



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

European Advisory Committee meeting

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Energy Saving Trust
21 Darthmouth Street
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Introduction

The FROnT project includes within its objectives to identify and agree on a model to define the levelised costs of energy (heat and/or cold). Such model shall take into account the specificities of the different RHC technologies and the different countries.

The consortium has been working on a proposal for this model, work lead by Creara (formerly Eclareon Spain). In the process, several studies estimating energy costs from RHC available were studied and several relevant aspects discussed between the consortium members.

The FROn T project wants to bring this discussion beyond the entities in the consortium and therefore wants to promote a discussion on the proposal, the options, the approaches and parameters considered. This includes to promote a dialogue between experts from industry, national authorities and technical bodies in order to reach an adequate common framework on how to value the energy produced by RHC solutions.

This dialogue includes a discussion with the European Advisory Committee indicated by trade associations and energy agencies. The EAC is consulted about the options put forward by the members. These options do not refer necessarily to different models but to different factors/parameters to take into account. The richest the set of parameters, the more precise the output will be, but its complexity will also increase. We will make sure that the model selected will be user-friendly, but well adapted to the several potential scenarios.

The outcome of the meetings with the EAC will be taken into account for the national consultation process.

The meeting was preceded by a small workshop which included the following presentations:

- RHI payment calculator
- RHI: the experience with the domestic and non-domestic schemes

RHI payment calculator

Maria McLean from EST presented the calculation tool developed for the RHI. This tool is one in a series of calculators developed by EST in cooperation with other entities. This tool was developed in order to help consumers to check the payments that they would be eligible to receive from RHI for the system they plan to install in their homes.

Maria shared the experience in developing such a tool, some obstacles, the debate on parameters to be considered and how it should be presented to the consumer. One of the points raised was related to the information conveyed to consumers, as the option was only focused on the quarterly payments to be received from RHI but there was not reference to the potential savings. This was an important factor for the decision, as the earnings would not only come from RHI payments but also from additional savings, in particular in the case of solar thermal.

RHI: the experience with the domestic and non-domestic schemes

Anna Livesey from the Sustainable Energy Association (SEA) made a presentation on the domestic and non-domestic schemes and an initial assessment of these schemes. She presented SEA and the role the association has been playing in UK's policy, which is facing a busy agenda on topics related to sustainable energy.

She presented briefly the RHI, said to be the world's first long term-financial support programme for renewable heat. This was a Government led policy, which is administered by Ofgem (Office of Gas and Electricity Markets).

The programme focuses on payment a retribution for heat generated (useful heat) and has two variations: the non-domestic RHI and the domestic RHI. The principle is simple: owners of installations receive a payment for each kWh of renewable heat produced based on the technology installed. Payments are made quarterly, for 20 years in the non-domestic scheme and for 7 years in the domestic scheme.

The former, addressing non-domestic applications (services or industry) and with larger capacities, had started earlier (Nov 2011) and was well in operation. Small biomass boilers were by far the leading option.

The domestic RHI, predominantly aimed at off-gas grid households, covers single domestic dwellings for owner-occupiers, private landlords, Registered Providers of Social Housing and self-builders. One of the main challenges for this scheme is that metering was not viable (technically and/or economically) for most of the small installations. As such, the production is deemed and not metered (in most of the cases). The main technologies covered are: Biomass boiler, biomass stove, air source heat pump, ground source heat pump and solar thermal. By 31st August 2014, air source heat pumps are the most deployed technology (36%) followed by solar thermal (26%), biomass (23%) and ground source heat pumps (15%).

A part of the discussion was focused on the budget management and the degression factors: the triggers. In order to balance the support to one specific technology, technology trigger points were established based on estimated expenditure, i.e., the amount of expenditure DECC has modelled to be required if renewable heat is to make the contribution currently anticipated to the 2020 target. There is an overall trigger (for non-domestic RHI) and individual triggers (per technology) for both schemes. If triggers are hit, the tariff is reduced or 'degressed' by a certain percentage. This balances what can be considered a "too" good (or attractive") technology, by reducing its tariff, making the options more attractive. The technology trigger has already been activated for biomass boilers under the non-domestic RHI.

Finally the discussion focused on overall assessment of RHI and post-launch observations for both schemes. In brief, it was referred that delays in the implementation have create uncertainty and confusion, that the budget management proposed is required but causes some concerns, in particular the lack of certainty beyond 2016. Furthermore, the application process is complex, particularly in non-domestic but also for solar thermal on the domestic and the lack of awareness of the scheme, both for consumers and installers, is a barrier in both sectors.

Estimating RHC costs

At this point, the discussion enters on the work being carried out in FRONT, on the methodology to estimate costs of heating and cooling solutions.

The partner responsible for leading the development of the methodology, Creara (formerly Eclareon Spain) presents the proposal and what were the factors considered and the debate amongst partner so far.

The main goal is to help identify the actual cost of the different heating and cooling technologies (both renewable and non-renewable) and make it available via a tool, publicly

available, that will allow users to compare options, before deciding on a solution for their house.

