2024 Global Methane Forum

Mobilizing Methane Action

18-21 March 2024, Geneva, Switzerland

REGIONAL METHANE ACTION SHOWCASE: LATIN AMERICA

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Center of Excellence for Circular Economy and Climate Change for Latin America

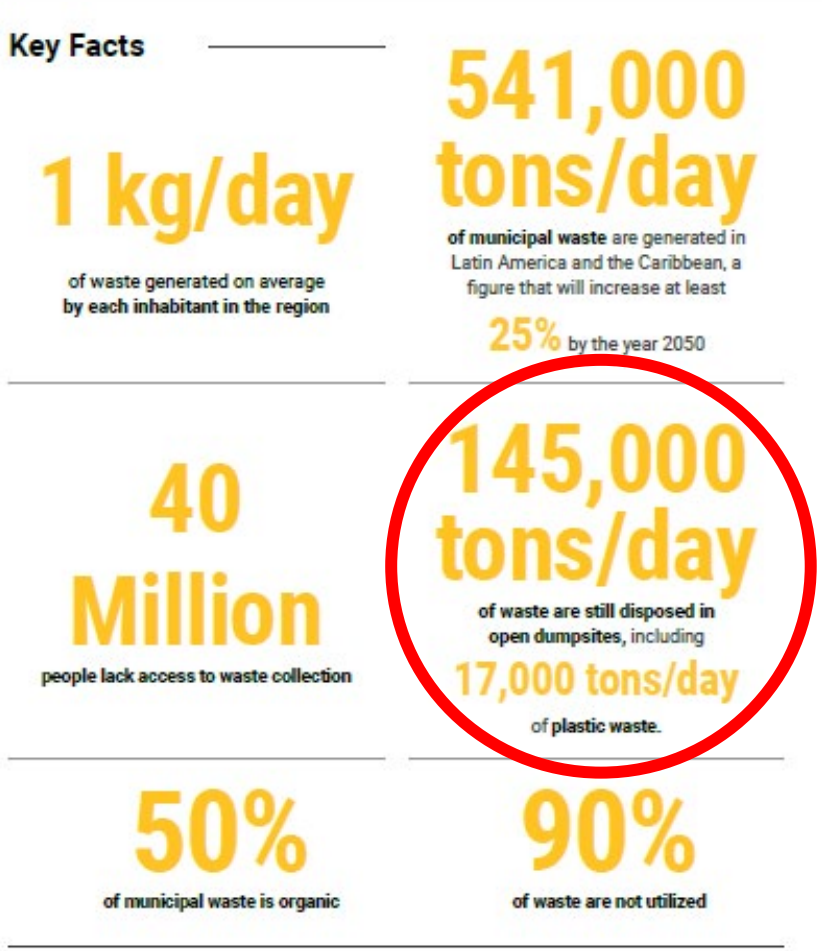
Global Methane Initiative
Leading methane action since 2004

UNECE

Global Methane Hub

CLIMATE & CLEAN AIR COALITION
TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS
a UNEP convened initiative

RELEVANT FACTS FROM THE MSW MANAGEMENT SECTOR



Source: Perspectiva de la Gestión de Residuos en América Latina y el Caribe
2018
ISBN No 978-92-807-3715-8

RELEVANT FACTS FROM THE MSW MANAGEMENT SECTOR

According to estimates, the worldwide generation of MSW in 2016 was 2 billion tons and it is expected to grow to 3.4 billion tons by 2050.

WaW 2.0 WB

Status of material flow management:

municipal solid waste (MSW) for Latin America and the Caribbean, year **2021**

Source: HUB Residuos Sólidos y Economía Circular

According to Article 3 of the Universal Declaration of Human Rights, the proper management of MSW is a human right.

