

## ROLE OF RENEWABLE OFF-GRID GASES IN EUROPEAN BUILDINGS

#### Challenges of rural, off-grid decarbonisation



#### 130 million of Europeans live in rural areas<sup>1</sup>.

Gas and electricity networks are **less developed** there, so the choice of energy solutions remains limited<sup>2</sup>.



23% of rural homes still heat with fuel oil and a further 7% heat with coal<sup>3</sup>.

These fuels have high **air pollution** and greenhouse gas emissions.



## Energy inefficiency

Rural areas have a greater proportion of **older**, **energy inefficient homes**, not suitable for electrification.

In such hard-to-treat homes full electric heat-pumps perform less effectively.



Rural population is more likely at **risk of living in poverty** or suffering from social exclusion, making it more difficult to renovate and electrify their homes.

#### More than ever people from RURAL AREAS NEED SUPPORT

According to a survey of EU citizens living in rural areas<sup>4</sup>:

70%

agree that more focus should be put on helping rural regions to achieve their climate change ambitions.

### >50%

agree that as someone living/working in a rural area they feel that their views are often unrepresented by the authorities. 60%

want more choice in the heating systems available to them.

### The strategic role of off-grid renewable gases



### Lower Cost Option

A biofuel heating solution is often the lower cost option for **older buildings** in 6 out of 8 of the European markets<sup>6</sup>, compared to a full electric heat pump.





of households can afford the **lower upfront cost of a biofuel boiler**, whereas only 27%-49% of households can afford a heat pump<sup>7</sup>.



could be saved by households annually through the implementation of a **mixed technology approach** including bioLPG boilers, over a single heat pump exclusive approach, which would cost €72.3 billion<sup>8</sup>.

 <sup>1</sup> Eurostat (2020)
<sup>2</sup> ECOFYS (2018) Rural energy in Europe
<sup>3</sup> FRAUNHOFER ISI (2021) Space heating market summary 2017  <sup>4</sup> Free (2021, 2022) Rural Barometer
<sup>5</sup> Free (2022) Rural Barometer (interim results)
<sup>6</sup> Gemserv (2022) Supporting Consumer Choice: A review of rural heating options (upcoming) Gemserv (2022) Supporting Consumer Choice: A review of rural heating options (upcoming) Gemserv (2022) Supporting Consumer Choice: A review of rural heating options (upcoming)

#### SHV Energy's renewable gases portfolio



#### **BioLPG**

**Chemically identical to conventional LPG**, bioLPG is a drop-in solution which can be produced **from sustainable feedstocks** such as plant and animal waste materials, vegetable oils, and biogas, and can be used in existing LPG boilers.

It reduces CO<sub>2</sub> emissions up to 80% and is currently available in Ireland, the UK, the Netherlands, Norway, Denmark, Sweden, France, Germany, Spain.



#### rDME

Renewable Di-Methyl Ether **has similar properties to LPG** and can be produced **from a wide range of renewable and circular feedstocks** – including municipal waste, and biogas. It can be used as a pure renewable fuel or blended with conventional LPG up to 20%. rDME can reduce GHG emissions by up to 85% compared to heating oil and diesel.

Dimeta, a joint venture between SHV Energy and UGI International, two of the largest LPG distributors, will bring scale and critical mass to the rDME market. Dimeta's first commercial-scale rDME production will be based at Teesworks in the UK.



## Policy recommendations on the revision of the Energy performance of buildings directive



# Implement a mixed technology approach in the EPBD

A one-size-fits-all approach based on electrification fails to consider the diversity of the EU's building stock and the different needs of rural and off-gas-grid households, which are harder-to-electrify. A legal basis for boiler bans (*Art.11*) would hinder buildings' decarbonisation in off-grid and rural areas. Whether a heating technology is carbon-free or not depends on the fuel type, not the type of boiler. Liquid gases and renewable liquid gases offer practical decarbonisation options for uses in existing boilers.



#### Support renewable gases

The current definition of a "zero-emission building", whose primary energy consumption is "fully covered by energy from renewable sources generated on-site" is concerning (*Art. 2*). This would seem to prevent any building from using renewable fuels to generate renewable heat and/or renewable electricity on-site.

All renewables, whether produced on or off-site, should be able to contribute to zero-emissions buildings.

#### **SHV Energy**

SHV Energy is a unique energy provider in a world where the climate is changing, and air quality is a critical health issue for millions. As a leading global LPG distributor, SHV Energy also provides small-scale LNG and sustainable bio-LPG to those people without access to the grid. These cleaner energy sources help people to switch away from polluting oil and solid fuels, improving their quality of life and the quality of their environment. SHV Energy operates in more than 20 countries – In Europe, under brands such as Primagaz, Calor Gas, Liquigas, Gaspol and Ipragaz. We firmly believe that our energy can create clean air and lower our carbon impact. As a Dutch family-owned company, we are committed to working sustainably with communities, stakeholders and policymakers to advance energy, together.

SHV Energy is proud founder & funder of the FREE initiative, Future of Rural Energy in Europe - www.rural-energy.eu

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