Creara explains that the levelized costs of heating and cooling (LCoHC) of a system represents the constant and hypothetical cost of heat and/or cold generation of that system over its lifetime. This means that LCoHC accounts for all costs associated with the RHC system over its life, including initial investment, O&M costs and corporate taxes, among others.

As a result, it shall assume a constant value per year and is expressed as cost per kWh_{th}. And this shall be the measure of the return required from the investment, discounting future costs (and energy generation). One of the main challenges is that, in order to assess the competitiveness of a given RHC technology, its LCoHC should be compared with the levelized cost of the alternative technology (i.e. accounting for the estimated future price increases).

In the model proposed, the parameters to be taken into account are:

- Discount rate (WACC)
- Investment in year t
- Depreciation of fixed assets
- Operating costs on year t (O&M, insurance, fuels, as applicable)
- Corporate tax rate
- Economic lifetime of the investment
- Subsidies and other incentives
- Decommissioning costs/Salvage value
- Energy generated on year t

The relevance, concept and scope of the different parameters are presented, including a summary of the discussion that happened within the consortium. The discussion focused on the following issues:

- How many different discount rates should be used?
- Should the discount rate be different depending on the technology under study?
- How can we define the applicable, differential, CAPEX to use? (e.g. water storage in dwellings)
- What considerations should be made between technologies/locations?
- What values (load factor/full load hours) should be used as reference for each system type and location?
- What sources can we use as basis for our analysis?

These questions shall also be raised for the national consultation stage.

Several of these questions were discussed and commented by EAC members. In general, it was agreed that different discount rates should be considered, though not per technology. But the concrete discount rates to be used is the main issue. For instance, EC has already used unreasonable discount rates for investments in energy efficiency on their modelling exercises.

It was also agreed that the calculation should take into account the different locations, as relevant aspects are clearly related to the location has a strong impact, from energy needs to energy costs. To have a European model is an added value, as long as such specific issues are possible to take into account.

Besides there were additional comments from EAC members.

Energy performance of buildings: the results of the discussion will be relevant also in the context of the revision of the EPBD, which preparation shall start already in 2015.

Role of installers: One of the points mentioned was on the importance of engaging installers. This work shall be done with them and they should help to define the pre-sets. There is a risk of installers seeing this work as a threat, trying to circumvent them and their role in advising their consumers. Special care should be given to this aspect.

Value of information: the sue that consumers make of the tool will have a great interest for the market, to know what kind of solutions they are looking for, if there are trends and evolutions.

The meeting was also used to present briefly the work being done in other work packages, namely on the Integrated support schemes for RHC and on market facilitators.

Assessment of integrated support schemes

Silvino Spencer (ADENE) presented the evaluation of support schemes carried out by the group. Comments included a proposal to include the market penetration of RHC technologies on the definition of key success factors presented, to develop a tool for evaluation of support schemes using a scorecard and to give more relevance to the “certainty of timeframe” and to the public acceptance dimension.

Market facilitators

The work at this stage is mainly focused on national surveys on key decision factor for consumers. The work so far and the proposals are presented by Susana Fonseca (Quercus) and Andres Parades (IDEA), focusing in particular on the national surveys structure, methodology and target groups.

The comments from EAC made reference to the need to, when assessing key decision factors, to identify also how long the subject (consumer) lived and the house and how long it plans to live there still. Also it should assess if there are plans to renovate and why.

Next steps

At the end of the meeting there was a quick review of the recommendations. Additionally EAC members referred that there is a lot of reflection needed and in some points they would need additional preparation. It was commonly agreed that they should receive additional information previous to the next meeting, namely on the results of the consultation process. A web based meeting could be an interesting way to receive and discuss such updates.

The results of the surveys shall be presented by June meeting. The FROnT consortium will consider a quarterly information document to be sent to external partners to keep them updated. External partners will be involved also in national platform consultations. Internal dissemination to members is recommended.

Participants: FROnT European Advisory Committee: Maria João Carvalho, LNEG; Sergio Diaz de Garayo, CENER; Arnaud Duvielguerbigny, COGEN Europe; Oliver Rapf, BPIE; Federica Sabbati, EHI; Riccardo Viaggi, EBC;

Project partners: Luca Angelino; Bartłomiej Asztemborski; Maria Jesus Baez; Pedro Dias; Susana Fonseca; Nathalie Hemeleers; Andrew King; Stefano Lambertucci; Andrés Paredes; Silvino Spencer; Gundula Tschernigg; Johannes van Steenis; Pascal Westring; Ryszard Wnuk.

Files:

Meeting Agenda: *FROnT- Agenda-EAC.pdf*

RHI: the experience with the domestic and non-domestic schemes: *140918ESTRHI.pdf*

FROnT project: *FROnT-EAC-Pres_FROnT.pfd*

Estimating RHC Energy Costs: *FROnT_EAC-LCoHC.pdf*

Integrated Support Schemes for RHC: *FROnT-EAC-Integrated Support Schemes for RHC.pdf*

Survey Presentation: