

TECHNOLOGY – CLIMATE REGULATION IN THE MERCOSUR REGION



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INTRODUCTION

Technology plays a major role in environmental issues, it serves as an active agent from the market of goods and services - final, intermediate and production-in which has a dual action on one side takes natural and environmental resources valorize economically and introduce them into the market, influencing consumers to purchase within commercial contexts globalized indicators of high competitiveness, sustainability and productivity. On the other hand, the application of technology, leading to the biosphere in a return of waste, toxic waste becoming an entropy, which logically deteriorates its useful capacity.

In this sense, the environment is designed as one of the defining elements of survival. This factor defines business functions, in terms of resource productivity, implementation in obtaining goods and services, quantitative and qualitative consequences regarding the use of raw materials, among others, which will reduce or enlarge their field of action within a given sector (Montoya, 2006).

In this task, they have been engaged several international organizations, non-governmental organizations (NGOs), among others, in order to adopt environmental technologies (TMA) reducing industrial air emissions, where regulations and policies of ecological order are included in the search synergies or virtuous circles that facilitate sustainable development in the environmental impact of economic growth in countries open to international trade is minimized.

Defined by the European Commission: "environmental technologies include both integrated technologies that prevent pollutants being generated during the production process, and technology end of the process, which reduce emissions in the environment of contaminants that have occurred . They can also include new materials, efficient production processes regarding resources and energy, environmental knowledge and new working methods. "

The constant improvement of environmental protection is not only a challenge that companies face but a necessity requiring a search continues for new organizational systems, new processes, new technologies applied in order to obtain the highest level of quality and effectiveness in business strategy, minimizing the negative impact on the ecosystem.

Many Latin American countries are facing such problems quickly with the growing demand for energy and transport services, industry and agriculture, among others, are forced to

make important decisions about technology such as replacing their capital reserves to provide these services.

The transfer of technologies friendly to the environment includes tools and soft services, such as consulting, technical and legal advice, training, among others, which results in a reduction of emissions of greenhouse gases and avoid the impacts of global warming. In the context of globalization today no industrial, commercial or service policy, like social will succeed if it ignores the need to incorporate the principles of sustainable development as economic growth guides.

Gone are the times in which natural resources usufruct and produced the most without considering the environmental impact that was generated. In these times it is necessary to adopt appropriate methods of environmental management in response to the drastic changes in production systems industries; marketing channels for products and the distribution networks of services, also the effects that would produce any technological integration into the social group within this century and in future.

Often, first of all necessary to establish firm action to bring about technological change. Necessity remains the mother of invention: increasing incentives and rising legal standards almost invariably bring new technologies to market, sometimes even bringing out inventions made long ago but not commercialized because of the desire to get the maximum possible value of technologies already established before taking the risk with something new.

LEGAL FRAMEWORK

Framework Programme for Science, Technology and Innovation of MERCOSUR for the period 2015/2019

The Common Market Council approved the Framework Programme for Science, Technology and Innovation of Mercosur, the program's mission is to consolidate the construction of a Mercosur area of Science, Technology and Innovation CTI that promotes the integration of existing capabilities in the bloc, function common problems and priorities that promotes sustainable and scientific and technological development that allows interactive productive complementation and reducing social inequalities of each State Party.

Strategic Objectives:

Industrial dimension and Institutions

Dimension of Sustainable Development (Social and Environmental)

Dimension of National Science, Technology and Innovation

Research, Development and Innovation in Advanced Energy

Information Technology and Communication

Development of Biotechnology

Research, Development and Innovation in Water Resources

Research, Development and Innovation in Nanotechnology and new materials

Nanobiotechnology

Research, Development and Innovation in Health and Drug

Research, Development and Innovation in the area of Environment and Climate Change

Research, Development and Innovation in the area of Agribusiness

Full document

www.recyt.mincyt.gov.ar/files/ProgramaMarco/Programa_Marco_CTI_2015-19

THE ROLE OF COMPANIES

Businesses are anticipating the era of green products from appliances to solar panels. Even in companies that can not take advantage of green markets action against climate change fits in the logic of corporate social responsibility, which gives priority to the good reputation of the company, the relationship with local communities and employee satisfaction . Finally, companies must adapt to a world with less climate stability. For example, the increased incidence of extreme events will influence the decisions taken in relation to infrastructure construction. Most of the five hundred largest companies in the world have set targets to reduce emissions.

