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Business
& Exploration
Opportunities
Show

Update of Energy Transition Projects in Uruguay

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Why Uruguay?

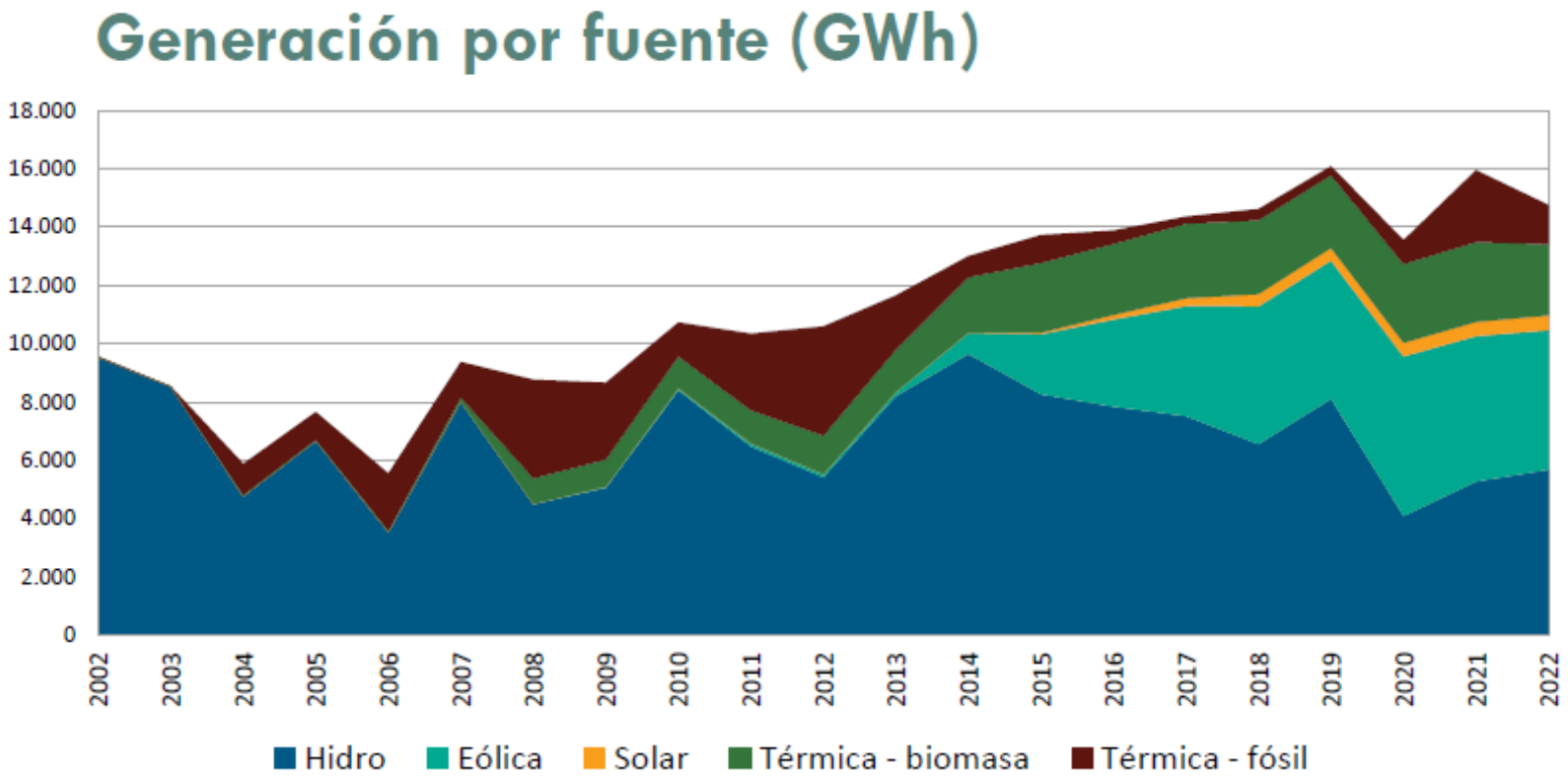
Leader in Latin America

- Ranked #1 in LAC in Political and Social stability (Democracy, Equity, Transparency, Rule of Law, Control of Corruption, etc.)
- Sustained growth and stable in the long term
- Reliable country for foreign investment
- Leader in generation of clean energies
- Strategic location
- Investment promotion regime
- Quality of life and Social Development (Prosperity Index, Quality of Life, etc.)

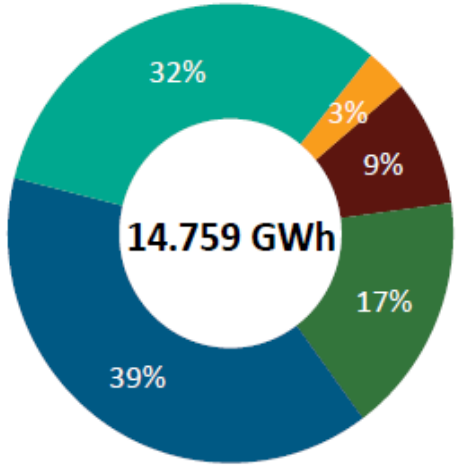
#1: Montevideo is the city with the best quality of life in Latin America (Mercer, 2020)

Source Uruguay XXI: https://www.uruguayxxi.gub.uy/en/invest/why-uruguay/reliable-country/

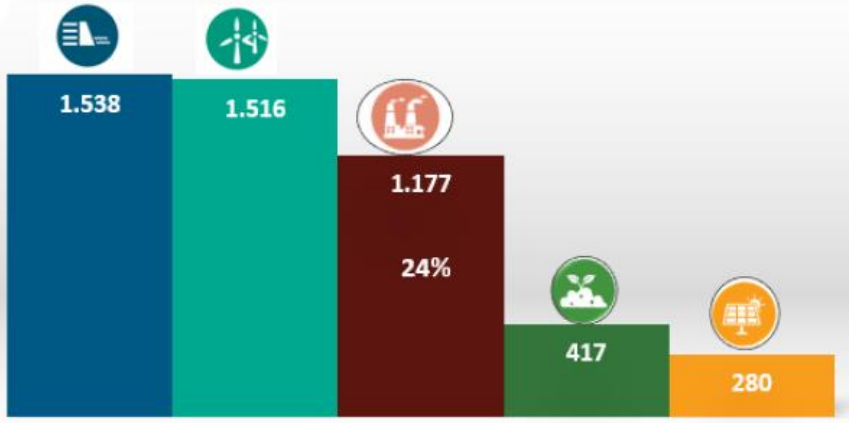
91% of Power Generation is Renewable



Year 2022



Installed Power by Source (MW)



Electricity represents only 21% of total energy consumption of Uruguay

https://ben.miem.gub.uy/descargas/1balance/Presentación%20BEN2022.pdf

Second Phase of the Energy Transition

Hydrogen and its derivatives are key in ANCAP's transition to a sustainable low carbon energies company, complementing the pathway already started with the traditional biofuels.

Reduction of emissions of traditional operations:

- E&P
- Import of crude oil and natural gas
- Crude oil refining

E-fuels:

- Capture of biogenic CO_2
- Green H_2

Biorefinery:

- Vegetable oils/animal fats/UCO
- HVO/HEFA/green diesel/SAF

H2U offshore:

- Green H_2 at a GW scale

Others:

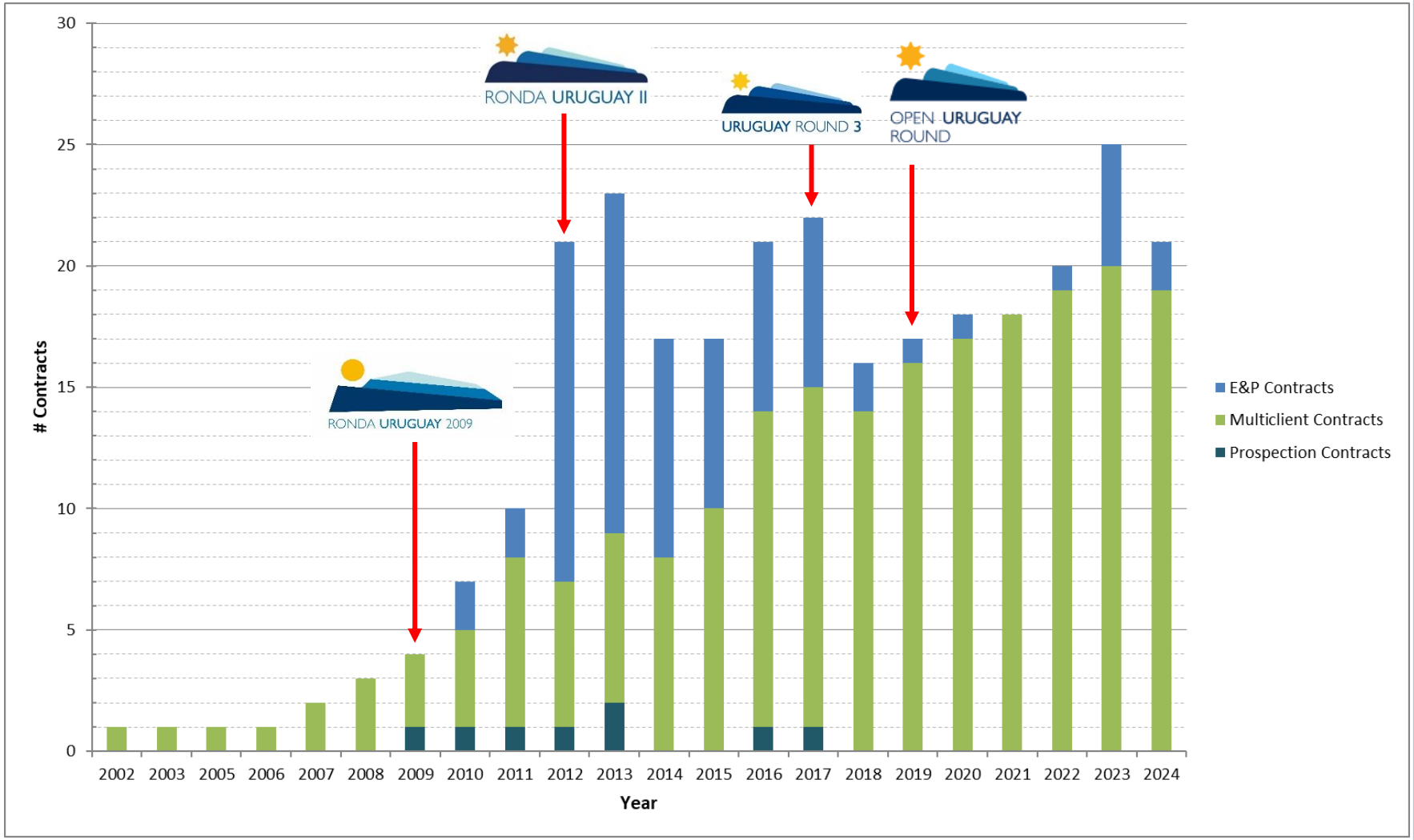
- CCUS and natural H_2

ANCAP
Regulator of upstream business and operations

- Uruguayan NOC
- Vertically integrated Oil Company
- ANCAP acts in coordination with DNE-MIEM as the “hydrocarbon agency” competent to manage the activities, business and operations of hydrocarbons industry, by itself or by third parties
- ANCAP is the state-owned energy company competent in green H_2

Ongoing Exploration

Tens of Upstream Contracts Signed in the Last 15 Years



Over 1.2 Billion USD of investment in HC exploration by Oil & Gas and Service Companies

