European Commission

Developing clean fuels and vehicles in Europe

Workshop CNCA
Copenhagen, Denmark

January 21st, 2016

Main problems to fix (Policy Drivers)

1) Energy supply at risk
Oil accounts for 94% of transport fuels, causing an enourmous EU import bill of up to one billion Euros a day.

2) GHG emissions reduction necessary
According to the White Paper on Transport 2011, the sector has to reduce 60 % of its CO_2 emissions by 2050 (benchmark 1990).

3) Air quality and congested infrastructure
New and clean forms of mobility need to be established.

4) Competitiveness of EU industry
Growth and jobs can be created by restoring world leadership of the EU transport industry.

Existing legislation

Renewable Energy Directive (2009/28) 10% share of Renewable Energy Sources in motor fuels required by 2020

Fuel Quality Directive (2009/30)
Reduction of CO_2 intensity of fuels by 6% by 2020

Clean Vehicles Directive (2009/33)

Public procurers of vehicles have to take into account energy consumption, CO_2 and pollutant emissions *-> currently under revision*

Regulation of pollutant emissions: EURO 6 for passenger cars

Regulation of CO_2 emissions:

- **Cars**: 130g/km by 2015; **95g/km by 2020**
- **Light Duty Vehicles: 175 g/km by 2017**

2013 Clean Power for Transport Package

European Commission

The 2013 CPT Package: a **strategy** for the long term substitution of oil in all transport modes with alternative fuels:

- ✓ Electricity
- ✓ Hydrogen
- ✓ Liquid biofuels
- ✓ Synthetic and paraffinic fuels (e.g. Gas-To-Liquid)
- ✓ Liquefied Petroleum Gas (LPG)
- ✓ Natural gas, including bio-methane, in gaseous (CNG) and liquefied form (LNG)

	MODE		ROAD PASSENGER			ROAD FREIGHT			WATER			RAIL	AIR
						HGV							
	Range		*Short*	*Medium*	*Long*	*Short*	*Medium*	*Long*	*Inland*	*Short-sea*	*Maritime*		
FUEL TYPES	LPG												
	Natural gas	LNG											
		CNG											
	Hydrogen												
	Electricity												
	Biofuels (liquid)												

Directive 2014/94 Alternative fuels

European Commission

A minimum infrastructure to be implemented through national policy frameworks for:

1. **Electricity:** publicly accessible recharging points to be built by 2020 to allow the circulation of EVs Union-wide, both in urban and sub-urban areas, as well as on the TEN-T Core Network.

2. **Liquefied Natural Gas (LNG):** publicly accessible Natural gas/bio-methane refuelling points for road vehicles and ships/vessels, **with common standards**, on the TEN-T Core Network;

3. **Compressed Natural Gas (CNG):** publicly accessible refuelling points to allow the circulation of CNG vehicles Union-wide, both in urban and sub-urban areas, as well as on the TEN-T Core Network;

4. **Hydrogen**: sufficient number of publicly accessible refuelling points, with common standards, **in the Member States who opt for hydrogen infrastructure.**

Clean Transport Follow-up…

European Commission

- **Guidelines to help MS to drat NFP's** with data collection, best practises and recommendations
- **Customer information on alternative fuels**
- **Sustainable Transport Forum** --> to tackle specific issues such as **electro-mobility market of services**, interoperability and **alternative fuels in cities**.
- **Standardisation mandate to the CEN/CENELEC** (adopted in March 2015)
- **New European Alternative Fuels Observatory** www.eafo.eu
- **Sustainable Transport Forum: sub-group to foster an electromobility market of services**

CITIES KEY FOR EUROPE

Our objectives:

- **Smart city:** Accessible, competitive, clean
- **Smart urban mobility and transport**: a co-operative, inter-connected, data-rich, eco-system driven by personalised end-user needs.

=> ***SUMPs including alternative fuels***

Long-policy objectives (White Paper)

- Reduce Co2 emissions by 60% by 2050
  - Phase out use of conventionally fuelled cars in cities by 2050 (halve their use by 2030)
  - Achieve near CO2 city logistics in major urban centres by 2030

Opportunities:

- New services (mobility services)
- New technologies (e.g. vehicles, ICT)
- New business models (platforms)

➢ Tremendous opportunities

EU sustainable cities

- **The Urban Mobility Package and Guidelines on sustainable urban mobility plans (December 2013).**
- **Priority topics for 2016:**

- Support ambitious National Policy Frameworks (NPFs) for AF vehicles and infrastructure, including in cities
- A coherent **Alternative Fuels Action Plan** as part of the Transport Decarbonisation
- Further support **public procurement of clean vehicles** – revision of the Directive 2009/33/EC (IA due Q4 and revision in 2017)+ technological hubs for deployment and market place (Smart cities).
- Investment in/for cities –a strategy for **URBAN NODES** (CEF policy).
- Start measuring results –**EU urban mobility scoreboard + EAFO**

Challenges:

- Urban mobility gap in Europe
- Valley of Death: supply does not meet demand
- Lack of joined-up policies and capacity
- Lack of common functional specifications and standards

➢ **Shortcomings in market uptake**

Combination of levers

Collaborative platforms and dialogue = "learning by doing"

- H2020 support (CIVITAS...)
- ELTIS portal and the new EAFO
- EIB ELENA
- H2020 SME instrument
- EFSI / EIB
- European Innovation Partnership on Smart Cities and Communities

The CIVITAS Initiative

- A programme of "cities for cities" launched in 2000
- Several measures including clean fuels & vehicles
- **Electric mobility, fuelling infrastructure, hybrid vehicles. Biodiesel, biogas, CNG**
- 2002-2012: 66 measures uptake of clean vehicles demonstrated in 43 different cities
- 8 new cities are implementing measures in this area: CIVITAS Plus II

THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN UNION

CIVITAS Plus II

- **2MOVE2:**
  - Stuttgart: Strategic campaign for electro-mobility- Inclusion e-mobility in the overall city development and planning
  - Brno: Develoment electro-mobility, introduction of mini buses
  - Malaga: Strategic campaign for electro-mobility
  - Tel Aviv-Yafo: Feasibility study charging station, pilot test municipal motorcycles

- **DYN@MO:**
  - Aachen: Implementation of electric vehicles, integration of hybrid buses+New mobility options based on electric and hybrid vehicles for personal mobility and goods
  - Deployment of car-sharing and car-pooling schemes
  - Gdynia: Trolley buses
  - Koprivnica: Electric municipal car-sharing scheme
  - Palma: Hybrid/electric vehicles in public transport and public services, promotion

THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN UNION

Interested?

- http://www.civitas.eu/TG/clean-fuels-and-vehicles
- gbarrera@polisnetwork.eu
- **16-17 February 2016, Cologne**
  - Update from CIVITAS cities activities:
    - Smart grids & vehicles
    - Municipal & private fleets
    - In cooperation w

R&D projects on electro-mobility

European Commission

Green eMotion – electric cars

http://www.greenemotion-project.eu/

ZEEUS – electric buses

http://www.uitp.org/zeeus-zero-emission-urban-bus-systems

FREVUE – electric city logistics

http://frevue.eu/

Continue under H2020 WP 2016-2017

-*EGVIA :* Next generation electric drivetrains, Electrified heavy duty vehicles, L-category vehicles.

-Urban mobility and Smart cities

Topic	Title	Action type	Stages	Budget (EUR Mio)	
				2016	2017
MG-4.1	**Increasing the take up and scale-up of innovative solutions to achieve sustainable urban mobility**	IA	2		22
MG-4.2	**Supporting "smart electric mobility" in cities**	IA	2		
MG-4.3	**Innovative approaches for integrating urban nodes in the TEN-T core network corridors**	CSA	1		2
MG-4.4	**Facilitating public procurement of innovative sustainable transport and urban mobility solutions**	CSA	1	2	
MG-4.5	**New ways of supporting development and implementation of neighbourhood-level and urban-district-level transport innovations**	RIA	2	10	

CSA = Coordination and Support Action
RIA = Research and Innovation Action; IA = Innovation Action

Topic	Title	Action type	Stages	Budget (EUR Mio)	
				2016	2017
MG-6.1	**Innovative concepts, systems and services towards 'mobility as a service'**	RIA	2	25	
MG-6.2	**Large-scale demonstration(s) of cooperative ITS**	IA	2		
MG-6.3	**Roadmap, new business models, awareness raising, support and incentives for the roll-out of ITS**	CSA	1	5	

CSA = Coordination and Support Action
RIA = Research and Innovation Action
IA = Innovation Action

EIB ELENA

- Will have a dedicated transport component in 2016/2017
- EUR 15 million dedicated to smart urban mobility and transport
- ELENA covers up to 90% of the technical support cost needed to prepare, implement and finance the investment programme4
- This could include feasibility and market studies, programme structuring or tendering procedure preparation
- this will also help attract funding from private banks and other sources, including the EIB

SME instrument

- Contribution to SMEInst-10-2016-2017: Small business innovation research for transport and **smart cities mobility**

Fast track to innovation pilot (FTI)

- Fully-bottom-up measure to promote close-to-the-market innovation activities
- Aim:
  - Reduce time from idea to market
  - Stimulate the participation of first-time applicants to EU research funding, and
  - Increase private sector investment in research and innovation

European Innovation Partnership on Smart Cities and Communities

1. **Focus on intersections**
   → Energy, Transport and ICT

2. **Support roll-out of mature technologies at large scale**

3. **Build a collaborative marke place for cities, companies and research**

4. **Support a pipeline of projects**

5. **6 Action clusters: mobility services a key initiative as part of the urban mobility action cluster**

6. **Join up action for project pipeline development-> EU funding**

The European Fund for Strategic Investments (EFSI)

- €21 billion guarantee to leverage an extra financing capacity of €255 billion => total extra financing of €315 billion
- Cities and private promoters active in cities should engage with the EIB and the National Promotional Banks
- Investment Platforms will be created under the EFSI Regulations for certain countries and sectors, for example transport

Invest for the future

- **EFSI guarantee will enable the EIB to take riskier projects, e.g. smart urban mobility and alternative fuels projects**
- **Research and innovation is one of the key priorities, as is urban mobility.**
- **Innovative projects can also employ financial instruments, facilitated by investment platforms**
- **Advisory Hub : one-stop-shop / work together with a network of national promotional banks.**
- **Regional hubs are likely to be created:** http://www.eib.org/eiah/index.htm

European Commission

Thank you for your attention!

dorothee.coucharriere@ec.europa.eu

Unit C.1 Clean transport & sustainable urban mobility

Directorate General for Mobility and Transport