



UNIONE PETROLIFERA

Workshop «Quale transizione energetica sostenibile per ambiente, consumatori e imprese

Le prospettive del Gas Naturale Liquefatto nel trasporto su strada

Massimo SANTORI

CNHi-IVECO – Institutional Relations EMEA – Head Public Affairs

Roma - 20 dicembre 2017

Tecnologies Missions	100% Electric	Bi-modal Diesel Electric	Hybrid (no plug-in)	CNG Bio CNG	LNG Bio LNG
Urban	+++ In regular range from 2009	++ Under study	++ In regular range for LPT buses	+++ In regular range from 1998	No
Regional	No	+	=	+++ In regular range from 1998	+++ In regular range from 2012
Long Haul	No	No	No	++ In regular range for trucks < 300 Km	+++ In regular range from 2012
Off Road / Yard	No	+	=	+++ In regular range from 1998	+++ In regular range

Only
market with
many
solutions



*Sustainable solutions from the economic
and environmental point of view*

La risposta di IVECO per il Long Haul: il Gas Naturale Liquefatto



— EMISSIONI*
+ SILENZIO

EFFICACE

CONCRETA

-70% NO_x
-99% PM

fino a -15% CO₂
fino a -95% CO₂ con Bio-metano
- 3 dB(A) (Rumorosità)

Riduzione TCO
(costo totale di esercizio)

industrializzata disponibile oggi
Versatile

**Vs.
Euro VI**

**vs.
Diesel
Euro VI
equivalente**

VENDITE CUMULATE EUROPA

>30%
ITA

> 22.000
bus inclusi

1996	2000	2001	2007	2009	2010	2012	2015	2016
1 st Truck	1 st LCV	1 st below EEV	1 st below Euro VI	1 st medium truck	1 st CNG Tractor	1 st LNG Tractor	1 st Rigid LNG Truck	1 st Long Haul LNG Truck

IVECO

* Valori relativi a Iveco Stralis Euro VI Natural Power in mission stradale lungo raggio

Politiche e leggi per la sostenibilità

EU Commission: Strategy for low-emission mobility



An integrated approach for CO₂ Reduction

- Increasing the efficiency of the transport system
- Speeding up the deployment of low-emission alternative energy for transport
- Moving towards zero-emission vehicles
- Cities and local authorities are crucial for the delivery of this strategy
- Europe's commitment in pursuing **global efforts** to control emissions from international aviation and maritime transport.

The EP approved the **Mobility Package** on May 2017
Under discussion on the TRAN Committee



Directive 2014-94-Eu Deployment of alternative fuels infrastructure (DAFI)



→ *Natural gas supply for ROAD transport - LNG [Art 6.3]*

- Member States shall ensure, through their NPFs, that an appropriate number of LNG refuelling points accessible to the public are put in place **by 31 December 2025 at the latest**, at least along the existing TEN-T Core Network, in order to ensure that LNG heavy-duty motor vehicles can circulate throughout the Union, where there is demand, unless the costs are disproportionate to the benefits, including environmental benefits.
- Approximate distance of **400 km between refuelling points** in Recital 23.

Politiche e leggi per la sostenibilità

Italian Transposing Legislative Decree n.257/16 Deployment of alternative fuels infrastructure (DAFI)



- Obligation for the new fuel stations and for the existing fuel stations (*with more than 10 million l. of diesel/gasoline supplied per year*), located in polluted areas, **to offer also CNG and/or LNG**. For LNG, the obligation includes all stations located within 1000 km from the nearest LNG Hub
- **Simplified procedures** to build C-LNG infrastructures, including the possibility to build **mono-fuel stations** (e.g. refueling station of only C-LNG, **self-service** included)
- **Promotion of Biomethane** for transport, also by financial incentives, on the basis of a Ministerial Implementation Decree to be approved next months
- *The new Energy Strategy (SEN) is in progress by MISE – Towards a pro-LNG scenario*

Politiche e leggi per la sostenibilità



INVESTMENTS FUNDS 2017-18 – DECREE n.305/17

Governmental contribution to the renewal of the Commercial Vehicles fleets

Typologies CNG-LNG

Weight

≥ 3.5 - 6.99 ton CNG



Incentive per each vehicle

€ 4.000

TOT PLAFOND

≥ 7.0 ton CNG



€ 8.000

All trucks LNG



€ 20.000

Total Budget

Deadline for registrations : 15th April 2018 - Max tot incentive per Company : Euro 700.000

€ 10.500.000 (+ € 3.500 compared to 2016-17)

Políticas e leggi per la sostenibilità

- **MOVEA (*Movilidad con Vehículos de Energías Alternativas*) Plan 2017** (Real Decreto 617/2017): 14,26 M€ (for natural gas vehicles 1,635 M€).

