



# HEATING WITH LIQUID FUELS

A reliable heat supply for today  
and tomorrow



Guide to oil and other liquid fuels for heating in Europe and their potential to contribute to EU's energy and climate policy objectives towards 2020, 2030, 2050 and beyond

# HEATING OIL: From the ground to your radiator



## 1 Product

Petroleum: a very efficient source of energy with the highest energy density

Short conversion chain: maximum efficiency and minimum losses



## 2 Refinery

Clean fuels, high quality, as defined in the Fuel Quality Directive

European excellence in petroleum refining  
A very competitive and affordable energy



## 4 Oil tank

Autonomous purchase decision and stock management

Easy and safe storage of energy for your home



## 3 Transport / Distribution

Energy that can be supplied everywhere

A well-developed infrastructure

A competitive market with a high diversity of suppliers



## 5 Boiler

Proven technologies to heat your home efficiently, produced by diverse and highly innovative businesses

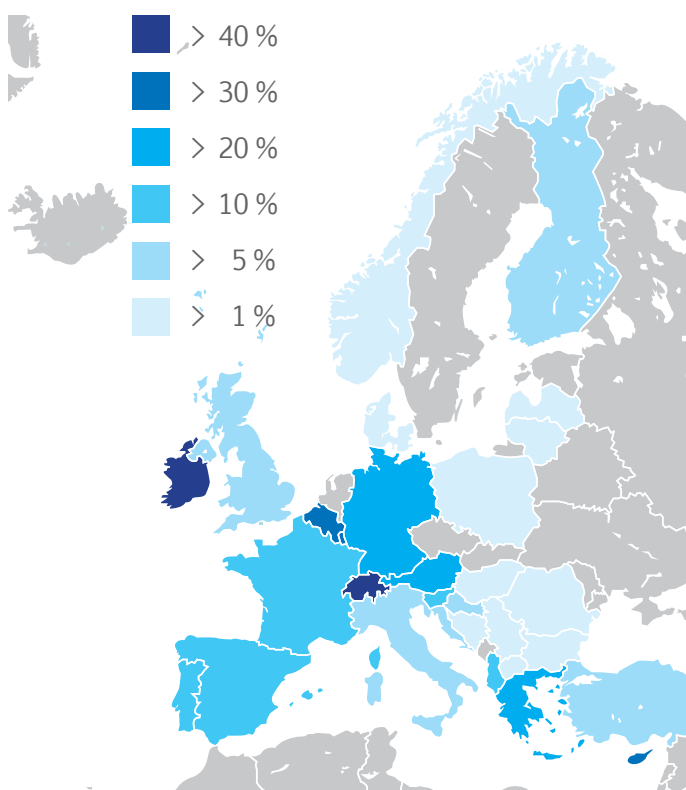


## 6 Heat supply

Reliable heat supply for your home, even in extreme weather conditions

Easy integration of renewable sources with hybrid systems – oil as a perfect back-up energy supply

## Oil heating in Europe in short



## 20 million homes

heated with oil in the EU, mainly in rural and residential areas

## 17% of households

At least

## 200,000 European jobs

related to oil heating

## 12,500 SMEs

active in the industry: installers, fuel distributors, equipment manufacturers, etc.

Proven technologies for

## more than 80 years

with continued research and development



## Did you know?

Modern heating with liquid fuels provide millions of European households with:

### Improved air quality

The quality of fuels used for heating is constantly improved, with reduced sulphur content

Oil heating releases substantially fewer particulates into the air than wood

### A clear contribution to mitigating climate change

Cleaner fuels and more efficient boilers can lower CO<sub>2</sub> emissions by 30%

Over the whole life cycle, heating oil has similar levels of CO<sub>2</sub> emissions as natural gas<sup>1</sup>

Carbon monoxide emissions of heating oil are 160 times lower than for biomass heating<sup>2</sup>

### A realistic and affordable contribution to reducing emissions

Per invested euro, the installation of a modern oil boiler is up to five times more effective than a heat pump to reduce CO<sub>2</sub> emissions<sup>3</sup>

To achieve the same level of energy savings and emission reduction, modernising an oil boiler is on average half the price of insulating your home<sup>4</sup>

### Important savings

Through more efficient heating systems with liquid fuels, consumers can reduce their bill by up to 30%<sup>5</sup>

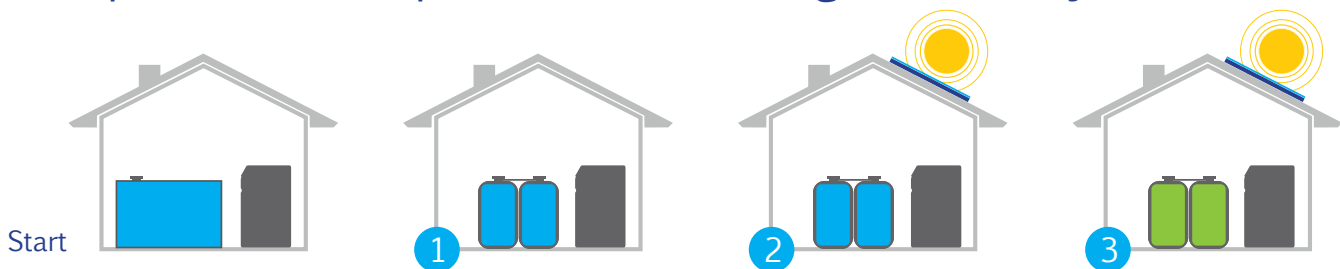
### A pragmatic solution to integrate renewable energy