ELECTRICITY FROM BIOGAS

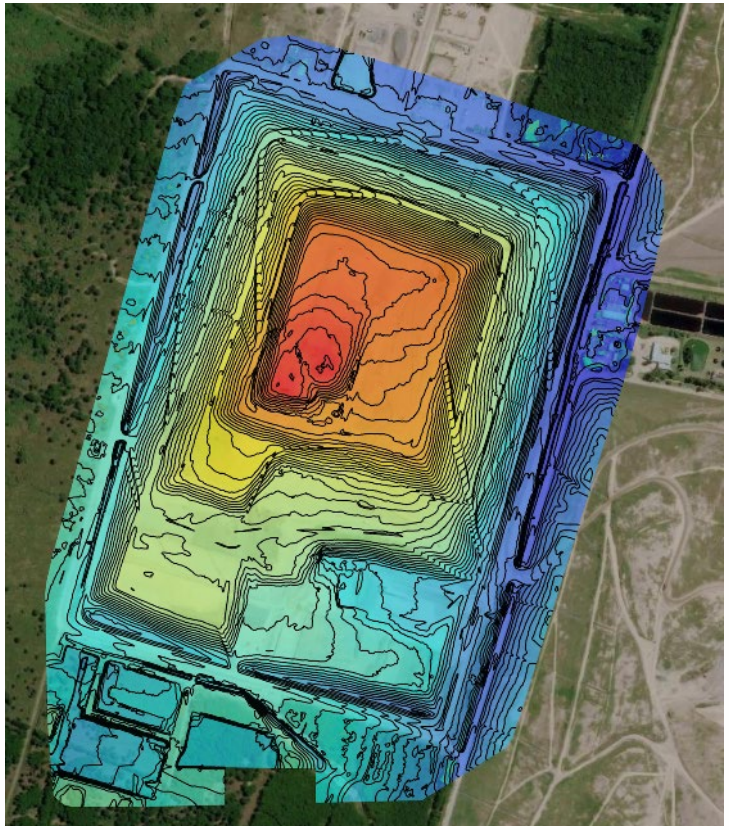
SANITARY LANDILL NORTE III – ENSENADA, BUENOS AIRES, ARGENTINA

1 GENREM CONTRACT
SAN MIGUEL NIIIC 10 Mwh

4 CONTRACTS WITH RENOVAR
CT ENSENADA, CT SAN MARTIN GC y CT SAN MARTIN NIIID, NIIID1 total 13 Mwh

23 Mwh

ENVIRONMENTAL FACILITY NORTE III



- Thermal power plants
- Ground water
- Surface water
- Air Quality

OTHER LANDFILL BIOGAS POWER GENERATION PROJECTS IN THE REGION

Energy recovery – KDM CHILE

18 motogenerators Jenbacher

24 MW contracted

Renewable energy supply for the national system
Year: 2011
Client: KDM Provate contract

GREEN GAS– SEROPÉDICA

- Location: Seropédica – Rio de Janeiro - Brazil
- Biomethane production from sanitary landfill gas: 130.000 m3 daily
- The biofuel produced supplies the companies Siderúrgica Ternium and Ambev (the first brewery to use 100% biomethane as energy, located in Cachoeira de Macacu), as well as 40 fuel stations in Rio de Janeiro.
- It is in the process of expanding its production in 580.000 m3/day in 2025
- Launching: 2018

GNR FORTALEZA

- Location: Fortaleza – Brazil
- Biomethane production from sanitary landfill gas(Fortaleza – CEARA): 100.000 m3 daily
- Sold to state-owned CEARA Gas Company, which blends it with natural gas (approximately 15% of the total distributed).
- Launching: 2017

TECHNOLOGICAL PARK LA ESMERALDA

- Location: Colombia
- Copiulemu Sanitary Landfill
- Treatment and energy recovery of biogas
- Energy production: 1,063 kWh (94% sent to the electricity grid).
- Launching: 2019

AGUASCALIENTES SANITARY LANDFILL

- Location: Aguas Calientes - México
- San Nicolas Sanitary Landfill
- Energy generation from biogas.
- 100% of the energy generated is used by the company NISSAN.
- Energy production: 20 GWh