Risks arising from climate change are:

Risks for companies

physical hazards

Damage to property, assets and distribution networks. Reduced availability of natural resources such as water and wood for production and services.

Security risks

The increased competition for scarce resources could lead to conflict or other security risks in some parts of the planet, and lead to global instability and collapse in supply chains.

financial risks

The cost of insurance will increase, particularly in vulnerable regions for example, costeras-areas. The income of many companies will decrease as a result of lower demand for carbon-intensive products, and will be higher operating costs of fossil fuel industries. There will also economic losses in those markets affected by the physical impacts of climate change.

Risks of competitiveness

The dynamics of business operations and demand change in the areas of production and services that are affected by a world that use less, relative or absolute, fossil fuels. Companies that anticipate these changes will have a competitive advantage.

Reputational risks

Many brands lose value by shareholder pressure and increased competition to attract consumers, aware of the need to consume products and services with less carbon content. If

they prove not to be part of the solution, companies risk being considered part of the problem.

Three Pioneering

Marks and Spencer: a company without carbon emissions in 2007, this British store promised to make its supermarkets in 'carbon neutral' in five years, in other words, its operations will have no net emission of CO₂. How? Among measures the company plans to not send their waste to landfills supermarkets by 2012, will use waste in biogas production in more than five hundred stores in the UK. In addition, it will seek the closest possible suppliers in Ireland and Britain, to minimize the transport of foodstuffs and the consequent greenhouse gas emissions. To offset emissions that can not be avoided will plant trees and invest in green technologies. All this is part of a complex program for the environmental sustainability of the company, consisting of one hundred points, which also includes the use of biodegradable packaging or made from recycled or materials from sustainable sources, and manufacturing of garments with cotton from trade right, among others. The costs of this transformation are estimated at about US \$ 400 million, but is not expected to be needed to bill consumers. In 2009, Marks and Spencer began to buy all the electricity for its stores in England and Wales from wind.

Swiss Re: when climate change puts the business at risk the insurance sector is one of the industries most concerned about climate change. The number of weather-related disasters increased from sixteen in the 1960s to seventy-two in 1990. This was one of the key factors for insured losses in some industries increase twelve times between the sixties and ninety. Extreme events become less predictable and their impacts increase, putting in question the viability of the insurance industry. Swiss Re, the world's largest reinsurer, began to take seriously the threat of climate change ten years ago, when he published his first report on the matter. John Coomber, its President, went on to state: "The risk of climate change is real. It's here. Today it is affecting our company. " The company has a goal of total elimination of their net emissions by 2013. In 2005 he enrolled in the Chicago Climate Exchange, an initiative that legally obliges its members to reduce emissions. In addition, the company seeks to promote the wider issue. Using its position as an investor to put pressure on others to reduce their emissions, and has joined with more than ninety insurance companies and the United Nations Environment Programme to promote an

intergovernmental solution to the phenomenon. Because of these actions, Swiss Re was chosen by the magazine Scientific American as the leader of 2006.

Agribusiness palm oil Colombia: Towards a friendly sector in Fedepalma environment, the guild agribusinesses palm oil Colombia, is promoting an umbrella project under the clean development mechanism of the Convention on Climate Change . It is capturing the methane produced in the pools of industrial water treatment thirty-two extraction plants palm oil, located in various regions of the country, a program that has already been approved by the United Nations. Methane is captured using a technology already used in various industrial plants: Carpar pools and drive the gas to an electricity generator. The electricity produced will not only some of the companies to be self-sufficient in energy, but also may sell their surplus to the network. the annual equivalent amount of carbon that all industries will stop broadcasting is estimated at 750,000 tons. This will entitle you to issue 750,000 certified emission reduction (CER) annually, whose value depends on the market price at the time to place all or part of them. If we assume a low price (\$ 5) amount to US \$ 3,750,000 per year. When considering different scenarios of price per ton of CO₂ it was found that the investment is profitable. This umbrella project is part of the environmental policy that leads Fedepalma for some years. The union has also pointed out the need to better manage CO₂ emissions from industrial plants, in order to complement its methane capture project, pending issue on the environmental agenda of most plants. But, ultimately, to agribusiness palm oil Colombia is friendly to the environment should take as a fundamental behavior not cutting down natural forests or destroy other strategic ecosystems by environmental services, with a view to expanding the cultivation.

