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# Hydrogen Sales and Purchase Agreement (H2 SPA): Challenges in Contract Standardization



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 **HYDROGENi**

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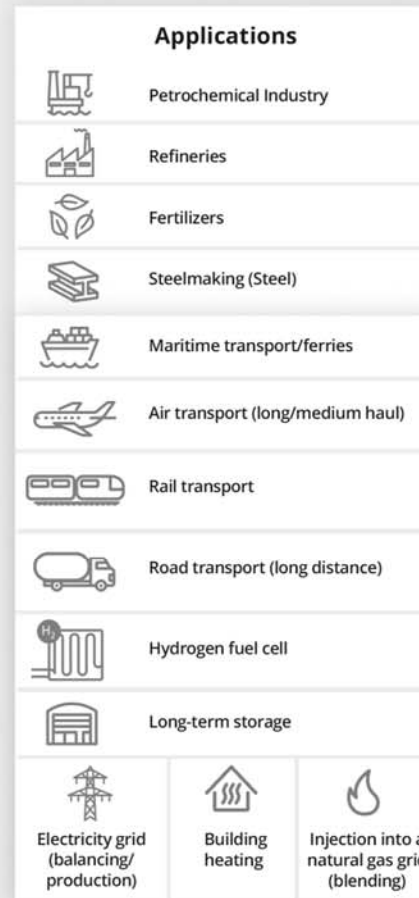
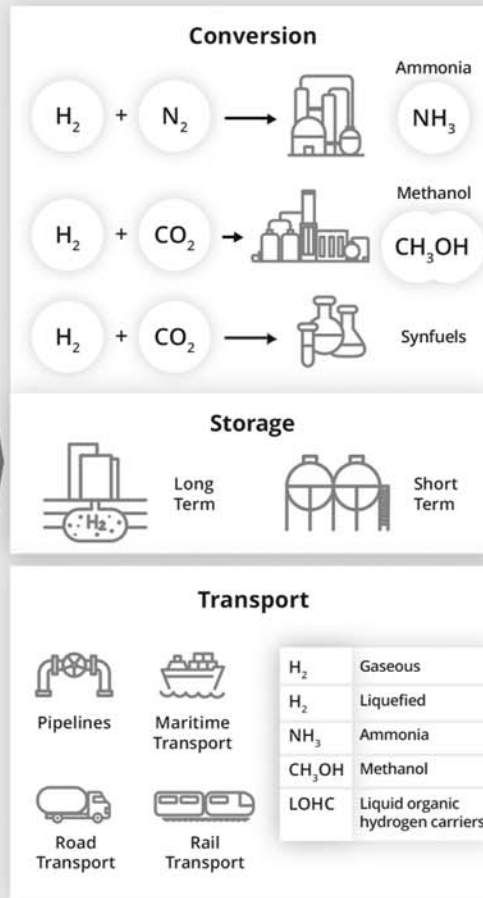
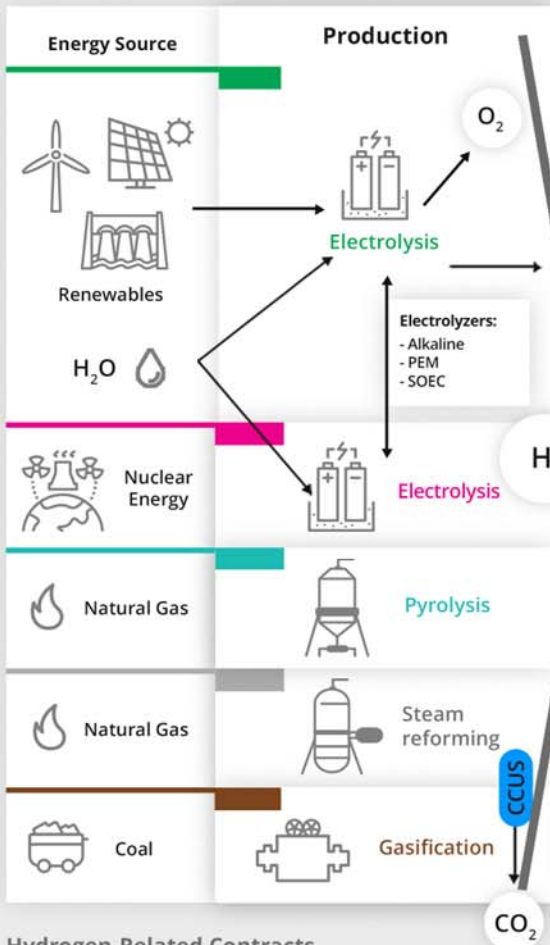
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# AIEN's Hydrogen Taskforce

- ❑ In December 2021, AIPN expanded its industry mandate from “hydrocarbons and gas fired power plants” to “energy”, and changed its name to AIEN.
- ❑ Independent not-for-profit professional membership association supporting international energy negotiators.
- ❑ Proven track record in developing O&G model agreements.
- ❑ Establishment of three sustainability taskforces on: CCS, ESG Compliance, Hydrogen (“H2TF”).
- ❑ H2TF commenced work in Q1/2022, with a primary goal: to ascertain whether it was possible to develop standardised agreements within the hydrogen space.
- ❑ Three Working Groups set-up:
  - (i) Project structuring and mapping out of hydrogen-related agreements;
  - (ii) Hydrogen sales and purchase agreement;
  - (iii) Financing of hydrogen projects.

# Hydrogen-Related Agreements

- ❑ WG1 deliverables: (i) diagram of hydrogen-related contracts across the value-chains; and (ii) 14 templates summarizing the contents of the main contracts.
- ❑ WG2 deliverable: term-sheet for a 'green hydrogen (and derivatives) sales and purchase agreement'.
- ❑ WG3 deliverable (ongoing): long-form term-sheet for financing 'green hydrogen (or derivatives) projects (project finance). Final review underway.
- ❑ Following the deliverables of WG1 and WG2, and upon recommendation of the H2TF, two new drafting committees were set-up in March 2024:
  - (i) Hydrogen Joint Development and Operating Agreement;
  - (ii) Hydrogen Sales and Purchase Agreement.
- ❑ Kick-off meetings of these two drafting committees earlier in April 2024.



**E.U. / National (Portugal)**

**GENERAL ASPECTS**

- Challenges in 'navigating' the multiple European and national instruments (hard law, soft law)
- Uncertainty regarding regulation and market
- Multiple areas (gases, electricity, emissions, environment, transport, water, sectors, etc.)
- Dispersed and slow licensing (regulatory, environmental, industrial, etc.)
- Financing, State aid, taxation
- Value chain development (Industrial Green Deal)
- Prioritization of «hard to abate sectors»
- Hydrogen strategies (national, regional, global)
- Hydrogen-related contracts

**SOME SPECIFIC ISSUES**

- Climate change, decarbonization (NDC), Net-Zero
- Delegated acts (RFNBO)
  - o Direct connection / Co-location
  - o Grid connection / PPA
- Additionality (36 months before)
  - o Temporal correlation (monthly / hourly)
  - o Geographical correlation (bidding zone)
- Certification (Guarantees of Origin)
- Electricity grid: transport, planning, interconnections
- Renewables: incorporation in the grid
- Self-consumption, RECs, proximity
- Electro-intensive users
- Project structuring
- European Hydrogen Bank (vs IRA / others)
- Regulation within the National Gas System
- Exclusion of hydrocarbons (Portugal)
- Support mechanism / Sale to Wholesale Supplier of Last Resort

**Hydrogen-Related Contracts**

- Joint Development and Operating Agreement
- EPC Contracts (including electrolyzers)
- Financing Arrangements (Project Finance)
- PPA Renewable Energy / Electricity Sale Agreement
- Water Supply Agreement
- CCUS Contract

- Hydrogen / Derivatives Transport Agreement
- Hydrogen / Derivatives Maritime Transport Agreement
- Hydrogen Storage Contract
- Tolling Arrangement for Hydrogen / Derivatives
- Hydrogen Distribution Contract
- CO2 Purchase and Sale Agreement
- CO2 Transport Agreement
- CFD - Contract for Difference (supply-side)

- Hydrogen / Derivatives Sale and Purchase Agreement
- Oxygen Sale and Purchase Agreement
- Hydrogen / Oxygen Supply Contract
- Hydrogen Storage Contract
- Hydrogen Supply Contract (Last Resort Wholesale Supplier)
- CFD - Contract for Difference (demand-side)