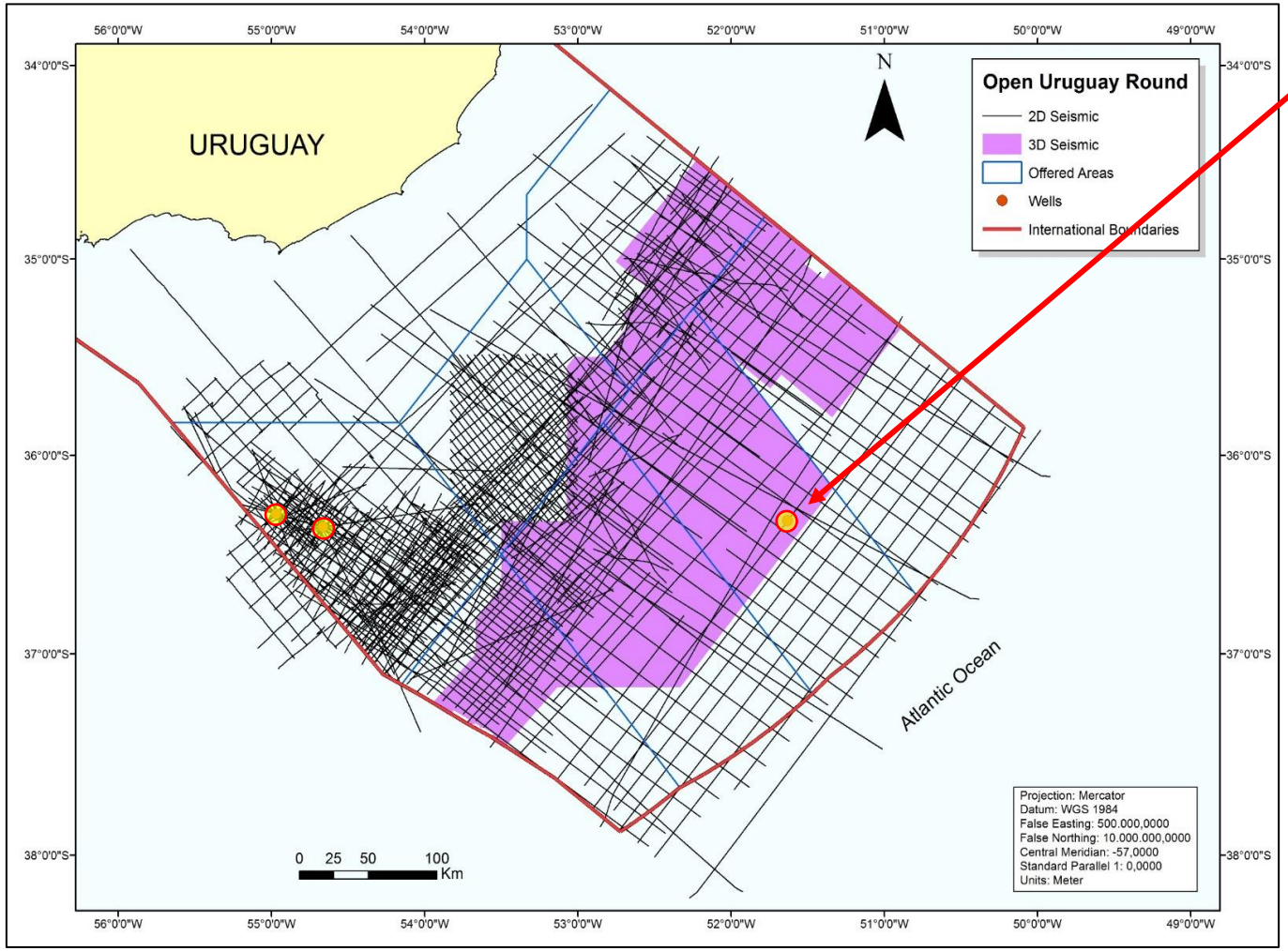
Exploratory database increase

DATA BEFORE 2007

- 2 wells
- 13.000Km of 2D seismic

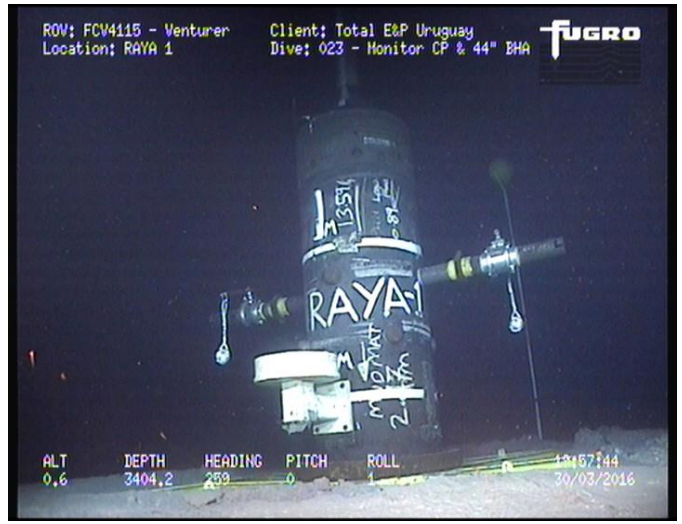
NEW DATA SINCE 2007

- 1 well
- 28.000Km of 2D seismic
- 41.000Km^2 of 3D seismic
- 13.500Km^2 of 3D CSEM
- >200 Heat flow measurements
- core samples



RAYA WELL

- Drilled after 40 years
- World Record Water depth (3404 m)
- 100 days of operation: on time and budget
- Complex Logistics on Port
- Construction of Mud and Cement plants
- Imports and Exports authorized by ANCAP and DNA in coordination
- Success from operational, HSE, drilling engineering, etc. points of view

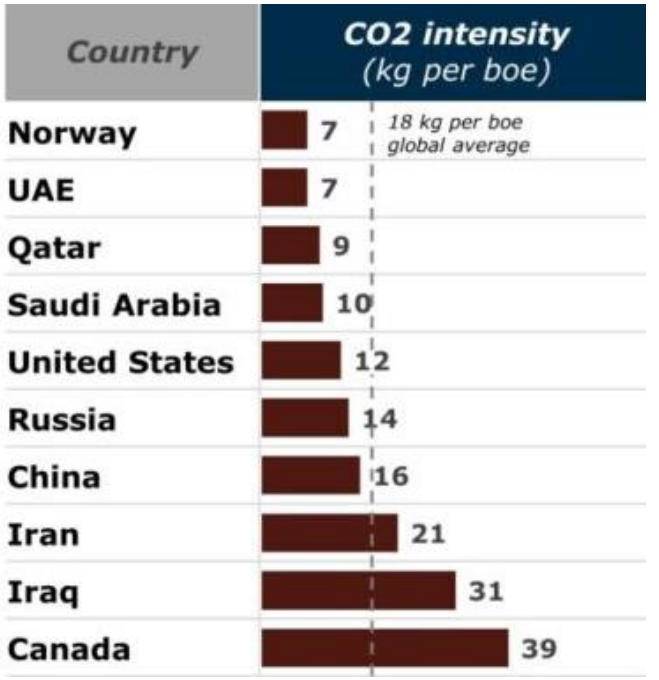


Strong emphasis on sustainable operations

Exploration

- HSE management plan required by ANCAP and DINACEA to the oil companies includes the use of the industry's best practices and technologies for each exploration operation. IE: MMO and PAM for offshore seismic
- Environmental Base Line on the EEZ: oceanographic campaign for the acquisition, processing and interpretation of data
- Offshore Operations Manual
- Coordination with Ministry of Environment for the use of relevant ecologic areas

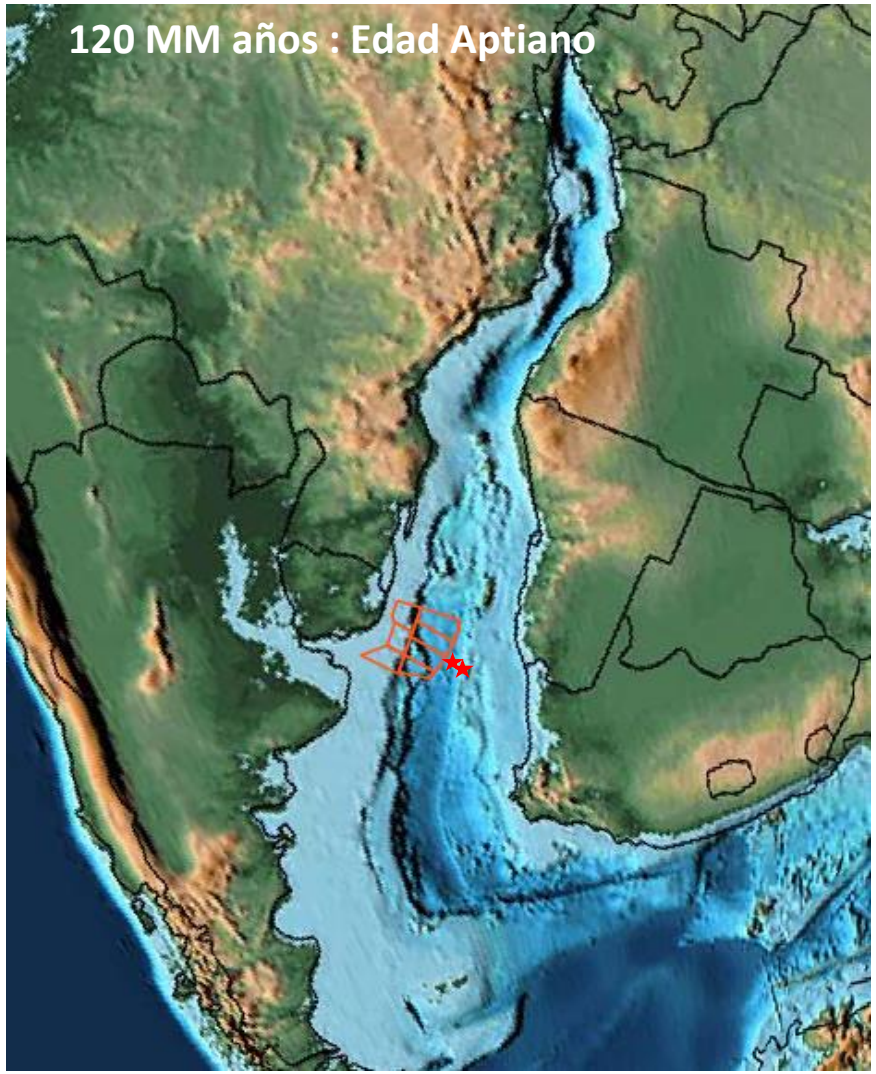
Production



https://jpt.spe.org/rystad-analysis-us-tops-upstream-oil-and-gas-carbon-dioxide-emitters-list

- E&P Contracts in Uruguay do not allow flaring or venting of NG (except for safety reasons)
- Limit of CO_2/BOE intensity as part of the criteria for comparison of offers in future bidding rounds

Remarkable Analogies with Discoveries in Namibia



- Thick Aptian sequence
- Higher sedimentary thickness, higher overburden of Aptian source rock, higher GOR and gas prone prospects expected in this offshore zone
- POS < 25%

