



ASSOCIAÇÃO BRASILEIRA DE BIOINOVAÇÃO

Thiago Falda
Presidente Executivo

BIOECONOMIA

DESAFIOS E OPORTUNIDADES

Consumismo

+  2x recursos industriais

+  PIB US\$ 206 trillion

+  5x Crescimento da renda

População e Urbanização

+  9 bilhões

+  70% urbana

+  90 anos

Mudanças climáticas e Sustentabilidade



5 maiores riscos para economia global são relacionados.

WEF, Global Risk Report 2021



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Global Agenda | Better Business | Davos 2020 | Insurance and Asset Management

Markets can accelerate the transition to a low-carbon economy



OECD publishing

INNOVATION ECOSYSTEMS AND THE BIOECONOMY

OECD SCIENCE, TECHNOLOGY AND INDUSTRY POLICY PAPERS
September 2019 No. 76



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Global Agenda | Supply Chain and Transport | Davos 2020 | How to Save the Planet

How decarbonizing shipping could unlock a global energy transition



It won't be plain sailing - but it could be transformative

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Collaborative Innovation for Low-Carbon Emitting Technologies in the Chemical Industry



Related links

- Initiative Overview
- Biomass Utilization Cluster
- Carbon Capture and Utilization Cluster
- Electrification Cluster
- Alternative Hydrogen Production Cluster
- Waste Processing Cluster

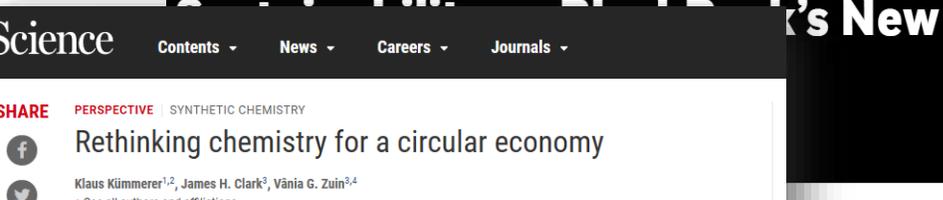
Partners

Science | Contents | News | Careers | Journals

SHARE | PERSPECTIVE | SYNTHETIC CHEMISTRY

Rethinking chemistry for a circular economy

Klaus Kümmerer^{1,2}, James H. Clark³, Vânia G. Zuin^{3,4}
+ See all authors and affiliations



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eLetters | PDF

manufacturing materials such as chemicals, minerals, available only at increasing economic and attention to a sustainable future, chemistry and its my (CE)—a system aimed at eliminating waste, resources and the environment (1).