- Launching: 2012

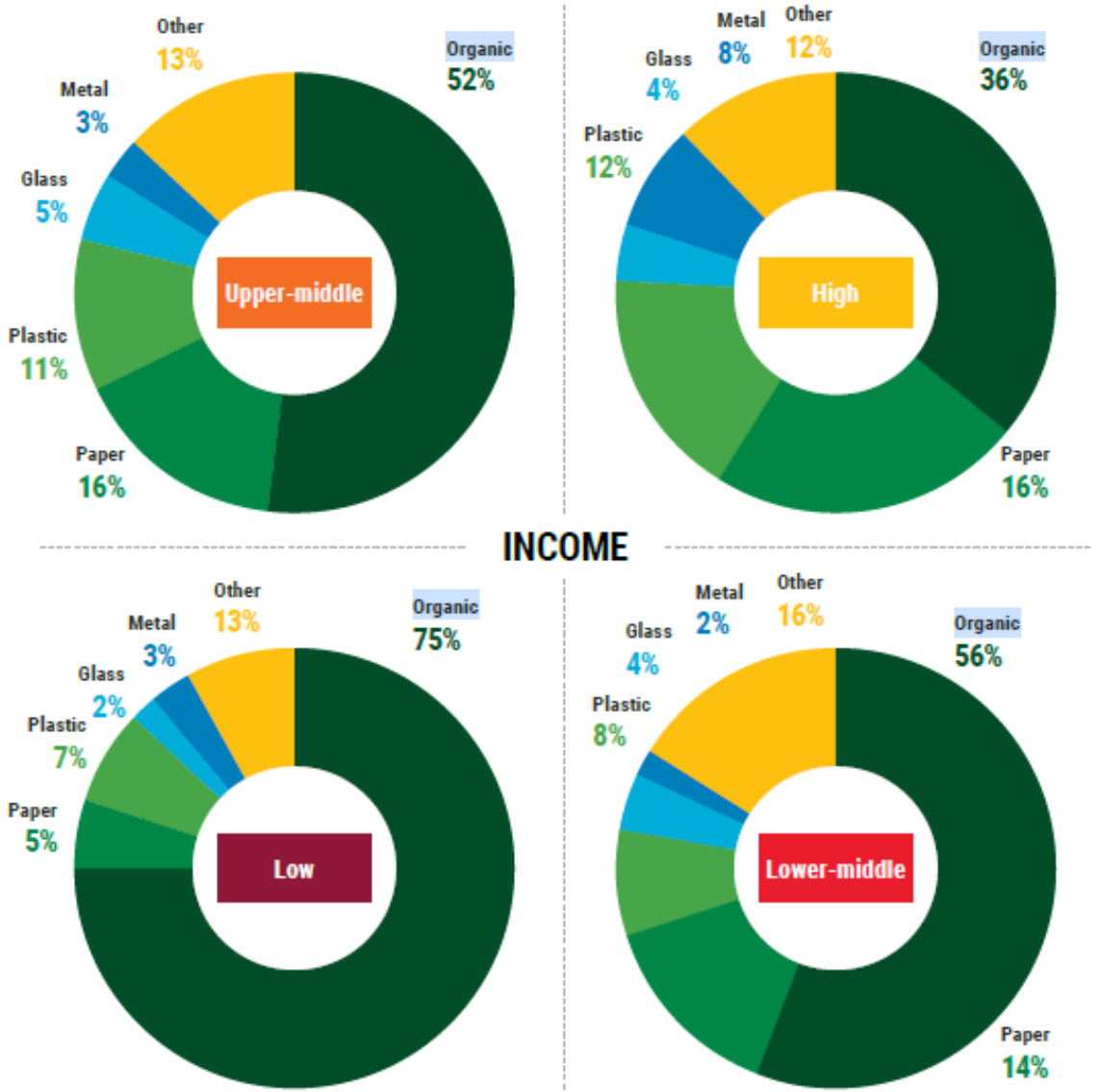
RELEVANT FACTS FROM THE MSW MANAGEMENT SECTOR

Organic waste is the most generated and least managed

Organic fraction: **50%**
avarage in waste composition

Generation of **greenhouse gases and leachates**; hinders recycling of the rest of the waste streams

Reduce food waste and promote **source separation** and **separate collection**.

