

Global Autogas trends and key success factors

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265

Members

140

different countries

Authoritative global voice
for LPG

Represents the entire LPG
chain

50%

Members in the
distribution and
marketing business

Presentation outline

1. About Autogas
2. Global outlook on Autogas demand
3. Key success factors
4. Case studies

About Autogas

What is Autogas

AUTOGAS IS



USED AS A **ROAD TRANSPORT FUEL**
ALSO CALLED LPG, OR PROPANE

LPG IS A CO-PRODUCT OF



NATURAL GAS



OR **OIL PRODUCTION**

AND THUS RESOURCE EFFICIENT
BY ITS VERY NATURE.



60% OF ALL LPG
PRODUCED ACTUALLY
DERIVES FROM NATURAL
GAS EXTRACTION

LPG IS EASILY

**TRANSPORTED
AS LIQUID**



BUT HAS ALL
THE BENEFITS
OF A GAS



THERE ARE CLOSE TO

27
MILLION
AUTOGAS
VEHICLES

IN USE AROUND THE WORLD



AUTOGAS DRIVERS
CAN FILL UP
AT ONE OF THE



76000

REFUELLING
STATIONS



AUTOGAS POWERS
THE LARGEST NUMBER OF
VEHICLES RUNNING
ON ALTERNATIVE FUELS



AUTOGAS POWERS



PASSENGER
CARS



TRUCK



AUTO-
RICKSHAWS



DELIVERY
VANS



TAXI



BUSES



AND EVEN RALLY CARS

8 OF THE **10**

LARGEST CAR
MANUFACTURERS
PRODUCE LPG CARS



GLOBAL CONSUMPTION OF
AUTOGAS HAS RISEN BY

LPG

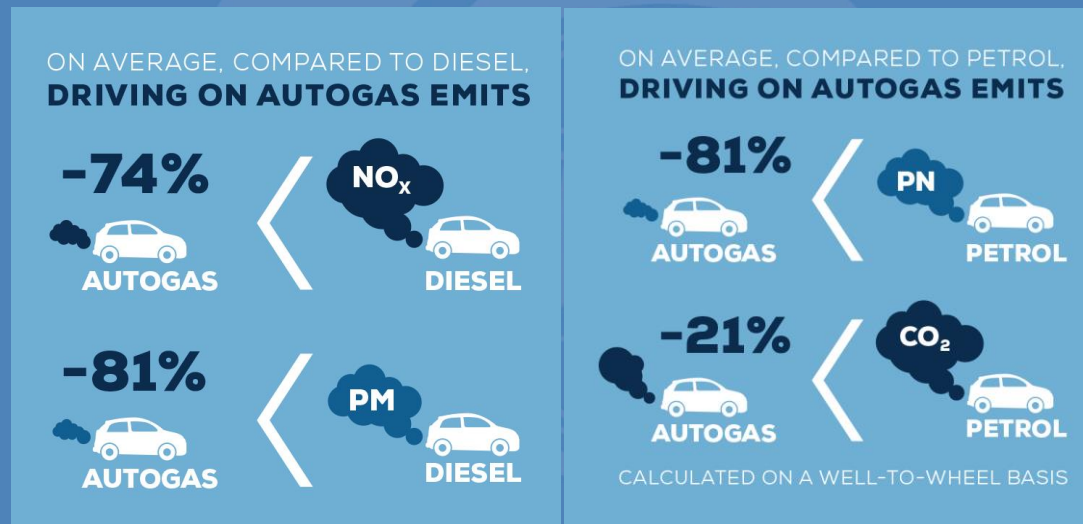


40%

IN THE PAST
10 YEARS

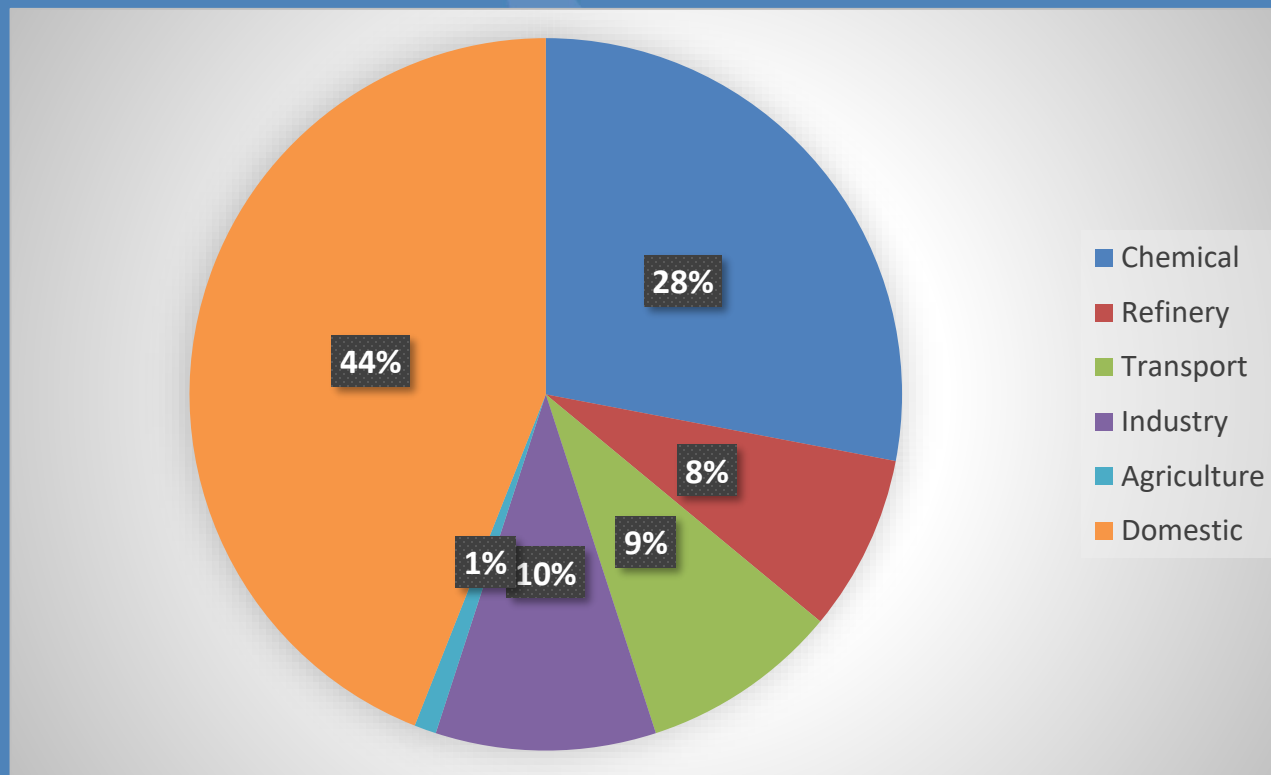
The Autogas value proposition

- ✓ Mature and readily available technology
- ✓ Low cost of vehicles and conversions, and low fuel costs
- ✓ Reasonable cost of infrastructure development
- ✓ Higher octane rating and lower hydrogen-to-carbon ratio than conventional fuels
- ✓ Cleaner burning and low emission characteristics:



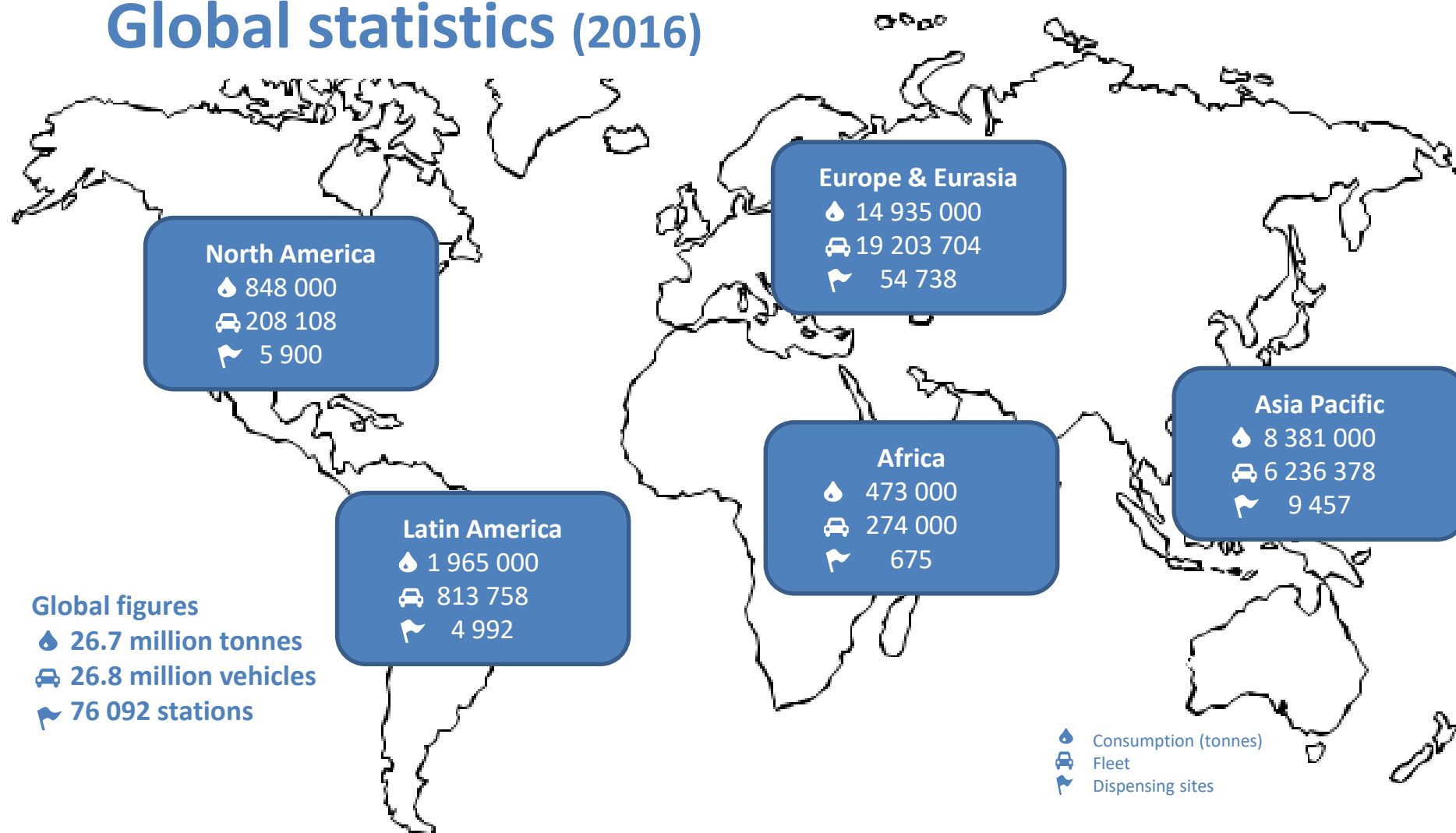
Global outlook on Autogas demand

LPG consumption by sector (2016)

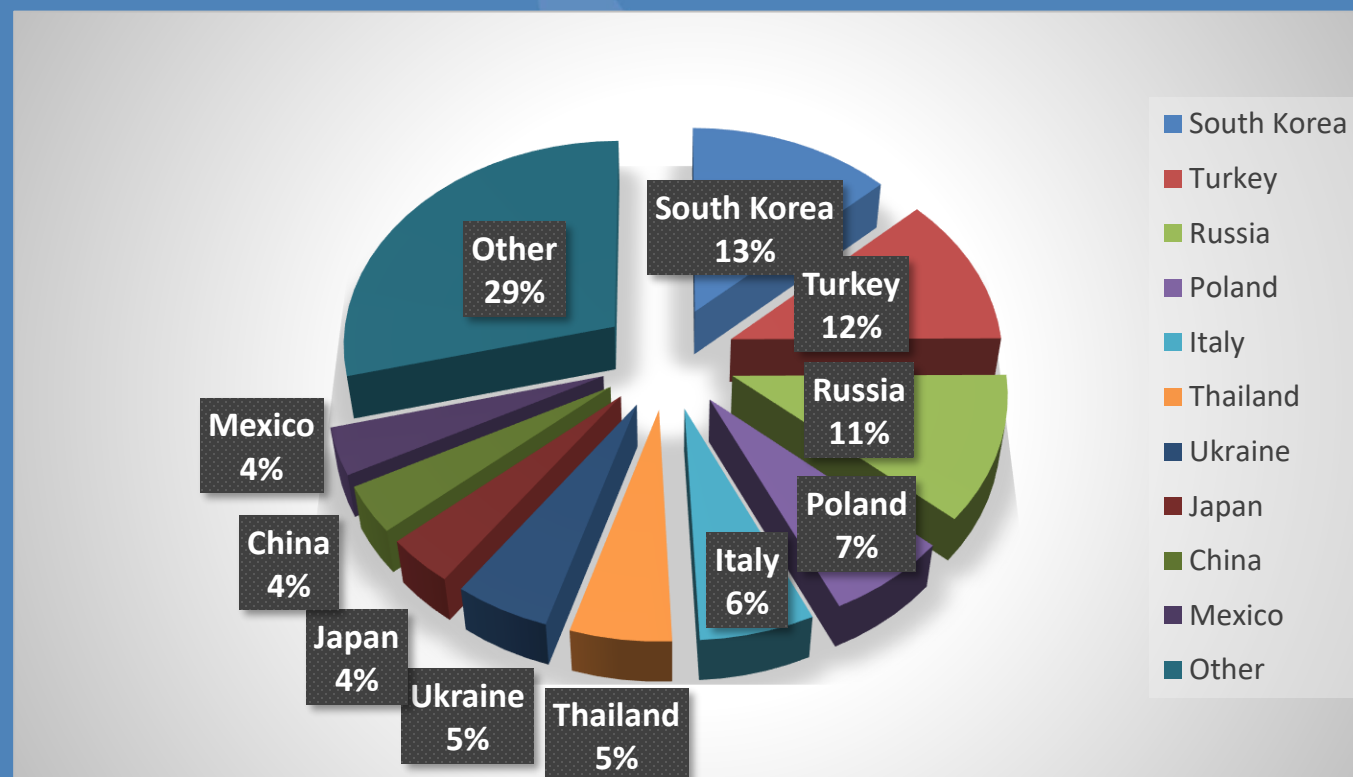


Source: Argus Media for WLPGA

Global statistics (2016)

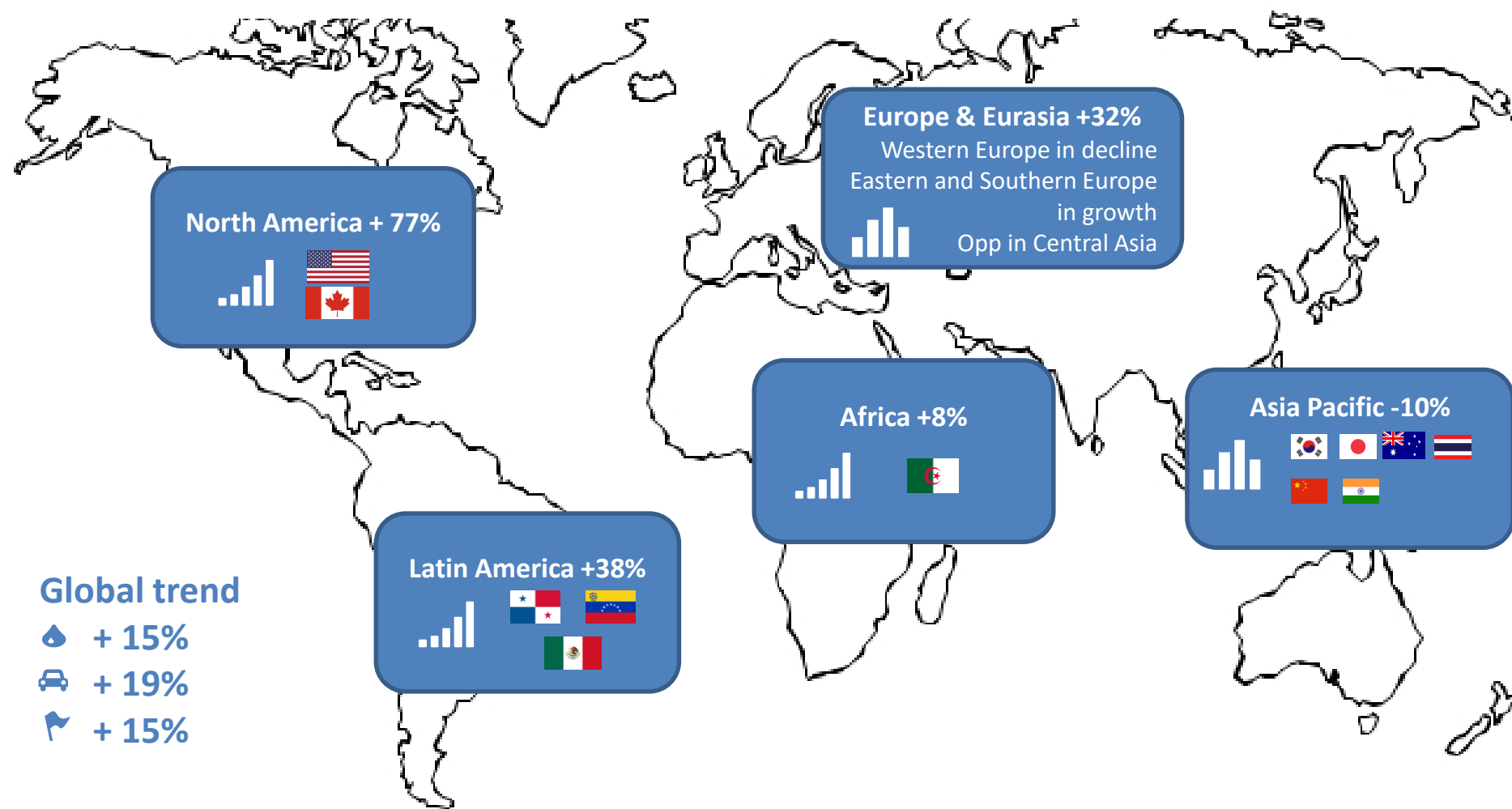


Autogas top ten (volumes, 2016)



