as transforming the future.**

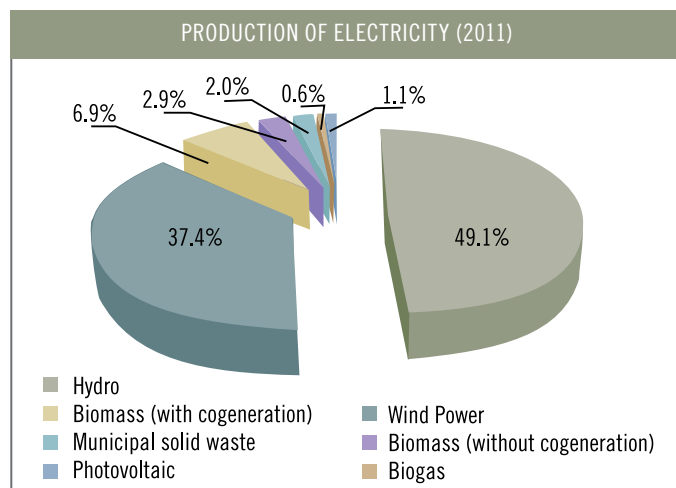
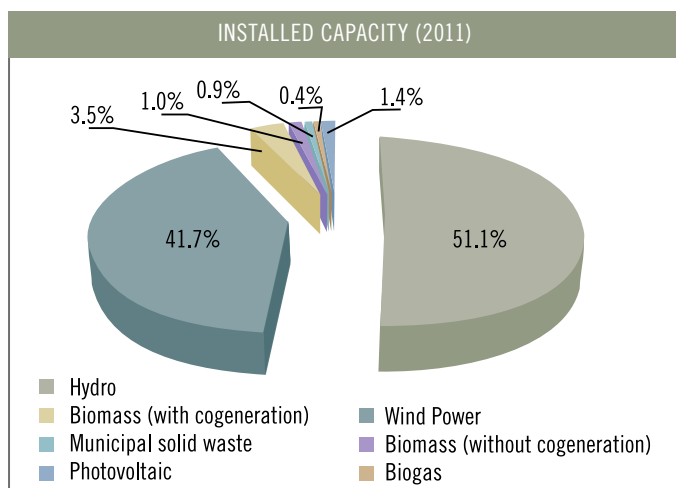


Consulting services, technical advice and development of engineering projects for large undertakings in the renewable energy sector.

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DATA FOR CONTINENTAL PORTUGAL

Source: Ministry of Economy and Employment - Directorate-General of Energy and Geology

ing the key role the nation plays as a global power, as well as a major player for world scale sustainable development, not only stemming from the extension of its territory, but also its unparalleled cultural and biological wealth.

Portugal also takes an active role in this process, well founded on very strong political will, state of the art scientific and technological capacity and solid international cooperation bonds, firmly based on a set of public policy instruments.

In this sense, and in alignment with our commitments within the European Union framework, we have developed a large realm of Strategies, Plans and Programmes, at national, sectoral and topic levels, aiming at regulating, but also stimulating changes towards new sustainable production and consumption standards.

In the energy and climate change domain it is worth highlighting that we have dissociated economic growth from the increased emissions of greenhouse effect gases (GHG), since 2005, more precisely, which shall then allow us to set up the required conditions for achieving the goals defined by the Kyoto Protocol.

Furthermore, we have made unprecedented progress towards decarbonisation, including the introduction of renewable sources (namely wind and solar) and natural gas.

Portugal's highly ambitious energy and climate policies are well known and es-

tablished. In recent years, about 50% of the electricity consumed came from renewable energy sources.

An ever-growing number of companies is operating in Portugal in renewable "clusters", waste management and the water sector, thus creating new jobs and developing technologies of international repute. Moreover, wide range of Portuguese companies is amongst the most advanced in terms of eco-efficiency and eco-innovation, occupying the top spots at DOW JONES sustainability index.

Rio+20 shall provide Brazil and Portugal an excellent opportunity to show up our Strategic Partnership, emphasising synergies in the support to sustainable development, not only at the political-diplomatic level, but also at the economic, business, scientific and academic levels.

This shall also be a unique opportunity for highlighting the role of the Community of Portuguese Language Countries (CPLP), providing information on cooperation agreements between member states.

The challenge is launched! See you soon, Rio de Janeiro.

## Promotion of Renewable Energy Sources

A variety of measures were taken in the effort to decarbonize the Portuguese

"Portugal supports the transformation of the United Nations Environment Programme into a UN specialised agency, equipped with the necessary means to become an eloquent and credible voice that is instrumental in strengthening international administration of the environment."

PEDRO PASSOS COELHO  
PRIME MINISTER OF PORTUGAL

economy - such as phasing out fossil fuels and introducing renewable energy sources, applying environment criteria on the taxation policies for automobiles, a greener procurement policy, as well as the introduction of biofuels for transportation -, that contributed to limit out emissions and for a successful outcome of our battle against climate change.

Late 2011, Portugal reached a RES installed capacity for electric power generation of 10323 MW. In 2011, electric power generated from renewable energy sources (RES) was 45.3%. Hydro energy had a heavy contribution to this outcome, generating 11827 GWh, wind energy contributed with 9003 GWh.

## Portugal data

CAPITAL AND LARGEST METROPOLITAN AREA	Lisbon
OFFICIAL LANGUAGE	Portuguese
GOVERNMENT	Parliamentary Republic President – Anibal Cavaco Silva
INDEPENDENCE	1143
AREA	- Total: 92,090 KM <sup>2</sup> - Water: 0.5%
POPULATION	Estimate 2011: 10,647,763 inh Census 2001: 10,355,824 inh Density: 115.3 inh/km <sup>2</sup>
GDP (NOMINAL) / ESTIMATE 2011 (EUROS)	Total: 171,112 million Per capita: 16.201 €
SOCIAL INDICATORS	Gini (2009): 33.7 (medium) HDI (2010): 0.795 (very high) Life expectancy: 79.2 years Infant Mortality: 2.53 /1000 birth Literacy: 94.9 %
CURRENCY	EURO (EUR)
ISO CODE	PT
INTERNET CODE	.pt
PHONE CODE	+ 351
WEBSITE	www.portugal.gov.pt

“Portugal is committed to the promotion of innovative ways of sustainable use of seas and oceans resources, contributing to the economy development of the sea and maritime industries, focusing on Science and technologies of the sea, creating employment, promoting teaching, education and knowledge associated with the sea.”

**PEDRO PASSOS COELHO**  
Prime Minister of Portugal



AMARELEJA SOLAR PHOTOVOLTAIC PLANT (MOURA, ALENTEJO)

## Innovative Projects

Portugal has developed a number of innovative projects in the area of Energy Efficiency, namely:

**ENERGY PERFORMANCE CERTIFICATION OF BUILDINGS:** The European Directive on Energy Performance of Buildings resulted in Portugal creating a legislative package that in turn created the National Energy Certification and Indoor Air Quality System, SCE. Under the SCE, until late 2011, 447516 energy certificates were issued.

**ENERGY EFFICIENCY IN PUBLIC ADMINISTRATION:** A new Energy Efficiency Programme for the Administration was launched early in 2011. The ECO.AP (Public Administration Energy Efficiency Programme) promotes energy efficiency in public administration, aiming at reducing the Government power bill in 30% until 2020, consequently lowering CO<sub>2</sub> emissions.

**INOVACITY:** Selected as a unique case study for smart grids by the European Commission, Évora, a World Heritage Site, was transformed into “InovCity”, it became the first Portuguese city to receive the smart power grid and to be one of

the first Smart Cities of the Iberian Peninsula.

The smart power grid makes Portugal a more efficient and sustainable country, by means of the optimisation of power systems, reduction of CO<sub>2</sub> emissions and lower use of fossil resources, becoming a more attractive country in terms of investments, because it strengthens industrial projects and competency centres that create jobs.

## Oceans and Sea Economy

Portugal is committed to the promotion of innovative ways of sustainable use of seas and oceans resources, contributing to the economy development of the sea and maritime industries, focusing on Science and technologies of the sea, creating employment, promoting teaching, education and knowledge associated with the sea.

A group of the Technical Superior Institute (IST), of Technical University of Lisbon, is dedicated, since 1977, to the wave energy research, in 1983, joined another group of National Institute of Engineering, Technology and Innovation (INETI). Moreover, it was created in 2003, the Wave Energy Centre, which ►



represents a non-profit international association directed to the development and promotion of the use of wave energy through strategic and technical support to the companies.

It should be noted that the first central of the world on wave energy connected to the grid, was the European pilot plant of Pico Island, in the Azores archipelago, opened in 1999, with an installed power of 400 kW.

In the field of research and knowledge of marine biological diversity, stands out the M@rbis (Marine Biodiversity Information System), one of the two programs of the National Strategy for the Sea/ENAM (in partnership with the Marine Spatial Plan/POEM). The expedition M@rbis, in general terms, it is an action of the ENAM with main purpose to collect georeferenced information and of high quality on the presence of species and habitats in Portuguese waters. The information collected is deposited in a powerful computer tool, also called M@rbis, and these data will be used to answer questions related to the monitoring of Continental Shelf delimitation of Portugal and the monitoring of Natura 2000.

In terms of conservation of marine biodiversity, Portugal created eight marine protected areas under the OSPAR<sup>1</sup> Commission, covering 5700 Km<sup>2</sup> of seabed extension, as part of the establishment of a National Grid of Marine Protected Areas efficient, sustainable and promoting well-being of coastal populations and health of marine ecosystems.

## Water Management

The water sector has a major role to play. Water is of strategic and structural importance, indispensable to human life, it is therefore fundamental to promote the efficient use of water. Portugal is aware of this challenge and, throughout the past years, has promoted reforms in this sector, always keeping sustainability and efficiency in mind, two concepts that should always be reflected in

the national water management model.

In the water management context, important planning instruments were developed more recently, namely the National Water Plan and River Basin Management Plans. Besides that, The National Programme for the Efficient Use of Water and the Water Supply and Waste Water Treatment Strategic Plan (WSWWTSP) are also important instruments for the authorities. The latter is a strategic document of crucial relevance so Portugal can reach advanced goals in the field of water supply and sanitation, establishing ambitious objectives such as universality, continuity and quality of services, sustainability of the sector and protection of environmental values.

## Biological Diversity

Biodiversity is also explicitly linked to the efficient use of resources, as it is the fulcrum of many of our ecosystems being vital for its resilience. The restoration of degraded ecosystems is very costly and in some cases, it may even be rendered impossible, so the conservation and management of natural resources help increase productivity and competitiveness, decouple economic growth from the symmetric use of resources, and promotes safety and stability on the offer side.

In this context and being fully aware of these interdependencies, Portugal have developed a number of planning instruments; an outstanding document is the National Strategy for the Conservation of Nature and Biodiversity, being the strategic document in this matter, acting as the axis for the conservation of nature and the biological diversity in Portugal.

## Gender equality within the framework of social responsibility: a question of sustainability

Ensure sustainable development is able to combine the needs of the present, with-

**“It is well established that there is a positive relationship between gender equality at work and in employment and socio-economic development which is why gender equality is one of the Millennium development goals, asserting itself as one of the pillars of social responsibility”**

**PEDRO PASSOS COELHO**  
Prime Minister of Portugal

out prejudice to the possibility of future generations to meet their needs.

It is well established that there is a positive relationship between gender equality at work and in employment and socio-economic development, which is why gender equality is one of the Millennium development goals, asserting itself as one of the pillars of social responsibility.

The promotion of gender equality has the potentiality to create opportunities for greater sustainability, both production and consumption, because this will lead to a greater balance between the genders in access to decision-making positions, which may strengthen the ability to deal with subjects as serious as climate change threats or CO<sub>2</sub> emissions.

The Commission for Equality in Work and Employment (CITE) – Portuguese mechanism for equality – in its relationship with the business community, has been developing initiatives leading to the adoption of management policies that contribute to the reduction of inequalities between men and women at work and in employment and the promotion of reconciliation work/family, bringing also positive effects on productivity and competitiveness.

Therefore, it is undeniable that the promotion of gender equality is part of the sustainable development agenda. ■

1. <http://www.ospar.org/>



# URBANISM URBAN RENEWAL URBAN REGENERATION PLANNING



# LISBON



**EPUL** was created in 1971, with the main goal to assist the Lisbon Municipality to revert the anarchic growth of construction that prevailed since the 60's. It's area of expertise includes urban design, architecture and engineering, successfully refined throughout it's 40 years of accumulated experience.

## MISSION

EPUL is a privileged tool available to the Municipality for the implementation of public policies and strategies, for the regeneration and revitalization of the city, through an integrated and improved urban conception and design in line with environmental concerns, social responsibility and excellence in corporate governance.

## VISION

EPUL wishes to become a reference on the development and implementation of urban regeneration policies, developing integrated, pragmatic and efficient solutions according to the best international practices and in line with the company sustainability requirements and the Municipality guidelines.

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# EPUL

EMPRESA PÚBLICA DE URBANIZAÇÃO DE LISBOA



# “HOW DOES SPAIN CONTRIBUTE TO SUSTAINABLE DEVELOPMENT?”



DR. MIGUEL ARIAS CAÑETE – MINISTER OF AGRICULTURE, FOOD AND ENVIRONMENTAL AFFAIRS

“From the Ministry I lead, we have launched an environmental and sustainable development policy - for which we are doing an effort of rationality, efficiency and transparency - with a fundamental milestone on water policy that is based on two major fronts”

## Economy and Environment

The Government of Spain is absolutely conscious of the strong relationship between natural capital, ecosystems' state and welfare of modern societies. We consider that it is essential to pledge to a true sustainable development in which social, environmental and economic variables stick together as inseparable and mutually dependent elements. The current economic context may be an opportunity to boost the necessary change to a sustainable economy that serves to all the society and recognizes the limits of our ecosystems. A stronger economy, with capacity to face up to big threats and problems, such as climate change or growth of population. An economy with resources to create employment and to invest in innovation.

Our society has the apparent dilemma of scarifying the actual growth to achieve a sustainable growth in the future, in a diverse, competitive and highly technified environment. It is a society that understands the need and the advantages of this progress, but also the risks of limiting the economic development. However, these two goals are not incompatible, although a good deal of imagination and audacity may be required in order to coordinate them.

This way, the preservation of the environment may, and has to, be considered as an ally of the progress and not as an obstacle for the economic development and the creation of employment. With a right management, we would contribute to the effort that Spain is making to resolve the economic crisis with the environment, and not at its expense, always bearing in mind that sustainability is linked to economic, social and environmental variables.