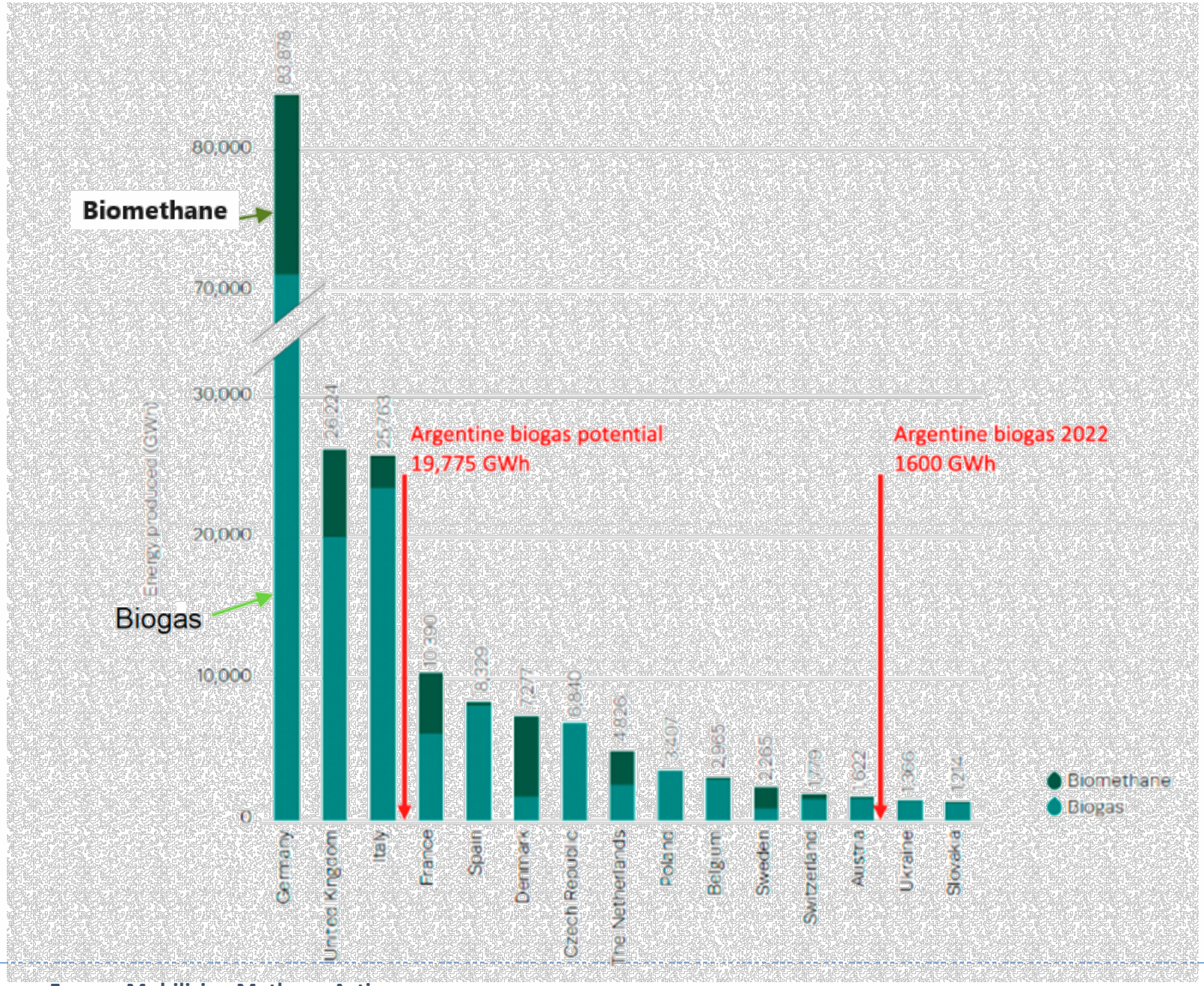


Source: Waste Management Outlook for Latin America & the Caribbean
2018
ISBN No 978-92-807-3715-8