eted worldwide, and new chemicals are becoming

McKinsey & Company

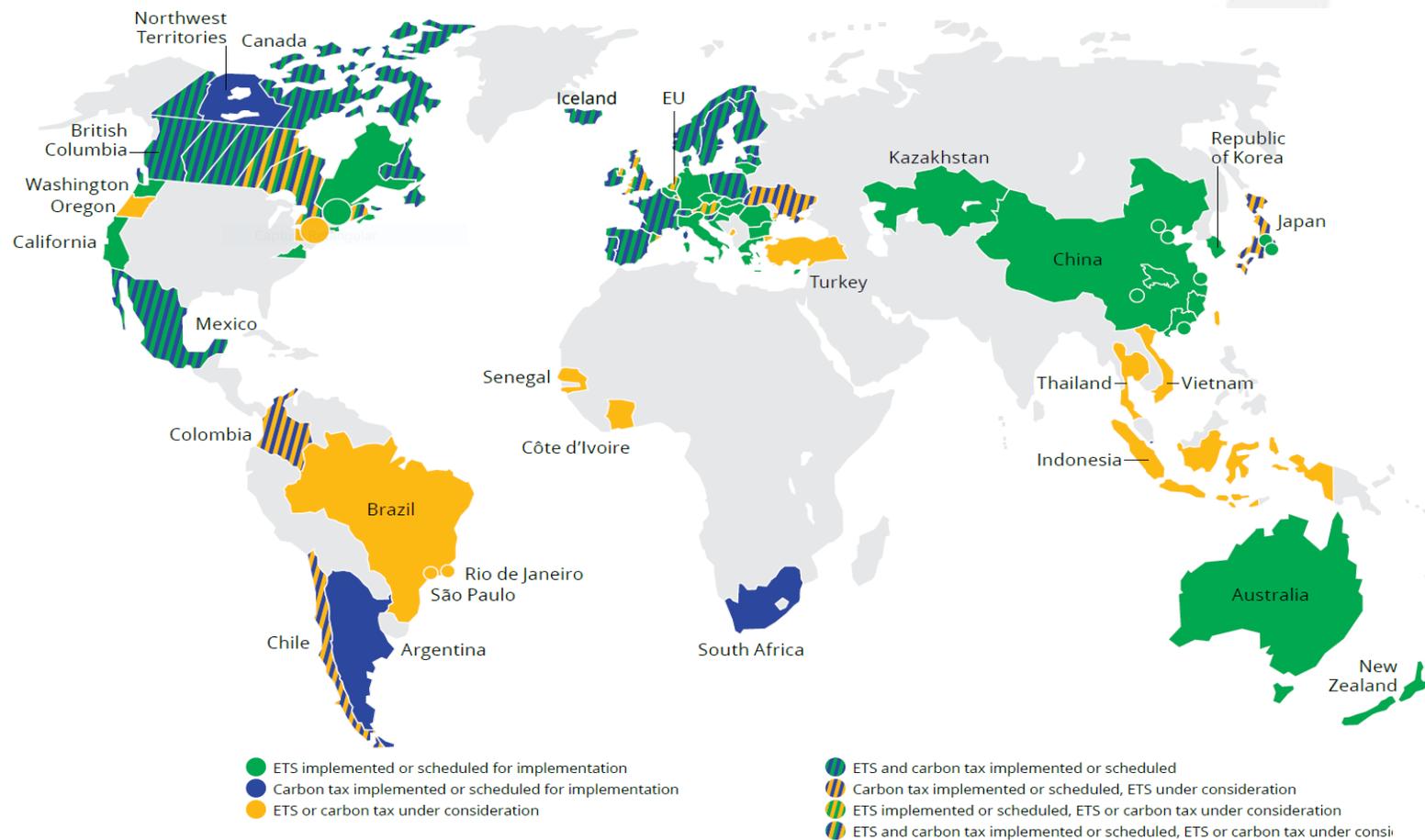
McKinsey Global Institute

Climate risk and response: Physical hazards

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DESAFIOS E OPORTUNIDADES



61 carbon pricing initiatives implemented/scheduled

31 ETS and **30 carbon taxes**

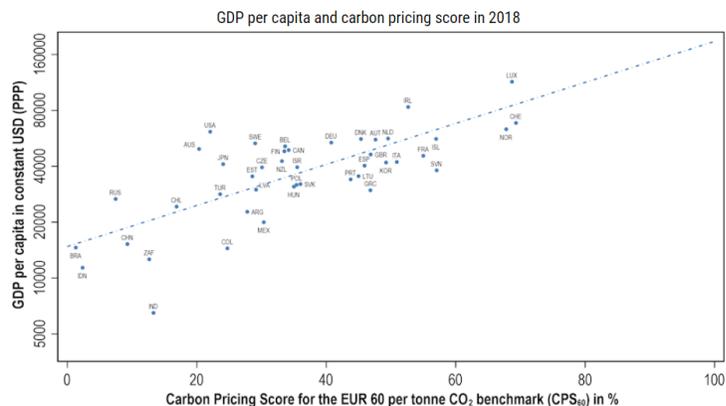
46 national, 32 subnational jurisdictions

22% covering **12 GtCO₂e** (22% of global GHG emissions)

