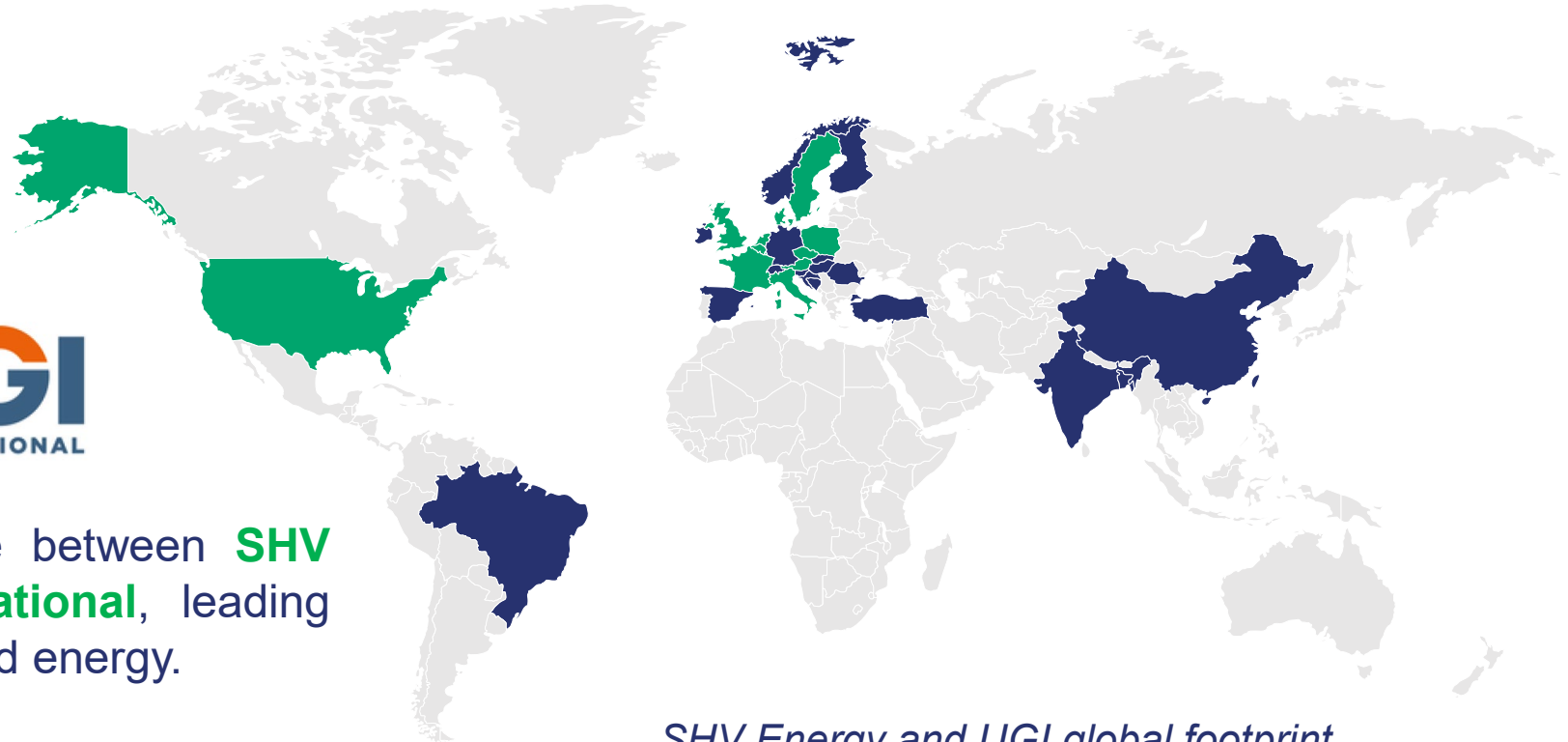


Dimeta: accelerating decarbonisation of the off-grid energy sector

We are advancing the production and use of renewable and recycled carbon Dimethyl Ether (“**rDME**”), a low-carbon **sustainable liquid gas**, to accelerate the LPG industry’s transition to net zero.



Dimeta is a joint-venture between **SHV Energy** and **UGI International**, leading global distributors of off-grid energy.