ARGENTINIAN REPUBLIC

Technology and Climate Change

The impetuous technological development has led to the transformation of the conditions of human life, reduced mortality and increased life expectancy at birth. As a result of this the world's population it has increased several times and increased energy expenditure, food production and the need for consumer goods in general. Environmental pollution, deforestation, the emergence of large cities and other phenomena have become a problem for humanity and health.

The challenge for science, technology and innovation is the ex ante environmental approach. Scientific knowledge and adoption of appropriate technologies are indispensable tools for preserving and ensuring rational use of the abundant natural resources available to the Argentina, so as to prevent damage of magnitude.

In this context, technological innovations can be analyzed from various perspectives, either in terms of their associated with increased yields, the soil conservation, care of the environment, reduction of costs, etc. effects Given its nature, technologies that impact on agricultural production include:

Biological: today focused on genetically modified organisms, but traditional plant breeders developments continue to improve and get new cultivars, hybrids.

Agrochemical: focused on fertilizers, herbicides, insecticides and fungicides.

Mechanical: focused towards the efficiency of equipment, most versatility and ability to work, incorporating electronics, computing and operator safety. Irrigation, until today, is a limited practice.

Management: by using the above technologies, strategies for crop management currently standing efforts in increasing productivity associated with conservation and sustainability are improved, whose highest expression is direct seeding, balanced fertilization and precision farming using satellite data, remote sensing and application of geographic information systems (GIS).

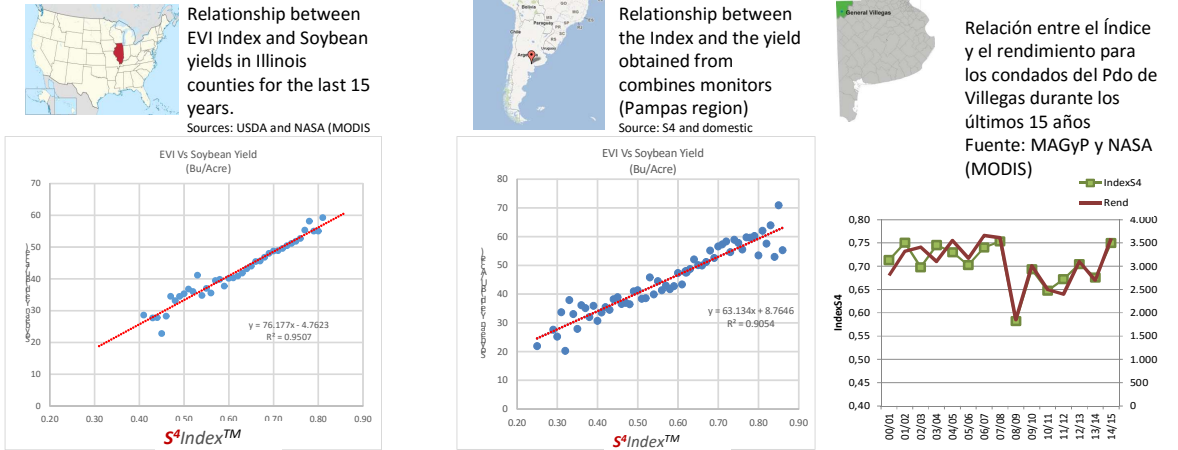
Individually or in combination, these innovations impact on various aspects of the production system either in the occupation of labor, in the free time available, in the agrarian structure and the areas for each activity. Also they impact on the timeliness, quality and quantity of grain produced.

In this context Argentina in agriculture Agetch S4 technology in its Web platform producers manage information for decision-making. This information has agreed language environments and corresponds with drawings on an interface of geo-referenced maps. The information generated is synthesized in real-time reporting, allowing to generate a control board to assess the progress of the agricultural operation.



