

H2Bus Europe - by Everfuel

Hydrogen week 2020

Everfuel 

Yesterday's wind
Today's fuel

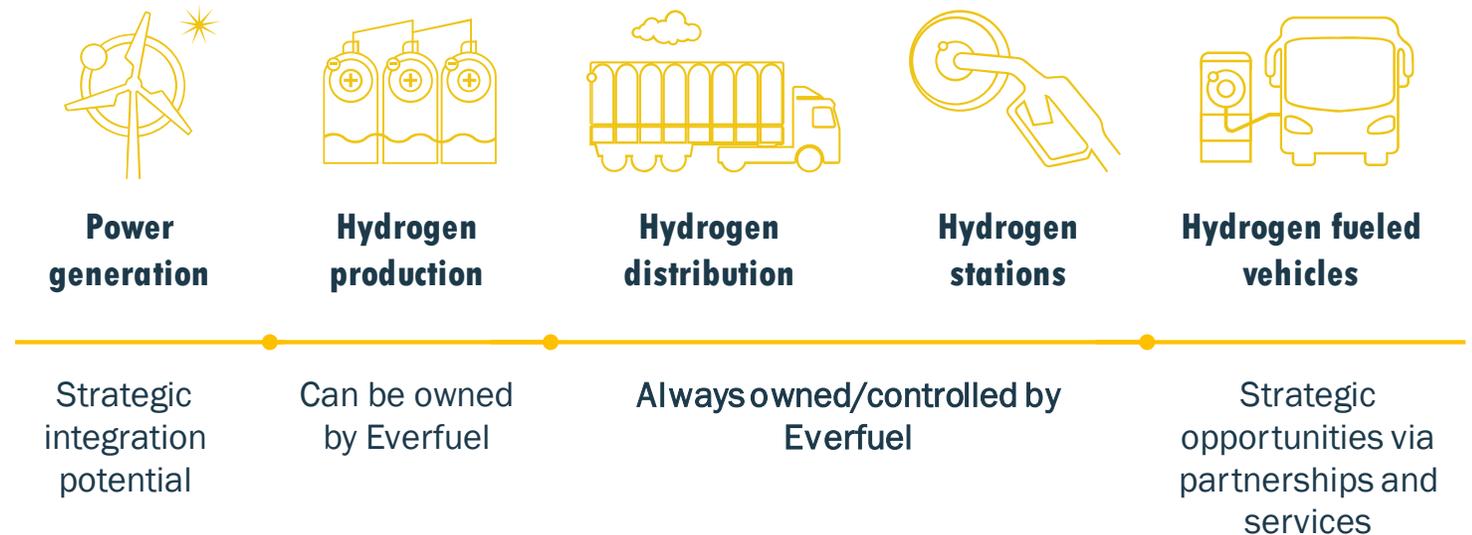


Hydrogen at scale for green transportation

Everfuel at a glance

- ❑ Hydrogen is the new heavy-duty fuel – 100% clean and reaching diesel parity
- ❑ Everfuel is Europe's new integrated fuel company – providing green hydrogen for larger vehicle fleets
- ❑ Listed on Merkur markets in Oslo

Everfuel connects the complete hydrogen value chain



Everfuel provides efficient hydrogen fueling solutions and owns and operates hydrogen infrastructure assets

” An “all in” approach is needed to make the business case work

Motivation

- ❑ A segment that could solve the business case issue of the hydrogen sector was buses
- ❑ Hydrogen as fuel needs scale to reach an attractive price
- ❑ The challenge was too high price of the Fuel Cell Electric Bus
- ❑ A coordinated and joint ambitious approach was needed