Spain holds the Presidency of UNEP Governing Council, and in June it will attend the conference of the United Nations about Sustainable Development, Rio+20, with a representation of high level, headed by the President of the Government. This conference represents a unique opportunity to reinforce the international action coordinated with a fundamental aspect: the sustainable development.

## Water, one of the biggest challenges for the future of the Planet

In this conference, the EU will present the access to water - universal, sustainable and equitable - as one of the five fundamental goals for year 2030. Water is essential for life. It knows neither regions nor borders and is spread throughout the world unequally. Lack of access to water is a main source of poverty, social conflict and biodiversity loss. It is an important vital resource for the world, for this reason it is included in the Millennium Development Goals; and, naturally, also for Spain, because of its irregular rainfall, characteristic of the Mediterranean weather (cyclic droughts), and agrarian features.

From the Ministry I lead, we have launched an environmental and sustainable development policy - for which we are doing an effort of rationality, efficiency and transparency - with a fundamental milestone on water policy that is based on two major fronts:

The first, the international one, consists on developing actions in three axes. Firstly, access to water and sanitation as an essential human right, in-



WEATHER STATION OF CORDIÑANES, PICOS DE EUROPA NATIONAL PARK

cluded in Millennium Development Goals. Secondly, the strong relationship between water and alimentary security, which gives great importance to irrigation and new infrastructures. And, finally, the search of sustainable development, which is very relevant for our country.

In the second major front of action, the internal one, the strategic points of Government's policy regarding water respond to the fundamental goal of having water in both quality and quantity throughout the national territory, taking into account the cycle of water and contributing to the maintenance of ecosystems. To achieve these goals, clear legislation and elimination of administrative obstacles are fundamental in order to provide economic operators, especially companies, with legal security.

In this respect, water policies should coordinate with agrarian and energy ones, and reconcile with natural water cycles, taking into account technology innovation, improvement of water infrastructures and use of alternative sources and clean energies. Because, as Octavio Paz said "El agua habla sin cesar y nunca se repite" ("Water constantly speaks and it never repeats anything").

## Renewed strategy in the fight against Climate Change

The European Union has shown clear leadership in the fight against climate change in the last few years despite their emissions, which hardly represent the 13% of the global total. It has made a great effort, to which Spain has joined. Compromises assumed under the Kyoto Protocol, and for 2020 under the Energy and Climate Change package and Future Second Period of Kyoto Protocol, oblige us to continue working seriously on these aspects.

A clear and serious response against climate change will require global reductions of GHG emissions of at least 50% in the middle of this century, regarding 1990. To that end, the "EU Road map for moving to a competitive low carbon economy in 2050", presented in March 2011 by the Commission, proves that productivity growth is the correct way to achieve improvements in competitiveness and that it is necessary to identify sectors in which every country has competitive advantages. The shift towards a low carbon economy may produce in-



FISHING SEAFOOD ON FOOT

"The European Union has shown clear leadership in the fight against climate change in the last few years despite their emissions, which hardly represent the 13% of the global total"

**DR. MIGUEL ARIAS CAÑETE**  
Minister of Agriculture, Food  
and Environmental Affairs

vestments, opportunities and employment.

According to these principles, the Ministry of Agriculture, Food and Environmental Affairs, in conjunction with other related departments, is developing a set of initiatives appropriate for the present economic situation that will allow the reduction of our greenhouse gas emission. These initiatives will have to be analyzed taking into account their environmental benefit, their marginal cost and their capacity to create employment and business-related activities, in order to give priority to the most effective initiatives with the available resources.

A milestone of emissions reduction policy will still be the scheme for green-►





## Spain data

CAPITAL AND LARGEST CITY	Madrid
OFFICIAL LANGUAGE	Spanish
GOVERNMENT	Unitary Parliamentary Constitutional Monarchy King: Juan Carlos I Prime Minister: Mariano Rajoy
FORMATION OF THE SPANISH STATE	15 <sup>th</sup> Century
AREA	- Total: 504,030 km <sup>2</sup> - Water: 1.04 %
POPULATION	Estimate (2010): 46,030,109 inh Density: 93/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 1.413 trillion Per capita: \$ 30,625
SOCIAL INDICATORS	Gini (2005): 32 (medium) HDI (2011): 0.878 (very high) Life expectancy: 80.9 years Infant Mortality: 4.2/1000 birth Literacy: 99.0 %
CURRENCY	EURO (EUR)
ISO CODE	ES
INTERNET CODE	.es
PHONE CODE	+34
WEBSITE	www.la-moncloa.es

house gas emissions allowance trading of the EU, which allows the establishment of a price for CO<sub>2</sub> emissions and the use of the market to achieve lower emission reduction costs. Unfortunately, the fall in production has reduced the demand for these rights and, with it, the price signal needed to produce a technological change towards a low carbon economy. This situation should be corrected if we want that the European scheme for greenhouse gas emission allowance trading remains an efficient tool against climate change.

Likewise, the role of forests as carbon drain by creating forest masses, and the silviculture impulse and an efficient forest management have been boosted,

which will allow a rational exploitation of the forest biomass as energy resource.

Finally, adaptation measures to climate change will be increasingly relevant. We are aware of the special vulnerability of our country facing climate change effects. We also know that prompt reaction and adoption of preventive measures can offer new development, innovation and business opportunities from which we have to make the most. Furthermore, we aim to keep on developing the National Plan on Climate Change Adaptation.

## Biodiversity, ecosystems and coast protection

In a country like Spain, which enjoys a long coast with an important variety of ecosystems, it is important to achieve an integrated coastal management. These goods, whose ownership is public and guaranteed by the constitution, are presented as the ideal space to business activities that produce profits and employment. It is the case of tourism, which generates in the coast almost the 70% of its activity, and other sectors such as industry, agriculture, ranching and aquaculture. For this reason, the reform of the law about the protection of the maritime-terrestrial public domain, which was adopted 23 years ago, is now being studied. It is based on two main objectives: improving the legal security of the owners of coastal rights and combining the protection of this valuable natural space with business activities consistent with this preservation.

It is also relevant to remember the importance of preserving valuable species and habitats. This aspect has a special interest in Spain, since it is the European country with the highest rate of biodiversity integrated into three biogeographic regions (Atlantic, Mediterranean and Macaronesian). For their preservation, the 11.91% of the country surface has been declared protected natural area. This fact implies a lineal and important increase between 1985 and 2010, from 668,343ha to 6,288,474.5ha. In ad-

dition, the 27.2% of Spanish territory belongs to Natura 2000 network, a European ecological network for biodiversity preservation. We are going to work in this way so that this value becomes a wealth source. For this reason, we will work to achieve that tourism focused on nature becomes a basic business activity in this country.

## Contribution to the employment related to environment in Spain

The relationship between economy and environment generates a set of specific activities that produce, directly or indirectly, employment. In Spain, the number of jobs related to the environment has been doubled in the last ten years. Employment in this sector represents the 2.62% of active population and an important increase is foreseen at both national and European level.

We are working on specific programs to generate employment such as *Programa empleaverde*, which aims to be a bridge between environmental and employment policies. So, environment and sustainability become a base to achieve better jobs and more competitive companies.

Likewise, *Red emprendeverde*, created by Fundación Biodiversidad, helps to create or consolidate business projects that maintain a mutually beneficial relationship with the value of the ecological areas where they develop their activities, give an added value to the sustainable use of natural resources or produce new technologies to reduce the pollution of other activities. An ecologically healthy territory offers more possibilities to achieve a return on its natural patrimony as a wealth source.

Finally, all legal efforts should go together with a social effort to achieve a change towards more sustainable economic models. And to achieve it, it is necessary to increase and improve the processes of transparency, dialog and participation with citizenship. ■



MR. ELIO DI RUPO, PRIME MINISTER OF BELGIUM

# Making Sustainable Development Happen

SUSTAINABLE DEVELOPMENT IS RECOGNIZED BY THE BELGIAN CONSTITUTION AS A GENERAL POLITICAL OBJECTIVE OF THE BELGIAN FEDERAL STATE, ITS COMMUNITIES AND ITS REGIONS. THE CHALLENGE LIES IN THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT POLICIES. AT THE FEDERAL LEVEL, A STRONG INSTITUTIONAL FRAMEWORK EXISTS TO GUIDE POLICYMAKERS IN THEIR DAY-TO-DAY POLICIES. STAKEHOLDER INVOLVEMENT IS ORGANIZED THROUGH THE FEDERAL COUNCIL FOR SUSTAINABLE DEVELOPMENT. ON THE OTHER HAND, CONCRETE POLICY ACTION IS REQUIRED. THROUGH VARIOUS POLICY INITIATIVES, THE BELGIAN REGIONS CONTRIBUTE TO GREENING THE ECONOMY. TWO OF THEM ARE ILLUSTRATED.

## Lessons learned of 15 years Belgian institutional framework for sustainable development

MR. ELIO DI RUPO, Prime Minister

The sustainable development act of 1997, revised in 2010, provides the legal and institutional basis for a federal sustainable development strategy. It frames the continuous learning process of planning, implementing, monitoring and evaluating sustainable development policy at the federal government level.

Via this strategy Rio-principles are integrated and mainstreamed into day-to-day policy. So far, two consecutive federal plans for sustainable development have been adopted, with a third being prepared. These plans sit at the apex of the various sectoral economic, social and environmental policies which apply at federal level, with a view to obtaining an overall coherence in scope and direction. They outline a programme of measures the federal government has to implement in view of inter alia its inter-

national and European engagements relating to sustainable development. This approach has allowed to undertake coherent action in a wide variety of issues.

Effective and efficient implementation of sustainable development is supported by an appropriate institutional framework. The sustainable development act established an Interdepartmental Commission (ICSD) responsible for ensuring an interlinked, horizontally as well as vertically integrated, coherent and transparent approach to sustainable development policy making. Multi-stakeholder dialogue and participation is ensured by the creation of the federal council for sustainable development (FRDO-CFDD). Policy evaluation, long term foresight and work on sustainable development indicators is ensured by the reports published regularly by a specific unit within the Federal Planning Bureau (FPB), the task force on sustainable development. A specific Federal Public Planning Service (PPS) Sustainable Development coordinates the preparation and implementation of the sustainable development policies.

A transition to a sustainable society

is based on a gradual and continuous process of structural changes. Looking back at the past years of sustainable development policy, the Belgian federal sustainable development strategy has contributed to efforts in bringing together different policy areas and design crosscutting policy actions.

In addition, the continuous learning cycle approach, which has delivered 6 comprehensive federal reports on sustainable development concerning the implementation of Rio commitments all along the last 20 years, has allowed for a decision-making process based on scientific cross-cutting analysis and lessons-learned.

Sustainable development being endowed with a clear institutional home – rather than being dealt with as a subsection of a sectoral administration – has also helped the public sector in leading by example through applying *ex ante* sustainable impact assessments and with government departments putting sustainable development into practice in their day-to-day activities (procurement, catering, events...).

## The Belgian Federal Council for Sustainable Development, an added value

The Belgian Federal Council for sustainable development (FRDO-CFDD) has a particular role to play within Belgian Federal Sustainable Development governance. It was thought to be useful to ►



add a participatory dimension to the representative democracy through an advisory council for sustainable development. This was done on the one hand in order to better involve various societal groups (stakeholders) in policymaking and on the other hand to encourage a more global and transversal vision on development.

The FRDO-CFDD is an instrument for policymakers helping them to analyze complex societal problems and work out an integrated approach while at the same time providing a contribution from civil society. Sustainable development is not only a task for governments. A commitment from citizens, their organizations, producers and consumers is needed to achieve results.

The FRDO-CFDD plays a role in this respect by confronting the policy options of today with the societal choices of tomorrow. The council does not act as a judge, critic or teacher but as a facilitator. This is not an easy task but a continuous learning process within the council for its members: they have to understand each other, to develop a common vision and to attune their various points of view constructively with one another.

The FRDO-CFDD distinguishes itself from other advisory or consultation bodies by its wide composition and ran-

ge. A large number of societal groups meet and discuss various topics related to sustainable development. The council aims at delivering an opinion that is pertinent, relevant and consensual. Whenever this happens, the council provides a valuable contribution by integrating various viewpoints and pinpointing where the common societal interest lies for current and future policy. This approach has been developed over the years, together with the members' growing understanding for each other's points of view and operational methods. In this respect, the scientific world played a major role. The chairpersons of the working groups, usually academics, have contributed a great deal to the development of consistent and consensual points of view. Politicians and civil servants gradually learned to value the opinions given by the council and increasingly included them in their policies. This is hardly surprising: if an opinion has been agreed to by all participating parties, which is true in two-thirds of the cases, the viewpoints and recommendations put forward are shared by a great number of stakeholders. In this way, politicians can be sure that their policies are acceptable to civil society with the result that the choices made by society today take into account the interests of future generations.

## Belgium data

CAPITAL	Brussels
LARGEST METROPOLITAN AREA	Brussels region
OFFICIAL LANGUAGES	Dutch; French; German
GOVERNMENT	Federal parliamentary constitutional monarchy King: Albert II Prime Minister: Elio Di Rupo
INDEPENDENCE	Declared: October 4, 1830
MEMBER EU:	March 25, 1957 (Founding Member)
AREA	- Total: 30,528 km <sup>2</sup> - Water: 6,4%
POPULATION	Estimate 2011: 11,007,020 inh Census 2001: 10,296,350 inh Density: 354.7/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 405,470 billion Per capita: \$36,834
SOCIAL INDICATORS	Gini (2005): 28 — low HDI (2011): 0.886 — very high Life expectancy: 79.4 years Infant Mortality: 4.2/1000 Literacy: 99.0%
CURRENCY	Euro (EUR)
ISO CODE	BEL
INTERNET CODE	.be
PHONE CODE	+32
WEBSITE	www.belgium.be

## Green Job Pacts in Wallonia and Brussels

MR. RUDY DEMOTTE, Minister President of the Walloon Government and  
MRS. EVELYNE HUYTBROECK, Minister for Environment, Energy and Urban  
Renewal of the Brussels Capital Region

The Regional Governments of Wallonia and Brussels Capital launched their Green Job Pact to tackle the economic-financial, social and environmental crises. As a major contribution to the transition towards a green economy in the context of sustainable development, the Green Job Pact aims to create social-economic opportunities for all, while investing in environmental protection, restoration and enhancement of natural capital and efficient use of resources and energy. The Green Job Pact empowers

the local economy to make it more inclusive, creates decent and green jobs, and provides appropriate responses to critical social needs by improving working and living conditions while reducing both environment footprints and carbon of our economy.

