



## ***Developing strategies and tools for greater deployment of Renewable Energy Sources - Heating and Cooling (RES-HC)***

*The purpose of FROnT initiative is to promote a level playing field for Renewable Energy Sources - Heating and Cooling (RES-HC) in Europe, and develop strategies for its greater deployment.*

*Created in March 2014 and co-funded by the Intelligent Energy Europe (IEE) programme, it has analysed both existing support schemes and end user decision factors, addressed the levelised costs of heating and cooling, as well as information gaps and other market barriers, in order to help establish strategic policy priorities for enhancing RES-HC presence in the market.*

*The FROnT initiative has produced diverse tools and studies which will support consumers in their decision process, industry in communicating better with consumers and policy makers to create better and efficient policies regarding RES-HC.*

*This document outlines some of the outputs generated by the project covering topics including:*

- RES-HC technology and market development;*
- End-user decision-making factors;*
- Costs and prices;*
- Strategic policy priorities and support schemes: good practices and recommendations;*
- Reaching out to consumers: using multiplying effects.*

## 1 RES-HC TECHNOLOGY AND MARKET DEVELOPMENT

About half of the energy used in Europe is used to heat and cool our homes, offices and businesses.

**Around 72% of the gas used in Europe, much of which is imported, is for heating buildings and industrial processes.** Concerns are growing about unstable gas prices and energy security.

The best alternative to reduce our import dependency is the use of Renewable Energy Sources Heating and Cooling (RES-HC). It can provide substantial CO<sub>2</sub> savings, while reducing our dependency on fossil fuels and creating local jobs, helping to revitalise the European economy. In spite of these facts, RES-HC has remained overlooked in public policy and public life. In fact, the European Union (EU) could save up to €21.8 bn annually on fuel imports in 2020 if 25% of the heat demand was covered with renewables.

Renewable heating and cooling technologies continue to progress and are playing an increasing role in Europe's energy mix. To accelerate this development, there needs to be:

- a greater understanding of the real costs of heating and cooling,
- more information and support for national and local authorities which are establishing administrative frameworks,
- and more information about the decision-making factors of energy consumers.

The FROnT initiative has been created to provide these missing elements.

**Renewable Energy Sources – Heating and Cooling (RES-HC) covers the following technologies:**

- Solar thermal,
- Bioenergy,
- Geothermal,
- Geothermal heat pumps,
- Air-source heat pumps,
- Water based heat pumps
- Micro, small and large scale collective systems.

## 2 FAIR RES-HC OPTIONS AND TRADE: FRONT

FROnT promotes a level playing field for Renewable Energy Sources - Heating and Cooling (RES-HC) in Europe. It has analysed existing support schemes and their Key Success Factors, and improved the understanding of both RES-HC costs and end user decision factors, all in order to help establish a framework for more efficient and effective support public schemes, and enhance clear and transparent communication with European consumers.

### FRONT: A CONSORTIUM

The FROnT's work involved stakeholders from industry and public authorities from several EU member states including Spain, Portugal, United Kingdom, Poland, Netherlands and Austria.

To bring the project to fruition, a consortium has been created gathering representatives from industry and national energy agencies, assisted by partners providing specific expertise.

Learn more about the project partners at:

[www.front-rhc.eu/about/partner-organisations/](http://www.front-rhc.eu/about/partner-organisations/)



### 3 A DEEPER UNDERSTANDING OF END-USER DECISION-MAKING FACTORS

FROnT contributed to providing a deeper understanding of the end-user decision-making process with regard to heating and cooling systems. A study produced by the consortium has identified elements which will enhance the uptake of RES-HC ensuring tailored approaches and efficient measures.

Following a thorough analysis of the end users' decision making process when investing in heating and cooling solutions, **the consortium has identified elements which should be addressed in order to:**

- **communicate in clearer ways on RES-HC technologies** and to compare them adequately with other options on the market;
- **develop tools focusing on facilitating and assisting end users purchasing decision** (for H&C).

#### STUDY OUTCOMES

How citizens decide to heat and cool their homes  
Download the full report at [www.front-rhc.eu](http://www.front-rhc.eu)



Fig. 1: Infographic - How citizens decide to heat and cool their homes

The FROnT initiative led a study which assessed the perception of RES-HC in the residential, tertiary, and industrial sectors. In particular, it highlighted the main factors which influence end-user purchase decisions. Based on this study, the FROnT project partners created several tools for consumers, including FAQs and fact sheets.