ELECTRICITY FROM BIOGAS IN ARGENTINA

28 Anaerobic Digestion in operation

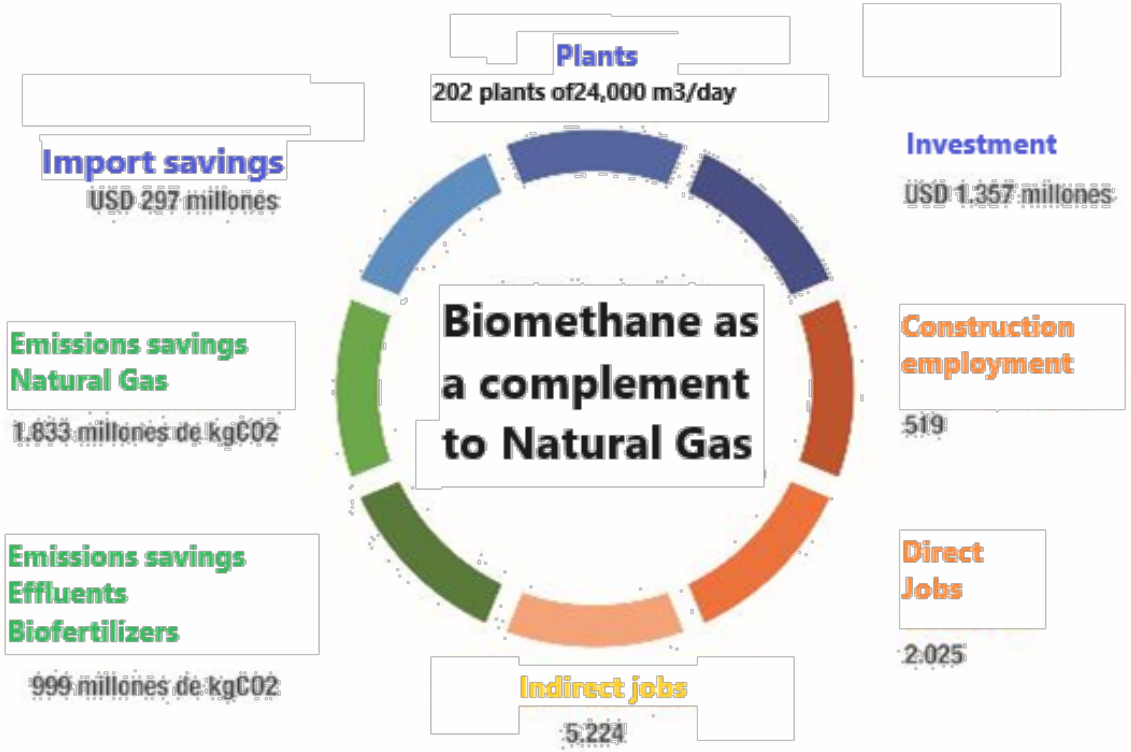
POTENTIAL OF THE AGRO-LIVESTOCK SECTOR IN THE PROVINCES OF BUENOS AIRES, CORDOBA AND SANTA FE, ARGENTINA

