Inaugural World Clean Hydrogen Day

8 October, 2026 I EHTP, Casablanca, Morocco • Online Worldwide

Featuring
"Quo Vadis Clean Hydrogen?"
Worldwide Reveal

Jointly Presented by

Joint Center of Excellence in Clean Hydrogen
Founding & Supporting Partners

MoU Signing Ceremonies and Milestone Announcements

"Morocco Clean Hydrogen Mobility — From Business Case to Deployment at Scale"
Joint Clean Hydrogen Mobility Business Case, TCO & Ecosystem Study



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Important Steps on business case study

1. **Analyze green H2 fuel cost**
   i. Renewable Energy Cost (best set up in to-be-defined-region)
   ii. H2 production cost (EPC - plant CAPEX, OPEX)
2. **Analyze and define pilot region (best boundary condition)**
   i. Identify region where H2 meets consumer with most favorable conditions (for pilot but also for growth)
3. **Analysis of right use case (consumer) and ecosystem partners**
   i. Truck? (synergies with KEYOU activities in Europe)
   ii. Other use cases with best conditions (e.g. harbor machines?, gensets?)
   Ideally, applications demanding high fuel consumption and using expensive machines (retrofit cost becomes marginal)
4. **Analyze H2 storage and distribution infrastructure (CGH2, LH2, H2 Bat)**
   i. Conditioning, Storing, Distributing, Fueling (H2 battery swapping)
   ii. Costs, relevant storage KPIs and suitability to product requirements (e.g. range in the case of a H2 vehicle)
5. **TCO and business case analysis (free from public incentives)**
   i. TCO for operator of machine
   ii. Margin for all partners of the ecosystem
6. **Economy of scale analysis**
   i. At what size project becomes a Business Case?
7. **Define and plan Pilot-Project together with ecosystem partners**
   i. Roadmap to reach/establish business case

Study conducted by

GFHA GO FOR HYDROGEN AFRICA

KEYOU emission-free technology.

CleanTech BUSINESS CLUB

water stuff & sun

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H2 ecosystem - example



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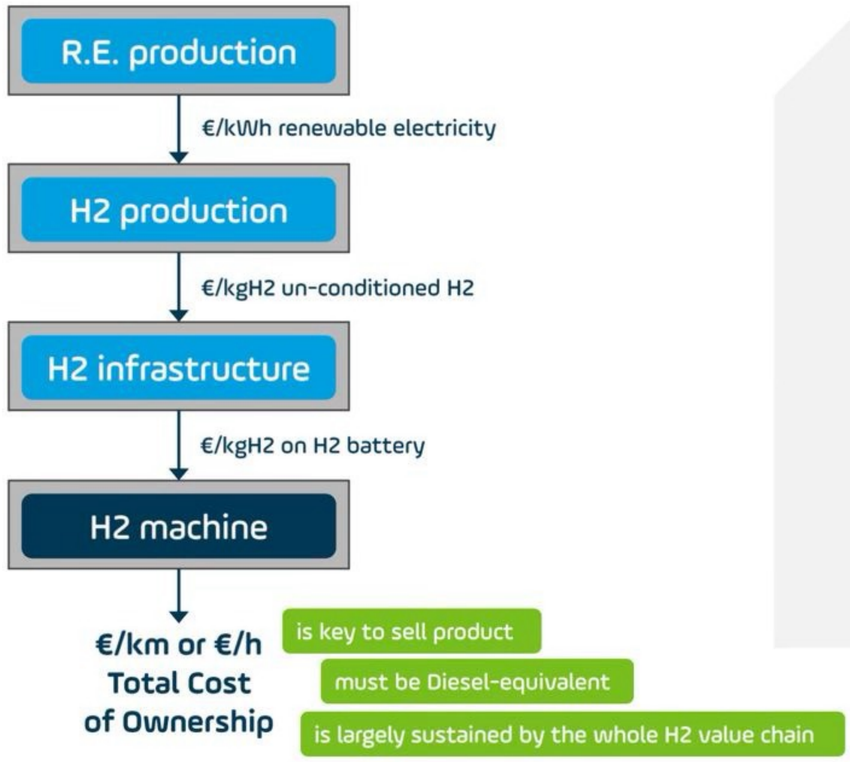
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Business Case analysis



For each group have clarified:

1. Cost structure and steps required
2. CAPEX and its assumptions incl.
   interest rates, plant/machine lifetime, taxes, amortized capex
3. OPEX and its assumptions incl.
   electricity & energy costs, processes efficiencies, taxes
4. Parameterized inputs
   possibility to analyse multiple cases and variants, seeking cost structure optimization
5. Margin for partners involved

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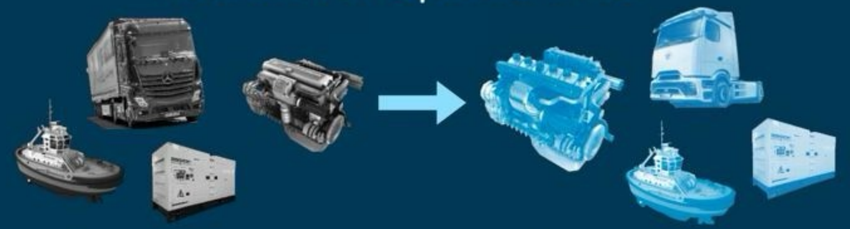
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Total Cost of Ownership

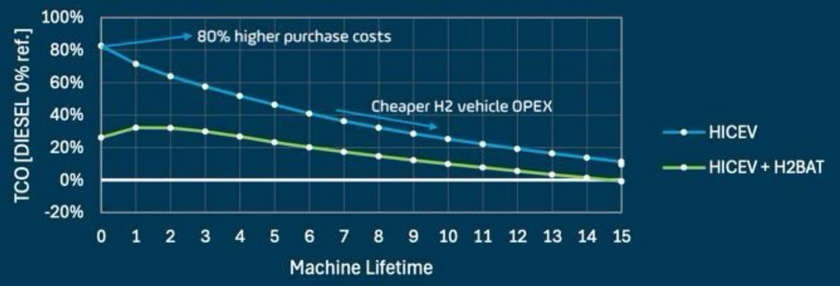
The total cost of ownership remains the key-purchase criteria for end customer.

Purchase price
Depreciation
CAPEX
Systems replacement
H2 fuel
Warranty
Insurance
OPEX
Maintenance
End-of-life
OTHERS
Green policies
Debt financing

A true alternative to state-of-the-art Diesel must offer an equivalent TCO.



TCO dummy example – H2 truck vs. Diesel truck



A TCO-calculation is the most important result on the use case perspective. Fuel costs largely impact the TCO.