



Trans-European Networks (TEN)

- A Converging Strategy for Innovation
- The CEF Innovation Calls
- LNG for European Inland Navigation

Nutzung von LNG in der Binnenschifffahrt

Ministerium für Bauen, Stadtentwicklung & Verkehr
Mercatorhalle, Duisburg
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Directorate B – Investment, Innovative & Sustainable Transport

● Overview

- Strategy
- CEF Calls
 - » Synergy
 - » Transport
 - » Blending
- LNG for European IWW
 - » Existing Projects / Milestones
 - » Further *Accelerating*



● The Separate Elements of the Strategy

- TEN-T/CEF-T Innovation Deployment
 - » Green Paper 2009: A new concept – market sided innovation
 - » Piloting Scheme under previous legal base: 2010-13
 - » New legal base TEN-T Guidelines Art.33 & CEF: 2014ff
- RTD: FP7 / H2020 funding of research & demos (mainly)
- Alternative Fuels Infrastructure Directive 2014: Standards & Roll-out Plan for End 2016
- CEF->EFSI (Juncker) Facilitating private investments 2015
- European Strategy for Low-emission Mobility 7/2016
- CEF Synergy Call (transport & energy): 9/2016
- CEF Blending – grant & loan in one application 2/2017
- Renewable Energy Directive (rev)

● The Strategy : Converging the separate elements (1)

- Convergence 1: **Topic** : TEN-T/CEF-T Deployment complementing RTD / FP7 / H2020
 - » Creation of specific project pipelines research-demos-trials-rollouts for transport bringing together H2020 & CEF
 - » Examples: BEV & FCH & Gas (incl. LNG)
- Convergence 2: **Finance** : Real-life trials preparing business plans for roll-outs by EFSI / Juncker / private investment / **new: blending call**
 - » Concept of Market-sided innovation perfectly matching EFSI et al
 - » Examples: FCH buses, Green Shipping Scheme



● The Strategy : Converging the separate elements (2)

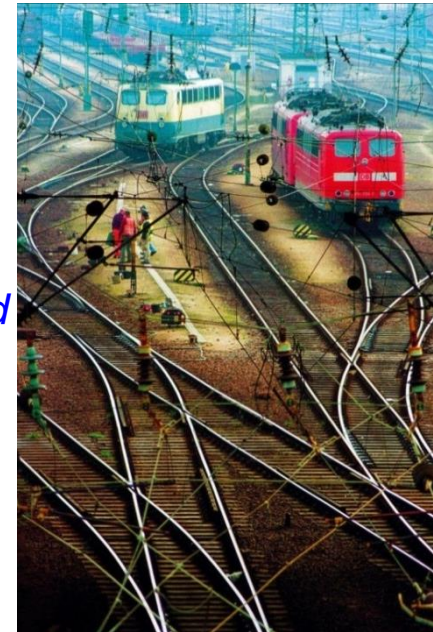
- Convergence 3: **Planning** : Roll-out plans of alt. Fuels Directive encourage alignment of national planning with already funded alt.fuel infrastructure
- Convergence 4: **Impact** : CEF Funding prioritising Core Network Corridors achieving benefits of particular high EU added value for citizens
- Convergence 5: **Sectors** : Natural Gas promoting transport & energy networks joining in *synergetic* way



- **TEN-T/CEF : Market-sided Innovation** (*enabling sustainable transport, fighting climate change (COP21!), but also contributing to jobs & growth!!!*)
 - *Market-sided innovation versus research-sided innovation :*
 - » **No research!** Under CEF. **Real-life trials** (not just demos) – *business-client relation – 112 Projects (all, regardless of priority, as long as major innovation component)*
 - » *The dual optimisation process.*
 - » *All projects: <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/innovation.html>*
 - » Paper study at the end of trial: lessons learnt & analysis on how to scale-up to rollout (plus since 2015: business plan for roll-out = obligatory deliverable -> **banks**)
 - Works: *"experiments are over, people know what they are doing"*
 - » Roll-out on (significant part of) corridor... **into the market!** -> *Business Plan for Roll-out -> mainly with new fin.instruments EFSI, Juncker Plan, Blending/EIB, etc) -> Advisory Hub*

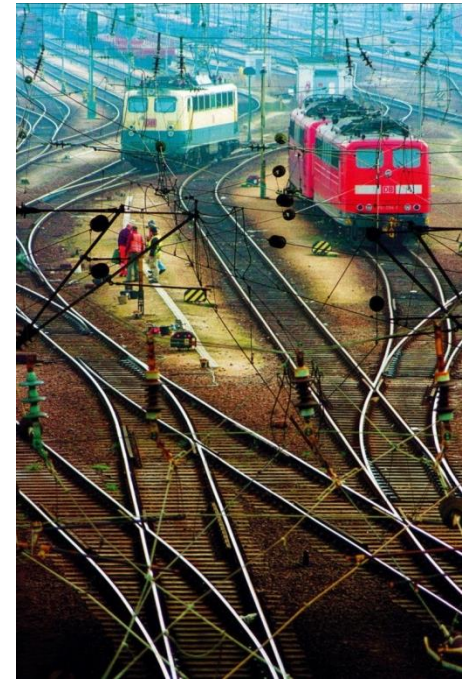
● CEF Calls (1)