S⁴Index™ Reliability: Global model

Through our algorithms, we found excellent correlations (>90%) between the S⁴Index™ and crop yields for different regions



9/18/2015

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In the industrial sector, the proposal 25C (77F) team "KIRI" Technological Institute of Buenos Aires (ITBA) is winning the international competition MIT Climate Colab in category "Industries" with an idea that claims that air conditioners use less Energy.

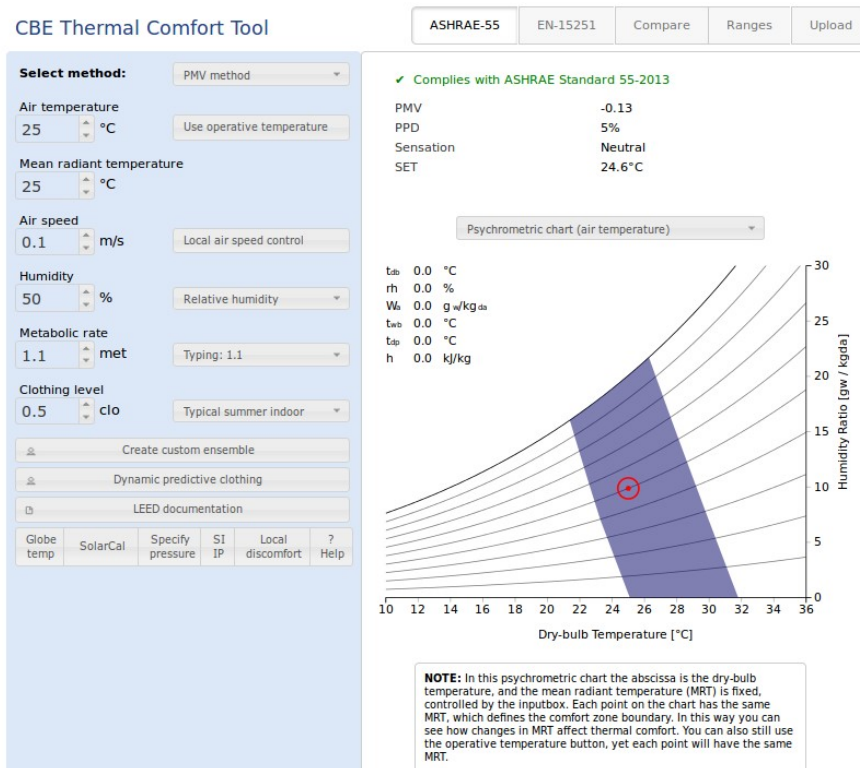
Mit Climate Colab competition organized by the Massachusetts Institute of Technology (MIT), seeks to address the challenge of global climate change. A total of 60 initiatives were presented and participated in the contest 500 participants from around the world. The selected proposal was the group "KIRI" composed of students ITBA and Argentine engineers, and coordinated by the engineer Eduardo Fracassi, leader of the initiative Awareness of Climate Change ITBA.

The project proposes that residential air conditioning, when used in "cool" mode or cooling have a minimum temperature of seteo 25 ° C (77 ° F) since the power consumption is greatly increased by changing a few degrees of temperature. For example, if we change the setting of the air conditioner 23 to 25 degrees, saving energy passes from 4% to 14%.

This approach benefits both users and distribution companies and power generation. Users save energy while maintaining a comfortable temperature and businesses, decreasing energy consumption, less investment will be required to keep the network avoiding service outages energy.

If implemented the proposal on a global level, the cost of energy would decrease some 29,500 million dollars and total energy would save 327 TWh, equivalent to the annual electricity consumption of countries like England or Italy.

The team name came up in relation to Kiri tree, characterized as Chinese and able to grow in infertile soils origin because it absorbs ten times more carbon dioxide than other plants.



