Energy & Regulation Partners.

Overcoming Regulatory Constraints

How to Make Swiss Hydrogen Benefit from European Markets

Swiss Hydrogen Summit

Zurich 20.2.2025

Overview of the Presentation

- Hydrogen in Europe – State of Play
- The Swiss Hydrogen Strategy – A General Approach
- The Swiss Hydrogen Strategy – Industry Perspective
- Regulatory Aspects – Accomplishments
- Regulatory Aspects – Additional Measures Required

Hydrogen in Europe – State of Play (I)

- EU market-building by **government decisions** and **public subsidies**
- Challenges to market creation – **Significant ”noise” but little apetite** for offtake
- Latest S&P Global figures (very) modestly optimistic: ”***More plants reached FIDs than have been scrapped***” – share of projects progressing to FID still small
- **EU is far off its 2030 target** of 10 million tons domestic and 10 million tons imported renewable hydrogen
- Newly appointed EU Commission ”v.d.Leyen II” started recalibrating **focus towards competitiveness**, moderating green ambitions of ”v.d.Leyen I”
- EU Competitiveness Compass promoting **deregulation and simplification**: ”*Three pillars complemented by five horizontal enablers…*”

Hydrogen in Europe – State of Play (II)

- Going forward, the EU's narrow focus on RFNBO is **likely to be broadened**
- **Note the review clause for RFNBO definition** in view of market ramp up towards 2030 targets
- EU industries invoke the clause, calling for urgent adjustment of hydrogen policies: "**technological neutrality**", cost-competitiveness, incentives, etc
- Commission's "**Clean Industrial Deal**" announced for 26 February: energy and hydrogen expected among key topics
- Continued **regulatory uncertainty** poses challenges for investors

Swiss Hydrogen Strategy of December 2024:

A General Approach

Swiss Hydrogen Strategy: General Remarks

- Perspective of a **structural importer**: emphasis on connecting with the EU market
- Not primarily/not explicitly **geopolitically-induced** as opposed to RePower EU
- **Pragmatic approach** as opposed to the EU’s focus on RFNBO
- Covers the **entire value chain** and focusses on the **demand side**
- Gives priority to **direct electrification**

Swiss Hydrogen Strategy: General Remarks

- **Production**: Hydrogen produced in a CO2-neutral manner, meaning **electrolysis** based on **renewable electricity** or **nuclear power**
- Renewables and nuclear power **treated equally**
- **Security of supply**: domestic production and storage combined with using EU storages
- **International aspects**: Integration with wider Europe; international cooperation and imports (from 2035); critically: integration with EU hydrogen backbone
- **Leverage** technology development to advance Switzerland as an energy hub

Swiss Hydrogen Strategy: General Remarks

- **Vaque in terms**:
  - Future demand (predicted to be low until 2035)
  - Support measures post-2030
- **Connects with**:
  - Climate Protection Act
  - CO2 Act
  - Electricity Act

Swiss Hydrogen Strategy – Supply Chain

- **Production**: development of a domestic market with a preference for hydrogen from CO_2-neutral production
- **Storage**: Large gas tanks; storing derivatives; notably: reliance on EU storage capacities
- **Transport**: Hubs, new built and converted pipelines, road and rail transport
- **Use cases**: high-temperature process heat, peak load coverage of CHP plants and heating networks, reserve power plants, aviation, shipping and heavy goods vehicle traffic

Swiss Hydrogen Strategy:

Industry Perspective

Industry Perspective

- **No mandatory quotas**: Demand and supply are mainly questions for the industry, not for the federal government
- **Exception:** SAF blending obligations under the CO_2 Act implementing EU rules
- **Hydrogen Valleys / Hubs are the way forward**

Regulatory Aspects:

Examples of Accomplishments

Switzerland-EU Agreement on Electricity

- Participation of Switzerland in the **EU internal electricity market**
- Clause on further **deepening of cooperation in the energy sector**, particularly for hydrogen and renewable gases
- State aid for electricity subject to **EU State aid rules**. Switzerland’s State aid system to be compatible with EU State aid secondary legislation, taking into account EU Commission's relevant guidelines, communications and decisional practice
- Dispute settlement, **reference mechanism to the CJEU** and applicability of its case law

Electricity and CO2 Acts

- **Electricity act:**
  - **Policy priority**: Recognizing electrolysers and methanation plants (also from biomass) as facilities of national interest
  - **Policy support**: Allowing PtG systems to apply for exemptions on network fees, if they meet specific conditions (e.g. reconversion into electricity, but only for the reconverted share, and/or pilot/demonstrator projects)
  - **System optimization**: Zoning flexibility for Electrolyser and PtG facilities
- **CO2 Act:**
  - The proceeds from the auctions of emission rights used to **support measures** for adaptation to climate change and the decarbonisation of installations in the ETS
  - Proceeds from emission rights for aircraft will be used to **fund development and production** renewable synthetic aviation fuels (SAF)
  - **New: blending obligation** for low-emission, renewable and renewable synthetic aviation fuels

Regulatory Aspects:

Additional Measures Required

Additional Measures Required – General

- Connection to **EU Hydrogen Backbone** infrastructure: Swiss Strategy to assist
- **Legal definitions** for renewable, CO_2 neutral and low-carbon hydrogen
- **Legal requirements for CO_2** (biogenic and other type) used in production of hydrogen derivatives
- **Facilitation of permitting** for production, transport, storage, and end-use
- Forward looking **subsidy scheme** – connected to information sharing?
- Definition and rules governing **hydrogen hubs/clusters**, as the most likely way forward

Additional Measures Required – H2 Hubs/Clusters (I)

- **Hydrogen or multi-energy hubs** in existing industrial areas: energy suppliers and industrial companies produce hydrogen and PtX derivatives for direct consumption on site or for transport to other locations
- Hydrogen hubs serve as starting points for the connection to the **European hydrogen infrastructure** and the **development of a core network**
- **Funding applications** by individual companies or by a consortium including hydrogen producer. Hydrogen or PtX clusters formed in this way should therefore also be eligible for funding

Required Measures :

- **Legal definition** of hydrogen clusters
- **Market rules** for hydrogen clusters: unbundling, access, tariffs
- **Exceptions** for hydrogen clusters, time limited

Additional Measures Required – H2 Hubs/Clusters (II)

Key measures for the industry:

- Definition of the roles of various players (understanding relationships and dependencies)
- Information sharing arrangements (what is beneficial, what is necessary and what is legal)
- Contracting (multiparty agreements, backbone agreements like PPAs, transport agreements and offtake agreements)
- Contracting for project bankability (new commodity, new risk factors)

Energy & Regulation Partners .

Grafenausstrasse 5
6300 Zug
Switzerland

www.erpartners.eu

mail@erpartners.eu