

What is HEAVENN?

A project to create an integrated green hydrogen infrastructure: production, storage, transportation, end use, research and replication.

30 partners – 6 EU countries

Financial scope: 98 mio – 20mio from Clean Hydrogen Joint Undertaking – 20mio cofinancing – 58mio private investment

2020 – 2027 (requested extension)



Successes!



Future successes!



Future successes!

Main reasons that successes are not yet achieved:

- **Business case under pressure;**
- **Lack of steady offtake;**
- **Lack of enough cofinancing – delay FID;**
- **Waiting for other partner;**
- **Waiting for certainty on regulations (Red3, state aid);**
- **Small delays due to permitting;**
- **Lack of OEMs, materials have long delivery times.**
- **Fuel cell vs hICE**



Partners who tried, but did not succeed as planned



Partners who tried, but did not succeed as planned

Main reasons for changes

- **Business strategy moves away from hydrogen as batteries become more efficient and hydrogen price rises;**
- **Technology advances quickly, partner is signed up in project for outdated technology;**
- **Technology not performing as expected;**
- **Hydrogen offtakers much less than expected (HRS – mobility).**



Some lessons learned from HEAVENN for other projects:

- A long project in a pioneer market will run into many changes. Build flexibility into your project plan by focusing on end goal or process, more than on technology;
- Build a strong consortium: partners can help each other out;
- Partners need to be aware what is expected of them – subsidy comes with obligations;
- We hope the EC will consider market fluctuations when evaluating the project.