US\$45 billion raised in carbon pricing revenues in 2019

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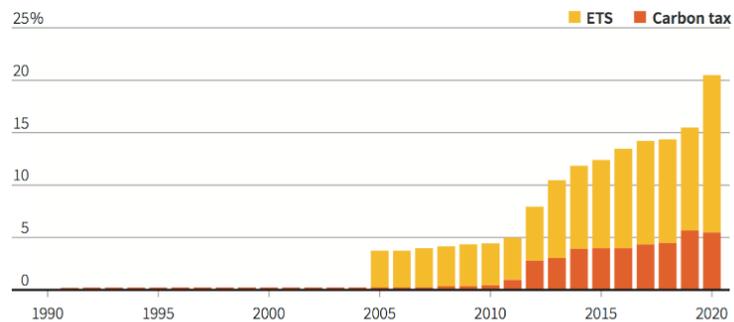
DESAFIOS E OPORTUNIDADES



Source: GDP data from the World Development Indicators ([World Bank, 2020](https://data.worldbank.org/)).

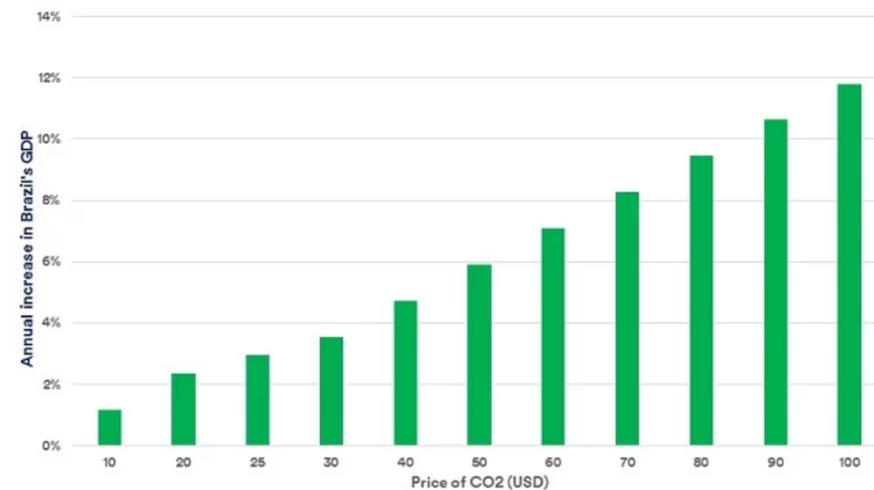
Carbon pricing initiatives

Share of global greenhouse emissions covered by Emissions Trading System (ETS) and carbon tax initiatives by year of implementation



Source: World Bank
S. Granados | REUTERS GRAPHICS

Brazil's annual increase in GDP accounting solely for the value of atmospheric CO2 extracted by forests



