

# H2U Offshore Round Introduction

ANCAP - Energy Transition  
May 2024



The information included in this presentation and all other communication material regarding bidding terms, contract model, schedule, regions and areas is tentative and should be considered as a draft. Official and final version of this information will be released once the bidding terms are approved and published. May 2024

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# Introduction

# WHY URUGUAY

Reliability

Location

Incentives

Talent

Lifestyle

Uruguay has gained international recognition as a reliable country with high transparency. Thanks to its solid political and social stability, supported by a long-established democracy and strong legal certainty, Uruguay consistently remains at the top of the main rankings.



# REASONS TO PRODUCE IN URUGUAY

Uruguay #1 in LAC



Democracy Index  
(Economist Intelligence Unit, 2020)

#1



Rule of Law Index  
(World Justice Project, 2020)

#1



Low corruption  
(Transparency International, 2020)

#1



Social Mobility  
(World Economic Forum, 2020)

#1



Civil Liberties  
(Freedom House, 2021)

#1



E-Government  
Development Index  
(United Nations, 2020)

#1

Renewable resource potential  
Wind & Solar complementarity  
Excellent business environment

# PROMOTIONAL SCHEMES FOR INVESTMENT



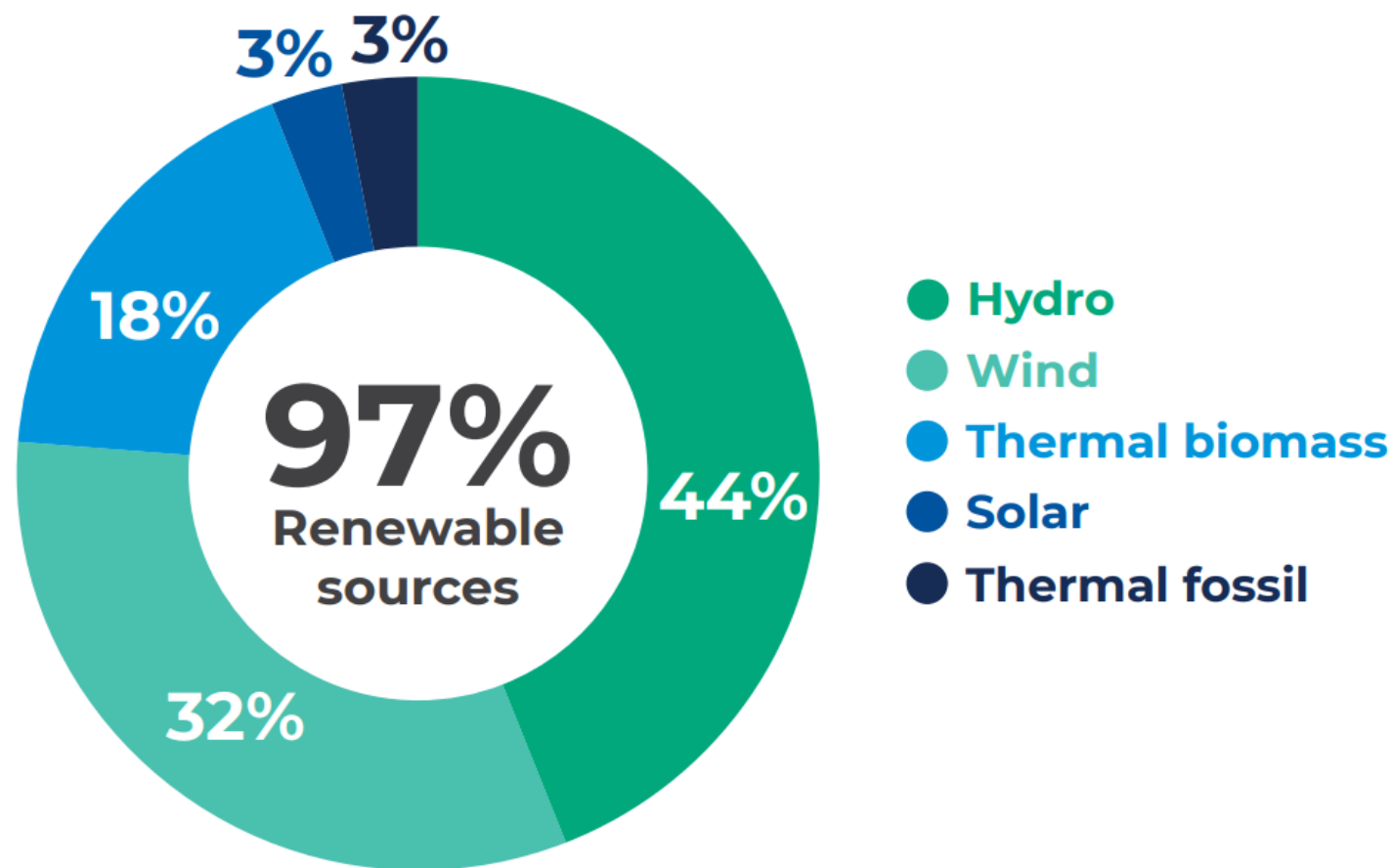
Both national and foreign investment has been declared of **national interest** by law. Thus, foreign investors are granted the same incentives as local investors and there is no tax discrimination or restrictions for transferring profits abroad.

Uruguay has several incentives which adjust to different types of activities, from industrial to commercial and service activities intended to be performed in the country. Schemes provided for by the Investment Law, free zones, free port and free airport schemes, public-private partnership agreements, **industrial parks** and temporary admission are some of the main incentive schemes available in the country.