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# H2 (Derivatives) SPA

- ❑ AIEN model H2 (Derivatives) SPA expected to incorporate contractual terms and conditions for a long term, renewable / low carbon hydrogen sale / offtaking.
- ❑ Term-sheet developed in H2TF WG2 will be used as basis for development of the H2 (Derivatives) SPA.
- ❑ Certain assumptions and boundaries will have to be set, as it is not possible to contemplate each single variation.
- ❑ Reliance on prior experience of AIEN in model agreements, and a multitude of existing model agreements (e.g. JOA, GSA, LNG Master SPA, Gas Transportation Agreement)
- ❑ Model H2 SPA expected to be **Industry accepted**:
  - (i) Bankability;
  - (ii) Look to comparable industries and other model forms;
  - (iii) Include optionality;
  - (iv) Reflect different offtake principles;
  - (v) Technology neutral (?);

# H2 (Derivatives) SPA

- ❑ **Balanced**, with input from:
  - (i) Commercial;
  - (ii) Legal;
  - (iii) Academics;
  - (iv) Project sponsors;
  - (v) Offtakers;
  - (vi) Financiers;
- ❑ **Country neutral**, considering that:
  - (i) No accepted global certification standard exists;
  - (ii) Certification determined by the corresponding environmental attribute in the offtake jurisdiction;
  - (iii) Carbon methodology for certification to vary depending on destination market.
- ❑ Timeline for completion Q1/2025, including (i) initial H2 (Derivatives) SPA, (ii) guidance notes, and (iii) long-form term-sheet.

# Some Drafting Challenges

- ❑ **Form of Agreement**: Long form (or full-fledged).
- ❑ **Product**: Hydrogen and its derivatives (e.g. liquified hydrogen, ammonia, methanol, liquid organic hydrogen carrier – LOHC, synthetic natural gas, synthetic fuels).
- ❑ **Carbon intensity**: Renewable (consider whether the model agreement can be technologically neutral), with product to meet defined specifications and carbon methodology.
- ❑ **Delivery terms**: Incoterms to be defined depending on case, in principle DAP or DES, but possibly including optional clauses / guidelines for amendments to allow for FOB, CIF, CFR, or even EXW (responsibility for midstream activities may be difficult for many project financed developers).
- ❑ **Delivery point, title and risk**: Has to be tailor-made to the project structure, offtaking, and financing.
- ❑ **Transportation and delivery operations**: To be addressed depending on project structuring, means of transportation, risk sharing, offtake principles, etc..



# Some Drafting Challenges

- ❑ **Offtake principles**: To be agreed; (i) Steady Supply; (ii) Push Model; or (iii) bespoke offtake principles.
- ❑ **Shortfalls | Failure to take**: Depends on offtake principle; in Steady Supply similar perhaps to gas / LNG; with Push Model approach must be different. Buyer may wish to have precedence on excess product.
- ❑ **Liability**: Dealing in a standardized manner with supply, technology, regulation, value-chain, project structuring and financing uncertainties.
- ❑ **Product specifications / Certification**: Chemical, production and GHG specifications (ISO standards), and it may include product certification (iaw defined standards).
- ❑ **Off-spec product**: To cover chemical, production and GHG specifications. Auditing, accounting testing important.
- ❑ **Boilerplate clauses**: Some adaptation could be required depending on various aspects of the agreement, project structure, offtake principle, specification, certification, etc..

# Final Remarks

- ❑ Designing model agreements for the hydrogen space not an easy undertaking due to uncertainties (e.g. NEOM project).
- ❑ H2 SPA: basis for discussing contract terms and conditions, to be adapted to project specificities.
- ❑ Various fundamental aspects are critical:
  - (i) Project structuring (e.g. size, level of integration);
  - (ii) Offtaking principles and offtakers (location);
  - (iii) Regulatory and public incentives environment;
  - (iv) Product, production, GHG specs;
  - (v) Transport, storage, receiving terminals;
  - (vi) Financing and incentives.
- ❑ “Moving goal posts” – examples:
  - (i) The implications of ‘White Hydrogen’;
  - (ii) Innovation and technology (e.g. methane pyrolysis);
  - (iii) Geopolitical aspects / International cooperation.

**Thank you**