Hybrid heating systems which combine solar panels, a wood stove or a heat pump with a back-up storage of oil offer a clear positive contribution to the climate while maintaining a reliable energy supply

### Well-proven and mature technology

Oil boilers have been in operation for many decades, with constant improvements of their efficiency and ease of use. They are to a large extent produced in Europe.

## Perspectives for liquid fuels in heating on the way to 2050



- 1 Tap into the great potential for energy savings and CO<sub>2</sub> emission reduction through the replacement of existing systems with high-efficiency condensing oil boilers to the widest extent possible
- 2 Integrate renewable sources through hybrid heating systems backed up by oil
- 3 Produce ever-cleaner liquid fuels and progressively increase the use of low-carbon fuels through research into innovative solutions such as new-generation bioliquids or Power-to-Liquid

**Liquid fuels are part of the solution for an affordable decarbonisation of heating, keeping a diverse mix of reliable sources.**

1) RDC, Energy balance and emissions of greenhouse gases throughout the life cycle of natural gas and heating oil as a fuel for domestic heating, 2005 (updated in 2012).

2) IFK Stuttgart, Feinstaubemissionen moderner Heizkessel, 2010.

3) OFTEC, New data shows UK boiler replacement scheme would be five times more effective in cutting CO<sub>2</sub> emissions than domestic Renewable Heat Incentive, 2016

4) IWO, Meeting energy savings targets through cost-effective measures, 2016

5) IWO-Austria, IWO Musterhäuser-Evaluierung der Energieeinsparung bei Einsatz von Öl-Brennwerttechnik, 2015



## Our messages to policy-makers

To play an active role in facilitating the transition to a decarbonised economy, the following parameters are needed:

### A pragmatic approach

Support and speed up the replacement of obsolete and inefficient heating systems, regardless of the technology, to achieve genuine energy savings and CO<sub>2</sub> emission reduction.

### A stepwise integration of renewable energy sources

Enable further emission reductions while maintaining a secure supply of energy and well-proven technologies for the largest range of citizens by promoting hybrid heating solutions, and not only the more expensive options.

### A contribution to the renewable electricity storage debate

Properly consider the autonomous and unrivalled energy storage capacities of liquid fuels in the definition of the regulatory framework for an integration of heat and electricity markets and the discussions about system adequacy .

### A focus on achieving policy objectives, not punishing technologies

Use primary energy savings and CO<sub>2</sub> emission reduction as the main parameters for EU and national legislation, leaving a free choice of technologies for citizens. A technology-open approach and a diverse energy mix are the best way to avoid overreliance on one specific source.

### An encouragement for innovation

Support research into innovative liquid fuels, to facilitate the transition to a decarbonised heat supply with a diverse mix.

### A recognition of energy supply as a service

Recognise the distribution of liquid fuels as a service instead of transport and therefore subject to the appropriate legislation.

### An increased public awareness

Help to raise citizens' awareness about energy efficiency aspects related to buildings and heating systems, while leaving them the choice to make informed decisions. Account should be taken of the specificities of remote and rural areas.

### An economically fair approach

Modern oil heating systems facilitate decarbonisation through increased efficiency and the integration of renewables, therefore contributing to employment and competitiveness in Europe.

### A socially fair approach

Contribute to energy and climate policy goals by raising citizens' acceptance of energy efficiency through the promotion of affordable high-efficiency technologies, instead of forcing consumers to choose more cost-intensive solutions.

## Contact

Any questions about heating with oil and other liquid fuels? Contact our representatives in Brussels:



### ECFD

European Confederation of Fuel Distributors  
Johannes Heinritzi, President  
www.ecfd.be  
johannes.heinritzi@heinritzi.com  
Tel: +49 (0)8062 90 57 0



### Eurofuel

European Heating Oil Association  
Tristan Suffys, Secretary General  
www.eurofuel.eu  
info@eurofuel.eu  
Tel.: +32 (0)2 893 97 82



### FuelsEurope

European Petroleum Refiners Association  
Daniel Leuckx, Policy Executive  
www.fuelseurope.eu  
daniel.leuckx@fuelseurope.eu  
Tel.: +32 (0)2 566 91 17



### UPEI

The Voice of Europe's independent fuel suppliers  
Yvonne Stausbøll, Secretary General  
www.upei.org  
info@upei.org  
Tel.: +32 (0)2 740 20 20