



Bioeconomy contributions to sustainable development in Latin America and the Caribbean countries

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Bioeconomy and
Production Development





Bioeconomy in context

The **BIOECONOMY** is the production, utilization and conservation of biological resources, including related knowledge, science, technology, and innovation, to provide information, products, processes and services across all economic sectors aiming toward a sustainable economy” (IACG 2018).

A concept driven from advances in science and technology and growing concerns about resource depletion, climate change and the need to confront rising demand from growing population and incomes

Increasingly recognized as a relevant strategy in the context of the 2030 Agenda for Sustainable Development and for achieving the United Nation’s Sustainable Development Goals (SDGs) for monitoring and evaluating the bioeconomy

Economic growth convergent with sustainability



Bioeconomy is about biological resources and knowledge, and LAC is well positioned to take advantage of what it offers

On the resources side

 8 of the 15 world's megadiverse countries

 23% of the world forest cover

 28% of the the remaining lands with ag. potential

 35% of the world's total fresh water reserves

On the knowledge capacity side

 A well developed base in science and technology, with a number of countries with significant capacities in the biology and biotechnology (particularly true in the larger countries)

In this context in LAC there are significant developments in key areas for rural development

Bioenergy



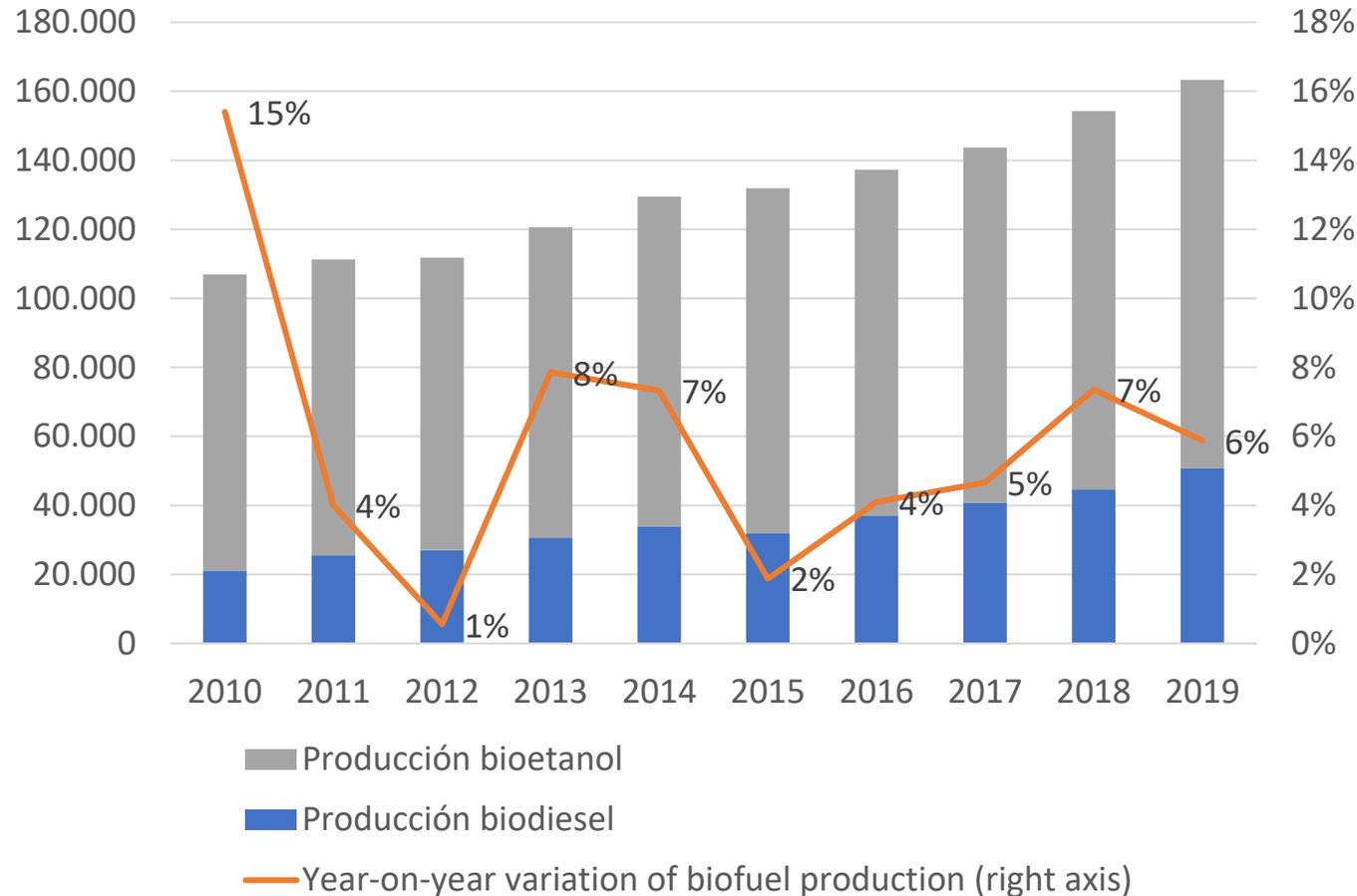
Biotechnology



Carbon efficient production strategies



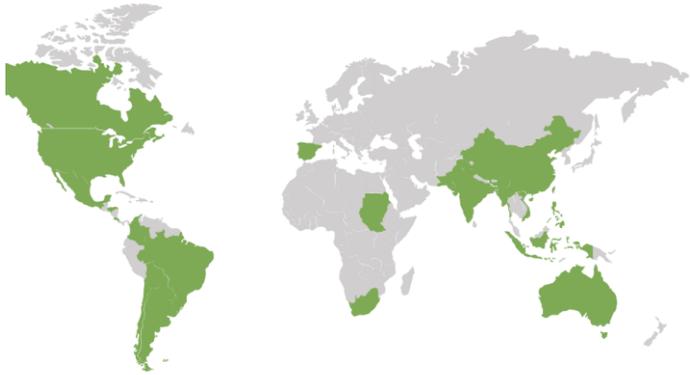
The region is a world leader in bioenergy



- ALC produced **30%** of all bioethanol and **20%** of biodiesel in 2019. Sugar cane, maize, soybeans, oil palm.
- Leader in export markets
- Positive impact on the development of rural territories (more stable demand for raw materials) and a critical source of jobs

Biotechnology: region was an early adopter; today is the leading developing region in ag. biotech use

Global Area of Biotech Crops, 2018: By Country



Five of the largest producers are from Latin America, and four more countries are within the group of countries that have already adopted the technology

- **>80%** of the area of major crops (corn, soybeans and cotton) is GM
- Close to market innovations from local R&D in major crops such as beans, sugar cane, soybeans, wheat.
- Leader in regulatory evolution for new technologies (gene editing), with close to market varieties in rice, potatoes.

1 million hectares or more

	million ha	
USA	75,0	
Brazil	51,3	
Argentina	23,9	
Canada	12,7	
India	11,6	
Paraguay	3,8	
China	2,9	
Pakistan	2,8	
South Africa	2,7	
Uruguay	1,3	
Bolivia	1,3	
Australia	España	Portugal
Filipinas	Colombia	Bangladesh
Myanmar	Vietnam	Costa Rica
Sudan	Honduras	Indonesia
México	Chile	

Region also leader in carbon efficient agricultural production strategies

- > 60 of total world area under no till agriculture is in LAC. More than 80 million ha
- In Southern Cone countries, > 80 of major crop production
- A number of consolidating “carbon neutral” certification processes



- EMBRAPA
- Low emissions beef



- Sustainable coffee, 25000 ha reducing 60 mil CO2



- Buenos Aires Cereals Exchange Certifying food, beverages and energy products



Some macro indicators of bioeconomy development potential impact (data for Argentina, 2017)

ARIEL COREMBERG

MEDICIÓN DE LA CADENA DE VALOR DE LA BIOECONOMÍA EN ARGENTINA: HACIA UNA CUENTA SATELITE

INFORME FINAL

Actualización de su aporte directo en agro e industria + eslabonamientos hacia sector comercio y transporte + exportaciones bio + empleo verde-bio



"The generic feature of biobased products is both the cause of its high socio-economic potential and a major challenge for biobased products metrics."
Anthony Arundel, co-author of *The Bioeconomy to 2030*.



- Bioeconomy represents 16.1 of IGP (Biomass, 6.6% pp.; Industrial. 6.7% pp; services 2,4% pp; other 0,4% pp)
- AV \$ 1440 mil millions, eq. to USD 86496 millions
- 2017/2012 grew 8.3% more than double the resto of the economy
- 12% of employment (1.9 millions in 2015)
- 34.2 jobs x every USD 1 million of AV (rest of the economy: 31,3 jobs)
- VA x job Bio is USD 29,2 mil (> 25% rest of the economy)
- Productivity 10% greater than the rest of the economy

Thank you for your attention!

