



# Trans-European Networks and CEF Innovation

- Towards A Zero Emission Economy
- CEF Funding Opportunities 2018
- Possible Future Steps

**Opportunités européennes pour vos projets H2**  
**- Appels EU 2018**

*MESRI, Amphithéâtre Poincaré  
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## ● The Innovation Strategy - *Converging the separate elements*

- 5 Convergences: **Topic, Finance, Planning, Impact, Sectors**
- Convergence of **Topic**: Creation of specific project pipelines research->demos->trials->rollouts for transport (but also other sectors);  
*- bringing together H2020\* & CEF*
- Convergence of **Finance**: real-life trials -> EFSI / Juncker / etc (market-sided innovation, blending)
- Convergence of **Sectors** : Large installations of H2, Batteries, Gas promote transport & energy networks joining in *synergetic* way



\*FCH-JU2 for H2

Transeuropean Networks Mobility





# Overall EC Funding Pipeline for Innovation

*- Where does the blending call fit? -*

Blending>>

**H2020 TRANSPORT**

Valley  
of  
Death

**CEF TRANSPORT**

Technology readiness levels (TRL)

**TRL 1-2**

Principles and  
formulation

**TRL 3-4**

Proof of concept  
and validation

**TRL 5-6**

Validation in  
real  
environment

**TRL 7-8**

Prototype  
demonstration  
and completion

**TRL 9**

Proven and  
operational

Real-life trial (pilot) -> **Roll-out**

Basic research

Applied research

Prototype

Scale-up

Pilot

Demonstration

Deployment

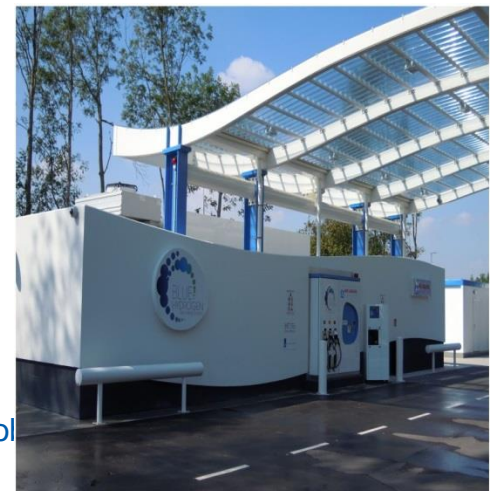
After supporting about 100 alt.fuel trials, we see now the follow-ons of many trials in the proposals submitted to the blending call (14/7/2017)!  
**Roll-outs into market are commencing** ("works" under TEN-T/CEF)



## ● CEF Blending Call – Innovation Priority (1)

### ● Transport Blending Call 8 Feb'2017 (~~€440 490~~ / ~~700 2450~~ million) -Turning the page for Innovation (Altern. Fuels) !

- » Grants & loans in one proposal – Transport – Roll-outs (Works) only  
innovation grant: up to 20%
- » In addition to infrastructure, support for >>>vehicles<<< for all transport modes (no capping for "mobile equipment")
- » Deadlines 14 July'17 (DL1) closed & **DL2: ~~30 Nov'17~~ 12 Apr'18**
- » Different banking options: ~~Eco/non-cohesion, EIB/national/home banks~~ – now harmonised for DL2 (ref. call ammendment)
- » Overwhelming uptake in 1.DL : -> **concept works – real life trials as preparation for roll-outs into market**
- » *Results Innovation Priority DL1: 9 of 15 roll-outs (BEV, H2, CLNG) selected,*
  - *With €584.5 / 116.6 million eligible totals / grants given (COM2017-8803 final of 5/1/2018)*  
-> need topping-up for innovation (many proposals on TENtec not submitted)  
*....done!*
  - *Plus 1 of 2 innovative (altern.fuels –EV) roll-out project under Urban Nodes priority total / grant = €41.8 / 3.3 million*
- » DL1: 10 of 16 inno.projects (all altern. fuels) -> 63 %, i.e about **2/3 success rate!**
- » DL2: **350 million grant budget for inno (plus 115 million for others)**; 2nd deadline moved to 12 April 2018 ; 5 million min. total budget ; call includes now pure urban node projects; all banks allowed for all Member States (MS)