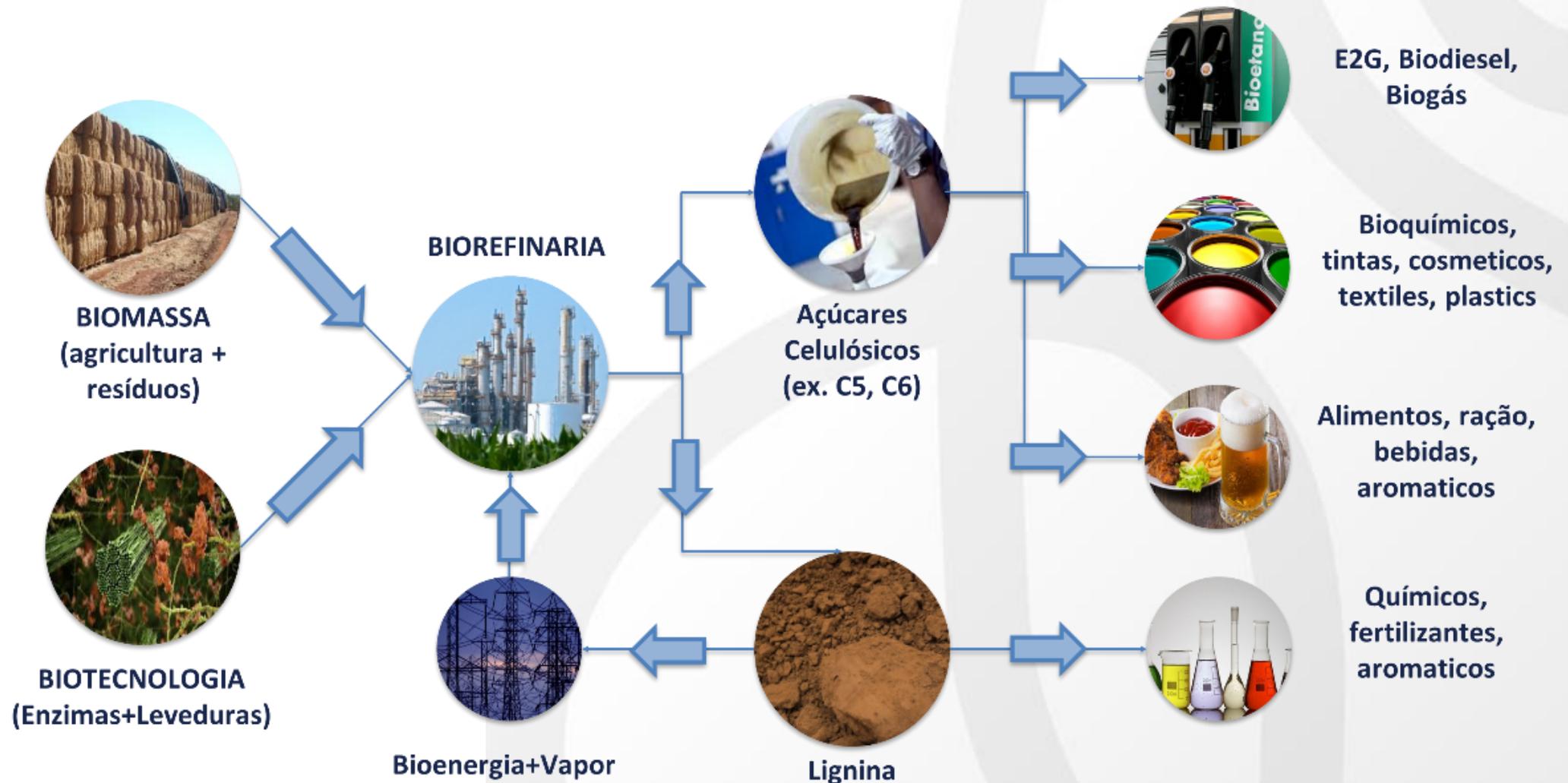
Source: Schroders, February 2019



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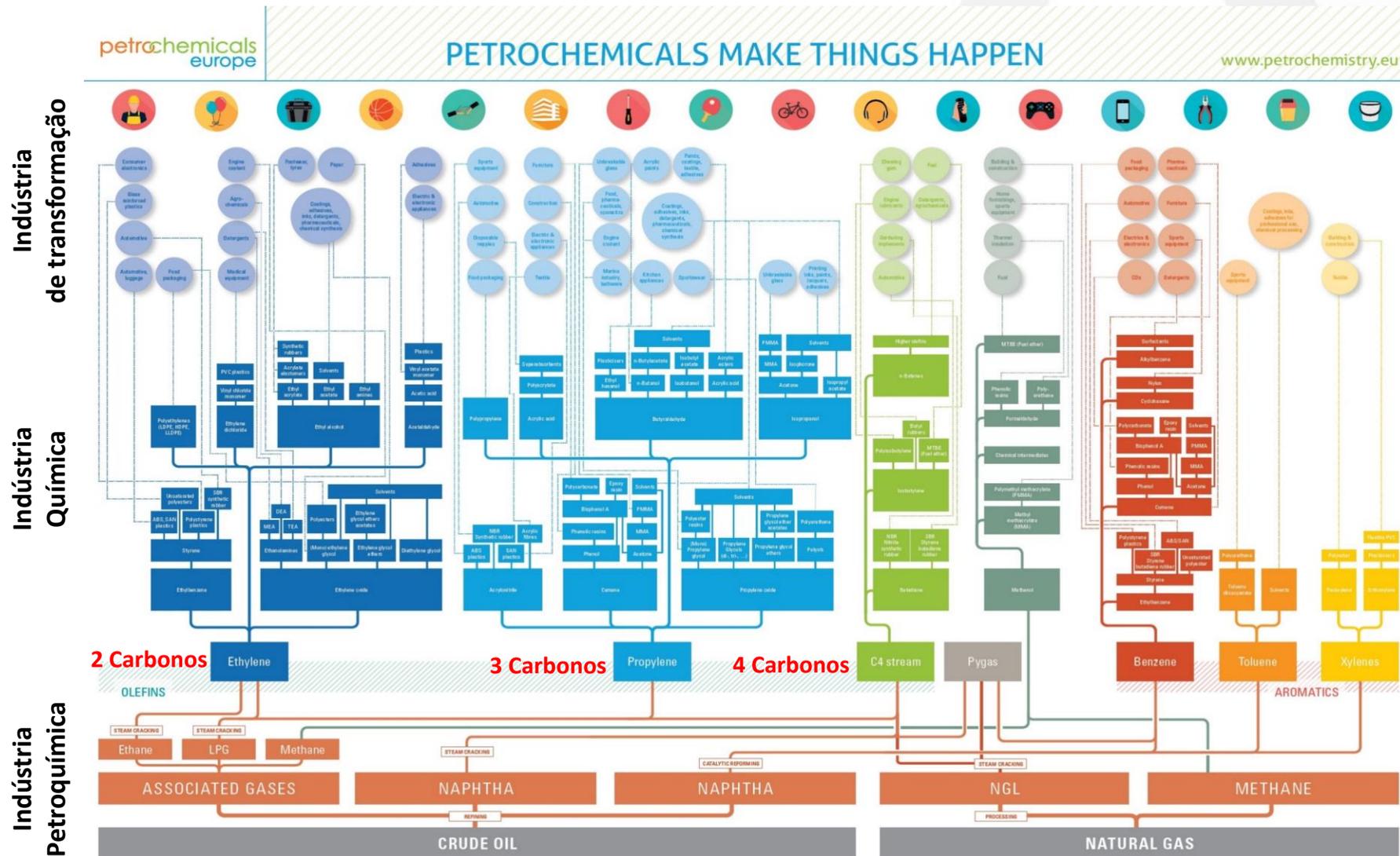
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BIOTECNOLOGIA INDUSTRIAL