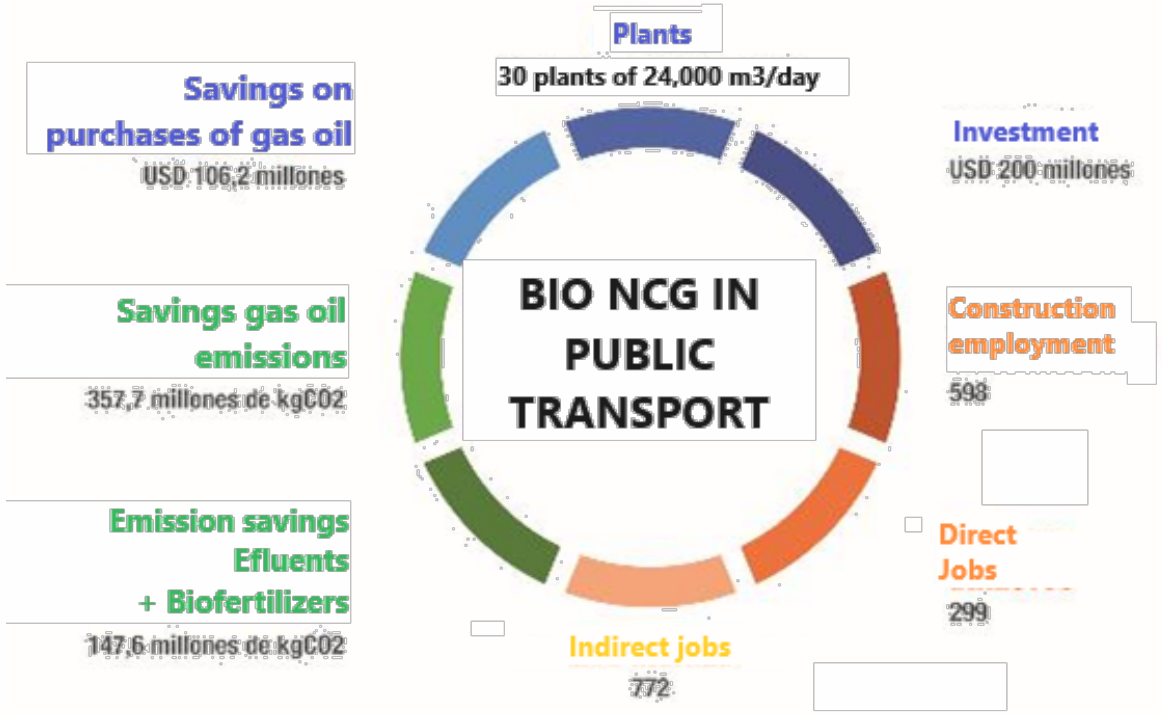


Argentina today 14º after Austria

Potential 4| after Italy and before France

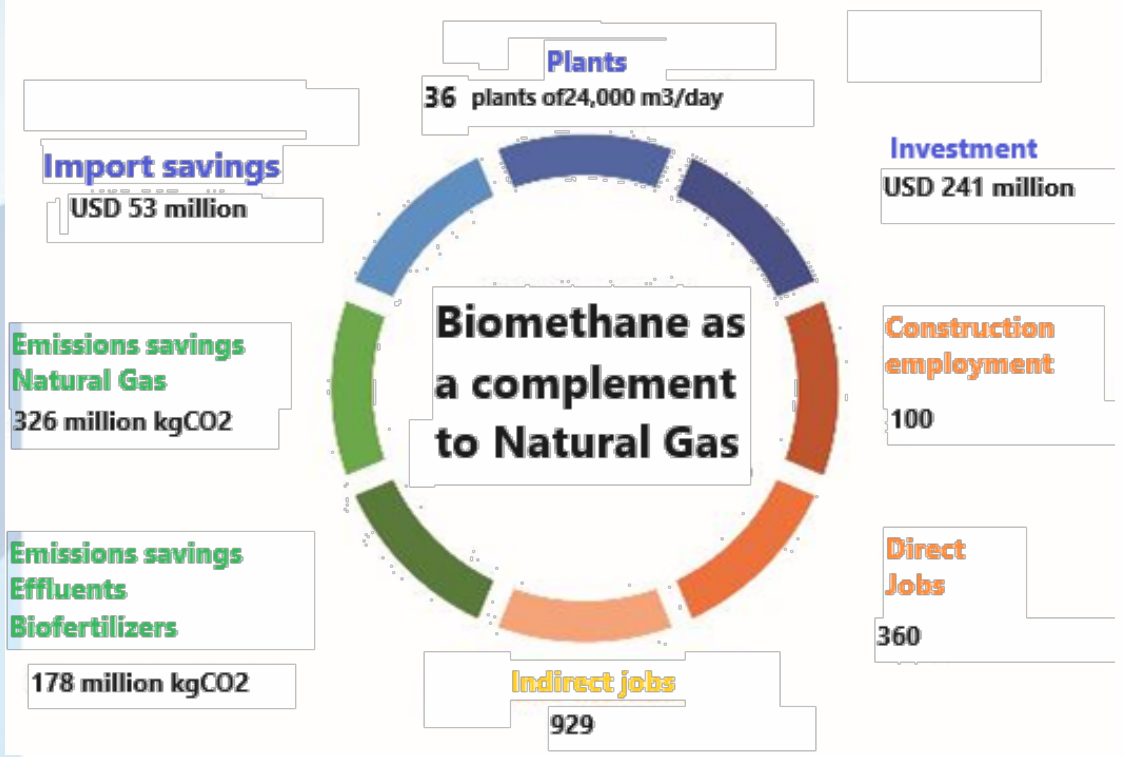