617/2017): 14,26 M€ (for natural gas vehicles 1,635 M€).

Intensidad de las ayudas de vehículos GLP o bifuel Empresas privadas				Ayuda Estatal (€)			Ayuda concesionario (€)
Homologación	Categoría	MMTA (kg)	Limite precio venta (€)	PYME	Gran empresa	Adicional por achatarramiento	Cuantía
GN o bifuel	M1 ≤ 140g/km CO2	-	25.000	1.200	1.000	750	1.000
	N1 ≤ 160g/km CO2 (Emisiones para homologados como ligeros)	Menor de 2500	-	1.100	900		
		Mayor o igual 2500		1.400	1.100		
	M2, N2	-		2.900	2.300	-	
	M3, N3	Menor de 18000		8.000			
		Mayor o igual 18000		18.000			





- Now is in discussion a **new PIMA (*Planes de Impulso al Medio Ambiente*) Transport Financing Plan** of 50 M€. (Budget approved).

La sfida tecnologica per la sostenibilità

New IVECO Stralis NP LNG - 460 hp of Pure Power



La sfida tecnologica per la sostenibilità

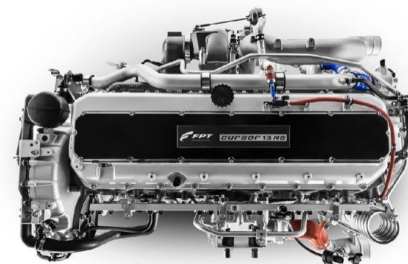


Autonomy = 1600 km
(Double Tank)

Noise = Minimized

Cryogenic tank = 560 liters

THE BEST IN CLASS
POWERTRAIN - 460 hp



Cursor 13 NP-LNG

460 hp

Performances = same level compared to Diesel Cursor 13

La sfida tecnologica per la sostenibilità

On road higher performances

Stralis LNG Natural Power vs DIESEL Euro VI	
NOx emissions	-54%
NO2 emissions	-96%
Particulate emission	Too low to be accurately measured by the PEMS
CO2 Emissions <i>with biomethane</i>	Tank to Wheel -10% => 15 tons per truck each year
	Well to Wheel -80% => 120 tons per truck each year
TCO and Externalities (2009/33 EU)	-28 400 € on 800 000 km
Fuel consumption	-15% (kg vs liters)
ON BOARD EMISSION MEASUREMENTS (PEMS)	



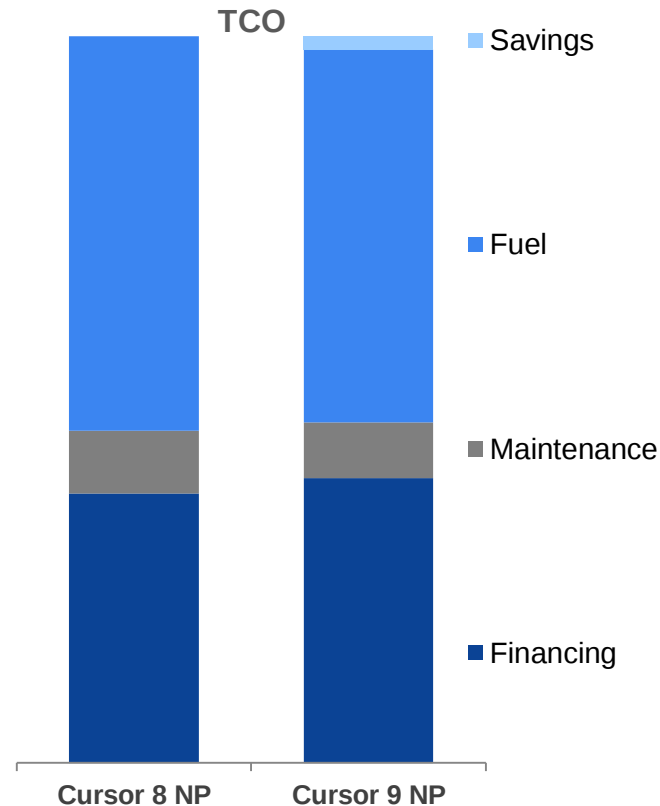
Noise -5 dB(A)

I Costi Operativi

New Stralis NP : outstanding performances and a lower TCO !



	C8 NP	C9 NP
Yearly millage	130 000 km	
Leasing duration	5 years	
Fuel consumption x100 km	28 kg	26,4 kg
NG cost (vat excluded)	0,77 € / kg	
Maintenance & Repair	Included	Incl. + Up-time
Monthly TCO (leasing + fuel)	4 300 €	4 220 €
TCO saving @ 5 years	base	4 800 €

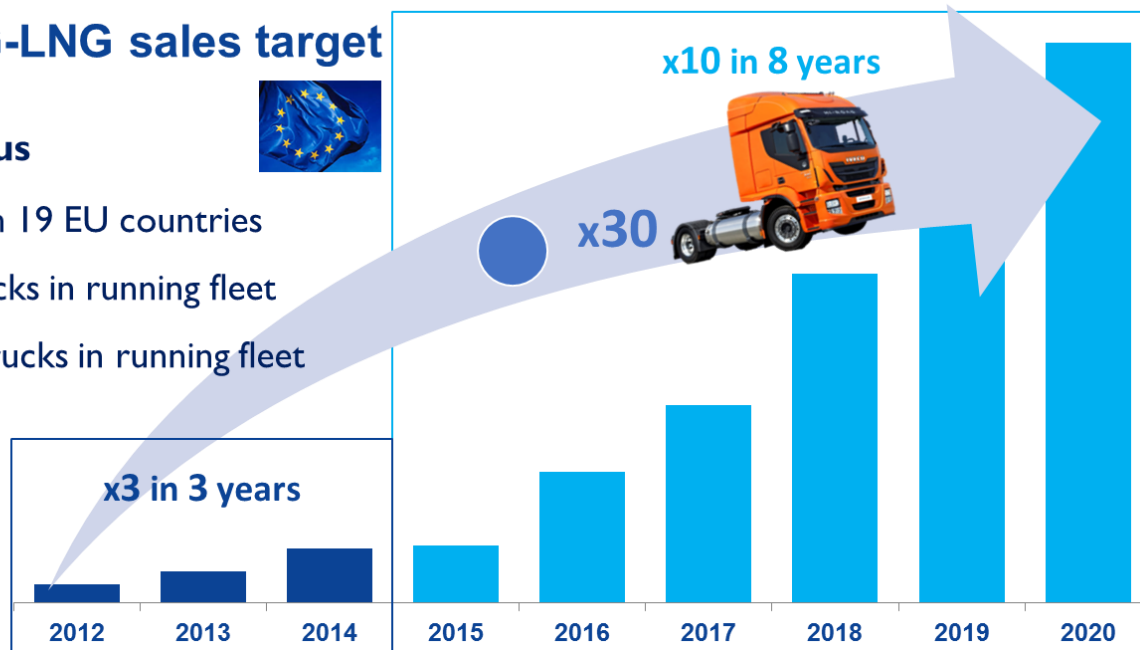


Market Trends

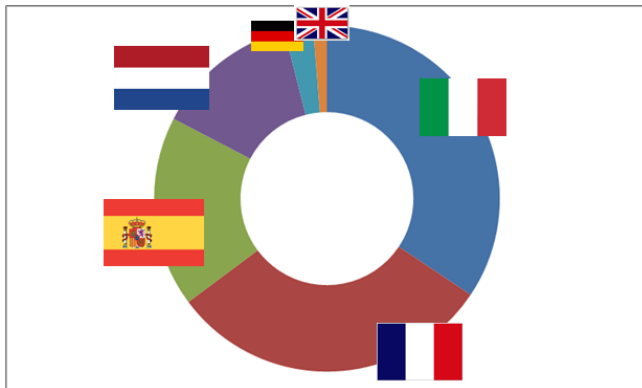
Stralis CNG-LNG sales target

Current status

- > 300 Clients in 19 EU countries
- > 2.500 gas trucks in running fleet
- > 1.500 LNG trucks in running fleet



LNG Iveco - Market share in European Countries (2016-17)



Market Trends



Full implementation of DAFI (Directive for the alternative Fuels) with in 2025

UE is financing several European Projects to foster and accelerate the creation of LNG infrastructure along the main corridors (GAINN, CEF, Blue Corridors)