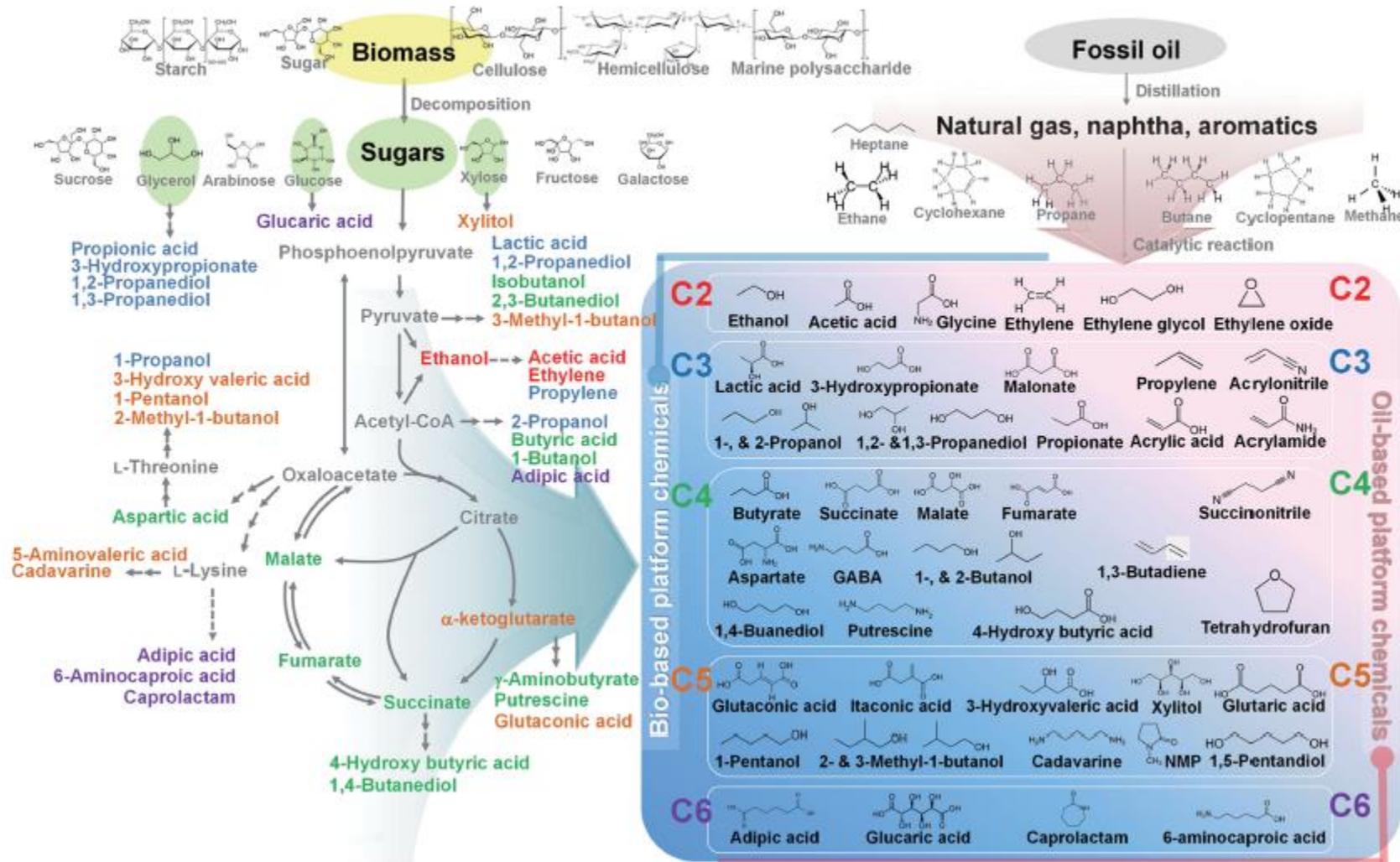
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DESAFIOS E OPORTUNIDADES



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QUÍMICOS RENOVÁVEIS



SETORES-CHAVE PARA A BIOECONOMIA

ONDE O BRASIL PODE DESENVOLVER SUAS COMPETÊNCIAS



POR QUE O BRASIL?



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CENÁRIO BRASILEIRO

DIFERENCIAIS



AGRICULTURA: Sustentável e disponível para expansão



BIOMASSA: Menor custo do planeta



EXPERIÊNCIA: Biotecnologia e biocombustíveis



BIODIVERSIDADE: Mais abundante do planeta



VANTAGENS COMPARATIVAS



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VANTAGENS COMPETITIVAS



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ASSOCIATION

CENÁRIO BRASILEIRO

DIFERENCIAIS

CRITÉRIO	UE	EUA	BRASIL	CHINA
Políticas Públicas e Regulação	C	A	B	B
Financiamento e Incentivos	B	A	B	A
Percepção pública e demanda	B	B	B	B
Nível de atividade de P&D	A	A	C	B
Nível de atividade produtiva	C	B	C	A
Custo e disponibilidade de biomassa	B	A	A	B
Outros custos de produção	C	B	B	A

