LPG – today and tomorrow

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Liquid Gas Europe – European LPG Association

- Voice of the European LPG Industry
- Created in 1968
- Focus on Policy & Lobbying
- Based in Brussels
- www.liquidgaseurope.eu

+ 50 Members
17 National Associations
11 LPG Distributors
27 Affiliate Members

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The state of the market

Total LPG demand in 2017 = 37.6 million tonnes

- Chemical: 40%
- Residential: 19%
- Autogas: 28%
- Agriculture: 2%
- Industry: 11%

Top-10 LPG retail markets in Europe

**Residential:**
1. Italy
2. Spain
3. France
4. Turkey
5. Germany
6. Portugal
7. UK
8. Poland
9. Romania
10. Netherlands

**Autogas:**
1. Turkey
2. Poland
3. Italy
4. Ukraine
5. Bulgaria
6. Germany
7. Romania
8. Greece
9. Netherlands
10. Serbia

**Industrial:**
1. Germany
2. UK
3. Sweden
4. France
5. Finland
6. Poland
7. Italy
8. Norway
9. Turkey
10. Greece

EU 28 + Turkey, Ukraine, Norway, Switzerland, Serbia and Bosnia Herzegovina
Autogas today

EU 28 - Figures are expressed in thousand vehicles, 2017 data

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What makes Autogas appealing?

Why would I?

- Environment benefits
- Incentive policies
  - Taxes
  - Pump prices
- Breakeven distance
- Model Availability

Reasons to think

“Autogas is most competitive in India, where a converted vehicle breaks even with gasoline at just 13,000 km – less than one year of driving for a private motorist.”

“The breakeven distance for Autogas against gasoline in India is lower than that of Ukraine, yet the penetration of Autogas in India is much lower.”

Game Changers

- Government policy commitment
- Education and communication
- Restrictions on diesel vehicles
- Availability of equipment and fuel
- Public attitudes

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The LPG industry’s long term vision for Autogas

Autogas is a promising solution to cost-efficiently address both CO2 and pollutant emissions.

The technology is here today and it is ready for tomorrow.

Ramp up of BioLPG will accelerate Autogas emission benefits in the long run.
LPG delivers strong results in emission reductions

→ Key message to policy makers
CO2 and pollutant emissions need to be tackled together
LPG is a cost-efficient solution to address both

→ 98% less NOx than diesel cars and 90% less PM than gasoline cars (in real driving emission tests)
Technology potential

LPG Direct Injection
- Higher fuel efficiency and lesser CO2 emissions
- No need for particles filter
- Attractive option to car manufacturers for reducing emissions at reasonable costs

LPG Hybrid systems
- Introduced across Suzuki range
- Toyota has developed a hybrid LPG taxi with 20% less CO2 than equivalent petrol hybrid
- Many other hybrid configurations possible (plug-in, range extender for trucks etc)
BioLPG

Up to **90%** GHG reduction vs conventional LPG

Current yearly production in Europe: **150,000 tonnes**

Powers an estimated **190,000 LPG cars**

BioLPG could soon power **85% of the Spanish LPG fleet**

Expected production in Europe in 2022: **250,000 tonnes**
Future outlook for production

TODAY

<table>
<thead>
<tr>
<th>Refinery co-product</th>
<th>Natural Gas fields</th>
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<tbody>
<tr>
<td>34 %</td>
<td>66 %</td>
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Global production of conventional LPG expected to grow by over 30%

Could cover up to 100% of European consumption

BioLPG

Butane & Propane

2040 2050

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Our focus

➢ Motor Shows
  ❖ Brussels
  ❖ Paris
➢ Low Emission Zones brochure
➢ Real Driving Emission Tests
➢ Direct Injection Engine Technology
➢ Autogas Vehicle Catalogue
➢ European Elections Manifesto

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“With the right policies in place, the LPG industry believes the total fleet of passenger vehicles could reach 10% market share in 2030 and be carbon neutral by 2050.”
Thank you!

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