

Response to Commission's Heating and Cooling Strategy Consultation

10 September 2015

Introduction / General Statement

IFIEC Europe welcomes the Commission's consultation on Heating and Cooling Strategy and thanks the Commission for its invitation to participate to the consultation forum. IFIEC Europe supports all economically justified initiatives in the field of energy that could improve energy efficiency. For energy intensive industry, efficiency is a survival and growth strategy because greater efficiency gives enterprises latitude for future growth. European industry, and more in particular energy-intensive industry, has been investing heavily in energy efficiency ever since the oil crises in the 1970s and 80s. It will continue to do so when economically justified, because it can only survive if it remains competitive in terms of energy use and cost; if the cost becomes too high, then it will locate the next generation of primary manufacturing outside the EU.

Industry's remaining economic potential to improve efficiency is relatively small according to the Impact Assessment on the Energy Efficiency Directive. The lowering of energy use per ton produced will continue within the limits of what is economically and physically feasible as far as the policy framework allows industry to produce, invest and grow in the EU. State-of-the-art investments in new and replacement of production capacity will lead to significant energy-efficiency achievements. Restrictions on production and growth and an unattractive investment framework will hinder the necessary steps to further reduce energy usage.

Several examples in the energy intensive industry show that successful schemes supporting efficiency in industry are applied through incentives and voluntary agreements rather than binding requirements. Due to the heterogeneity of this sector, companies have been offered full flexibility in how to achieve requirements, e.g. through the introduction of energy management systems, the consideration of energy efficiency in their investments or demand management.

Specific Comments

1. Barriers to deploy existing energy efficiency and renewable energy solutions in heating and cooling in industry

One significant challenge for the energy intensive industry is the fact that the continuous efforts to increase efficiency are increasingly reaching the boundaries of the technological possibility. For example at the copper industry up to 75% of the steam demand is already recovered from the process. In times of higher heat recovery it is used to produce electricity by highly efficient CHP.

More heat could be recovered from the process on a lower temperature level and free of CO₂ for district heating supply. But this requires investments in heat distribution networks which are costly and not efficient if heat is transported on a long distance. Lack of profitability is most often

the reason why such investments have not been done yet. Energy intensive industry is in favour of voluntary agreements and appropriate support schemes promoting efficiency in industry rather than binding requirements.

2. Technical, environmental and economic limitations to substitute fossil fuels with renewable energy sources in heating and cooling supply in industry

Heat temperature levels are one important variable when assessing the potentials for substitution of fossil fuels with renewables sources for heat supply in industry, since not all renewable energy sources are capable of reaching high temperature. Except biomass and geothermal, other renewable energy sources are intermittent and cannot usually be used in the industry sector which needs predictable and flexible heat production. High temperature geothermal heat requests specific geological conditions that are not met everywhere. Thus geothermal can seldom be implemented on industrial sites in continental Europe.

Biomass is the fuel which best suits with the industry requirements (continuous and stable supply, high temperature of heat, predictability and reliability...). However, the main constraints for using biomass in industry are

- Its long term availability (Europe becomes a large importer of biomass) and biomass is also in competition with food as well as other industrial sectors which used it as raw material like paper industry or wood panel manufacturing.
- Its logistical requirements. Infrastructures for its delivery and its storage on site require both space that is not necessarily available on existing industrial sites and require tremendous investments that could jeopardize the profitability of such fuel switch projects.
- Its high price. Industrial biomass like biogas needs to be processed. These fuels are far more expensive than fossil fuels and also not reliably available in large quantities in Europe at a competitive price.

In addition, the substitution of fossil fuels with biomass, in conventional existing solid fuel-fired boilers could lead to a limitation of the heat production capacity. This heat production capacity limitation is not necessarily compatible with the heat demand of production units. Usually new combustion facilities are needed to switch from fossil fuel to biomass.

The lack of long term visibility on regulatory framework related to environment policy at national or European level may prevent the decision makers to invest. New regulation in the field of emission of pollutants into the atmosphere applied not only on new installations but also to existing installations. A new installation that complies with the current environmental regulation could be in a near future impacted by a new one. A limiting factor is also the stricter emission limits of particulate dust pollution set by the Industrial Emission Directive (IED) or the future Medium Combustion Plant Directive (MCPD).

3. Best practices which facilitates the uptake of solutions in heating and cooling in industry

Energy intensive companies have the best experience to implement energy efficiency measures in a flexible and not mandatory way. Energy intensive industries are more than willing to share the successful experiences made in energy efficiency measures. The promotion of biomass fired cogeneration is a way to promote rational use of renewable energy. However, the support schemes are usually designed for rewarding electricity production rather than heat production. Biomass fired power plants have a low electrical efficiency compared to conventional power plants whereas biomass fired cogenerations which production mainly heat have energy efficiency comparable to other cogeneration units. Few Member States have implemented for biomass smart support scheme which promote primarily heat production to use in the most efficient way biomass. To extent this best practice in other Member States would boost the use of biomass in industry.

Flexible solutions should be provided for energy intensive industry. Additional investment in R&D could both accelerate the performance improvement of existing technologies and contribute to breakthrough technology. R&D in the fields of energy storage and inter alia in heat storage can contribute to higher heat recovery in industry enabling the match between heat demand and heat recovery.

IFIEC Europe represents energy intensive industrial consumers where energy is a major component of operating costs and directly affects competitiveness.