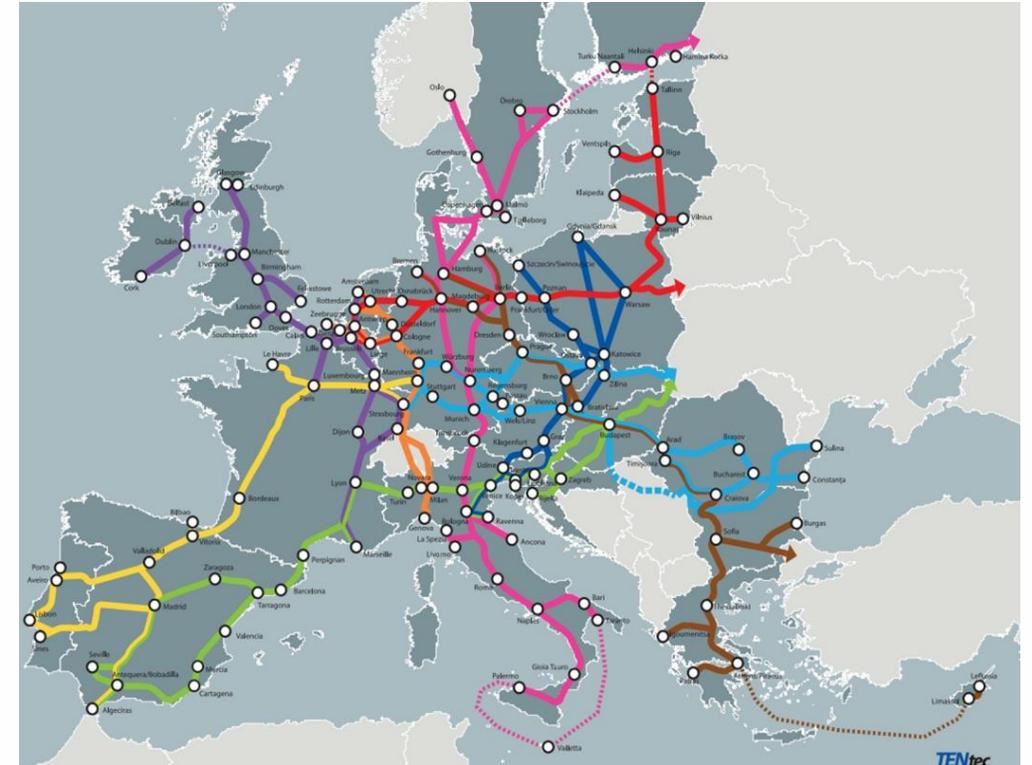


H2BUS



H2 Bus Europe kick-off supported by CEF call

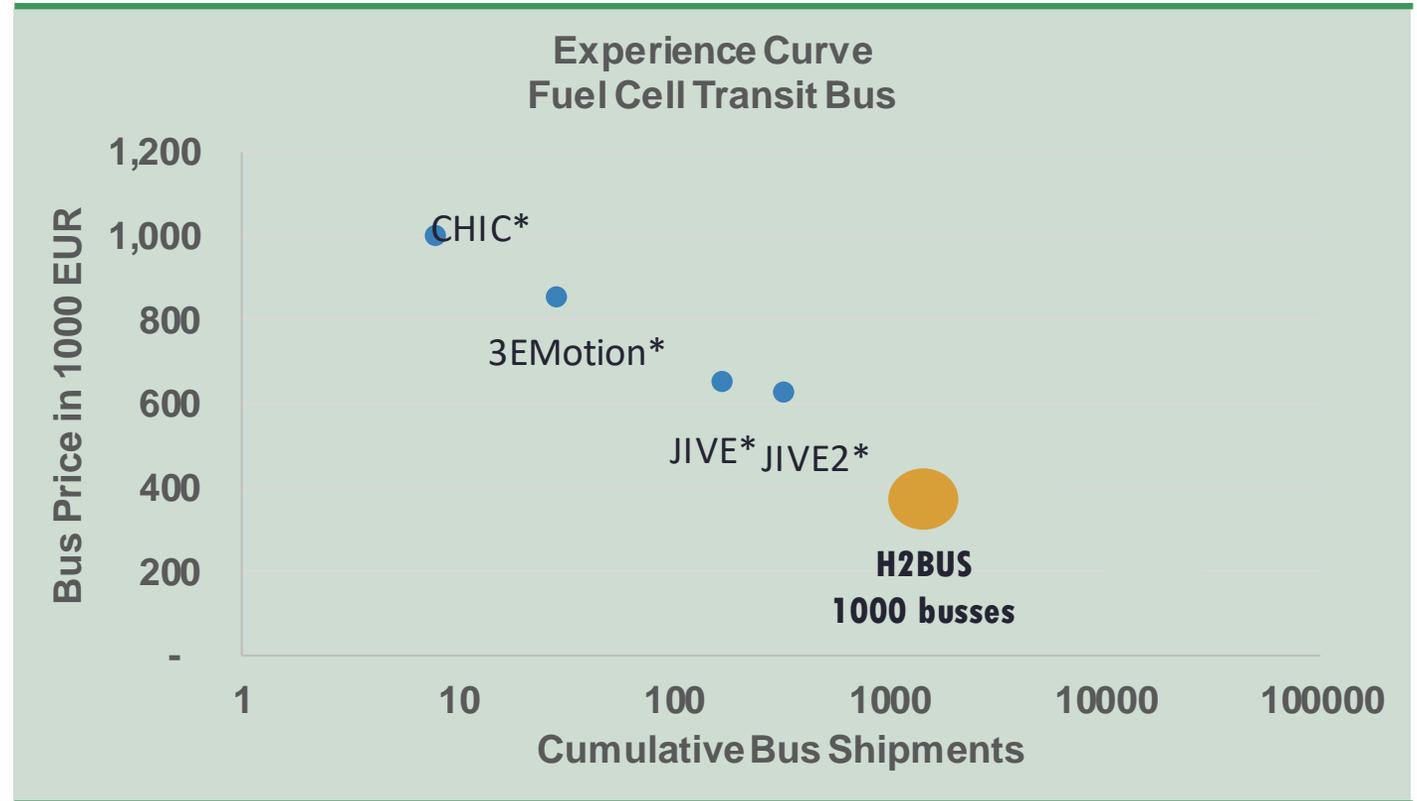
- ❑ The Connecting Europe Facility (CEF) is a European funding mechanism which supports ambitious projects to expand Europe's infrastructure.
- ❑ The "Innovation" topic in the "Blending" call is handed out at a 20% subsidy level for both vehicles and refuelling infrastructure on the TEN-T core network.
- ❑ The "Blending" element of the call is the marriage of the subsidy with the requirement to demonstrate debt (and equity) provision for the remaining investments.
- ❑ The ambition secured 39M€ in funding to reduce the price on FC bus to 350k€ or lower and cover costs for initial start-up of the hydrogen clusters.



Map of the TEN-T core network

Price of Fuel Cell electric bus - experience curve

- **CapEx for FC electric buss = lower than battery and approaching diesel**
- **Price has come down with every new demonstration project**
- **Next trigger: 1.000 FC electric busses**
 - **Current Zero emission legislations require 15.000 busses/year**
 - **Total number of city busses operating in Europe ~350.000 (annual turnover: >25.000)**

