



European  
Commission

# Clean Power for Transport initiative

*An EU sustainable alternative fuels  
strategy including the appropriate  
infrastructure*

Trolley buses workshop, 12 March 2013

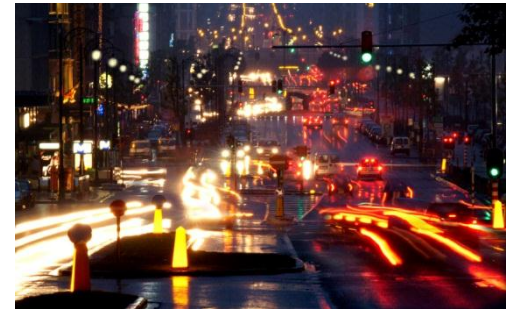
# Main problems to fix

## Energy supply at risk:

Transport - largest oil consumer: 55% and rising  
Oil counts for 94% of transport fuels, 84% imported  
New oil reserves expensive

## High oil import bill:

Up to € 1 billion per day in 2011  
Trade balance deficit: ~ 2.5 % of GDP  
7% of household expenditure



## Oil price (\$/bl)



Speculative bubble 2007-2008: Cost for EU transport = **90 b€**  
North-Africa unrest 2010-2011: Cost for EU transport = **40 b€**

# Sustainable transport

## CO2 emissions from transport:

30% of total CO2 emissions from the EU economy in 2009

Increased by 34% between 1990 and 2009

## GHG emissions reduction from transport of 60% by 2050

- Large-scale deployment of low-CO<sub>2</sub> alternative fuels can contribute significantly
- Alternative fuels, together with increased transport efficiency, are indispensable

**Clean fuels are also beneficial in urban areas**



# Competitiveness / Growth and jobs

## Risk for the EU industry:

Loss of world leadership

- Market opportunities for **European industry** – support for innovative sectors where EU companies are leading
- If the **EU** acts as a **first-mover**, global competitiveness of EU vehicles, vessels and relevant infrastructures industries will be enhanced
- **Employment creation** in a wide range of sectors in the EU (construction, manufacturing, electricity, ICT technology and applications, advanced materials)



## What is the current situation?

**Important efforts** to promote alternative fuels by some Member States and industry,

but:

**Different technological choices lead to:**

- **Isolated** national/regional markets
- **Fragmentation** of the internal market for alternative fuels
- Technology "border lines", which **inhibit mobility** with alternative fuels across Europe



# Closure of the Missing Link



# What is the EC response?

## The Clean Power for Transport Package will contribute to:

- Build a competitive, resource efficient and sustainable transport system in the EU
- Establish a long term fuel strategy
- Remove technical and regulatory barriers across the EU
- Facilitate the development of a single market for alternative fuel infrastructure and alternative fuel vehicles and vessels





# Clean Power for Transport initiative

- **Communication “A European alternative fuels strategy”**
- **A proposal for a Directive on the deployment of alternative fuels infrastructure**  
*Focusing on the "missing link" - infrastructure and standards*
- **Staff Working Document on Actions towards a comprehensive framework on LNG for shipping**

# The Communication

- a comprehensive alternative fuels strategy for the **long-term substitution of oil** as the primary energy source for transport
- a framework to **guide investments** and **technological development**
- Single-fuel solution is not possible => ***a package of alternative fuels***
- **Priority actions**
  - For infrastructure with common standards
  - For technology development
  - For consumer acceptance

**WE CONTINUE ON ALL FRONTS!**

# Research and development

- H2020
- European Green Vehicles Initiative
- Smart cities initiative
- **FP7 for electric buses**



# Alternative fuels for all transport modes

	<i>Road</i>							<i>Air</i>	<i>Rail</i>	<i>Water</i>		
<b>Range</b>	<i>Urban</i>	<i>Short</i>	<i>Medium</i>	<i>Long</i>	<i>Short</i>	<i>Medium</i>	<i>Long</i>			<i>Inland</i>	<i>Short sea</i>	<i>Maritime</i>
<b>Natural gas</b>						LNG	LNG			LNG	LNG	LNG
<b>Electricity</b>												
<b>Biofuels</b>												
<b>Hydrogen</b>												

# A legislative proposal for infrastructure build-up, with common standards

- **Obligation of means** (national policy frameworks + EC assessment and recommendations)
- **Obligation of results** (minimum infrastructure)
  - **Conservative approach; no disproportionate targets**  
  
=> would help MS to reach their projections
- A proposal developed in **close consultation with MS and industry**
- **A network approach/creation of economies of scale**
- Unlock private investment = **a pro-business initiative**
- **Flexibility = Full freedom given to MS for implementation**
- **EU support** offered

**The benefits clearly outweigh the approx. € 10 billion which are needed to put in place the minimum infrastructure network – less than 1.5 billion/year until 2020**

- **Savings** on the **oil bill** could increase progressively to **€ 2.3 billion per year** in 2030
- Improved **security of energy supply** could add another **€ 1 billion per year** by 2030.
- **Lower oil consumption**
- Benefits for the **environment** = lower impact at **€ 15.4 billion by 2020** (from decreased CO2 emissions, pollutants and noise)
- Strong signal to industry to start investing
- Infrastructure = local investment = **growth and jobs for Europe**
- Strongly position **Europe vis-à-vis global competition**
- **Certainty for customers** to adhere to new technologies

## **The proposed Directive creates:**

**the conditions to establish  
a single market and economies of scale**

**=> Confidence for investors & consumers**

### **Stable framework including minimum infrastructure**

- Investments encouraged

### **EU common standards**

- Interoperability

### **Consumer information**

- Fuel / vehicle compatibility

# Costs of electric recharging points

$$\begin{aligned} \text{Private} &= \sum \text{€}520 * (90\% \text{ total number in MS}) \\ &= 520\text{€} * 7.2 \text{ M} = \mathbf{3.7 \text{ bn €}} \end{aligned}$$

$$\begin{aligned} \text{Public} &= \sum \text{€}5,280 * (10\% \text{ total number in MS}) \\ &= 5,280\text{€} * 800,000 = \mathbf{4.2 \text{ bn €}} \end{aligned}$$

*Total number of recharging points = 8 M*

*Number of recharging points in each MS are calculated as:*

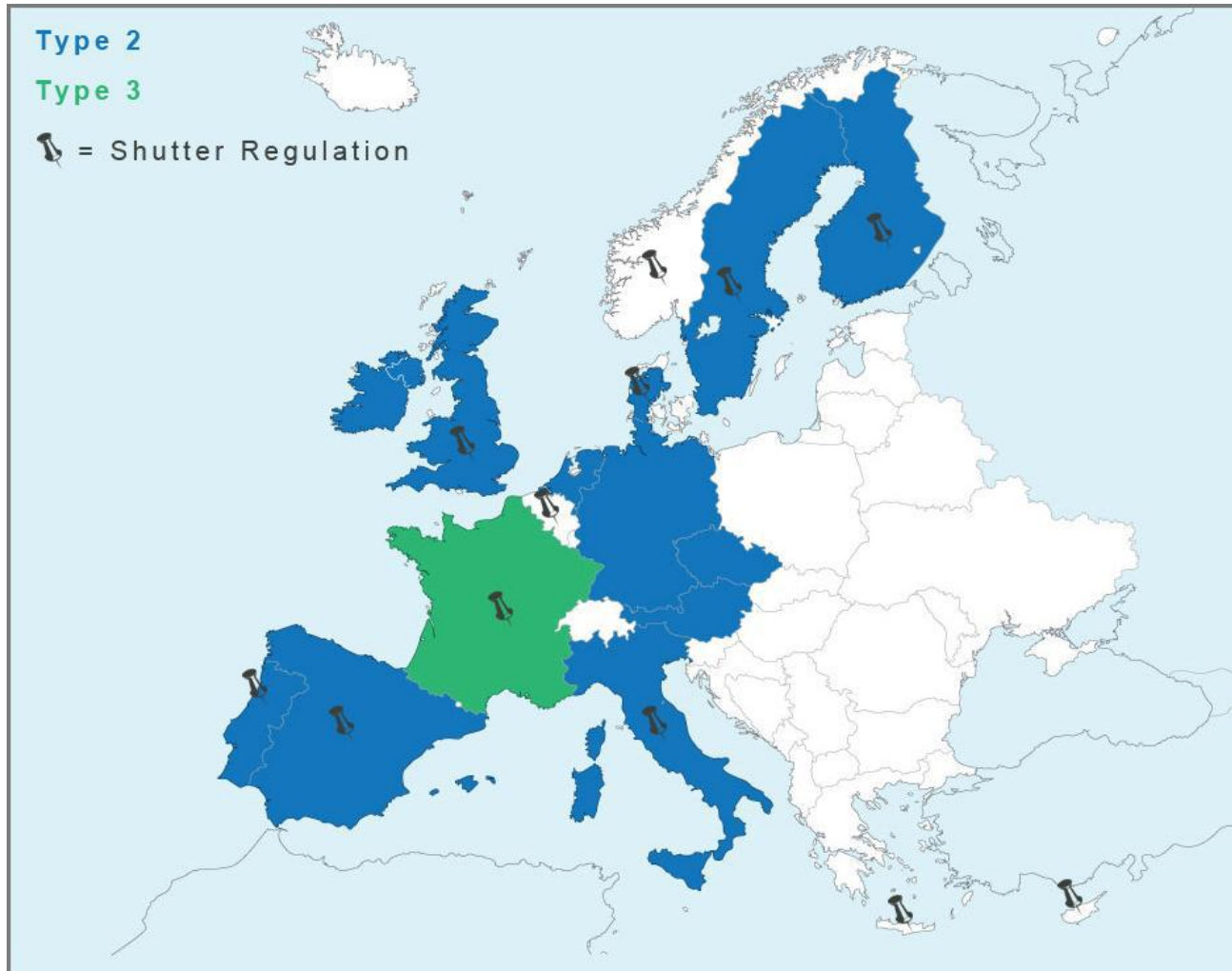
$\frac{\text{Car stock (MS}_i\text{)}}{\text{Car stock (EU)}} * \frac{\text{Share of urban population (MS}_i\text{)}}{\text{Share of urban population (EU)}} * \text{EV stock (EU)} * 2 = \text{Number of charging points needed in MS}_i$
--



## Minimum number of electric vehicle recharging points in each Member State

Member State	Number of recharging points (in thousands)	Number of publicly accessible recharging points (in thousands)
BE	207	21
BG	69	7
CZ	129	13
DK	54	5
DE	1503	150
EE	12	1
IE	22	2
EL	128	13
ES	824	82
FR	969	97
IT	1255	125
CY	20	2
LV	17	2
LT	41	4
LU	14	1
HU	68	7
MT	10	1
NL	321	32
AT	116	12
PL	460	46
PT	123	12
RO	101	10
SI	26	3
SK	36	4
FI	71	7
SE	145	14
UK	1221	122
HR	38	4

## *Existing standards for slow charge*



# *Competing standards*

**Type 2**



**Shademo**



**Type 3**



**COMBO Type 2**



## ***Common standards: conclusions***

*Type 2 standards is the only one interoperable plug for slow and fast charge stations*

*Compatible with national safety requirements (shutters)*

*Supported by ACEA , Eurelectric and CLEPA – Position paper adopted by all in May 2012*

- Decision on a single connector is needed
- Type 2/Type 2 Combo to be used in the EU as a standard for AC/DC charging both on the vehicle and public charging
- Type 2/Type 2 Combo can be used both on vehicle and public infrastructure side and is ready for all kinds of charging and **ensure interoperability EU-wide**

***Help the developments in internal market & negotiations with third countries to achieve common or compatible standards – still pending under TEC***



**Thank you for your attention!**

**[Hugues.van-honacker@ec.europa.eu](mailto:Hugues.van-honacker@ec.europa.eu)**