

Renewable Gas - a cleaner, more sustainable energy choice



LPG in Ireland's Energy Mix

Introducing BioLPG, a new energy for Ireland

Our Ambition for Calor & Ireland



LPG in Ireland's Energy Mix



CALOR

Introducing Calor

- A trusted energy brand in Ireland for over 80 years
- Ireland's longest-established supplier of Liquefied Petroleum Gas (LPG)
- Supplying gas to homes and businesses off the natural gas network
- Without LPG, many rural enterprises would have to relocate to areas where natural gas is available



LPG – A Key Energy Source in Rural Ireland

Despite increasing urbanisation, Ireland still has a significantly rural character



Farming and agri-businesses of significant importance to Ireland's economy

High demand for thermal energy (around one third.)

Dispersed population and low density of housing

Ireland's gas network does not cover substantial parts of the country

LPG is a key fuel for rural Ireland

Introducing BioLPG, a new energy for Ireland



CALOR

LPG Energy Roadmap



80 years of selling LPG to off-grid companies. The energy industry is changing

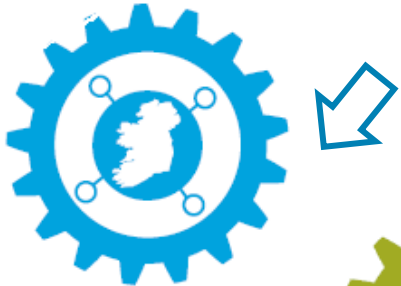
Initial focus - energy efficiency to reduce costs; increased use of controls / more efficient appliances



EU Targets are driving carbon reductions and renewable growth in Ireland. 2020 focus was Energy Efficiency and Carbon Reductions : **LPG Solution**



However Ireland is moving past 2020 targets to 2030 and even 2050

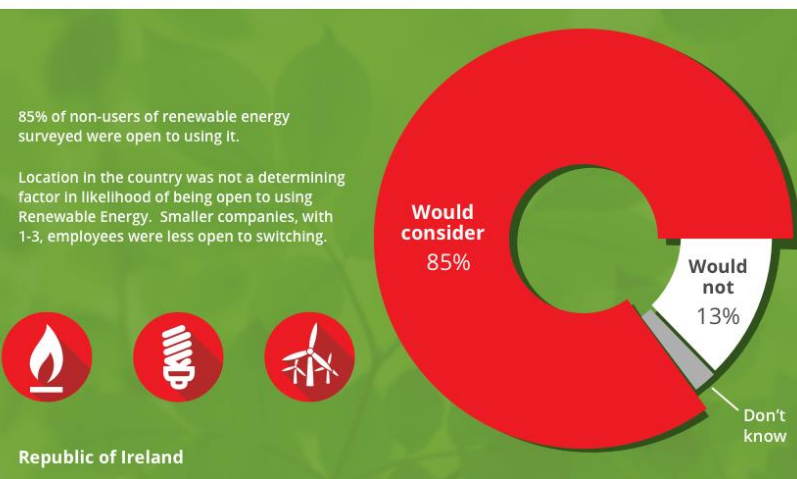


2030 and 2050 will be Renewable Growth and Reducing Fossil Fuels: **Renewable BioLPG solution**

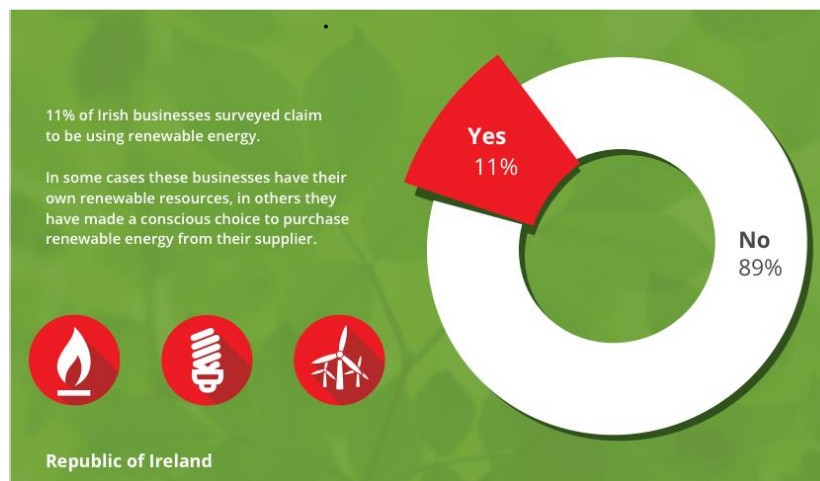


Demand Exists for a Renewable Alternative

Would you consider using renewable energy?



