

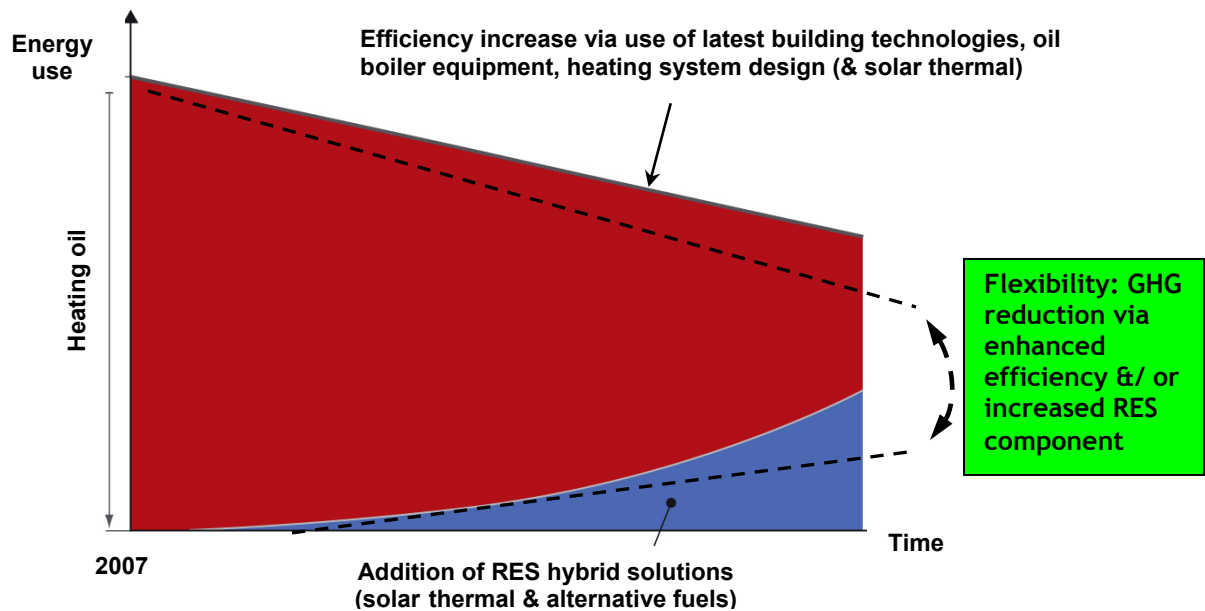
Renewable Energy in Heating

Eurofuel's Comments on the Commission's Renewable Energy Roadmap, and the Forthcoming Cross-Sectoral Directive on the Use of Renewable Energy Sources (RES)

The European Heating Oil Association (Eurofuel) represents the national organisations that promote the use of fuel for domestic heating in 10 European countries, including over 10,000 companies. Eurofuel is engaged in the development of common standards and innovative techniques for heating oil and equipment, primarily in the domestic market. Our members are committed to ensuring the competitiveness and efficiency of heating oil, while reducing its environmental footprint.

Eurofuel and its members would like to offer the following comments on the **Renewable Energy Roadmap and the forthcoming Community cross-sectoral directive on the use of renewable energy sources**, called for by EU Heads of State and Governments at the March 2007 European Council

1. Eurofuel wholeheartedly supports policy measures designed to achieve reductions in Greenhouse Gas emissions. However, energy efficiency measures should be given priority, followed by *eco-efficient* adoption of renewable energy sources (RES). A new RES directive must not force consumers to invest in renewable technology and/ or energy, whilst there are more cost-effective ways to save energy and to reduce Greenhouse Gas (GHG) emissions.
2. Therefore, flexibility between RES adoption and increased energy efficiency should be an important component of the forthcoming proposal for a cross-sectoral RES directive.



3. There are already three directives which promote both *energy-saving and the adoption of RES in the heating sector*: Energy Performance of Buildings (2002/91/EC, 16.12.2002), Boiler Efficiency (92/42/EEC, 21.5.1992) and Energy-using Products (2005/32/EC, 6.7.2005). Coherency and consistency must be ensured between existing heating sector directives and the forthcoming cross-sectoral RES directive proposal.