On a roll: Shell makes fourth oil find offshore Namibia

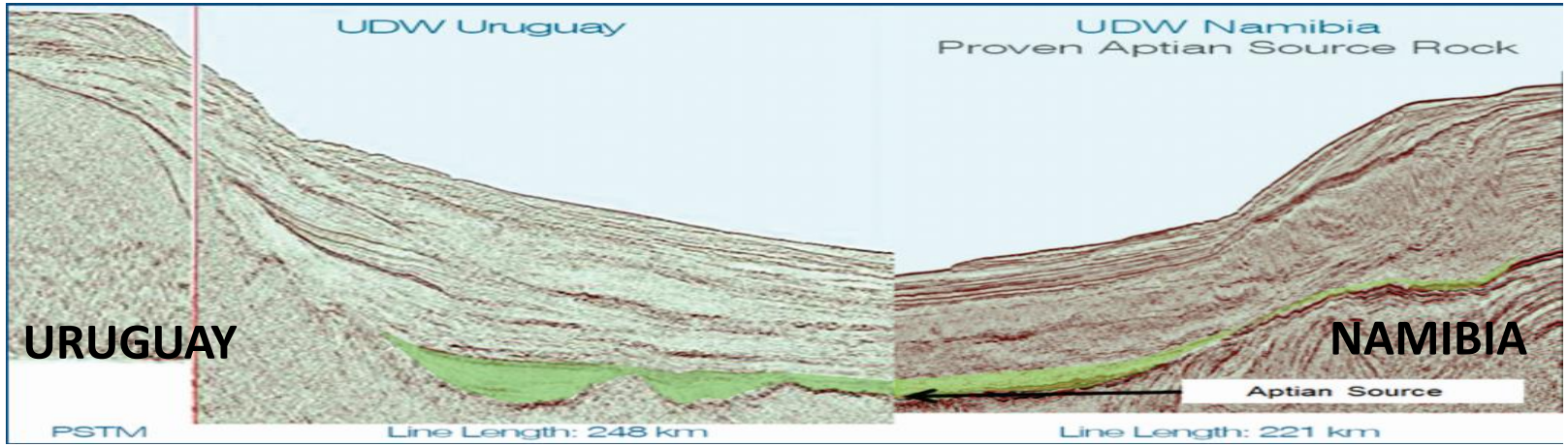
Supermajor makes fourth successive discovery in prolific Orange basin

https://www.upstreamonline.com/exclusive/on-a-roll-shell-makes-fourth-oil-find-offshore-namibia/2-1-1484831

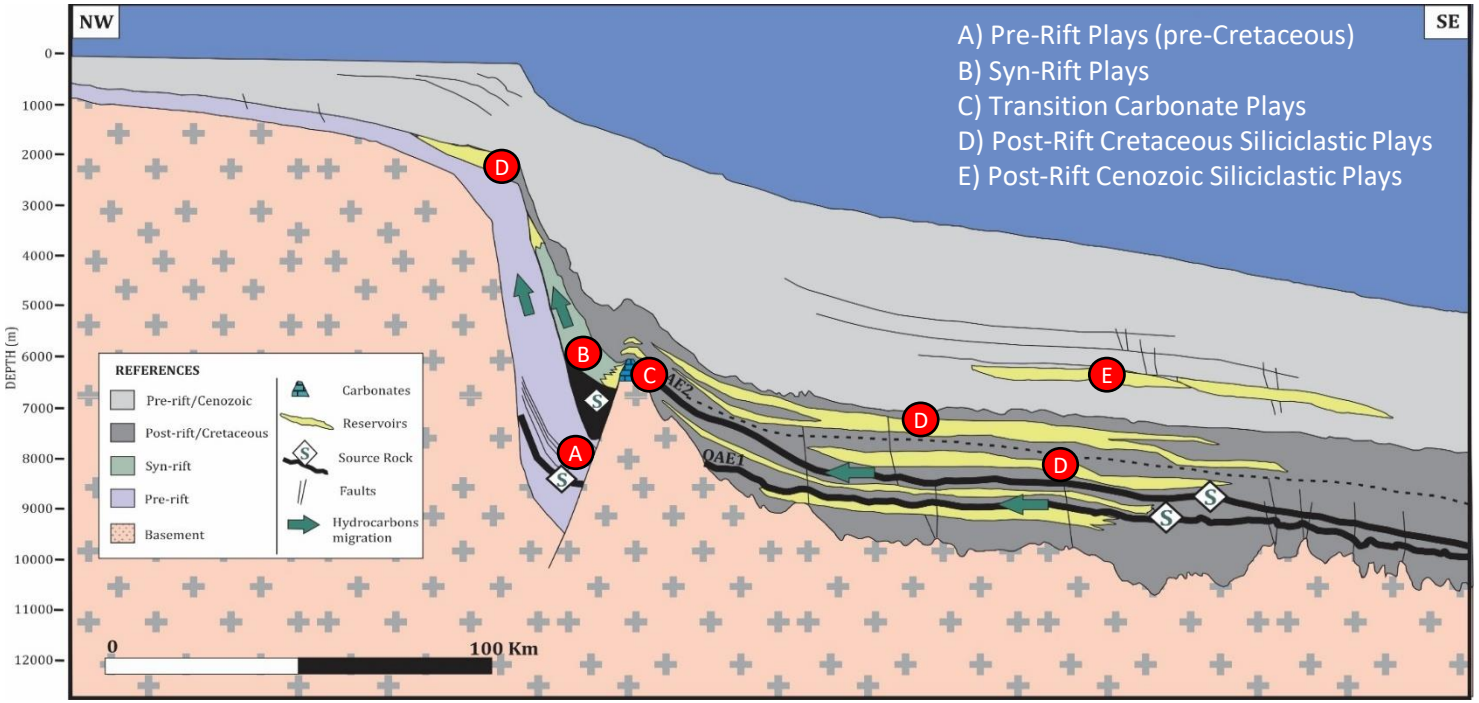
6 billion barrels? TotalEnergies starts drilling vital well that could double resources at golden block in Namibia

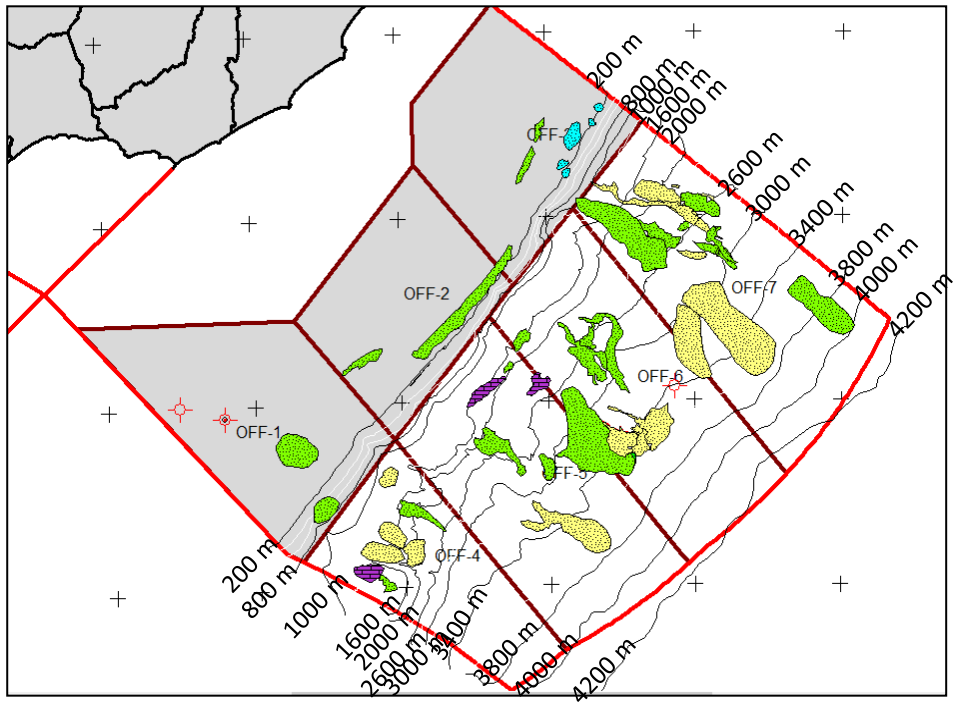
Nara-1X well targets huge structure west of supermajor Venus discovery

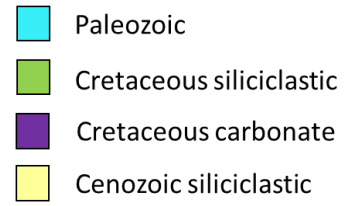
https://www.upstreamonline.com/exclusive/6-billion-barrels-totalenergies-starts-drilling-vital-well-that-could-double-resources-at-golden-block-in-namibia/2-1-1470745



