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AGFW-Statement

on

GREEN PAPER

A 2030 framework for climate and energy policies

Frankfurt on the Main, 02 July 2013

To/Or

About AGFW

AGFW is a Germany based, international district heating and cooling (DHC) and combined heat and power (CHP) association representing nearly 500 companies, consisting of DHC utilities, energy service companies and supplying industry from various European countries. AGFW advocates the efficient use of resources through DHC and CHP. AGFW attends to the technical, economical, political and legal matters of the sector. DHC and CHP are very energy efficient technologies that satisfy local heat demand utilising resources that would otherwise be wasted. The underlying principle of a CHP plant is an exceptionally efficient energy conversion. When heat and power are produced separately additional primary energy is needed to cover the heat demand. The possible primary energy savings of a CHP plant are affected by its design and operation but account for up to one third in comparison to the separate production of heat and power.[1] Primary energy savings also lead to a reduction of CO_2 and other emissions. CHP is a very flexible energy efficiency technology that can be used with different fuels, ranging from natural gas to biogenic fuels such as wood and biogas. CHP electricity is the most energy efficient way to serve as reserve power for high volatile electricity from RES such as wind power and photovoltaics. DHC is an energy efficiency service providing ready-to-use heat or cold and utilising a plethora of possible heat sources, for example CHP, surplus heat from industrial processes and renewable energy sources such as geothermal energy.

About DHC and CHP in the general context of a 2030 framework for climate and energy policies

DHC and CHP already play a significant role in attaining the European Union's climate and energy targets and could achieve even more in the future. This should be reflected in a 2030 framework in order to realize the still untapped potential of these energy efficiency technologies.

In times of crisis and austerity, where national and supra-national budgets are constrained a renewed focus must take cost and environmental effectiveness into consideration. Meaning a 2030 framework should focus on the measures with which the targets can be achieved at the lowest costs to society, taking into consideration external effects. It should address possible market failures and barriers for the further development of these measures. The green paper itself mentions cost-effectiveness as one of the needs of a 2030 framework:

"There is a need, therefore, to assess which targets can best, and most simply and cost effectively, drive energy and climate policies up to 2030, and whether the current approach can be streamlined particularly with reference to the need for various sub-targets such as those in the transport sector."

When taking into consideration the contribution of various policy measures implemented thus far DHC and CHP demonstrate their effectiveness even though the framework for these energy efficiency technologies has been comparatively "soft". The green paper itself delivers estimations for contributions of some political measures.

"The estimated impact of the adopted ecodesign and labelling measures are energy savings in the range of 90 Mtoe in 2020."

"The cost-effective savings potential in the building sector is estimated to be 65 Mtoe by 2020."

Both ecodesign and labelling measures on one hand and measures concerning the building sector have been relatively strict in terms of political and legal approach and continue to do so and thus are able to achieve considerable energy savings. Measures on CHP have been comparatively soft in regards to DHC and CHP in the past, however the contribution of CHP alone was estimated to be 35 Mtoe of energy savings per annum in 2008 (COM2008/771 final).

At the same time CHP also contributes significantly to climate change targets, saving an estimated100 Mt per annum of CO_2 according to the same 2008 estimations of the European Commission.

Starting with the Commission Communication on "Energy 2020 A strategy for competitive, sustainable and secure energy" (COM2010/639 final) energy efficiency has been placed at the very core of the EU's 2020 strategy, outlining the framework necessary to enable Member States to decouple energy use from economic growth. One of the flagship initiatives under the Europe 2020 strategy is "resource-efficient Europe" adopted by the Commission on 26 January 2011 (COM2011/21), which once again identifies energy efficiency as one of the key elements in ensuring sustainable growth and use of resources. The Energy Efficiency Directive (2012/27/EU) sets the legal framework for achieving energy efficiency in the Union,

[1] Schmitz/Schaumann, Kraft-Wärme-Kopplung, 3rd print run Berlin 2005, p. 6.

pursuing the overall objective of the energy efficiency target of saving 20 % of the Union's primary energy consumption by 2020 and putting heavy emphasis on CHP and DHC as means to achieve this ambitious target.

