MAGHREB-EUROPE PROJECT

WELCOME TO ALL PARTICIPANTS

Dr. Maïouf BELHAMEL (CDER)

Dr. Claude ETIEVANT (CETH)

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THE ENERGY CHALLENGE

OUR WORLD IS FACING A MAJOR ENERGY CRISIS DUE TO :

- **THE GROWING DEMAND OF ENERGY IN THE WORLD (CHINA, INDIA, BRAZIL …)**
- **THE DEPLETION OF FOSSIL FUELS (OIL, GAS,….)**
- **THE IRREVERSIBLE COST INCREASE OF FOSSIL FUELS**
- **THE CLIMATE CHANGE AND THE NECESSITY TO REDUCE CO2 EMISSIONS**

RENEWABLE ENERGIES OFFER A PROMISING SOLUTION

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Renewable energies :

- **Solar energy incident on earth : 1,6 10^{18} kWh/year**
- **Solar energy converted into wind : 3,2 10^{15} kWh/year**
- **Solar energy converted into hydro energy : 3,5 10^{17} kWh/year**
- **Solar energy reaching the ground : 7,2 10^{17} kWh/year**
- **Solar energy converted into photosynthesis : 1 10^{15} kWh/year**
- **Geothermal energy : 3 10^{14} kWh/year**
- **Tide energy : 2.5 10^{13} kWh/year**
- **Reference :**
  - **World energy consumption : 1,4 10^{14} kWh/year**

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- World fossil energy resources :
- Natural gas : 1.5 10^{15} kWh
- Crude oil : 1.6 10^{15} kWh
- Coal : 5.5 10^{15} kWh
- Shale oils : 1. 10^{15} kWh
- Uranium (< $ 80/kg): 2.2 10^{14} kWh

Reference :

World energy consumption : 1,4 10^{14} kWh/year

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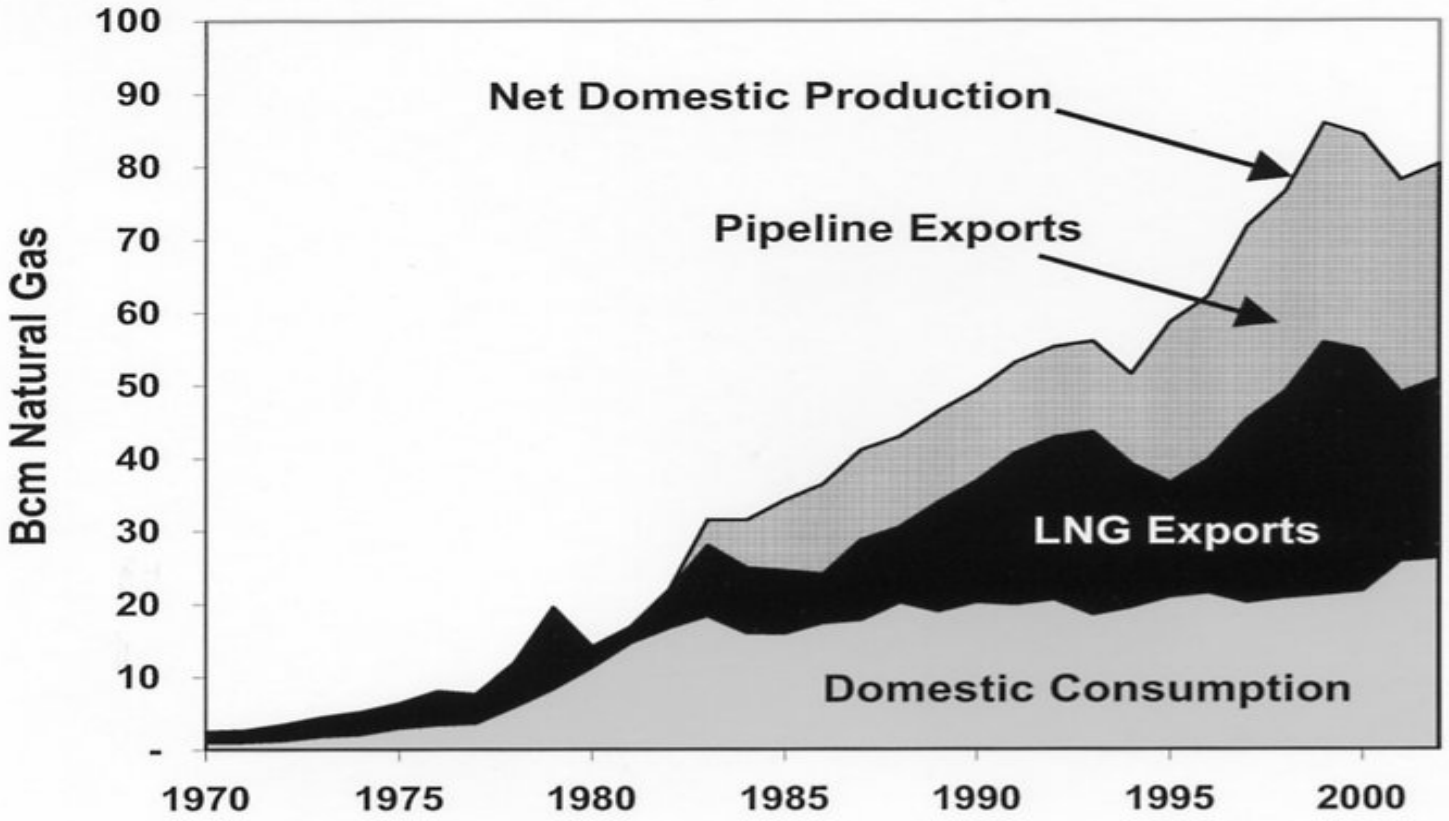
Figure 3. Algeria Gas Production, Consumption and Exports[6]



Sources: (Moraleda 2002; BP 2003; Dispenza 2003a)

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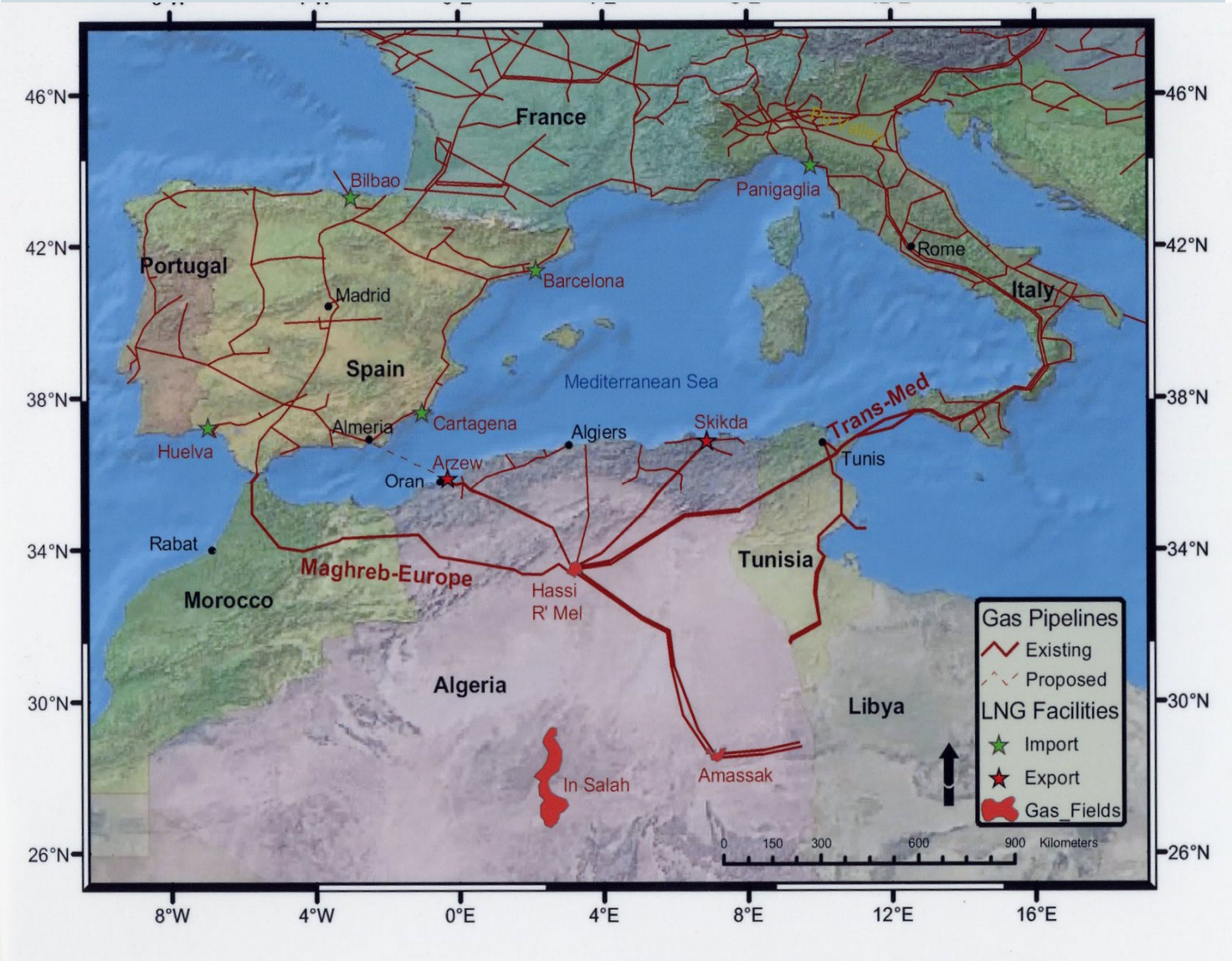

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Industrial Solar Hydrogen production at an industrial scale requires :

- **International cooperation on a large project**
- **Creation of a consortium of partners (research & industry) to promote the project**
- **Financial support from EC and Maghreb investors**

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Markets for Solar H2 (to be investigated) :

- Solar H2 for exportation :

10% Solar H2 mixed with natural gas

- Solar H2 production for ammonia (fertilizer industry : Arzew)
- Solar H2 for oil and gas desulfuration and refining
- Solar H2 for steel industry, cement industry …

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Name of participant :

Affiliation :

Address :

E-mail :

Phone :

I want to join the Maghreb-Europe project :

My contribution will be in the following field :

Please return this form to : Stève LECHEVALIER (CETH Booth)

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SATELLITE SESSION

Wednesday June 14

9 h a.m. to 12 h 30

Room Saint Clair 4