#### INTERNATIONAL PLATFORM FOR ADVANCED LOW-CARBON FUELS AND BIOREFINING

### THE BIOFUTURE platform:

Kickstarting a new, green Bioeconomy

Ministry of Foreign Affairs

Undersecretary for the Environment, Energy, Science and Technology

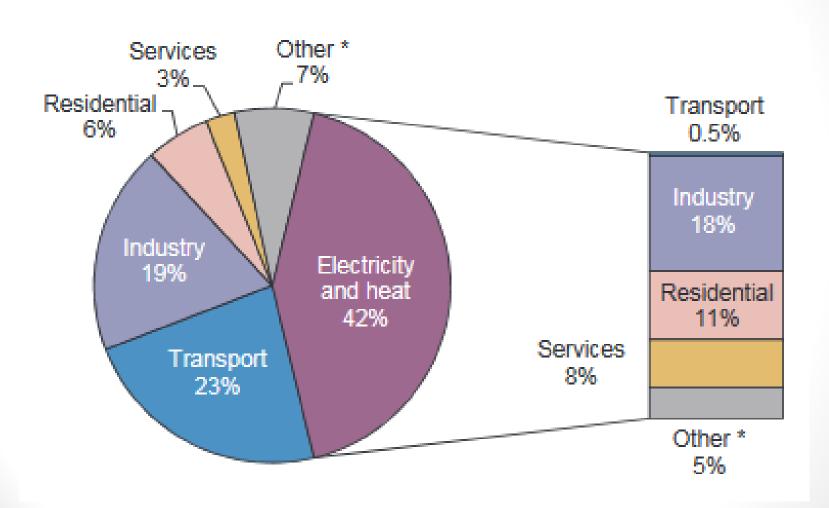
Why an international platform on advanced low carbon fuels and the new bioeconomy is needed?







### World's CO2 emissions by Sector (IPCC)



## An important boost in the fight against Climate Change

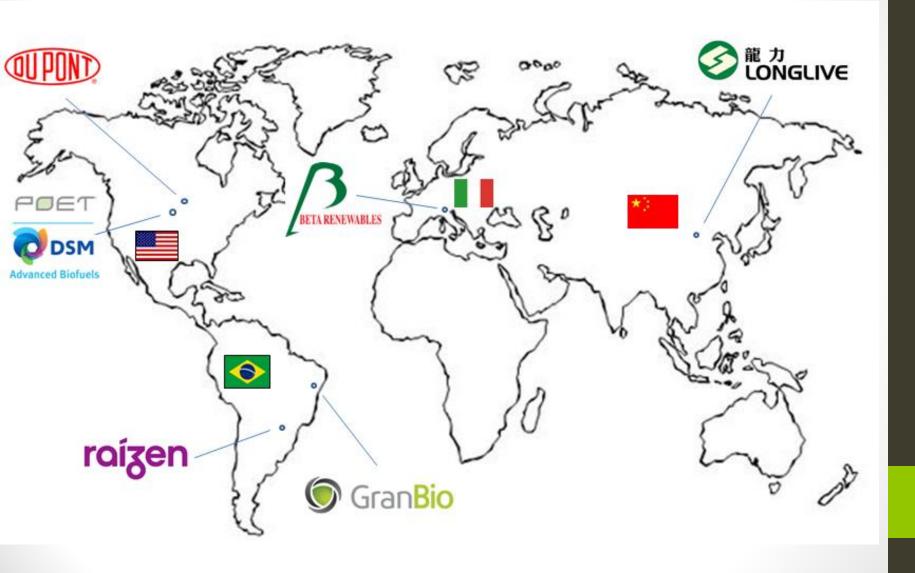
Cellulosic ethanol and other advanced biofuels are an economically, socially and environmentally sustainable solution to improve energy security and reduce carbon emissions in the transport sector in the near term.







### **Commercial Plants of E2G**

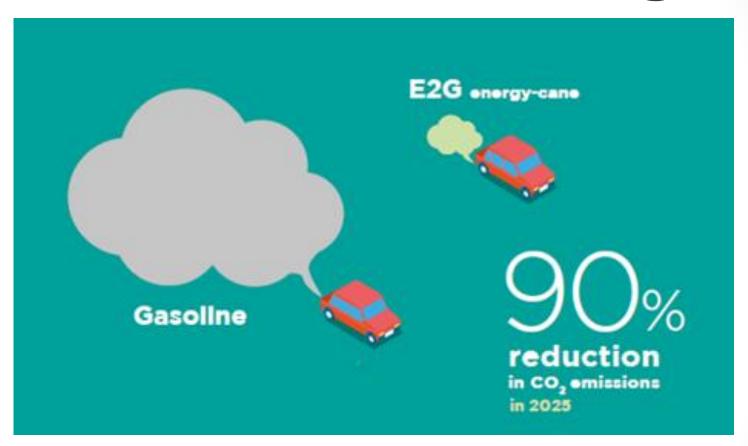


### World installed capacity of cellulosic ethanol

Region	installed capacity (million litres)	Percentage of world total
United States	490.37	35%
China	340.19	24%
Canada (wood-based)	303.45	22%
European Union	130.83	9%
Brazil	125.65	9%
World (2015)	1 390.48	100%

Source: UNCTAD, 2016.

### Environmental advantages

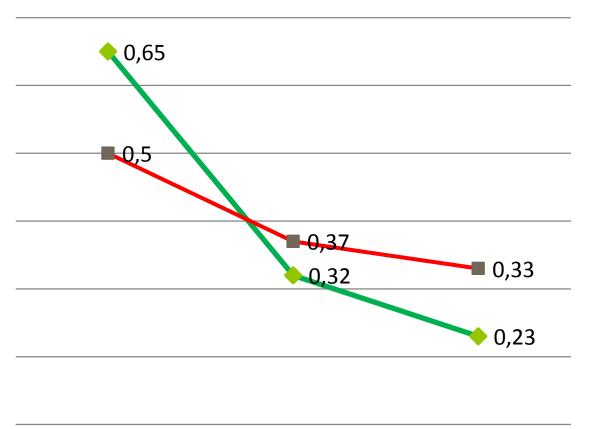


E2G can remove significant volumes of GHG with minimum impact on the land use.

### Benefits and potential of cellulosic ethanol

- Cellulosic material does not compete with food production;
- Carbon mitigation potential even greater than traditional ethanol;
- Waste and agricultural residue (e.g. rice and corn straw) can be turned from a liability into an asset
- Greatly increased productivity with zero increase in the use of land and water resources;
- More value for rural producers.

### Expected E2G cost reduction (US\$/liter)



Biomass, CAPEX and enzymes are the main drivers of E2G production costs. In the long term, E2G will be competitive with oil prices at nearly US\$ 40 per barrel.

E2G average cost

**E1G** average cost

Short-term (2016-2020) Medium-term (2012-2025)

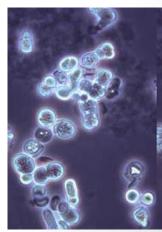
Long term (2026-2030)

# The technology behind 2G biofuels is the key to a new, green bioeconomy

Future bio-refineries will be able to convert residues and waste into fuels, electricity, chemicals and pharmaceutical ingredients — like today's petrochemical refineries, but smaller, greener and more sustainable.







### Main challenges ahead for scaling up advanced low carbon fuels

- Financial risks large initial investments, mediumterm competitiveness disadvantage, need for amortization;
- Technical risks now mostly overcome, some challenges remaining related to pre-treatment and enzyme costs;
- Policy risks: fossil fuel subsidies, little to no incentives for clean energy in the transport sector;
- Biomass supply risks: lack of reliable, sufficient, sustainable and economic feedstock supply in all regions.

An International Platform for Advanced Low-carbon Fuels and Biorefining can promote international collaboration and dialogue between policy makers, industry, academia and other stakeholders. The initiative would discuss and share lessons on the piloting and implementation of consistent and stable policies and investment facilitation for an advanced bioeconomy at national and global

levels in order to accelerate the deployment of cellulosic biofuels and ripe the benefits of this new bioeconomy.



#### **Biofuture Platform**

- Country led model
- Participation by countries with great potential in the field.
- Country-driven, dynamic governance

#### **Biofuture Platform**

- Scope of activities:
  - Promotion of policy dialogue and collaboration;
  - Facilitation of advanced biofuels and bioeconomy-related investments;
  - Awareness-raising and sharing of studies on different specific solutions;
  - Promotion of R&D and sharing of analysis and information on R&D needs.

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THANK YOU!