

NGV infrastructure and utilization in Hungary

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- General overview
- Regulation context
- The infrastructure of NGV utilization
- Possibilities

General overview

- Hungarian NGV fleet:

Type	NGV*	Total**
Passenger cars	5	3012 k
Lorries	65	416 k
Coaches & buses	71	18 k

- 13 filling stations
- CNG realization in 2007: 2600 k m³
- Prices
 - » Petrol (95) 1,279 EUR/liter
 - » Diesel 1,367 EUR/liter
 - » CNG 1,028 EUR/kg

* 2008

**2007 Hungarian Central Statistical Office

Short history

- The initial steps were taken in the 1980s and 1990s
- Two considerable sectors and characters were interested in the investments
 - Public transport – Debrecen
 - Gas service – Szeged
- The quantity of NGVs attained 200 in 2005.
- However, it has decreased since then, as this environment-friendly fuel does not provide a cost-effective solution, based on the expenses.

Regulation context

- Strategies
 - National Environmental Program, 2003-2008
 - National Climate Change Strategy, 2008-2025
- Related technical and safety measures
 - The **Government Ruling no. 260/2006. (XII. 20.)** determined the Hungarian Trade Licensing Office (HTLO) as the *technical safety authority* and the *construction authority* related to
 - fuel supply equipment of gas-powered road vehicles and machines
 - compressed natural gas filling equipment
 - The periodical supervision of autogas tanks is performed by HTLO according to the **Economic and Transport Ministry (GKM) ruling no. 30/2006. (VI. 1.)**
 - The construction works of filling stations and the processes of the construction authority are determined in detail in the **GKM ruling no. 27/2006. (V. 5.)**

- **GKM Ruling no. 26/2006. (V. 5.)** includes the rules related to the construction and operation of autogas filling stations
- The technical conditions of introducing and keeping vehicles in the traffic are determined in the **Transport, Communication and Construction Industry Ministry (KöHÉM) ruling no. 6/1990. (IV. 12.)**, including details related to vehicles powered by compressed natural gas, in harmony with the regulations of UN/ECE.
- **Related taxation rules**
 - Act CXXVII of 2003 determines the rules related to excise tax and the trading of excise products
 - Extent of excise tax is $\sim 0,1 \text{ EUR/m}^3$

What is the premium of the lower emission?

- The answer to the question is that presently there is no premium and several difficulties arise:
 - Mineral oil tax warehouse permission must be requested for the natural gas filling stations.
 - The law prescribes excise guarantee of each tax warehouse, the size of which is a maximum of 80 million HUF in case of compressed natural gas filling stations.
 - There is no comprehensive network of service stations, therefore operation is not solved.
 - In case of buses, the specific kilometre cost is only equal in case of high diesel oil prices.
 - In case of small lorries, the return-of-investment period is 6 years.

The infrastructure of NGV utilization - Vehicles

Quantity	Product	Fuel supply	Category
49	IKARUS	Only CNG	Bus
12	NEOPLAN	Only CNG	Bus
6	Mercedes-Benz	Only CNG	Bus
1	MAN	Only CNG	Bus
3	JELCZ	Only CNG	Bus
54	Renault, Peugeot	Modified, dual fuel	Kangoo, Partner, 206, mainly light commercial vehicles

- Generally, importers are not prepared to trade and serve NGVs

Filling stations

CNG Filling stations	Owner	Compressors(by piece)	Capacity (m ³ /h)	Comment
Debrecen	Public transport service company	2	500+450	Internal usage
Szeged	Gas service company	2	850	Public
Győr	Gas service company	1	340	Internal usage
Békéscsaba	Gas service company	1	50	Internal usage, Slow fill
Kiskunfélegyháza	Gas service company	1	50	Internal usage, Slow fill
Kecskemét	Gas service company	1	45	Internal usage, Slow fill
Baja	Gas service company	1	25	Internal usage, Slow fill
Hódmezővásárhely	Gas service company	2	8	Internal usage, Slow fill
Kalocsa	Gas service company	1	4	Internal usage, Slow fill
Kiskunhalas	Gas service company	1	4	Internal usage, Slow fill
Orosháza	Gas service company	1	4	Internal usage, Slow fill
Szabadszállás	Gas service company	1	4	Internal usage, Slow fill
Szentes	Gas service company	2	8	Internal usage, Slow fill

Filling stations



Possibilities /disadvantages – advantages/

- The length of the return-on-investment period hinders the success of the environment protection aspects
- The NGV related activity is not represented by an organization currently
- + The Biogas potential existing in Hungary may provide a source, especially regarding the problems of feeding the biogas into a network
- + Biogas also provides a renewable energy source
- + There is cooperation between certain gas industrial players and universities in the field of NGV
- + Based on the 2003/96/EC Directive of the European Council, total tax exemption or tax allowance may be provided in case of natural gas used as engine fuel, which may improve the economics of investments.

Possibilities - Targets in reflection of Sustainable development

- Spreading the CNG technology in the field of developing public transport vehicles is an existing alternative that points into the future.
 - This may create the foundations of the necessary network of filling stations, which is the basis of usage for other purposes.

Thank you for your attention!

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