



Trans-European Network (TEN-T) and Hydrogen

- Taking Stock,
- Looking Forward & Accelerating

FCH 2 JU Stakeholder Forum

- Fuel Cells & H₂: From Technology to Market

Charlemagne Building, EC, Brussels

19 November 2015

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● The EC Innovation Pipeline

- *Objective: Enabling a continuous flow from research to the market in systematic way. - From vision to market roll-out.*
- *Start: Research (H2020)*
- *Then: Demonstration (H2020)*
- *Goal: Market introduction (TEN-T/CEF) (plus now also H2020)*
 - » Pilots to avoid expensive mistakes later & to accelerate (Studies with integrated deployment)
 - » Roll-out (works)
- Feedback Loop
- Tubes (= programmes) & Flow (of ideas): *Tearing-down Barriers!*
- The Role of Agencies & Joint Undertakings
- The Role of Directives

The Role of Directives

- Alternative Fuels for Transport Policy

Clean Power for Transport - a **strategy** for the long term substitution of oil in all transport modes
 → a coherent policy framework that guides investments
 + sustainability and competitiveness

Directive 2014/94 on the deployment of infrastructure for alternatively fuelled vehicles (incl. ships), with common standards and consumer information – **adopted Oct 2014**

Essential Content:

- Member States prepare **National Policy Frameworks** and submit them by **Nov 2016**
- Minimum infrastructure coverage with common standards required
- TEN-T urban nodes** – areas to start deploying alternative fuels infrastructure and make the link with the long distance

DEPLOYMENT OF ALTERNATIVE FUELS INFRASTRUCTURE	DATE
Electric vehicles recharging points – Urban agglomerations	2020
CNG - Urban agglomerations	2020
CNG - TEN-T Core Network	2025
Hydrogen	2025
LNG - Heavy duty vehicles	2025
LNG - Maritime ports	2025
LNG - Inland Waterways	2030
Shore-side electricity	2025

● Overall Strategy: in Principle 2 Series of Important Dates

- Clean Fuels Directive 2014: important first series of dates given in table (2020-2030), when alternative fuels significantly contribute to fight climate change.
- Second series of important dates much earlier:
 - The 3 alternative "fuels" side-by-side BEV, H2FC and LNG/CNG at **the start of industrialisation** – the time is now (2015 & 16) to start roll-out into the markets in order to keep jobs in production in Europe; - even if not viable yet (**global competition – start of mass-production in Asia and US!**).
 - EC, Com. Ms V. Bulc, fully supports your efforts!
 - Several funding programmes now -> but we need to better coordinate. Plus: *EIB/Juncker Plan moving into innovation arena.*
- *H2 Infrastructure on good way, but **need to start FCH vehicle production in Europe now – buses, trucks, cars, trains, ships***

● The Barriers (1)

- Barrier: Demo // Market Introduction:
 - **Solution:** insertion of real-life trial after demo to prepare market-roll-out – *concept of market-sided innovation*
 - **Put into Practise:** 8 calls under TEN-T/CEF since 2010: studies with integrated deployment;
 - Legal Base updated since Dec2013: TEN-T Guidelines Art.33 plus CEF Art.10 and Annex I – Horizontal Priority
 - *Now 80 trials on the ground.*
 - *5 for H2 infra: HIT, HIT2, H2Nodes, COHRS, IAS-HyMob*
 - *Plus new CEF call launched!*

The 11 plus 5 projects: tackling stock / preparing the roll-outs (* = 2014 H2 and BEV)

