

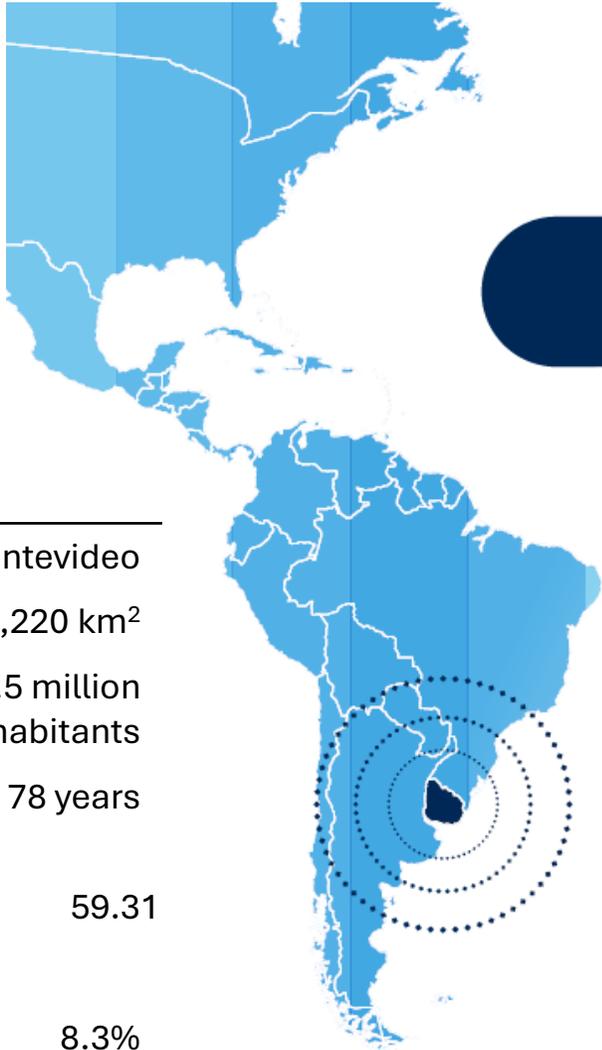
# ANCAP's Energy Transition Projects in Uruguay

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October 2024



# WHY URUGUAY?



Capital	Montevideo
Land Area	176,220 km <sup>2</sup>
Population	3.5 million inhabitants
Life expectancy	78 years
GDP 2021 (millions of current USD)	59.31
Unemployment rate, 2023	8.3%

## UNIQUE COMBINATION OF ATTRIBUTES

### Reliability & Certainty

- Stability - Transparency
- Sustainability - ESG
- World class infrastructure

### Easy for business

- Markets & Clients access
- Financial freedom & Incentives
- Innovation ecosystem

### Talent & Lifestyle

- Multilingual - Flexible - Creative
- Peaceful - Diverse - Safe

# URUGUAY: 1<sup>st</sup> Energy Transition successfully completed

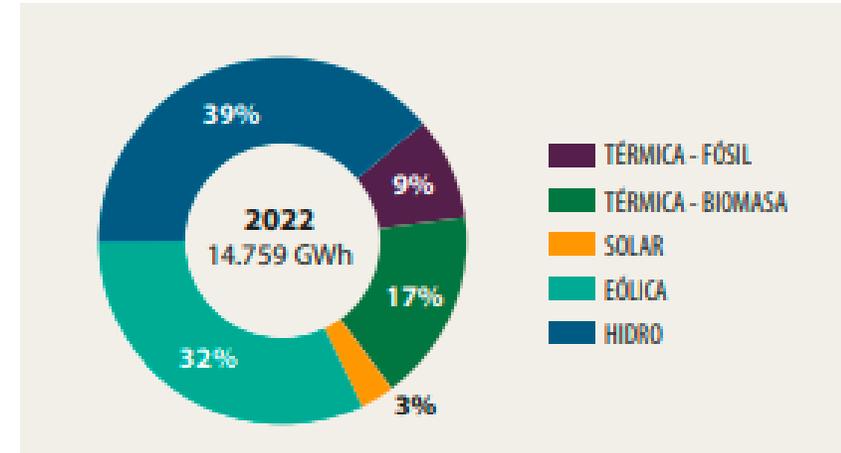


**Uruguay's green power revolution: rapid shift to wind shows the world how it's done**

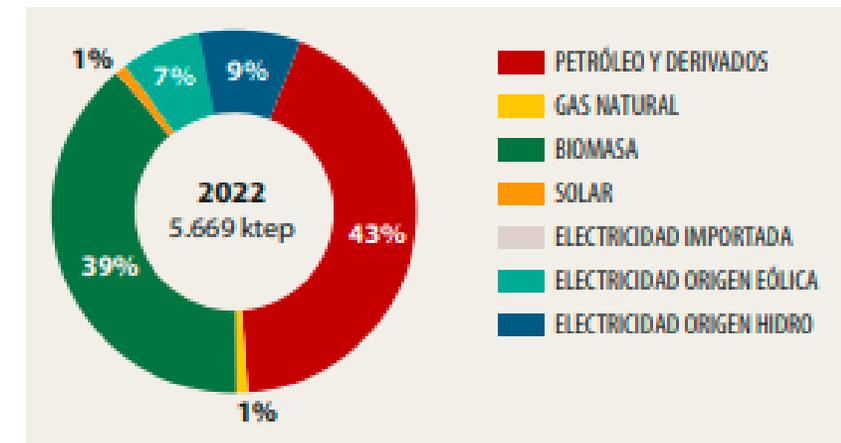


<https://www.theguardian.com/global-development/2023/dec/27/uruguays-green-power-revolution-rapid-shift-to-wind-shows-the-world-how-its-done>

## Electricity generation matrix 2022: 91% renewable



## Primary matrix 2022



<https://ben.miem.gub.uy/descargas/10anteriores/BEN2022-libro.pdf>

# ANCAP: Boosting the 2<sup>nd</sup> Energy Transition

ANCAP Group: the largest industrial conglomerate in Uruguay  
Key assets to make energy transition projects viable