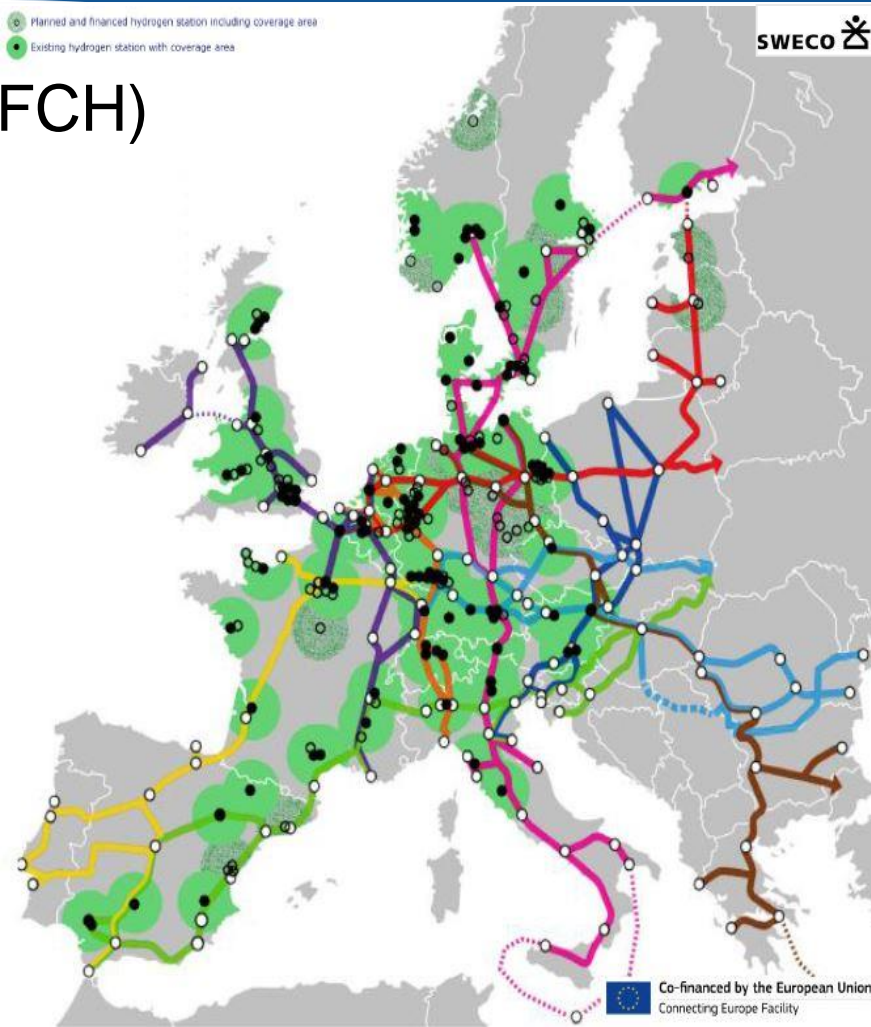


## EC Focus Hydrogen-Electric (FCH)

- The great work of the FCH-JU (H2020 & Industry): RTD
- TEN-T & CEF: Deployment (mainly infrastructure, but also increasingly vehicles)  
– to trigger market (chicken & egg problem!).
- 11 real life transport trials (T) & 1 synergy trial based on H2 storage (T&E)
- Recent CEF impact on H2 for Europe:
  - » T&E: real-life trial "TSO2020" (NL)  
(Grant call Sept'2016)
  - » T: real-life trial "H2Benelux" (BE, LU, NL)  
(Grant call end'2016)
  - » T: real-life trial "Nordic H2 Corridor" (SE)  
(Grant call end'2016)
  - » T: roll-out "Zero Emission Valley" (FR)  
(Blending call 2017 DL1 (\*))

**Need more H2 roll-out proposals to 2.DL of CEF Blending Call !**

(\*) EC Selection Decision of 05/01/2018 (adoption) – i.e. not in map



125 H2 stations operational by end 2017;  
expand to 350 by 2020 (already planned & financed, but without results of CEF blending call, because contract is not signed yet).