4. **Holistic Life Cycle Policy Approach for the Heating Sector. “Basket” of Emissions and Use of Natural Resources Approach:** This policy approach should aim to find the Best Appropriate Technologies (BAT) available to the heating sector, from a multi-objective stance. Technological advances and Community policy achievements of past decades in air pollution control should not be ignored. Specifically, Eurofuel refers to the following advantages of liquid fuels for heating:
- Modern oil heating boilers have very high efficiency levels of over 95% (actual efficiency level, based on fuel gross calorific values, H_s). By comparison, solid biomass heating boilers have much lower efficiency levels (typically 75% to 80%), explicitly acknowledged in studies for the Energy-using Products (EuP) directive.
 - Oil heating equipment emits much lower levels of particulate matter (PM10 and PM2.5) than solid biomass heating equipment. Independent studies¹ estimate that oil-fired heating has PM emissions some 100 times lower than solid biomass heating.
 - Similarly, oil heating has far lower emissions of “acid rain” nitrogen and sulphur oxides, and of the asphyxiant, carbon monoxide, than solid biomass heating.
 - Very high energy content - up to three times greater than wood and wood pellets. This is a crucial property for: (i) consumers’ storage space, and (ii) environmental supply chain transport issues.
5. **Solar Thermal Integration:** Oil heating coupled with solar thermal collectors is an ideal hybrid integration of RES heating technologies, providing both hot water and assisting water-based room heating. Of approximately one-third of a million households in Germany with solar thermal equipment, around 50% have oil heating as their primary source of energy². In an average year, these hybrid solar thermal/ conventional oil heating systems result in total energy consumption savings of typically between 12% and 20% (Northern Europe conditions), with commensurate reductions in Greenhouse Gas emissions. If all oil heating systems in the EU-25 (consuming some 75 million tonnes of heating oil in 2004 [EUROSTAT]) incorporated solar thermal collectors, this would conserve 9 Mt (12%) to 15 Mt (20%) of heating oil.
6. **Progressive Introduction of Liquid Biofuels:** Mixing liquid biofuels with conventional heating oil offers great potential as a comparatively economical means of promoting RES in the heating sector, **because the consumer will be able to use his/ her existing boiler/ storage equipment.** Eurofuel’s member organisations are conducting exhaustive long-term laboratory and “field” tests with actual consumers’ heating installations to evaluate the feasibility and compatibility of 5% to 100% blends of “First Generation” biofuels (biodiesel and biokerosene, from oleaginous crops) with conventional heating oil. The USA oil heating industry already commonly uses 5% soya-based FAME biofuel B5 blends, and 20% soya-based FAME (B20) blends are also being sold. **A B5 biofuel mix in all EU-27 oil heating systems would mean heating oil savings of almost 4 Mt, increasing to 15 Mt of heating oil savings once a B20 biofuel mix becomes possible.**
- “Second Generation” Biomass to Liquid (BTL) biofuels from whole crop or other (e.g., domestic waste) sources, once economical, will have no compatibility problems with conventional heating oil/ kerosene, and could potentially be used at very high concentration levels, even up to 100%. **Given the opportunities outlined above for liquid biofuels in the heating sector, it is surprising to note that there is no mention of the potential for liquid biofuels for RES-H in the illustrative Annex to the Renewable Energy Roadmap, especially when the competitive price range of biofuels is considered (Section 4.3 figures, Renewable Energy Roadmap).**
7. **Liquid Fuels are the Ideal Stored Energy for Reduced Energy Demand:** In the near future, the heating sector will have a reduced overall energy demand, thanks to better insulation, more efficient heating technology, and integration of solar thermal. There will be only short peak-load periods in winter needing additional heat. Liquid fuels are the optimal economic and

¹ Sources: independent German consumer “Stiftung Warentest” analyses; German Umweltbundesamt; Austrian test station BLT-Wieselburg.

² Sources: ZIV (German Federation of Chimney Sweeps); BDH (German House, Energy and Environmental Technology Federation); Dr Spence International.

environmental systems solution to manage these future energy demands, as each consumer's independent individual energy storage is available, network-free, when required.

- 8. *Financial Incentive Schemes & Potential Market Distortions:*** Eurofuel's fundamental stance is that any financial incentive schemes should recognise energy savings and introduction of RES on an equal basis. In addition, all RES should be considered on an equal footing.

Eurofuel welcomes financial incentive schemes such as Research & Development promotion (e.g., the 7th Research Framework Programme), some partial lead-in subsidies for innovative heating equipment, and financial links to energy savings provided by other directives, such as the Energy Services Directive (2006/32/EC, 5.4.2006).

- 9. *Legal Basis for a Cross-Sectoral Community Measure on Renewable Energy Sources***

In Eurofuel's opinion, with regard to addressing the use of renewable energy sources in the heating and cooling ("RES-H") sector, any future Community measure should use Article 95 as the legal basis, in order to explicitly avoid internal market distortions and to ensure compatibility of equipment between Member States. Using Article 175 could result in Member States unilaterally proposing certification and equipment standardisation schemes, supposedly for environmental reasons; however, there is a risk that these measures may amount to no more than national protectionism in disguise.

Eurofuel looks forward to a constructive discussion with the Commission on the Renewable Energy Roadmap and the forthcoming Community cross-sectoral directive on Renewable Energy Sources, and trusts that the above comments and recommendations are helpful.

For further information, please contact Michael Bennett (info@eurofuel.eu), Executive Director of Eurofuel, www.eurofuel.eu

Eurofuel's Members

Austria: IWO-Austria, Institute of efficient oil heating systems, www.iwo-austria.at

Belgium: Informazout, www.informazout.be

Finland: The Finnish Oil and Gas Federation, www.oil-gas.fi

France: Chauffage Fioul, www.chaleurfioul.com

Germany: IWO-Institute for economic oil heating, www.iwo.de

Republic of Ireland: OPFI-Oil Promotion Federation of Ireland, www.opfi.ie

Luxembourg: Mazout-info Luxembourg ASBL (M.I.L.), www.mazoutinfo.lu

Norway: Norwegian Petroleum Industry Association (NP), www.np.no

UK: OFTEC (Oil Firing Technical Association), www.oftec.org

Switzerland (Associate Member): Union Pétrolière, www.erdoel.ch

UPEI (Associate Member): Union Pétrolière Européenne Indépendante, www.upei.org