## Production and sale of energetics



18 industrial plants  
285 gas stations

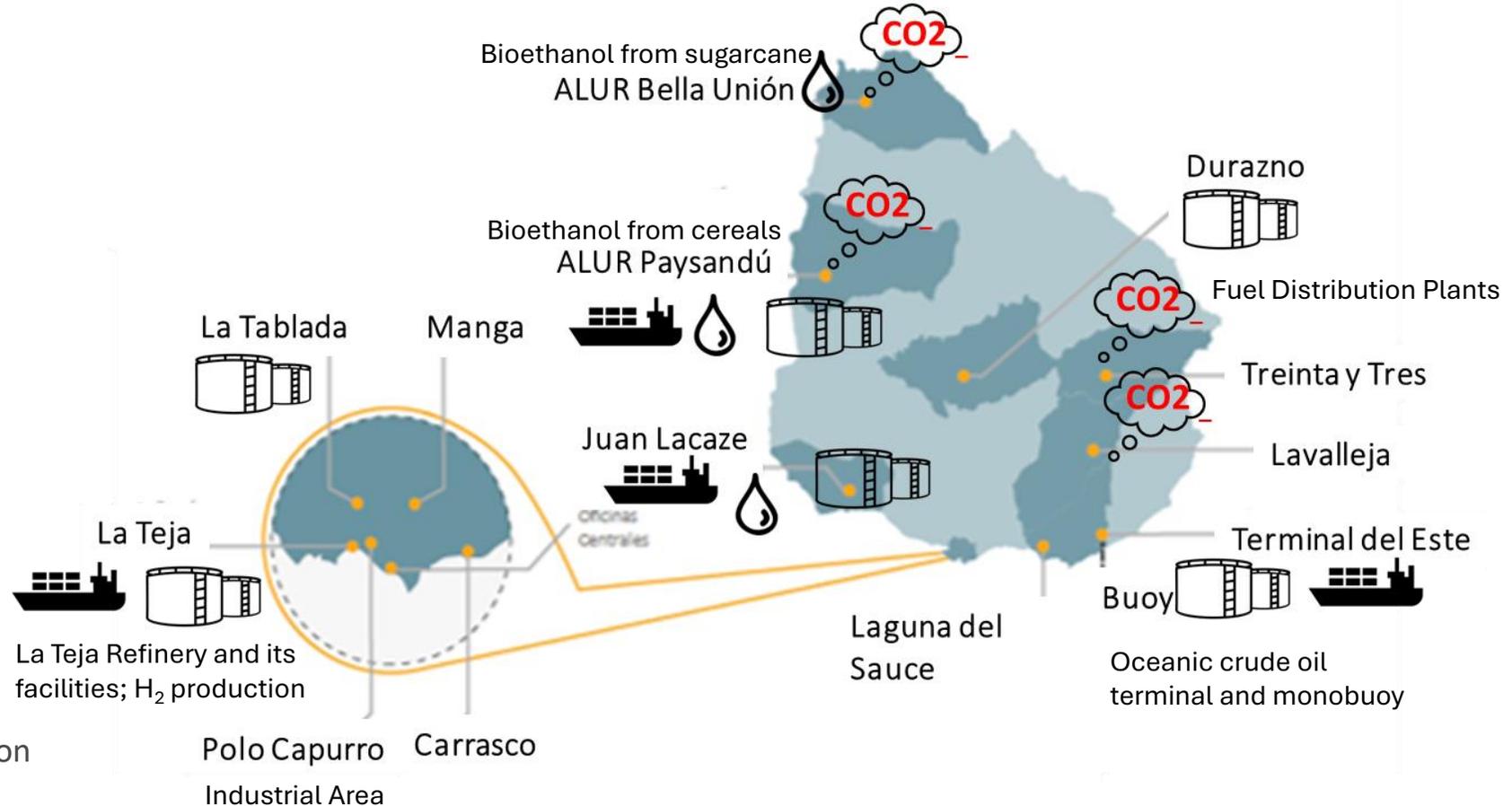


Employees:  
3300



2022 results:  
Revenue: USD 3.6 billion

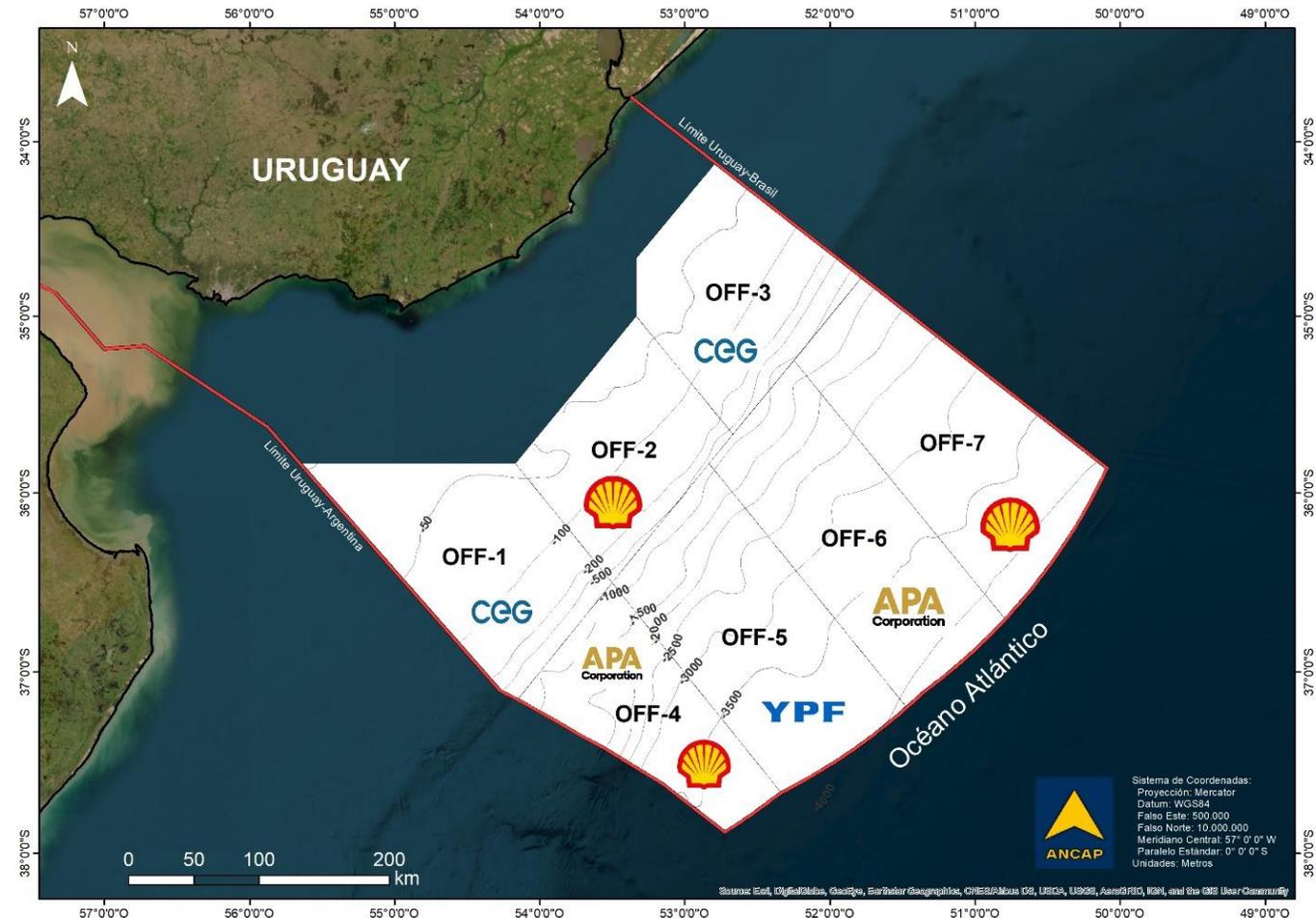
- Fuel**  
50.00 barrels/day
- Biofuel**  
185.000 m3 year
- Lubricants**  
16.000 m3 year
- Gas Stations**  
Network 285
- Natural Gas**



