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SMARTENERGY

"eKerosene Practical Project Setup"
Maximising benefits and synergies for bankability

Session 7: Financing Future Energy Hubs

Solar and Cement Industry as an eKerosene Feedstock

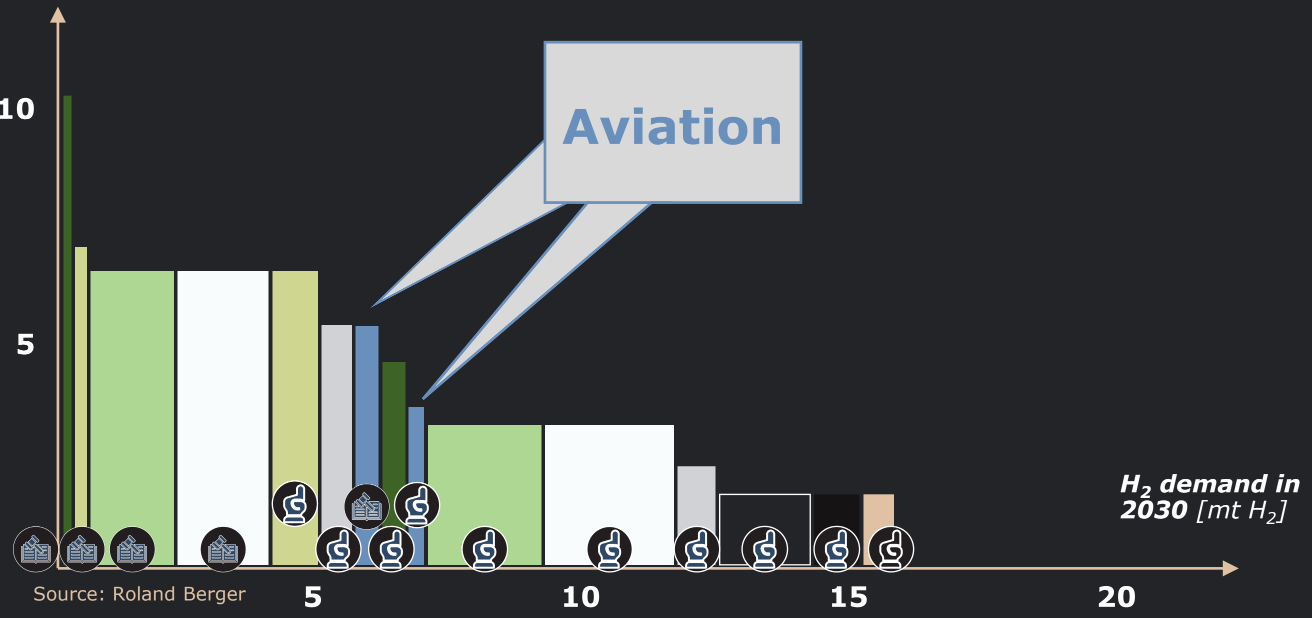
High-level, indicative

Willingness-to-Pay (WtP)

Industry and transport sector are expected to have substantial WtP for green H_2, driven by H_2 regulation and CO_2 prices/voluntary demand; in Europe, policy is already taking shape

Maximum indicative WtP for green H_2 in Europe[1)] in 2030, regulatorily & voluntarily driven

Maximum indicative WtP for green H_2 in 2030
[EUR per kg H_2]



Source: Roland Berger

Key WtP drivers

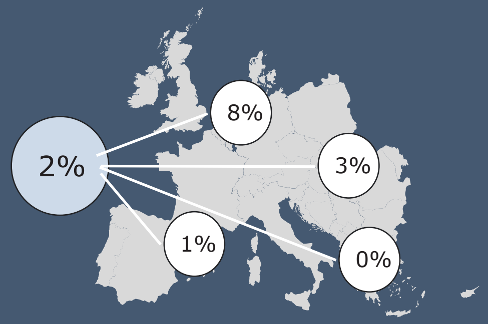
1. H_2-specific regulatory demand
2. Decarbonization demand
3. Voluntary demand

Driven by H_2-specific regulation (e.g., specific green H2 quotas)

Driven by decarbonization regulation (e.g., EU ETS) / voluntary demand

1) Analysis includes key expected H2 demand segments; several sectors not shown due to expected low H2 demand potential (e.g., rail or passenger cars); regulations on European level considered, might vary per country due to country-specific regulation
2) Key Assumptions: CO2 price: : c. EUR 175 / ton CO2 in 2030, EUR 210 / ton CO2 in 2035; Natural Gas price: c. EUR 40 / MWh in 2030, EUR 38 / MWh in 2035; Emergence of voluntary demand: driven by ESG motivations (e.g., in aviation via SAF commitments).