“Historical markets” (UK, Spain, Netherlands): continuous growth

France: very fast growth in 2016 with 12 C-LNG stations open

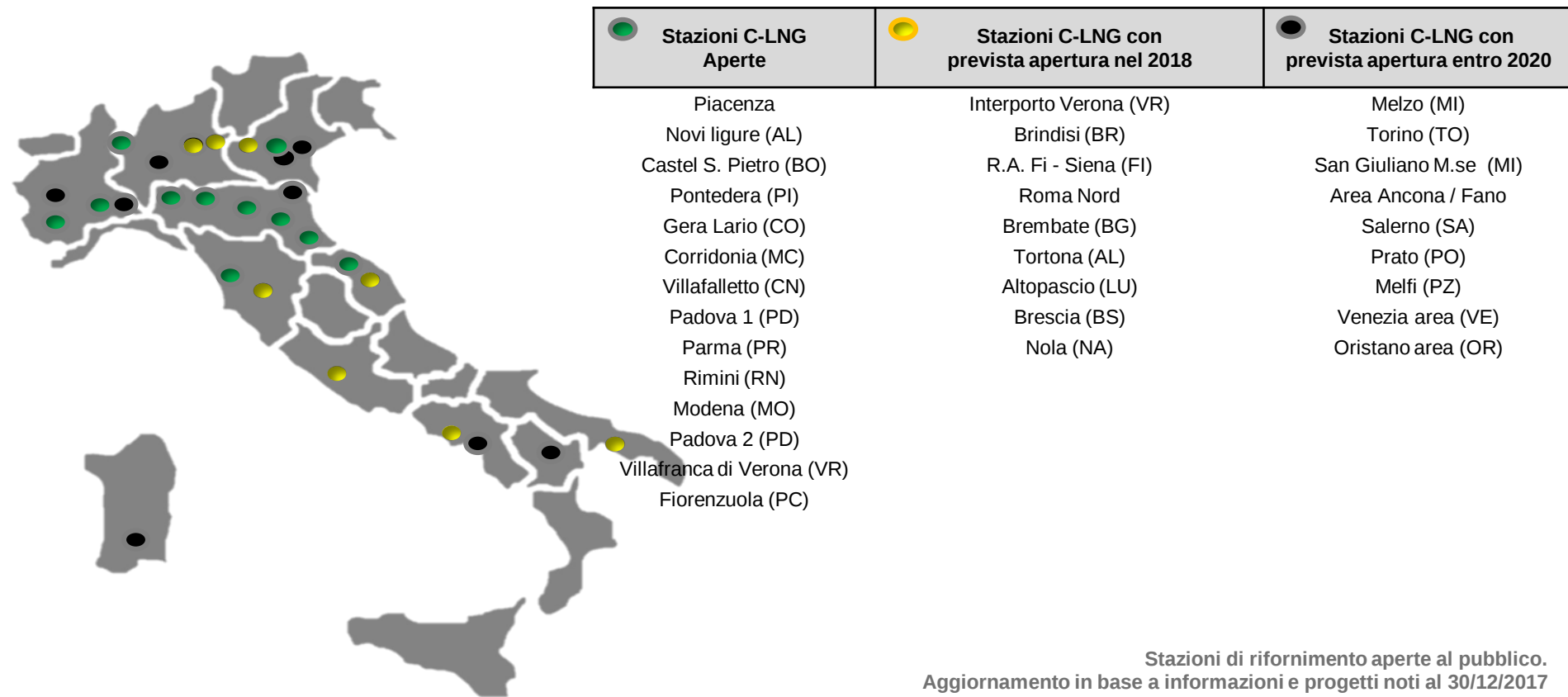
Italia: fast growth especially in the south: 14 open stations to be 20 by the end of 2017.

Germany: favourable conditions since 2017. Actually 3 stations

Austria: first LNG station opened in september 2017

Market Trends

Stazioni di rifornimento LNG per trucks in Italia



Stazioni di rifornimento aperte al pubblico.
Aggiornamento in base a informazioni e progetti noti al 30/12/2017

CONCLUSIONI



1
Secure tax spread
consistency
between NG and
gasoil for **10 years**



4
Standardization of
safety norms and
coordination Gas
Companies-Truck
OEM



2
Set incentives to
boost natural gas for
fleet renewal



5
Modular road pricing and
limitation policies
scheduling **benefits for**
low-emissions vehicles
(pollutants and
greenhouse gases)



3
Specific funds
to boost the
development of
refueling
Infrastructures



6
Support **biomethane**
production and usage
as fuel for road
transport



UNIONE PETROLIFERA

Workshop «Quale Transizione Energetica Sostenibile per Ambiente, Consumatori e Imprese»

Le prospettive del Gas Naturale Liquefatto nel trasporto su strada

Massimo SANTORI

CNHi-IVECO – Institutional Relations EMEA – Head Public Affairs

ROMA – 20 dicembre 2017