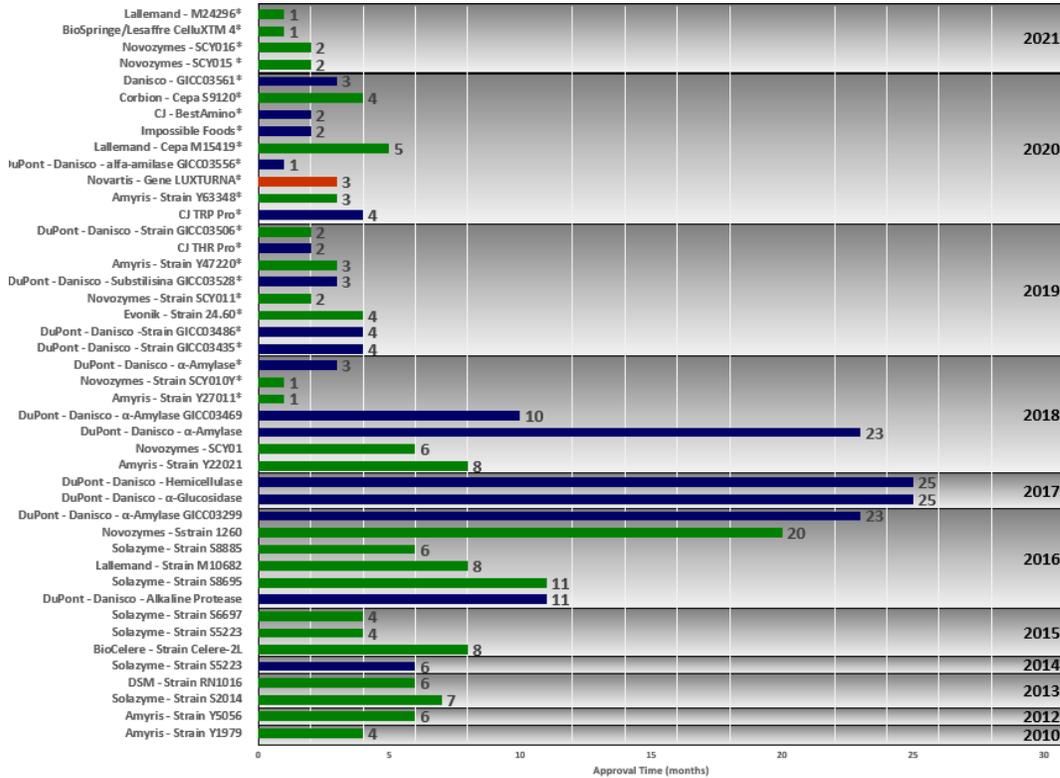
Fonte Comissão Europeia (2015)



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RECENT ADVANCES REGULATION

BIOSAFETY



2,6 months on average

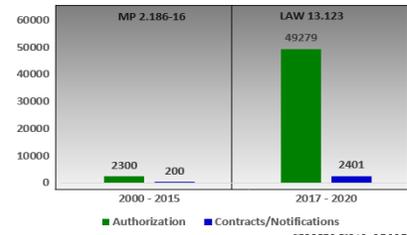
17,5 months on average

■ GMM - Yeast/Microalgae/Corynebacterium ■ Derivatives ■ Gene Therapy

300% increase in the number of products brought to Brazil

BIODIVERSITY

BRAZILIAN LEGISLATION



Source: Brazilian Ministry of the Environment - MMA

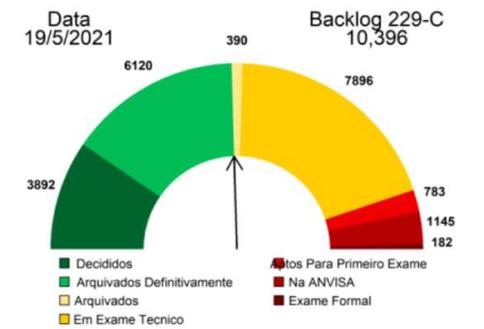
INTERNATIONAL LEGISLATION



PRESS RELEASE
Brazil 130th country to ratify Nagoya Protocol to the UN Convention on Biological Diversity

- Brazil 130th Party to ratify the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.
- Nagoya Protocol establishes predictable conditions for access to genetic resources and helps ensure the fair and equitable sharing of benefits from the use of these resources.