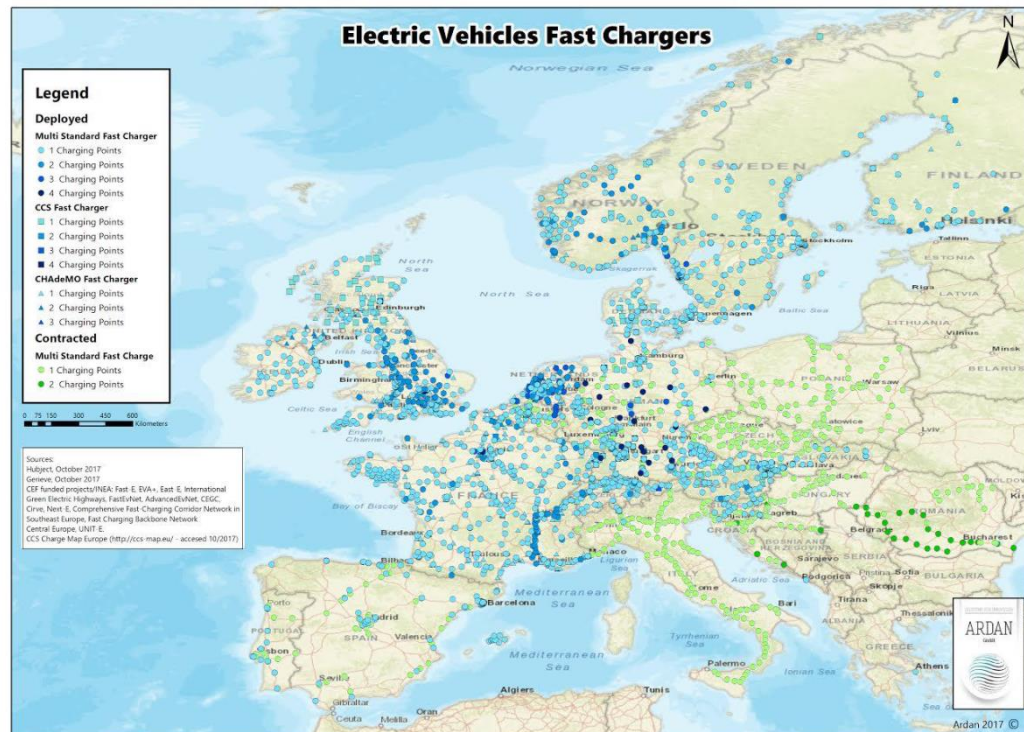


## EC Focus Batterie-Electric

- TEN-T & CEF: Deployment (mainly infrastructure, but also increasingly vehicles) – to trigger market (chicken & egg problem!).
- About 35 real life transport trials (T) & 1 synergy trial based on batterie storage(T&E)
- Recent CEF impact on BEV for Europe:
  - » T&E: real-life trial "SYNERG-E" (AT, DE) (Grant call Sept'2016)
  - » T: real-life trial "VIA-e Flex-e" (5 MS, incl. FR) (Grant call end'2016)
  - » T: real-life trial "High Speed E-mobility" (6 MS, incl. FR) (Grant call end'2016)
  - » T: roll-out "Europ-E" (UC stations in 20 MS, incl. FR) (Blending call 2017 DL1 (\*))
  - » T: roll-out "Mega-E" (UC stations in 13 MS, incl. FR) (\*)

***Need many more BEVs to stop losses caused by recharging infrastructure!***

(\*) Blending call 2017 DL1: EC Selection Decision of 05/01/2018 (adoption) – i.e. not in map



3739 BEV fast charging points operational by end 2017, of which about ½ co-funded by EU (calls since 2010); expanded to 4675 points by 2020 (already planned & financed without results of CEF blending call). Expected 8400 points by 2020. – All data based on survey in Dec'2017. Ref. ARDAN GmbH 2018





# Electric Vehicles Fast Chargers

## Legend

### Deployed

#### Multi Standard Fast Charger

- 1 Charging Points
- 2 Charging Points
- 3 Charging Points
- 4 Charging Points

#### CCS Fast Charger

- 1 Charging Points
- 2 Charging Points
- 3 Charging Points
- 4 Charging Points

#### CHAdeMO Fast Charger

- 1 Charging Points
- 2 Charging Points
- 3 Charging Points

### Contracted

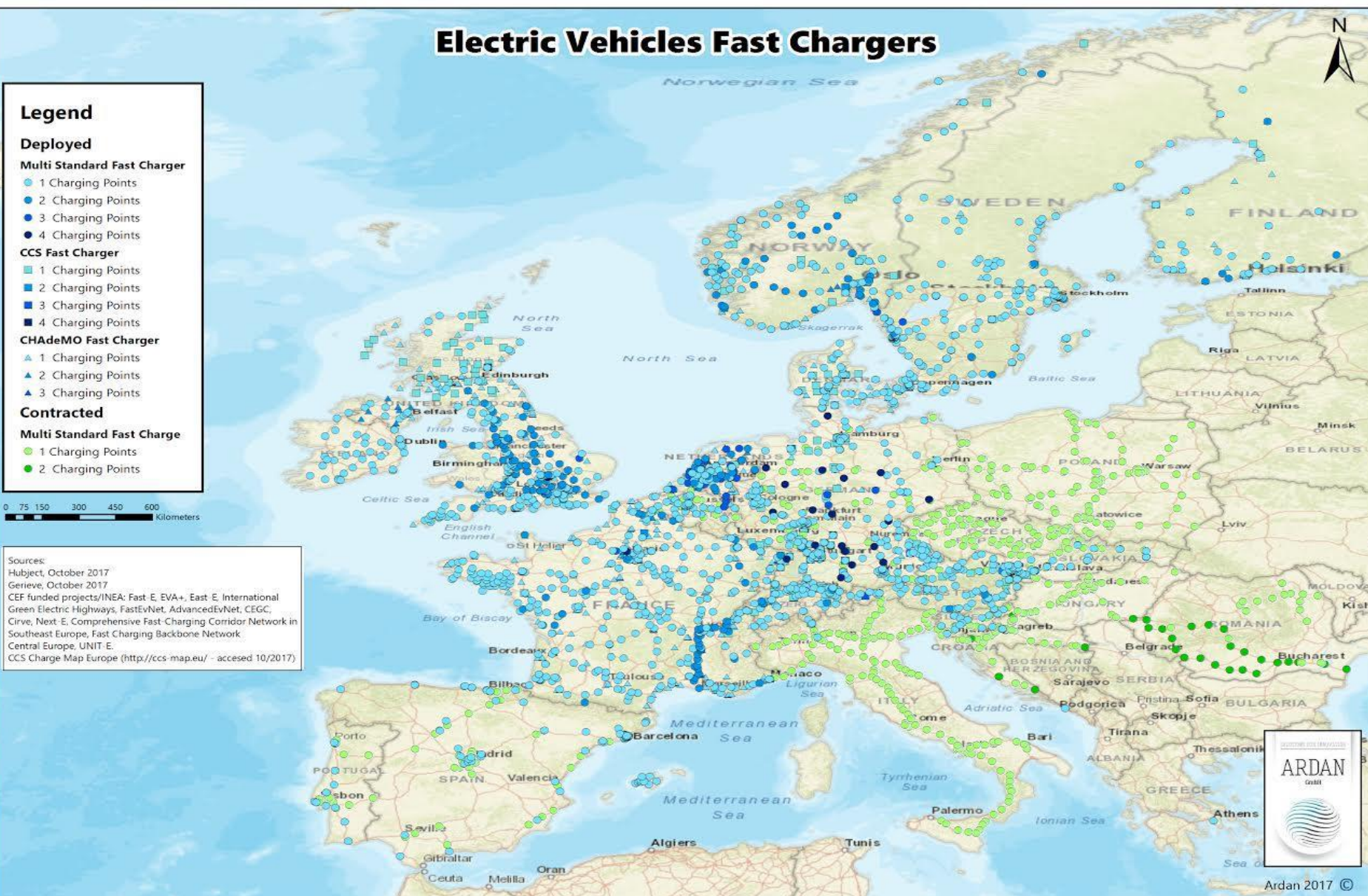
#### Multi Standard Fast Charge

- 1 Charging Points
- 2 Charging Points

0 75 150 300 450 600  
Kilometers

#### Sources:

Hubject, October 2017  
Gerieve, October 2017  
CEF funded projects/INEA: Fast-E, EVA+, East-E, International  
Green Electric Highways, FastEvNet, AdvancedEvNet, CEGC,  
Cirve, Next-E, Comprehensive Fast-Charging Corridor Network in  
Southeast Europe, Fast Charging Backbone Network  
Central Europe, UNIT-E  
CCS Charge Map Europe (<http://ccs-map.eu/> - accessed 10/2017)







**List of proposals selected for receiving EU financial assistance under the Connecting Europe Facility following the multi-sectoral call for proposals launched on 28 September 2016 based on the annual work programme for 2016**

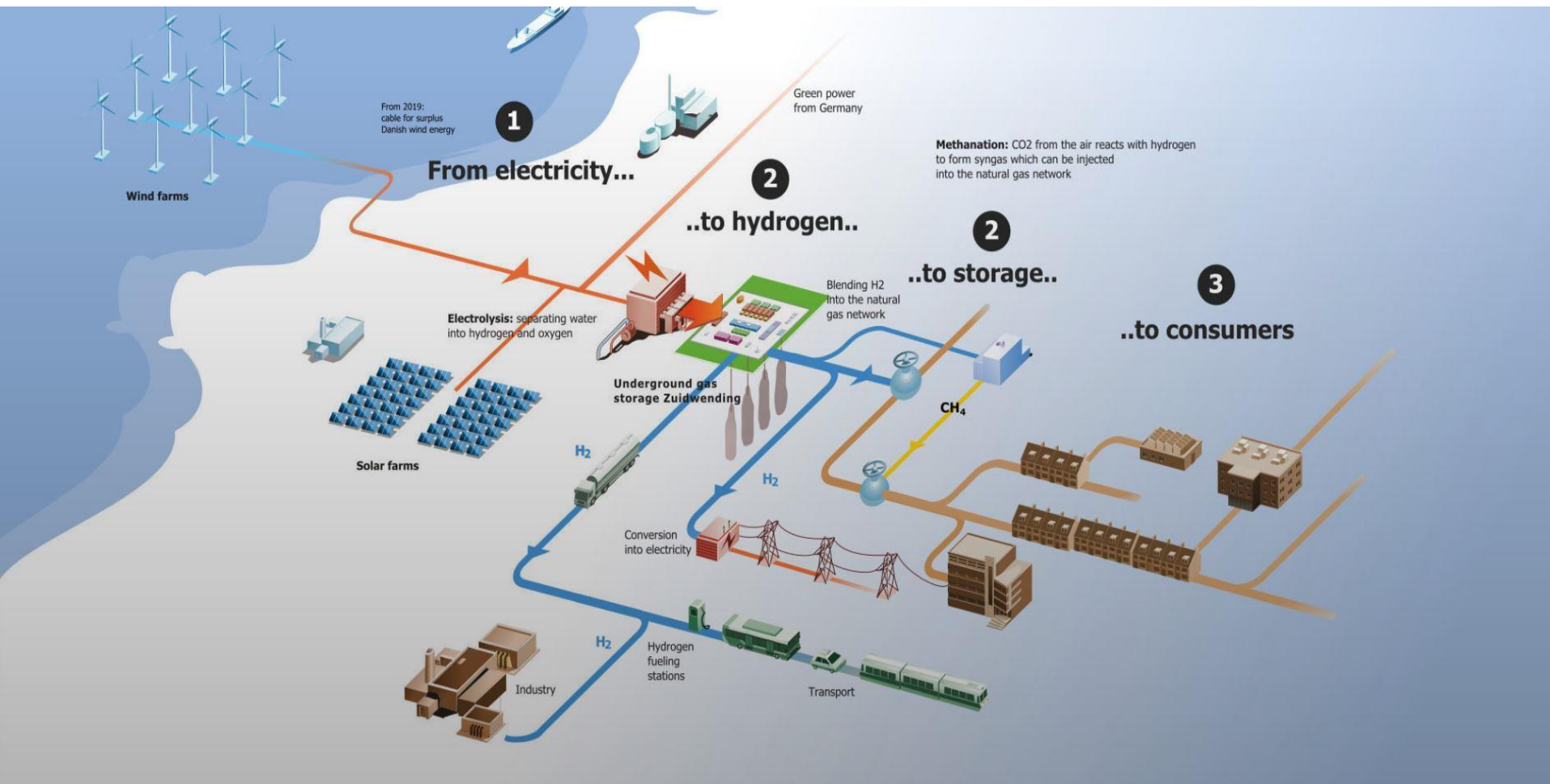
**(Amounts in Euro)**

Code	Title	Member State Concerned	Applicant*	Energy Sector	Transport Mode	Type	Estimated Total Eligible Costs of the Action	Maximum EU Financial Contribution	Percentage of EU Financial Contribution
2016-EU-SA-0009	CYnergy	CY, EL	Ocean Finance Ltd (EL)	Gas	Multimodal	Studies	7,470,000	4,482,000	60.00%
2016-EU-SA-0010	Go4Synergy in LNG	SE, BE	Swedegas AB (SE)	Gas	MoS	Studies	4,382,500	2,629,500	60.00%
2016-EU-SA-0012	TSO 2020: Electric "Transmission and Storage Options" along TEN-E and TEN T corridors for 2020	NL, BE	Dutch Ministry of Infrastructure and the Environment (NL)	Electricity <b>H2</b>	Multimodal	Studies	11,772,834	7,063,700	60.00%
2016-EU-SA-0013	SYNERG-E	AT,DE	VERBUND AG (AT)	Electricity <b>Battery</b>	Roads	Studies	8,712,400	5,227,440	60.00%
2016-HR-SA-0006	Optimization of electric traction power supply from transmission network for increasing energy efficiency	HR	HZ INFRASTRUKTURA d.o.o (Croatian Railways Infrastructure Ltd.)	Smart grid <b>Kinetic</b>	Railway	Studies	1,689,090	1,013,454	60.00%
2016-MT-SA-0005	Technical Study and Cost-Benefit Analysis for the Development of LNG as a Marine Fuel in Malta	MT	Office of the Prime Minister - Energy & Projects / Authority for Transport Malta (AKA Transport Malta)	Gas	Maritime Ports	Studies	1,000,000	600,000	60.00%
2016-PL-SA-0011	The small-scale LNG Reloading Terminal in Gdansk and bunkering services	PL	Grupa LOTOS S.A..	Gas	Maritime Ports	Studies	1,747,417	1,048,450	60.00%
<b>Total</b>							<b>36,774,241</b>	<b>22,064,544</b>	

\* For multi-applicant proposals only the coordinating applicant is listed.



## CEF Synergy :TSO2020 – A milestone for European deployment of innovation (1)





## CEF Synergy : TSO2020 – A milestone for European deployment of innovation (2)





## ● CEF Calls – Possible Next Steps for Innovation

- Preliminary brain-storming level, unclear because lack of budget (\*)

- Digital Transport Call – End April 2018 (indicative, in preparation)
  - » grant call; about €400 million; topics: ITS, RIS, etc
- Next Blending Calls – 2019/2020 ? – (unclear, depends on CEF review)
  - » Works only: Grants & loans in one proposal
