



Briefing note

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Issue: ELECTRIFICATION of the H&C SECTOR

Context

In the wake of the debates on the EU Strategy on Heating and Cooling, a large coalition of actors, ranging from utilities and RES-electricity trade associations, to research centers and NGOs, has successfully managed to bring to the forefront of the discussions the issue of the electrification of the heating sector. Although different views, goals and interests are concealed behind this coalition, the issue is unanimously brought forward in the light of the decarbonisation advantages that electrification would bring to the whole EU energy sector. Unfortunately, these views have been received positively and took roots in different sections of the European Commission, and are echoed in the European Parliament as well, as recently seen in the ITRE Report on the Heat Strategy.

ESTIF Position

A massive increase of the electrification of the EU heating sector, particularly combined with the increasingly positive standards on energy efficiency in the buildings sector, poses a critical threat to solar thermal, which, in the simplistic scenarios depicted by most extreme pro-electrification views, might just become obsolete.

Sensible (or efficient) electrification vs wild electrification

In its position, ESTIF acknowledges that in the long run, a certain amount of electrification of the H&C sector will inevitably happen, but warns against an indiscriminate use of the electrification. Electrification should be done on the basis of efficient technologies, such as heat pumps – sensible electrification - avoiding the use of direct heating solutions – “wild electrification”. The direct heating solutions have been induced into the discussion by different stakeholders from the power sector. The main concern is that strong pressure groups push for an easy and fast solution that can bring to the market a fast increase in electricity consumption. This fast increase in consumption is essential for some important players (utilities) that are facing difficulties due to excess power generation capacity



installed. This excess brings down process and leads even to stranded assets (gas-fired power plants and co-generation plants are most obvious examples). Besides, increasing demand will also allow for additional investment opportunities, for both conventional technologies and for renewable electricity.

Heating sector contributing to balance power sector

This is a good example of the strength of simple and strong messages, even if misleading. The question of electrification of the heating sector has been wrongly presented as a solution for coping with the overcapacities in the power sector. Such over capacities generated strong imbalances in specific areas or periods. The best example is related to wind power generation in the north of Europe.

Though it is unclear, though poorly debated, how can the electrification of heating, using thermal storage and demand-response mechanisms, solve the problems in the variability of the variable centralised RES power generation.

Electrification of heating providing decarbonisation

One of the arguments used for electrification is that it will promote the decarbonisation of buildings. This is again a massive simplification.

ESTIF has expressed its concern about the CO₂ consequences of a massive electrification, and warns against the different results that such outcome might have in different EU Member States: electrifying H&C in Poland, for instance, a country with high carbon content in its power generation, will inevitably have a different impact in terms of CO₂ emissions that is different from France or Denmark, with lower carbon content, due to either nuclear or RES. Electrification is therefore not to be seen as an automatic synonym of decarbonisation.

One of the EC arguments is that by 2030, 50% of the power generation will come from renewables. This assumption brings another serious concern – that the focus in terms of RES will be almost solely in RES power generation and very little on thermal renewable sources (RHC).

Impact on the grid overlooked



The electrification of the heating sector also brings severe disadvantages in terms of grid management and grid development costs. Considering the fact that H&C represents 50% of the EU final energy demand, while the power sector is not even 25%, the idea of covering such a large amount of energy with electricity would imply such a massive expansion of grid infrastructure and power production (which necessarily could not be covered only by RES-E), that the costs of such scenarios are hardly predictable.

Legislative review as opportunity for combined measures

The current legislative review brings forward several opportunities to implement measures that shall facilitate or promote the electrification of the heating sector. The review of the EED allows for a review of the Primary Energy Factor, the Energy Market Design will allow to promote business models for storage, both power thermal (power to heat) storage. The review of the EPBD can promote solutions for prosumers that include RES power to heat options.

ESTIF Proposals

In light of the current situation in the EU institutions, and considering the vast interests gathered around this issue, ESTIF strategic position is not to oppose frontally the issue of electrification, but rather to promote a clear separation between a *wild* electrification and an *efficient* electrification. ESTIF is currently working on such definitions, and engaging policy makers on those concepts, in order to limit the role of the electrification.

Cover low temperature needs with low temperature resources

One of the factors that must be taken into account is the energy content. Electricity as higher exergy the RHC. Such “valuable” source of energy should not be “wasted” in low grade heat. Hence it should be used to supply more complex and intense demand, such as high temperature level industrial process heat, or transports.



Electrify only using efficient and clean options

Electrification of heating and cooling is already happening today, namely in an effective way using heat pumps. Electrification should be done using efficient solutions, such as heat pumps, and assuring that it is done using renewable electricity. And in a way that can really make a change in the system, not just reshuffling (with green electricity packages) but by means of additional RES power generation.

Combine solutions for a more balanced system

Centralised and decentralised energy supply, power and heat generation can be combined in order to have a more balanced system, shaving power consumption peaks. This means that the concepts of smart cities shall include both power and heat grids, that concepts such as smart meters are applied both for power meters and for heat meters.

Empowering consumers

The empowerment of consumers has been a strong message from EC, with claims such as “putting the consumer” in the center of the energy system. Empowering consumers means also that they need to have choices. Basing all energy demand on power supply will give an edge to utilities, that will be, even more than today, too big to fail.

Centralised and decentralised energy supply needs to be promoted, as well as self-generation. For the supply of heat, consumers already have solutions for self-generation. This should be potentiated, not reversed, as long as if it is done by promoting more RES.