Play Types and Prospects Offshore

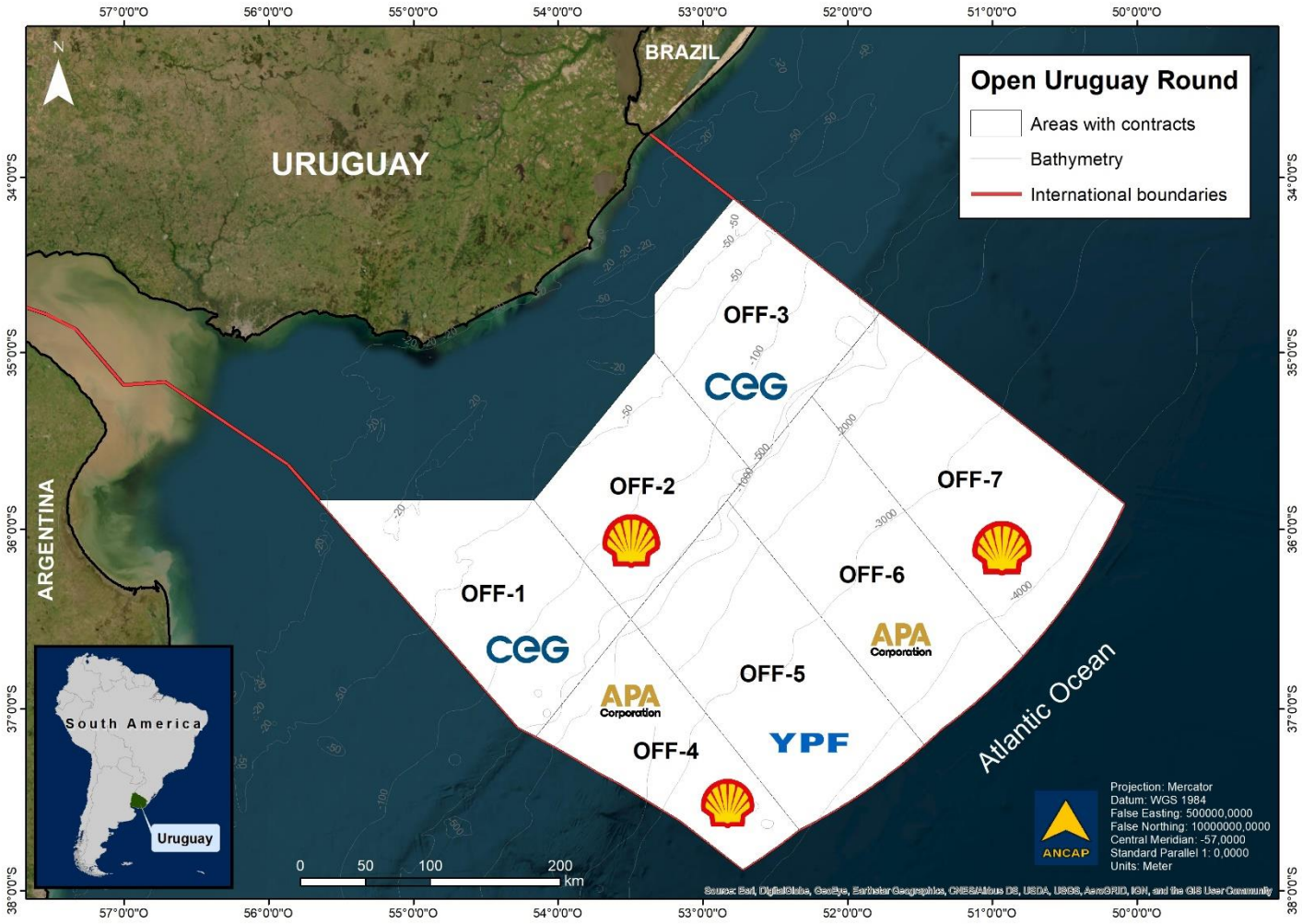






- 40 offshore prospects and leads
- From shallow to ultra-deep water depths
- Different play types and on all offshore basins
- Prospective resources >3,800 MMBOEs (Risked volume -Pmean- already assessed in 37 prospects)

Open Uruguay Round

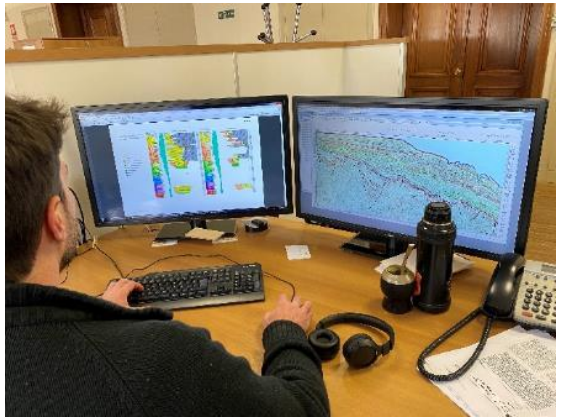


- Since 2019 RUA: 11 offers received
- Average blocks size ≈ 15.000 km^2
- 7 Contracts in force
- Nominal Investment Commitment: 129 MMUSD
- Short term future: more companies entering via farm ins
- First time all areas with contracts

Future Exploratory Work

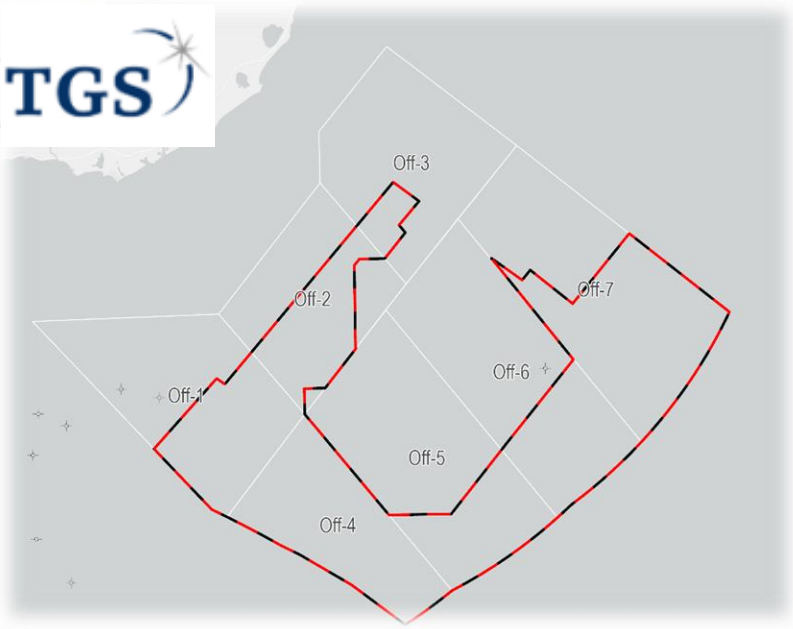
Committed Desktop – Workstation Studies

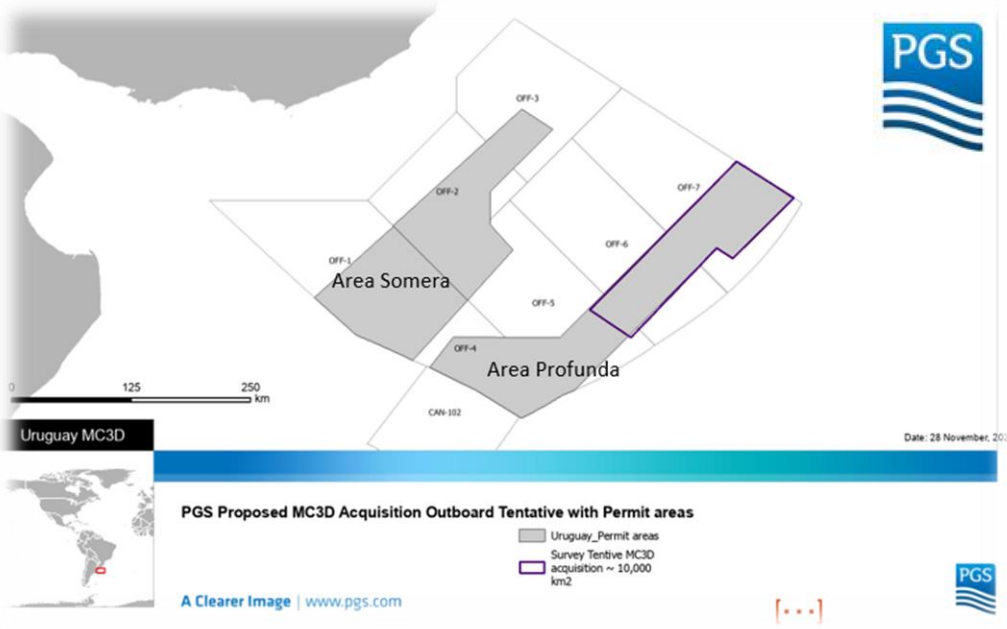
- Evaluation of Petroleum geology
- Evaluation of Prospective Resources
- Reprocessing and interpretation of 2D Seismic
- Licensing data
- Gravimetric and magnetometric 3D model inversion

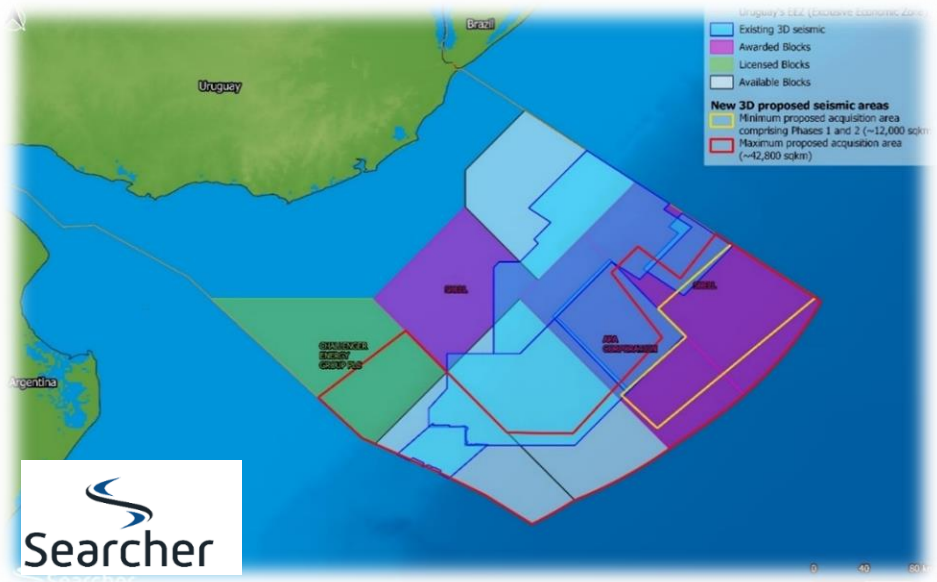


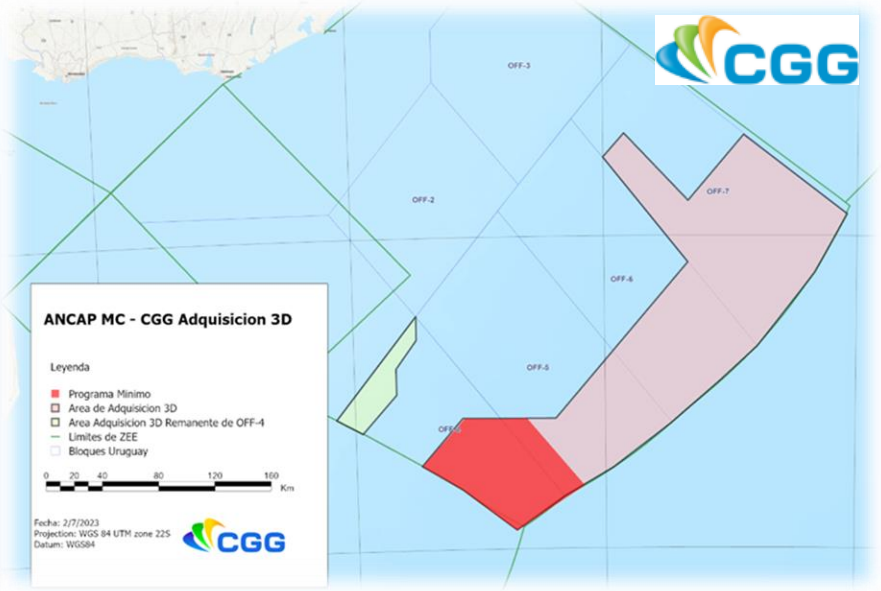
Committed New Field Operations

- Area OFF-4
  - Acquisition, processing and interpretation of 2.500Km^2 of 3D Seismic
- Area OFF-6
  - Drilling 1 exploratory well
- 3D seismic (multiclient, not firm commitment)









New Multiclient contracts for offshore 3D seismic acquisition

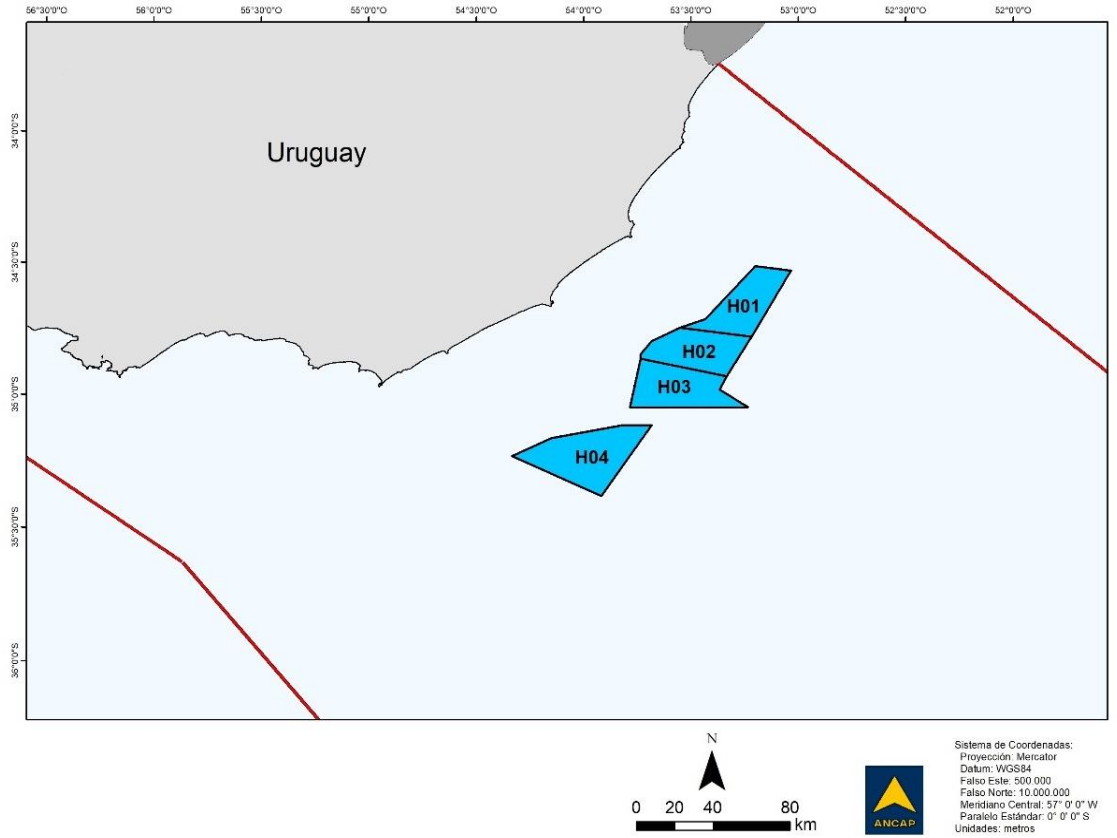
To be signed soon

H2U Offshore

"Today we import fossil fuels, tomorrow we will export our wind and sun"