  - » 1) (pure) Transport (for innovation: grant up to 20%)
  - » 2) Synergy (for innovation grant: up to 20+10=30%)
  - » Rest as loan (or assets or cash) as usually.
  - » On the comprehensive TEN-T network – instead of restriction to core!
  - » Full support for vehicles for all transport modes
- Next Synergy Call – End 2018/2019 ?
  - » Grants only – Synergy for Transport & Energy & ICT – Real-life trials only
  - » New: Budget only from CEF-Transport -> No Energy PCI, just on located TEN-T !
  - » New: Art.33 of TEN-T Guidelines has full transport plus enough energy and ICT elements.
  - » On the comprehensive TEN-T network – instead of restriction to core!
  - » Budget from €20 to 100 million: needs strong support from promoters!
  - » All regions in all Member States should now more easily take part!

(\*) Availability of budgets depends heavily on results mid-term review of CEF in 2018, retrieving unused moneys from non-performing projects.





# Possible Next Steps to Accelerate Innovation in Europe

- Very preliminary brain-storming level - *Let's go to "Mars"!*

## A (Radical) Innovation Deployment Programme for 2020+?

- » **Basis:** Follow-on of 3-sector CEF Synergy – 1 large programme *focussed on deployment of innovation* (and nothing else!) finally achieving real European dimension in order to compete on the global scene & avoid overlaps, scattered budgets and confusion.
- » **Content:** Perhaps even wider in topics than CEF?  
– **But all as business cases** - For example:
  - The Green Hydrogen City?
  - The European Giga Battery Factory?
  - Introducing new modes of transport? – eg space travel and 3-dim surface travel
  - The Self-sustaining city on the ocean floor? - i.e. mitigating the limited-earth-resources problem!
  - Exploring the solar system? – *space mining*, station on moon & mars, colonies , i.e. escaping the limited-earth-resources problem! – Long term: The Self-sustaining City on Mars.
- » **Finance:** Very successful CEF financial format: (1) short deployment pilots (real-life trials preparing roll-outs) with 50% non-depreciation grants & (2) roll-outs into mass-market with blending (20% grants) and pure loans
- » **Discussion:** *Let's discuss now and start preparing!*
  - Does Europe need a general innovation *deployment* programme for 2020+ ?
  - *What impact on next financial framework (2021 – 27) ?*