Any initiative launched under the Green Job Pact obeys to five fundamental principles, which are largely inspired by the Rio Principles: Resource Efficiency, Prudential Use (combining prevention and precaution), Resilience (of our economy and our ecosystems), Sufficiency (priority to the satisfaction of human basic essential needs) and

Participatory process. Another baseline of the Pact is the use, as much as possible, of local natural resources and the principle of short chains. Developing such a policy reduces the global environmental impact of the economy by creating economic opportunities at local and sub-regional level.

The Green Job Pact offers new governance dynamic in the sense that it is designed to coordinate the public, private and voluntary contributors around concerted actions. The project is innovative because it does not solely consist of the standard consultation and participation but also involves the stakeholders joi-



ning forces to arrive at a collective and individual commitment to work together with a view to achieving shared goals, i.e. the development of green sectors and the creation of high-quality jobs.

In the Walloon Region, the Green Job Pact is part of a larger sub-national plan, the “Green Marshall Plan”, an investment plan focusing on creation of sustainable employment and energy efficiency. As the New Deal did eighty years ago, this sort of green new deal takes the basic needs of the population as a starting point. The first application of the Green Job Pact is currently developed in the sector of sustainable building assuming that people need better houses, lower energy bills and decent jobs!

“12,400 green jobs  
(2005) and 30,000  
hours of training  
in Brussels in  
the context of the  
green jobs pact”

In the Brussels Capital Region is the Green Job Pact part of the Urban Growth Pact. The Brussels Capital Region wants to be among the leading European and world cities with regard to sustainable urban management. The building sector in Brussels is responsible for over 70% of energy consumption and 63% of CO2 emissions. In this regard, Brussels first priority is improving the energy efficiency of buildings through large-scale promotion of sustainable renovation and construction techniques. In the long term, the objective is to achieve a general implementation of the ‘very low energy’ and ‘passive’ standards for buildings. Within this context, the Green Job Pact has been developed in order to be able to follow the demand side.

Brussels Region currently focuses the Jobs-Environment Pact on three main urban sectors: building, water and waste sectors. The next one could be the Sustainable Food sector.

Three examples of concrete measures in Wallonia and Brussels:

- Financial incentives for the households to insulate their houses (private demand side).

- Grants for local municipalities to invest in energy efficiency (public demand side).
- Training programs for construction companies on new sustainable building techniques (supply side).

The Green Job Pact can be developed in both urban and rural areas, equally in developed and developing countries, it contributes to the development of sustainable cities, social inclusion and poverty eradication. The Regional Governments of Wallonia and Brussels Capital look forward to exchanging experience in this best practice with other Parties and groups of Parties in order to improve and scale up this approach to tackle the multiple crises, by creating opportunities for all.

## Sustainable Development Policy and Sustainable Materials Management in the Flemish region

MR. KRIS PEETERS, Minister President of the Flemish Government

In September 2008, the Flemish government adopted a decree for sustainable development. This decree anchors and guarantees horizontal policy-making for sustainable development which is inclusive, coordinated and participative in nature. The decree also stipulates that a coordinating administrative body for sustainable development needed to be created, a budget allocated, and policy substantiated by scientific research, all of which has since been implemented. Since 2007, Flemish sustainable development policy relies on the policy research centre for sustainable development, a consortium of the University of Louvain and Gent together with scientific institutions, for scientific underpinning. In order to ensure the effective implementation of coordinated policy, the Flemish working group on sustainable development was set up, with representatives of all policy domains. This ►



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POPULATION ABLE TO WORK WITH THE PROCEDURES OF THE GREEN ECONOMY



GREEN CITIES IN BELGIUM, A MESSAGE FOR THE 21ST CENTURY

“The sustainable management of materials implies a policy approach that fully takes into account the impacts that occur throughout the different phases of the life cycle of a product”

working group ensures the coordination and discussion of all sustainable development issues encompassing several or all policy domains, e.g. the Flemish input for international sustainable development policy, communication on sustainable development, actions on sustainable public procurement and sustainable building and living. Furthermore, the working group provides a platform for ensuring that inclusive sustainable development policies such as education for sustainable development, corporate social responsibility, new economic transformation, sustainable material use (see below) and sustainable mobility are well tuned to one another. Good progress has been made on public procurement and sustainable living and building: we are on our way to achieving the goal of 100% sustainable public procurement by 2020, and a standard and measuring tool for sustainable housing has been developed in line with the internationally renowned BREEAM method.

In 2007, the first Flemish sustainable development strategy was adopted, and in 2011, the Flemish government adopted its successor. The second Flemish sustainable development strategy is based upon a long term vision for a sustainable

society in 2050. Transitions within the fundamental systems are at the heart of the strategy for sustainable development (SD). Through processes of systems innovation and societal transitions, the second strategy for SD wants to graft existing policies onto long term changes. The key systems and dimensions identified are: the building and housing system, materials management, the energy system, the mobility system, the food system, the health system, the knowledge system, the economic dimension, the social and cultural system, the ecological dimension, the international dimension and the institutional dimension.

The second strategy for SD will reinforce the existing transitions (building and housing, materials management) and initiate action for new transition, in line with the leading short and medium term action plan Flanders in Action. It focuses on inter-linkages, integration and synergies among policies. The strategy proposes a new governance approach whereby the government works together with stakeholders to co-create sustainable development actions, and defines an active role for stakeholders and advisory councils.

In recent years sustainable materials management has been one of the fo-

cus points. Our current pattern of production and consumption endangers the availability of natural resources, and thus ultimately the viability of our economy. Moreover, the way in which we handle materials (be it raw materials, products or waste) is at the core of many environmental problems, and notably contributes to climate change and biodiversity loss.

The EU has achieved a relative improvement in resource efficiency, mainly through technological development. However, absolute levels of resource use continue to grow, as we are producing and consuming ever-increasing amounts of services and goods.

These challenges require a new policy and system approach. We need to use materials smarter. In order to avoid the further depletion of natural resources, it is necessary to consider the life-cycle in its entirety and to close material chains from ‘cradle to cradle’. Indeed, it does not make sense to set up infrastructure for the recycling of waste if products placed on the market are not recyclable or to place eco-friendly products on the market if consumers do not use them correctly.

The shift from a waste to a materials policy is one of the key environmental



objectives put forward in the Flemish coalition agreement. A new legal framework is developed, and has transformed the Flemish waste Decree in a comprehensive Decree on the sustainable management of material cycles.

The sustainable management of materials implies a policy approach that fully takes into account the impacts that occur throughout the different phases of the life cycle of a product. In many cases, waste policy is too much focused on an end-of-the-pipe approach. To avoid the depletion of raw materials, water, energy sources and land and the disrupting effects of their overexploitation on ecosystems, it will be necessary to look at material cycles as a whole and introduce a cradle to cradle approach. This sustainable management of materials will contribute to climate protection and combating the loss of biodiversity. A green cradle to cradle economy will also offer important economic advantages in the form of cost savings, less dependence on the import of scarce raw materials and the opening up of new markets for innovative technologies and business models. Indeed, in a world with growing populations and fast growing economies placing an increasing claim on the earth's limited resources, our economy will only survive when it is resource efficient.

In practice, this is translated in the Flemish Sustainable Materials Management project established in 2011, as part of the Flemish implementation strategy for the Roadmap to a Resource Efficient Europe, with strategic action programme to be released in 2012. The project also intends to contribute to the envisioned European transition towards a more sustainable union, with smart and inclusive growth

The project is based on a triple pillar approach, with an operational programme, supported by Plan C, a transition arena that develops transition scenario's and paths, works on matchmaking and community building to bring together front-runners in the field of sustainable materials management. The third pillar is

a research programme, which develops policy oriented research lines that support the priorities worked out by the operational programme.

Both the process and the content of the Materials Management project is developed by a transversal cooperation of government, industry, science and knowledge institutions, and NGOs and other societal stakeholders. Integrated cooperation with the New Industrial Policy is currently also worked out, in

order to safeguard the necessary interaction between the economic, ecological and social dimension.

Current priorities are: ecodesign, biobased economy, sustainable housing and living, sustainable chemistry, (critical) metals in closed loops, new materials in closed loops, smart cooperation, smart and sustainable investments, better legislation, governance and implementation, transparent material cycles and social innovation. ■

TBC



PORT OF ANTWERP, OIL REFINERY





JEAN-PIERRE THEBAULT, FRENCH AMBASSADOR FOR THE ENVIRONMENT AND RIO+20

# Implications and “savoir-faire” in sustainability

French Ambassador for the Environment and Rio+20 is in favor of a joint action of all sectors of civil society to sustainable development success

A country that is active in sustainability projects.

This is how you can set France within the context of international environmental concerns. Present in various forums that deal with the event, the French Government confirms the presence of a large delegation to Rio+20, where it will participate in several debates and will assist in the preparation of a document that will possibly be released at the end of the event. Jean Pierre Thebault, French Ambassador for the Environment and Rio+20, talked about France's activities for the Conference and the importance of better coordination between the countries in order to ensure a sustainable planet for future generations.

**How has France has been preparing to the Conference?**

JEAN-PIERRE THEBAULT – France has always been present to the highest Summits of the Earth, and played an active role in their success. In 1992, in Rio, President François Mitterrand had strongly advocated the adoption of the new concept of sustainable development, and his speech at that time, in which he made an appeal to the conscience and solidarity, remains relevant today. In 2002 in Johannesburg, President Jacques Chirac alerted the world about emergency and the lack of responses, called for a new partnership between developed and emerging economies, with the private sector, for the benefit of the poorest countries.

Just elected, the new President of France, Mr. François Hollande, confirmed with President Dilma Rousseff his commitment to be present in the Rio+20 and to play an active role for the success of the Conference.

Our expectations are clear and strong. We have one planet and we are collectively responsible for it. There

is no “spare” planet and we must make the right choices. More than ever, we know its physical and climatic limits. At the same time, it must effectively address the challenge of poverty. The two issues are closely linked. We cannot succeed without taking account of the scarcity of natural resources, of their accelerated depletion, the environmental threats, which require a radical change in our patterns of production and consumption. It must be an unequivocal commitment to a green and inclusive economy, with objectives shared by all and the full association of civil society in all its components, and with attention to its social aspects. We can only fail if the eradication of poverty, necessary not only for moral reasons, but also because it will be a powerful instrument of demographic transition and a mechanism of growth, is not recognized as an absolute emergency, a shared responsibility which requires the mobilization of all, according to capabilities, for the benefit, in particular, of the poor. In Rio, we need

to make a choice that is good for everyone, of a new partnership and set an ambitious action programme on behalf of future generations.

Several strong symbolic actions seem able to be agreed immediately in Rio+20 and be launched. First a consensus on the importance of the inclusive economy as one of the instruments of sustainable development, with goals and targets for concrete actions, as those presented by the European Union on key issues as the universal right to water and sanitation, access to clean energy, food and nutrition security, sustainable cities and territorial management, the creation of a real governance of the oceans. In this context France as Brazil, give a great importance to the recognition of social and environmental protection floors and support the priority given to the creation of decent jobs, the mobilization that should be also, in particular, to combat youth unemployment. Rio+20 should also adopted the priority given of three pillars and Universal Sustainable Development Goals,



"AUTOLIB", SELF-SERVICE OF ELECTRIC CARS ON THE STREETS OF THE FRENCH CAPITAL



TAXI-BIKE, AVAILABLE DURING PERIODS OF SPRING AND SUMMER IN PARIS

with a first indicative list of themes. All above decisions need appropriate tools to be concrete. Rio+20 must be the opportunity to adopt new indicators of growth, which complement the GDP taking into account other values, including services rendered by ecosystems, which will

continue otherwise to be sacrificed. Rio+20 must also immediately put in place governance structures that will ensure that sustainable development will be implemented in the long run. We need the creation of an Organization of the United Nations for the Environment, which is currently

the pillar missing of sustainable development at the global level. It is a claim for more than a decade of civil society, now supported by more than 120 countries, in particular the African Union. At the same time we need to establish a ministerial council for sustainable development that ensures the interaction of the three pillars and mobilize all Finance Ministers, Social Affairs and the Environment. In both cases France propose the full participation of civil society in all its components. Its present status as a passive observer of the decisions must involve to the one of a full partner in decision shaping. Fully recognizing the local authorities, cities and regions, trade unions, companies, NGOs, women, youth, and indigenous population will be a test of modernity and ambition for Rio+20.

#### What has changed over the past 20 years?

JEAN-PIERRE THEBAULT – In 1992, the world experienced a new optimism. We are today in the

“The France sustainable development in its full definition, is a firm commitment processed simultaneously on economic, social and environmental issues, without artificially discussing developing and the environment”

JEAN-PIERRE THEBAULT  
French Ambassador for the  
Environment and Rio+20

midst of a global crisis that affects us all. The urgency for action, to show our confidence in the system of the United Nations, our solidarity is only stronger. In 1992, some still doubted the climate emergency or depletion of natural resources. We had adopted only a few strong measures, even pushing governance issues for later. Rio+20 can no longer doubt. There are scientific evidences. The climate, biodiversity, land, oceans, forests are in danger. In fact, men, women, and the poor are the most victims of environmental degradation, as shown in the 2011 UNDP report. Rio+20 should be a Summit for decision and action to keep the momentum given by the Heads of State over the coming years.

#### What are the measures taken by the French Government on sustainable development policies?

JEAN-PIERRE THEBAULT – France adopted in 2010 its second national sustainable development strategy. It was the ►

“Several strong symbolic actions seem able to be obtained in Rio+20 and be launched on a practical basis, so, the work will have to continue in the next years, for the benefit of future generations”

**JEAN-PIERRE THEBAULT**  
French Ambassador for the  
Environment and Rio+20

result of broad negotiation with the civil society. It directs the activity of all sectors of the state, each Department has a ministerial sustainable strategy. French strategy is part of a more global, European, framework by 2020. It is based, in fact, on a central Department, Ministry of the Environment and Sustainable Development, which also covers transport, energy and oceans issues. This organization has been confirmed in the new French Government in recent elections, with a personal commitment of the President of the Republic for sustainable development and a priority given to the energy and environmental transitions needed to their achievement.

#### How do you evaluate the interaction between the French Government and the French companies?

**JEAN-PIERRE THEBAULT** – We actively mobilize all components of civil society in support of sustainable development. Our businesses have an im-

portant role to play in this context. They are at the forefront of innovation in many crucial areas for sustainable development such as water, transport, urban development, management resources. Their experience is international, with many partnerships in the world and best achievements. French pavilion will illustrate in Rio+20 the theme of “Sustainable Cities and Territories.” It will be an interactive place for debates, presentations and meetings to illustrate the French engagement for sustainable development through concrete examples and the fact that these successes are always those of collaborations between several actors of civil society.

