Removing barriers to the use of Natural gas as a transportation fuel

UN ECE - Group of Experts on Gas (Task Force D)

21 January 2015 - Geneva
Background

- Natural gas and bio-methane represent the easiest, most practical, and most realistic way to reduce pollution coming from transportation.

Deliverables

- A useful summarized guideline document aimed at decision makers in national authorities and Industry stakeholders contributing to the increased use of LNG and CNG in Transports
- Recommendations on Removing Barriers to the Use of Natural Gas as a Transportation Fuel.
Fuel Consumption of Different vehicles. Equivalences

- **1 Ferry** uses as much fuel as
- 65 small boats
- or
- 130 fishing boats
- or
- 1,300 buses
- or
- 10,800 taxis
- or
- 80,000 private cars

**Consumption of GNC/GNL MW.h/year**

- 395,000
- 5,900
- 3,000
- 290
- 40
Some Existing barriers

- Financial
  - Differing Standards
  - Human Issues
  - NGV Cost
  - Limited Access to Pipeline
  - Legal (Regulatory)
  - Underdeveloped Filling Infrastructure
  - Financial
  - Limited LNG Availability
  - Administrative
    - Discouraging Price Differential
    - Misleading Measuring Units
    - Demotivating Taxes

- Other
  - Lack of Awareness
  - Poor Incentives
  - Land Issues
  - Oil Lobby
  - High Incremental
  - Human Factor
  - Oil Factor
  - Misleading Measuring Units
  - Limited LNG Availability
  - Misleading Measuring Units
  - Limited Access to Pipeline
  - Demotivating Taxes
<table>
<thead>
<tr>
<th>SUBJECT OF BARRIERS</th>
<th>POLITICAL (LEGISLATIVE)</th>
<th>STANDARDS &amp; REGS</th>
<th>TECHNOLOGY RELATED</th>
<th>MARKETING &amp; COMMUNICATIONS</th>
<th>COST &amp; ECONOMICS</th>
<th>SAFETY</th>
<th>OTHER</th>
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<td>Private Fleet (w/public access)</td>
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<td>Home (residential) fuelling</td>
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<td>Fuel transport (Mother-Daughter)</td>
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<td>Railway fuelling (rail only)</td>
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Contributing parties

- European Union
- International Gas Union; Study Group 5.3 (NGVs)
- NGVA Europe
- European Business Congress; Industry & Construction
- Fleet Owners/Operators
- Vehicle Manufacturers
- Associations and other experts
LEVELS OF NGV-MARINE-RAIL ASSOCIATIONS
(Natural gas ‘interconnections’ are needed)

**NGV Associations**
- IANGV – NGV Global
- NGVA Europe, ANGVA (Asia), ARPEL (Latin America), ...
- NGV America, NGV Italy, NGVRus, AFGNV, GASNAM, CNGVA, ...
- EuroBiogas Association, Compressed Gas Association (US), ...

**Marine Associations**
- IMO (Internat. Maritime Org.), IAPH (Internat. Ass. of Ports and Harbors)
- Society for Gas as Marine Fuel (SGMF)
- ERO (Faro Sea Port Org), AAPA (American Ass. of Port Authorities)
- Italian Sea Ports Ass, UK Major Ports Group, French Ports, Hellenic Port Associations, ...
- ECSA (European Community Shipowners Ass.), CRPM (Conference of Maritime Regions of EU), ...

**Railway Associations**
- UIC (International Union of Railway)
- ERA (EU Railway Agency), AAR (Ass. of American Railroads), AROA (Asian Railway Operators Ass.), ...
- National Safety Authorities (often linked with Government)
- CER (Community of European Railway and Infrastructure), UNIFE (Ass. of European Railway Industries), ...

**Expert stakeholders & Industries**
Way of Working

- Use the knowledge of the participants, their network and studies that have already been developed
- Clear allocation of tasks
- Avoid double work
Timeline

- First working meeting, March, Brussels?
- First status report: June 3, at WGC in Paris
- Working group report: October
- First report: early 2016, Geneva
SOME BACK UP SLIDES
### Activities, for all vehicle modes

1. **Define internal structure & responsibilities**
2. **Identify target groups & establish communications**
3. **Recruit contributing volunteers**
4. **Classify barriers**
5. **Propose Final report (Recommendations) format**
6. **Prepare & spread questionnaire**
7. **Develop work plan**
8. **Prepare presentation at WGC’2015 NGV Workshop**
3.2. Structure, Work Package

- D.1 Production, transport, distribution and retailing.
- D.2 Vehicles, cars, vans, busses and trucks, CNG specifics.
- D.3 Vehicles, ship, barges, air and railway, LNG specifics.
- D.4 Standards: Gas, vehicles, distribution, filling and others.
- D.5 Legislation, regulations and support/subsidies.
- D.6 Consumer/ customer/ commercial perspective.
- D.7 Conclusions, summary and reporting
Description of the task. Background

- Natural gas and bio-methane represent the easiest, most practical, and most realistic way to reduce pollution coming from road transportation.

- Methane/hydrogen blends represent a huge potential for the transport sector, and represent an ideal bridge to more sustainable mobility using the existing natural gas/bio-methane distribution infrastructure.

- Natural gas—with its environmental, economic and availability advantages—will remain the only alternative to oil and diesel in the short and medium terms, and is the only primary fuel that is fully technically and economically applicable in any mode of transportation: on-road vehicles, scooters, heavy duty vehicles, ships, aircrafts, locomotives, and so forth.

- Using natural gas as a transportation fuel is a critical area for natural gas demand growth, with specific relevant benefits such as improving environmental impacts (CO2, SO2, and NOx).

- **This activity would explore removing barriers to the use of natural gas as a transportation fuel in the ECE region.**
Priorities

From the description of the work to be done, we propose to point out and prioritize the relevant aspects, to focus our attention and work:

1. Natural gas is fully technically and economically applicable to any mode of transportation: on-road vehicles, scooters, heavy duty vehicles, ships, aircrafts, locomotives, etc. THE WHOLE MOBILITY HAS TO BE CONSIDERED

2. The use of natural gas as a transportation fuel is critical for natural gas demand growth, with specific relevant benefits in the environmental side (CO2, SO2 and NOx).

3. Natural gas is the only alternative to oil and diesel in the short and medium term

4. Methane and bio-methane to be considered together

5. Methane/hydrogen blends are seen as a next step taking advantage of the existing natural gas/bio-methane infrastructure.