# Exploration and Production

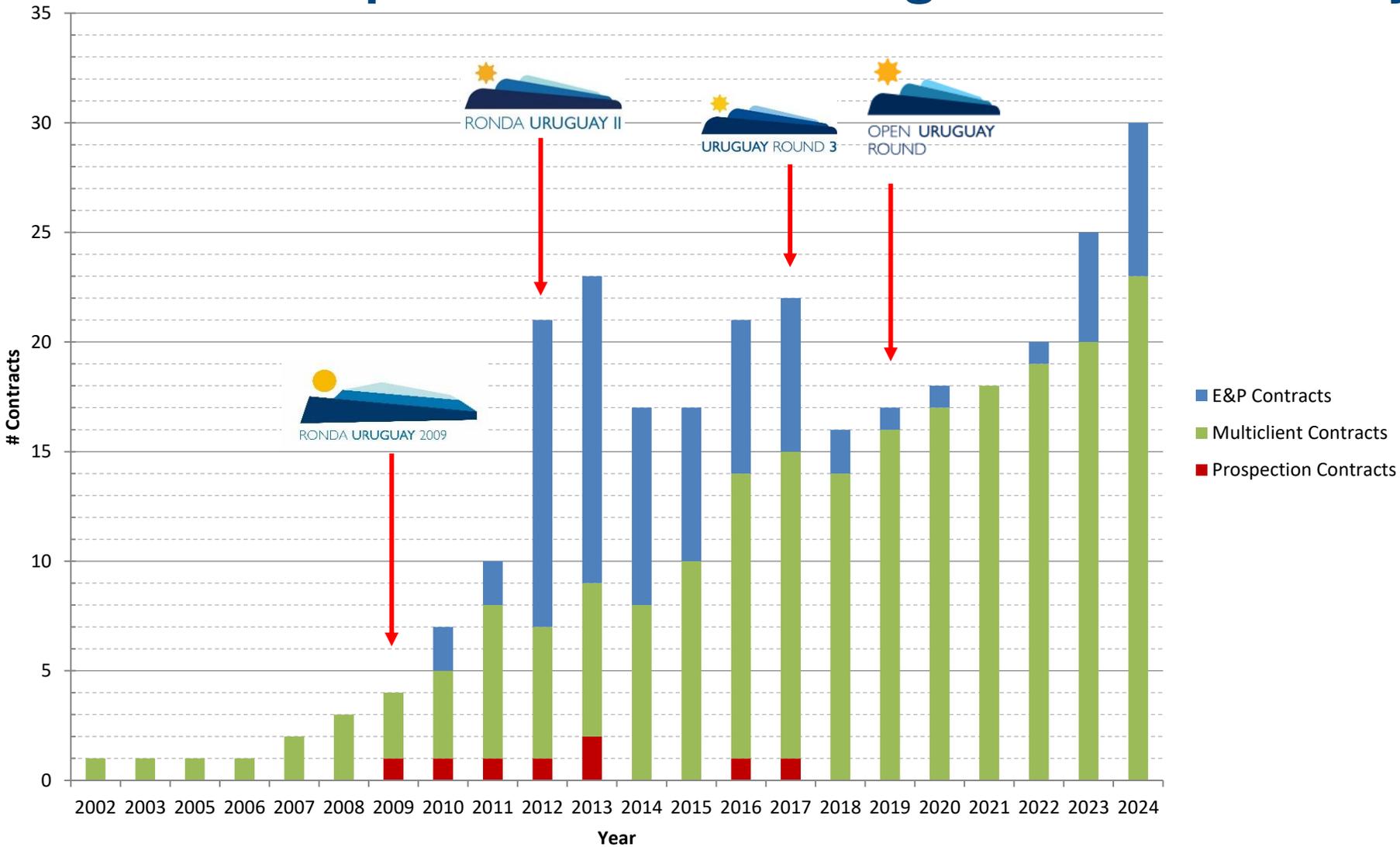
*“World needs more investments in oil production no matter the speed of energy transition” – Rystad Energy*

- Average block size: 15,000 km<sup>2</sup>
- Short term: more companies entering via farm-ins
- Nominal Investment Commitment: 129 MMUSD
  - Working over existing data
  - 3D seismic acquisition in Area OFF-4
  - 1 exploratory well in Area OFF-6
- In case of production, no routinary venting or flaring is allowed (low CO<sub>2</sub> intensity)



# Ongoing Exploration

## Tens of upstream contracts signed in the last 15 years

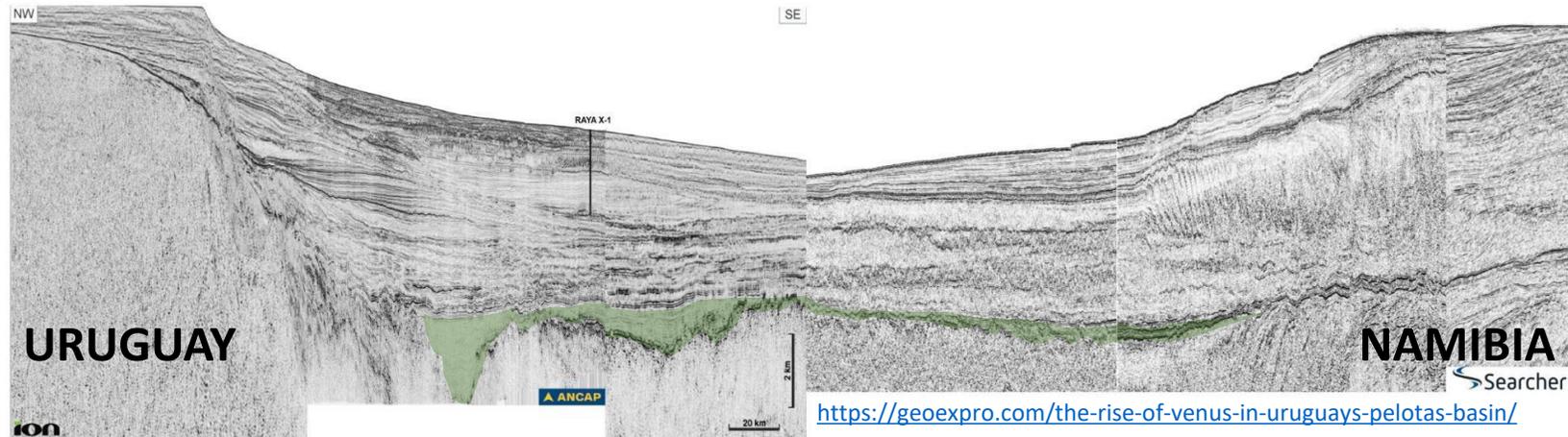
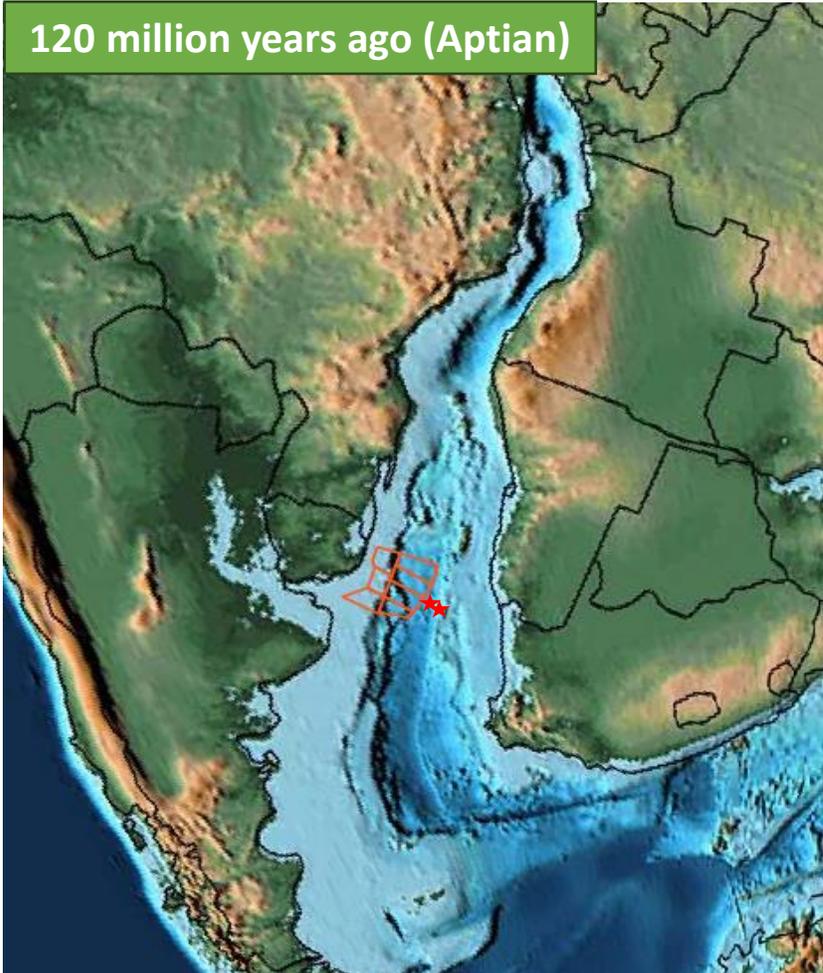