Is your business currently using renewable energy?



Have you ever discussed sustainability with your customers?



- Nationally-representative survey of businesses carried out on behalf of Calor by leading survey company 'Behaviour and Attitudes'.
- The survey findings highlight that relatively few companies are consciously choosing renewable energy, but that there is a willingness to do so.
- The same survey indicated that businesses were beginning to talk to their customers about their energy suppliers and green credentials





**BioLPG is produced using a mix of renewable
and waste materials.**

**In use, it is identical in performance and
application to conventional LPG.**

**There is no need for customers to change gas
appliances.**

There is One Difference

The Production Process

LPG is a By-Product of Oil or Natural Gas Extraction

BioLPG is a By-Product of Biodiesel Production

BioLPG is made from a mix of sustainably sourced renewable vegetable oils and waste materials

The production process is known as "Hydro-treated Vegetable Oil"

Delivering Sustainability



LAND USE
CHANGE



TRACEABILITY



GREENHOUSE
GAS BALANCE



90% EMISSIONS
SAVINGS



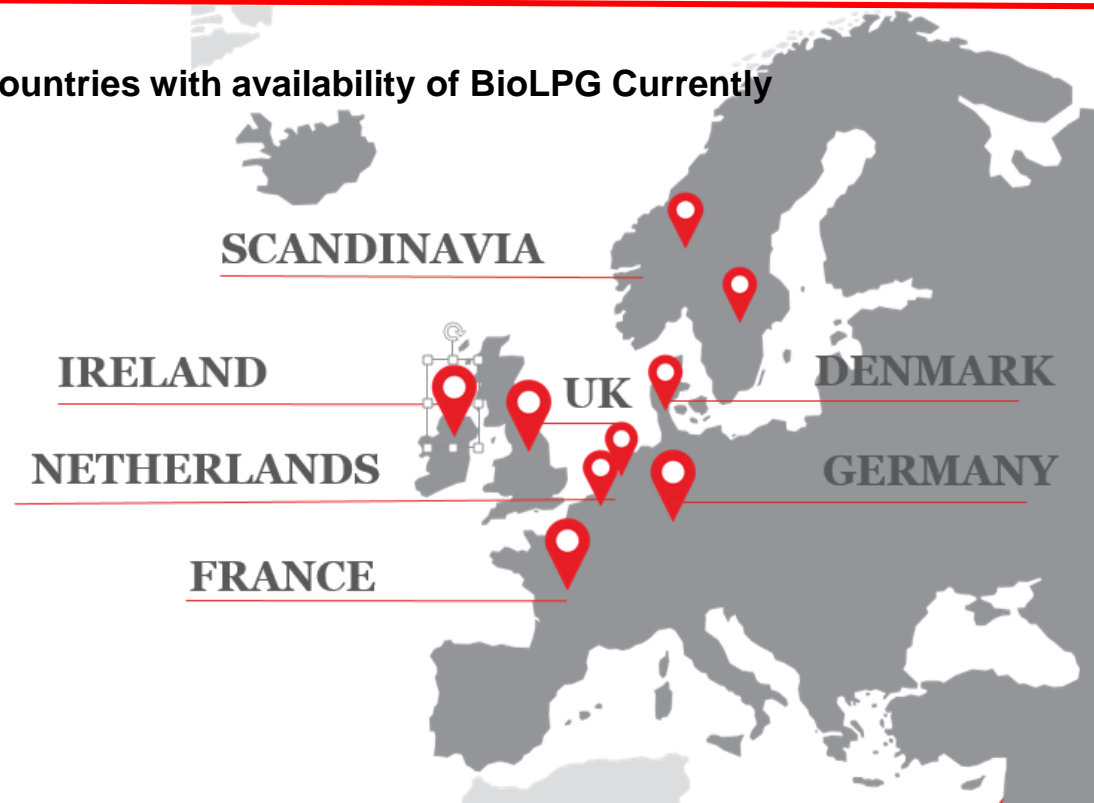
CALOR

The LPG Industry is Still Growing

Now we are aiming to make it more sustainable.