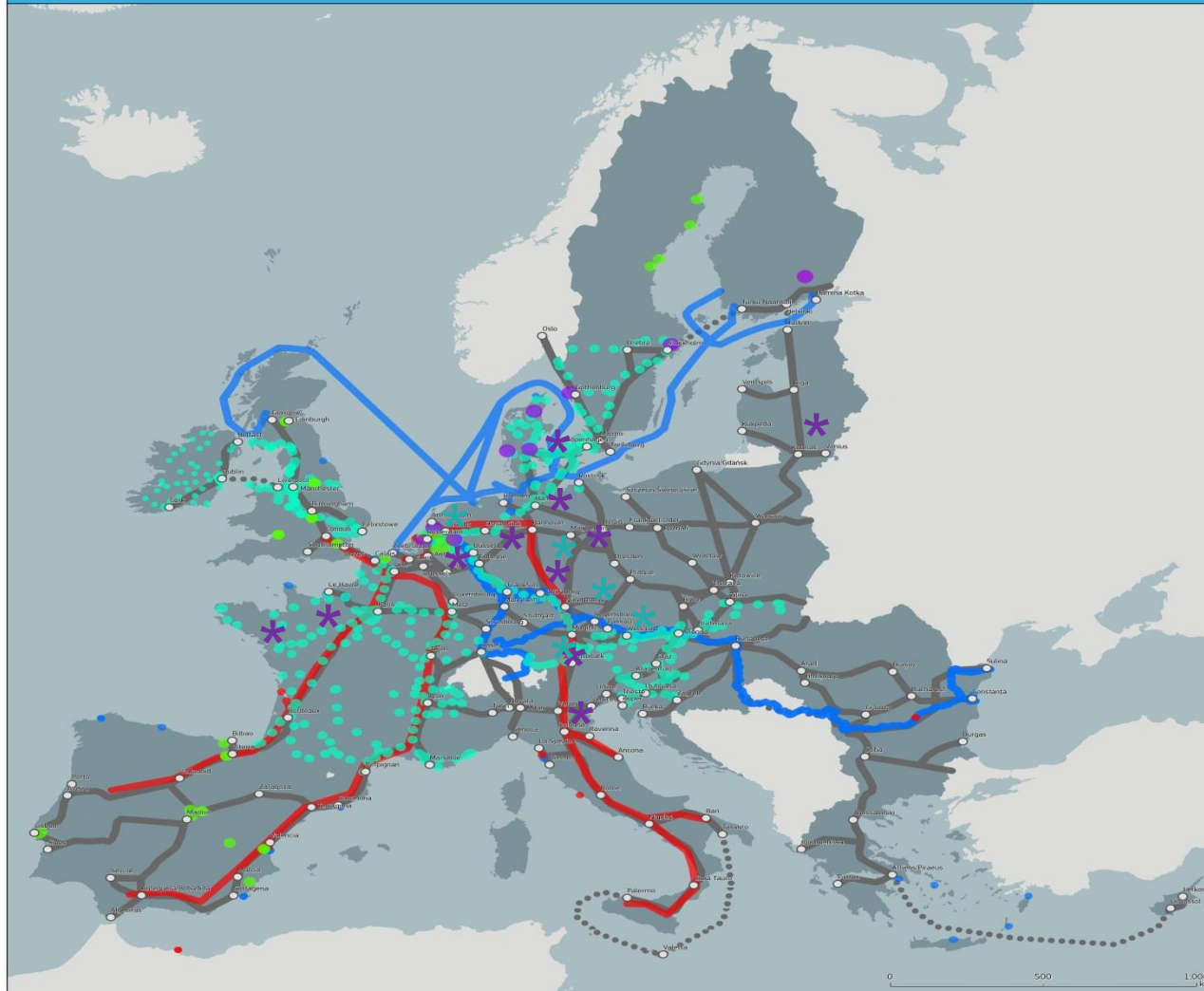
TEN-T NETWORK

Innovation and Networks Executive Agency



Innovation projects and Core Network Corridors

Results of TEN-T Innovation Calls 2010-2013



Innovation Projects

- H2
- LNG Road
- Electric Vehicles
- LNG Maritime/IWW
- Energy Efficiency

Core Network Corridors



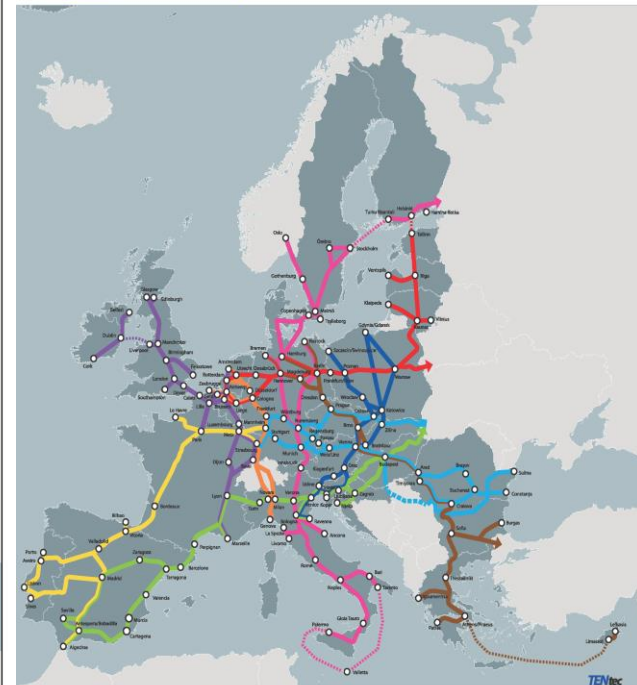
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Corridor Finder Chart



European Commission

TRANS-EUROPEAN TRANSPORT NETWORK
TEN-T CORE NETWORK CORRIDORS



● The Barriers (2)

- Barrier: Lack of grant budget and low funding intensity for innovation:
 - **Solution:** Creation of new financial product with EIB/B4 based on CEF & EFSI Financial Instruments; probably combination LGTT & InnoFin elements adapted to needs of innovation roll-out for transport
 - **Put into Practise:** Addressing the special needs of innovation: higher inherent risk, smaller size (down to 25 M€), fast-track, technical/financial advisers at Advisory Hub, no/reduced EIB evaluation fee
 - 2 waves:
 - 1. Wave: meeting of 19/10 -> pilots for LNG, H2FC & BEV
 - 2. Wave: systematic look by EIB at all real-life trials (TEN-T, others)

● Overview on Next Steps

- Intermediate round of CEF MAP calls 4 November 2015
Total about €7.5 billion of which €6.5 billion under cohesion envelope:

Innovation (60 & 180 Mio€), MoS, Urban Nodes, ITS, etc (all "soft topics") for all EU plus separate cohesion call; about €1.09 plus €0.65 billion
 - » Infrastructure works only for Cohesion Countries; about €5.6 billion
 - » Info Day on 30 November 2015 in Brussels
 - » Call Deadline 16 February 2016
- New Financial Product for Innovation & New Technologies (CEF / EFSI-Junckers)
Oct/Nov'2015 (1.Wave) – *after establishment of pilots -> 2.Wave with all appropriate trials*
- FCH-JU Call (early 2016 -> Bert de Colvenaer speech)
- CEF Synergy Call; at least transport & energy; perhaps also IT): Early 2016 (indicative)
- Next big round of CEF transport calls: *unclear due current lack of budget, but probably on 1 October 2016*
- Second round of Corridor Studies 2016&17
- Next TEN-T Days at Port of Rotterdam on 20 & 21 June 2016 (*until 24/6 with back to back international conference – common exhibition 5 days!*)
- *Clean Fuels for Transport Directive: National Policy Frameworks (Deadline: end 2016)*

● Overall Message for H2

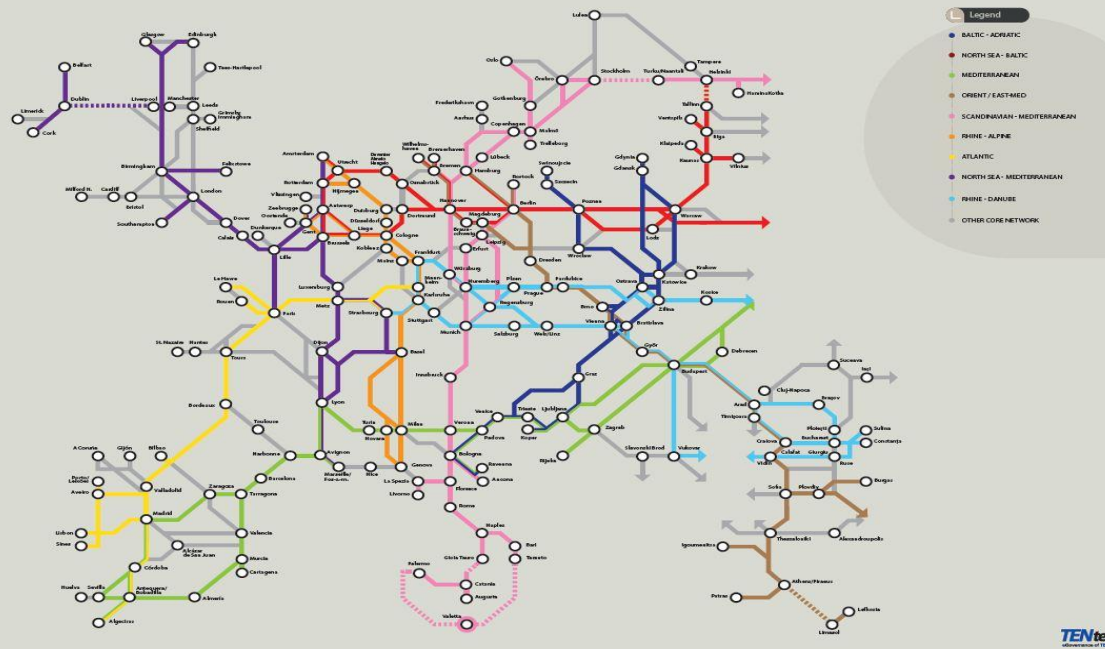
- EC together with Member States is completing the minimum coverage of H2 filling stations
- Regions/cities are prepared to start systematic investment in FCH buses to address climate change and health requirements
- Europe needs now industry to produce FCH vehicles:
 - Otherwise the filling stations will never become viable
 - Asian vehicles are very welcome – *congratulations to Toyota and Hyundai!*
 - Must keep jobs in production also in Europe
- The "Chickens" are there, but where are the "Eggs"?
- *Thank you to Solaris, VanHool, SymbioFC, and other mainly SMEs!*
- The public sector (EC and Ministries) has delivered together with innovative entrepreneurs.
 - *What excusses have large European OEMs now?*
 - *How can the EC help accelerate the production of vehicles?*
- **The Big Bang for H2:** Synergies between transport & energy – *The (truly) Green City, even more: Green Europe, a vision within our reach!*



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THE TEN-T CORE NETWORK AND CORRIDORS

SCHEME (RAILWAYS & BALANDWATERWAYS BASED ON THE OUTCOME OF THE INFORMAL TRILOGUE OF 27th JUNE 2013)



THANK YOU FOR YOUR ATTENTION!

Helmut Morsi
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