

FISIKON: THE POWER OF NATURE FOR MOBILITY NEEDS



Investing in the development of an alternative
vehicle fuel in Greece

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Towards **Low-Carbon Mobility**



OUTLINE

A part of a low-carbon strategy should be also the switch to improved and cleaner fuels for greening the mobility needs of people and the movement of goods and services.

Natural Gas is an automobile fuel with bright future: environmental, economical, safe and convenient.

Natural gas in the form of Compressed Natural Gas (**CNG**) is expected to be increasingly used as an **alternative cleaner fuel** for vehicles. The use of CNG requires **specific investment in infrastructures** taking into consideration the existing refueling station system in EU.

DEPA SA, the incumbent Natural Gas utility in Greece, is implementing an ambitious investment plan for developing a basic CNG refueling station network in the country's main urban areas and motorways. The investments are an integrated part of a "go-to-market" strategy using 4P marketing initiatives in an innovative manner for promoting the adaption of the new alternative fuel and increasing the environmental awareness of users.

DEPA's investments in CNG refueling station infrastructures and other marketing initiatives are green, because they are performed for providing a more environmentally friendly automobile fuel and supporting low-carbon mobility practices.

Corporate investments in low carbon fuels and their supporting technologies can help businesses come up with sustainable solutions that are reducing the negative effects of human activities on the environment and support economic growth.

Moving towards zero-emissions vehicles

- Mobility in the 21st century should be environmentally friendly, safe, highly efficient and economical.
- Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities.



- Low-emission alternative fuels to diesel and gasoline can contribute to the gradual decarbonization of transport in Europe and Greece catering the mobility needs of people and goods.

Compressed Natural Gas (CNG)



- The use of Compressed Natural Gas (CNG) as vehicle fuel attains all low emission goals.
- Over one million vehicles currently use this fuel representing 0,5% of the fleet – the industry aims to increase this figure ten-fold by 2020.

FUEL / CNG FEATURES

AVAILABLE

PRACTICAL

**HIGH
QUALITY**

ECOLOGICAL

ECONOMICAL

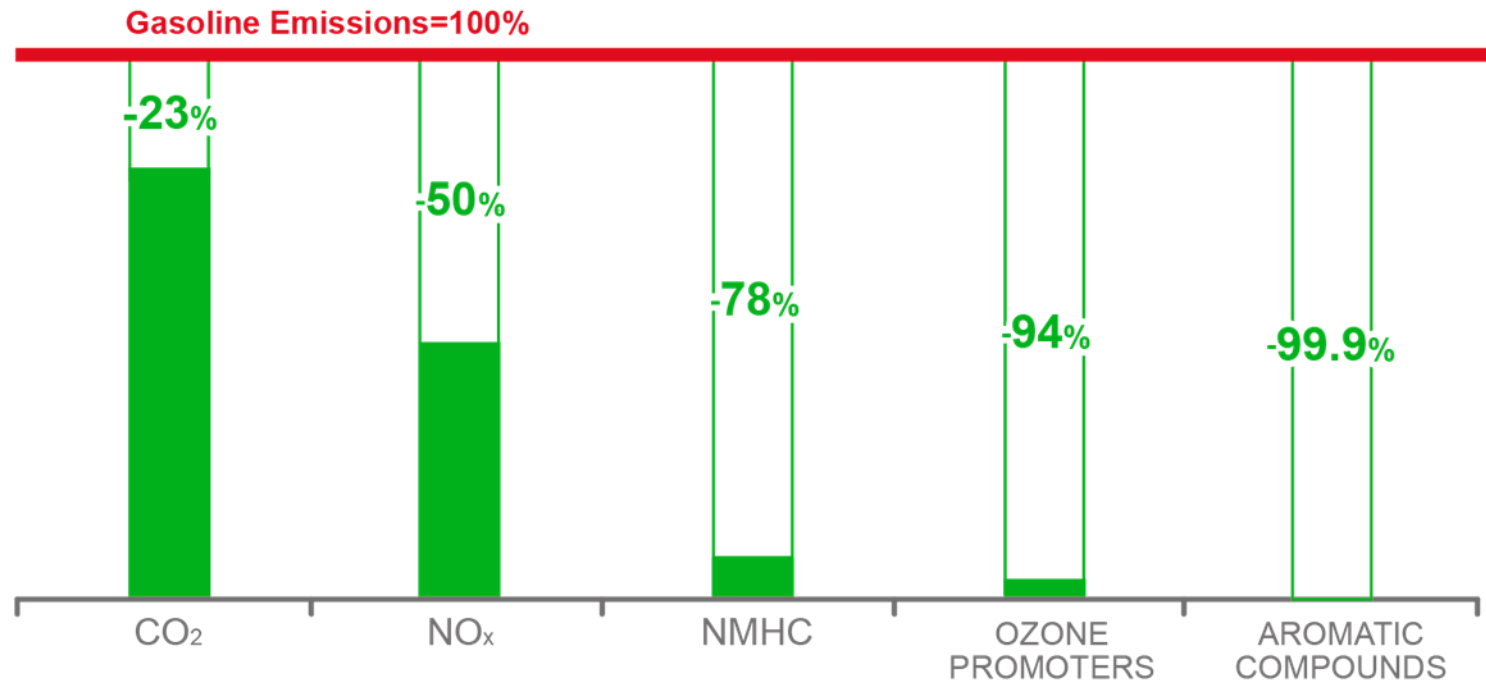
SAFE

AFFORDABLE

**MATURE
TECHNOLOGY**

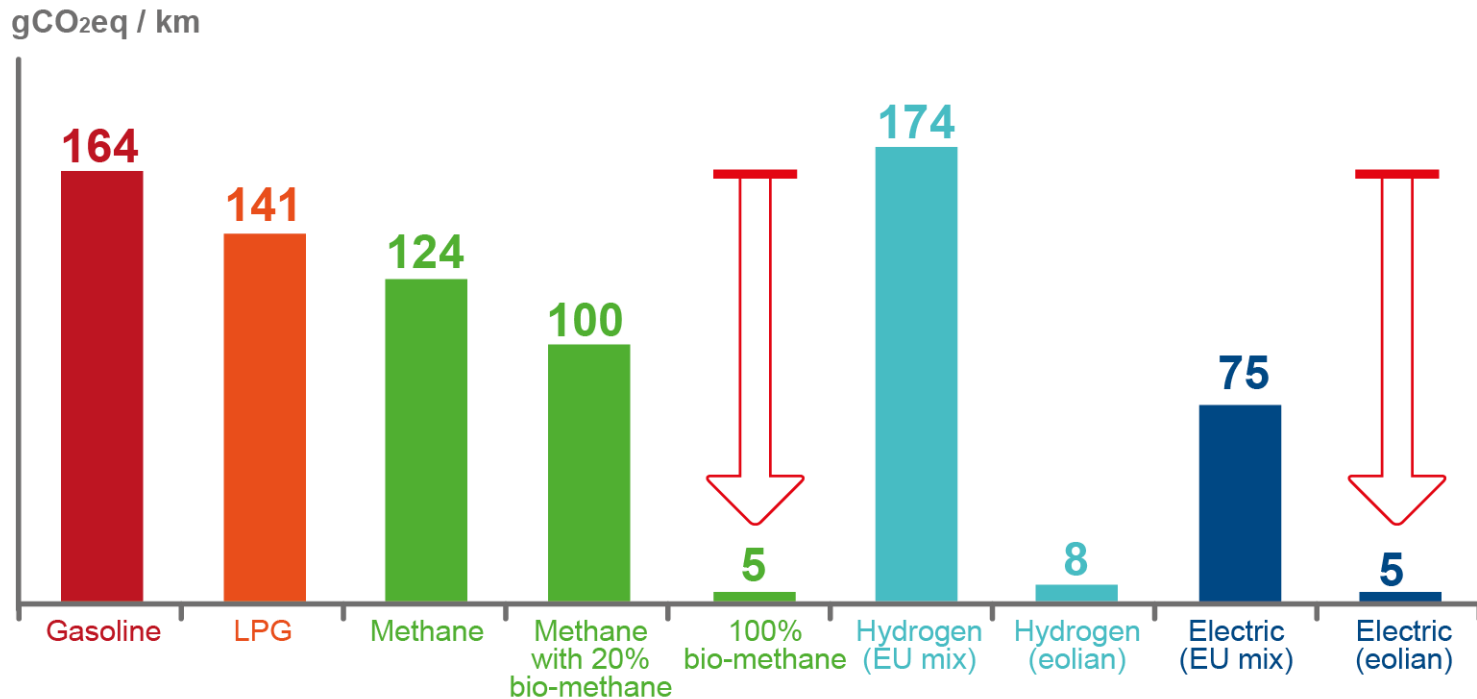
ECOLOGICAL - I

Reduction of emissions in comparison with gasoline



ECOLOGICAL – II

Comparison with other fuels



ECOLOGICAL – III

Emission reduction estimations

In the case of a 10% penetration of CNG into the automobile fuel market in Greece, then:

- ❑ The CO₂ emissions will be reduced by 750.000 tones annually,
- ❑ The CO emissions will be decreased by 145 tones annually, and
- ❑ NO_x emission will be cut down approximately by 10 tones annually.

ECONOMICAL



VW PASSAT

- Gasoline: 38,81 €
- CNG: 16,4 €

-58% savings in fuel cost



Roll-out of CNG infrastructures

- In order to achieve mass acceptance and deployment of Natural Gas Vehicles (NGVs), refueling infrastructures need to become widely available throughout Europe.
- The Public Gas Corporation (DEPA S.A.) is implementing an ambitious investment plan for developing a network of CNG refueling stations at large urban areas and main motorways in Greece.



- CNG is launched to the Greek market with the brand name «FISIKON».