The main results of FROnT's survey are available on the website.

### 4 COSTS AND PRICES

The FROnT initiative also analysed the relevant factors determining of costs of heating and cooling technologies. The results of this analysis helped to design a **commonly agreed calculation method** that facilitates transparency and comparability of RES-HC systems – the **Levelised Cost of Heating and Cooling (LCoHC)**.

In order to help consumers to compare RES-HC technologies with other options in the market, an online tool was developed, providing an overview of relevant factors for comparing RES-HC systems with conventional systems. Using a life cycle approach, the comparison includes both the initial investment and the operating cost of the system into account. It covers:

- Cost of energy unit generated (kWh);
- Cumulative cash flows (return on investment);
- CO2 emissions savings.

#### CREATION OF THE LEVELISED COSTS OF HEATING AND COOLING (LCOHC)

##### Cumulative cash flow

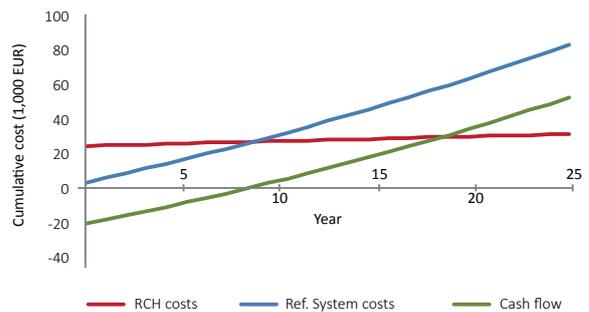


Fig. 2: A financial output from the Levelised Costs of Heating and Cooling tool

This methodology is accompanied by a tool allowing end users to compare the costs of a RES-HC system with the reference fossil fuels system costs in order to obtain the relevant information for their purchasing choices.

## 5 STRATEGIC POLICY PRIORITIES AND SUPPORT SCHEMES: GOOD PRACTICES AND RECOMMENDATIONS

The FROnT consortium analysed existing support schemes, with the purpose of identifying key success factors for their effectiveness in accelerating market deployment of RES-HC. The analysis covers support schemes on the design, the implementation and the monitoring heating systems.



### SUPPORT SCHEMES

If you want to learn more about the key success factors (KSF) for designing, implementing, monitoring and evaluating support schemes focused on RES-HC, please consult the following page of our website: [www.front-rhc.eu/library/#success](http://www.front-rhc.eu/library/#success)

Fig. 3: Manual of good practices setting up RHC integrated support schemes

Based on the diverse analyses, studies and tools, the FROnT consortium has also produced a series of policy recommendations that can help policy makers overcome barriers in the deployment of RES-HC. These recommendations also include priorities focusing on developing the potential of RES-HC in Europe for 2020.

### Policy priorities

The policy priorities are focused on four topics:

- **Having clear strategic priorities and governance** (Ex: Developing a long-term decarbonisation roadmap, including plans and milestones for 2030, 2040, and 2050);
- **Developing better market conditions for RES-HC** (Ex: Incentivise Member States to establish stable, long-term, and off-budget mechanisms to support renewable heating and cooling technologies);
- **Increasing awareness, quality and the engagement of citizens regarding RES-HC** (Ex: Improve visibility through energy performance certificates of buildings);
- **Improving RES-HC financing options** (Ex: Raise the involvement of private financial institutions to develop new financial tools).

To learn more about the policy recommendations suggested by FROnT Consortium, please consult the website: [www.front-rhc.eu](http://www.front-rhc.eu)

## 6 REACHING OUT TO CONSUMERS: USING MULTIPLYING EFFECTS

In order to disseminate the results of the FROnT project to end users and to involve stakeholders in the daily project activities, the consortium made full use of its network comprising of energy agencies, industry players and other entities such as NGOs. With the help of all the actors involved in FROnT, including experts at national and European level, it has been possible to develop tools that will assist the main stakeholders in reaching consumers and informing all stakeholders in a clear and easy way about RES-HC.

Furthermore, the FROnT national partners have organised capacity-building events, in order to train “multipliers”, i.e., people in “hot spots” regarding the contact with consumers and relevant to market agents, such as employees of energy agencies, municipalities or companies.



### CONTACT & MORE INFORMATION

Are you interested in knowing more about the FROnT initiative?

Visit our website: [www.front-rhc.eu](http://www.front-rhc.eu)

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Co-funded by the Intelligent Energy Europe Programme of the European Union