POTENTIAL OF THE AGRO-LIVESTOCK SECTOR IN THE PROVINCE OF BUENOS AIRES

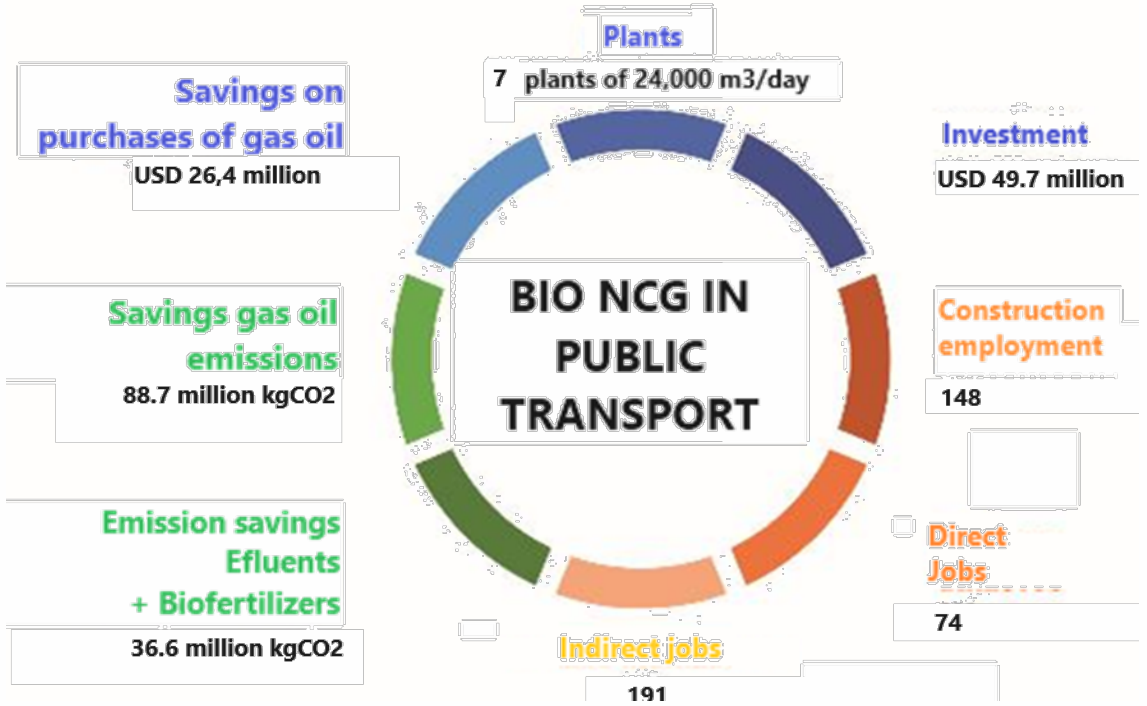




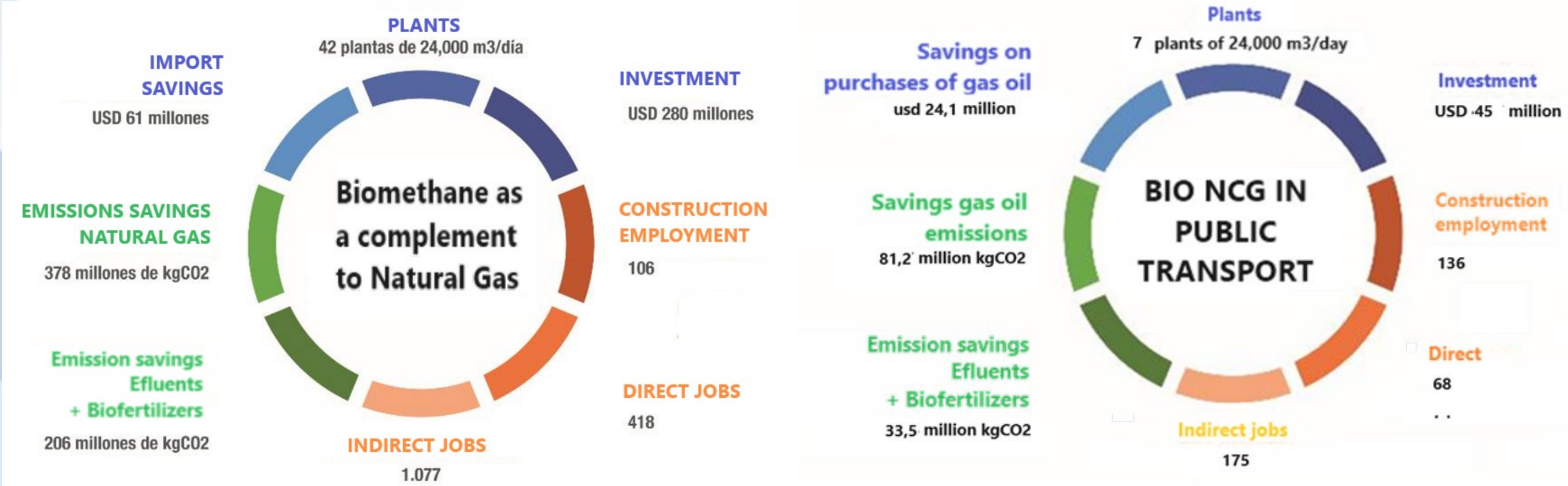
Source: Cámara Argentina de Energías Renovables