While the European Union has been putting a heavy political focus on energy efficiency for quite some time it was only with the adoption of the Energy Efficiency Directive that it has started to put more focus on DHC and CHP in this context. However the Directive aims at delivering on the 2020 energy efficiency target of saving 20 % primary energy by 2020 and the evidence on how this system will be performing will not be apparent for the next years and certainly not before a 2030 framework is put in place.

Following this train of thought, it is apparent that DHC and CHP must be incorporated in a 2030 framework for climate and energy policies and be taken into consideration accordingly.

Questions from the green paper

Which lessons from the 2020 framework and the present state of the EU energy system are most important when designing policies for 2030?

Energy systems are complex and span over different branches with different frameworks, challenges, barriers and opportunities. As a result energy policies, especially at the European Union's level tend to be fragmented, creating inconsistencies, crossovers and unforeseen effects and interdependencies in the energy system.

As one example for many both the Renewable Energy Directive (2009/28/EC) as well as the Buildings Directive (2010/31/EU) have obligations on the use of renewable energy shares in buildings. While the Renewable Energy Directive sets minimum levels for new buildings the Buildings Directive obliges Member States to ensure that all new buildings are nearly-zero-energy buildings, also incorporating obligations towards the use of renewable energy sources. However the Buildings Directive is about energy performance and not renewable energy sources. A biomass boiler (for instance pellet stove) may use a renewable energy source but it is not energy efficient. Hence biomass should be used in CHP stations. When using renewable energy sources energy efficiency should not be neglected, especially when the subject matter at hand is energy performance.

The European Emissions Trading Scheme (EU ETS) also provides an example for interdependencies. The overall goal of the EU ETS is to reduce emissions by setting an emission cap and lowering the cap over time to achieve an emission reduction target. Participants of the EU ETS are required to hold an amount of allowances, permitting them to emit the equal amount of emissions. Since the amount of allowances can not exceed the cap, emissions within the system are limited to this level. In theory, participants that can easily reduce emissions with the least costs involved will do so, achieving emission reduction at the lowest possible cost to society. In other words, emissions should, in such a system, be reduced where abatement costs are the lowest and thus incorporate the least economic impact. If there was a fully functioning market DHC and CHP would, following this principle, benefit heavily from the EU ETS, since this technology reduces emissions at very low abatement costs in comparison to the separated generation of heat and power. However only the combustion of fuels in installations with a total rated thermal input exceeding 20 MW is an activity which falls under the EU ETS. As a result individual boilers are not covered by the scope, while a lot of CHP and DHC installations are, since they reach the 20 MW threshold. Since individual boilers make up most of the heating market in the European Union, the majority of the heating market does not participate in the EU ETS. CHP and DHC use energy which would otherwise be lost as waste heat in conventional power plants to produce district heat and distribute it via a heat network. But only the electricity market is part of the EU ETS. Specific losses in electricity occur when heat is decoupled in a CHP plant. These losses are more than recouped when factoring in the savings from using the waste heat but these savings are not reflected in the EU ETS. Therefore the EU ETS will prove to be a barrier towards the accelerated uptake of CHP and DHC whereas it should help the development of these low carbon technologies.

As a consequence a holistic view must be established when designing policies for 2030. Primary energy performance is technology open and additionally incentivizes both the use of renewable energy sources and low carbon technologies. Primary energy performance should therefore be at the heart of the design of future policies.

Which targets for 2030 would be most effective in driving the objectives of climate and energy policy? At what level should they apply (EU, Member States, or sectoral), and to what extent should they be legally binding?

Primary energy performance (energy efficiency) establishes a holistic view (see above) and would therefore be the most effective. The question of whether this target should be legally

binding or not should be considered but the focus should be on delivering a solid framework which allows for energy efficiency technologies to reap the benefits of their contribution.