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

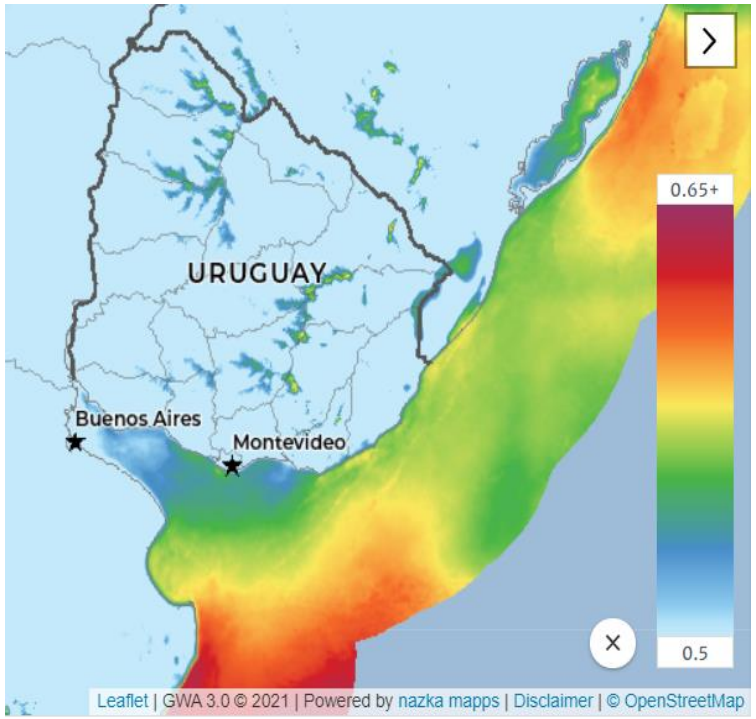
ANCAP is planning to tender offshore areas for energy companies to carry out feasibility studies and potential installation of infrastructure to produce H_2 from offshore renewable energy, at their own cost and risk entirely



Estimated Potential for 760 km^2 (500 km^2 to avoid wake effect):

- Minimum 3,2 GW
- Production of ≈ 200.000 $TonH_2$/year

Offshore Hydrogen Development

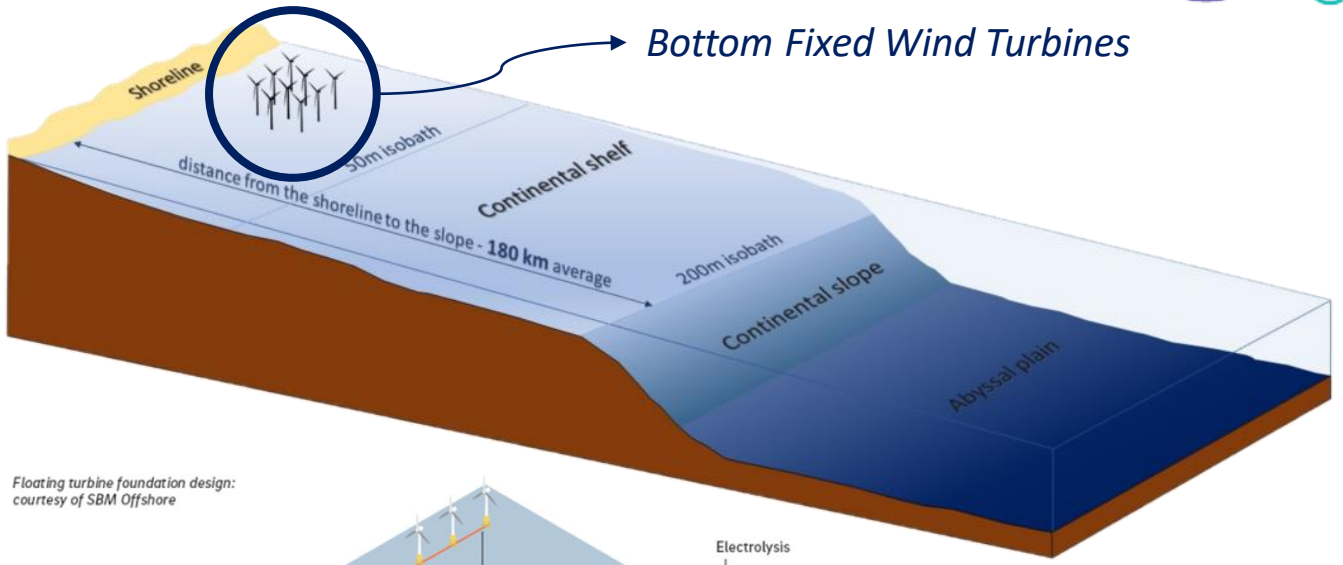


[Data/information/map obtained from the] "Global Wind Atlas 3.0, a free, web-based application developed, owned and operated by the Technical University of Denmark (DTU). The Global Wind Atlas 3.0 is released in partnership with the World Bank Group, utilizing data provided by Vortex, using funding provided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

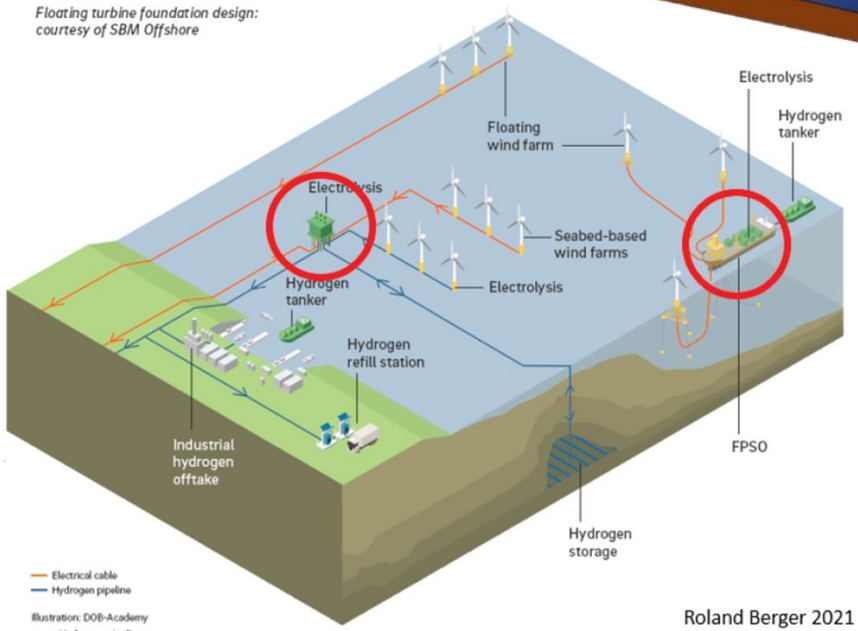
https://globalwindatlas.info/es

Excellent Wind Conditions:

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



Floating turbine foundation design: courtesy of SBM Offshore



FLEXIBILITY for the contractor to propose development concept including:

- Offshore/Onshore Electrolysis
- Project scale (phases)
- Type or H_2 Carrier (NH_3, LH_2, etc)
- Market/Off-taker
- Development committed only after 10 years of evaluation period

Contract Terms

Contract signature

EVALUATION PERIOD

Development Plan Approved

DEVELOPMENT AND PRODUCTION PERIOD

PROMOTION

FINALIZATION OF BIDDING ROUND TERMS

SUBPERIOD 1 * (2 years)

SUBPERIOD 2 * (4 years)

SUBPERIOD 3 * (4 years)

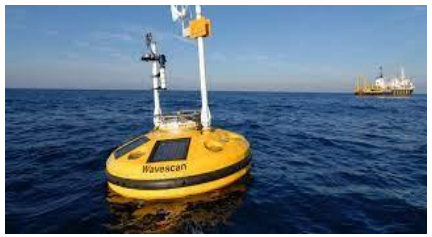
Retention

PERIOD 4 (30 + 30 years)

