



## EUROPEAN COMMISSION

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## INTRODUCTION AND BACKGROUND

The European Commission (EC) is the executive arm of the European Union (EU), a unique treaty-based, economic and political partnership between currently twenty seven member states, covering a territory of 4,323,000 km<sup>2</sup>. The EU-27 has an estimated total population of 499,694 million with a nominal GDP in 2010 12,405,409 billion Euros and a GDP growth of 1.8%. The most recent data on the EU and of the individual member states' primary energy structure and electricity production and consumption can be found in the EC issued statistical pocketbook 2010, "*EU energy and transport in figures.*"<sup>1</sup>

The EC is responsible for proposing policy and legislation, implementing decisions, ensuring that all abide to the European treaties and laws, and for managing the general day-to-day running of the EU affairs. It therefore handles a number of policy areas and portfolios, including science and research. The Joint Research Centre (JRC) operates as a Directorate-General under the EC's jurisdiction providing independent scientific and technological support for EU policy-making. Knowledge comes from specific application- and issue-oriented research within the seven JRC Institutes and close co-operation and networking at European level and globally.

The JRC Institute for Energy and Transport, located in Petten, the Netherlands, focuses on energy and transport issues, and represents the EC in the IEA HIA. The JRC has extensive involvement in all EC hydrogen matters.

## FRAMEWORK: 2010 RELEVANT POLICY UPDATES & MILESTONES

The leading current EU policy document is the EU 2020 Strategy (COM[2010]2020). This overall strategy is implemented a.o. through 7 Flagship Initiatives, of which one is directly relevant for energy-transport-climate change issues, namely the Innovation Union (COM(2010)546). Within this overall frame, regarding energy policy, the Commission is working on the EU 2050 low-carbon roadmap, which includes hydrogen and fuel cells in the context of electrification of transport. Sustainability considerations are also high on the political agenda, particularly related to indirect land-use change (ILUC) associated with biofuels and carbon as well as water footprint of exploitation of non-conventional fossil fuels. Regarding energy technology policy, in the frame of the Strategic European Technology Plan (SET-Plan), European Industrial Initiatives (EIIs) have been launched on wind, solar, grids, CCS, bio-energy and sustainable nuclear power. All of these are industry-led public-private partnerships which have established a dedicated roadmap for the technology with a 2020 time horizon. This roadmap sets RDD priorities and also includes information on required budgets.

## VITAL STATISTICS

Executive Arm of EU-27

27 member states

### Population

499,694 million

### Territory

4,323,000 km<sup>2</sup>

### Nominal GDP

2,405,409 billion Euro

### Average Annual GDP Growth

1.8%



After publication of the European type approval Regulation for hydrogen vehicles (EC 79/2009) and the accompanying implementing regulation (EU 406/2010), other vehicle type approval regulations are being investigated on their potential interference or need for modification. Specific issues are car crash tests and expansion of the scope to other types of vehicles. In the area of stationary residential applications, the scope of the gas appliances directive (2009/142/EC) is being extended to include fuel cells.

### EUROPEAN FUEL CELLS AND HYDROGEN JOINT TECHNOLOGY INITIATIVE

At the end of 2008 the official launching of the European Fuel Cells and Hydrogen (FCH) Joint Technology Initiative (JTI) had taken place. This is a public-private, industry-led, partnership which is composed of the European Commission, the European Industry and the European Research Community. It was set up to overcome fragmentation and coordinate the European research, technological development and demonstration efforts in this field, in an upstream and market driven fashion. The JTI will be investing nearly 1 billion Euros over six years while ensuring the involvement of all key stakeholders in the field and striving at enhancing international collaboration. The FCH-JU Multi-Annual Implementation Plan 2008-2013 is under revision and will include a strategy for FCH-JU on regulations, codes and standards for fuel cell and hydrogen technologies.

### REFERENCES

- 1] “EU energy and transport in figures - Statistical pocket book 2010”, issued by EC Directorate General for Energy and Transport ISBN 978-92-79-13815-7;  
[http://ec.europa.eu/energy/publications/statistics/statistics\\_en.htm](http://ec.europa.eu/energy/publications/statistics/statistics_en.htm)
- 2] JRC/IET web site: <http://iet.jrc.ec.europa.eu/>
- 3] The Fuel Cells and Hydrogen Joint Technology Initiative - webpage:  
[http://ec.europa.eu/research/fch/index\\_en.cfm](http://ec.europa.eu/research/fch/index_en.cfm)

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