A very first Newsletter that aims to inform, update and raise awareness on the Bioeconomy in the Latin America & Caribbean (LAC) region. While especially this year the Green Economy concept is much publicized in relation to the upcoming UN RIO+20 event, the Bioeconomy model and its potential use and benefits are currently being analyzed and debated by a small number of stakeholders from the LAC and EU regions in this project.

This Newsletter is yet another tool to communicate your same latest thoughts on how to go forward with the Bioeconomy in LAC (6 pathways), past and future key events and products, and sharing a biotech platform success story.

Enjoy our news and be sure to visit our website to sign up on keeping informed!

Guy Henry (Coordinator)

A new Bioeconomy platform between Europe and Latin America and Caribbean

This project between Europe and Latin America, aims to construct a cooperation platform on the bio-economy between Europe and the Latin America and Caribbean region (LAC). The idea is to develop the basis for a political and institutional framework that encourages sustainable (non-carbon) and competitive development and strengthens the bio-economy concept in the LAC region.

The bioeconomy refers to the sustainable production and conversion of biomass into a range of food, health, fiber and industrial products and energy. The concept is counting on the development of biotechnologies as a way of dealing with today’s major challenges: demographic growth, food security, resource depletion, climate change, energy crisis.

In order to make the most of the biotechnology revolution, LAC governments have to implement coordinated policies and regulatory frameworks, both at a national and international level. The European project ALCUE-KBBE was set up to start this process.

The project started in June 2011 for a duration of two and a half years. It will develop a discussion platform on the bioeconomy in the LAC region in cooperation with Europe. The platform aims to generate key knowledge in order to develop strategic discussions and analyze the opportunities and limitations of the concept in the LAC region. “We will try, for example, to find out whether the knowledge based bioeconomy concept is relevant to small-scale agriculture”, explains Guy Henry, the project coordinator and CIRAD economist (based at CIAT in Colombia).

Another question: What political, institutional and incentive measures can ensure the safety and speedy employment of new technologies, as well as an equitable distribution of the benefits that result from economic growth? Through the organization of key stakeholder workshops and consultations, the platform will stimulate cooperation between Europe and the LAC region on the topics linked to bio-technologies. It will also mean that the bioeconomy concept is introduced into the political and strategic agendas of partners organization in the region.

The project website (www.bioeconomy-alcue.org) is a public area designed to facilitate access to data base, relevant publications and news, projects, websites, and other initiatives related to bioeconomy. This platform offers a Library organized by thematic (Biotechnology, Biodiversity, Biorefinery, Ecological intensification, Politics, Socio-economics...) which is periodically fed and actualized with the aim to build a large data base of relevant publications related to bioeconomy and its implementation in the Latin America and Caribbean region. A News rubric underlines the major facts (Conference, launching of new project, political decisions, etc.) and a Agenda compiles the main related event occurring both in Europe and LAC region to keep aware the stakeholders from both sides of the Atlantic. Through the webpage one can follow the project’s activities, have access to working papers and contact the managing team. An active forum has been launched for the opening of an E-consultation starting the 16th of April aiming at defining the scope of the bioeconomy implementation in LAC. The stimulation of discussion and exchange of data dealing with bioeconomy themes and experiences, from both regions, will allow pertinent issues to come up from the stakeholders themselves.
Project Update

Past Activities
November 2011

Publication of the Bioeconomy Policy Note No.2011-01: “The Bioeconomy for Latin America and the Caribbean: opportunities and challenges from a policy perspective”

Eduardo Trigo (CEO) and Guy Henry (CIRAD), discuss the opportunities and challenges of the LAC region to contribute and benefit from the emerging bioeconomy, from a policy outlook. The paper sets up the basis in the framework of bioeconomy implementation, to optimize the strengths and lower weaknesses of the region for further policy development in science and technology, human resources and social integration, bio-refineries and optimization of value chain efficiency. Read the paper

December 7th 2011

Forum Biotechnology and Biobusiness: the investment opportunity of the decade for Colombia

Doctor Guy Henry (CIRAD), coordinator of the ALCUE-KBBE project, participated in this forum organized by the Colombian magazine Semana, in collaboration with the Ministry of Research and Innovation in Science and Technology (Colciencia). The main purpose of the meeting was to discuss and stimulate the reflexion about Colombian’s perspective and potentials to impulse innovation through biotechnology and biobusiness. Read more

February 2012

International Innovation Magazine (Feb 2012 number) – A Latin American Bioeconomy?

Guy Henry, European bio-economist and Project Coordinator of the ALCUE-KBBE project with CIRAD, and project partners Carlos Gustavo Cano, Colombian economist and Co-director of the Colombian Central Bank, former Minister of Agriculture, Eduardo Trigo, Argentine agricultural economist, Senior Advisor for the Argentine Ministry of Science &Technology, Ulrich Schurr, European biochemist with Jülich Research Centre, part of the new Bio-economy Science Center, discuss how they are helping Latin American and Caribbean countries to establish a range of enabling policies and regulatory frameworks, nourishing their respective bioeconomies. Read article

March 2012

ALCUE KBBE partners participate in JIRI working Group on bioeconomy

The EULARINET Working Group on Bioeconomy, formulated recommendations on the Joint Initiative of Research & Innovation (JIRI) implementation, which was discussed at the bi-regional ALCUE Senior Officials Meeting (SOM) in Concepcion, Chile 20-21 March’ 12. Three proposal concepts have been accepted: (i) Joint call on common priority bio-refineries/biomass RTD themes, (ii) Observatory of key bioeconomy related socio-economic, policy, regulatory indicators, (iii) Capacity Building, including a Bi-regional Master in Bioeconomy.

Upcoming 2012 Events

April 16th to 17th E-consultation

An Electronic Consultation will take place from April 16th to 27th with the objective of discussing the scope and implications of the bioeconomy concept for Latin American and Caribbean countries and to contribute to formulate policy recommendations to foster bioeconomy development in this region. Connect to E-consultation

June 5th to 6th Matchmaking Academy—Industry (SME) between LAC and EU actors on Biorefineries and Renewable Resources

This event will be held in Toulouse, in parallel with the RRBB conference, and coordinated by two other LAC-EU platform projects, ABEST II and EULARINET, with participation of ALCUE KBBE experts. The goal is to match EU and LAC actors from both industry (SME) and academy sectors expert on biorefineries and biobased renewable resources, to facilitate R&D cooperation on topics and opportunities previously identified and deemed relevant with the objective being the formation of consortia focused on the calls of European Commission’s FP7 work program 2013 and the construction of project profiles.

June 18th to 20th Workshop “Bioeconomy state of the art and lessons learnt” in Brasilia

Based on the conclusions of the E-consultation, and the first products of the project consisting in benchmarking of LAC and EU bioeconomy experiences, a stakeholder workshop is planned to take place in Brasilia (18-20 June) with the objective of reviewing existing experiences and synthesize main implications in terms of policy, R&D and institutional needs.

August 18th to 24th ALCUE-KBBE partners will participate in the 28th International Conference of Agricultural Economists

To prepare for this meeting, a symposium of LAC bio-economists was organized with the support of ALCUE KBBE in CIAT (Cali, Colombia) last September 2011. This two days meeting formulated recommendations on a LAC policy agenda and prepared a proposal for the organization of a Symposium on the Bioeconomy and the LAC smallholder, during the ICAE 2012 conference.
Alternative pathways for bioeconomy development in Latin America and the Caribbean

Given the diversity of natural resources, economic and social characteristics of each country linked to the world economy, bioeconomy cannot be entered by one unique pattern, but by different pathways each reflecting different aspects and comparative advantages and all aiming at a more effective and efficient use of biological products and processes for the achieving of societal goals. Six distinct pathways have been identified, each addressing the common issues and objectives from a different vantage point, in cases overlapping in some aspects, but together offering a coherent whole for achieving the stated purposes. This is an introduction and guidance for the discussion of the institutional, policy and knowledge generation needs that need to be addressed for them to effectively contribute to bioeconomy development, aspects that are currently under analysis in other project activities. These six pathways include:

Biodiversity resources exploitation. Includes the valorization of the genetic resource (domestication, transformation, linking to market, etc.) of distinctive biodiversity (discovery of functional traits related to specific uses and sectors, development of new products through innovative transformation, market development for local products, etc). Examples in this could be specific gene discovery in local crop variety, phytotherapeutic or cosmetic new use of a plant, etc.

Eco-intensification. Relates to agronomic practices directed to achieving a balance of agricultural, environmental, economic and social benefits, seeking more efficient use of energy resources and targeting at reduced use of fossil fuels, pesticides and other pollutants without sacrificing existing production/productivity levels. Examples of specific eco-intensification strategies include no-till agricultural practices, precision agriculture strategies, integrated pest and nutrient management, etc.

Biotechnology applications, is the innovative application of biotechnology products, tools and processes such as industrial tissue culture, marker assisted selection, GMO seeds, diagnostics industry, animal reproduction improvement though molecular techniques, GM enzymes and yeasts, etc. Biotechnology is re-setting the “limits” within which biological processes interact with natural resources – soil, water, solar energy – and opening up a whole new range of opportunities not only in food, fibre and energy production, but in almost every sector of the economy, including pharmaceutics and industry in general. Though it is evident that substantial investments and institutional adjustments are needed to benefit from this potential. But trough the evidence that biotechnology products will be one of the major tools in future technological trajectories, production and productivity increases will continue to come from conventional technologies improvements (more efficient resource use), and it is quite unlikely that we can rely only on biotechnology. The more likely situation would be a technological “hybridization”, where biotechnology would have a greater role as tool-kit for research and technology development than at product level. The difference between “traditional” (or conventional) and “modern” technological environments becomes also less relevant as information and management technologies “blend” with biotechnological tools and traditional knowledge on the basis on location-specific requirements. Advances in this direction are already underway with ecological and environmental paradigms being incorporated in the eco-intensification efforts.

Biorefineries and bio-products include the bioenergy sector and processes aimed at the substitution of fossil fuel industrial inputs. Examples are plant ethanol, biodiesel, biogas, and different green chemistry oriented activities. Biorefineries are the cornerstone of the bioeconomy concept, by decomposing the raw materials into different product chains and transforming the nature of the link between agriculture activities and economy, particularly with the industrial sector. Through the better life cycle performance of their products they are also critical in environmental performance of a number of industrial and consumer products industries. They can also speed-up and multiply impacts at local level trough small scale biorefineries which require low investment per production unit and can process different crops feed stocks. However, current developments in the region are essentially restricted to biofuel production with little further exploitation of the wider potentials, particularly in regards to value adding and local development opportunities. These concepts need to explicit actions that would assure that agricultural producers – particularly the small-scale – and rural communities to not only create but also retain bioeconomy value.

Value chain improved efficiencies, include activities that (i) reduce post harvest losses at whatever level they are occurring, and (ii) aim at developing the needed market links for innovative bio-based products. There is a common mistake in equating the bioeconomy with sustainability concepts. It must be made clear that bio-based options are not per se more sustainable. The main issue will be to meet increased global food/feed/fuel demands (50-70% over present levels) without further encroachment of forest and marginal lands and at the same time using part of the biomass production efforts to replace present use of fossil resources. The reconciliation of these seemingly conflictive tendencies is one of the key challenges in the transition to the bioeconomy. The response to this will be a equilibrium involving diversifications and expansion of sources of biomass, and more efficient use and processing strategies. At present over 40% of what is actually produced is wasted before it reaches its final use (UNEP, 2011), this represent a huge opportunity to move into bioeconomy strategy without creating additional conflicts and pressures on the natural resources.

Ecosystem services include the processes by which the environment produces resources utilized by humans such as clean air, water, food and materials. Given the special nature of the relationship and interactions implied between natural resources and economic and social activities in a bioeconomy approach an ecosystem perspective becomes a strategic component of any sustainable bioeconomy strategy. The bioeconomy is a response to a long period of resource over utilization and an attempt to re-adapt behaviors in the light of anticipated global challenges, accordingly implementation strategies can only succeed if the integrity of the natural environment is recognized throughout the decision making processes and the value of the different flows are appropriately accounted for. Within this general context the development of carbon credit systems, eco-tourism strategies and water management pricing and management mechanisms, are three specific entry points that should be considered in relation to ecosystems services in the framework of a bioeconomy approach.
**Bioeconomy News**

**October 20th 2011**

Public presentation of the “World Agriculture Watch” (WAW) at FAO, Roma, in the framework of the annual meeting of the Committee on World Food Security. The WAW, resulting from a reflection shared between scientists and experts from CIRAD, French Ministry of Agriculture, French Ministry of Foreign Affairs and IFAD, has as main objective to characterize production structures and assess their impact on poverty reduction, climate change, food security, biodiversity, renewable resource management, etc.

**November 2011**


**December 2011**

Rio de Janeiro to set up carbon trading exchange

Rio de Janeiro state will set up Brazil’s first carbon exchange on Tuesday that beginning in 2013 will allow businesses to trade credits to comply with mandatory pollution limits Rio plans to introduce in 2012.

**February 13th 2012**

The European Commission has adopted its new Strategy for a sustainable Bioeconomy in Europe. The plan therefore focuses on three key aspects: developing new technologies and processes for the bioeconomy; developing markets and competitiveness in bioeconomy sectors; and pushing policymakers and stakeholders to work more closely together. The Bioeconomy in Action conference which occurred from 26 to 28th of March in Copenhagen, was the major event to discuss the Commission Strategy.

**March 2012**

The Bioenergy and Food Security Criteria and Indicators (BEFSCI) project of FAO publishes a policy instrument for good practices brief.

The report “Good Environmental Practices in Bioenergy feedstock Production” lays down the new risks and opportunities in the development of bioenergies. BEFSCI has indentified a range of policy instruments that can be used to require or promote – either directly or indirectly – good environmental and socio-economic practices in bioenergy feedstock production, and to discourage bad practices.
Success Story

BIOTECSUR, A regional platform promoting biotechnologies in the MERCOSUR

BIOTECSUR emerged from a cooperation agreement established in November 2005 between the European Union and MERCOSUR with the objective of promoting the consolidation of a regional platform for biotechnology. It is the only platform created in the LAC region with the objective of establishing a common long-term vision for the development and application of new technologies in MERCOSUR. This platform, which mobilizes and coordinates public and private stakeholders, focuses on the development of concrete R&D actions in areas of greatest interest for the region, and it is internationally recognized for its effectiveness and efficiency in the generation of highly competitive goods, services and biotechnology processes.

Based on an initial survey of the regional priorities conducted in the production chains of meat, poultry, forestry and oilseed, BIOTECSUR launched a first call for regional biotechnology projects in the MERCOSUR countries in order to meet these regional priorities. However, this platform is also active in the field of health, industrial processes and biofuels.

It is believed that this platform will allow the development of more cooperation projects between the European Union and MERCOSUR, making use of the links being established with the European Technological Platforms for enhancing the current R&D efforts of the MERCOSUR countries, especially in the areas where the region has unique expertise.

For more information on this platform: [http://www.biotecsur.org/](http://www.biotecsur.org/)

Who we are

**CIRAD, France:** Centre Internationale en Recherche Agronomique pour le Développement.

**Grupo CEO, Argentina:** Advisory services on economic, social, institutional and management issues in Latin-American countries.

**Ugent, Belgium:** The Institute for Plant biotechnology for Developing Countries (IPBO)

**IBET, Portugal:** Instituto de Biologia Experimental e Tecnológica

**CINESTAV, Mexico:** Centro de Investigación y Estudios Avanzados

**Wageningen University and Research, Netherlands:** research centres in the plant, animal, environmental, agrotechnological, food and social sciences.

**CIAT, Colombia:** The International Center for Tropical Agriculture

**MINCYT, Argentina:** Ministerio de Ciencia, Tecnología e Innovación Productiva

**ICG-3: Phytosphere – Forschungszentrum Jülich, Germany:** research on exchange of plants with their changing environment in the context of the establishment of a sustainable bioeconomy.

**Pontificia Universidad Javeriana, Colombia:** Unidad de Biotecnología Vegetal

**IICA, Uruguay:** Instituto Inter-American de Cooperación para la Agricultura, cooperation agency of the Inter-American System in dealing with agricultural issues

**EMBRAPA, Brazil:** Empresa Brasileira de Pesquisa Agropecuária

The CSA project ALCUE-KBBE (Contract No. 264266) is co-financed by the European Commission’s 7th Framework Program (2011-13). It is a consortium of 12 partners, aiming at establishing a LAC-UE platform as the basis for a political and institutional framework that encourages sustainable (non-carbon) and competitive development and strengthens the knowledge based bio-economy concept in the LAC region. The project is coordinated by CIRAD, France and hosted by CIAT, Colombia.

For more information and to subscribe: [www.bioeconomy-alcue.org](http://www.bioeconomy-alcue.org)

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