Combined annual LPG sales: 10 Mtonnes
Combined turnover (group-level): \$31bn

SHV Energy and UGI global footprint



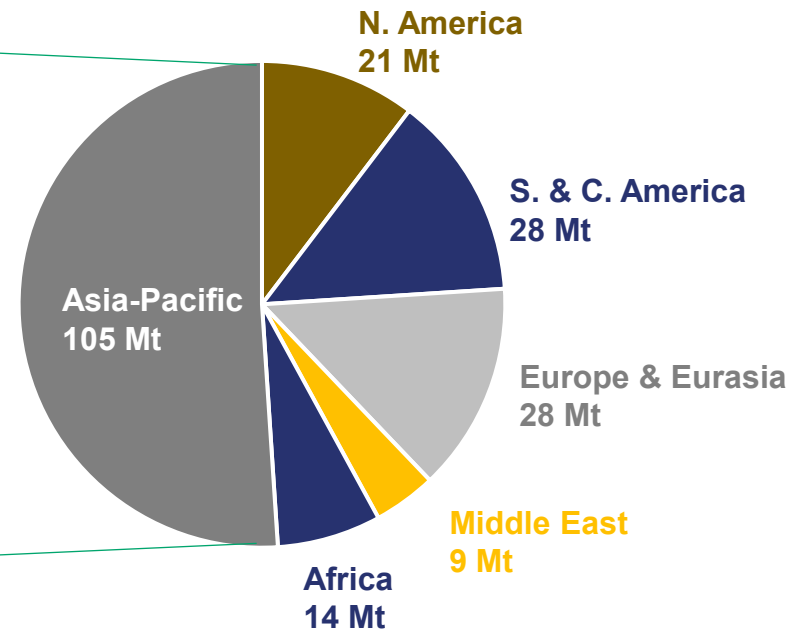
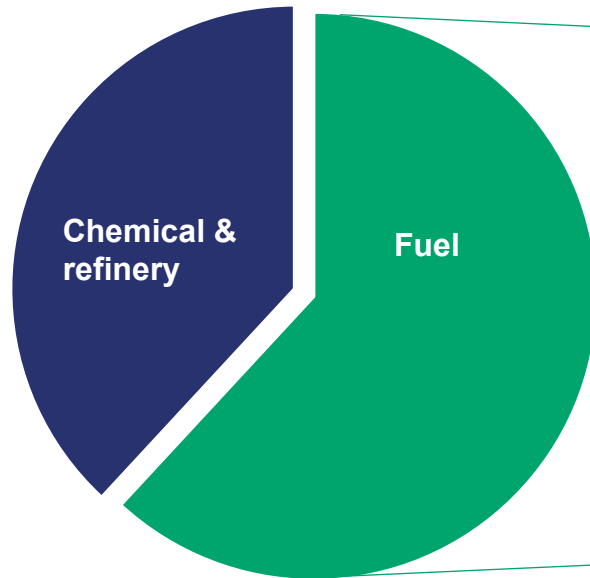


LPG provides clean, transportable energy for off-grid areas

The global LPG market is over 300M tonnes

330 M tonnes LPG used globally

205 M tonnes LPG used globally for fuel

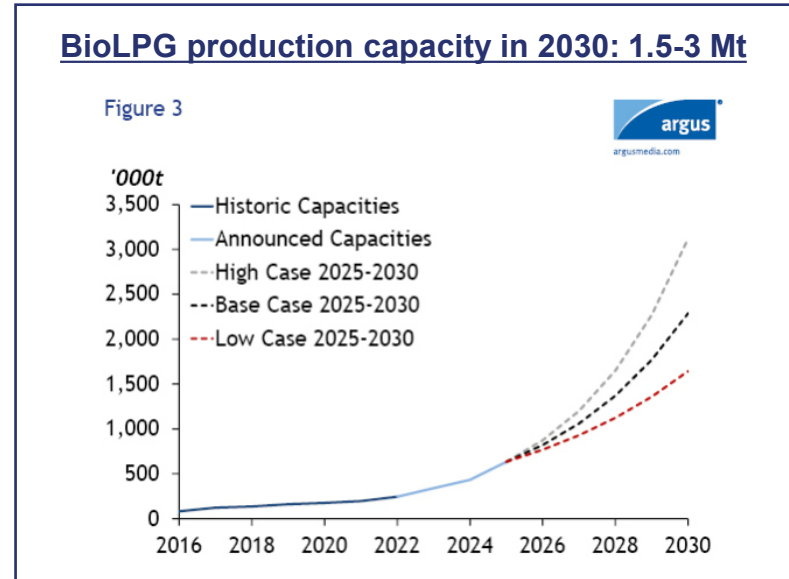
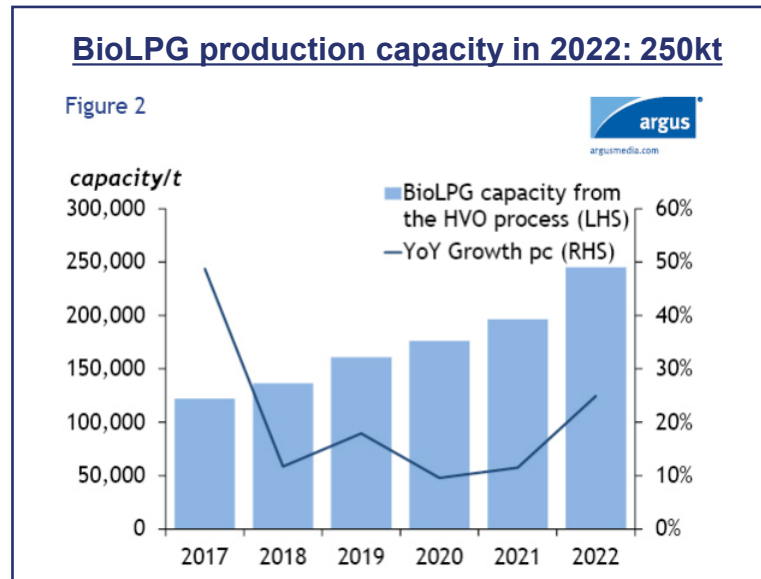


