

Santiago, Chile
29 Oct. 2019



**Forum on Just Transition, Green Jobs and Climate Action:
exchange of experiences for Latin America and the Caribbean**

Bioeconomy

A new paradigm of sustainable and inclusive
development for Latin America

Current challenges in Argentina



CC and
Environment



Technology

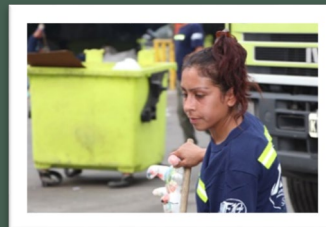


Energy

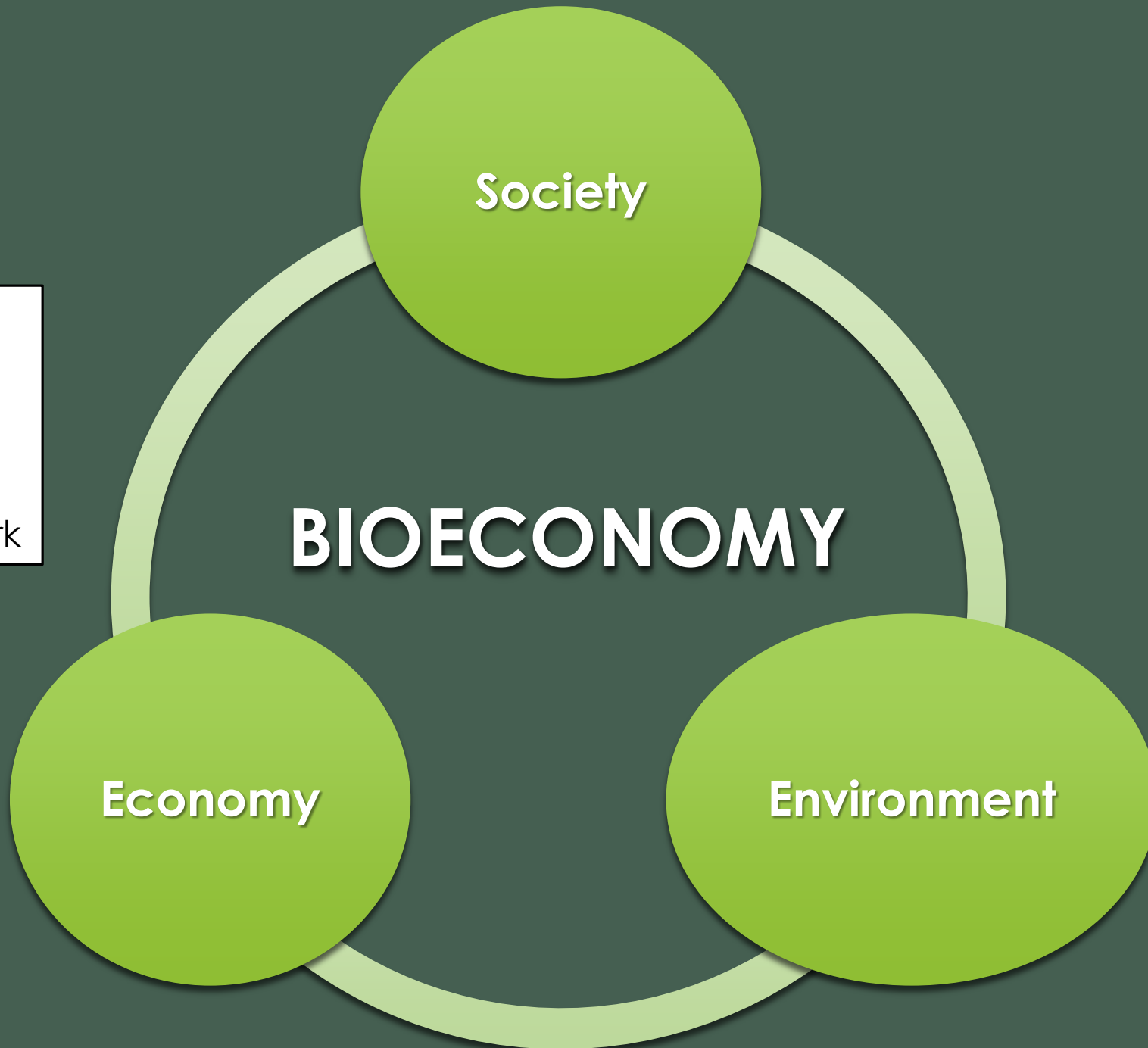


Economy

Social/employment



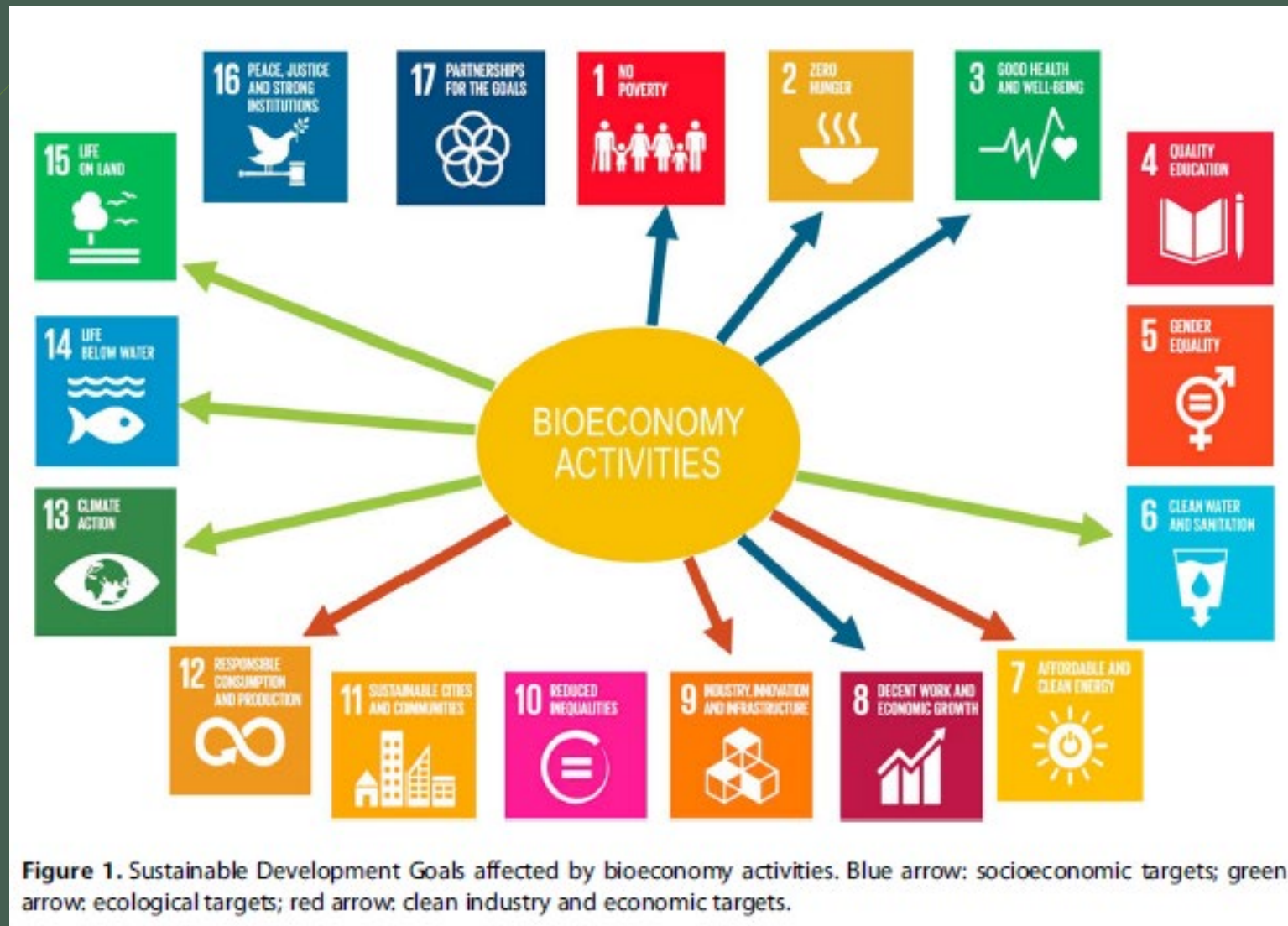
Actors in Argentina:
SeCyT
Agro-Industry
Inter-ministerial
Council
BioEcoLatina Network



What is Bioeconomy?

