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Consortium “Lignocelulosic Biofuels for the  
Autotransport Sector”

**Mexican Centre in Bioenergy Innovation**



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## MEXICAN CENTRE IN BIOENERGY INNOVATION

**Applied research and technology development in bioenergy aimed at**

- Reducing fossil fuels dependency
- Reducing GHG emissions
- Contribute to energy security

( 2015-2030 Energy National Strategy)

**Consortia (Initiated August 2016). Initial budget: 50 MM USD**

- Solid Biofuels
- Gas Biofuels
- Biodiesel
- Bioturbosine
- Alcohol Biofuels “Lignocellulosic Biofuels for the Autotransport Sector”





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## **CONSORTIUM “LIGNOCELLULOSIC BIOFUELS FOR THE AUTOTRANSPORT SECTOR”**

### **Objectives (2021)**

**Foster/promote (applied research, technology development and industrial partnership) the use of state-of-the-art biochemical platform technologies for producing**

- 2G bioethanol (private vehicles and y light trucks) and 4G bioethanol as a substitute of fossil fuels
- 2G biobutanol, biohydrogen and biogas

**In greenfield/retrofit/bolt-on biorefineries for biofuel production**

**Carry out sustainability analysis and LCA**



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## CONSORTIUM “LIGNOCELLULOSIC BIOFUELS FOR THE AUTOTRANSPORT SECTOR”

### **Motivation 1**

- Reduction of dependence on fossil fuels; energy security; reduction GHGs

### **Motivation 2**

- Entrance door to bioeconomy



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## CONSORTIUM “LIGNOCELLULOSIC BIOFUELS FOR THE AUTOTRANSPORT SECTOR”

- **Feedstock:** **Agro-industrial residues**
  - Corn residuals
  - Straw (wheat and soghum)
  - Sugar cane bagasse
  - Agave bagasse



## Largest applied R&D initiative in Mexico for 2G bioethanol production

- **105 members** (28 scientists, 31 technicians, 33 posgrad students)
- **10 institutions** (5 public universities, 1 private university, 3 research centres, 1 non-profit institution)



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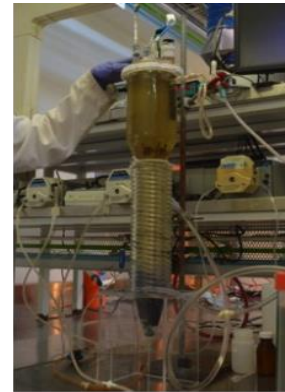


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## Government



## Private Sector

### Agroindustrial residues producers



### Process technology provides



### Large-scale bioethanol users





# TECHNOLOGY ROAD MAP

## Current Status

In-house technology for continuous production

250 kg/day feedstock, 50l/day etOH  
(15,000 LPA)



## Next Stage (2020)

### Piloting

Biorefinery  
500-1000Kg/day  
120-240 L/day  
etOH

## Short term objective

Consortium seeking to engage with technology stakeholders looking to enter bioethanol Mexican market



Greenfield



Bolt-on



Retrofitting

**Same strategy for biobutanol 2G  
and bioethanol 4G**



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## 11 Research Lines and 3 Strategic Actions in

**Area 1. Feedstock and Agrosystems Characterization**

**Area 2. Biochemical Biorefineries**

**Area 3. Sustainability and LCA**

**Area 4. Technology Management and Commercialization**

**Area 5. Results Dissemination and Training**



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Clúster de Biocombustibles Lignocelulósicos  
para el Sector Autotransporte

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