- **Synergy Call 28 Sep'2016 – now closed**
 - » Info Day 10 Oct. (virtuel only) - Deadline 13 Dec 2016 – 14-9 : great!
 - » Next call: depends on legislative discussions with MS & EP
 - » Possible impact on next financial framework (2021 – 27)
- **Transport Calls 13 Oct'2016 (about €2 billion in total) – now closed**
 - » On soft topics (innovation, MoS, urban nodes, etc.) for all EU28 & cohes.
 - » On big infra-structure projects only for cohesion countries
 - » Info Day in Brussels 25 Oct 2016 (real)
 - » Deadline 7 Feb 2017
 - » Budget for innovation: €80 million (all 28 MS), plus €59.5 million (only cohesion MS)
 - » -> great response: 54 on innovation (drafts 88 – submitted 54)
 - » Next transport call unclear due to lack of budget



● CEF Calls (2)

- **Transport Blending Call - *Turning onto a new page!***
 - » Combination grant & loans: leverage factor depending on CEF funding intensity for works, e.g. innovation (grant: up to 20%)
 - » Innovation funding more flexible -> mobile equipment (= vehicles!)
 - » European Investment Bank always; and other banks upon conditions
 - » About €1 billion, of which innovation: €140 million grant component
 - » Call on 8 Feb 2017; [Info Day 27 Feb 2017](#) (Brussels): Deadlines 14 June (& 30 Nov 2017)
 - » Coordinated selection – conditional loan letter



● Altern.fuels promoting each other(2010-2016)

- 112 CEF Innovation Projects
 - alternative fuels dominant so far
 - » 21 BEV (only road)
 - » 6 FCH (only road)
 - » >30 LNG/CNG (road, sea, IWW)
 - » *Innitiating the big-bang for transport, growth, fighting climat change*
- Common re-fuelling platforms
 - » Several altern. fuels
 - » Several modes of transport
- Creating several income streams
 - » Synergies between sectors (transp.-energy)
 - » Add-on sales (shops, restos, etc)
- Integrating cities into long-distance



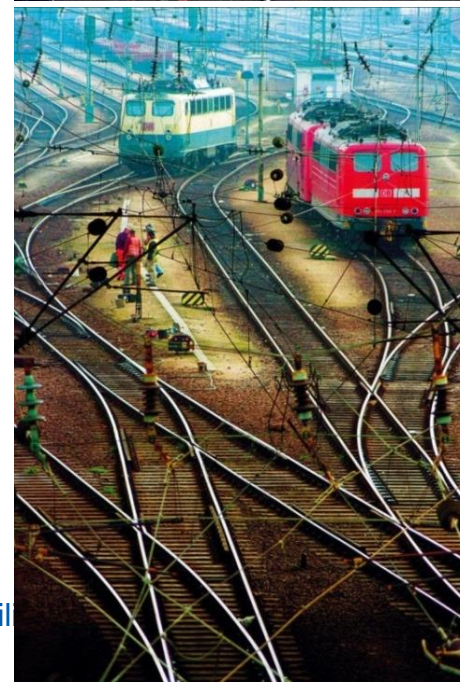
⇒ *Moving towards viability as fast as possible!* Transeuropea

● BEV & H2 & LNG/CNG & Bio (1)

- *Complementing each other*

TEN-T / CEF Fuel Neutrality – What to do next?

- > BEV filling the geographical gaps and going "ultra" (charging)
- > H2 filling some geographical gaps and going "heavy (vehicles)"
- > Gas incl. LNG filling some geographical gaps and going "pure LNG (vehicles/vessels) & multi-modal"



● BEV & H2 & LNG/CNG & Bio (2)

- *Special: The Role of Bio-fuels*

> Bio-Fuels:

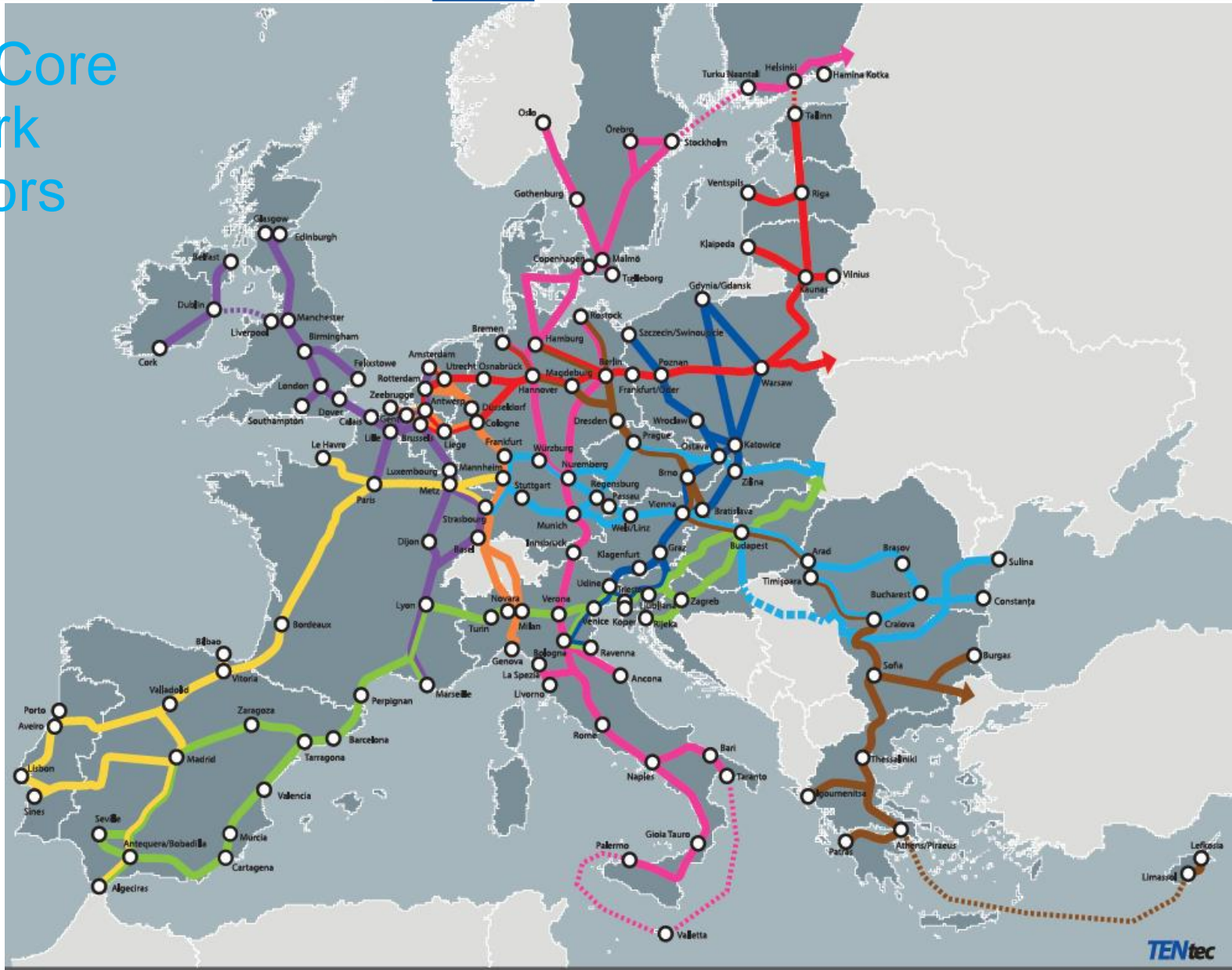
- ❖ Going bio, whenever possible while creating a real advantage*)!
37% blending on optimised LNG engine -> 50% CO2!!
- ❖ Allow regional solutions depending on geography, ie Member State
- ❖ While complying with legislation (EU and national)
- ❖ Some carefull advice for CEF innovation calls:
 - avoid food and focus on waste as bio-mass source "advanced 2nd generation bio-fuels"
 - don't fight other alternative fuels – *best to complement*
 - agree on a common strategy for all bio-fuels (consistent with Renew.Fuel Directive please)

*) pls don't just do it, because it is technically possible!





The 9 Core Network Corridors



Milestone Projects need Milestone People

Milestone Projects on Alternative Fuels – all market-sided innovation:

- Greening EU Transport 2010 – Battery Swapping (DK) – Amit Yudan
- eCars 2011 – Fast charging as minimum coverage of entire MS (IE) – Senan McGrath.
- Greencranes 2011 – Innovation in ports incl. LNG tractors (ES, IT, SI) – Eva Perez-Garcia / Jose Jimenez
- GARneT 2012 – LNG for trucks / mobile LNG stations (ES) – Gas Natural
- HIT 2012 & HIT2 2013 – Hydrogen infra in several MS (NL, FR, DK, SE, BE, FI, LV, PL) – Marieke Reijalt / Floris Mulder & Geert Schaap / Cecilia Wallmark
- LNG Masterplan Rhein-Main-Danube 2012 – IWW innovation (13 MS across EU) – Manfred Seitz
- BioLNG for Heavy Vehicles – Very large LNG refueling stations at logistic centres in the UK – Gasrec Ltd's industrialising LNG for the road – Patrick Mocatta / Rob Wood
- RCN 2013 – Systematic rapid charging in UK and IE along 2 TEN-T Priority Projects 13 & 26 (now North-Sea-Med corridor) – Olivier Paturet
- Central EU Green Corridors 2013 – First time cohesion countries implemented significant fast charging (AT, CR, SK, SI, DE) – Jan Cupal / Eva Plunger / Amit Yudan
- H2 Nodes 2014 – Hydrogen infra reaches Baltic States (LV, EE, NL) – Aivars Starikovs
- Fast-E 2015 – 300 Fast chargers along corridors in several MS east&west (BE, DE, SK, CZ, HR) – Markus Groll / Jörg Lohr / Radoslav Marcus / Amit Yudan
- GREAT 2015 – Combining all alt.fuels H2-BEV-C/LNG (DE, DK, SE) – Britt Karlsson-Green / Christian Hallelov / Jakob Lagercrantz
- NCE FastEvNet – 85 Fast charging stations; 3 with battery storage along 4 corridors (SK, PL) - Peter Badik
- Breakthrough LNG in Intl. Waterways – Prepare large scale roll-out of 300 LNG vessels along Rhine++ (NL, DE) – Khalid Tachi
- Economic H2 Refuelling Infrastructure 2016 – Initiating refuelling infrastructure, triggering a 600 FCH bus fleet in the EU (start 80 buses: UK, NL, DE, IT) – Ben Madden – then 520 in 2 years via EFSI (first EFSI loan signed by Riga (LV) 11/2016
- Ultra-E 2016 – First Ultra chargers along corridors in several MS – Anja van Niersen / Marcus Groll / Jörg Lohr / Amit Yudan

● Milestone Projects need Milestone People

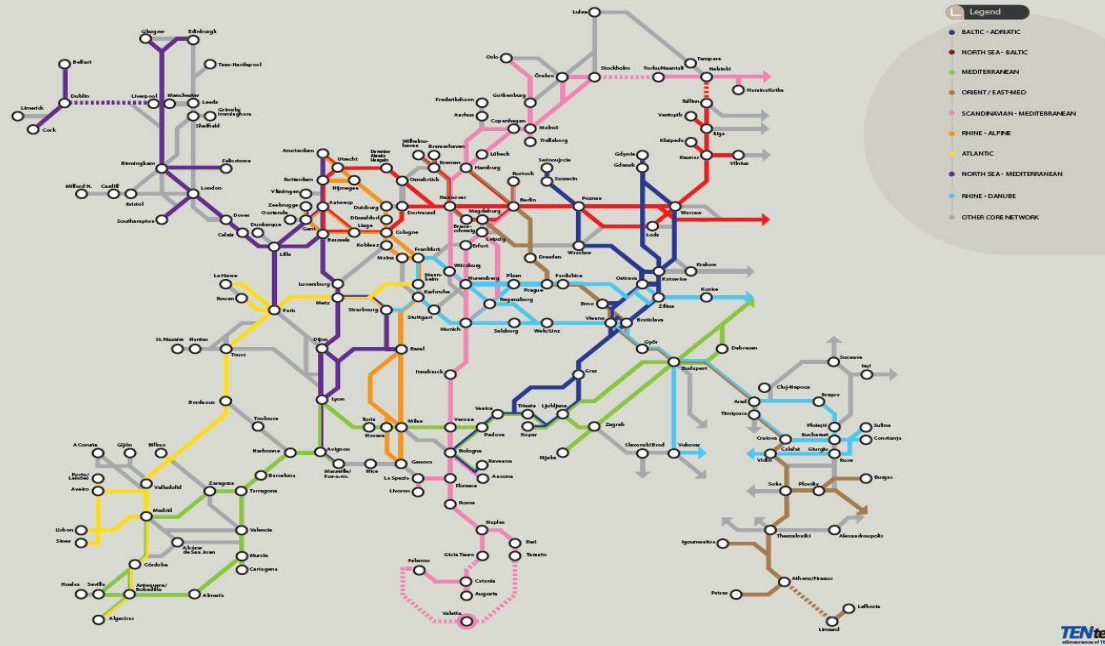
Must further accelerate – Absolutely need
(optimised) LNG vessels of all sizes,
including retro-fitting, using the
stations/bunkering vessels!

...supported all the way by the EC.



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 - DG MOVE

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Coordinator for "Innovation & IT/TENtec"

Inno. Projects at: <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/innovation.html>

TENtec at: <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal>