Ember Pyrolysis technology For Hydrogen and carbon

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PROGRESS AND FUTURE VISION

NORK IT

DREAM IT

DIANIT

innovation for life



PROPOSED APPROACH



3 | Pyrolysis technology for Hydrogen and Carbon

FUTURE OUTLOOK AND APPROACH

innovation for life **TECHNOLOGY PROGRESS STATUS TRL 3 - 6 TRL 6 - 9 TRL 1 - 3** Techno Optimization Scale up Proof of Commercial scale demonstration and Conceptual and batch scale Pilot plant economic continuous design concept application. evaluation pilot operation Established proof of concept for removal of Identified main steps and questions for Gained interest from companies for carbon. progressing technology. demonstration. Timeline 2030 2023 2925 2019 2020 **Bench Scale Continuous Process Pilot Plant** Continuous production-separation reactor. Scale up and effect of hydrodynamics. Scale up swing operation & single tube. • Tuning carbon quality with process conditions. • Optimization DSP with integrated reactor. Duration tests and de-risking for integration Impact of variation in feedstock & impurities. Duration tests and de-risking for pilot. for site(s). Optimization of individual unit operations.

+ Continuous improvements with the cost estimates for the reactor and overall plant.



Take a look: **TNO.NL/TNO-INSIGHTS**

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