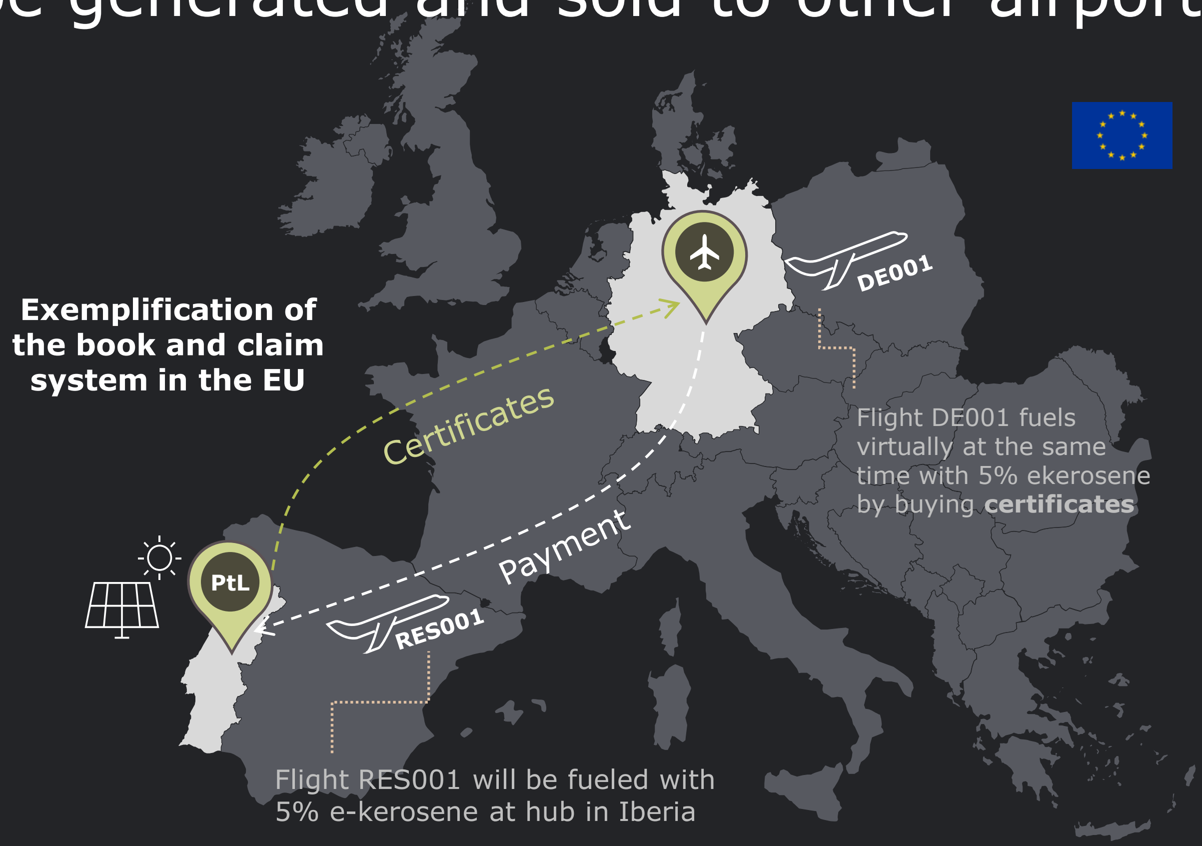
Flights departing from Portugal would be fuelled at a much higher SAF blend percentage than the ReFuel EU SAF subquotas, so that certificates could be generated and sold to other airports



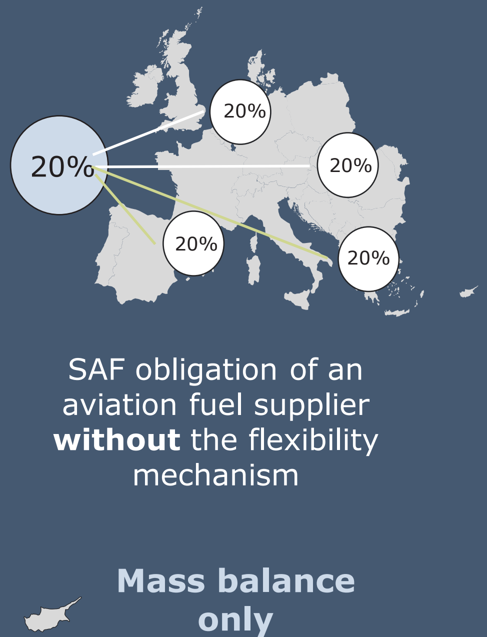
SAF obligation of an aviation fuel supplier **with** the flexibility mechanism

Book and Claim and Mass Balance

2025



ReFuel Aviation



SAF obligation of an aviation fuel supplier **without** the flexibility mechanism

Mass balance only

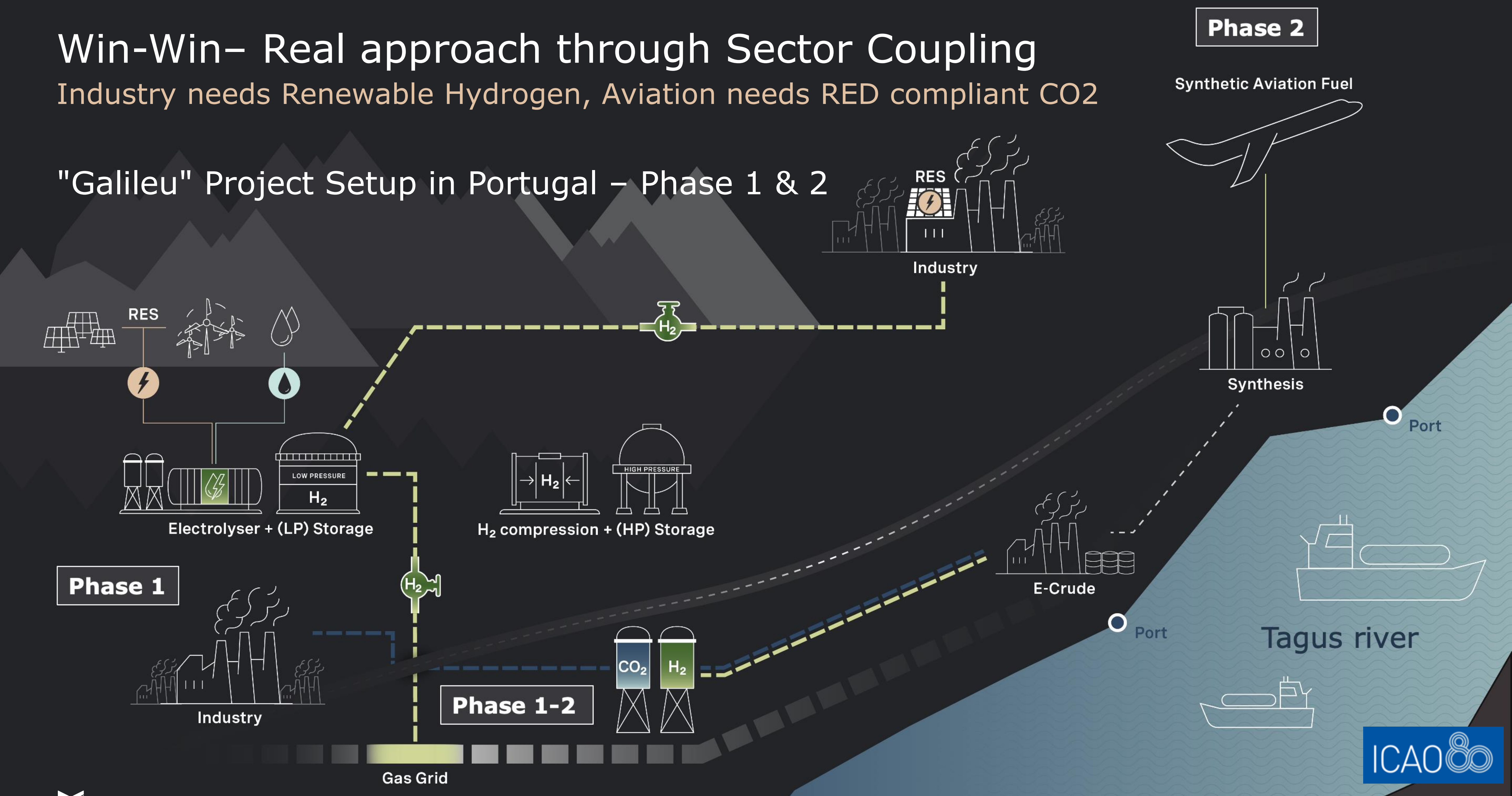
2035

Source: Hydrogen Europe, Own Research
1) This is a general representation on how the book and claim system could work, allowing aircraft operators to purchase SAF certificates virtually. The European Commission is currently discussing three options on how to implement the flexibility mechanism and the virtual trade of SAF through book and claim.

