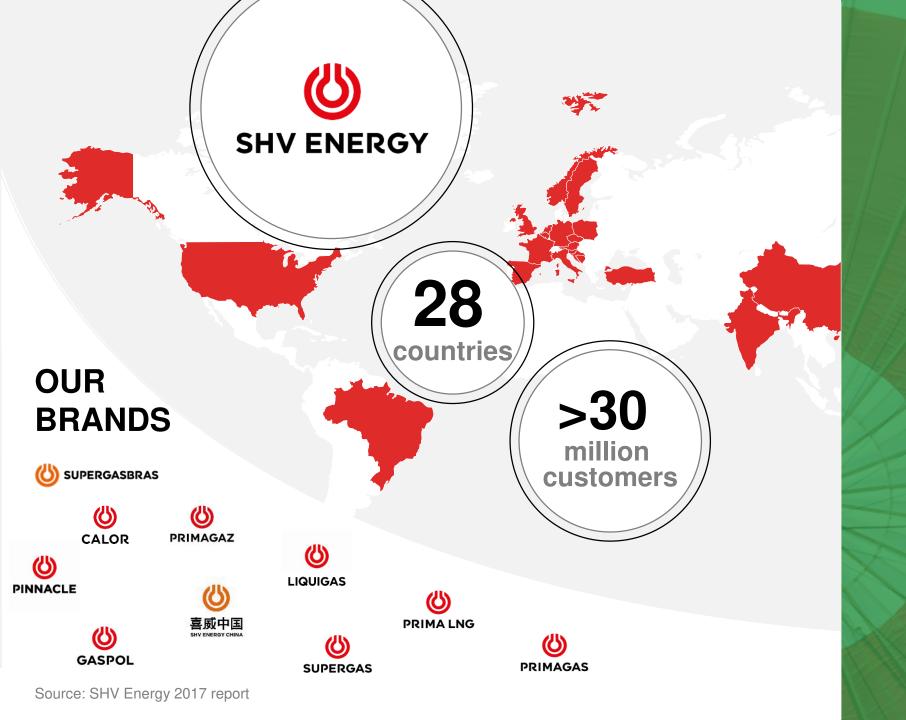


Biogas & the EU Green Deal A perfect match – on and off grid!



Rebecca Groen, Director Biofuels SHV Energy





~5.4 million mT
retail sales
~10.4
billion gallons



~5,1 million mT
3rd party
~10 billion
gallons



17 000 employees

~114 million EU citizens live in rural areas not connected to a gas grid



EU citizens live in rural areas



OFF-GRID

Off-gas grid homes are typically older and less energy-efficient



45%

of rural heat comes from heating oil and coal (off-the-gas-grid & non-electrical)



The off-grid building stock is diverse in characteristics





24%

of people in rural areas are at risk of poverty or social exclusion



of heating & cooling demand of single-family homes is consumed in rural areas



The Future of Rural Energy in Europe (FREE) initiative was created by SHV Energy in 2010 to promote the use of sustainable energy within rural communities. FREE is supported by a variety of stakeholder groups, together giving a voice to all those who believe that rural energy needs are important, and aiming to add new perspectives to the EU's energy and climate debate. Identifying untapped potential in Europe's rural areas to decarbonise and improve air quality in a cost-effective manner. Filling in rural energy data gaps. Engaging and supporting rural communities is essential if government energy, climate and environment policies are to be realised.

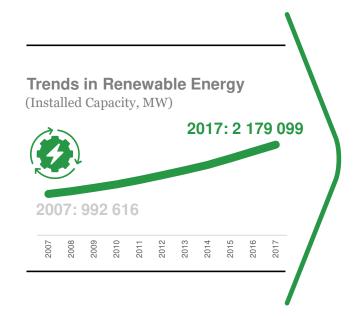


We LPG: safe, efficient, flexible, cost effective!





Our environment is changing



MARKET DYNAMICS

Increasing growth of renewable energy options



LEGISLATION

Global agreements, country targets & regional political pressure



PUBLIC OPINION

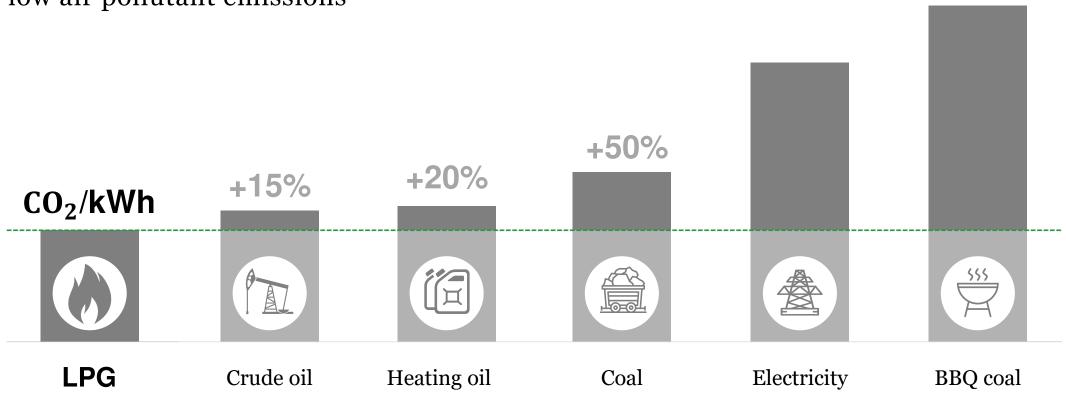
Circular economy Reduce, reuse, recycle

Source: IRENA http://www.irena.org/bioenergy



LPG already plays an important role

It is lower carbon than other fossil fuels and has very low air pollutant emissions



