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**PURPOSE:** to present a Roadmap to a single European transport area ? Towards a competitive and resource efficient transport system (Commission White Paper).

**BACKGROUND:** since the 2001 White Paper on Transport, much has been achieved. Further market opening has taken place in aviation, road and partly in rail transport. The Single European Sky has been successfully launched. The safety and security of transport across all modes has increased. New rules on working conditions and on passenger rights have been adopted. Trans-European transport networks (financed through TEN-T, Structural Funds and the Cohesion Fund) have contributed to territorial cohesion and the building of high-speed railway lines. Much has also been done to enhance transport's environmental performance.

Still, the transport system is not sustainable. Looking 40 years ahead, it is clear that transport cannot develop along the same path. If we stick to the business as usual approach:

- the oil dependence of transport might still be little below 90%, with renewable energy sources only marginally exceeding the 10% target set for 2020;
- CO2 emissions from transport would remain one third higher than their 1990 level by 2050;
- congestion costs will increase by about 50% by 2050;
- the accessibility gap between central and peripheral areas will widen;
- the social costs of accidents and noise would continue to increase.

In its Communication [Roadmap for moving toward a competitive low carbon economy in 2050](#) the Commission shows a reduction of at least 60% of GHGs by 2050 with respect to 1990 is required from the transport sector, which is a significant and still growing source of GHGs. By 2030, the goal for transport will be to reduce GHG emissions to around 20% below their 2008 level.

**CONTENT:** building on the lessons learnt, this Roadmap takes a global look at developments in the transport sector, at its future challenges and at the policy initiatives that need to be considered. It presents the Commission's vision of future transport and sets out the key measures to achieve.

**A VISION FOR A COMPETITIVE AND SUSTAINABLE TRANSPORT SYSTEM:** the transport industry in itself represents an important part of the economy: in the EU it directly employs around 10 million people and accounts for about 5% of GDP. Coherence at EU level is vital. The EU and Governments need to provide clarity on the future policy frameworks (relying to the greatest extent possible on market based mechanisms) for manufacturers and industry so that they are able to plan investments.

The challenge is to break the transport system's dependence on oil without sacrificing its efficiency and compromising mobility. New transport patterns must emerge, according to which larger volumes of freight and greater numbers of travellers are carried jointly to their destination by the most efficient (combination of) modes. Future development must rely on a number of strands:

- improving the energy efficiency performance of vehicles across all modes, developing and deploying sustainable fuels and propulsion systems;
- optimising the performance of multimodal logistic chains, including by making greater use of inherently more resource-efficient modes, where other technological innovations may be insufficient (e.g. long distance freight);
- using transport and infrastructure more efficiently through use of improved traffic management and information systems (e.g. ITS, SESAR, ERTMS, SafeSeaNet, RIS), advanced logistic and market measures such as full development of an integrated European railway market, removal of restrictions on cabotage, abolition of barriers to short sea shipping, undistorted pricing etc.

The Commission proposes to increase the competitiveness of transport while delivering the minimum 60% reduction of GHG emissions from transport needed by 2050, orienting itself along the ten goals which should be seen as benchmarks:

- (1) Halve the use of ?conventionally-fuelled? cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially CO2-free city logistics in major urban centres by 2030.
- (2) Low-carbon sustainable fuels in aviation to reach 40% by 2050; also by 2050 reduce EU CO2 emissions from maritime bunker fuels by 40% (if feasible 50%).
- (3) 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. To meet this goal will also require appropriate infrastructure to be developed.
- (4) By 2050, complete a European high-speed rail network. Triple the length of the existing high-speed rail network by 2030 and maintain a dense railway network in all Member States. By 2050 the majority of medium-distance passenger transport should go by rail.
- (5) A fully functional and EU-wide multimodal TEN-T ?core network? by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services.
- (6) By 2050, connect all core network airports to the rail network, preferably high-speed; ensure that all core seaports are sufficiently connected to the rail freight and, where possible, inland waterway system.
- (7) Deployment of the modernised air traffic management infrastructure (SESAR) in Europe by 2020 and completion of the European Common Aviation Area. Deployment of equivalent land and waterborne transport management systems (ERTMS, ITS, SSN and

LRIT, RIS). Deployment of the European Global Navigation Satellite System (Galileo).

(8) By 2020, establish the framework for a European multimodal transport information, management and payment system.

(9) By 2050, move close to zero fatalities in road transport. In line with this goal, the EU aims at halving road casualties by 2020. Make sure that the EU is a world leader in safety and security of transport in all modes of transport.

(10) Move towards full application of 'user pays' and 'polluter pays' principles and private sector engagement to eliminate distortions, including harmful subsidies, generate revenues and ensure financing for future transport investments.

THE STRATEGY: the Commission considers that implementing this vision requires an efficient framework for transport users and operators, an early deployment of new technologies and the development of adequate infrastructure.

A Single European Transport Area: the objective for the next decade is to create a genuine Single European Transport Area by eliminating all residual barriers between modes and national systems, easing the process of integration and facilitating the emergence of multinational and multimodal operators. A vigilant enforcement of the competition rules across all transport modes will complement the Commission's actions in this area. A higher degree of convergence and enforcement of social, safety, security and environmental rules, minimum service standards and users' rights must be an integral part of this strategy, in order to avoid tensions and distortions.

The Single European Sky needs to be implemented as envisaged, and already in 2011 the Commission will address the capacity and quality of airports. The area where bottlenecks are still most evident is the internal market for rail services, which must be completed as a priority in order to achieve a Single European Railway Area.

This includes the abolishment of technical, administrative and legal obstacles which still impede entry to national railway markets. A further integration of the road freight market will render road transport more efficient and competitive. For maritime transport, a 'Blue Belt' in the seas around Europe shall simplify the formalities for ships travelling between EU ports.

Innovating for the future ? technology and behaviour: innovation is essential for this strategy. EU research needs to address the full cycle of research, innovation and deployment in an integrated way through focusing on the most promising technologies and bringing together all actors involved. Innovation can also play a role in promoting more sustainable behaviour. The Commission considers that technological innovation can achieve a faster and cheaper transition to a more efficient and sustainable European transport system by acting on three main factors: (i) vehicles' efficiency through new engines, materials and design; (ii) cleaner energy use through new fuels and propulsion systems; (iii) better use of network and safer and more secure operations through information and communication systems.

Modern infrastructure, smart pricing and funding: efforts towards a more competitive and sustainable transport system need to include a reflection on the required characteristics of the network and must foresee adequate investments. EU transport infrastructure policy needs a common vision and sufficient resources. The costs of transport should be reflected in its price in an undistorted way.

A well-performing transport network requires substantial resources. The cost of EU infrastructure development to match the demand for transport has been estimated at over EUR 1.5 trillion for 2010-2030. The completion of the TEN-T network requires about EUR 550 billion until 2020 out of which some EUR 215 billion can be referred to the removal of the main bottlenecks. This does not include investment in vehicles, equipment and charging infrastructure which may require an additional trillion to achieve the emission reduction goals for the transport system.

The various actions and measures indicated in this Road Map will be further elaborated. The Commission will prepare appropriate legislative proposals in the next decade with key initiatives to be put forward during the current mandate. Each of its proposals will be preceded by a thorough impact assessment, considering EU added value and subsidiarity aspects.