<https://www.uruguayxxi.gub.uy/en/invest/investors-guide/promotional-schemes-for-investment/>

<https://www.uruguayxxi.gub.uy/en/invest/investors-guide/promotional-schemes-for-investment/download/>

# ELECTRIC POWER GENERATION IN URUGUAY



Electric power generation in Uruguay –  
Average for the years 2017 to 2020  
(Green Hydrogen  
Roadmap <https://www.gub.uy/ministerio-industria-energia-mineria/comunicacion/noticias/green-hydrogen-roadmap-in-Uruguay> )



# URUGUAY GREEN HYDROGEN ROADMAP



<https://www.gub.uy/ministerio-industria-energia-mineria/comunicacion/noticias/hoja-ruta-hidrogeno-verde-uruguay>

Component	Responsible parties and possible partnerships	Activities
 INNOVATION	MIEM, ANII, LATU, academic sector, CONYCIT	· Hydrogen Sector Fund, call for State-supported projects and research and innovation projects.
 INVESTMENT	MIEM, MEF, MA, MRREE, OPP, Uruguay XXI	· Tax incentives, support in the management of permits and international positioning.
 INFRASTRUCTURE	MIEM, MTOP, ANP, ANCAP, UTE	· Port aspects, electricity transmission networks, gas pipelines, use of railroads.
 REGULATION	MIEM, URSEA, MVOT, MTOP, MA	· Quality and storage regulations. Safety aspects. · Aspects related to the national electricity system. · Guidelines for land use and easements for gas pipelines and electricity transmission.
 OFFSHORE	MIEM, ANCAP	· Competitive process for prospecting and evaluating green hydrogen production for eventual future development.
 COMMUNICATION AND CAPACITY BUILDING	MIEM, national academia: universities, UTU, CONYCIT, among others. MRREE and AUCI. Civil society.	· Design and implementation of a national communication plan for decarbonization and H2 aspects. · Professional and technical training. · Alliances with international cooperation for capacity building and international communication aspects.

[https://www.youtube.com/watch?v=Qto1PI2\\_HYQ&t=2990s](https://www.youtube.com/watch?v=Qto1PI2_HYQ&t=2990s)

Resolution N° 294/022 (H2U Program)

[https://medios.presidencia.gub.uy/legal/2022/resoluciones/12/miem\\_246.pdf](https://medios.presidencia.gub.uy/legal/2022/resoluciones/12/miem_246.pdf)

# ANCAP: THE LARGEST INDUSTRIAL CONGLOMERATE IN URUGUAY

## Production and sale of energetics

- **Fuel**  
55.000 Bbl/day
- **Biofuel**  
130.000 m3/year
- **Lubricants**  
14.500 tons/year
- **Gas Stations**  
Network 285
- **Natural Gas**

## Production and commercialization of minerals

- **Cement**  
293.000 tons/year
- **Limestone**



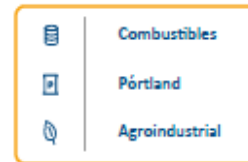
Facilities:  
#18 Industrial Locations  
#285 Gas Stations



Employees:  
#3300



Financial Results 2021:  
Revenue: 2.006 MMUSD  
Net Income: 88 MMUSD



## Montevideo



# E&P ACTIVITIES OFFSHORE

## CONTRACTS WITH MAJOR ENERGY COMPANIES

Contracts with Major Energy Companies

1500+ million USD invested in O&G exploration

Big offshore projects (not new for Uruguay, ANCAP, H2U offshore team)



# H2U PROGRAM: PRIVATE INVESTMENT WITH GOVERNMENT SUPPORT



# H2U Offshore – Main features

# H2U OFFSHORE: ANCAP'S VISION FOR A SUSTAINABLE FUTURE

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



[1] TRACTEBEL



# H2 PRODUCTION FROM WATER ELECTROLYSIS DEVELOPMENT CONCEPTS

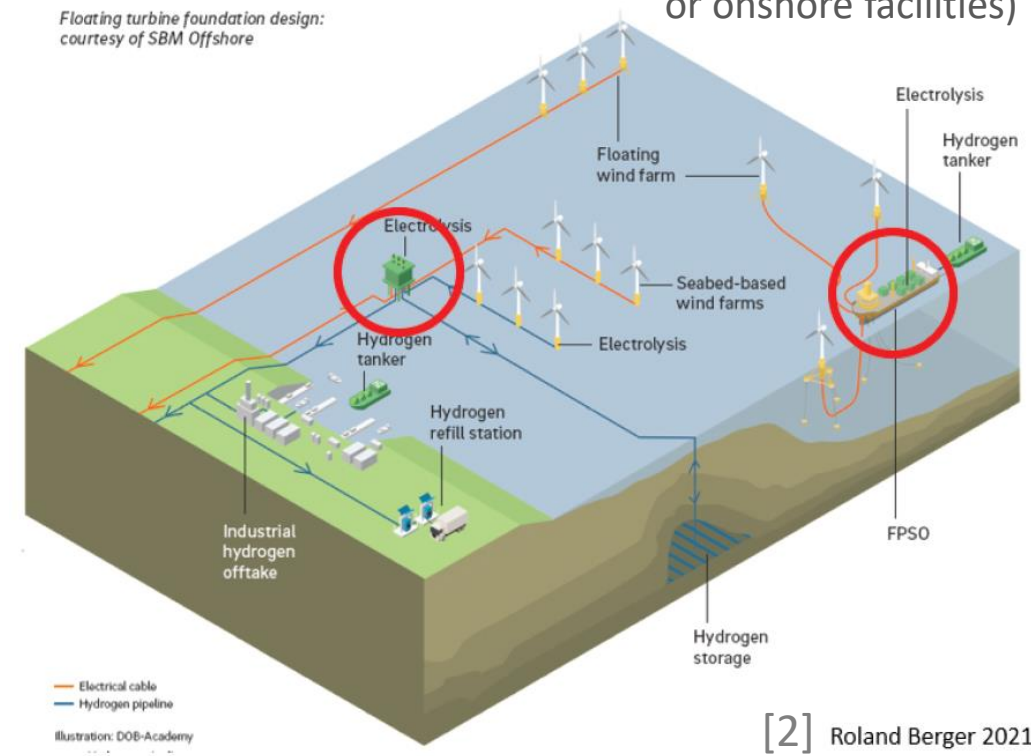
**FLEXIBILITY** for the contractor to propose development concept including:

- Offshore/Onshore Electrolysis
- Project scale (phases)
- Type or H2 Carrier (NH3, LH2, etc)
- Market/Off-taker

## WHEN?

- With submission of Project Development Plan
- After a 10 years (max) of evaluation periods

Development concept completely offshore (no need for deep water harbor or onshore facilities)

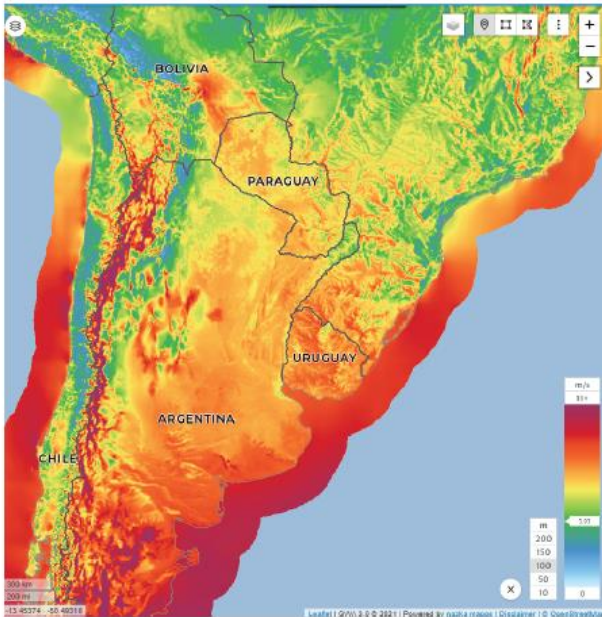


[2] Roland Berger 2021

# Areas and Potential

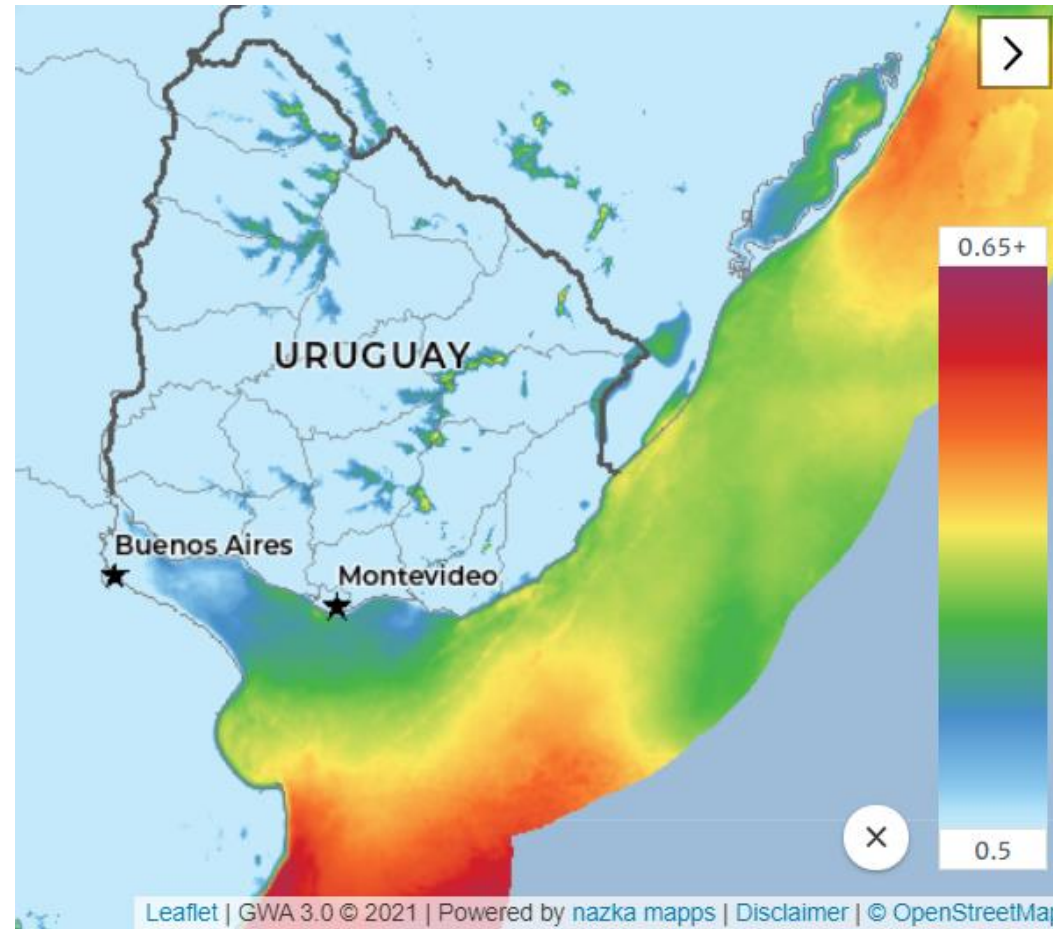


# EXCELLENT WIND CONDITIONS

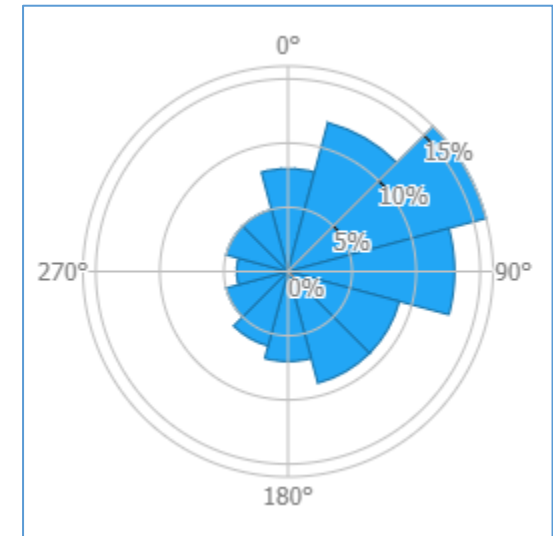


[Data/information/map obtained from the] "Global Wind Atlas 3.0, a free, web-based application developed, owned and operated by the Technical University of Denmark (DTU). The Global Wind Atlas 3.0 is released in partnership with the World Bank Group, utilizing data provided by Vortex, using funding provided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

[3] GLOBAL WIND ATLAS

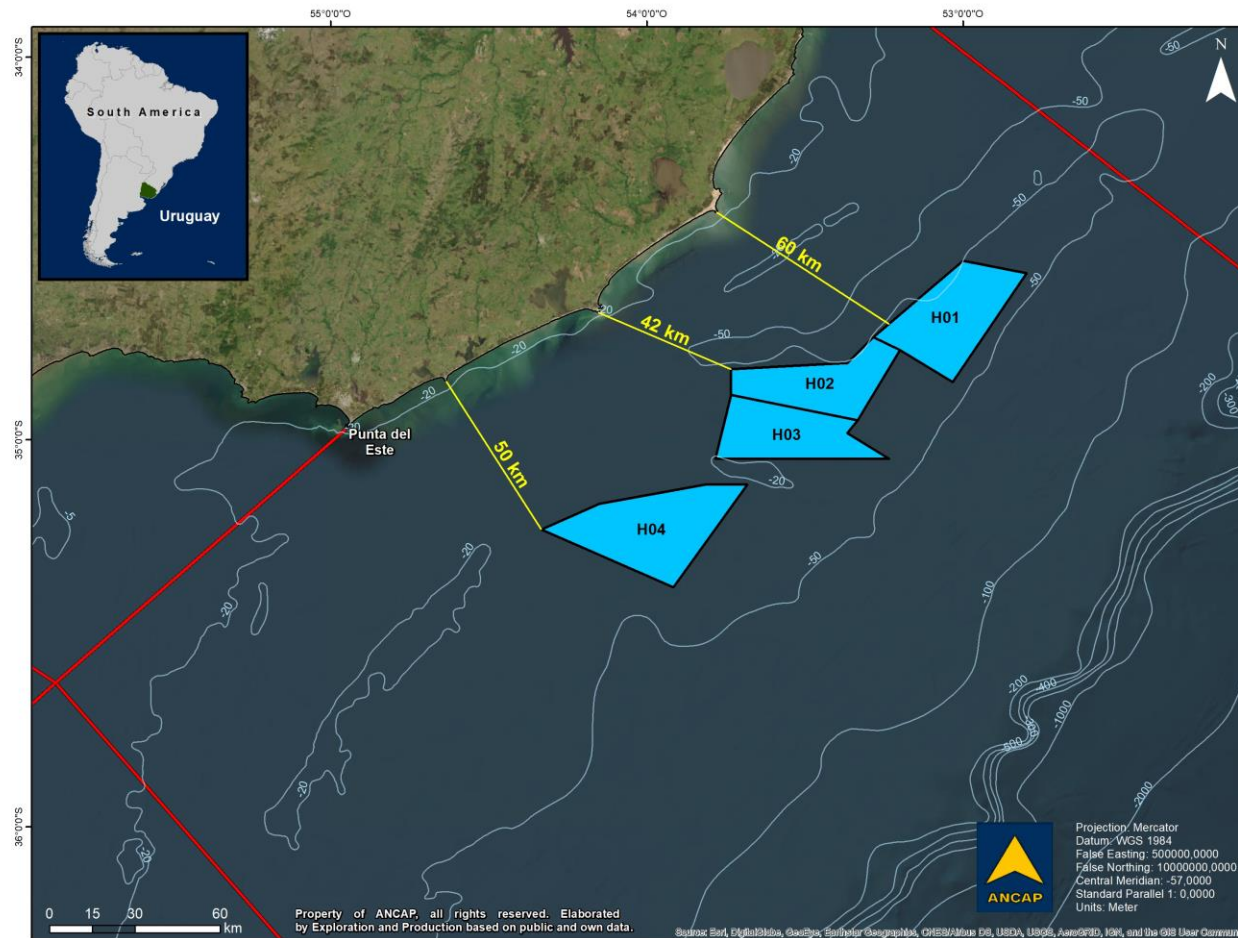


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# OFFERED AREAS



Areas defined considering relevant ecological settings, minimized interference with human activities (maritime transit and operations, fisheries, submarine cables) and the input from the industry.

Average Surface Area: 700km<sup>2</sup>

Estimated Potential:

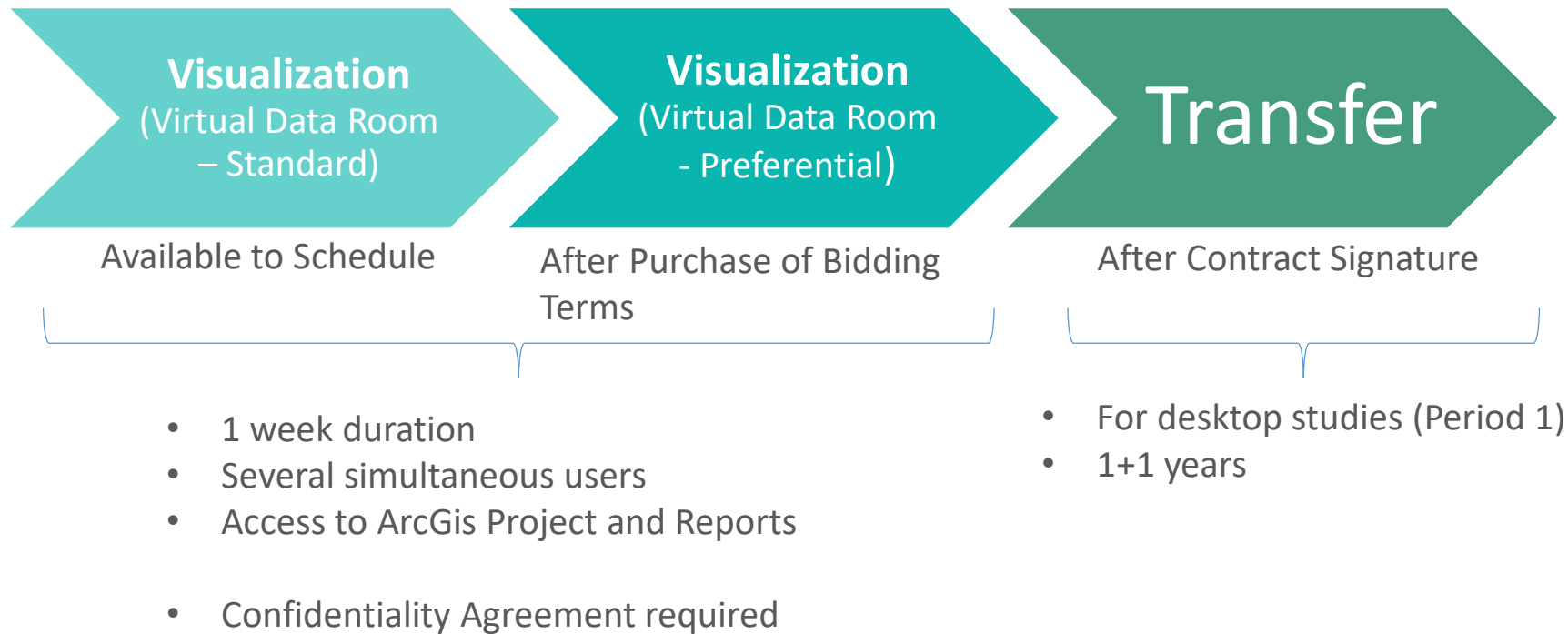
3 GW → 200 kTonH<sub>2</sub>/year\*

\* Based on conservative estimations  
A: 500km<sup>2</sup>; D: 6 MW/km<sup>2</sup>; F: 46%; E: 60 kWh/kg

# Available Data and Information

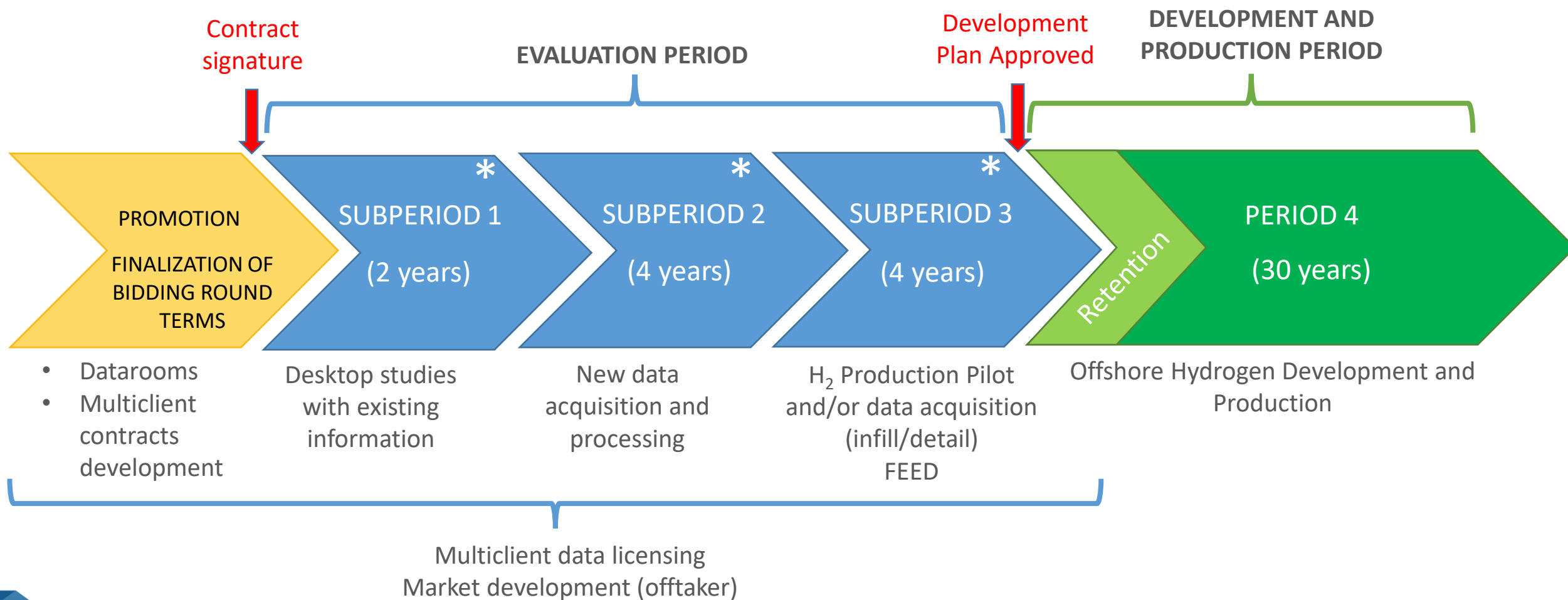
# AVAILABLE DATA AND INFORMATION

ANCAP's proprietary and public data from the offshore of Uruguay is available for performing feasibility studies reports



# Contract Terms

# CONTRACT TERMS



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

# Bidding Round Terms

# BIDDING ROUND TERMS

**ANCAP invites energy companies interested in carrying out feasibility studies and potential installation of infrastructure for the production of hydrogen and/or derivatives from offshore renewable energy, at their own cost and risk entirely.**

Legal, financial and technical qualification of companies to have the right to submit offers

Award criteria based on objective and simple parameters to be offered by energy companies:

- Work program (WU)
- Share of profit for ANCAP (P)
- ANCAP's participation (A)

Comparison of offers based on equation:

Score =

$$20\% * (WU/WU_{max}) + 40\% * (A/A_{max}) + 40\% * (P/P_{max})$$



# Qualification of Companies

# QUALIFICATION OF COMPANIES

Two qualification roles:

1. Operator:

- Working interest 100%, **or**
- Partnership in Consortium ( $\geq 30\%$  participation)

2. Non-Operator:

- only for Consortium (partner)
- $\geq 10\%$  participation

# QUALIFICATION OF COMPANIES – LEGAL ASPECTS



Documents providing the existence  
and representation of the company

# QUALIFICATION OF COMPANIES – ECONOMIC / FINANCIAL ASPECTS (FOR OPERATORS AND NON-OPERATORS)

Contract Period for which the Qualification is submitted	Required:
Evaluation Period	<ul style="list-style-type: none"><li>- Average Equity &gt; 100 MMUS\$ + 30 MMUS\$ for each additional area; <b>or</b></li><li>- Average Assets &gt; 300 MMUS\$ + 100 MMUS\$ for each additional area</li></ul>
Evaluation Period + Development and Production Period	<ul style="list-style-type: none"><li>- Average Equity &gt; 500 MMUS\$ + 200 MMUSD for each additional area; <b>or</b></li><li>- Average Assets &gt; 1500 MMUSD + 600 MMUSD for each additional area</li></ul>

# QUALIFICATION OF COMPANIES – TECHNICAL ASPECTS (FOR OPERATORS ONLY)

Contract Period for which the Qualification is submitted	Required:
Evaluation Period	<ul style="list-style-type: none"><li>- Be (or have been in the last 5 years) an owner, developer, or operator of an offshore wind farm with a capacity greater than 50MW, in operation, <b>or</b></li><li>- Have production of green H2 by electrolysis, as an owner or operator, exceeding 50 tons/year (or its equivalent in derivatives of green H2), <b>or</b></li><li>- Have (or have had in the last 5 years), as an owner or operator, offshore production of oil and/or natural gas exceeding 8,000 BOE/day</li></ul>
Evaluation Period + Development and Production Period	<ul style="list-style-type: none"><li>- Be (or have been in the last 5 years) an owner or operator of an offshore wind farm with a capacity greater than 50MW, <b>or</b></li><li>- Have production of green H2 by electrolysis, as an owner or operator, exceeding 250 tons/year (or its equivalent in derivatives of green H2), <b>or</b></li><li>- Have (or have had in the last 5 years), as an operator, offshore production of oil and/or natural gas exceeding 40,000 BOE/day</li></ul>

# QUALIFICATION OF COMPANIES – TECHNICAL ASPECTS (FOR OPERATORS ONLY)

In order to qualify on technical aspects as Operator, companies must submit their policy and commitments in relation to QHSE, as well as the latest corporate sustainability report.

# Contract Model

# CONTRACT MODEL

## H2 Production Sharing Contract

- The contract commends the contractor to carry out feasibility studies and the potential installation of infrastructure for the production of green hydrogen (and/or derivatives) from offshore renewable energy sources.
- Exclusive right
- Contractor assumes all risks, costs and responsibilities of the activity.

## Contract Term

- Periods of investigation and evaluation of the resource up to 10 years
- IECs carry out **Committed Evaluation Program**
- 30 years Development and Production period

## ANCAP's Association Option

- **Limit of ANCAP's association is biddable**
- ANCAP's right is exercised after approval of Development Plan

Items in sky blue are biddable, so IECs control the Risk and Reward values of the equation

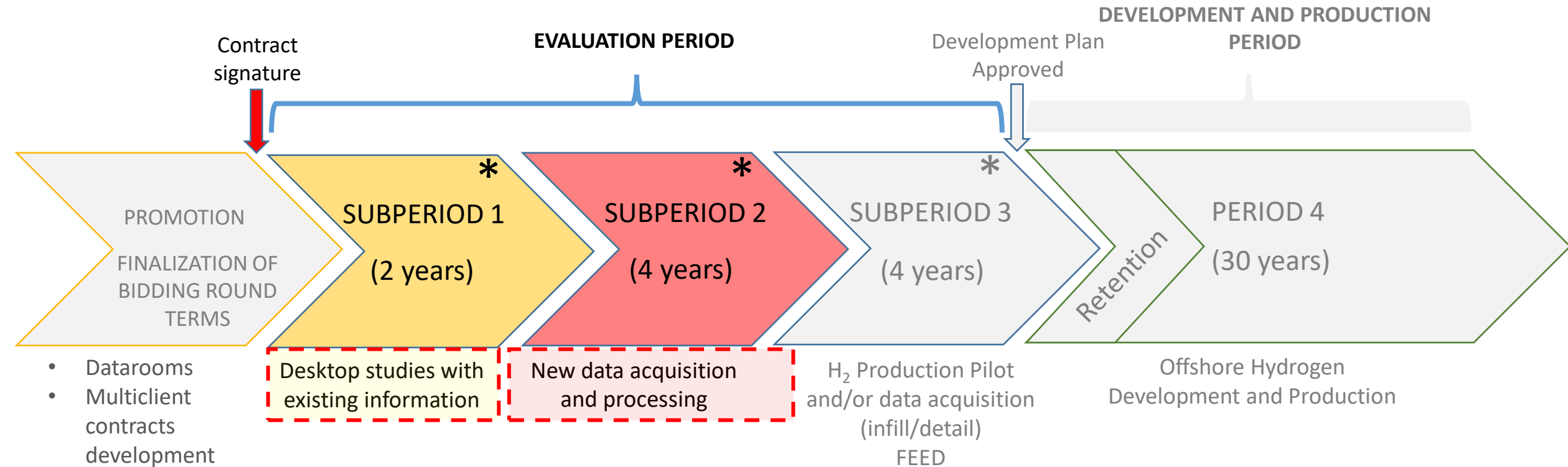
## Contractor's Economy

- Production split in 3 portions:
  - Cost Contractor (CAPEX and OPEX)
    - Cost Recovery Limit: 80%
- **Profit** sharing regarding an R factor sliding scale
  - **Profit Contractor**
  - **Profit ANCAP**
- Profit subject to Income Tax 25%



# Work Program

# WORK PROGRAM



# EVALUATION PLAN

## Is a working commitment of the Contractor

- Desktop and field studies committed by the Contractor during Period 1 (w/ available data) and Period 2 (data acquisition, processing/ analysis and interpretation).
- Risk and cost at the Contractor.
- Data proprietary of ANCAP but confidential during contract term.
- Key data/ information for a Contractor decision:
  - Move forward to Period 2 or relinquish?
  - Mover forward to Period 3 or relinquish?
  - To delineate the conceptual technical and business model of the production of hydrogen/ offshore wind in the Area.
- For ANCAP to evaluate/ compare 2+ bids in the same Area → each study will be allocated Working Units (**WU**). Evaluation of bids will also take into account biddable Profit and % ANCAP Association

## Period 1

- Four (4) mandatory desktop studies w/ available data (20 WU each): Physical Media, Biological Media, Anthropoc Media and Technical/ Economical.
- Optional studies: up to four (4) additional specific studies (10 WU each).

## Period 2

- Five (5) mandatory studies (reconnaissance or site investigation) comprising the acquisition, processing/ analysis and interpretation of field data (minimum WU for each study):
  - Geological, Geophysical & Hydrographic.
  - Geotechnical
  - Metocean & Resources
  - Environmental
  - Human & Socio-Economic

# EVALUATION PLAN: SUB-PERIOD 1

Desktop Study	Objective/ Description/ Data & Reports	Valuation (WU)
<b>Physical Media</b>	Mandatory. Characterize the conditions, risks and potential impacts in the physical media associated w/ construction and operation. Assessment of geological, geotechnical aspects, bathymetry and seabed morphology, sedimentary processes and hydrodynamics in the Area, w/ available data and information.	20
<b>Biological Media</b>	Mandatory. Characterize the conditions, risks and potential impacts in the biological media associated w/ construction and operation. Identification and assessment of relevant species in the Area (presence, distribution, abundance and behavior of birds, marine mammals, turtles, fishes, and benthic fauna, among others), habitats and environmental areas of special interest, w/ available data and information	20
<b>Anthropic Media</b>	Mandatory. Characterize the conditions, risks and potential impacts in the anthropic media (human activities and communities) associated w/ construction and operation. Identification and assessment of human activities (fisheries, marine traffic and operations, tourism and recreation, submarine cables, etc.), & issues of particular interest for the community (heritage & archaeology, landscape & visual, economy, etc.), within the area and areas of influence of the project, w/ available data and information.	20
<b>Technological-Commercial</b>	Mandatory. Identify and assess the technologies w/ potential to produce renewable energy in the Area & for the production, storage and transport of hydrogen and derivatives. Forecast price and market for hydrogen, derivatives and other products, under different technological scenarios.	20
<b>Other Studies</b>	Optional. Bidder can propose other specific studies to assess the conditions, risks and potential impacts associated w/ construction and operation, within the Area and areas of influence of the project, not included in the abovementioned mandatory studies.	10

Sub-Period 1:                      Minimum WU:                      80                      (4 mandatory desktop studies)  
    Maximum WU:                      120                      (only 4 other studies to be valued)

# EVALUATION PLAN: SUB-PERIOD 2

(1/2)

Survey/ Study	Objective/ Description/ Reports	Data	Unit (u)	WU (WU/u)	Σ WUmin
<b>Geological, Geophysical &amp; Hydrographic</b>	G&G: water depth, stratigraphy of shallow sediments, sea floor bathymetry, identify seabed features and obstructions of any kind, assess geohazards and any other risk from development and operation. H: present day sedimentary processes, possible effects in the seabed and subsurface. Specific reports + final G&G&H report of the Area.	Ultra-High Resolution 3D Multi-Channel Seismic (3DUHRS)	km2	0.50	400 (*)
		Ultra-High Resolution 2D Multi-Channel Seismic (2DUHRS)	km	0.20	
		Sub-Bottom Profiler (SBP)	km	0.10	
		Multibeam Echosounder (MBES)	km	0.05	
		Side-Scan Sonar (SSS)	km	0.10	
		Marine Magnetometry (MAGN)	km	0.02	
		3D Geological & Geophysical Earth Model		100	
<b>Geotechnical</b>	Following G&G&H to target soil/rock strata boundaries and engineering properties or specific sea floor features. Specific reports + final Geotechnical report of the Area.	Piezocene/ Seismic or Temperature Cone Penetration Tests (PCPT/ SCPT/ TCPT)	stations	4.00	350 (*)
		Temperature Equilibrium Tests (TET)	stations	2.00	
		Pore Pressure Dissipation Tests (PPDT)	stations	2.00	
		Core Sampling (Vibrocores)	stations	2.00	
		Borehole Drilling Samples	stations	7.00	
		Borehole Logs	stations	2.00	
		3D Geological, Geophysical & Geotechnical Earth Model		100	
<b>Metocean &amp; Resources</b>	Contribute to the conceptual engineering plan of the project, forecast energy generation, define from a required conditions for development and operation. Specific reports + final Metocean and Resources report in the Area.	Continuous Wind data w/ Seawatch Wind LiDAR Buoy (SWLB) or similar	station-year	200.00	400
		Continuous Atmospheric data (T, P, lightening, visibility) w/ Metocean Buoy or similar	station-year	100.00	
		Continuous Oceanographic data (Wave, Currents, Tidal) w/ Metocean Buoy or similar	station-year	100.00	

# EVALUATION PLAN: SUB-PERIOD 2

(2/2)

Survey/ Study	Objective/ Description/ Reports	Data	Unit (u)	WU (WU/u)	Σ WUmin
Environmental	Presence, distribution, abundance and behavior of species, assess the effects and risks associated with the development and operation. Specific reports (group of species and habitats) + final Environmental report of the Area.	Marine Mammal Observations	observation hours	0.10	300
		Turtles Observations	observation hours	0.10	
		Ornithological Observations	observation hours	0.10	
		Benthic fauna & habitat characterization	samples	2.00	
		Other relevant Necton fauna characterization	samples	2.00	
Human & Socio-Economic	H: Identify & assess effects on the population and specific communities, associated w/ development and operation, within the area and on adjacent areas. S-E: Identify & assess effects focused on the economy and society , at country and relevant specific sectors level. Specific reports + final H&S-E report.	Landscape & visual assessment	Study	5.00	50
		Noise assessment	Study	5.00	
		Maritime Traffic & Operations	Study	5.00	
		Military	Study	5.00	
		Aviation	Study	5.00	
		Fisheries	Study	5.00	
		Dredging	Study	5.00	
		Recreational & Tourism	Study	5.00	
		Heritage & Archaeology	Study	5.00	
		Coastal	Study	5.00	
		Socio-Economic Assessment	Study	5.00	
		Social Perception	Study	5.00	

Sub-Period 2:

Minimum WU:

1,500 (\*)

(UTmin for the 5 mandatory studies/ surveys)

Maximum WU:

3,000

(surplus data from UTmin)

# Conclusions

# CONCLUSIONS

- Uruguay is a reliable and stable country, leader in generation of clean energies; above ground risks minimized
- Successful 1st energy transition (power sector), strong drive from the Government for the 2nd energy transition, with green H2 as pillar
- ANCAP is Uruguayan NOC, has assets and experience working with H2 and dealing with major energy companies.
- Excellent wind resource offshore Uruguay
- Several analogies with E&P bidding terms and contract models
- Minimum risk and capital commitment for energy companies
- Energy companies could hold a contract area for 10 years before submitting a development plan (or relinquish)
- Data rooms available



# References

# REFERENCES (FIGURES)

[1] <https://www.offshore-energy.biz/TRACTEBEL-DEVELOPING-WIND-TO-HYDROGEN-OFFSHORE-PLATFORM/>

[2] <https://www.rolandberger.com/en/Insights/Publications/Innovate-and-industrialize-Offshore-wind-energy.html>

[3] [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://www.ancap.com.uy/hidrogeno>



[H2Uoffshore@ancap.com.uy](mailto:H2Uoffshore@ancap.com.uy)