## ● *Summary: Fact-based policy making via CEF Innovation today. Impact on EC's next Framework Programme (2021-2027) – What do we need?*

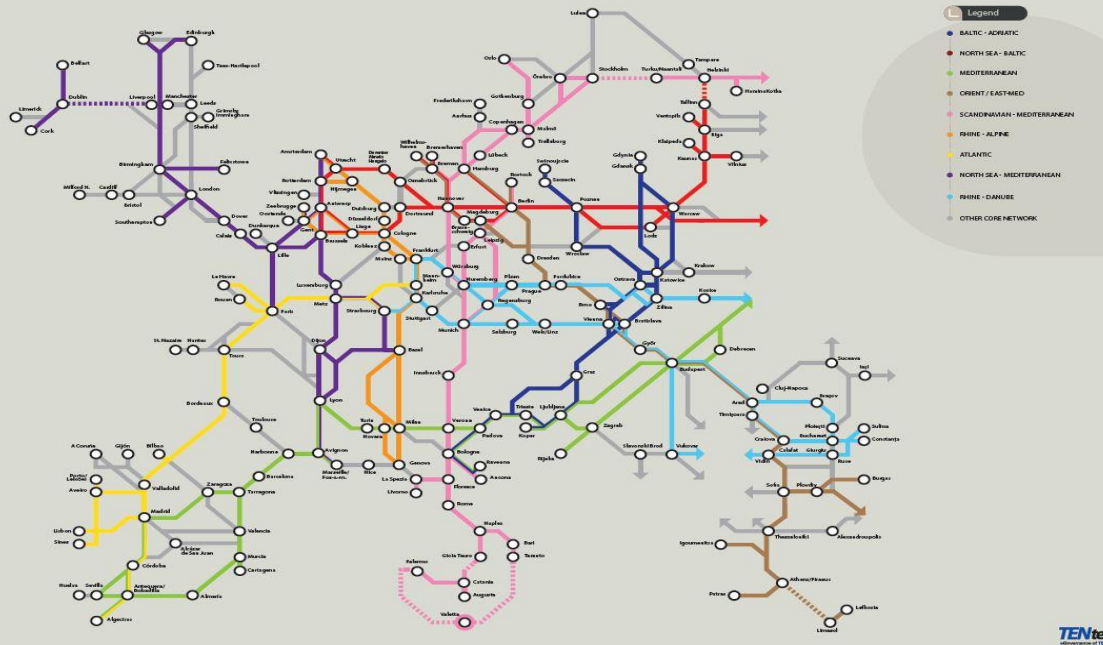
- Strong impact on altern. fuels market via CEF blending call (DL1)
  - > 350 million for DL2 - *a real opportunity for businesses (selection rate, vehicles)*
  - Prepared by CEF real-life trials ++*
- "Breaking-up of silos" via 7 real-life trials on synergy for transport & energy! – Need results asap to plan roll-outs. – *Visibility at next TEN-T Days 25-27/4/2018!*
- In parallel: preparing the next phase for synergy – *all 3 CEF sectors.*
- In parallel: towards a (Radical) Innovation Deployment Programme (2021-27), with continuous, large budget and multi-sectoral support?
  - *Towards Sustainable transport, energy and ICT -*
  - *Fighting climate change -*
  - *Production & jobs remaining in Europe -*
  - *Perhaps even solving the problem of limited-earth-resources ! -*

*Let's go to "Mars"!*



# THE TEN-T CORE NETWORK AND CORRIDORS

SCHEMATA (RAILWAYS & ROAD NETWORKS) BASED ON THE OUTCOME OF THE INFORMAL TRILOGUE OF 27th JUNE 2013



**THANK YOU  
FOR YOUR  
ATTENTION!**

Innovation Projects:

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

TENtec Portal (info, maps etc):

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