

WHITE PAPER – EXECUTIVE PROJECT SUMMARY

SENZA Hydrogen

1. Project Overview

SENZA Hydrogen develops, builds, owns and operates an industrial **green hydrogen production project** based on a **modular alkaline electrolyzer system** with a total target capacity of **2,000 Nm³/h**.

The project is designed to be:

- modular and scalable
- internationally deployable
- EPC-compliant
- fully bankable

Project implementation focuses on **strategic industrial and energy hubs in the Middle East**, with priority locations in the **United Arab Emirates (KEZAD, Abu Dhabi)** and **Oman (Sohar / Duqm)**, complemented by selected **European reference sites**.

2. Project Owner & SPV / SPO Structure

SENZA Hydrogen acts as:

- **SPV / SPO (Special Purpose Vehicle / Special Project Owner)**
- **Sole Project Owner and Asset Owner**

SENZA Hydrogen is the contractual counterparty for:

- EPC consultants
- EPC contractors
- technology suppliers
- hydrogen off-takers
- banks and financing institutions

All project assets, contracts and financing structures are held **exclusively at SPV level**.

This structure ensures:

- clear ownership and governance
- strict separation of technology, EPC execution and project risk
- full acceptance by investors, EPC contractors and banks

Flexible EPC & Off-Take Participation

While SENZA Hydrogen remains the sole legal owner of the hydrogen production assets, **Tier-1 industrial partners** may participate as **EPC contractors and/or hydrogen off-takers**, depending on the final commercial setup.

Alternatively, off-takers may be contracted independently by SENZA Hydrogen, ensuring **maximum commercial flexibility** while maintaining full ownership and control at SPV level.

2a. Financial Commitment of the Project Owner

To secure the early development phase, SENZA Hydrogen provides a **bank guarantee of USD 200,000**.

The bank guarantee serves as:

- proof of financial commitment by the project owner
- security for Pre-FEED, FEED and EPC consulting services
- confidence signal for EPC partners, suppliers and investors
- basis for EPC tenders and contract negotiations

This demonstrates strong owner commitment during the Pre-FID phase and significantly reduces early-stage project and counterparty risk.

3. Technology & Supplier Structure

Electrolyzer Technology

COCH – Wenzhou, China

COCH is an established industrial alkaline electrolyzer manufacturer with **more than 25 years of experience** in the design, manufacturing and delivery of large-scale hydrogen systems.

Over the past decades, COCH has supplied **hundreds of industrial hydrogen plants worldwide**, primarily for chemical, industrial gas and energy applications.

Key technology advantages (USPs):

- proven long-term industrial operation
- robust, low-maintenance system design
- high availability and operational stability
- competitive CAPEX and low lifecycle costs
- strong scalability for multi-megawatt applications

COCH acts **exclusively as an OEM technology and equipment supplier**. The company has **no EPC role, no ownership interest and no project development role**, ensuring a clean, independent and bankable project structure.

System Design

- modular configuration (e.g. **4 × 500 Nm³/h**)
 - scalable from demonstration phase to full industrial capacity
 - system integration by the EPC contractor
 - supervision and control by the Owner's Engineer
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4. EPC & Engineering Concept

Owner's Engineer / EPC Consulting

Potential Tier-1 consultants include:

- AFRY
- Fichtner

Scope of services:

- Pre-FEED and FEED
- site and infrastructure assessments
- power and water connection studies
- permitting and approval support
- EPC tender preparation and management
- bankable technical due diligence

EPC Execution

Construction and installation will be awarded to a **Tier-1 EPC contractor**, such as:

- thyssenkrupp nucera
- Linde Engineering
- Siemens Energy
- Black & Veatch (potential)

Depending on the final commercial structure, EPC contractors may also act as **long-term hydrogen off-takers**.

This structure follows international best practice and ensures strict separation between technology supply, engineering control and construction execution.