- Data rooms
- Multiclient contracts development

Desktop studies with existing information

New data acquisition and processing



H_2 Production Pilot and/or data acquisition (infill/detail) FEED

Offshore Hydrogen Development and Production

Multiclient data licensing
Market development (off taker)

*Advancing from one subperiod to the following is the Contractor´s option (after fulfilling work commitments)

e-fuels

Power-to-Methanol or Power-to-Fuel project using ALUR's biogenic CO_2 and ANCAP's group available infrastructure assets in Uruguay

ALUR´s facilities in Paysandú (https://www.alur.com.uy/)

ALUR HIF

HIF Paysandú e-Fuels facilities

Quick Facts

- $US 4 billion investment
- 700,000 tons/year of eMethanol
- 900,000 tons of CO2 captured/year
- 2025 construction date

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

HVO Unit to Produce Green Diesel or SAF

Rapeseed Oil (potential)
90.000 tons

Soybean Oil (potential)
500.000 tons

Animal Fat EXP 2022
90.000 tons

UCO EXP 2022
2.000 tons

UCO potential
5.000 – 10.000 tons

Present Capacity
110.000 tons of oil
- 80 % ALUR

15.000 tons of animal fat

ALUR
ALCOHOLES DEL URUGUAY

150.000 ton

H2
Utilities
Storage
Handling

Effluents
Byproducts

ANCAP

Scale and Potential Impact

2.000 to 5.000 tons of biogenic CO_2

10.000 ton **bio** Propane
- 8 % demand of UY

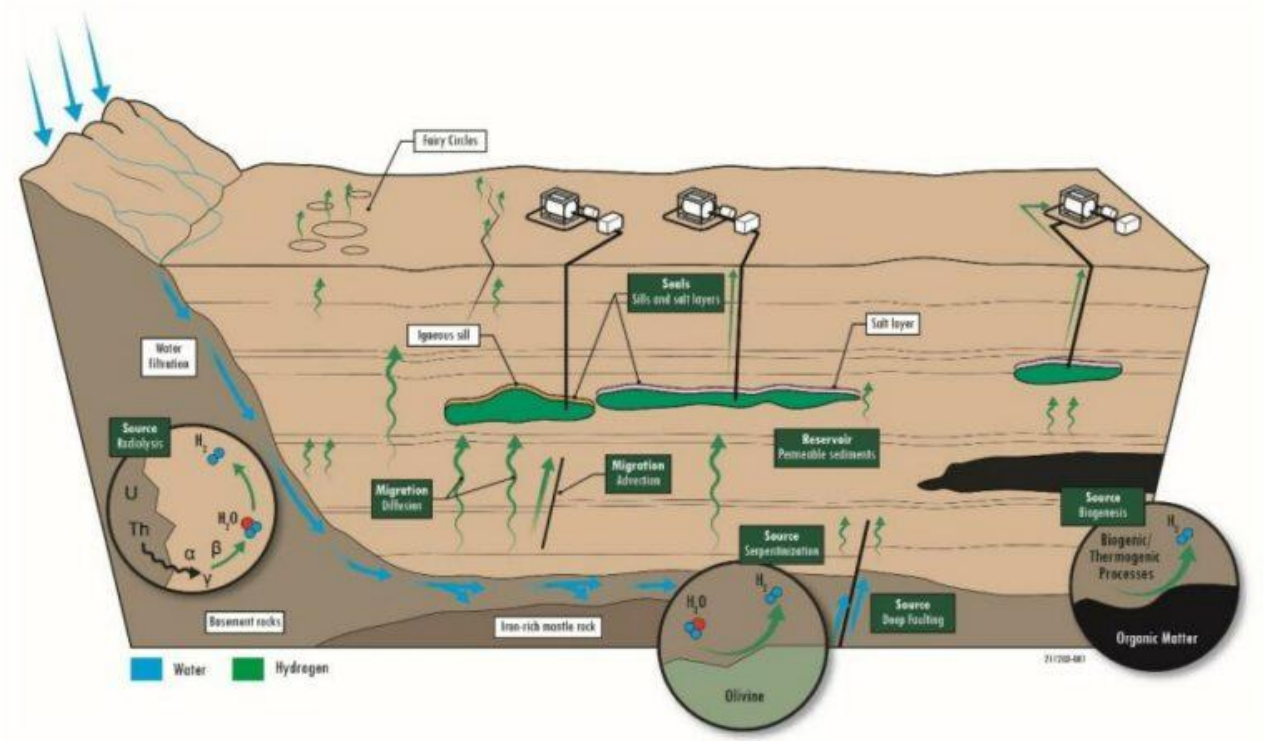
5.000 to 20.000 tons **bio** Gasoline
- 1 to 3 % demand of UY
- 5 to15 % more H_2 available (**green**)

Up to 120.000 tons **SAF**
- 150 % demand of UY

Up to 130.000 tons **RD**
- 15 % demand of UY
- Up to 7 % conditional to 2030, according to 2da NDC

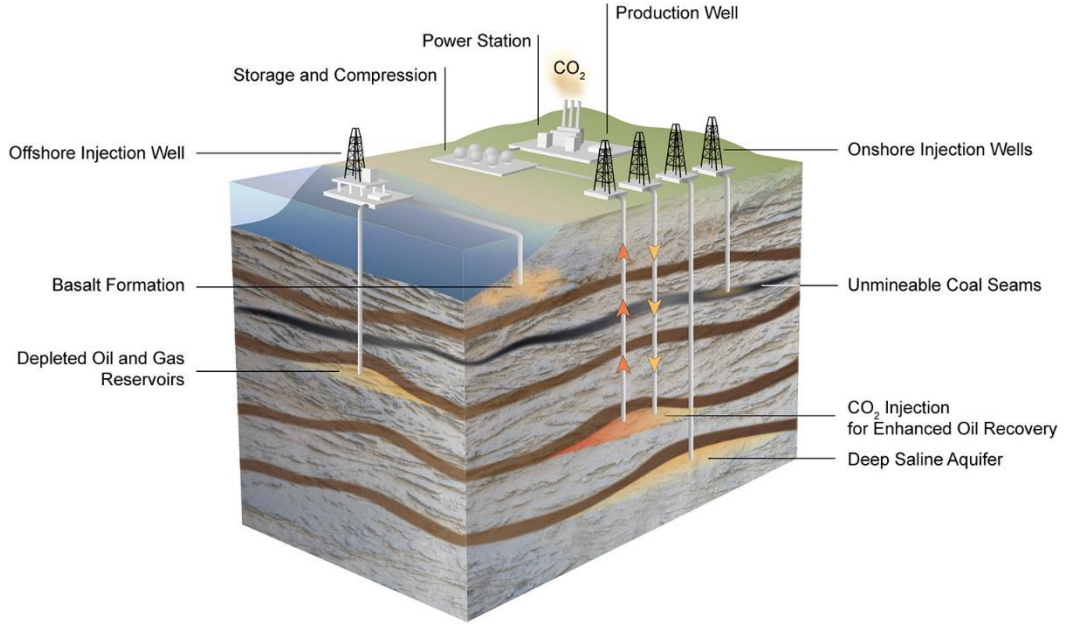
Other Projects

Natural Hydrogen



https://getech.com/blog/a-mineral-systems-approach-to-targeting-natural-hydrogen-deposits/

Carbon Capture and Storage



https://ars.els-cdn.com/content/image/1-s2.0-S0012825221003962-ga1_lrg.jpg

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_2 of ALUR's bioethanol plant in Paysandú will be used for the first e-fuels production project in Uruguay.

H2U Offshore

URUGUAY 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_2 from offshore renewable energy, at their own cost and risk entirely.

ANCAP

Decarbonization of current operations

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

Hydrocarbons Exploration & Production

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

Thank you for your attention!

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