FEDERAL REPUBLIC OF BRAZIL

Technology and Climate Change

Brazil is a country with a vast territory, which covers nearly half of South America and occupies a large part of its eastern coast. Although renewable energy accounts for 47 percent of energy production in Brazil, it far exceeds the world average. Brazil still emits a large share of total emissions of greenhouse gases in the world. The main reason is the rapid deforestation caused by logging and burning in the Amazon basin. The Amazon, the world's largest tropical forest, spreads over nine countries, but mostly found in Brazil. Rainforests are enormous carbon deposits. As forests are cleared and burned, carbon dioxide and other greenhouse gases released into the atmosphere. It has been determined that these contribute to climate change and global warming.

The annual budget allocates resources to plans and funds derived from the climate change legislation. There are also specific budget lines for research and development of technologies for adaptation of agribusiness to global changes and to implement the plan of development of agriculture low carbon, which includes strengthening the capacity adaptation and resilience of agricultural systems. - Brazil also has interesting intersectoral coordination mechanisms, including the Brazilian Forum on Climate Change .Brasil account also specific funds to deal with climate change, such as the National Fund on Climate Change (FNMC) under the Ministry of Environment and created by Law 12.114 (2009) and the Amazon Fund and also he works on the creation of various early warning systems and models for monitoring extreme events and identification of risk areas. - The ABC Plan for mitigation and adaptation in agriculture has a specific credit line, which combines loans from BNDES national development bank, and the national budget.

The annual budget allocates resources to plans and funds derived from the climate change legislation. There are also specific budget lines for research and development of technologies for adaptation of agribusiness to global changes and to implement the plan of development of agriculture low carbon, which includes strengthening the capacity adaptation and resilience of agricultural systems. - Brazil also has interesting intersectoral coordination mechanisms, including the Brazilian Forum on Climate Change.

In the energy sector, Brazil boasts enviable numbers in relation to other countries. Supported by the use of alcohol in vehicles and hydroelectric generation, 45% of the energy matrix is made from renewable sources, three times developed countries. Already in the matrix of power generation, about 90% comes from clean sources, while in the world, this percentage is only 20%.

Still, some positive actions make national history, even between advances and setbacks. With regard to innovative low environmental impact technologies implemented in Brazil, we have since the 70s the PRO-ÁLCOOL (National Alcohol Program as fuel). It was a pioneering program whose effects medium- and long-term placed the country in an enviable position in the production of alternative green fuels. There were also investments in the construction of wind farms in an attempt to exploit the wind, still incipient project given the difficulties of energy production in scale with this kind of natural fuel. Experiences with solar energy are also low visibility and restricted to local experiences.

Brazil is based on agriculture, deforestation is a cross-cutting issue that crosses economic sectors of Brazil's fastest growing, mainly agriculture and renewable energy.

In the agricultural sector, the country made a big investment in creating institutions dedicated to agriculture, as was Embrapa, but universities were also strengthened. Embrapa is an institution that is present throughout Brazil, is a very large, very complex country with many farmers. Since the commercial farming of many hectares and technology, to family farmers. The project is a comprehensive aid program for all those producers, technology, knowledge and training.

The great challenge is to transform the agriculture that emits many greenhouse gases to a low-carbon agriculture more sustainable and that is accepted by consumers in Brazil and the population worldwide. Therefore, there is a very important public policy to lower carbon emissions. Brazil five years ago in Copenhagen pledged to reduce emissions by 30% by 2020 and agriculture is part of that program. It is a public policy program called ABC, with credits for producers to integrate this technology to lower emissions. In addition, another goal of agriculture is to deepen the policy of adding value. For us further intensification and diversification of crops is a way to add value to reduce pressures on the environment.

technology transfer to developing countries was a topic that has received attention since the first Conference of the Parties to the Convention on Climate Change in 1995.

That same year the so-called Climate Technology Initiative (CTI), which involved 23 member countries of the International Energy Agency (IEA) and the Organisation for Economic Co-operation and Development (OECD) was instituted.

The aim of the initiative is to promote the development and diffusion of climate and ESTs.

The CTI supported a series of agreements and actions for bilateral and multilateral technology cooperation, with the participation of more than 50 countries, identifying technology needs for mitigation and adaptation to climate change, technology assessment, development of studies feasibility and analysis of existing market, the development of pilot projects, environmental impact assessment and dissemination of results and successful experience.