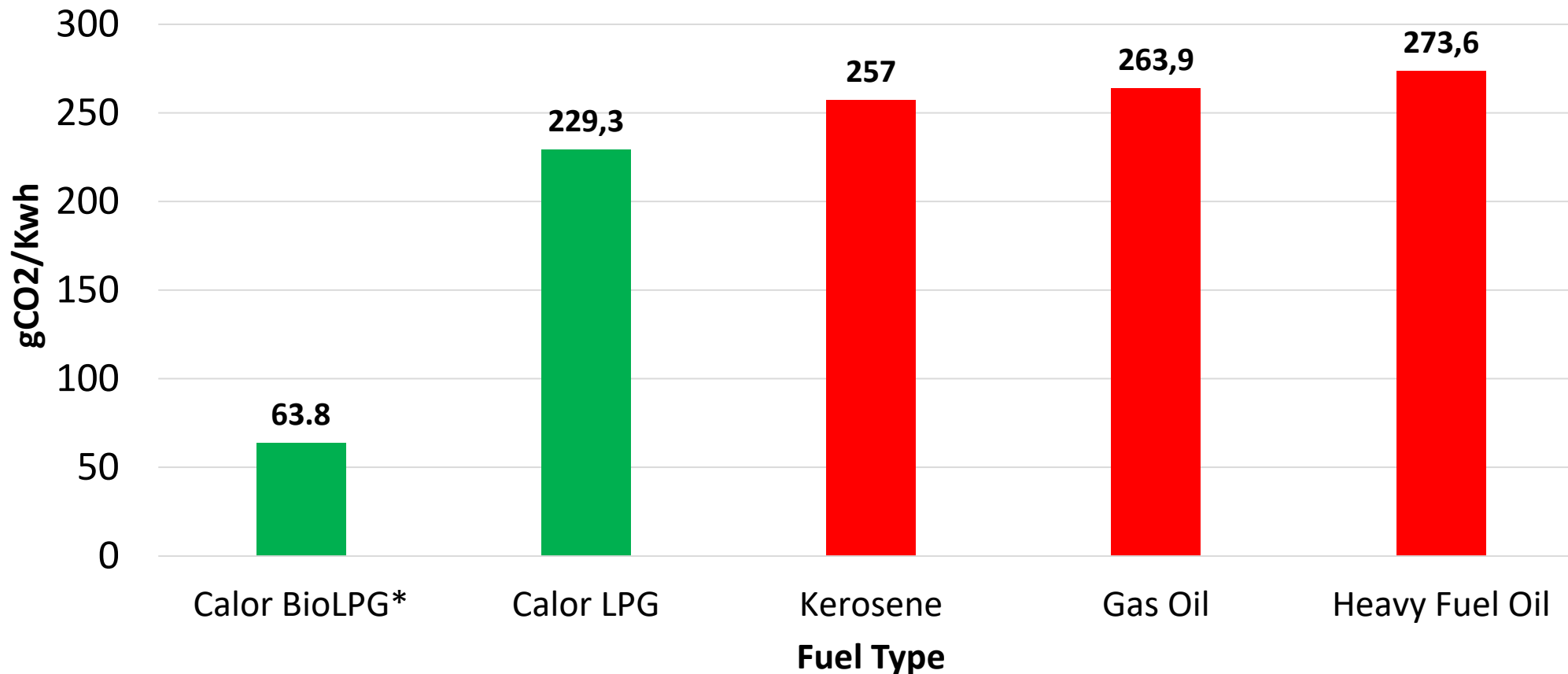


Countries with availability of BioLPG Currently



How does BioLPG benefit Ireland – people and policy?