#### Is there any cooperation between developed and emerging countries to support sustainability?

**JEAN-PIERRE THEBAULT** – Developed and emerging countries can obviously play a major role together to accelerate the implementation of sustainable development. First of all, because the examples of good practices and success are everywhere and many French companies, also NGOs, social partners, communities, youth, and scientists already cooperate in the field with their counterparts from emerging countries. This partnership is already being born through concrete actions. The responsibility of our countries is to facilitate their work, to encourage them in their innovations, giving long-term perspectives, clear signals, and security. This is what must and can be at Rio+20.

Our countries share a common conviction that is the need to combat poverty. And, we had already agreed in international forums, recently the G-20 in Busan, that we were partners, in particular, to support the poorest countries. We must give form to this commitment, because the sustainable development of the poorest is also our sustainable development.

#### How has the international trade been affected?

**JEAN-PIERRE THEBAULT** – World trade has everything to gain from progress in sustainable development and, everything to lose from its failure. Sustainable development is based on solidarity, openness, cooperation and exchanges. Producing and consuming differently is good for global trade allowing it to benefit fully from a new concept of growth. While today's economy, predatory of natural resources, is condemned, international trade will be one of the first victims.

#### In relation to the poor countries, seeking to develop economically, how do they become aware of the importance of sustainable development as a tool for poverty eradication?

**JEAN-PIERRE THEBAULT** – Who can still think that he is able to save himself in a globalized world, given that the economy illustrates, day by day, our profound interdependence? Aside from the fact that the requirement of sustainable development was a subject set twenty years ago in Rio, all experience accumulated since then, shows

that our hesitation in getting involved in this way has aggravated the problems. This is also the message transmitted unequivocally by the poorest and most vulnerable of the international community. Can we ignore the voice of the African Union or of Small Island Developing States? Hesitating and doing nothing would collectively condemn the planet to become a new “Raft of the Medusa” [reference to the canvas of Théodore Géricault, “Radeau de la Méduse,” which depicts a group of shipwrecked that faced dehydration, foolishness and even cannibalism].

#### What is the importance for Brazil to hold this Conference?

**JEAN-PIERRE THEBAULT** – Brazil is an ideal host for such World Summit and its success. It has the advantage of being a multicultural country with a strong and demanding civil society, of being a young future country, avid for innovation, with strong successes in economic matters and in fight against poverty, through the measures that balance the economic, social and environmental aspects, such as the *Bolsa Verde* (Green Market Plan) or *Bolsa Família* (Family Allowance Program) and a strong commitment at the highest level authorities of the State. With the support of its very high quality diplomacy, Brazil provoke the international community out of its hesitancy, its ambiguities about sustainable development. I am convinced that will address, at the same time, at the same level of importance the economic, social



## France data

CAPITAL AND LARGEST CITY	Paris
OFFICIAL LANGUAGE	French
GOVERNMENT	Unitary Semi-presidential Constitutional Republic President — François Hollande
CREATION OF THE FRENCH STATE	843 (Treaty of Verdun)
AREA	- Total: 675,417 km <sup>2</sup> - Water: 0.26 %
POPULATION	Estimate (2011): 65,350,181 inh Density: 115/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 2,776,324 Million Per capita: \$ 44,008
SOCIAL INDICATORS	Gini (2008): 28.9 (low) HDI (2011): 0.884 very high Life expectancy: 80.7 years Infant Mortality: 4.2/1000 birth Literacy: 99.0 %
CURRENCY	EURO (EUR)
ISO CODE	FR
INTERNET CODE	.fr
PHONE CODE	+330
WEBSITE	www.elysee.fr



NAVIGATION CHANNEL IN THE REGION OF BOURGOGNE - USED FOR TRANSPORTING RESIDENTS, GOODS AND FOR TOURISTS WHO ENJOY ITS SURROUNDINGS



WOODEN HOUSE IN THE NEIGHBOURHOOD OF PARIS

and environmental dimensions of our societies, without favoring any of them. Brazil is the country that can best go beyond the outdated binary approach between “North” and “South” recognizing the new diversity of the world, made of developed countries, large emerging countries and very poor countries in building a new global partnership, especially for the benefit of the poor.

### Are there any partnership between the French and the Brazilian Governments in this field?

JEAN-PIERRE THEBAULT — Brazil and France have signed

a strategic partnership that covers many topics that have a strong link with sustainable development. One of the most emblematic is Amazon area, with roughly 200 research projects that combine French and Brazilian specialists on topics ranging from forest, including energy, upgrading knowledge and the protection of ecosystems, the forest satellite observation, for purposes of knowledge and better management. Our entire Brazil-Guyana border policy focuses on sustainable development. In another vein, the strategic partnership has defined its agenda on sustainable transport, ur-

ban planning, public policy and management of water and energy. The French Development Agency acts in Brazil in these themes. Health is another great chapter for our bilateral cooperation (major endemic diseases, public policies...). Finally, much cooperation highlights also the role that Brazil and France can work together for the poorest countries, particularly in Africa.

### Can the financial crisis give secondary importance to the debate on sustainable development?

JEAN-PIERRE THEBAULT — It would be worse than the current

“It must be an unequivocal commitment to a green and equitable economy, with objectives shared by all and the full association of civil society in all its components, and with attention to its social aspects.”

JEAN-PIERRE THEBAULT  
French Ambassador for the  
Environment and Rio+20

evil. Sustainable development is an essential part of the response to the crisis. This is the only solution to provide the new needed growth while taking into account the limits of the planet, by fully recognizing the key role of women and men, their inventiveness and their solidarity. ■

The world is not just a market place - it is also our home. Global challenges, such as population growth, nutritional quality, climate changes and energy consumption, are also part of Bühler's challenges. We are architect of a sustainable, value-adding foodstuffs and materials processing. As a global partner in technology for grain processing and food production, Bühler is committed to innovations, allowing an efficient use of raw materials and energy. By optimizing resources, we benefit our customers and the generations to come. Bühler, Innovations for a Better World.

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Innovations for a better world.





Beat Schweizer

# The Swiss commitment for sustainability

*Minister of Environment of Switzerland will attend Rio+20*



DORIS LEUTHARD, MINISTER OF ENVIRONMENT, TRANSPORT, ENERGY AND COMMUNICATIONS

Switzerland is known for its historic neutrality profile. However, if the issue is on sustainability, the Swiss government highlights its speech towards a better and effective international participation. The country takes an active voice in several international forums and commits itself in policies that aim poverty reduction and environmental betterment. The Minister of Environment, Transport, Energy and Communications, Doris Leuthard, is coming to Brazil as one of the representatives of the Swiss government and shows good perspectives for the Rio+20 Conference.

The “Missão Empresarial” Magazine – Special Edition Rio+20 – interviewed Mrs. Leuthard and she said, among other things, that she stands for a better integration between developed and developing countries. “Developed countries have learned over time that it is much more costly to reverse environmental damages than to avoid them in the first place. It is therefore in the interest of developing countries to embark on a sustainable development path right away and avoid the mistakes that were made by developed countries.” Following, the main parts of the interview sent from her cabinet in Switzerland:

## What are the Swiss expectations for the Rio+20 event?

**DORIS LEUTHARD** - Switzerland is committed to work constructively towards a successful and ambitious outcome of the Rio+20 Conference. The Conference should renew and strengthen the political commitment to sustainable development. In addition, Switzerland is convinced that

the Rio+20 Conference could be an important milestone in the transition towards a green economy that contributes to a sustainable development and poverty eradication. We therefore proposed the establishment of an international Green Economy Roadmap which contains concrete measures and targets. With regard to the second theme of the conference, the strengthening of the international institutions in charge of sustainable development matters, we propose on the one hand to strengthen the governance for sustainable development by establishing a Council for Sustainable Development that replaces the existing Commission for Sustainable Development. This Council should be better equipped to monitor progress in achieving sustainable development for example through peer reviews. On the other hand, we propose concrete measures for reforming the United Nations Environment Programme (UNEP) in order to strengthen the international environmental regime.

**In 1992, the city of Rio de Janeiro received the United Nations Conference on Environment and Development, which gathered 172 countries. In your opinion, what has changed ever since?**

**DORIS LEUTHARD** - The results of the Rio Conference in 1992 such as the three Rio Conventions, the Agenda 21 and the Rio Declaration were milestones in international policy making. They have not only influenced the international debate but also the national sustainable development policy. Poverty could be reduced in certain parts of the world. There are success stories in international environmental policy-making like the protection of the ozone layer or the fight of regional air pollution. However, overall it is evident that many problems still exist or have even become more pressing and that we are still a long way from developing in a sustainable manner. We are therefore committed that Rio 2012 will not fall behind 1992 and that it brings us a step closer to the future we want.





**What are the measures adopted by the Swiss government for increasing sustainability policies?**

**DORIS LEUTHARD** - Switzerland has taken actions in most key areas of sustainable development and the government's commitment has certainly increased over the last 20 years. Amongst others, the federal government has adopted four sustainability strategies since 1992 (1997, 2002, 2008, 2012). They identify focus areas and concrete measures for advancing the implementation of sustainable development in Switzerland. In addition, sustainable development was anchored in the federal constitution in 1999. Furthermore, we have established governance mechanisms like the "Interdepartmental Sustainable Development Committee" (ISDC) for horizontal coordination, the "Forum

for Sustainable Development" for vertical coordination, and the "Sustainable Development Dialogue" for stakeholder participation. Moreover, Switzerland has also put in place a comprehensive monitoring, controlling and evaluation mechanism for the sustainable development strategy including a sustainability assessment methodology on the project level.

**How does the Swiss government interact with the Swiss companies in order to deal with environmental issues?**

**DORIS LEUTHARD** - The main role of the Swiss government is to create the appropriate framework conditions that allow companies to conduct their business in a sustainable and environmentally friendly manner. A mix of regulations and market-based instruments as well as voluntary measures are needed.

Besides, the Swiss government occasionally works directly with companies or private institutions. The EURO 2008 would be such an example. The European Football Championship in 2008, was the first major football tournament to feature an integrated sustainability strategy which will also help to offer guidelines for major (football) events in the future. The strategy was based on the three target dimensions of sustainable development – the environment, economy and society/culture – and contains almost 60 measures divided into 12 topics. These measures were implemented both by Euro 2008 SA – the company responsible for organizing the tournament – and the public sector, in particular the host countries and cities, as well as other private organizers. Published in November 2008, the EURO 2008 Sustainability Re-

port assesses how the targets laid down in the sustainability strategy were reached, and formulates proposals for future major events.

**In your opinion, developed countries should work together with emerging countries to elaborate a more integrated project related to environmental as well as development sustainability issues?**

**DORIS LEUTHARD** - Switzerland considers international cooperation for sustainable development as very important. Emerging countries play an important role in international politics. Switzerland therefore considers it important that these emerging countries are contributing constructively to the international debate, take on their responsibilities and show strong leadership for sustainable development.

FDFA, Presence Switzerland



ZURICH

**"Any development that takes place at the cost of environmental degradation or that increases social inequalities is not sustainable in the long run. It might lead to short term gains, but will reduce opportunities in the future and cause costs on different levels"**

**DORIS LEUTHARD**  
Minister of Environment  
of Switzerland



ON THE LAKE LUCERNE

FDFA, Presence Switzerland

### Can the international commerce be affected with the advances of the debate on sustainability?

**DORIS LEUTHARD** - The international trade in goods and services and international investments have positive and negative effects on the environment. Thus, environmental issues must be reflected in trade policies to ensure that trade and environmental protection are mutual supportive components of a green economy. The Rio+20 process is an opportunity to harness the resulting potential for green economies, such as the opening of markets for green technologies and the promotion and dissemination of innovations for example. To contribute to advancing the sustainability debate in the field of trade and environment Switzerland has organized several workshops with UNCTAD for the people involved in the Rio+20 process. The workshops help

countries, particularly developing countries, to identify development opportunities as well as threats related to the interlinkages of trade and environment. Switzerland, like a growing number of countries, is committed to streamline environmental provisions into the WTO negotiations, free trade agreements and investment protection agreements to promote sustainable development.

### For the poorer countries, which struggle to find ways to develop their economies, how to persuade them on the importance of sustainability and help them reduce poverty at the same time?

**DORIS LEUTHARD** - Any development that takes place at the cost of environmental degradation or that increases social inequalities is not sustainable in the long run. It might lead to short term gains, but will reduce opportunities in

the future and cause costs on different levels. Developed countries have learned over time that it is much more costly to reverse environmental damages than to avoid them in the first place. It is therefore in the interest of developing countries to embark on a sustainable development path right away and avoid the mistakes that were made by developed countries. Developing countries can thereby also benefit from the knowledge and technology developed in the last years in order to have a development that profits all people, especially the most vulnerable and poor, and that protects our environment.

### How do you see Brazil in this process?

**DORIS LEUTHARD** - Brazil as the host country of the Rio+20 Conference has a special role. The host country should have

a clear vision for an ambitious outcome and take an active role in order to constructively advance the discussions and negotiations. We consider it important that Brazil leads by example. Switzerland stands ready to support Brazil in this endeavor.

### Is there any government partnership in the sustainability area?

**DORIS LEUTHARD** - Our constitution outlines sustainability issues such as poverty reduction and the protection of the environment as core to our foreign policy. In our bilateral cooperation with, we have many projects related to sustainability issues. For example, Switzerland provides funding to a pilot project to recycle used refrigerators in Brazil in order to reduce emissions of the greenhouse gases that massively contribute to ozone layer depletion and global warming. In multilateral fora, we have a close cooperation with several states, for example in Central Asia, and collaborate in order to advance sustainability issues.

### Do you believe that the current international financial crisis can divert the debate on environment and sustainability issues?

**DORIS LEUTHARD** - In the debate about the financial crisis, sustainability is core. While the attention in the short term might be on the financial stability, the long-term perspective of the debate is a financial sustainability that allows to tackle sustainability issues such as poverty eradication and environmental protection. ■





BUILDING WITH SOLAR PANELS IN BERN

# More green economy, less poverty

AMBASSADOR FRANZ XAVER PERREZ,  
Head of the Swiss delegation at the Rio+20 Conference

We'll happily embrace many of the vast number of Swiss clichés. After all, we're not disputing the fact that the Swiss produce top-quality watches, chocolate and cheese. And we're keen to associate reliability and punctuality with Swiss values. The Alps are indeed high (even though taller mountains do exist), and the air also lives up to expectations. Other clichés are rather more annoying and laughable. No, cuckoo clocks do not come from Switzerland. We don't manufacture them, nor do we hang them on our walls. Everyone knows that Switzerland is an affluent country and plays an important role in the finance sector. However, fewer people realize that this prosperity is not just owing to the

banks, but predominantly the country's extremely strong industry sector. In this sense, Switzerland is a "normal" country. Perhaps somewhat more unusual is its success – and this is certainly not down to chance. In all rankings, Switzerland features among the most competitive and innovative nations.