Source: Ecuity analysis for FREE report 'Scenarios for decarbonising EU homes in rural areas'



+300%

LPG is lower carbon than other fossil fuels and has very low air pollutant emissions

... and with bioLPG we can do even better! +300% +50% +20% +15% CO₂/kWh **LPG BioLPG** Crude oil Heating oil Electricity Coal BBQ coal

Source: Ecuity analysis for FREE report 'Scenarios for decarbonising EU homes in rural areas'

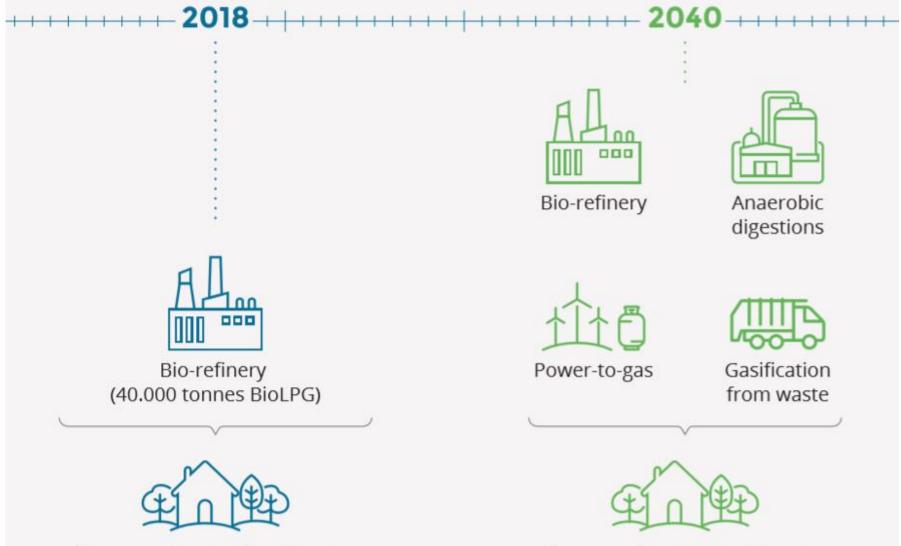
*depending on the feedstock



This is just the beginning.. Our ambition is **BIGGER!**

We are actively working to increase our supply of biofuels in line with our overall brand promise to offer our customers the cleanest energy possible.

Collaboration with valued partners is essential to make this happen.



Space and water heating for

~45.000 homes



Space and water heating for ~12.000.000 homes



Anaerobic digestions

Gasification

from waste

We are investing in the future

KLM, SkyNRG and SHV Energy announce project

FIRST EUROPEAN PLANT FOR SUSTAINABLE AVIATION FUEL



- Agreement signed on May27th 2019
- First dedicated plant for Sustainable Aviation Fuel in Europe
- Regional waste based feedstocks RSB certified
- 15.000 tpa of BioLPG



We are investing in the future

Oberon Fuels and SHV Energy announce collaboration

ACCELERATE USE of RENEWABLE DME (rDME) TO DECARBONIZE TRANSPORT





MOVE FROM PILOT TO DEMONSTRATION PHASE.

Using Oberon's DME production facility, move from testing operating procedures (pilot phase) to replicating commercial operation and procedures (demo phase)...



TEST NEW FEEDSTOCK. PRODUCE RENEWABLE DME.

Scale-up testing of a new renewable waste stream as DME feedstock.

Oberon has been working with Alberta Pacific Pulp Mill and Northern Alberta Institute of Technology to test this feedstock at the lab scale.



TEST DME-POWERED VEHICLES IN CA.

Make Imperial Valley a testing ground for DME 100% DME vehicles. IV's extreme conditions and regular routes to the Ports of LA & Long Beach make it an excellent test bed for new vehicle technology. Build fueling infrastructure to support the demonstration vehicles.



Contact us!

We are interested to find







processes



bioLPG



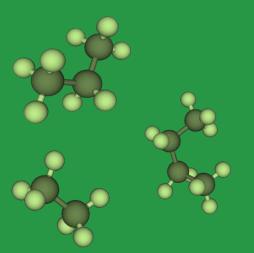






- **Renewable Propane**

- ✓ Green Hydrogen



For more information please contact biofuels@shvenergy.com