Fuel CO2 Emissions Table



*BioLPG Reduces GHG by at least 50% and up to 90%, based on the average GHG emission value of BioLPG supplied in Europe by SHV Energy the in first 6 months (March – August 2018). The values used were subject to the ISCC voluntary scheme in accordance with the Renewable Energy Directive (2009/28/EC). All other fuels' values - Reference SEAI.ie, accessed June 2018.

How does BioLPG benefit Ireland – people and policy?

- 🔥 Immediate availability for homes and businesses – no infrastructural requirements.
- 🔥 Economic solution for businesses in a switch to renewable energy.
- 🔥 Businesses can reduce their greenhouse gas emissions by up to 90%.
- 🔥 Homes and Businesses are familiar with the technology. The switch is simple as there is confidence in the LPG system.



Support Scheme for Renewable Heat

- Balanced choices and economic solutions
- Uptake of Renewables in the Heat Sector
- Value for Money for the exchequer

Greenhouse Gas Emissions

- Addressing the short fall in EU targets, BioLPG will deliver up to 90% emissions savings.

Air Quality

- BioLPG will emit no particulate matter compared to other renewable options.

Full Traceability

Delivering Peace of Mind

Production Level

Calor's supplier is fully committed to sustainability and have an established system for traceability for feedstocks according to EU legislation and the Sustainability and Carbon Certification system



1006 - Biofuels Sustainability Statement



Company name	Neste Renewable Fuels Oy	
Trader certificate number	EU-ISCC-Cert-DE100-12992017	
Contact person	sustainability.compliance@neste.com	
Customer	40021787 - SHV Gas Supply & Risk Management	
Load site and country	Rotterdam Refinery - NETHERLANDS	
Transport name	Matthew	
Discharge location and country	Dublin - IRELAND	
Terms of delivery	FOB	
Loading and discharge date	5.4.2018	5.4.2018
Delivery and ticket number	10259416D0000005	5ROM1800008300
Item short name and name	HVO	Renewable Propane
Delivery kg / nl	850 000 kg	1 666 667 nl
Bio quantity kg / nl	850 000 kg	1 666 667 nl
Product description	Product is 100% derived from biomass	

Distribution Level

Calor will be fully audited on the distribution system in Ireland, in line with government recommendations.



A new renewable fuel for the Irish Market

Available across diverse range of sectors



Increasingly, companies are facing a challenge from their customers to prove their green credentials, in line with their sustainable development goals.

Early Adopters come in all sizes and sectors

Our existing customer base has been key



Ambition for the Future.



CALOR

Calor's Ambition for Sustainable Development

10%

Renewable by
2020



100%

Renewable by
2040



Calor ... Liquefied Natural Gas



Cost Effective Solution

- ⬮ Stable and long term pricing
- ⬮ Energy efficient delivering 10-15% reduction on your energy bills compared to a oil system



Significant CO2 Reductions

- ⬮ Significant environmental and health benefits
- ⬮ Projects powered by LNG have the potential to reduce carbon dioxide emissions by up to 30%.



Calors Plans

- ⬮ Calor will begin to supply LNG in the Irish market from Q1 2019. We are currently in discussion with a number of very interested parties across a range of industrial sectors.
- ⬮ SHV has extensive experience delivering LNG product across the European marketplace.
- ⬮ Significant potential for CHP and thermal applications and also commercial transport (HGV's).

Any enquires please contact us at LNG@calorgas.ie



Calor... Biomethane



Calors Solution

- ⬮ Biogas into the GB national grid
Up to 50% of the Biomethane produced, falls below the minimum calorific requirements demanded by the grid.
- ⬮ This issue can be easily resolved by the tried and tested method of blending lower grade Biomethane with around 3 – 4% of Calor Gas. Now BioLPG can be used, delivering 100% renewable gas.
- ⬮ Calor has extensive experience delivering this solution in the UK and plans to deliver the same results in Ireland.

To find out more, visit
www.calorgas.ie