The Swiss are committed to the concept of sustainability. They have for example one of the most dense public transport networks. They built two railway base tunnels (Lötschberg and Gotthard) through the Alps, creating a North-South axis through Europe and facilitating a sustainable European transport policy. Furthermore, Switzerland plans to discontinue nuclear energy production within the next two decades. Environmental awareness paired with innovative capacity mean that the Clean-

tech sector is currently developing at a faster rate in Switzerland than any other technology sector.

The concept of sustainability is entrenched in the Swiss Constitution in numerous ways and is not restricted to ecology. It calls for the reinforcement of common wellbeing and promotes sustainable development, internal cohesion, and cultural diversity. It also strives to secure the long-term preservation of natural resources, and promote a just and peaceful world order.

## Private sector and civil society commitment

Swiss companies are among the vanguard of corporations who have expressed a commitment to sustainable



“The concept of sustainability is entrenched in the Swiss Constitution in numerous ways and is not restricted to ecology. It calls for the reinforcement of common wellbeing and promotes sustainable development, internal cohesion, and cultural diversity.”

development. With nationwide industrial federations such as the Netzwerk für ökologisches Wirtschaften (Swiss Sustainable Business Network, Öbu), and swisscleantech, Switzerland has organizations that support and reinforce the private sector's sustainability efforts. Many Swiss companies actively pursue sustainable products and production processes. For example, the biggest retailers are also the main promoters of sales of labelled products. By implementing voluntary measures under the Swiss CO2 law, Swiss companies are making an important contribution towards helping Switzerland achieve its climate protection goals. Most large Swiss companies have signed up to the United Nations Global Compact.

However, it should be noted that in absolute terms, the state of affairs in Switzerland is far from sustainable. This is illustrated first of all by the ecological footprint, which reminds us that Switzerland consumes almost three times the quantity of environmental facilities and resources as is globally sustainable in the long-term. Furthermore, the rapidly growing requirements of countries in the South, especially emerging countries, are

likely to sharpen conflicts over environmental goods and resources and further heighten the need for reduced consumption in countries like Switzerland. In the last twenty years, Switzerland has made significant advances towards sustainable development at an institutional level as well as in numerous political and social fields. However, there is still need for action on a variety of fronts.

The Swiss government implements sustainable development through regularly updated strategies. The Sustainable Development Strategy 2012-2015, which was adopted at the beginning of 2012 in connection with the Rio+20 Conference, includes the following measures:

**CO2 EMISSION REGULATIONS FOR CARS:** This measure stipulates a reduction in CO2 emissions for all new cars to approx. 130 g per kilometre by 2015 and is entrenched in the CO2 law. In the first year (2012), an average of 65% of the most efficient new cars per importer must achieve this target. If this is not the case, manufacturers and importers will be sanctioned. Any income from the sanction will be reimbursed to the general public.

**ENERGIESCHWEIZ PROGRAMME:** EnergieSchweiz is the intervention programme for energy efficiency and renewable energies. The Confederation, cantons, municipalities, environmental and consumer organizations, and key economic players enter into partnerships and implement voluntary measures together. The goal is to increase the percentage share of renewable energies by at least 50% between 2011 and 2020.

**STRENGTHENING PUBLIC TRANSPORT:** The appeal of public passenger transport and freight transport by rail should be heightened or at least remain the same. To achieve this goal, expansion projects must be fleshed out, long-term funding secured, non-discriminatory network access guaranteed in trans-European freight transport, and the road-to-rail shift target achieved.

**SUSTAINABLE CONSTRUCTION:** The construction sector is of particular importance owing to annual investments of around CHF 57 billion. To promote the varied activities in the area of sustainable construction

in a targeted manner, the Confederation procures construction work and buildings that meet extremely high economic, social, and environmental requirements throughout their entire life cycle. It has a bearing on construction norms and regulations within the scope of its powers, and manages its extensive real estate portfolio according to sustainable development criteria.

**CLEANTECH MASTER PLAN:** The Cleantech Master Plan for Switzerland is intended to boost the innovative capacity of the Swiss economy, in particular by bundling resources and improving coordination between the various players. Cantons, universities and the private sector are invited to implement the activities set out as recommendations in the Master Plan ►

## Switzerland data

CAPITAL	Bern
LARGEST METROPOLITAN AREA	Zurich
OFFICIAL LANGUAGES	German, French, Italian and Romansh
GOVERNMENT	Federal Republic Swiss Federal Council President - Eveline Widmer-Schlumpf
FOUNDATION DATE	1 August 1291
AREA	- Total: 41,285 km <sup>2</sup> - Water: 4.2%
POPULATION	Estimate 2010: 7,866,500 inh Census 2000: 7,452,075 inh Density: 188/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 321,898 Billion Per capita: \$ 45,265
SOCIAL INDICATORS	Gini (2000): 33.7 - medium HDI (2011): 0.903 - very high Life expectancy: 81.7 years Infant Mortality: 4.1/1000 birth Literacy: 99.0%
CURRENCY	Swiss Franc (CHF)
ISO CODE	CH
INTERNET CODE	.ch
PHONE CODE	+41
WEBSITE	www.admin.ch



“In accordance with the ‘Brundtland definition,’ Switzerland is calling for development that guarantees the needs of today’s generation will be met without jeopardizing the opportunities of future generations to satisfy their own needs”



INTERCITY TRAIN ON THE GRANDFEY VIADUCT NEAR FRIBOURG

and coordinate them with the Confederation.

**SOCIAL HOUSING:** The government specifically supports social housing developments by offering financial incentives for non-profit property developers who must, in return, fulfil high requirements with respect to ecological, energy efficient construction with easy access.

**COMBATING POVERTY AND PROMOTING GREEN ECONOMY:** Switzerland has increased its share of public development assistance to 0.5% of gross domestic product. The main focus of its international commitment to developing/emerging countries is on combating poverty, in particular by fulfilling the Millennium Development Goals. A key aspect is supporting programmes for a green economy in the fields of sustainable agriculture and food security, water, energy, environment, climate protection and biodiversity.

## Considerable progress made

Let’s talk about Rio: Both Brazil and Switzerland have come a long way since the first Rio Conference 20 years ago. Brazil has taken crucial steps away from poverty. Switzerland, too, has faced up to its obligations and firmly embarked upon the path to sustainability. Switzerland is taking part in the Rio+20 Conference for Sustainable Development out

of principle. This Conference is a major, rare opportunity to strengthen international cooperation in the area of sustainability.

Switzerland’s focus is on specific goals and resolutions pertaining to green economy and governance as well as their implementation. In accordance with the “Brundtland definition,” Switzerland is calling for development that guarantees the needs of today’s generation will be met without jeopardizing the opportunities of future generations to satisfy their own needs. People’s livelihoods should be secured under fair conditions. Precedence is given to meeting basic needs, particularly those of the poorest.

## Green economy as a contribution to sustainable development

Switzerland welcomes the fact that the restructuring of the economy and practical integration of the three dimensions of sustainable development are on the agenda in Rio. “Green economy” represents an economic system that continues to provide goods and services for profit. However, this should take place using significantly less resources and energy, and with a reduced environmental impact. Among other things, Switzerland

also wants the external costs of environmental damage to be reflected in the price of products, thus creating incentives for clean production. At the same time, attention must be given to social justice, as it is not possible to achieve sustainable growth without striking a social balance.

However, the government not only intends to make green economy demands on others, but also in its own country. The 2012-2015 Sustainable Development Strategy sets store by this. It includes a set of green economy measures agreed in autumn 2010. The intention here is to increase the efficiency of information and communication technologies, improve information on the environmental impact of products, avoid false incentives by making the tax system more environmentally friendly, and integrating environmental information into the measurement of wellbeing, for instance. ■

### MORE INFORMATION:

- Swiss Platform for Rio+20: <http://rio20.ch/en/>
- Rio SDC Website (Swiss Agency for Development and Cooperation): [http://www.deza.admin.ch/en/Dossiers/Rio\\_20](http://www.deza.admin.ch/en/Dossiers/Rio_20)
- Sustainable Development Strategy: <http://www.are.admin.ch/themen/nachhaltig/00262/00528/index.html?lang=en>
- Federal Department of the Environment, Transport, Energy and Communications: <http://www.uvek.admin.ch/index.html?lang=en>



# Certified timber and renewable energy

Through a groundbreaking project, the Precious Woods Group manages the forest in a sustainable manner and leverages the residue from the processing of logs to generate renewable energy, supplying 50% of energy for a city with approximately 80,000 inhabitants in the State of Amazon.



INVENTORY – IDENTIFICATION AND MAPPING OF SPECIES

The Precious Woods Group (PWG) is a publicly traded Enterprise Corporation listed on the SWX Swiss Stock Exchange based in Zurich. The headquarters located in Zurich, coordinates the projects carried out by its subsidiaries in Central America, South America, and Central Africa.

In Central America, the office site is located in Guanacaste - Costa Rica. In this region, the group had its first challenge deploying a project of reforestation of native and exotic species.

In Central Africa, the group operates with forest management principles. The Precious Woods Gabon initiated the first comprehensive plan for forest management, influencing the region's legislation to manage the forest sustainably.

## Planned intervention

In the year 1994, the group started its activities in Brazil, through the Precious Woods Amazon (PWA). Its major challenge was prove that it was possible to accomplish sustainable forestry projects reducing environmental impact in the Amazon, while contributing to the improvement of the living conditions of the

local communities.

The project pioneered in extraction of timber forest products in 1997 and became the first certified forest management company operating in the Amazon in accordance with the stringent principles and criteria of the FSC certification (Forest Stewardship Council ®).

Precious Woods Amazon always strives to manage the forest in a responsible manner, with sustainability of natural resources and social commitment. It has been recognized by organizations from all over the world for using low-impact techniques in Sustainable Forest Management.

The forest management is carried out in three stages: the first stage, the Forest Inventory happens before the harvest. During this phase the protected and commercial species are tagged, every tree with a diameter at breast height (DBH) exceeding 40cm is identified with a tag and its location. The responsible team also makes a thorough mapping of the area. All trees have geographic coordinates, which together make up much of the company's database. Currently, they have harvested more than 60 different species of wood, decreasing the pressure and the risk of ex-

tinguishing of the most valuable and sought after species in the market.

The second phase occurs during the timber harvesting – In the felling operation, the crew's responsibility is in directing the fall of the trees so that it causes the least possible impact and do not damage the preserved trees or the ones with larger diameter trunks that were not selected. In the pre skidding phase, the log is tied up by a steel cable and winched by a crawler tractor to the skid trail. In the skidding operation, a tractor equipped with a grapple (Skidder), is only driven on opened trails of previous operations, thus avoiding excessive openings in the forest. This operation is responsible for bringing the logs to the forest patio (collection points) in order to be properly stacked, facilitating their identification and loading.

The pre skidding along with the skidding make up a differential system used by the company, avoiding unnecessary openings in the forest and greater soil compaction by the machines, protecting the seed bank, which is essential for the regeneration of the forest.

The transportation operation of logs for the industry is the final step of the system. It is responsible for the origin control for the logs. All trucks before leaving the forest must stop at the company's mobile office, where they will get through the system of the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), a Source Forestry Document (SFD) that goes with the cargo to the industry.

The third and final phase of the process occurs after the harvest, where the company issues a report of activities for the IBAMA. This makes the quantity of the logs harvested and the whole infrastructure of the Annual Production Unit (APU) clear. One of the key differentiators of the forest management company is that their forestry use is an average of 17 m<sup>3</sup>/ha.

There is a complete processing structure ►





PREPARATION OF LOGS FOR TRANSPORTATION AT FOREST PATIO



TIMBER HARVESTING - DIRECTIONAL FELLING WITH MINIMAL IMPACT

for the logs, our product line starts with the raw lumber, suitable for civil and marine construction projects, pallets, containers, utility poles, fence stakes, support beams, among others, as well as the supply of kiln-dried wood and/or planed wood for internal and external purposes, serving as raw material for joinery, production of instruments, furniture, decking, floors and frames.

## Maximum utilization

The wood waste generated in the processing from the sawmill, is used as “fuel” to move the steam turbine of Thermoelectric BK Energy Itacoatiara LTDA, with the capacity of 9 MWh. The BK Energy generates electricity for 50% of the population of Itacoatiara in the Amazon State.

It is noteworthy to know that the electric energy generated by the wood waste processed at the sawmill, is originated from the Forest Management Certificate. It is a direct contribution to the environment, because as it supplies electric power to the city, it avoids having diesel oil (fossil fuel highly pollutant and non-renewable) being consumed by a thermoelectric power plant, thus contributing to the reduction of emissions of greenhouse gases ( $\text{CO}_2$  and  $\text{CH}_4$ ).

The processed wood residue at sawmill has a sustainable cycle, because



THERMOELECTRIC IN ITACOATIARA - ELECTRICITY FOR 50% OF THE POPULATION FROM WOOD WASTE

the natural regeneration of the forest and the next management cycles ensure the renewal of this raw material.

The company has an environmental policy with a social mission of targeting the contributors and the relationship with the local community. The actions taken by the company's social-environmental programs have their public defined as: civil society, employees, scientific community, and local communities.

Through an agreement with the Association Vida Verde da Amazônia (AVIVE), which is located in the munic-

ipality of Silves in the Amazon State, the company subsidizes the activities of extraction of non-timber forest products. It is carried out under the Forestry Management Area (FMA) of the PWA. The harvest crew is formed by FMA's surrounding communities, with the supervision of AVIVE and technical support of PWA. The workmanship is 100% from the local communities and all of the extracted raw materials (oils, resins and seeds) go into the manufacturing of natural products made by AVIVE. ■



JIZHANG: A GREAT OPPORTUNITY TO DEFINE RESPONSIBILITIES IN THE FIELD OF SUSTAINABILITY

# Emerging sustainability

The Chinese Ambassador in Brazil shows optimism in debates about sustainability in Rio+20

In recent decades, no country was so in evidence in the world such as China.

The economic power of this rich and powerful emerging country translates into high rates of GDP growth, strong global presence, and influential political voice in various international forums.

Despite the Chinese prominence in various sectors of industry and goods, the Government highlights the environment as target for concern.