INTELLECTUAL PROPERTY



Patent Backlog Combat Plan
11/09/2019 19/05/2021

Source: The National Institute of Industrial Property (INPI)

RECENTES AVANÇOS

DESCARBONIZAÇÃO

RENOVABIO¹

- Emission trade system (ETS) for biofuels;
- Carbon Credits (CBIOs) based on the difference of emissions by fossil fuel and a substitute biofuel;



BIOFUELS OF THE FUTURE²

- Reduction of carbon intensity;
- Large-scale promotion and production of cellulosic ethanol.

HYDROGEN NATIONAL PROGRAM²

- Production, storage, transportation and distribution of hydrogen;
- Insertion of hydrogen energy in key sectors.

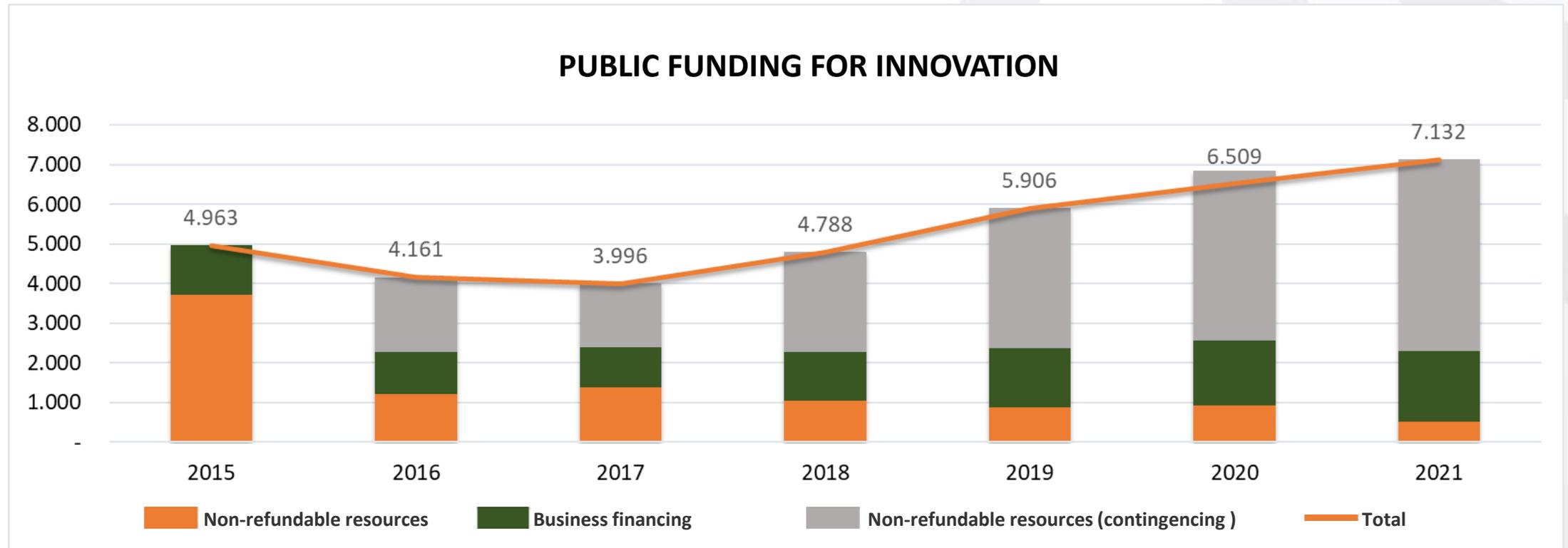


¹IMPLEMENTED
²UNDER DISCUSSION



RECENTES AVANÇOS

FINANCIAMENTO PARA INOVAÇÃO



Thank you
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