FROnT

FAIR RHC OPTIONS AND TRADE

Online enquiry for the validation of Key Success Factors (KSF) for Renewable Heating and Cooling Support Schemes

Explanatory Document

1. Introduction

Fair Renewable Heating and Cooling Options and Trade, FROnT, is a project designed advance the penetration of Renewable Energy Sources for Heating and Cooling, RES-HC, by providing a better understanding of how to deploy renewable heat and cooling, RHC, technologies in the market. In pursuit of this goal, it is important to understand the end-user key decision making factors that can improve market transparency of the costs of heating and cooling options. Furthermore, it is important to understand, which factors have been decisive in support schemes implemented in different countries so that they can be replicated or adapted to existing programs and different technology types. In pursuit of this goal, the FROnT project team has studied a number of renewable heat and cooling support schemes implemented in different EU countries and identified five basic key success factors.

This document has been elaborated to support the consultation process that eventually will lead to the validation of the identified key success factors. All relevant and validated information will be used to develop a manual explaining the key success factors and providing suggestions on how to implement them when designing support schemes.

OBJECTIVE: IN ORDER TO PROVIDE A MORE INFORMED RESPONSE TO THE ON-LINE SURVEY, PLEASE TAKE THE TIME TO READ THIS DOCUMENT.

2. Definition of Key Success Factor (KSF)

The first draft report that resulted from the evaluated schemes, validated by the project partners, came to define KSF as factors that characterize a scheme, making it accountable, ensuring its cost effectiveness and helping boost confidence on the RES technology supported.

3. List of Key Success Factors (KSF)

Based on the KSF definition, the project partners have identified and discussed factors that might contribute to the success of RES-HC schemes. The document does not rank, in any form, the listed factors. Instead, it looks at their positive aspects and evaluates how easily or difficult they can be integrated into a successful scheme. Following is the list of factors considered in this document:

- Contribution from different stakeholders
- Financial adequacy and flow support rate
- Quality and performance assurance
- Predictability, stability and time frame
- Transparency and measurability

Following is a brief description of each of the KSF listed above. Some descriptions include multiple features in the same KSF.

4. KSF 1 - Contribution from different stakeholders

The analysis of the schemes implemented in different countries confirms that *different relevant industry stakeholders* should take part on the design of support schemes. For Renewable Heating and Cooling (RHC) schemes these are mainly: Governments, agencies, trade organizations/ manufacturers of equipment, consultants, installers, environmental organisations and end users: industry, non-residential and residential. This is an important way to ensure that different experiences are embedded in the scheme and relevant aspects such as equipment quality (product standards), control mechanisms and certification of professionals (installers) are integrated in the scheme. It also ensures that valuable experience of regional and local entities and know how of local conditions are taken into consideration during the design phase of support schemes.

5. KSF 2 - Quality and performance assurance

The analysis also revealed that the ***inclusion of energy efficiency aspects*** on the design of the schemes is of significant importance for its success. It should be stated that the main objective of any RES-HC scheme is to achieve improved energy efficiency, increase the proportion of heat that is generated from renewable sources and encourage the switch from fossil fuels. In other words, it is important that support schemes should implement some degree of wider energy efficiency measures as a pre-requisite. This is also important because integrating building efficiency in a scheme, including fitting of any RES-HC solution, can be best achieved in new construction rather than during retrofitting of a building and, the final cost can be greatly influenced.

Adequate heating systems and insulation promotes the idea that support schemes should also integrate aspects related to overall system performance. One way to achieve this would be to specify a minimum level of building energy performance before support can be offered. Another option would be to conduct a building energy performance audit prior to any form of support offered. It should be stated that energy efficiency requirements can be integrated in almost all RES-HC support schemes.

Any scheme being designed should consider that ***geographical considerations*** will most likely contribute to the success of the program since it will try to match the resource availability with other constrains such as accessibility and quality of heat distribution infrastructure. On the other hand, the construction of new infrastructure for natural gas distribution should also be evaluated and additional information should be gathered to evaluate how this new infrastructure can hamper the penetration of RES-HC technologies. Therefore, it is not just the geographical availability of the energy resources that should be considered but also all relevant elements related to energy usage in a particular region. This evaluation becomes a very important element whenever RES heat networks schemes are to be considered.

Apart from the design aspects of the schemes, an evaluation of how the schemes were controlled was also looked at. Some of the analysed schemes considered ***certified equipment*** as an essential requisite and most did consider that only ***certified professionals*** could take part in their implementation. Certification of equipment and professional constitutes the basic of such guarantees and it is recommended that any implemented scheme should integrate them. If the RES-HC industry is to grow, installers and products that they offer must be seen as the preferred options in the market place.

6. KSF 3 - Transparency and measurability

This category assures that only useful delivered energy should be supported by support scheme. Schemes should consider, whenever appropriate, the possibility of integrating ***random audit*** of installations. In addition to random audit checks on installer standards, schemes should consider lessons learnt from in-situ trials, which can be critical in helping to build consumer confidence in RES technologies and therefore helping to foster a virtuous circle of understanding, trust and growth within the sector. In-situ trials are important elements to ensuring that consumers can access in-depth advice and support founded on robust evidence. Random audit is a different form of evaluating not only the quality of the installations but also the performance of the installers.

Metering and monitoring services are also important elements that when effectively incorporated in a particular scheme can help the RES-HC gain a better foothold in the market. Metering and monitoring are consider robust factors that only reward the correct quantity of heat or an equivalent energy being delivered. Metering also allows support of useful heat and would not incentivize the deliberate wasting of heat or heat generated simply to meet a heat load which would not otherwise have existed had the incentive not been in place. Such cases can include when heat is unnecessarily vented into the atmosphere, where a heat requirement has been created artificially in order to claim the incentive. Monitoring can also be achieved by conducting online surveys in which applicants will answer concrete questions about their equipment performance. This information could complement any metering and allows the institution in charge of the scheme to learn more about RES technologies.

7. KSF 4 - Financial adequacy and flow support rate

This feature permits financial sustainability and adequate flow of financing. The evaluation of support schemes carried out does not answer the issue of ***financial adequacy*** in the analysed schemes, since it was not possible to collect information that will allow for the comparison of economic incentives provided for specific RES technologies and the average generation costs to monitor whether financial support levels are well suited to the actual support requirements of a given technology. Even so, one of the most important aspects that came out of the analysis carried out is that the funding level should not drive up the installation costs. It became apparent that if the financing is not adequate, most likely RES-HC schemes will not help the technology gain foothold within the market. On the other hand, if the level of support is way above the required, two things might happen. The final cost of equipment might be fixed at higher level, compromising the uptake of RES-HC solutions in the general market and, a reduced number of total installations will be produced.

Whenever a support scheme contemplates multiple technologies, it becomes useful for support levels to be differentiated so that individual requirements of each technology can be best matched. In doing so, care should be taken not to make the scheme too complex or to increase its management costs and reduce efficiency.

Apart from financial adequacy, the ***flow support rate*** can also be an important factor in the design of any particular scheme. The flow support should be looked at in order to evaluate the level of support during different period of the running scheme. The flow support has to be modulated as to take into consideration the possibility of bigger expenditure on the first year or a constant support along the running of the scheme. It can also be modulated in such a faction that there is a constant decrease along the years of the program. It should also be calibrated to avoid abrupt interruption of the support program. It should be calibrated in function of a well study scenario in order to reduce the chances of defrauding expectations on the part of potential candidate. Usually the evaluation of previous or other programs implemented in a given geographical area will help on the setting up of the flow support.

8. KSF 5 - Predictability, stability and time frame for support

Predictability and stability are important features for any investor and might be decisive for long term investor or projects that will most likely run through many years. Financial adequacy feature can be considered a complement to the ***predictability*** of a support scheme. Considering that the main objective of the financial incentive is to mitigate the risks and provide more certainty about their return, projects that may last several years, e.g. grid construction for district heating, need to have mechanisms for payment levels adjustments clearly communicated so that investors can more easily assess their risks. Investors will feel more comfortable with their investment decisions if they are provided more information about financial incentives over a long period of time. In other words, long term incentives should be ***stable*** so that the decision making process can be captured in formulas, allowing investors and developers to know when and how an incentive may be altered.

In designing a support scheme, it becomes important to evaluate if the ***time frame*** suits the RES-HC investor, considering that some are new solutions to potential investors who will have to evaluate other components of the solution, such as return of investment, before making a final decision.

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