The Chinese Ambassador in Brazil, Li Jinzhang, spoke to "Missão Empresarial" Magazine – Special Edition Rio+20. He mentioned on the importance given by the Chinese Government to Rio+20 and he believes that "with the joint efforts of all sectors of Brazil and of the international community, Rio+20 will get positive results, generating new momentum for global sustainable development."

Jinzhang, also reveals that the Chinese Government will bring a high-level delegation to the meeting, reinforcing the country's commitment to international cooperation in the field of sustainability.

## Millennial tradition

China is a participant, promoter, and practitioner in the global process of sustainable development. In China, there are old proverbs that mean, "Do not exhaust the food from others" and "Sit and eat like a glutton causes all the money to run out." Thus, our ancestors warned us to bear in mind the long-term development, and not to follow only the momentary interests, consuming wealth and resources improperly. The Chinese Government has assigned high importance to sustainable development.

As the first country that released the Agenda 21 in 1994, China incorporated, two years later, the concept of sustainable development into national strategy. In the second decade of this century, the Chinese Government has drafted the "12th Five-Year Plan (FYP)," which incorporates sustainability in integral plan of social and economic construction, and the effect of its promotion will serve as an important condition for national development. Guided by the scientific development concept, the Chinese Government will promote the sustainable development cause continually with the acceleration of the economic growth model transformation as the main line.

The Chinese Government believes that, in the process of promoting sustainable

development, it follows the principles that everyone should participate. The Government's performance is indispensable, and at the same time, broad and deep participation of social community, private sectors, industry and trade society etc., is required.

The Chinese Government is guiding companies to establish social responsibility concept, embed them consciously into their development strategies, comply the laws on international trade, and improve the administration seeking the union of economic and social benefits.

In recent years, Chinese companies have fulfilled social responsibilities, considering them as key promoters to transformation and achievement of sustainable development model. The reports of social responsibilities of Chinese companies are growing, at the same time, Chinese companies are dedicated to developing new technologies and products with effect in energy saving and environment protection, and have already become a strong force in the development of green economy. While increasingly involved, Chinese companies manage a broader vision, and more attention to the practice of the concept of sustainable development.

The Chinese Government will continue to support Chinese companies to participate actively in Rio+20, make inter-►



national exchange widely, and promote Rio+20 in order to obtain positive results, contributing to global sustainable development.

## High-level Chinese delegation to Rio+20

The Chinese Government understands that sustainable development is theme of concern of all countries in order to have a good relationship with the future of humanity. The United Nations Conference on Sustainable Development, Rio+20, is not only a celebration of Earth Summit 92, but also, to confirm Brazil's efforts within the framework of green economy. The event will also be an important opportunity for the international community to plan together the global sustainable development strategy.

China assigns high importance to Rio+20 therefore, will send a high-level delegation to participate in the Conference. We hope that Rio+20 can summarize the progress of international cooperation in the areas of environment and development over the next 20 years, build a consensus, adopt concrete actions, and advance the cause of global sustainable development. We maintain that in the Conference and in the process of their preparation must be followed by the spirit and principles of Rio92, in particular the principle of "common but differentiated responsibilities;" respecting the autonomy of each country in their sustainable development; and promote, in coordinated and balanced manner, the three pillars of sustainable development (economic development, social development, and environmental protection). We are willing to strengthen cooperation with the international community, especially with Brazil, in order to achieve global results, positive and pragmatic in Rio+20.

The theme "sustainable development" has a close relationship with Brazil. In the year of 1992, the United Nations Conference on Environment and Development, held in Rio de Janeiro, defined

the concept of "sustainable development." Over the past 20 years, Brazil has actively fulfilled the political promises of the Conference, dedicating itself to economic development, the fight against poverty, environmental protection, and international cooperation in related areas, obtaining remarkable success, that the Chinese side expresses its appreciation.

We are happy to see that the Brazilian Government and all sectors of Brazilian society are meticulously engaged to the preparations for Rio+20. The Brazilian Government created the Commission and the National Committee of Rio+20. The social community and academic institutions also are studying and researching the themes of the Conference.

With the joint efforts of all sectors of Brazil and of the international community, Rio+20 will get positive results, generating new dynamism to global sustainable development. China, as a strategic partner of Brazil, will actively support Brazil in conducting a high-level conference, successful and very valuable.

## Challenges

Over the past 20 years, the international community has made positive progress in the context of sustainable development. More than 100 countries have formulated strategies for sustainable development, and the Governments of all levels, the business sector, non-governmental organizations and the population participated actively. Many treaties and mechanisms have emerged, which became the base and platform for promotion and adjustment of activities in several areas. The international and regional cooperation intensified, in various ways, in the area of environment and development. The interdependence among countries and the willingness of all to promote sustainable development cooperation was expanded. Stimulating successes were achieved in the cause of global sustainable development.

However, the goal expressed by the United Nations Conference on Environ-

## China data

CAPITAL	Beijing
LARGEST METROPOLITAN AREA	Shanghai
OFFICIAL LANGUAGE	Mandarin
GOVERNMENT	Single Party-Led State CPC General Secretary President — Hu Jintao Premier — Wen Jiabao
ESTABLISHMENT	People's Republic Of China Proclaimed / October 1, 1949
AREA	- Total: 9,640,821 KM <sup>2</sup> - Water: 2.8 %
POPULATION	Estimate 2011: 1,336,718,015 inh Census 2000: 1,242,612,226 inh Density: 139.6/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 10.084 Trillion Per capita: \$ 7,518
SOCIAL INDICATORS	Gini (2007): 41.5 - High HDI (2010): 0.663 - Medium Life expectancy: 73.0 years Infant Mortality: 23.0/1000 birth Literacy: 93.3 %
CURRENCY	Chinese Yuan (Renminbi)
ISO CODE	CN
INTERNET CODE	.cn
PHONE CODE	+86
WEBSITE	--

ment and Development has not been completely achieved. The countries still faced immense difficulties in sustainable development. The traditional problems of developing countries, for example, the lack of capital, technology, and capacity, are still to be resolved urgently. The challenges, such as regional turmoil, financial crisis, food crisis, and natural disasters continue to emerge. Especially with the continuous deepening of the international financial crisis impact, the cause of sustainable development faces an even more arduous and complicated situation.

As the "12th Five-Year Plan (FYP)," the goal of China's economic growth over the next five years will be at 7%. Not



“We believe that the fight against poverty and sustainable development are not antagonistic, but articulated. The efforts of the least developed countries in the fight against poverty and sustainable development are not isolated, but components of the cause of the fight against global poverty”

JIZHANG  
Chinese Ambassador in Brazil

long ago, the Prime Minister Wen Jiabao indicated in the Government's work report that the goal of China's economic growth in 2012 is 7.5%. The growth rates showed slowdown compared with the average 10% over the last 30 years. Such a reduction of “quantity” will create space for the improvement of “quality.” Over the next 5 years, it is expected that the energy consumption will decrease 16%, the proportion of non-fossil fuels in total energy consumption will increase to 11%, and forest cover will reach more than 21%. China will make efforts to develop cyclic economy, protect the environment, face climate change actively, increase the capacity for sustainable development, and build an environment-friendly society dedicated to the conservation of resources.

China is still a developing country, which GDP per capita corresponds to one tenth of developed countries. China registers great difference of development between regions and between urban and rural areas. As the world poverty line defined by the UN, a daily \$1 per person, there is a population of 150 million below the line of poverty in the country, which approximates to the population of Brazil. We need the understanding and support of the international community,

when we assume the arduous tasks such as elimination of poverty, improvement of people's life, reduction of greenhouse gas emission and transformation of the economy, among others.

There is a saying in an old Chinese book Zhouyi or Book of Changes: “Same target, different paths.” The developed and developing countries, which are in different stages of development, tend to differentiate themselves from one another, regarding to points of attention and emphasis when dealing with economic and environmental issues, nevertheless, must be observed and followed the spirit and the principles, particularly the principle of Rio92 “common but differentiated responsibilities.”

The achievement of sustainable development is responsibility and mission of the entire international community, which should, on one hand, take into account the concepts of justice, open cooperation, and reciprocal benefits, and on the other hand, achieve its consensus. In international cooperation, should be taken into full account of differences in the level and stage of development between the developed and the developing countries. We must overcome the difficulties faced by developing countries in the areas of capital, technology, and capacity.

## The pillars of sustainable development

The international community must focus on sustainable development, coordinating the economic, social, and environmental factors without deviations. The balanced and sustainable development can only be achieved if the three pillars move together and complement one another.

The free choice of sustainable development by countries should be respected, because of their different realities; there is no universal model of sustainable development. The key issue is that countries choose the path and mode of development as their own national realities. The international community should

fully respect the freedom of choice and ensure their political space.

The eradication of poverty is the overriding goal of sustainable development. Rio+20 also defined as one of the central themes, the green economy in the context of sustainable development and poverty eradication. China has the largest population in the world, and is the first developing country that achieved in advance the Millennium Development Goals in the area of combating poverty. According to data published by the World Bank, for the past 27 years, China reached 70% of the expected results of combating poverty, with the country finding a path corresponding to its reality.

We believe that the fight against poverty and sustainable development are not antagonistic, but articulated. The efforts of the least developed countries in the fight against poverty and sustainable development are not isolated, but components of the cause to the fight against global poverty. To continue to promote this work, we have to cope with certain points:

**DEVELOP INTERNATIONAL ENVIRONMENT FAVORABLE TO COMBATING POVERTY** – If we do not have a peaceful and stable international environment, the economic development will lose support. All countries must safeguard, actively, the world peace and stability, with political respect, with equality and mutual benefit in the field of economics, promoting the world economy for the direction of balance, of universal benefit, and with shared gains. In particular, it is necessary to respect the path and model of development chosen by each country according to its own reality, ensuring all people equal opportunity to develop.

**INCLUDE THE FIGHT AGAINST POVERTY IN THE GENERAL PLAN OF SOCIAL AND ECONOMIC DEVELOPMENT OF THE COUNTRY** – The fight against poverty, rather than be burden for economic and social development, is the driving force of social stability and sustainable development. In the context of the international financial crisis, the various countries must make efforts to recover the economic growth, maintain the ►



THE PARK ON THE BANKS OF THE RIVER ZHU JIANG, IN THE CITY OF GUANGZHOU, THE THIRD LARGEST IN CHINA, IS WITNESS OF THE NEW MODEL ADOPTED IN THE DEVELOPMENT OF CITIES, WHICH PROVIDES FOR THE EXISTENCE OF LARGE GREEN AREAS

stability of macroeconomics, and at the same time, it should consider the social effect of the economic policies, properly solve the question of income distribution and public resource. We need to create more jobs, improve social welfare measures, protect vulnerable groups, and make every effort to safeguard the results of the fight against poverty, which was not easy to achieve.

**DEVELOP JOINT FORCE FOR INTERNATIONAL CO-OPERATION TO COMBATING POVERTY** – The international community must assign priority and new measures to combat poverty in its cooperation and through multilateral institutions. International institutions such as the UN and the World Bank should bear responsibility to mobilize and organize forces from all aspects and boost the development of the cause of combating poverty. Developed countries must fulfill, in practice, the commitments of support, abandon protectionism, accelerate technologies transfer and help developing countries, especially the poorest countries to accelerate development. Developing countries should draw up strategies in the fight

against poverty which corresponds to its own feature, to strengthen South-South cooperation, and boost the mutual development and sustainable.

The continuous deepening of the international financial crisis impact and the highlight of the imbalance and instability of world economy recovery proves that some countries have practiced an unsustainable development model. Search a path and a model of sustainability that correspond to the realities of the different countries has become a pressing task.

According to the great Chinese philosopher Laozi, “Misfortune can be a blessing in disguise,” in other words, “the opportunities and the challenges always come accompanied, and can transform to each other.” The financial crisis can bring temporary difficulties and challenges, but in the long-term, it will be possible to transform challenges into opportunities and boost fully the process of global sustainable development, strengthen coordination and political will, fulfill the promises, and define the programme of action. All of this, since the international community has a greater awareness of urgency and responsibility.

## Sino-Brazilian cooperation

China and Brazil are the biggest developing countries of Western and Eastern hemisphere, respectively. Since the establishment of diplomatic relations Sino-Brazilian in 1974, and especially the establishment of the Strategic Partnership between the two countries in 1993, the pragmatic cooperation in all areas sees constants progress.

In recent years, bilateral relations have developed quickly and comprehensively, and maintained effective cooperation in multilateral groups such as the United Nations, G20 and Brics (group formed by emerging countries: Brazil, Russia, India, China and South Africa), contributing to peace and development in the world.

Nowadays, both countries are living an important development phase, facing similar situations and tasks in the area of sustainable development. The Chinese side is willing to deepen communications and collaborations with the Brazilian side in this area to achieve development objectives together. ■



NIKOLAUS BERLAKOVICH, FEDERAL MINISTER OF AGRICULTURE, FORESTRY, ENVIRONMENT AND WATER MANAGEMENT OF AUSTRIA,

# Green economy: a tool for sustainable development

Austrian Minister talks about the importance of Rio+20 for the socioeconomic development greener

“We have to show that the environment is not a threat to economic development.”

The phrase is the Federal Minister of Agriculture, Forestry, Environment and Water Management of Austria, Nikolaus Berlakovich. In article forwarded to “Missão Empresarial” Magazine - Special Edition / Rio+20, the Austrian Government representative commented on the opportunities that the UN Conference will provide for the deepening of the debate about sustainability. He also comments on the coordinated actions in the country regarding to environmental preservation. For the Minister, the concept of sustainable development is already one of the main guiding principles for public policies at all levels and, therefore, global cohesion on the topic is needed.

Rio+20 will be the major conference on sustainable development since many years. And it comes at the right time. After the economic crisis worldwide, and still many countries struggling with the aftermath, we need to put the international attention again on environment and development. Although, since the 1992 “Earth Summit,” there have been many outstanding developments – on regional, national, as well as international level – we are still facing considerable environmental and developmental challenges, such as climate change, reduced biodiversity, hunger, poverty eradication. We need to bring back all these issues to the highest level and give them a renewed boost.

The topic green economy is well chosen for the Summit. We need to show that environment is not a threat to economic development. It rather is a chance. Green economy creates a win-win situation in which green growth strategies and implementation tools contribute to economic growth, provide employment, promote equity and raise standards of living, while at the same time, reducing environmental damage. Austria, therefore, supports efforts to accelerate and broaden the global transition towards a green economy, which promotes sustainable development and poverty eradication.

The conference in Rio in 1992 resulted in the Rio Declaration, the Agenda 21, as

well as the Forest Principles. Additionally, three legally binding agreements were signed. All these instruments are still valid and being implemented. As an important consequence, a comprehensive number of actions related to sustainable development have been implemented globally, nationally and locally by various organizations of the UN, governments and stakeholders since then.

The years after Rio were mainly dedicated to set up new frameworks for various topics. Many legally binding instruments (Multilateral Environmental Agreements) were put in place. The focus of the Summit 2002 in Johannesburg then was on implementation. And now, twenty years after Rio, the world has changed but many issues are still at stake. Therefore, we do not have to reinvent the wheel.

One important topic, which has not been discussed at the Earth Summit in 1992 and is now at the fore of political leaders worldwide, is sustainable energy. As this issue is of growing importance to developing countries as well as future generations, UN Secretary General, Ban Ki-Moon, has identified a set of goals in his initiative “Sustainable Energy for All.” These goals encompass doubling the improvement in energy efficiency and the share of renewable energy sources in the global energy mix as well the achievement of universal access ►





to energy by 2030. Austria supports this initiative, as all three dimensions are the core of the Austrian energy policy.

## Policy actions

Sustainable development has become a guiding principle of political action and in shaping society and has led to the development of numerous initiatives by the Federal Republic of Austria as a whole, the individual Federal Ministries as well as the Federal Provinces. By developing the Austrian-wide Strategy for Sustainable Development (ÖSTRAT) in collaboration and in consensus among the Federal Republic of Austria and the Federal Provinces (Länder) a milestone has been achieved. Sustainability is no longer just an abstract concept, but can be experienced in practice.

Nine fields of action are defined in the ÖSTRAT: global responsibility, social cohesion and social capital, sustainability at local and regional level, eco-efficiency and resource management based on sustainable mobility, consumption and production patterns, responsible enterprises (CSR), education, communication and research in order to promote sustainable development, Good Governance - high quality cooperation between the government and the civil society, public health, preventive health-care and ageing, work under fair conditions for all. On the Federal level, a new Strategy for Sustainable Development is worked out at the moment, which includes the experiences and new developments of the recent years, seeing sustainable development as an ongoing learning process of the government and administration as well as society with its multi-faceted stakeholders and interests. The approach to deal with economic, ecological and social aspects has become more balanced and interrelated.

Austria has put in place strict environmental legislation already many years ago. This has not always caused applause by the companies. But, they have realized that they can also benefit from that. That is why Austria is well known for its

environmental technologies worldwide. We have world-leading companies in the renewable energy sector, waste management, waste water treatment, just to name a few. The environmental technology sector is still growing and by that creating new green jobs.

## Advances in green economy

A recent analysis of data of green jobs in Austria revealed that between 2008 and 2010 the green industry grew by 5,8 % while the national economy augmented by only 1,2 % during the same period. In 2008, there were approximately 194.000 green jobs in Austria. By 2010, this figure has grown to 210.000, which correspond to an increase of 9.6 %. During the same period employment in Austria decreased even by 0.7 %. Most of these green jobs were created in the field of sustainable energy. An outstanding example for a win-win situation of green economy in practice!

Cooperation, sharing know-how, developing common ideas and implementing projects are key. This brings me to another point: a major pillar of prosperity and wealth, both in the industrialized world as well as in developing and emerging countries, is the industrialization, however, often causing large ecological strains. Austria is for that reason very much supporting the UNIDO initiative "Green Industry" which is aiming, on the one hand, industrial development of developing and emerging countries and, on the other hand, at counter-acting potentially harmful effects on future generations as well as the environment.

Since 1992, the global integration of the economic cooperation intensified dramatically thereby enhancing the market access to developing countries as well. Green economy and sustainable development are often perceived as new protectionism. But, this is exactly not the aim. Green economy is a tool for achieving sustainable development and sustainable trade needs to be mutually beneficial for environmental, economic and

## Austria data

CAPITAL AND LARGEST CITY	Vienna
OFFICIAL LANGUAGE	German
GOVERNMENT	Federal Parliamentary Republic President – Heinz Fischer
INDEPENDENCE	November 12, 1918
AREA	- Total: 83,855 km <sup>2</sup> - Water: 1.7%
POPULATION	Estimate 2011: 18,217,280 inh Census 2001: 8,032,926 inh Density: 99 inh/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$ 351.4 billion Per capita: \$ 41,700
SOCIAL INDICATORS	Gini (2007): 26 (low) HDI (2010): 0.851 (very high) Life expectancy: 79.9 years Infant Mortality: 4.4 /1000 birth Literacy: 99.0 %
CURRENCY	EURO (EUR)
ISO CODE	AT
INTERNET CODE	.at
PHONE CODE	+ 13

social aspects. This means that the most vulnerable in societies will benefit.

Experience proved that there seems to be no "one-size-fits-all" approach. Specific circumstances and conditions of regions and countries have to be taken into consideration, making sure that they are country-driven and go hand-in-hand with national ownership. Moreover, the transition towards a green economy has to be based not only on a dynamic and innovative private sector, which subscribes to the goals of corporate social responsibilities but also on the strong involvement of a number of stakeholders.

As host country, Brazil has a particular role to play, providing hospitality, a good atmosphere for the thousands of participants as well as a clear vision and ambition for the outcome. Knowing the professional approach of the Brazilian team for Rio+20 I am convinced that Brazil will be a fantastic host and will do the utmost that "The Future We Want" is the future we get. I am very much looking forward coming to Brazil in June. ■



TOMÁŠ CHALUPA – MINISTER OF ENVIRONMENT

# Advances and contribution of the Republic Czech to the Rio+20

Over the two last decades, the Czech Republic experienced an extraordinary economic transformation, which brought about a number of positive developments for social and environmental dimension. Symbolically, the changes after 1989 in our country resulted not only in democratic freedoms (which can be put into a Czech metaphor “to breathe freely”) but also in breathing much cleaner air thanks to significant measures taken in 1990s.

In the second decade of the 21st century, the Rio+20 Conference is a big opportunity to bring together all countries and stakeholders, who can – building on their individual and concrete experience – articulate and confirm a common orientation towards the path of prosperity. To this end, the Czech Republic has been also working in the Bureau of the Preparatory Committee. The preparatory process for Rio+20 has been marked by a very good level of cooperation between governments and non-governmental actors.

In the future perspective, the success of Rio+20 will be measured not only by its immediate outcomes, but also – and particularly – by the follow-up implementation of its outcomes. In this

context, we believe that it is crucial to focus on the triple “C” – creativity, coherence and cooperation. Creativity expressed through innovations is necessary to strengthen our economies and enterprises and at the same time to address multiple challenges of today. They require smart solutions reconciling both economic and environmental dimensions while having also social benefits in creating new working opportunities for people and keeping government expenditures under control. In this regard, the governments’ task is to set an enabling framework which will ensure that markets operate with a minimum of distortion while including all significant externalities, aiming at gradual decoupling resource use from economic growth and fostering eco-innovation.

The Czech Republic believes that there is a need to use a mix of instruments to facilitate the transition to a more resource-efficient, innovative and smart economy that will bring benefits to all citizens. At the national level, economic instruments are used to promote heating installations in buildings utilising renewable energy sources and to encourage investment in energy savings in reconstructions and new buildings. The implementation

“The Czech Republic will strive to support innovative solutions and smart technologies which in the end will lead not only to better environmental protection and energy efficiency but will also increase employment rate, strengthen economy and keep state expenditures under control”

leads not only to CO<sub>2</sub> emissions reductions but brings also other benefits such as reduction of energy consumption for heating and replacement of coal, lignite or fuel-oil boilers for renewable energy sources contributing to air pollution reduction (caused particularly by dust, SO<sub>2</sub> and NO<sub>x</sub> emissions). Further benefits are jobs (mainly in construction sector) kept or created during the time of economic recession and also household savings in payments for energy. ►



ERZGEBIRGE LAKE, A WATER RESERVOIR NEAR MÝSLIVNÁ IN THE ORE MOUNTAINS, CZECH REPUBLIC

Jiri Foltyn/Shutterstock



ČESKÝ KRUMLOV, A MEDIEVAL CITY IN CZECH REPUBLIC

Also, promoting innovative and smart solutions as well as cooperation among government, private sector, academia and R&D in the Czech Republic was supported by a joint project of the Ministry of Environment and the Academy of Sciences called “Smart Solutions for the Environment”. The project encouraged talented high school and university students to join the competition with their path-breaking ideas for expert and innovative solutions to specific environmen-

tal problems (water treatment technologies, emissions reduction technologies, material and waste recycling, development of new analytical methods for detection of harmful substances).

In line with the Czech Republic's Strategy for International Development Cooperation for the time period 2010-2017 special attention in development projects is devoted to improvement of the environment and promotion of environmentally-friendly technologies and sustainable use of resources. The current projects focus on development of technologically advanced approaches in the area of waste and waste water management and treatment, use of renewable energy sources at municipal and local level (Balkan region), sustainable management of land, forest and water resources (African region), electrification of remote areas using sustainable (solar) technology of electricity generation (Caucasian region), development of organic farming (Eastern European region), analysis of pollution and restoration of industrial zones, building new water sources or restoration of the old ones, development of water resources management, and development of renewable energy sources for rural areas (Asian region).

## Czech Republic data

CAPITAL AND LARGEST CITY	Prague
OFFICIAL LANGUAGE	Czech, Slovak
GOVERNMENT	Parliamentary Republic President – Václav Klaus
FORMATION CZECH REPUBLIC	January 1, 1993
AREA	- Total: 78,866 km <sup>2</sup> - Water: 2 %
POPULATION	Estimate (2010): 10,674,947 inh Census (2001): 10,230,060 inh Density: 133/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2010 (USD)	Total: \$ 258,959 billion Per capita: \$ 24,832
SOCIAL INDICATORS	Gini (2008): 26 (low) HDI (2010): 0.841 (very high) Life expectancy: 76.5 years Infant Mortality: 3.8/1000 birth Literacy: 99.0 %
CURRENCY	CZECH Koruna
ISO CODE	CZ
INTERNET CODE	.cz
PHONE CODE	+420

Based on our experience, we will support the implementation of the whole range of above mentioned issues in the follow-up to Rio+20. Our aim is to build upon and further develop the successful Green Investment Scheme called “Green Light for Savings” which has been aiming on investment in energy savings in reconstructions and new buildings.

The Czech Republic is doing its best to contribute to solving the most pressing global environmental issues. However our limited capacity is one of the reasons why we focus our measures on national level where they are most effective. The Czech Republic will strive to support innovative solutions and smart technologies which in the end will lead not only to better environmental protection and energy efficiency but will also increase employment rate, strengthen economy and keep state expenditures under control. ■





LOUISE FRESCO,<sup>1</sup> DUTCH NATIONAL PLATFORM RIO+20

## “REKINDLE THE SPIRIT OF RIO”

“Twenty years ago, expectations were high. We had the Rio Declaration and the Agenda for the 21st Century. Since then that Spirit of Rio has become a small pilot flame, hardly discernible in the international forums”, says Professor Louise Fresco, president of the Dutch National Platform Rio+20. “Now is the time to rekindle that Spirit of Rio to stimulate the bottom up initiatives for a green and inclusive economy.”

### What are your expectations for Rio+20?

LOUISE FRESCO - My expectations for Rio+20 are not very high. This has nothing to do with the topic; many companies and organisations are still acknowledging the importance of sustainable development. My pessimism is mainly due to the changing relations in the world. Up and coming industrial nations are fighting for a place and the older generation of industrial nations are finding it difficult to adjust. This leads to a blame game, which has led to the blocking of agreements that were made back in 1992, on topics like climate change and biodiversity.

**In 1992, the city of Rio de Janeiro hosted the United Nations Conference on**

### Environment and Development, which gathered 172 countries.

#### In your opinion, what has changed since then?

LOUISE FRESCO - Twenty years ago, over a hundred heads of state attended the UN conference and ambitious plans and agreements were drafted like the Rio Declaration and the Agenda for the 21st Century. It is sad that the fire that was ignited back then is hardly more than a pilot flame now in international organisations and forums. At the same time we see that others are reigniting this flame. Charities and organisations have left doomsday prophesying behind them and have started inspirational initiatives to lead to a greener economy and to implicate sustainable development ideas.

In the Netherlands, for ex-

ample, some young people came up with the idea to make soup and jam from fruit and vegetables past their sell by date. Companies are also increasingly aware of sustainable growth. On the one hand they realise that their raw materials will not remain available at low cost forever. This is why they are investing in a sustainable supply chain. On the other hand, they are taking their social responsibility seriously. And it is paying off for them; Dutch multinationals that are highly ranked in the Dow Jones Sustainability index can also be found high up in the Dow Jones index itself.

### What can the government do to stimulate and strengthen sustainable development?

LOUISE FRESCO - Sustainable development is not about having growth or no growth. Growth will be here; it is derived from the want of people for a bet-

ter life. Four out of every five people on this planet do not yet have access to the basic living requirements: enough to eat, a roof over their head and access to healthcare. This alone will keep the world economy growing over the next few decades.

Sustainable development is about efficiently organizing our production and consumption; like those youngsters that are finding a new use of food that would have otherwise been discarded. It is also about closing product cycles, allowing us to drastically reduce our use of primary raw materials. It basically means we have to organise our production and consumption processes like an ecosystem, where the waste of one process is used as the raw material for another.

The government has to create the conditions that will allow these ecosystems to develop. For example, making ►

1. “THIS INTERVIEW WAS GIVEN IN HER CAPACITY AS CHAIR OF THE NATIONAL PLATFORM RIO+20, A CIVIL SOCIETY FORUM ESTABLISHED IN 2011 TO ORGANISE STAKEHOLDER CONSULTATIONS IN THE NETHERLANDS PRIOR TO RIO+20.” VIEWS EXPRESSED DO NOT NECESSARILY REFLECT THE VIEWS OF THE NETHERLANDS’ GOVERNMENT.

landfill and incineration of waste more expensive, would provide incentive for companies to (let others) reuse their waste streams. Dumping waste into the atmosphere or into the water should be heavily taxed. Not just to stimulate reuse, but also to clean up the environment.

Eventually this should lead to us paying the 'true price' for products and services, which includes the cost to society of a certain product. This does not just mean pollution, but also exhaustion of natural resources, and underpayment and exploitation of workforces. By simultaneously lowering taxes on labour, many 'green' jobs can be created in the areas of recycling and repair.