POTENTIAL OF THE AGRO-LIVESTOCK SECTOR IN THE PROVINCE OF CORDOBA





POTENTIAL OF THE AGRO-LIVESTOCK SECTOR IN THE PROVINCE OF SANTA FE



Source:

POTENTIAL OF THE MSW SECTOR IN ARGENTINA

- Potential daily production of biomethane from MSW: 2 million m3
- Equivalent to 172 Mwe
- Savings in CO2 emissions due to the use of biomethane as a replacement for natural gas: 33 thousand dollars per day.

Identification of needs and opportunities for implementing pre-evaluated mitigation measures

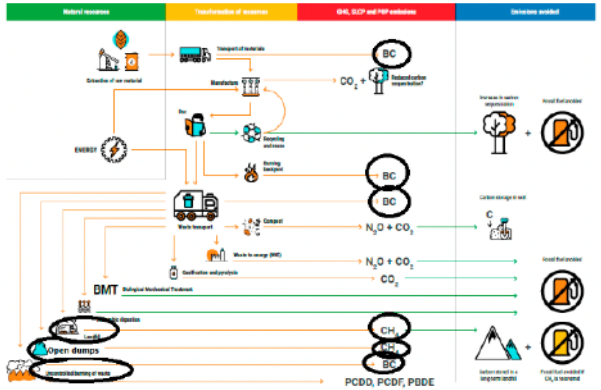
Technology options and best practices for methane mitigation from the waste sector

1. *Provide a summary of good practices and technological options for increasing landfill gas destruction, composting, anaerobic digestion and other mitigation options for the waste sector in Latin America.*

Methane (CH4) is a powerful greenhouse gas, its atmospheric amount has more than doubled since pre-industrial times (Nisbet et al. 2019). It has been second only to carbon dioxide (CO2) in driving climate change during the industrial era (Myhre et al. 2013). Methane is a short-lived climate pollutant (SLCP) with an atmospheric lifetime of roughly a decade.

Operations involved in waste management generate discharges to the atmosphere during their various phases, which are emitted in various sources depending on the premises or operated equipment.

Figure 1: Potential emissions to the atmosphere during the different stages of Municipal Solid Waste (MSW) management



Source: Regional Waste Management Outlook, UNEP 2018.

According to the "GEO-6, Global Environment Outlook, Latin America and the Caribbean Regional" landfills as well as biomass burning in open dumps, are amongst the largest air pollution sources in Latin America.

At a regional scale, Greenhouse Gases (GHG) emissions of the waste sector account for about 5 to 10% (CCAC Secretariat, 2016) of GHG global emissions. Waste is a significant source of methane emissions in a regional context, and, further, in some countries in the region waste methane emissions are an important percentage of total methane emissions.

WORK DONE BY CECC LAC

THANK YOU!

Capítulo Regional ISWA International Solid Waste Association | LAC Latinoamérica y El Caribe

ISWA LAC REGIONAL CHAPTER REPRESENTATIVE
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