5. Technical Key Data (Full Capacity – 2,000 Nm³/h)

- Electrolyzer capacity: **2,000 Nm³/h**
- Hydrogen production: **~180 kg H₂ per hour**
- System efficiency: **~82% (LHV, system efficiency)**
- Electrical demand (DC, stacks): **~7.3 MW**
- Total electrical demand (AC, incl. BoP): **~9.0-9.5 MW**
- Water consumption: **~40-45 m³/day (demineralised)**
- Land requirement: **~4,000-6,000 m²**

- Operation mode: **continuous industrial operation (24/7)**
 - Expansion: **modular, phase-by-phase**
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6. Hydrogen Production Cost & Economics

Based on:

- renewable electricity pricing of approx. **USD 0.045/kWh** (solar & wind PPAs)
- $\geq 90\%$ availability
- high-efficiency alkaline electrolyzer technology

...the project targets a **hydrogen production cost of approximately USD 2.75 per kg H₂** (excluding subsidies and carbon credits).

Target hydrogen sales price:

- **USD 4.00 – 6.50 per kg H₂**, depending on market, location and off-take structure

Further cost reductions are achievable through:

- scale-up to full 2,000 Nm³/h capacity
 - optimized renewable power sourcing
 - EPC and operational efficiency improvements
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7. Location Strategy – Priority Markets

Primary Focus: Middle East

UAE – KEZAD (Abu Dhabi) (Primary Anchor Site)

- access to **132–220 kV high-voltage grid**
- reliable supply of desalinated water
- fast and structured permitting process
- proximity to Masdar, industrial clients and export infrastructure

Oman – Sohar Industrial Port / Duqm SEZ

- very competitive renewable energy costs
- strong national hydrogen strategy
- excellent conditions for export-oriented hydrogen and PtX projects
- large industrial plots for future expansion

Additional International Options

- Egypt – Ain Sokhna (SCZONE): low electricity cost, port infrastructure, strong government support

European Reference Locations

- Germany – CHEMPARK NRW, Bitterfeld-Wolfen, Hamburg Moorburg
 - Role: EU reference and bankability sites, connection to German hydrogen backbone
 - Romania – Timișoara Region
 - Low-cost EU location with fast permitting and 110-kV grid access
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8. Development & Scaling Plan

Phase	Capacity	Objective
Phase 1	500 Nm ³ /h	Technical & commercial proof
Phase 2	1,000 Nm ³ /h	Stable operation & cash flow
Phase 3	2,000 Nm ³ /h	Full industrial scale

All phases are executed:

- at the same site
 - under a single EPC framework
 - within one permitting concept
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9. Financing & Investment Structure

Total Investment

- **USD 5.0 million** for full **2,000 Nm³/h** capacity

First Financing Round (Initial Close)

- Capital target: **USD 2.5 million**

Use of funds:

- build and commission Phase 1
- start hydrogen production
- generate early revenues and first investor returns

Funding sources:

- crowdfunding / co-investment platforms
- private investors and family offices
- strategic industrial and energy investors

Second Financing Round (Scale-Up)

- Additional investment: ~USD 2.5 million
 - Expansion to full capacity with reduced risk due to proven operation and confirmed off-take
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10. Off-Takers & Sales

Target customer groups include:

- chemical and industrial users
- refineries and steel producers
- energy and PtX projects
- mobility and export customers

Letters of Intent (LOIs) with potential off-takers are currently in progress and will be converted into long-term **Hydrogen Purchase Agreements (HPAs)**.

11. Core Message for Investors & EPC Partners

“SENZA Hydrogen is the sole project and asset owner of a modular 2,000 Nm³/h green hydrogen project, developed and financed in phases, supported by Tier-1 EPC consultants and contractors, based on proven alkaline electrolyzer technology with more than 25 years of industrial track record, targeting hydrogen production costs of approximately USD 2.75/kg, and backed by strong owner commitment through a USD 200,000 bank guarantee.”

12. Current Project Status

- priority sites identified and evaluated
- EPC consulting structure established
- technology supplier selected
- bank guarantee issued (USD 200,000)
- first financing round (USD 2.5 million) prepared
- off-taker discussions and LOIs ongoing
- active engagement with investors and EPC partners