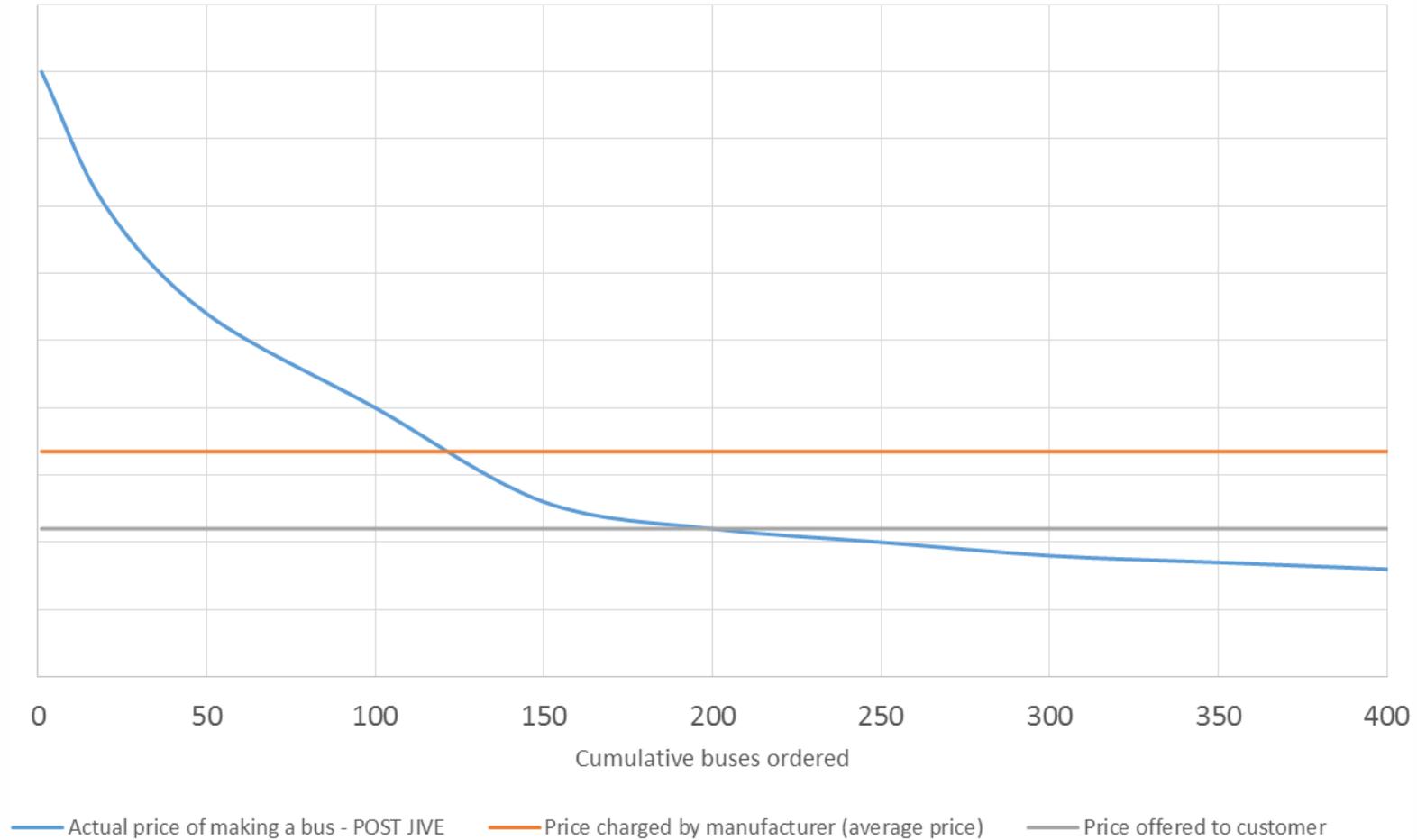


*CHIC: <http://chic-project.eu/> *3Emotion: <http://www.3emotion.eu/> *JIVE: [http://www.fch.europa.eu/project/joint-initiative-hydrogen-vehicles-across-](http://www.fch.europa.eu/project/joint-initiative-hydrogen-vehicles-across-europe)

[europe](http://www.fch.europa.eu/press-releases/launch-fch-ju-project-jive-2) *JIVE2: <http://www.fch.europa.eu/press-releases/launch-fch-ju-project-jive-2>

Bringing down the price in the H2BusEurope

Bus prices in the CEF bus program



#PRD2020
#CleanHydrogen



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Findings

- ❑ Through scale and ambition we can make the initial business case work

- ❑ Initial hydrogen production and distribution setup can be utilized by other segments
 - ❑ Trucks
 - ❑ Trains
 - ❑ Maritime

- ❑ It's all a matter of getting the ball rolling – off course on Zero Emission

Let's make Hydrogen happen

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