CTI helped, for example, to promote the dissemination of solar cookers in South Africa, photovoltaic systems in Kenya, biofuel production in Ghana, the use of alternative fluids and less impact on the ozone layer in refrigerators in India , project execution wind power in Honduras and also the support of the Development Program energy states and municipalities in Brazil (PRODEEM).

THE REPUBLIC OF CHILE

Technology and Climate Change

Urban planner and dean of the Faculty of Architecture of the University of Development, Paul Allard is convinced that "Santiago can become one of the cities with the best quality of life in Latin America."

With just over 6.5 million inhabitants, population growth rates indicate that never reach 10 million, that is, never be a mega city like Buenos Aires, Rio or Mexico City, with its associated problems. "But he does have the critical mass to be an attractive city and business center. Is the safest capital of Latin America, has economic, political and social stability, with a natural environment privilegiado (at the foot of the Andes) and a private sector that contributes to the development of the city," he says. Here are three important projects:

Mapocho 42k

It arises from an academic initiative of the School of Architecture of the Catholic University and today is implemented in conjunction with government and municipal authorities.

It consists of a continuous system of parks and bike path about 42 kms in the south and north of the Mapocho river, which runs through eleven communes of Santiago shore. "This project recovers the Mapocho river and this area had always been considered that he turned his back to the city," says the architect.

The cicloparque has been implemented by stages and in several communes there are already some in use. "This is a very interesting initiative that promotes a clean and sustainable transportation such as bicycles, retrieves a public space and ecological corridor that represents the Mapocho" adds Allard.

This metropolitan backbone in the direction east-west geographical connect and socially allow the city. At the end of 2016, half must have been built.

cableway Bicentennial

"This is a very innovative project. It will be the first cable car used as public transport in Chile, which is a trend already seen in Medellin, Bogota, Caracas and La Paz".

Due to geographic obstacle of the Cerro San Cristobal, it was necessary to find a solution that would unite the communes that are on each side. In this case, connect the cable car

from the subway station in Costanera Center (large business center, services, trade and agglomeration of people) with the Ciudad Empresarial in Huechuraba. It is a business center, services and important equipment of the Chilean capital.

Currently, these two points are very bad connectivity. The cable car will significantly shorten the travel time for those working in one extreme or another, and help discourage car use, reducing congestion on the streets.

It is a private sector proposal that joined the concession system of the Ministry of Public Works and should go to tender in early 2017.

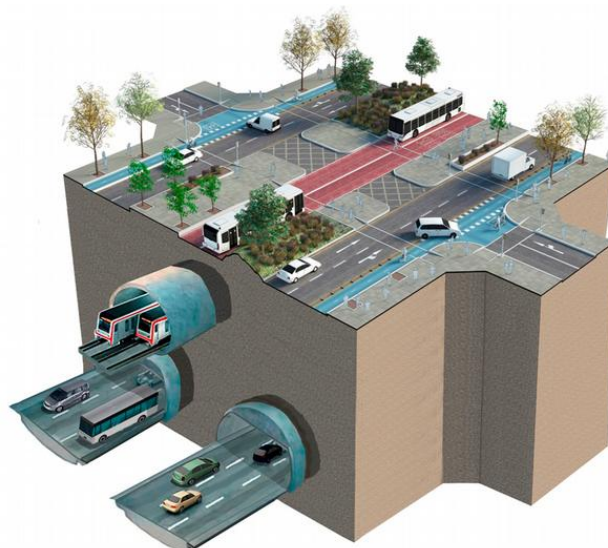
New urban highways

Paul Allard highlights two highways that are planned also in the concession system of the State: Central Costanera and Américo Vespucio Oriente, which provide quick connection paths for long distances within the city.

The Central Costanera highway will connect Route 78, which originates on the coast, with one of the most populated municipalities (Puente Alto) where road connectivity problems.

Américo Vespucio Oriente motorway will pass under the current park avenue of the same name. "It is designed with special care for the urban environment. Will go underground along its entire length and allow complete Américo Vespucio ring with an offer of much higher quality," notes Paul Allard.

The construction of both highways not started yet. Only he won the first leg of the Américo Vespucio Oriente and is refining the design to go out to tender for the Central Costanera.