Investment over 1.2 Billion USD in HC exploration by Oil & Gas and Service Companies

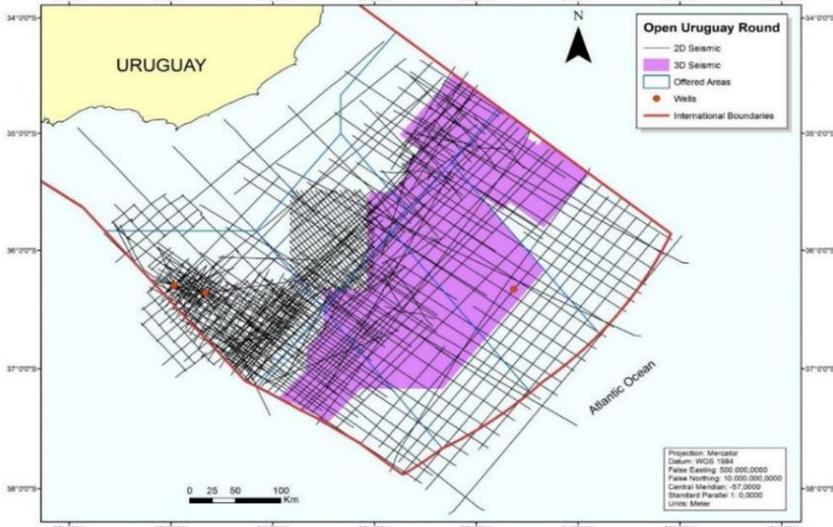
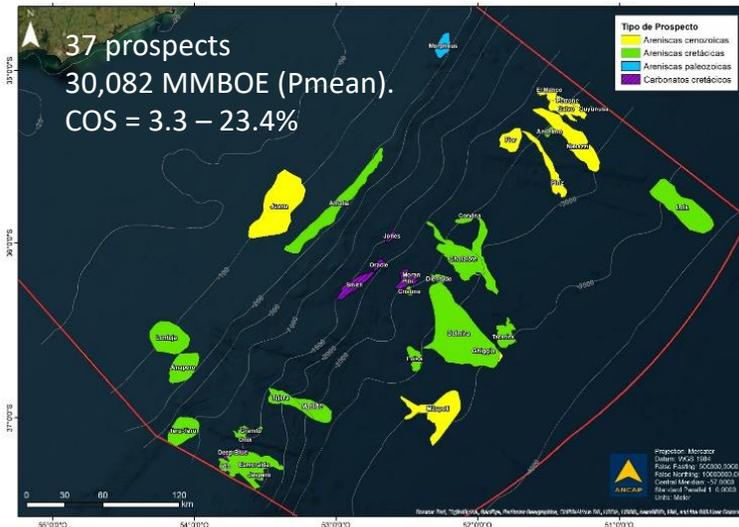
# Renewed interest in offshore Uruguay

*Similarities with offshore Namibia*

120 million years ago (Aptian)



<https://geoexpro.com/the-rise-of-venus-in-uruguays-pelotas-basin/>



# ANCAP: shifting towards an Integrated Sustainable Energy Company



Emissions reduction from current operations (upstream & downstream)



Offshore tender for green H<sub>2</sub> production



Synthetic fuels (e-fuels /e-methanol) + biogenic CO<sub>2</sub> capture



2<sup>nd</sup> generation biofuels: HVO (HEFA) Project at La Teja Refinery



CO<sub>2</sub> storage in saline aquifers



Geologic H<sub>2</sub> Potential assessment



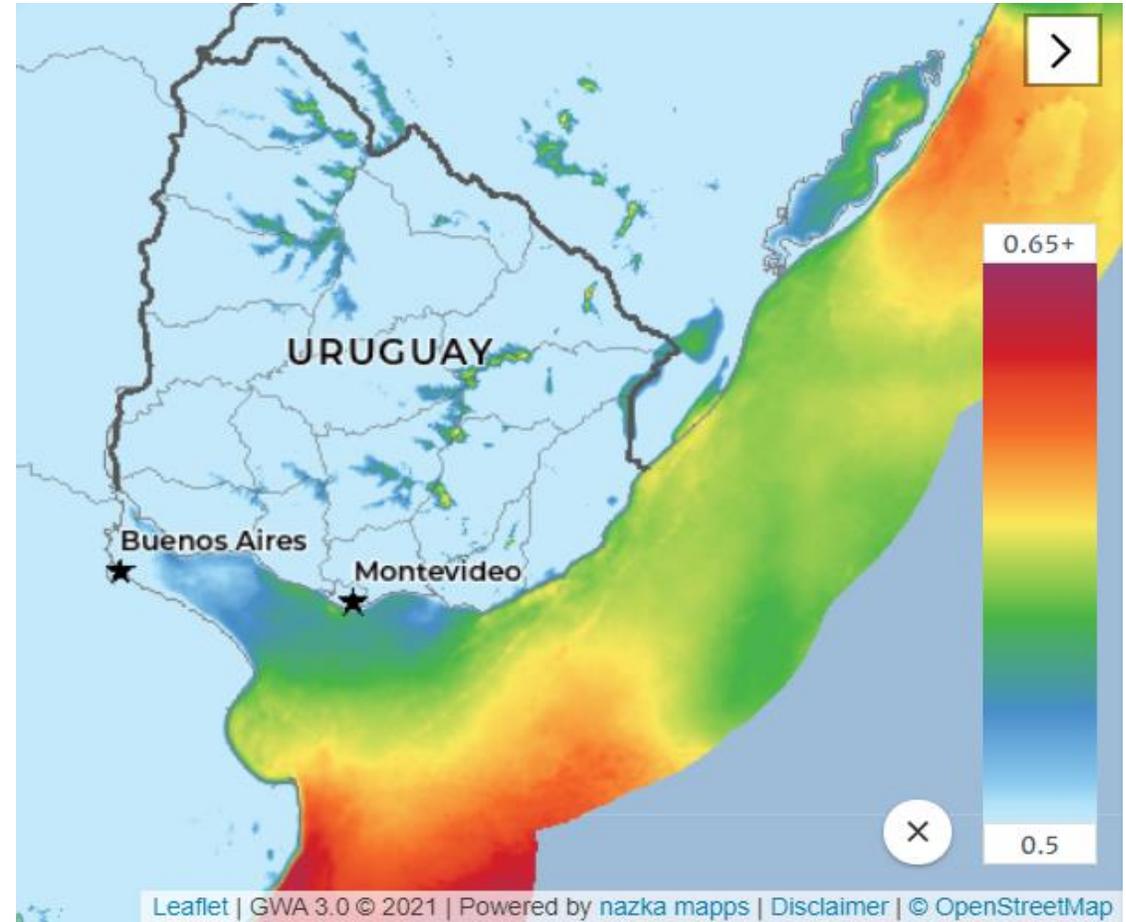
Ethanol to SAF (Jet) pilot plant

#ResponsibleTransition

*Low carbon operations + Biofuels + Key role of Green H<sub>2</sub> and derivatives*

# Excellent conditions for the 2<sup>nd</sup> Energy Transition

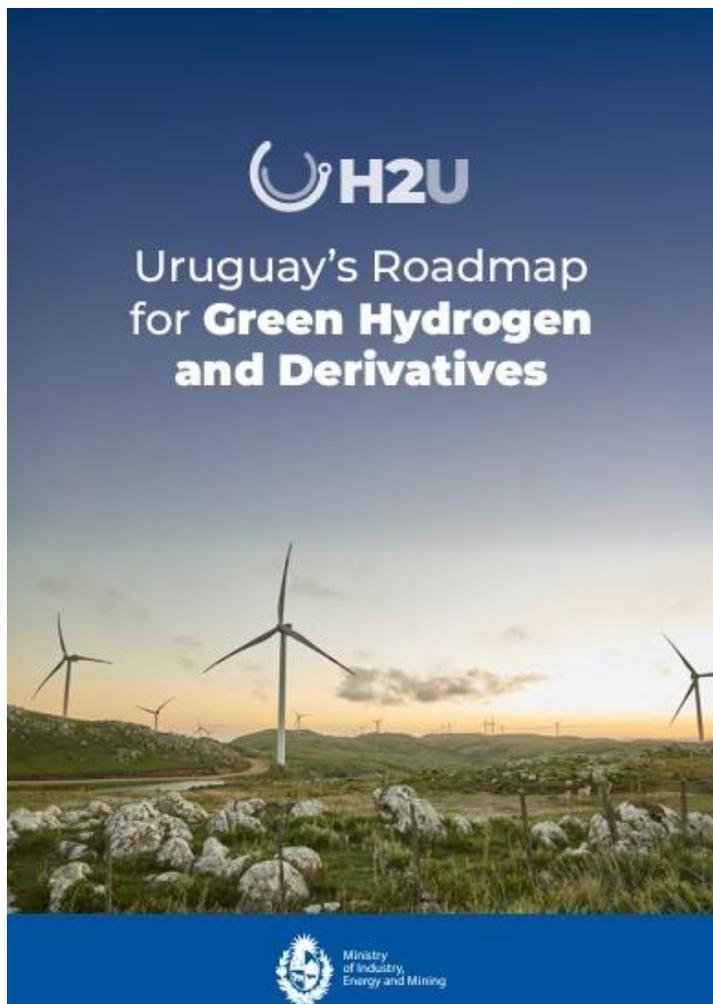
- Broad **renewable** potential
  - Onshore: 30 GW of Tier I wind and 60 GW of Tier I solar, with high complementarity
  - Offshore: 275 GW of wind
- Competitive levelized cost of hydrogen (**LCOH**)
- Wide availability of biomass residues of forestry and agricultural origin as a source of **biogenic CO<sub>2</sub>**
- Wide availability of **water** resources
- Availability of **feedstocks** for biorefinery
- Focus on **green hydrogen and e-fuels** (e-methanol, e-SAF, e-gasoline) and **bio-fuels** (SAF or RD) for export and local market



[Data/information/map obtained from the] "Global Wind Atlas 3.0, a free, web-based application developed, owned and operated by the Technical University of Denmark (DTU). The Global Wind Atlas 3.0 is released in partnership with the World Bank Group, utilizing data provided by Vortex, using funding provided by the Energy Sector Management Assistance Program (ESMAP). For additional information: <https://globalwindatlas.info>"

<https://globalwindatlas.info/es>

# We are leading the implementation of the Green Hydrogen Roadmap in Uruguay



MIEM Green Hydrogen: <https://bit.ly/3iZnGDp>

Componente	Responsables y posibles alianzas	Actividades
 <b>INNOVACIÓN</b>	MIEM, ANII, LATU, sector académico, CONYCIT	· Fondo Sectorial de Hidrógeno, convocatoria a proyectos con apoyo del Estado y a proyectos de investigación e innovación.
 <b>INVERSIONES</b>	MIEM, MEF, MA, MRREE, OPP, Uruguay XXI	· Incentivos fiscales, apoyo en la gestión de permisos y posicionamiento a nivel internacional.
 <b>INFRAESTRUCTURA</b>	MIEM, MTOP, ANP, ANCAP, UTE	· Aspectos portuarios, redes de transmisión eléctrica, gasoductos, uso de vía férrea.
 <b>REGULACIÓN</b>	MIEM, URSEA, MVOT, MTOP, MA	· Regulaciones de calidad y almacenamiento. Aspectos de seguridad. · Aspectos vinculados al sistema eléctrico nacional. · Directrices para uso de suelo y servidumbre para gasoductos y transmisión eléctrica.
 <b>OFFSHORE</b>	MIEM, ANCAP	· Proceso competitivo para la prospección y evaluación de producción de hidrógeno verde para eventual desarrollo futuro.
 <b>COMUNICACIÓN Y GENERACIÓN DE CAPACIDADES</b>	MIEM, academia nacional: universidades, UTU, CONYCIT, entre otros. MRREE y AUCI. Sociedad civil.	· Diseño e implementación de un plan nacional de comunicación de aspectos de descarbonización y H2. · Formación profesional y técnica. · Alianzas con la cooperación internacional para la generación de capacidades y aspectos de comunicación internacional.

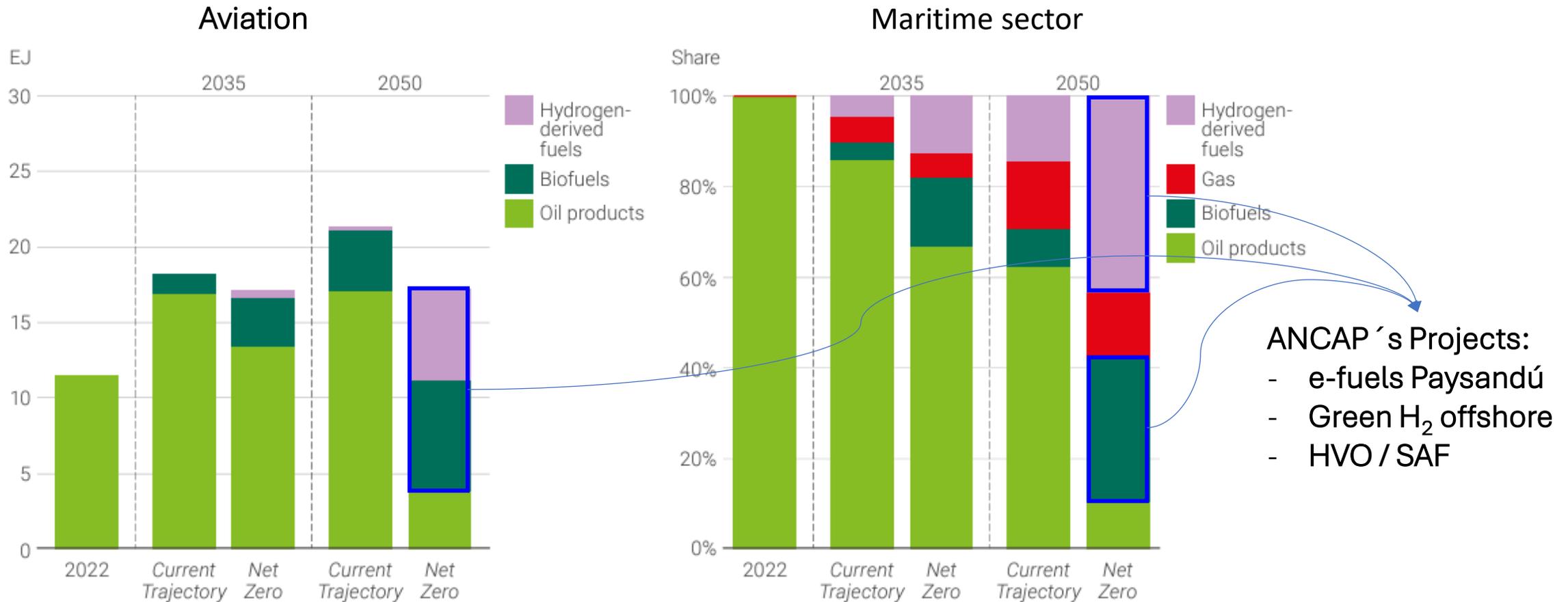
H<sub>2</sub>4U Pilot

e-fuels Paysandú  
HVO/SAF

H<sub>2</sub>U Offshore

# Sustainable molecules: biofuels and e-fuels

Aviation and maritime transport will be decarbonized through a combination of fuels derived from green hydrogen and biofuels



<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2024.pdf>

## ANCAP 1<sup>st</sup> Energy Transition – 1<sup>st</sup> stage of sustainable molecules production



ALUR, member of ANCAP Group, is a sustainable agroindustrial company that produces biodiesel and bioethanol



It has facilities located in Montevideo, Paysandú and Artigas. They use national raw materials, including crops such as cereals, oilseeds and sugarcane, as well as recycled oil and animal fats

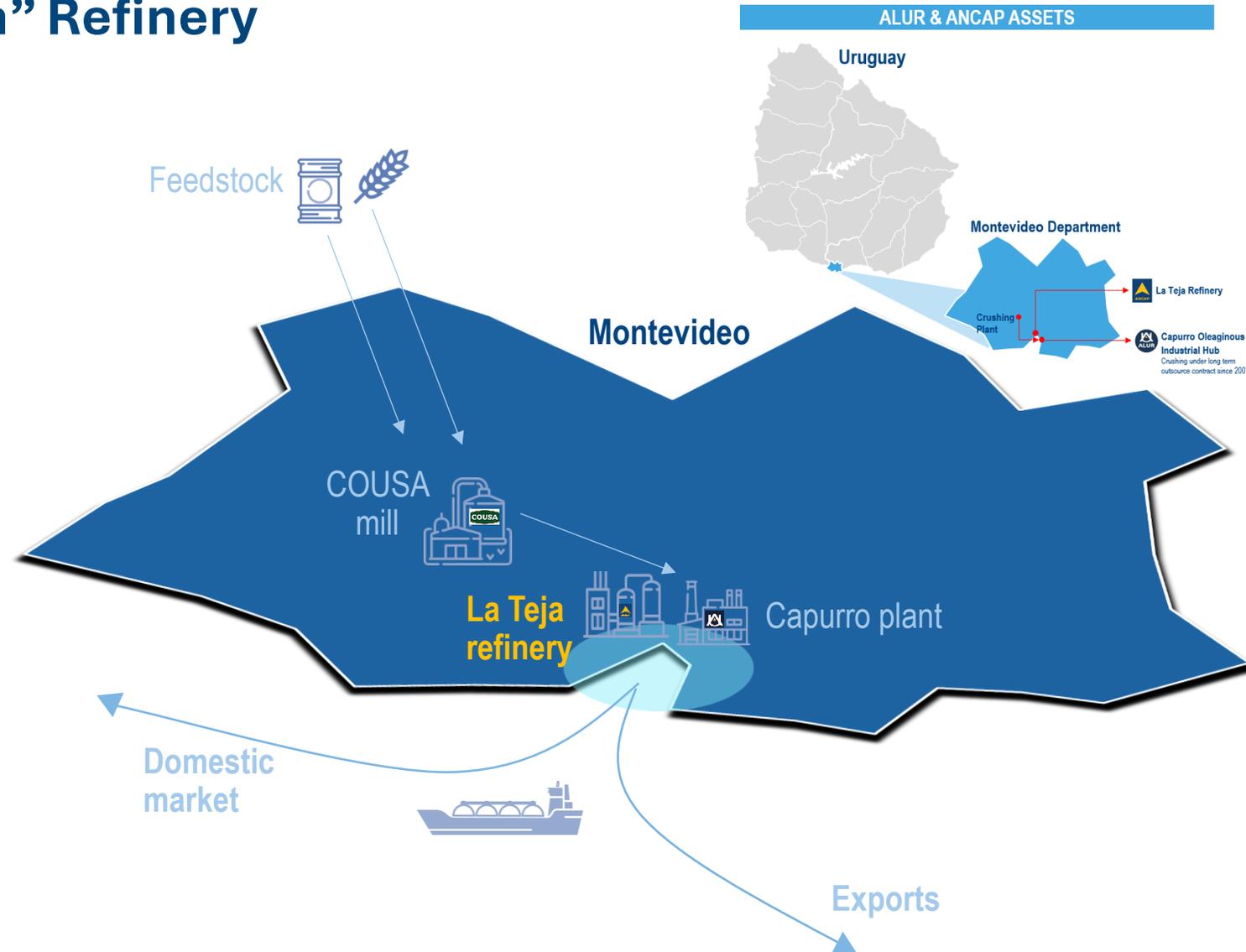


Today, the production capacity is:

- 83,000 m<sup>3</sup>/year of biodiesel (Capurro plant)
- 100,000 m<sup>3</sup>/year of bioethanol (Paysandú and Bella Unión Plants)

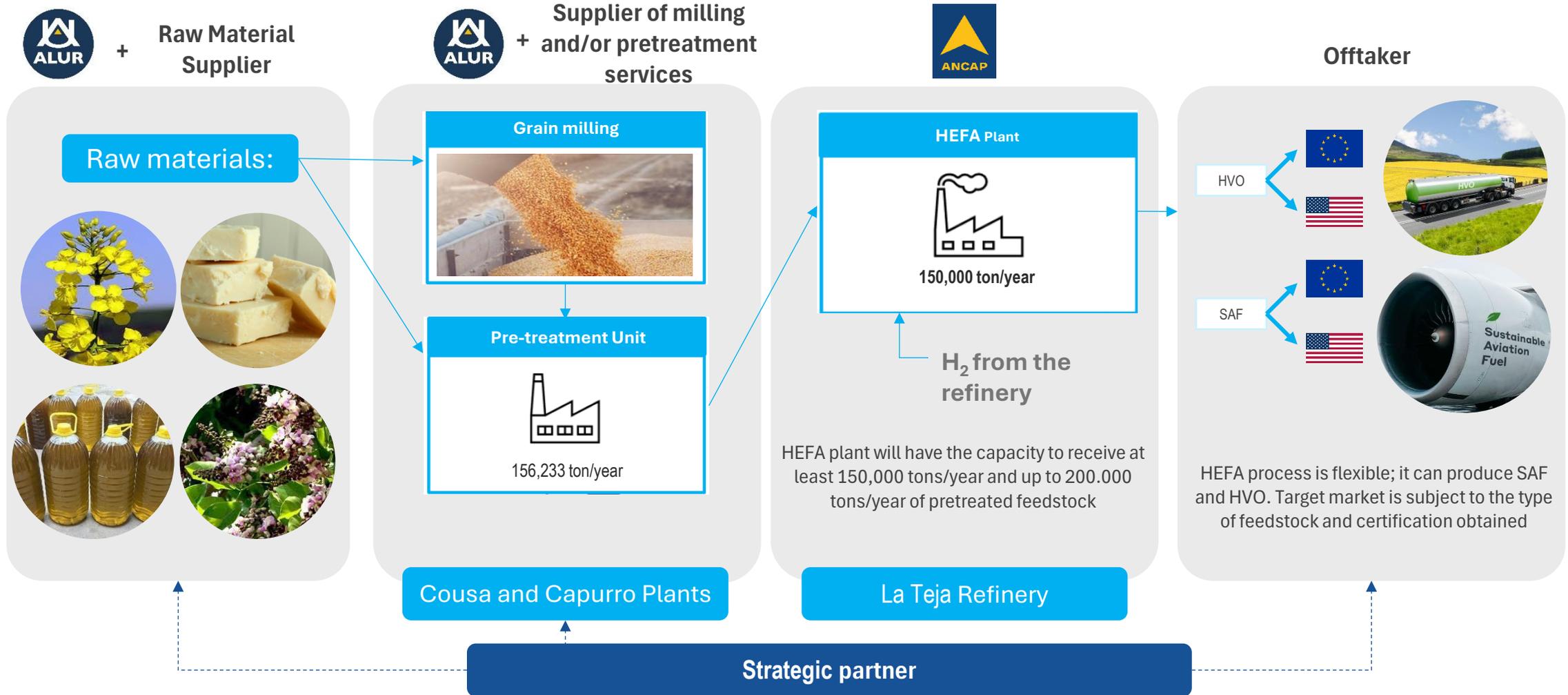
# Project HEFA: ANCAP & ALUR plan to produce biofuels (HVO / SAF) through HEFA route in “La Teja” Refinery

- Availability of **H<sub>2</sub>** for HEFA (Hydrotreated Esters and Fatty Acids) production process in “**La Teja**” Refinery
- ANCAP has extensive experience in petroleum oil hydrotreatment
- Availability of feedstock in Uruguay (canola, soybeans)
- **Logistical** advantages:
  - Proximity of main actors in the production process through HEFA route
  - Developed logistics ports for export
- Selection of strategic partners for the project (low-carbon intensity feedstock supply, processing and biofuel commercialization)



# ANCAP & ALUR are launching an Expression of Interest for potential strategic alliances for a biofuel production project through HEFA route, using ANCAP & ALUR available assets in Uruguay

Value chain of biofuel production (SAF or HVO) through HEFA route



# Production of e-fuels in Paysandú

## HIF Paysandú eFuels Facility



The HIF Paysandú eFuels facility will be our first project in Uruguay. It expects to produce approximately 250,000 tons per year of carbon neutral eGasoline, with the potential to decarbonize over 150,000 vehicles. It will provide over 3,000 jobs during construction and 300 during operations.

### Quick Facts



**\$US 4 billion**  
investment



**700,000 tons/year of**  
eMethanol



**900,000 tons of CO2**  
captured/year



**2025 construction**  
date



**ALUR**

**Option to participate in the  
project with up to 30%**

<https://hifglobal.com/region/hif-uruguay>

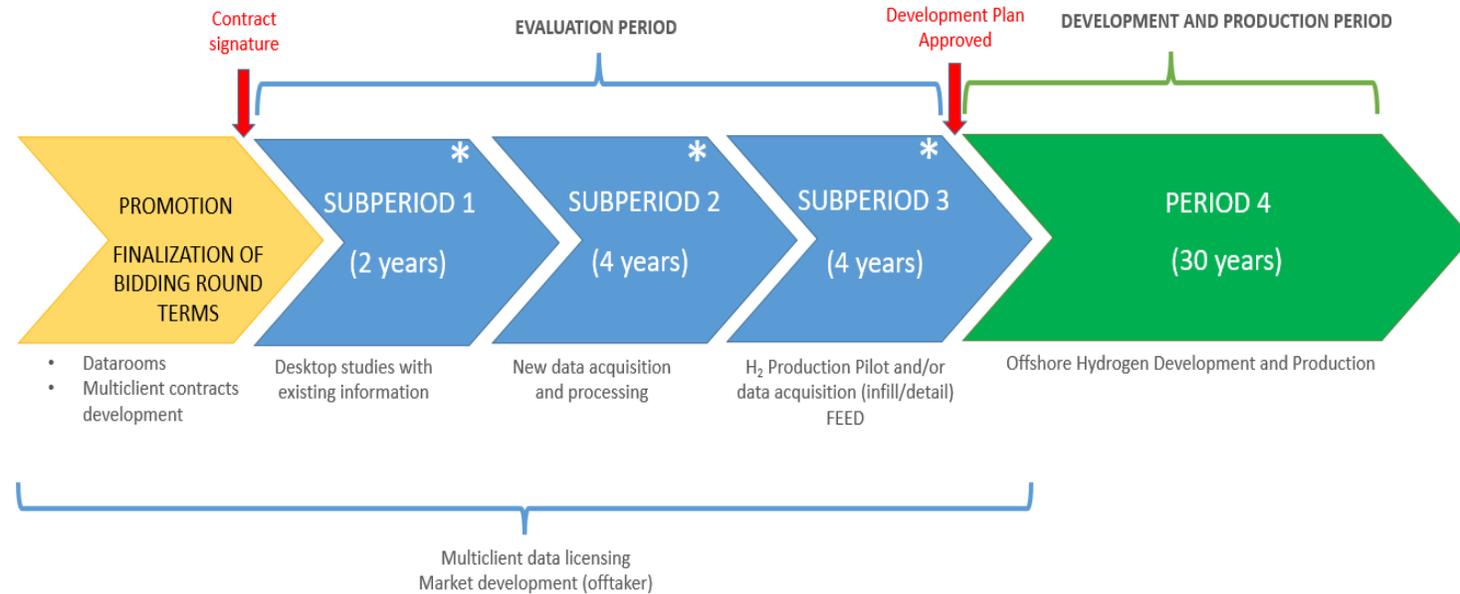
# H<sub>2</sub>U Offshore



Source: <https://tractebel-engie.com/en/news/2019/400-mw-offshore-hydrogen-production-takes-system-to-new-levels>

ANCAP is tendering offshore areas for energy companies to carry out feasibility studies and potential installation of infrastructure for H<sub>2</sub> production from offshore renewable energy, at their own cost and risk.