Win-Win– Real approach through Sector Coupling

Industry needs Renewable Hydrogen, Aviation needs RED compliant CO2

"Galileu" Project Setup in Portugal – Phase 1 & 2



Call for 12 main actions for Politics, Industry/Airports and banks/investor to support financing of H2/eSAF projects

1 What Policy-makers can do

- Provide stable and predictable regulation on SAF Book & Claim and CO2
- Financial support frameworks (Guarantees, SERV, Market maker…)
- Break down practical regulatory hurdles and simplify permitting
- International cooperation & green H2/eSAF strategic inventories

Create ideal conditions for investments

2 What Airports and Industry can do

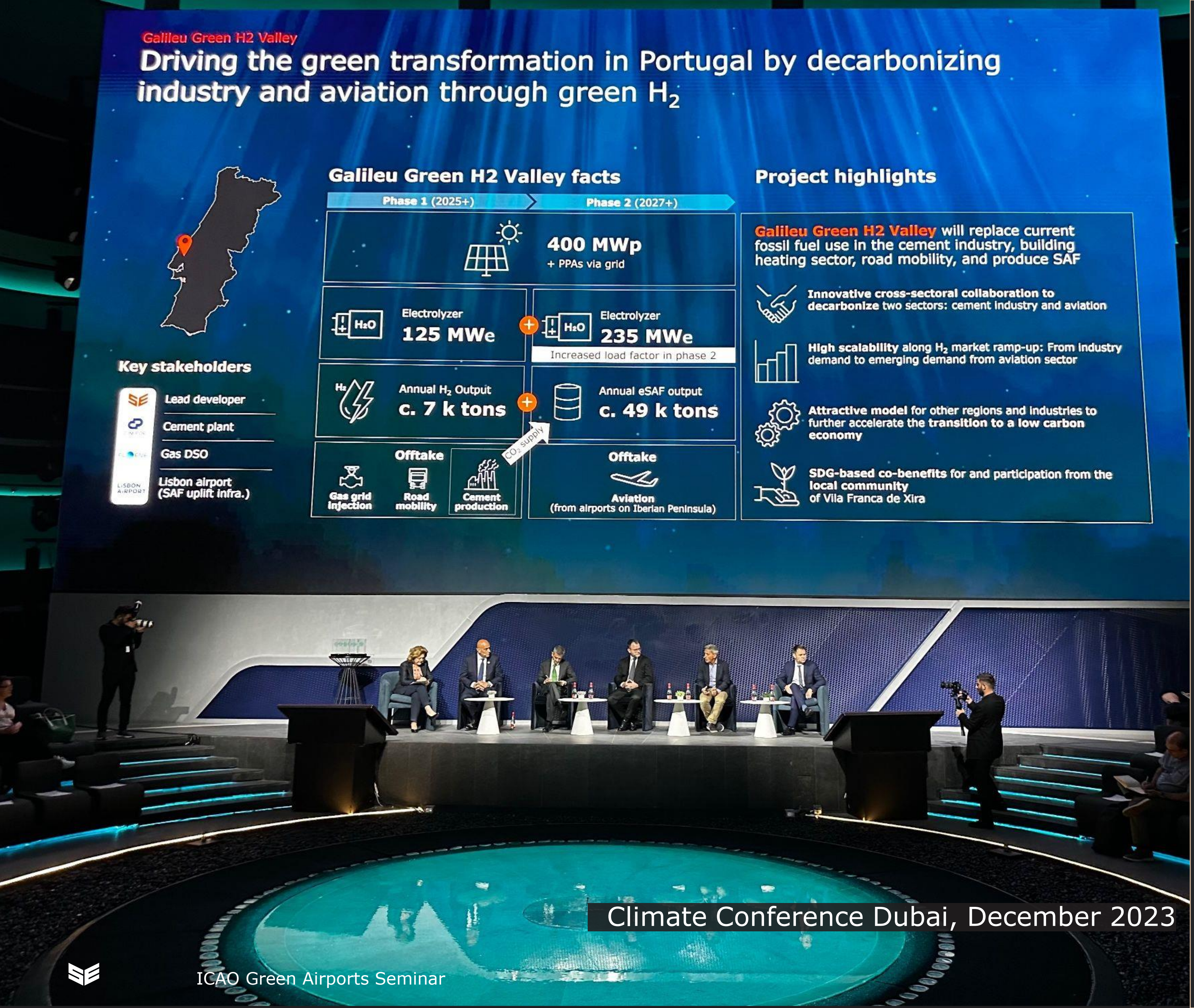
- Push Technology to maturity for green H_2 / eSAF production incl. CO2 capture
- Build integrated partnerships along the value chain
- Conclude long-term green H_2 / eSAF offtake agreements & insurance
- Prepare for infrastructure on and to airports for eSAF

Technological readiness, partnerships and project de-risking measures

3 What the Investment Community can do

- Provide syndicated loans potentially combined with public grants
- Establish standard processes for green hydrogen / eSAF financing
- Perform risk profiling for green hydrogen as asset class
- Target green H_2 assets with dedicated investment vehicles

Incorporate green hydrogen / eSAF as new financial asset class



Climate Conference Dubai, December 2023

SMARTENERGY
recognized as
"Energy Transition Changemaker"
at **COP 28**
for **"Galileu" project**,
out of more than 1,000 applications

COP28 UAE

Thank you!

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Thank You

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