Source: Argus Media for WLPGA

Autogas trends (2011-2016) and opportunities

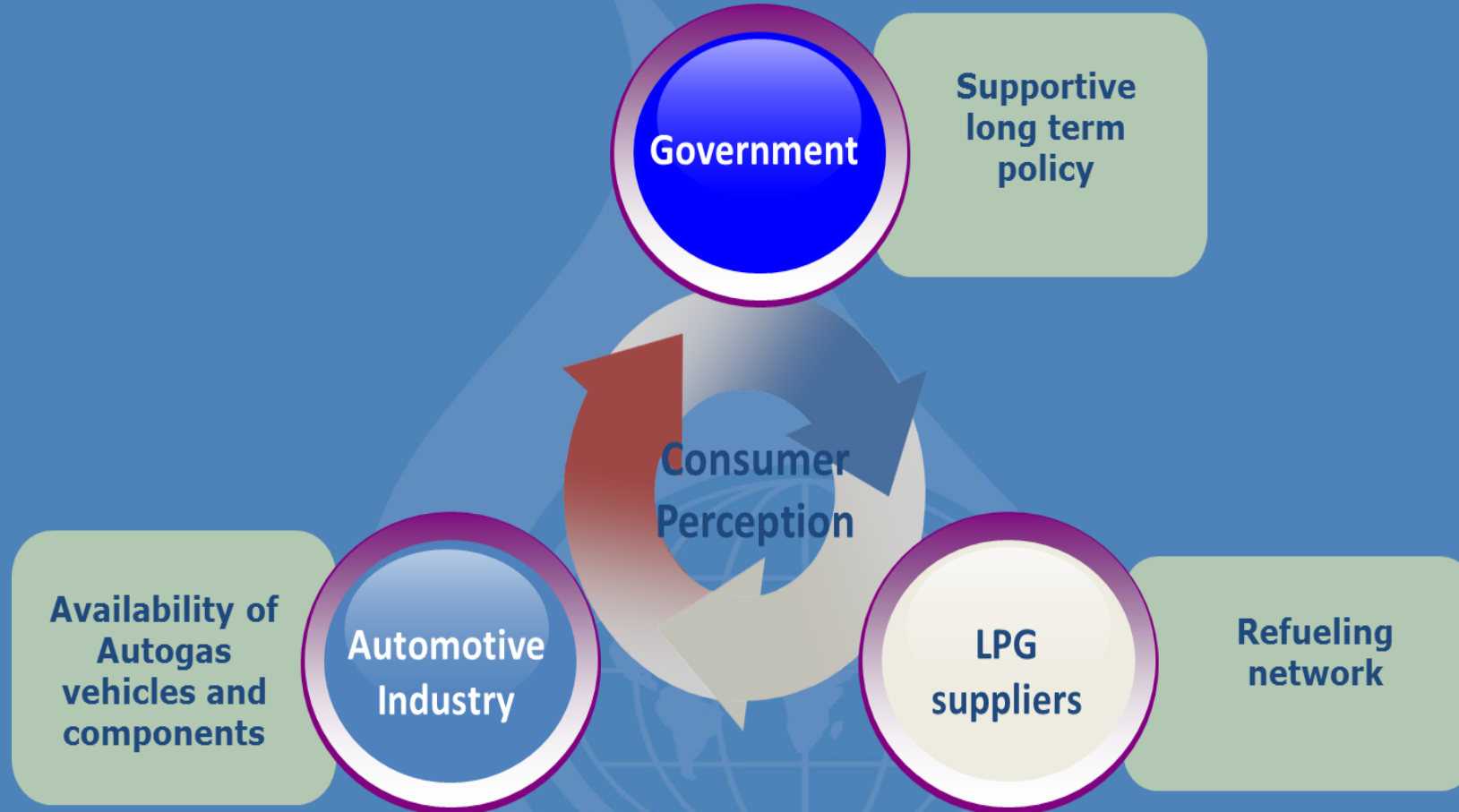


- New technologies: direct injection; hybridization
- New fuel: bio-LPG
- New applications/segments



Key success factors

Key success factors

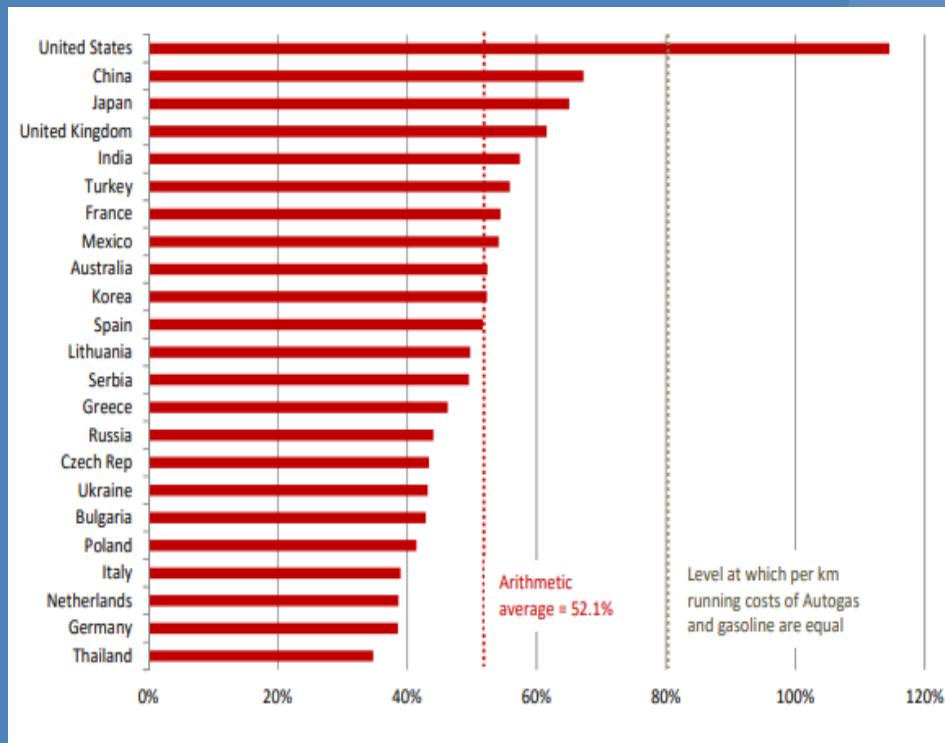


Fiscal/financial	Regulatory	Other
<ul style="list-style-type: none">▪ Excise-duty exemption or rebate▪ Road/registration-tax exemption or rebate▪ Vehicle sales-tax exemption or income/profit tax credit (purchasers and OEMs)▪ Tax credits for investment in distribution infrastructure and R&D▪ Grants/tax credits for AFV conversion/acquisition▪ Exemption from parking/road-use charges	<ul style="list-style-type: none">▪ Mandatory sales/purchase requirements for public and/or private fleets (with enforcement)▪ Standards to harmonise refuelling facilities▪ Vehicle-conversion standards▪ Coherent and appropriate health and safety regulations▪ Exemptions from city-driving restrictions	<ul style="list-style-type: none">▪ Government own-use of AFVs▪ Information dissemination and public awareness campaigns▪ Voluntary agreements with OEMs to develop and market AFV technologies▪ Direct funding for research, development, demonstration and deployment of AFVs

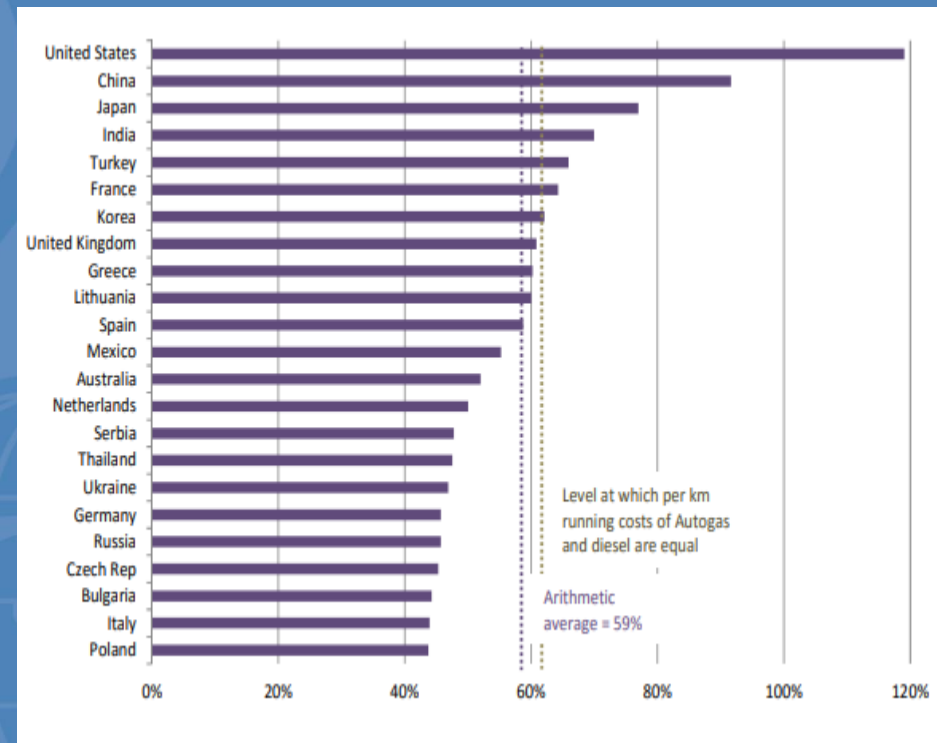
Motivations: 1) the environment ; 2) diversification of energy use
Need for long term policy stability, coherence and consistency

Fuel price comparison

Autogas pump price including all taxes as % of gasoline price per litre, 2016



Autogas pump price including all taxes as % of diesel price per litre, 2016



Source: Autogas Incentive Policies, WLPGA, 2017
www.auto-gas.net

Cost competitiveness

The example of Italy



Fuel prices

	2016 (US dollars)
Autogas	0.623
Diesel	1.419
Gasoline	1.597

44% 39%

Incentives

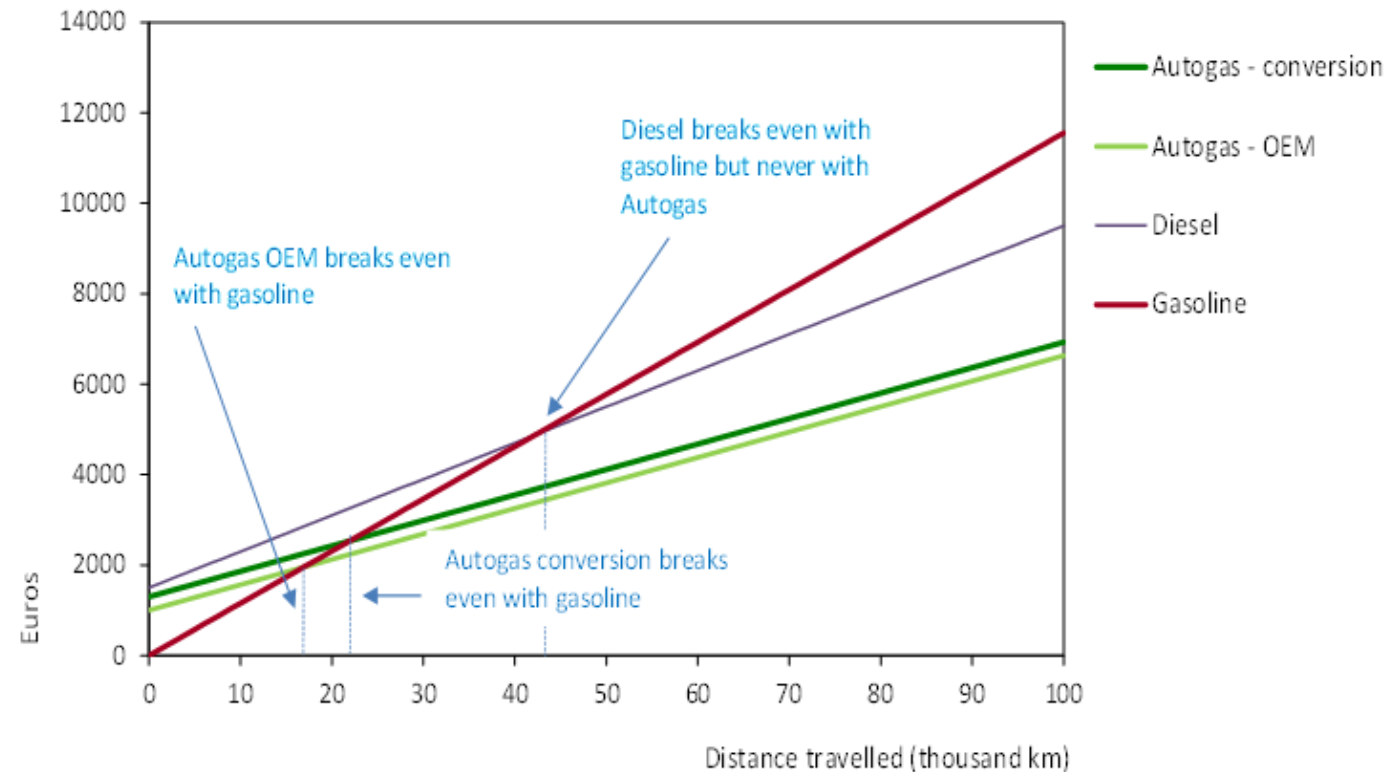
- ✓ Low rate of excise tax
- ✓ Grant schemes at local level
- ✓ Eco-bonus to displace diesel for commercial vehicles
- ✓ Annual road tax rebate
- ✓ Free access to congestion-charging zones

Cost competitiveness

The example of Italy



Running costs

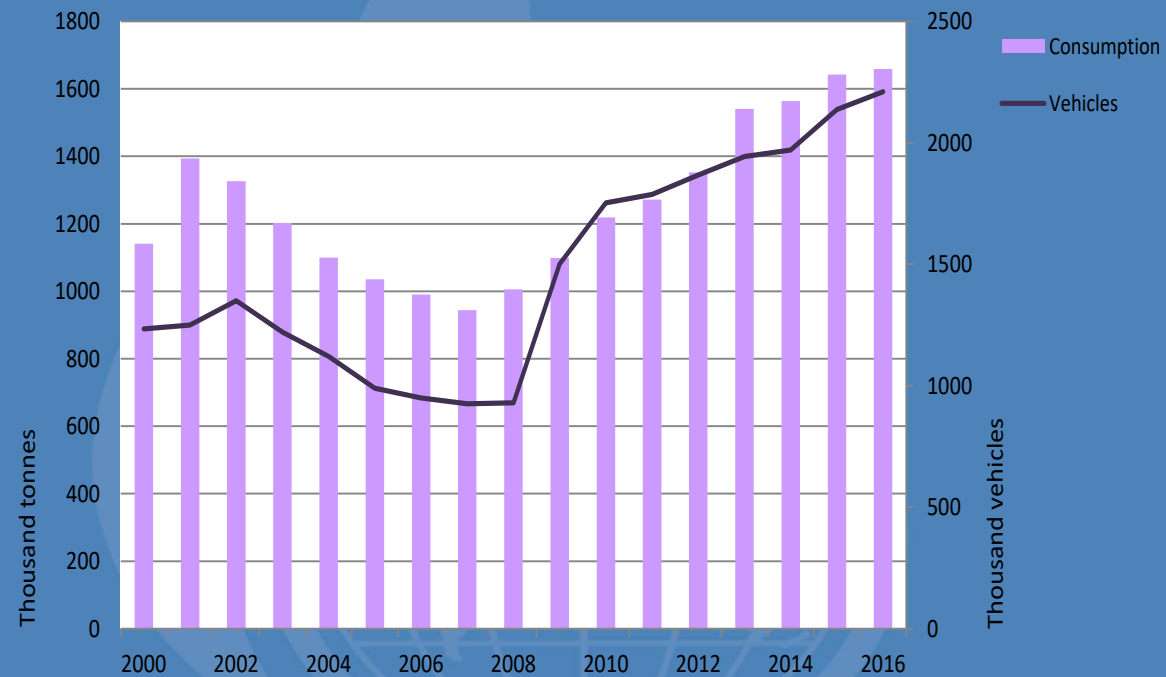


Cost competitiveness

The example of Italy



Autogas market evolution



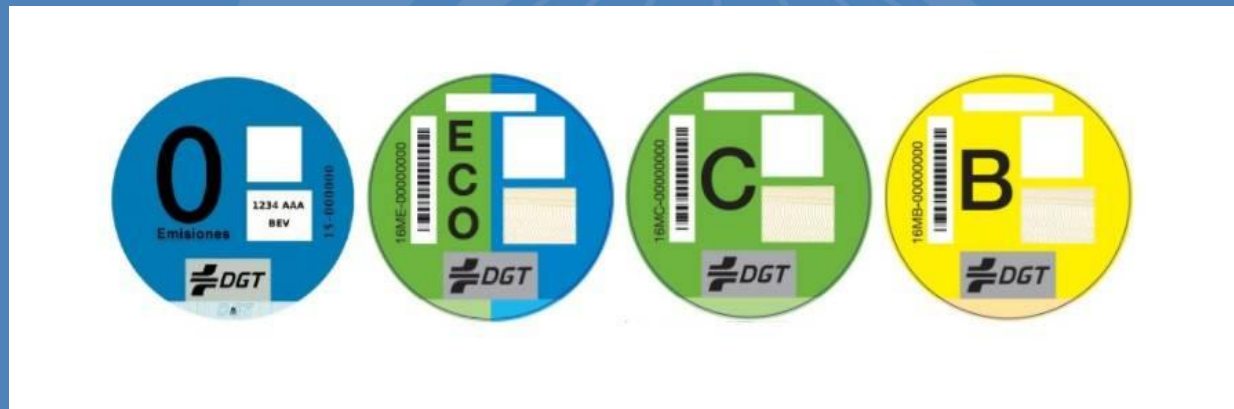
Spain



Small but fast growing Autogas market

Strong government support and long term objective for the growth of the fuel:

- 2020 objective of 200,000 Autogas vehicles
- Funds for the purchase or conversion of vehicles
- Car labelling system: Autogas is ECO
 - Basis of traffic restriction, parking fare etc



United States



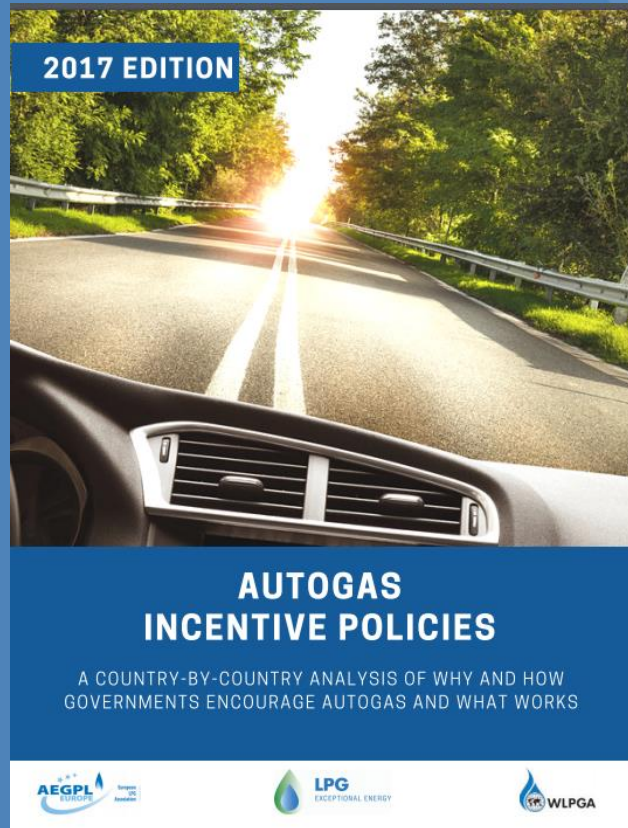
- Growth of Autogas with a focus on fleets, and school buses in particular
- Mandate for AFV purchase for public fleets
- Many support programmes and federal and state level



Focusing on fleets is one of the most effective way to launch Autogas. It:

- Requires limited infrastructure.
- Allows for economies of scale for both users and LPG industry players.
- Guarantees a quick return on investment to both users and LPG distributors thanks to big volumes.
- Raises the awareness of Autogas of a broader public using/seeing these vehicles.

Learn more!



Freely available at
www.auto-gas.net

GUIDE TO NEW AUTOGAS MARKETS

Availability of vehicles

138 LPG OEM models
from more than 40 car
brands available in the
world!





Car and kit manufacturers played a critical role in the evolution of Autogas

Investment in technology development to improve performance and fuel economy

Generations of LPG engines



Refueling network

Refueling network

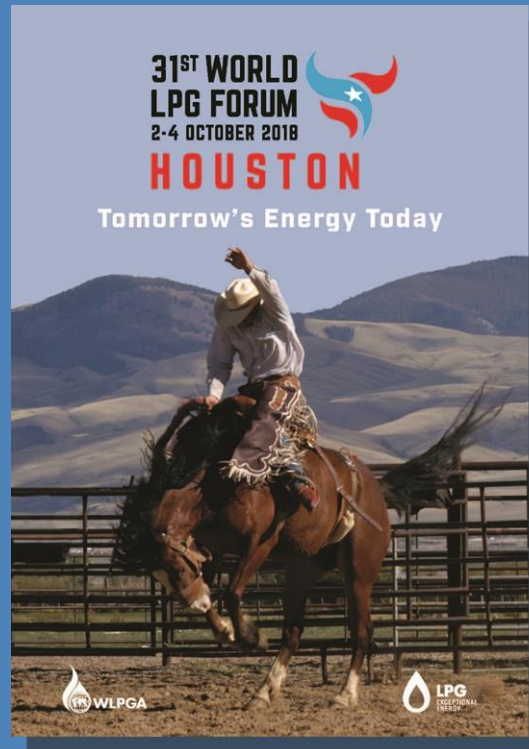
Consumers need confidence that the network is sufficiently developed

Challenge for new markets = careful planning:

- ✓ Start with captive fleets
- ✓ Identify target cities/areas
- ✓ Identify locations along major axis
- ✓ Ideally, establish Autogas refuelling facilities within existing traditional (gasoline & diesel) fuel service stations
- ✓ Plan for adequate Autogas storage at filling stations
- ✓ Consider underground LPG storage on service stations as an option
- ✓ Safety at Autogas filling stations is paramount



- Global Autogas market is growing sustainably: interest in Autogas!
- Autogas markets can grow with the right set of incentives and the right level of investment
- Work together with government and OEMs/kits manufacturers
- Communication on the benefits of Autogas is essential



¡Nos vemos en Houston!
2 – 4 octubre 2018