## CONTRACT TERMS



\*Advancing from one Period to the next is the company's right (after fulfilling commitments)

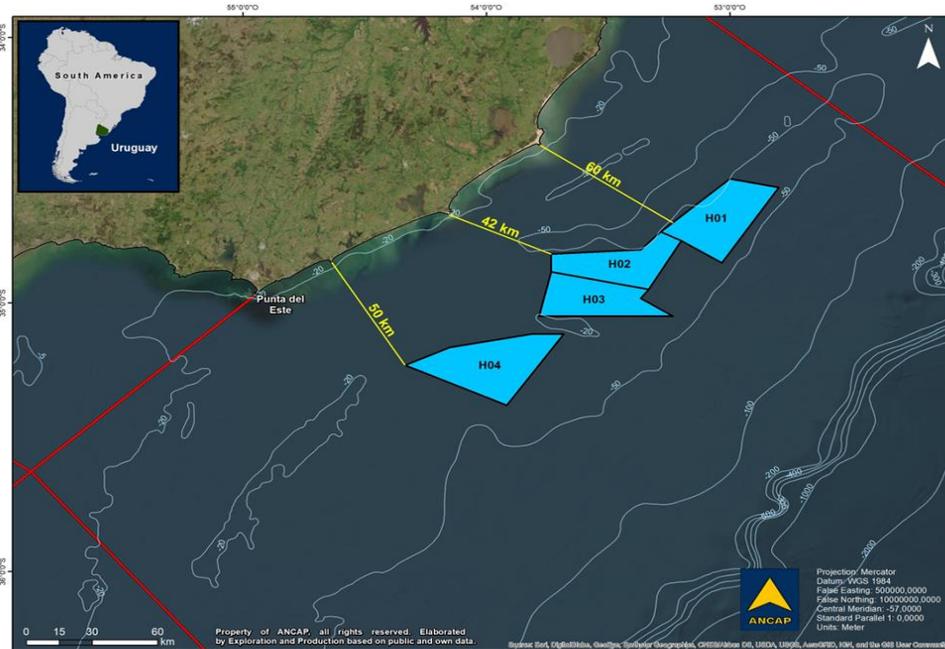


## CONTRACT ECONOMY

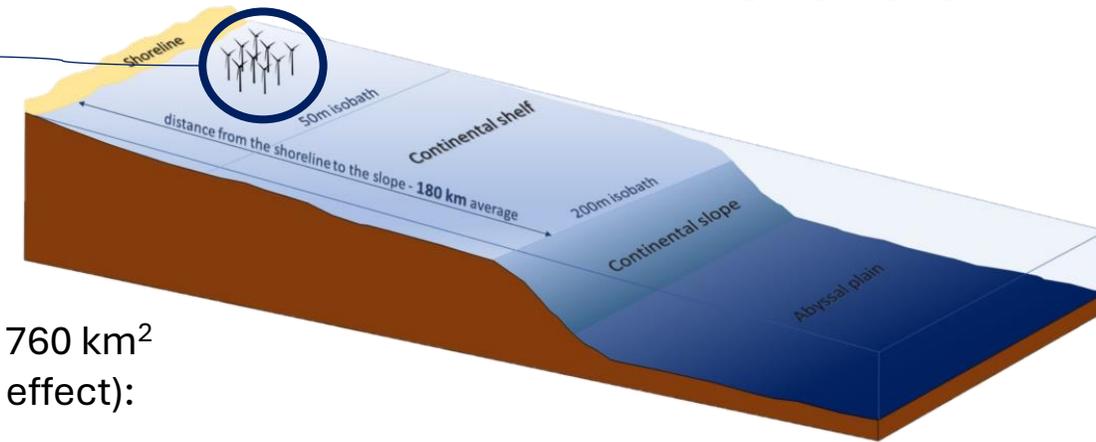
- Private Investment
- Cost Recovery (CAPEX & OPEX)
- Profit sharing
- ANCAP may associate in case of a committed development



# H<sub>2</sub>U Offshore



Bottom Fixed Wind Turbines

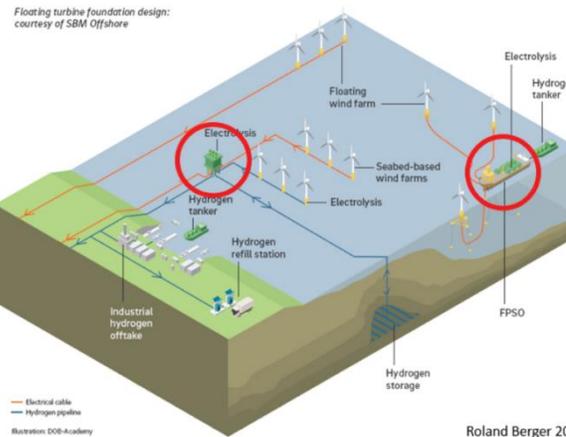


Estimated Potential for 760 km<sup>2</sup>  
(500 km<sup>2</sup> to avoid wake effect):

- Minimum 3.2 GW
- Production of ≈ 200,000 TonH<sub>2</sub>/year
- Minimum interference with other economic activities

## Excellent Wind Conditions:

- Large Technical Potential (275 GW)
- High load factors (> 55%)
- Wind speed: annual avg. 9.5 m/s (@100m)
- Slight increase towards south
- Much better quantity, quality, and uniformity than onshore



FLEXIBILITY for the contractor to propose development concept including:

- Offshore / Onshore Electrolysis
- Project scale (phases)
- Type or H<sub>2</sub> Carrier (NH<sub>3</sub>, LH<sub>2</sub>, etc)
- Market/Offtaker
- Development committed only after 10 years of evaluation period

Reliable supply for the Uruguayan market, at the required quality and quantity, in an affordable and sustainable way

ANCAP



### Hydrocarbons Exploration & Production

First time in Uruguayan history that all the offshore blocks are awarded with E&P contracts.



### Decarbonization of current operations

We are committed to the reduction of the carbon emissions from our traditional operations and in all our industrial plants.



Assumes responsibility for the Energy Transition in Uruguay, leading the development of sustainable molecules that will be increasingly consumed in the coming decades

### BioRefinery

ANCAP and ALUR are working to develop HVOs (Hydrotreated Vegetable Oils), which are fuels from vegetable oils, animal fats and used cooking oils (UCOs).

The raw materials will be processed at ALUR's facilities and the HVO produced at ANCAP's La Teja Refinery, through catalytic hydrogenation.



### e-fuels

Biogenic CO<sub>2</sub> of ALUR's bioethanol plant in Paysandú will be used for the first e-fuels production project in Uruguay.



H<sub>2</sub> URUGUAY Offshore

### H<sub>2</sub> Offshore

ANCAP is planning to tender offshore areas for energy companies to carry out feasibility studies and potential installation of infrastructure for the production of H<sub>2</sub> from offshore renewable energy, at their own cost and risk entirely.



ANCAP

**Thank you for your attention**

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