#### How does the Dutch government interact with the Dutch companies in order to deal with environmental issues?

**LOUISE FRESCO** - Twenty years ago, it was mainly a command and control approach: there were legal limits to emissions that were translated into permits and the government checked whether the permits were complied with. At least in theory. In practise it did not work so well, which from time to time allowed companies to ignore the emission limits for years. This all changed after the first Rio-conference. Instead of strict regulations, agreements were made between the government and companies to, for example, reduce the emission of nitrogen oxides by 80 per cent over the next ten years. Companies were left free to work out the methodology to achieve this,

as long as the targets were met. This allowed them to be more flexible in their operations.

Companies now realise that they form part of a chain that starts with the supplier of the raw materials and ends at the end-user of the product – or even further – at the waste processing facility. If you want to have an impact on the environment, you should not look at each link in this chain individually, but look at the chain as a whole. The government in the Netherlands plays a role in this by brokering 'green deals', where the individual members in a chain agree to reduce the environmental impact of the whole chain and save on raw materials.

One example is the Green Deal that was made last year to close the phosphate cycle. More than twenty parties – from producers of chemical fertilisers to the wastewater cleaners' branch organisation – have agreed to the obligation to keep as much secondary phosphate in the cycle.

#### In your opinion, should developed countries work together with emerging countries to elaborate more integrated projects related to environmental as well as developmental and sustainability issues?

**LOUISE FRESCO** - The key to sustainable development, in both developed and developing countries, is education and research. Developing talent and technological and social innovations – combined with good governance – are the key conditions for sustainable economic growth.

If I had the choice, I would give talented people from developing countries a fellowship to study in the Netherlands with the obligation to stay here or in their homeland and work their chosen trade for a number of years, for example in health care or agricultural research.

I would also invest heavily in scientific research, both in the Netherlands as well as in emerging countries in all areas relevant to sustainable development: human and animal health, energy, transport, nutrition, material science. This would kill two birds with one stone: The resulting innovations would provide answers to the grand challenges we are facing now, whilst at the same time they would lead to growth and creating jobs.

#### Do you think that an advance of the sustainability debate will affect international trade?

**LOUISE FRESCO** - Free trade was and is an important driver of progress and therefore of sustainable development. So no, I think that the steps we are taking towards a green economy will not impair the free exchange of goods, services and information. There are, however, a few matters that will need some attention.

For starters, free trade can be an impediment for countries to develop their own industrial capacity, resulting in an unnecessarily long delay in the development from a traditional agricultural economy to a modern economy based on industry and services. Protectionism can be a factor here and agreements would have to be made.

"Companies now realise that they form part of a chain that starts with the supplier of the raw materials and ends at the end-user of the product – or even further – at the waste processing facility"

**LOUISE FRESCO**

The second issue involves the volatility of capital. With the speed of light money crosses the globe looking for that quarter percentile profit. Investors do not tend to look beyond the horizon of next quarter's profits. Companies that are investing in sustainable development need continuity, also from investors and shareholders, to realise their long-term vision. I do not know whether a tax on flash capital would be the best solution, but it is a problem that warrants consideration.

The third problem involves the creation of a level playing field. Companies that do not just look at profit, but also take the planet and its inhabitants into account sometimes incur more costs than those that do not. It would be good if the international trade systems would ►



## Contemporary view on shipping

Concordia Group has their own ideas about the shipping industry. Innovative thinking and an open-minded view have enabled us to grow into to a well-known and reliable partner in inland shipping. Concordia Group is mainly engaged in offshore related rebuilding projects and transport of hulls and project cargo all over the world. The company is also very active in Brazil where it possesses an import and export license.



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introduce measures that would prevent the distance between the frontrunners and the laggards from growing too large.

#### How do you see Brazil in this process?

**LOUISE FRESCO** - I think the Brazilian model offers perspectives for sustainable progress in combination with democracy and justice. Over the last twenty years this country of 200 million inhabitants, has developed into a world player. In parallel with this progress for large parts of the population, Brazil is attempting to manage its natural resources as efficiently as possible. Of course there is criticism of the management of the Amazon area, but Brazil has developed a very advanced method for the real time monitoring of changes in rainforest vegetation. New

laws are ensuring that large parts of the rain forest are being protected.

The Brazilian model could be an example to other countries. It is based on a successful marriage between progress, democracy and social justice. This has led to the emergence of a self-aware middle class. In my opinion this offers a better perspective on sustainable development than the state-led market paradigm of China, or the bureaucratic capitalism practised of India.

#### Is there any partnership between Brazil and The Netherlands in the area of sustainability?

**LOUISE FRESCO** - Brazil and the Netherlands have a common interest in sustainable development. It has brought us

together for instance on the issue of bio-energy. Both governments are committed to develop clean and affordable sources of renewable energy. The cooperation covers the whole value chain: from production of energy to logistics and transport. As the main access to Europe, the Port of Rotterdam plays of course an important role in export of Brazilian bio-fuel. The agreement between our countries on bio-energy also includes the transfer knowledge of renewable energy production to developing countries and helping them in setting up their own projects. Another example is the Round Table on Responsible Soy (RTRS). The Netherlands is the second largest export destination of Brazilian soy after China. RTRS and its certification system guarantee sustainability throughout the supply chain, from the production in South-America to the Western-European end-user.

“Of course there is criticism of the management of the Amazon area, but Brazil has developed a very advanced method for the real time monitoring of changes in rainforest vegetation”

**LOUISE FRESCO**

### The Netherlands data

CAPITAL AND LARGEST CITY	Amsterdam
OFFICIAL LANGUAGE	Dutch
GOVERNMENT	Constitutional monarchy / Monarch: Beatrix der Nederlanden / Prime Minister: Mark Rutte
Independence Recognized	January 30, 1648
AREA	- Total: 41,848 km <sup>2</sup> - Water: 18.41 %
POPULATION	Estimate (2011): 16,654,200 inh / Census (2001): 16,105,285 inh / Density: 404/km <sup>2</sup>
GDP (PPP) / ESTIMATE 2011 (USD)	Total: \$704.034 billion / Per capita: \$42,183
SOCIAL INDICATORS	Gini (2006): 30.9medium / HDI (2011) 0.910 very high / Life expectancy: 79.8 years Infant Mortality: 4.59/1000 birth / Literacy: 99.0 %
CURRENCY	EURO (EUR)
ISO CODE	NL
INTERNET CODE	.nl
PHONE CODE	+31
WEBSITE	www.regering.nl

#### Do you believe that the current international financial crisis can divert the debate to environmental and sustainability issues?

**LOUISE FRESCO** - The international financial crisis is stimulus to adjust our economic system so that seven (and soon nine) billion people can live a good life within the limits of the planet's resources. What those limits are, we do not yet know. What is important is that we minimise the negative effect of our production and consumption.

We should not live with the illusion that we can design and build a new economic system. The current economic system

was not designed either, but emerged accidentally, with its ups and downs along the way. What we can do is to try and develop tools to minimise the negative effects of our production and consumption. I mentioned green taxation earlier, which would include the costs to society into the price of a product. Another possibility is the public ownership of our public goods, such as oceans, the atmosphere, but also biodiversity. I will be a very happy person if we can rekindle the Spirit of Rio from twenty years ago, and make some real progress towards a more sustainable development. ■

# The difficult sustainability between cities and their waters

When the cities spread over the spillways of river basins, the rivers get less and less of their dynamic natural formation. There are so many anthropogenic interventions forged in man's benefit such as amendments, burying, dams, channeling, and transpositions, which destroy their major hydro-morphological features brutally. To coexist in harmony with the environment, the cities must consider water as part of the urban landscape and redeem its natural functionality.

CARMEN LUCIA VERGUEIRO MIDAGLIA

**T**he idea that population growth may propagate indefinitely, increases environmental misery in areas already weakened due to lack of infrastructure, causing unworthy and unsustainable living conditions.

Among critical themes to be discussed in Rio+20 Conference, cities and waters are part of the everyday life of people. The historical process of cities occupation usually shows that the pressure exerted by life in society on water resources, cause losses to ecological integrity in the environment. Due to the growth of urbanization phenomenon, on a fast and disorganized basis, the preservation of natural resources becomes a great community challenge for urban life in the whole planet. Given its vital importance, water is certainly one of the most valuable natural resources to be preserved. Worldwide, cities have been spreading through its surroundings landscapes, creating new limits, which end up encompassing remote areas, formerly disregarded, such as foodplains, marginal lagoons, springs of waters and moun-



IBIRAPUERA PARK IN SÃO PAULO

taintops. Many of them are considered risk areas, and once occupied, whether for homes, cultivation, or other human activity, transform decisively the waters' space and the way they move. When cities have no respect for their rivers and meanders, the bridges become crossroads, which confront a pseudo urban development and unsustainability of dirty waters.

The unbalanced distribution of fresh water resources on the Earth surface is a natural phenomenon, like so many others. Contrarily what is usually heard that water is running out, we must bear in mind that the water on Earth is stable. The same cannot be said about the amount of people inhabiting the planet, a number that has been increasing. So, water does not run out, but can suffer change in state due to climate changing from liquid to solid (ice) or gas (steam). It is also normal the change of water

quality through natural processes, since hydric bodies are subject to the actions of weathering, varying according to the season of the year and the hydric season (dry or rainy). In urban areas, its chemical composition is affected by diffuse pollution and for this reason is less available to the 3.5 billion of human beings living in large cities.

The quality of water in major cities reflects the types of use and care of the surrounding community inhabitants, through its multiples uses (supply, hydropower, transport, leisure, agriculture and waste of effluents), and the water condition after being used. Poor conditions of urban water's aquatic life show primarily the result of lack of synchronicity as regards urban policies, developed by several spheres in the government, either in regions located upstream or downstream of pollution sources.

The concentration of polluted water ►

and the degradation in rivers and oceans are some typical factors resulting from the current anthropocentric era, whose very well-known interferences have become ever more intense in almost all of the corners of the Earth. The situation claims urgency of a global mobilization, as it is expected to happen at Rio+20.

Therefore, migration of this suitable and limited part of fresh water to human life to other physical conditions or compositions may be dramatic and entail unpredictable and undesirable future scenarios. As we cannot build a new planet, we have to recreate our life style and manage the fresh water on a sustainable basis, because its use is not limited only to the human species, it affects all existing life.

There is a growing demand for clean water to supply the population growth of cities, where inhabit 55% of 7 billion inhabitants<sup>1</sup> and 85% the population of São Paulo.<sup>2</sup> The global urbanization process does not show signs to regress. Such densification within and on the edges of urban areas by socioeconomic activities leads to concentration of solid and liquid wastes generated by aggressive processes, with pollutants of all sorts. Therefore, in this context, there is nothing to say about sustainable development due to the mere lack of proportionality between people, space and waste.

So, to overcome the problems and face these challenges it is necessary to establish a permanent dialogue between cities, their rulers and representatives of organizations in defense of waters (rivers, lakes, or seas). With so many challenges, there is certainly a long path to meet the goals proposed by the Conference Rio+20.

1 <http://esa.un.org/unpd/wup/Documentation/highlights.htm> (Mar, 2012)

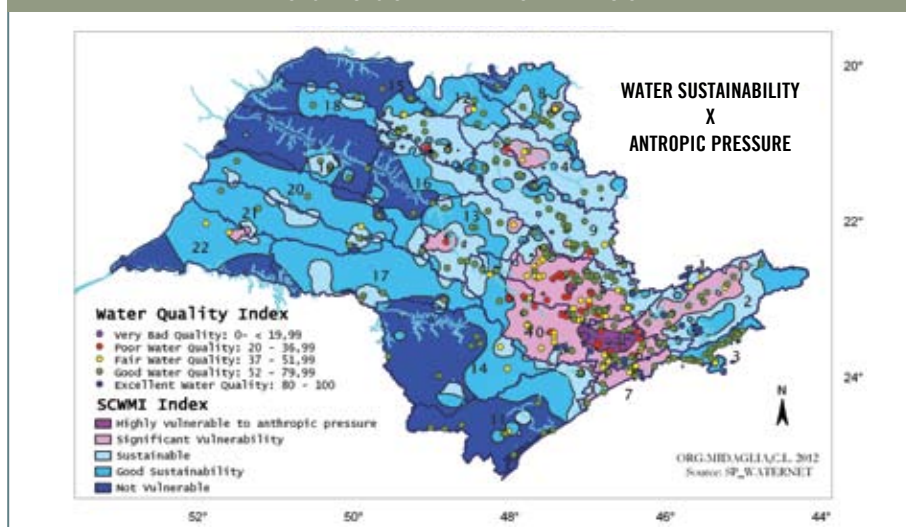
2 [www.ibge.gov.br](http://www.ibge.gov.br) (Dec, 2011)

3 <http://www.teses.usp.br/teses/disponiveis/8/8136/tde-03022010-165719/pt-br.php>

#### CARMEN LUCIA VERGUEIRO MIDAGLIA

PhD Human Geography at University of São Paulo; Post-graduate - ITC/UT - Netherlands; Member of Historic and Geographic Institute of São Paulo; Senior Geographer CETESB - Environmental Company of São Paulo

2011 SCWMI – SPATIAL COVERAGE WATER MONITORING INDEX MAP  
SÃO PAULO STATE AND IT'S 22 WRMU'S



## The SCWMI index and the sustainability of water quality

The possibility to use the spatial geographic analysis of water resources management is, today, an essential instrument to understand the water dynamics, both for the analysis of the variables interfering in its quality as its follow-up. In practice, a full holistic approach is impossible to be modeled, and the simple combination of anthropic factors, space density for monitoring network and the annual average of the outcomes on quality of water (IQA) are sufficiently capable to provide a comprehensive statewide scenario, showing the most vulnerable areas in this context.

Considering that there will be no spontaneous decrease of pressure exerted by the planet's human uses, any proposal for a greener economy in the context of sustainable development must be seen as the beginning of a long process of contraposition supported in exploring water resources excessiveness, if this fact is followed by decrease in population density. So, there is room for study proposals concerning territorial and environmental planning, with emphasis on water resources management, as well as recovery of river basins in urban areas

"The quality of water in major cities reflects the types of use and care of the surrounding community inhabitants, through its multiples uses"

CARMEN LUCIA VERGUEIRO MIDAGLIA

and identification of more susceptible areas to human action.

Spatial Coverage Water Monitoring Index (SCWMI)<sup>3</sup> is the result of crossbreeding georeferenced maps on a multi-criteria analysis encompassing two main groups of variables: anthropic and environmental, in which ascribe weights. The idea is to confront the anthropic impacts through population density and the macro-use of soil, featuring environmental costs (0.45%) and the environmental variables referring to management of water quality with calculated IQA, the density of monitoring network and the annual average of water quality, associated with benefits (0.55%). Consequently, vulnerable areas were identified for the State of São Paulo in 2011, as shown in the map. ■