



Hydrogen - A Competitive Energy Storage Medium To Enable the Large Scale Integration of Renewable Energies

Seville, 15-16 November 2012

Under development: The Mediterranean and North Sea Power2Gas Platforms

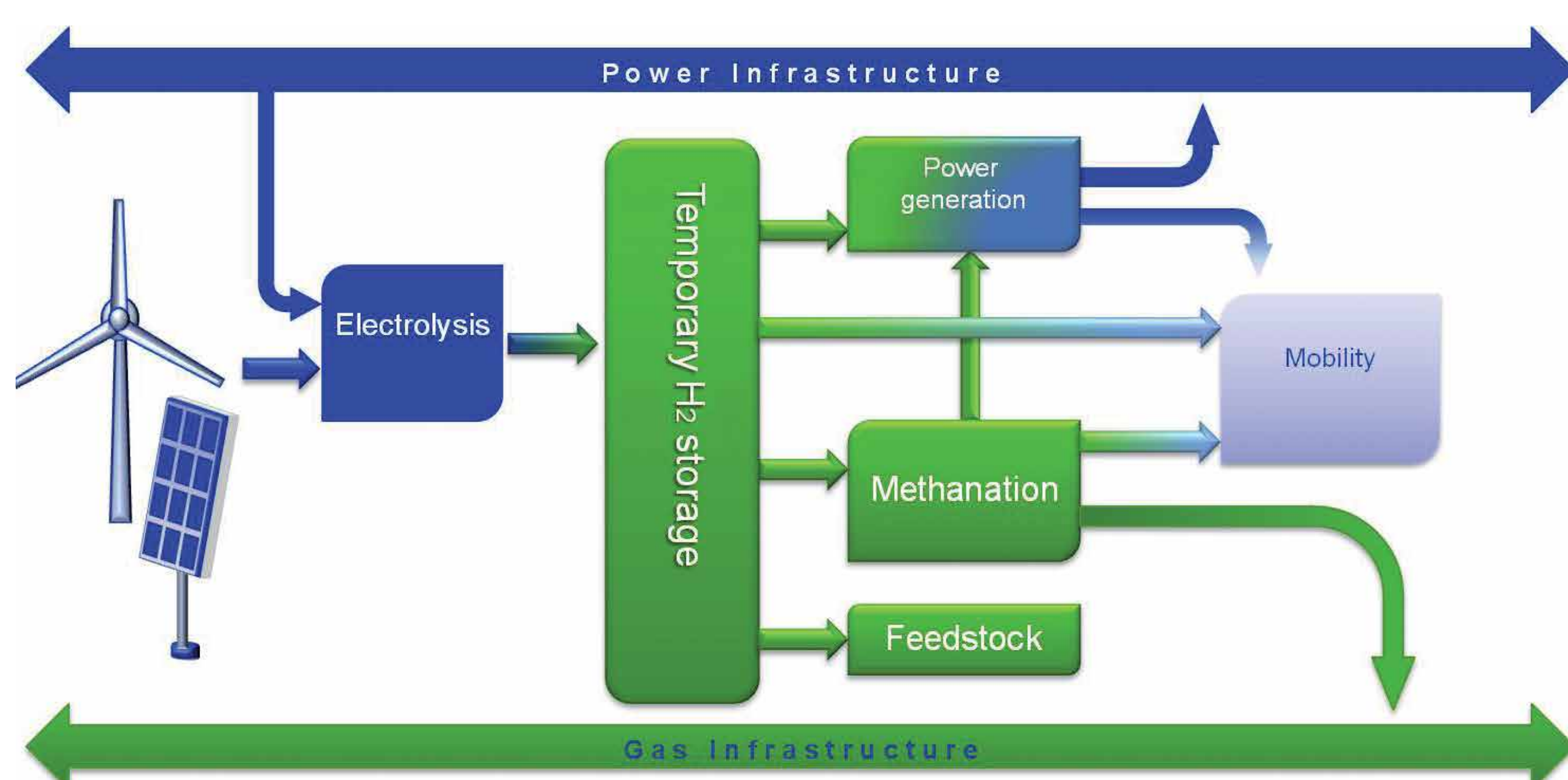
Background

According to the national ambitions, the combined capacity of PV and wind power in the European countries in the Mediterranean area including Portugal could be as high as 163 GW by the year 2020. This implies a tripling of the currently installed PV and wind power capacity and a share of 20-45 % of the overall power capacity in several countries. A similar situation is foreseen for the countries surrounding the North Sea.

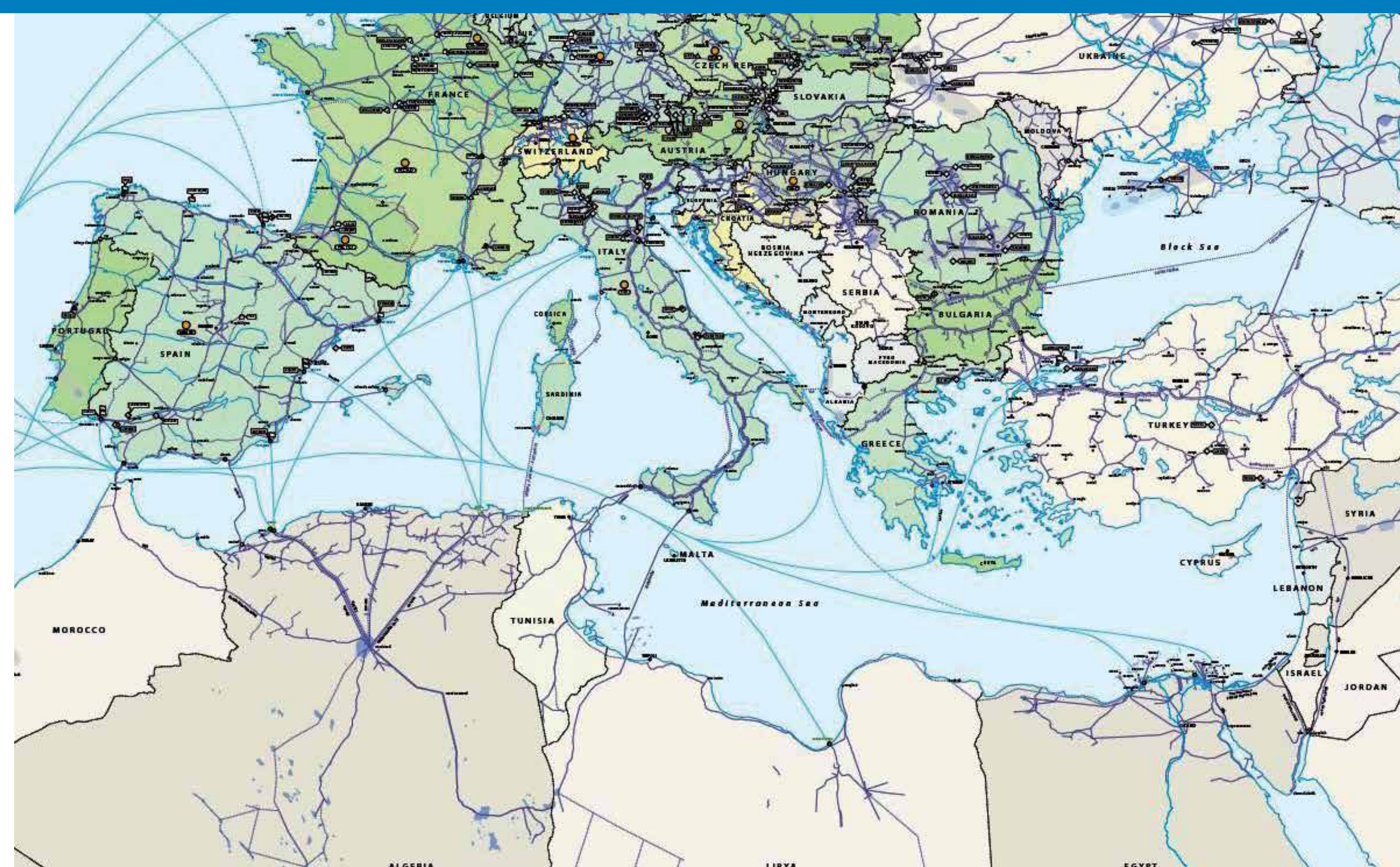
Power to Gas platforms join forces for the integration of renewable electricity into the energy supply

The intermittent character of sustainable electricity imposes challenges for matching production and demand. Furthermore, electricity transmission and distribution companies are facing problems as the grid capacity on several tracks is not sufficient to transmit the sustainable electricity.

An interesting solution to both issues might lie in the so-called Power to Gas (P2G) concept comprising the conversion of electricity surpluses into hydrogen. The hydrogen can be used for many purposes including injection in the natural gas grid, methanation, use as a feedstock or as a fuel. P2G options are thinkable on transmission or distribution level and also in domestic situations. The North Sea P2G Platform and the Mediterranean P2G Platform (under development) aim to bring stakeholders on P2G together and to jointly map out the value of P2G options in specific situations in the related areas.



The Power to Gas concept concerns the conversion of temporal surpluses of renewable electricity into hydrogen.



The European natural gas transmission grid (source: Gas Infrastructure Europe).

Probably, the platforms will be placed within the European Association for Storage of Energy (EASE).

Overall objectives

The North Sea P2G Platform and the Mediterranean P2G Platform establish stakeholder networks facilitating the implementation of renewable electricity by Power to Gas options.

Specific objectives

The Platforms are focused on the technical (including safety), economic, financial and regulatory aspects related to P2G. They particularly aim at:

- Mapping out the specific situation per country (expected electricity surpluses, bottlenecks in the transmission capacity, etc.);
- Gathering, sharing & creating knowledge on the production and storage of hydrogen, different kinds of hydrogen end use;
- Initiating and carrying out studies on the status of technology, demonstration activities, business models and of the impact of P2G on the electricity and gas infrastructure;
- Informing politicians and decision makers.

Project Overview

- Onno Florisson, DNV KEMA, Onno.Florisson@dnvkema.com, +31 50 700 9723
 - Electricity and natural gas TSOs and DSOs from Mediterranean countries and from countries surrounding the North Sea
 - Hydrogen producers and end users
 - Technology providers for related equipment including hydrogen storages, electrolysers and methanation units
- Parties potentially interested in a membership, are kindly invited to contact the Coordinator.
- North Sea P2G Platform: 06/12- as long as the platform is of value
 - Mediterranean P2G Platform: 01/2013 – as long as the platform is of value