Motives and objectives

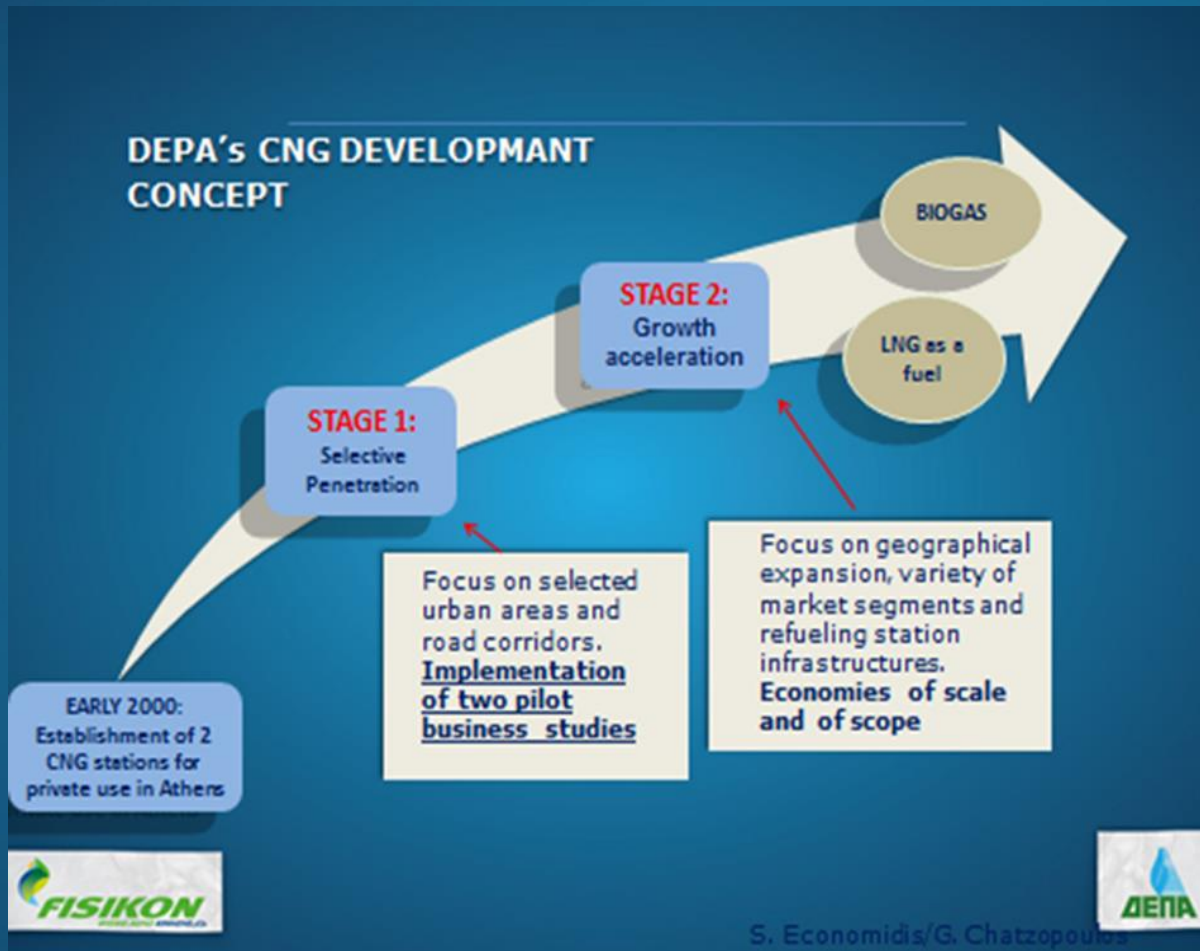
- **MOTIVES:**

- I. The transportation fuel market has a size of 12 billion Euros in Greece (2016);
- II. Favor business environment for natural gas applications in the transport sector: The EU policy for alternative fuels aims to ensure that publically accessible CNG refueling points with common standards are available Europe-wide with maximum distance of 150 km by 2020.

- **The main corporate objectives for the investments are:**

- To grow and diversify the company's business in a new promising sector, and
- To lead the development of alternative transportation fuels and "blue – green corridor" concepts in Southern East Europe (SEE).

CNG Station Development Concept

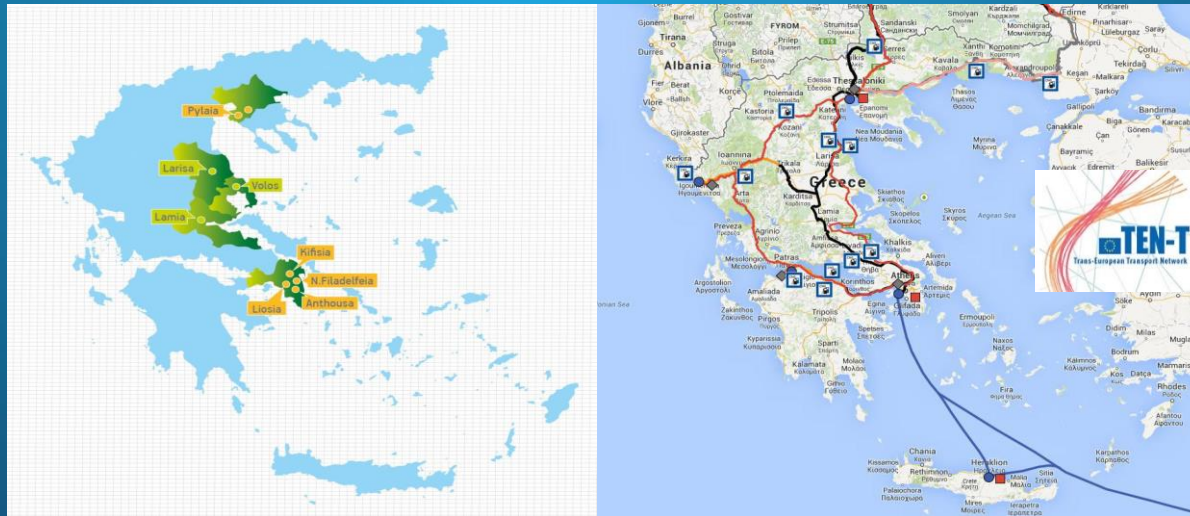


DEPA's concept is to develop the CNG refueling station network through the implementation of two clearly separated development phases:

- I. The selective penetration phase
- II. The accelerated growth phase

The selective penetration

- Investments in CNG infrastructures will be implemented in two stages (one for the urban traffic and one for the motorway transport) and will be used for the CNG market introduction and the raise of the consumer awareness for natural gas as a new alternative fuel.
- ✓ The first stage of investments is in progress and will be completed at the end of 2018 establishing a basic network of 17 CNG refueling stations in five large cities (this stage is 100% financed by DEPA S.A.),
- ✓ The second investment stage is focusing on the intercity motorway transport and is granted also by the European Commission. It will be completed in the start of 2020 establishing 10 stations (13 CNG refueling points) on main motorway corridors in Greece.



The geographical scope of investments

High Traffic Intensity

**MOTORWAY
ATHENS - THESSALONIKI: 2**

**MOTORWAY
ATHENS - PATRA: 1**

ATHENS: 8

THESSALONIKI: 3

PIRAEUS: 1

PATRA: 1

HYPERLOCAL

LOCAL

**EGNATIA MOTORWAY: 2
KOZANI, XANTHI**

LARISSA: 1

VOLOS: 1

TRIKALA: 1

LAMIA: 1

IGOUMENITSA: 1

SERES: 1

CHALKIDA: 1

ALEXANDROUPOLI: 1

Numbers indicate the number of CNG stations

Low Traffic Intensity

Other (green) marketing activities

The
"Supply"
Site of the
CNG market

The
"Demand"
Site of the
CNG market

PLACE: Green Investments in Infrastructures.

CNG refueling points at existing petrol stations reducing resource consumption

PRODUCT: "Greener" Fuel.

PRICE: Low price with perception of extra product value.

PROMOTION: Is addressed to the relationship between fuel and biophysical environment



Defining the “green” in DEPA’s investments

“Green investment” is a very broad term.

- Macroeconomic definition (=> more broad and generic, focussing on the fixed assets)

DEPA’s investments in CNG refueling infrastructures are necessary for reducing GHG and other pollutant emissions, without reducing the transport activities of other sectors in the economy.

- Micro-Level definition (focussing on the product / CNG, relative to the other conventional fuels in the transport sector)

DEPA’s fuel (CNG) is low carbon, more climate resilient, less toxic, safer.

Investments activating Innovation

Because they are applying scientific and engineering knowledge to the conception and development of natural gas as a fuel for on-road transport operations, facilitating and supporting:

- The promotion of new refueling- and vehicle technologies with socio-economical benefits,
- The driving of global standards,

and

- A change process in the economic system towards the promotion of alternative fuels



Macroeconomic Benefits

The shift towards low-emission mobility is:

- Offering opportunities for new business development,
- Bolstering the competitiveness of the transport industry
- Boosting growth in the vehicle business
- Providing New jobs with new skills
- Bringing savings on oil import bills



Η επόμενη εποχή στην **κίνηση οχημάτων** ξεκινά!



Examples for the value of green investments towards low emission mobility:

Alternative fuels will create 700.000 additional Jobs by 2025 in EU.

NGV sector in Italy:

- **Turnover: 1,7 bill. €,**
- **20.000 employees,**
- **over 1.100 refueling stations,**
- **5.000 dedicated Workshops,**
- **50 SMEs with worldwide activities.**

DEPA SA

- DEPA S.A. was founded in 1988 with the main mission to introduce Natural Gas to Greece.
- DEPA Group is the incumbent natural gas utility in Greece, responsible for the wholesale, trading, distribution and supply natural gas. The group is currently 65% owned by the Greek State and 35% by Hellenic Petroleum S.A.
- DEPA S.A. – 2016:
 - 200 highly specialized employees;
 - Revenue: 862 million Euros;
 - EBITDA: 46 million Euros;
 - After Tax Profit: 106 million Euros



DEPA's STRENGTHS

- ❑ Competitive supply mix, including mid-long term contracts at advantageous prices.
- ❑ Scale, which allows flexibility on the commercial side and supports the strong value proposition to large and medium sized customers.
- ❑ Strong position in international developments, through active participation in concrete projects in the region.
- ❑ Active role in shaping new developments in natural gas in the domestic market, e.g. CNG refueling stations for natural gas fueled vehicles (NGVs), small scale LNG & CNG.
- ❑ A strong management team and well diversified and integrated human resources with long experience in the sector and in depth understanding of the evolution of gas market.
- ❑ Proven track of records in planning, developing, permitting, building and operating safely natural gas infrastructures.



DRIVING WITH THE POWER OF NATURE

THANK YOU FOR YOUR ATTENTION