*"The **production, use and conservation of biological resources**, including related knowledge, science, technology and innovation, to provide information, products, processes and services in all economic sectors, with the aim of moving towards a **sustainable economy**" (Global Bioeconomy Summit, 2018).*

Bioeconomy, ODS and Just Transition



Source: Heimann 2019.

Opportunities and challenges of bioeconomy

JUST TRANSITION

- Higher productivity of employment in bio direct sectors
- Generates new jobs, not all decent
- Fewer jobs in traditional sectors
- Territorial (rural) development
- New value chains

CLIMATE CHANGE

- Biodegradable materials
- Overexploitation of natural resources
- Decarbonization
- Change in land use
- Less dependence on fossil resources
- New energy sources
- Cascade use of biomass/valuation of waste

Bioeconomy in Argentina

- 16% of GDP (2017)
- 12% of total jobs
- 49,6% agricultural sector
- 50,4% manufacturing industry

Coremberg, 2019

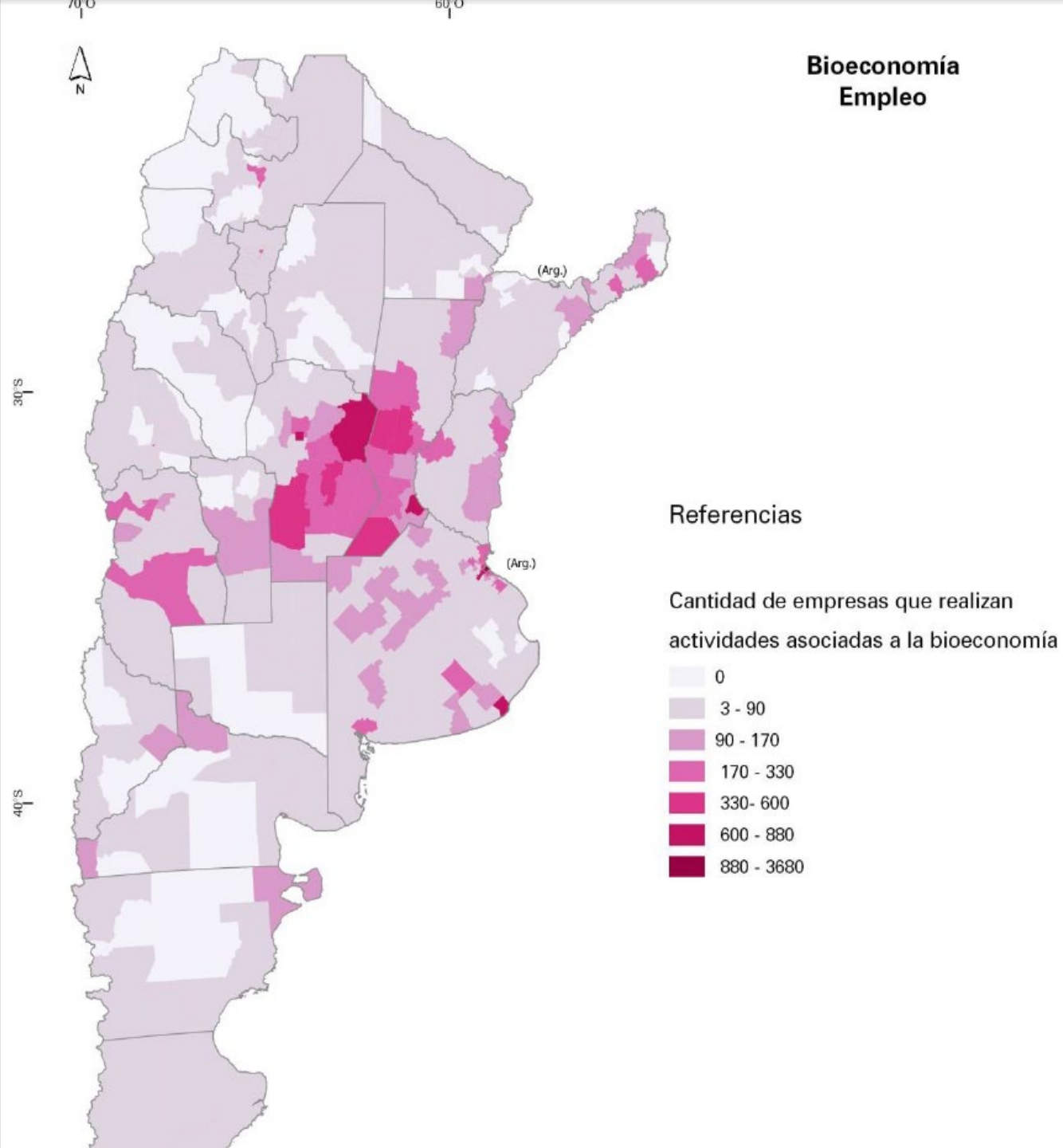
Opportunities:

- Biomass generation capacity (in vol. and diversity)
- Availability of job skills and institutional capacity
- Rural prod. opportunity

Georeferencing: Bioeconomy and employment

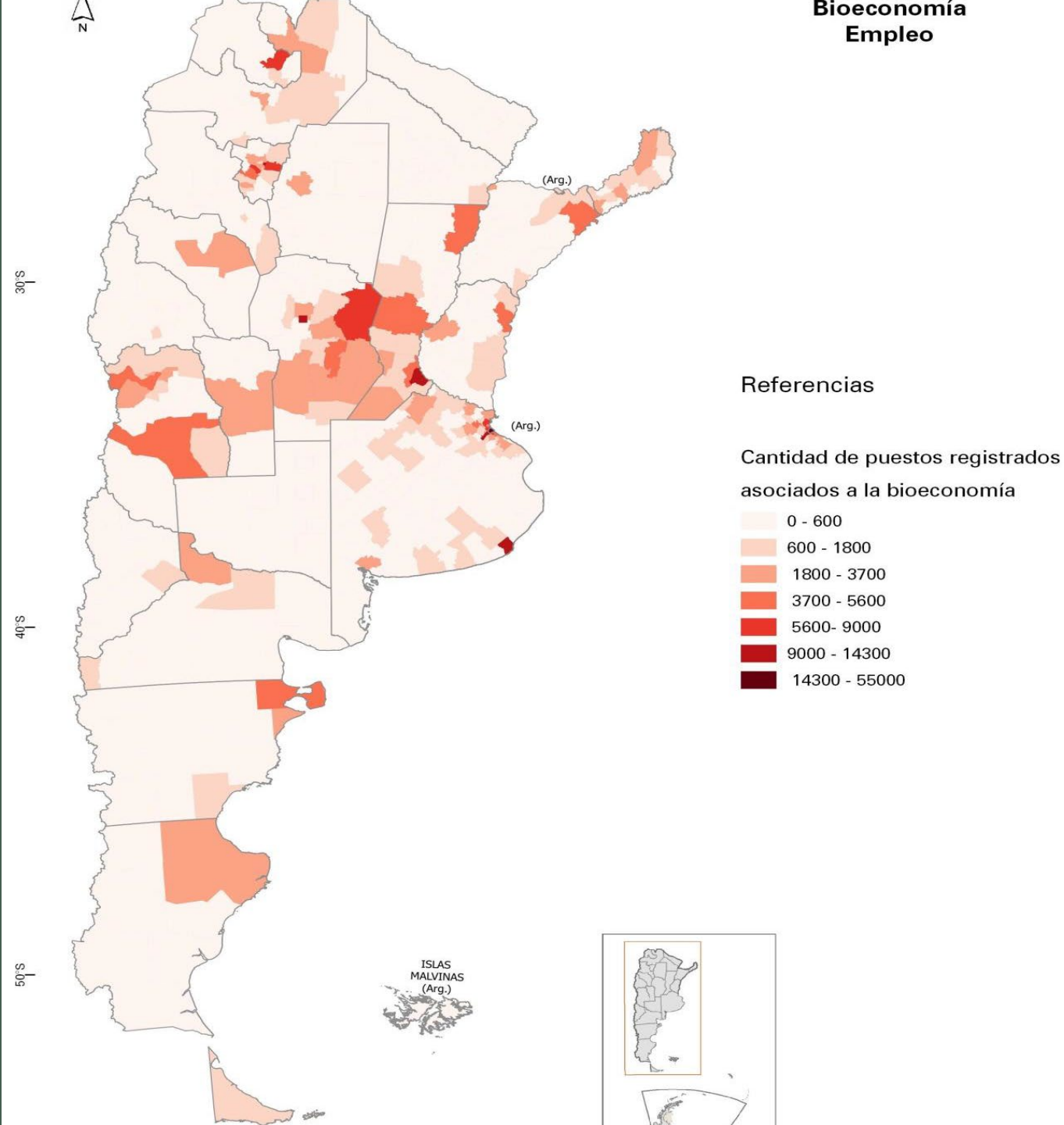
Number of **companies** associated
with bioeconomy activities by department