+ 30% over past 10 years



The LPG sector has an important role to play in the energy transition

- ❑ Over 70 countries, including China, USA and The European Union, have net-zero targets
- ❑ Many countries are introducing policy to encourage the use of renewable energy in heating
- ❑ This is a driver and an opportunity: global investment in low carbon fuel is accelerating, reaching \$755 billion in 2021
- ❑ Production and use of renewable LPG is increasing, but is still small relative to the total 330 Mt global LPG market
- ❑ **Renewable and recycled carbon DME can accelerate and scale-up the use of renewable fuel in off-grid areas**



Renewable and Recycled Carbon DME at a glance

Simple
production

Dimethyl-ether is a molecule (CH_3OCH_3) that can be produced from a **wide range of local renewable feedstocks**.



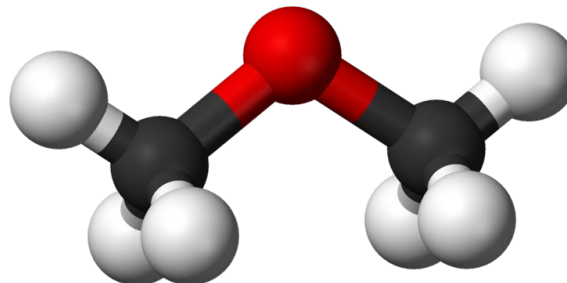
Compatible with
the existing
infrastrucure

DME is **chemically similar to propane and butane** a gas at room temperature and pressure. Like LPG, it is easily transported as a liquid in pressurised cylinders and tanks.



Safe,
Clean,
Green

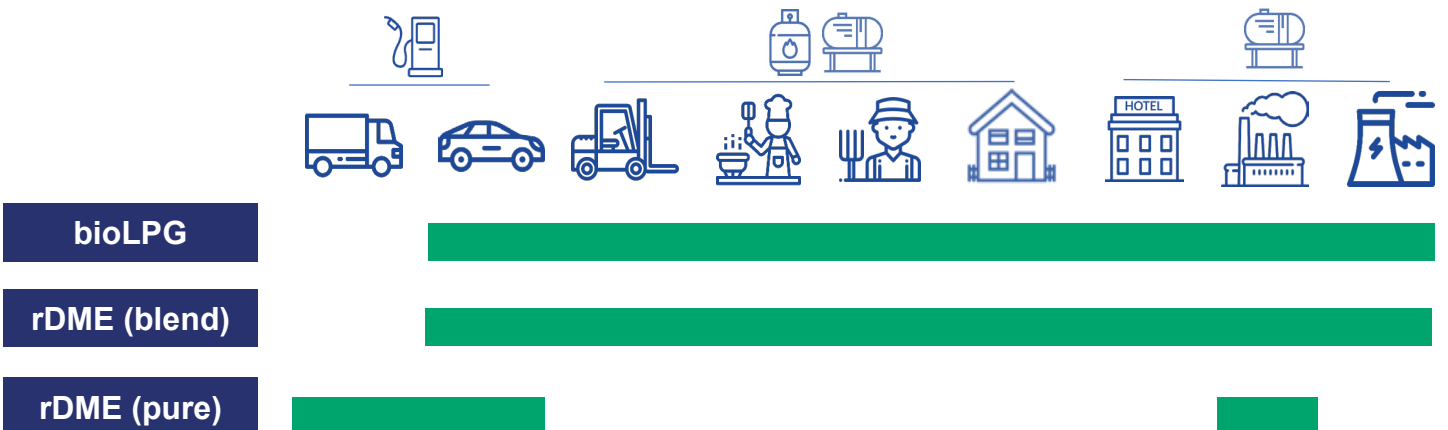
Renewable DME **can reduce GHG emissions** by up to 85% compared to diesel and heating oil and emits no harmful particulates.





Used in existing LPG infrastructure

- rDME can be used as a **clean fuel for many applications:** heating, cooking, industrial applications, but also transportation
- Blends up to **20% rDME** could represent a drop-in solution, displacing volumes of fossil LPG.
- Appliances and equipment can also be modified to take **100% rDME**: HDVs and Industry are the most promising sectors.
- DME is also an **Hydrogen Carrier**, easily reformable at low temperatures, making it a future solution for H2 applications



Produced from a broad range of feedstocks

Biogas / advanced biofuel



including manure, waste organic fraction, biomass, but also intermediate feedstock as MeOH

Recycled Carbon Fuel



including non-organic fraction of municipal waste, non recyclable plastic, tyres

Renewable fuel of non-biological origin



H₂ + CO₂ captured from industrial or biogenic processes, or from the atmosphere

We are investigating all routes to produce renewable and recycled carbon DME

