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

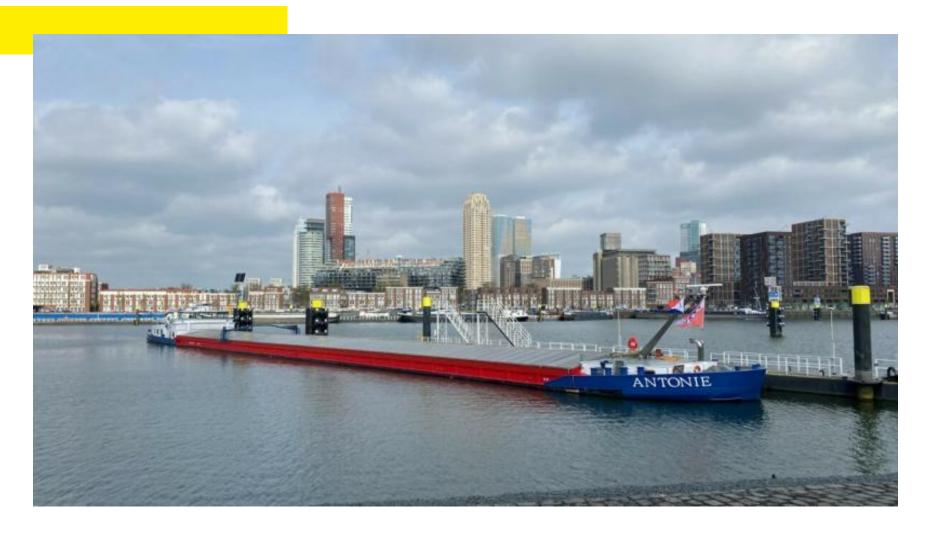
Financial scope: 98 mio – 20mio from Clean Hydrogen Joint Undertaking – 20mio cofinancing – 58mio private investment

2020 – 2027 (requested extension)

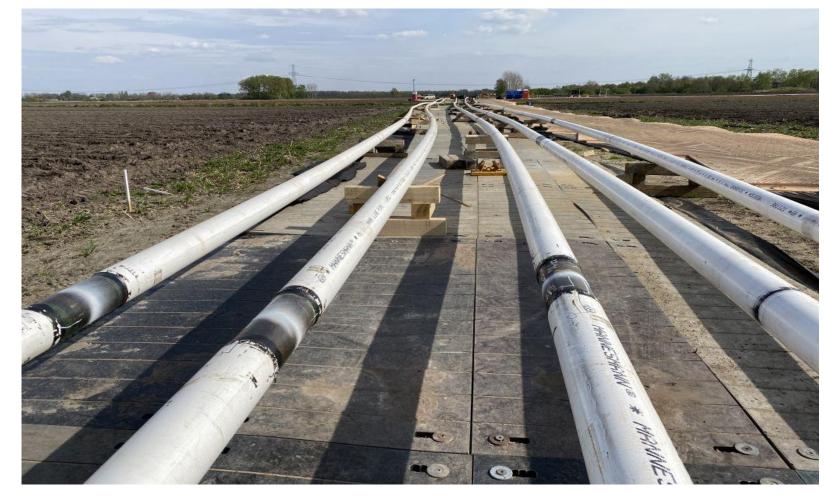




Successes!











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- Technology advances quickly, partner is signed up in project for outdated technology;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 then 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 then 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.