ILO, CIECTI, 2019



Average number of posts
of **work** registered for the year 2018

ILO, CIECTI, 2019



Bioeconomy of rice

- Arsenic-free rice thanks to new biotechnology, prevents harm to children and infants
- Biosynthetic wood with rice husks (wood more resistant to weather conditions and weather)
- Productive integration of rice paddies with Pacú fish farming (without agrochemicals or antibiotics).
- 16,000 jobs (2017):
 - 46% primary activities; 54% industrial employment
 - 28% registered employees
 - Child labour
 - Low participation of women



Rice Technological Wood

Bioenergy



- ▶ Type: biodiesel, bioethanol, biomass/gas, biothermal
- ▶ Most highly or partially skilled workers
- ▶ Unskilled workers in biomass production and transport activities (informal)
- ▶ Province of Santa Fe:
 - ▶ Low participation of women (11%)
 - ▶ Mainly salaried employment
 - ▶ About 50 %: workers with technical qualification, 10 % with low qualification
 - ▶ Low direct employment coefficient, but high multiplier effect (biodiesel and bioethanol)

Source: ILO, FAO, Pro-Biomasa, 2019

The forest complex



- ▶ Primary activities (forestry and extractive activities), industrial, marketing and transport
- ▶ Wood, paper, charcoal
- ▶ Bioenergy production (charcoal or use of chips in bioenergy plants)
- ▶ Forest biorefinery (efficient use of the full potential of the forest sector along the value chain)
- ▶ 160,000 jobs (2017):
 - ▶ 47% in forest production, 4% women and 11% registered wage earners
 - ▶ 53 % manufacturing stage, with 10 % women and 54 % registered wage earners

Seal "Argentine Bioproduct"

- ▶ **Get Wild!** Sustainable Clothing Brand

The garments are produced with bamboo cane fibre, and the aim is to reduce to a minimum the use of water and energy during the rest of the processes that make up the production chain. They generate employment in authorized workshops, free of slave labor, empowering women from not being involved in clandestine workshops.

- ▶ **MALÓN Bambubike:** Handcrafted bicycle made in Argentina

Organic material with an innovative design. The frames and forks are made entirely of bamboo and designed specifically for urban, everyday and recreational use.

- ▶ **Radha Colors:** Celebration Products Company

Biodegradable products, composed of renewable raw materials, which replace traditional paper and streamers.

- ▶ **Eco-cutleries:** Utensils produced from cane Castilla

Organic, reusable, practical, safe, healthy, highly technical, without chemical additives and capable of biodegrading, in contact with the soil, in a period of between 4 and 6 months. It also works directly with small rural producers and families in the province of San Juan to obtain their raw material.

Processing of carrot discards

- Sector of limited size, but example of bioeconomic innovation
- 100 tons of discarded carrots per day (= daily garbage of a city with 100,000 inhabitants)
- 40% of the carrot harvest is discarded because it does not meet market requirements (shape and size).

La nueva vida de las zanahorias descartadas

En la zona productora de Garay, Santa Fe (Argentina)

Se pierden **100 toneladas** de zanahorias por día

Universidad, empresa y asociación productiva, mediante un **proyecto tecnológico innovador** transforman las zanahorias descartadas en productos de alto valor

Hoy tienen una planta procesadora que obtiene **bioetanol, carotenos y fibras dietarias** recuperando ampliamente los costos y creando nuevas perspectivas de negocio

Conclusion

- **Great potential** in Argentina: comparative advantage in primary products and biotechnology/pharmaceuticals, growing global demand
- Good **job multiplier** in your value chain for various groups of workers (unskilled-highly skilled, rural-urban, women, indigenous groups)
- **Contribution to achieving economic** (diversification, processing), **social** (employment, inclusion) **and environmental** (CO2, use of natural resources) **objectives.**

The need for integrated public policies



JUSTICIA SOCIAL
TRABAJO DECENTE

50.º aniversario
de la oficina de Argentina

A close-up photograph of a human hand holding a small, realistic-looking globe of the Earth. The hand is positioned at the bottom of the frame, with fingers gently cupping the globe. The background is a vibrant green with a radial light effect emanating from behind the globe. On the left side, there are several thin, curved green lines and a larger green arrow-like shape pointing to the right.

Thank you for your attention!

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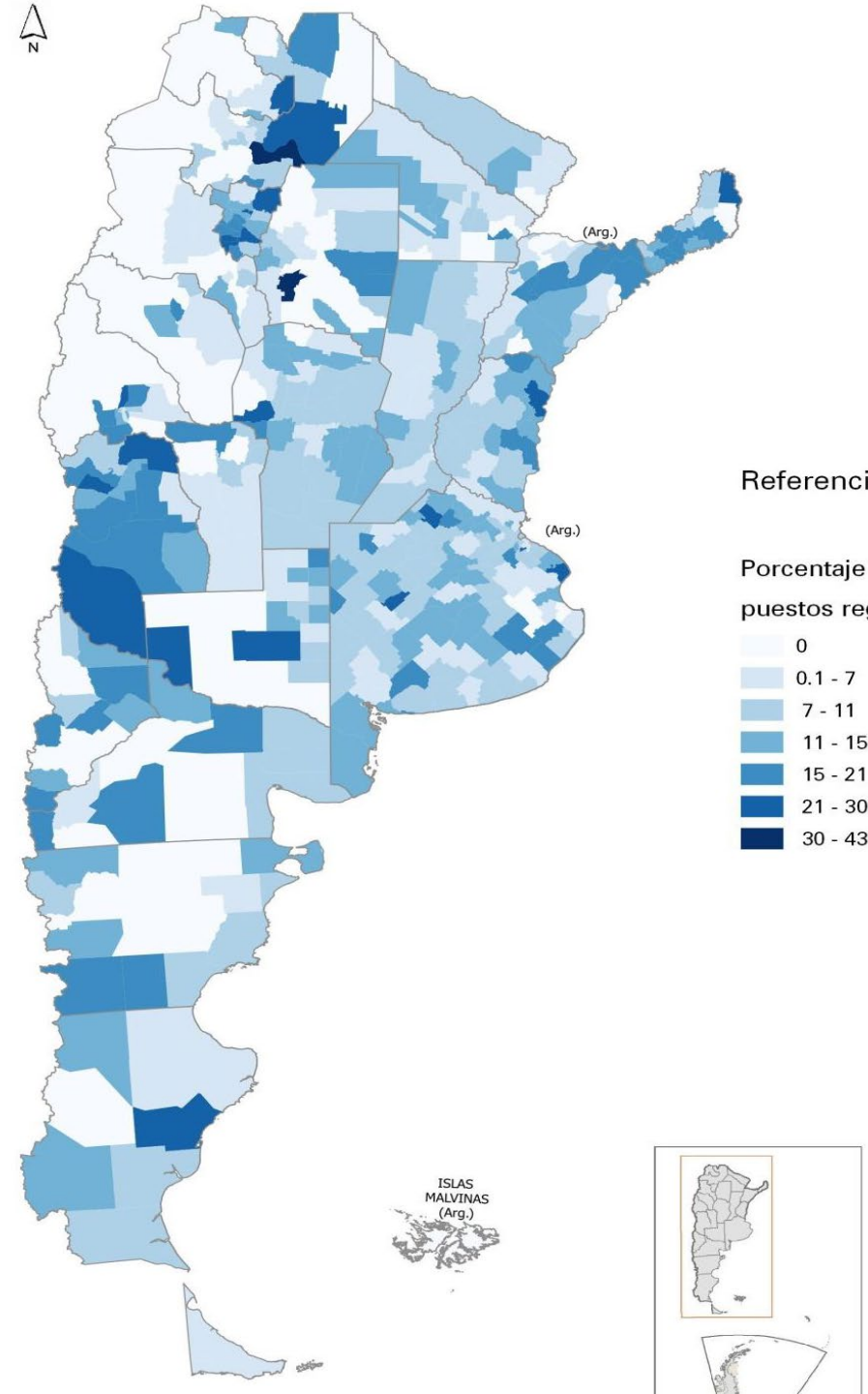


ANNEXES

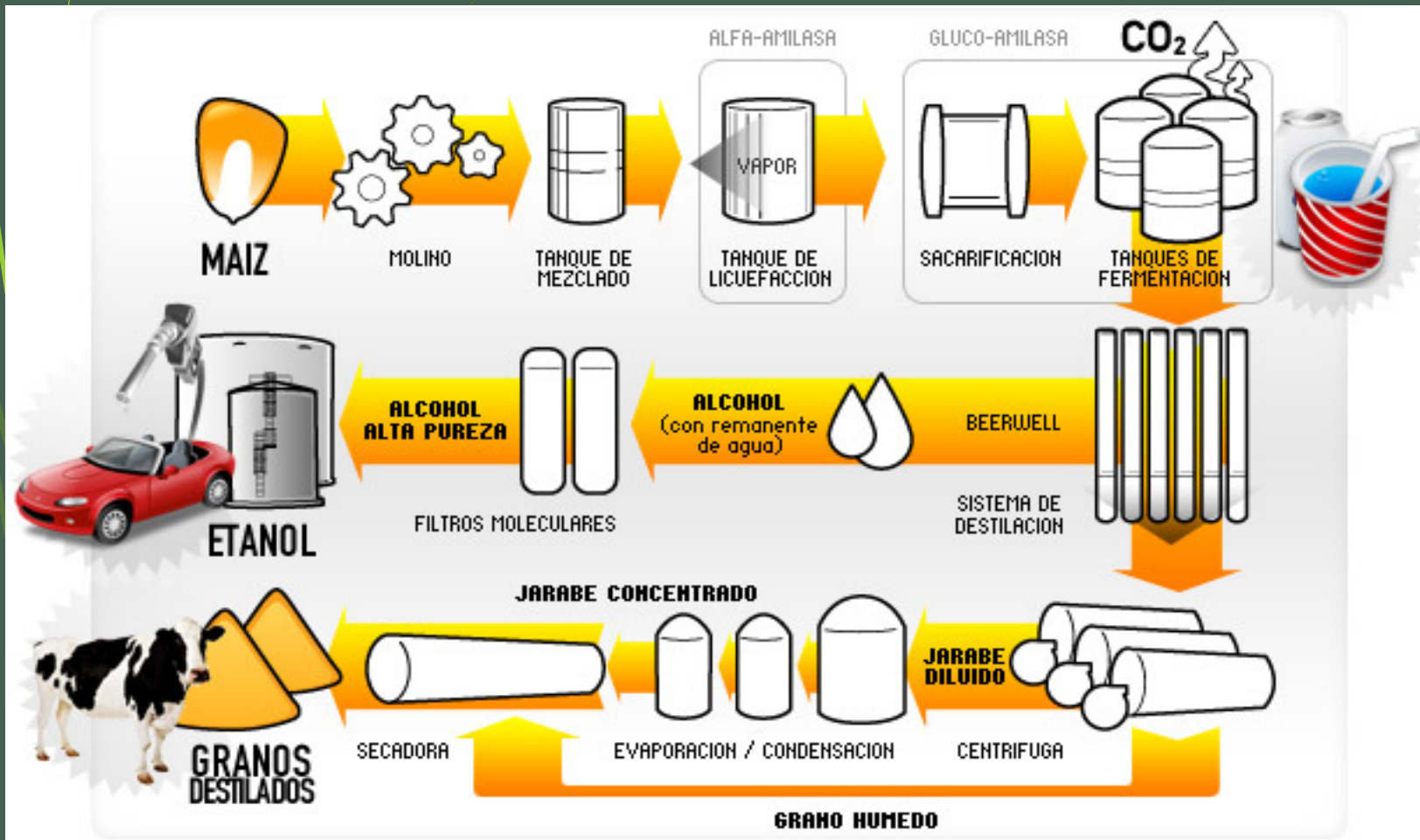


Percentage of young people in posts registered within the activities associated with bioeconomy

Bioeconomía Empleo



Corn processing for bioethanol



- ▶ Corn grain is processed into bioethanol, a fuel that is currently blended with gasoline at a minimum rate of 10% per liter.
- ▶ Valuable by-products are obtained from the above process, such as distilled grains for cattle feed and carbon dioxide, used as a beverage gasifier or to freeze meat.

Source: Bio4

Energy from peanut shells



Source: Lorenzati, Ruetsch and Cia. S. A.

- ▶ Manufacturer of peanut products (peanut confectionery with and without skin, oil and expeller), among others
- ▶ Generation of renewable energy (electricity and steam) from the use of peanut shells (between 60% and 80% from the main activity of the company, and the rest of companies in the area).
- ▶ Energy production is sufficient to supply around 8,000 households