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REPUBLIC OF PERU

Technology and Climate Change

Peru is one of the privileged countries in terms of water availability, because it belongs to the river basin of the Amazon; however, the concentration of population (demand) is based in the Pacific slope, which is available only 2.2% of the resource. On the other hand, the rivers flowing into the Pacific slope are fed by tropical glaciers, of which Peru has approximately 71% of the world total, so that the provision of water is highly sensitive to climate. Today, climate change is altering rainfall patterns, triggering droughts and floods, while glaciers, important source of this resource in the country, are being highly threatened by rising global temperatures. Regarding the use of water resources, the agriculture sector which recorded 80% of consumption nationwide, followed by human consumption, 12.2%. It is therefore to be taken as these two uses for analysis the relevant technology, in each of the regions. In the case Piura, water resources are essential for agricultural production, which produces goods both for export and for agriculture, smaller highland areas producing for the domestic market. In the case of the north, the climate impacts are associated with events of intense and increasingly frequent rains, and the increase in temperature. This variability of water supply directly impacts the productivity of crops in the number of annual harvests and the availability of water for public consumption. In the Junin region, water resources are impacted by declining glaciers are rivers that supply, so the existing climate scenarios establish a future decline in resource availability. Agricultural activities in the region who depend on the water resources are directed to supplying the domestic market and are the source of income for rural communities and small producers. Therefore, its impact is concentrated on the poor. Also, the availability of water for public consumption will be reduced so it is necessary to ensure water supply and efficient use in a scheme of high population growth in urban areas. In the region of Lima, where is the capital city with more than eight million inhabitants and peripheral urban areas in growth, the use of water resources for population consumption is particularly important. When meeting the city of Lima in a desert, the three great basins that supply water to the region are essential for that supply. Climate change will affect water availability due to melting of glaciers that supply water to these three rivers, and the change in temperature regimes and precipitation in the upper parts. Agriculture in the region, crops are mainly to supply the

domestic market of medium and small producers. Identification and classification long list of technologies for the study six types of technologies considered: (i) diversifying the supply of water; (ii) to recharge the aquifer; (iii) which they are preventive to extreme weather events; (iv) avoiding the degradation of water quality; (v) which conserve water, and (vi) that control water and capture of heavy rain. On the basis of these six categories a total of 17 technologies were included, which were described in general and specific cases of application, both in Peru and elsewhere they were identified. The diversification of supply of water occurs at different scales, from large dams and water transfer projects that can meet needs of a large number of population-level interventions to each household. Water harvesting is a designation used for collecting and storing water for domestic supply or crop production.

Technologies including: •

Desalination • Harvest rainwater: micro and small reservoirs •

Water harvesting fog: Panels catchers •

Harvesting rainwater from roofs

Groundwater is a solution in areas of scarcity of surface water in some seasons. However, avoid indiscriminate use & In this sense, recharge aquifers is considered a common activity, and has even been an ancient practice in Andean areas.

Technologies including: •

Infiltration trenches and AMUNAS •

Dams Micro Technologies that help prevent the impact of extreme weather events such as El Niño, also were selected as alternatives to adapt to climate change.

Technologies including:

tubewells for domestic water supply •

Improved resistance to flooding wells technologies that prevent the loss of water quality are included because they are generally associated with lower resource availability.

Therefore, these technologies seek to encourage the reuse of resources in activities for which they are suitable.

Technologies including: •

desalination •

Water treatment and safe storage home •

Water treatment and reuse finally savings in water use is essential considering future shortages.

In this sense, there are technologies that allow a reduction of water use in productive and domestic processes, and thus improve efficiency. Technologies including:

- Using water-efficient appliances: toilets, pipes, etc.
- detection and repair systems extradomiciliary pipes
- Changes in production processes to use and more efficient water (cleaner production) reuse

Listed technologies were presented to the heads of each region actors, so that they are evaluated according to criteria previously defined.

REPUBLIC OF URUGUAY

Technology and Climate Change

In recent years, the country has experienced an increase in temperature and a higher frequency of floods and extreme, more intense and frequent than the historical record drought.

This scenario assumes great economic losses, especially in a country where agriculture is one of the main economic engines, accounting for 70% of Uruguayan exports.

The Ministry of Livestock, Agriculture and Fisheries of Uruguay (MGAP) estimates that the value of economic losses in the cattle industry during the 2008-2009 drought ranged from US \$ 750 million and US \$ 1 billion.

Thus, climate variability in a country that is highly dependent on its natural resources, has a particularly negative impact on family farmers as Orlando, representing 63% of total rural producers in the country.

The outlook is not much better in the future. According to estimates of the portal understanding of climate change World Bank, by 2100 the country will face an average temperature rise in a 3,4°C, 57% more precipitation and increased frequency and intensity of extreme weather events already they are demonstrating today: violent rain, wind, hail storms, but severe droughts.

An "app" in the service of rural producers

A time now, various efforts loom in Uruguay with a clear objective: to adapt to the new climate.

In addition to the concrete actions that Uruguay is carrying out to reduce greenhouse gases and the technology being implemented to improve agricultural production, one of the most interesting developments in the country has to do with the construction of the National Agricultural Information System (SNIA).

This is an ambitious web platform that MGAP will start with the idea of consolidating in a single portal, information that serves to integrate and generate data as forecasts and early weather warnings, monitoring of vegetation, soil, water from which to generate simulation programs impact the use of new technologies.

According to the scientist Walter Baethgen, director of the Regional Program for Latin America and the Caribbean (LAC) Research Institute for Climate and Society at Columbia

University, "the scientific community gives us forecasts for 2080 or 2100 but for a decision maker - either a minister or a small livestock producers - need to know what will happen in the short-term future," he concludes Baethgen.

"Uruguay is giving an exemplary step in adaptation to climate change, not only for the benefit of its inhabitants, but to other countries that may be interested in a tool like this," says Holger Kray, senior agricultural economist at the World Bank .

The platform, which has financial support from the World Bank, will also help predict, control and project the different climate scenarios and expects to launch in the middle of this year.

CONCLUSION

Latin America and especially the Mercosur region have the proper conditions to feed and to shelter environmental emigrants from other parts of the planet.

The effects of climate change will cause direct or indirect, on the prevalence of the region in global food security consequences. a drastic reduction of food and Mercosur countries can provide it if there is a rational policy resources is recorded today.

It is necessary to establish bases for future actions to mitigate greenhouse gases. It is also possible to warn about the degree of vulnerability of each ecosystem Mercosur, as well as people and natural resources. Also it needs to emphasize the convenient adaptation of systems, technologies and practices to changes that cause natural phenomena.

Climate change is not a collateral or minor issue and that if no measures in the short and medium term than foreseen taken, can not think of building a productive and social Mercosur, because our wealth is mainly composed of primary products derived from natural or agricultural production resources on which global warming affects unfavorably.

In the case of Argentina, there are companies and projects applied to technologies for adaptation to climate change in the agricultural and industrial sector.

With regard to Brazil, it has a broad development of technologies for adaptation to climate change agribusiness, coordination mechanisms and own funds.

Moreover Chile, has an interesting project of the School of Architecture of the Catholic University, consisting of a system of parks and bicycle paths and a highway project below the park.

In Peru, there are technologies that reduce water use in productive and domestic processes.

Finally Uruguay, has a project of an ambitious web platform that MGAP will start with the idea of consolidating in a single portal, information that serves to integrate and generate data as forecasts and early weather warnings, monitoring of vegetation, soil, water from which to generate simulation programs impact the use of new technologies

BIBLIOGRAPHY

Deutsche Welle – Ciencia y Ecología Santiago de Chile. Proyectos para una capital más limpia

Journal USA –Perspectivas sobre el Cambio Climático. Septiembre 2009- Volumen 14 N°9

Revista de Ciencias Sociales – Impacto de la gestión tecnológica en el medio ambiente.
Maracaibo Junio 2009

Revista del PNUMA para los jóvenes TUNZA Tecnología y medio ambiente
ISSN 1727-8902 Pag. 5

www.argentinainvestiga.edu.ar

www.argentina.bosch.com.ar

www.argentinainnovadora2020.mincyt-gob.ar