Have there been inconsistencies in the current 2020 targets and if so how can the coherence of potential 2030 targets be better ensured?

As stated above there are certain inconsistencies in the way the current targets are incorporated in the current framework. The focus should lie on energy efficiency and primary energy performance, delivering the framework itself for achieving the targets on CO_2 and renewable energy sources.

Are targets for sub-sectors such as transport, agriculture, industry appropriate and, if so, which ones? For example, is a renewables target necessary for transport, given the targets for CO_2 reductions for passenger cars and light commercial vehicles?

Targets for sub-sectors always bear the risk of inconsistencies and interdependencies. The renewables target for transport is a good example for this since using precious biomass for transport purposes may not be the most efficient way of utilizing it and maximizing its primary energy performance. Instead a holistic view should be established where possible.

How can targets reflect better the economic viability and the changing degree of maturity of technologies in the 2030 framework?

It may be complicated to have targets in itself reflect the economic viability. However when incorporating these targets overall economic viability can be established by incorporating abatement costs for primary energy consumption and CO_2 saving costs at least in the non ETS sector.

How should progress be assessed for other aspects of EU energy policy, such as security of supply, which may not be captured by the headline targets?

The burden for establishing security of supply should be shared fairly. Depending on the measures incorporated to achieve this progress can be assessed. CHP as a means to save primary energy can serve to attain more independence from fuel import.

Are changes necessary to other policy instruments and how they interact with one another, including between the EU and national levels?

The interaction between the Energy Efficiency Directive, the Buildings Directive, the Renewable Energy Directive and the EU ETS should follow the principle of cost performance and the overarching target of achieving an energy efficient society.

How should specific measures at the EU and national level best be defined to optimise cost-efficiency of meeting climate and energy objectives?

Cost-efficiency can be measured and compared, using these findings specific measures can be defined.

Which measures could be envisaged to make further energy savings most costeffectively?

One of the most cost-efficient measures of reducing primary energy consumption and thus CO_2 emissions are DHC and CHP. However due to inconsistencies, interdependencies and market failures the potential is yet to be achieved. A 2030 framework must incorporate a view on cost-effectiveness in regards to primary energy performance to achieve further energy savings. The comparison of CO_2 saving cost should be taken into account as well.

How can EU research and innovation policies best support the achievement of the 2030 framework?

Research and innovation should try to achieve a holistic view and not narrow its approach to few options.

Which elements of the framework for climate and energy policies could be strengthened to better promote job creation, growth and competitiveness?

Primary energy performance, security of supply and cost-effectiveness are the elements that will help to strengthen the position of the European Union's economy.

What evidence is there for carbon leakage under the current framework and can this be quantified? How could this problem be addressed in the 2030 framework?

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What are the specific drivers in observed trends in energy costs and to what extent can the EU influence them?

Focussing just on RES leads to highest possible prices for the end-user. To define efficiency only by means of insulation of houses leads to highest costs for tenants and house owners.

How should uncertainty about efforts and the level of commitments that other developed countries and economically important developing nations will make in the on-going international negotiations be taken into account?

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How to increase regulatory certainty for business while building in flexibility to adapt to changing circumstances (e.g. progress in international climate negotiations and changes in energy markets)?

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How can the EU increase the innovation capacity of manufacturing industry? Is there a role for the revenues from the auctioning of allowances?

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How can the EU best exploit the development of indigenous conventional and unconventional energy sources within the EU to contribute to reduced energy prices and import dependency?

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How can the EU best improve security of energy supply internally by ensuring the full and effective functioning of the internal energy market (e.g. through the development of necessary interconnections), and externally by diversifying energy supply routes?

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How should the new framework ensure an equitable distribution of effort among Member States? What concrete steps can be taken to reflect their different abilities to implement climate and energy measures?

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What mechanisms can be envisaged to promote cooperation and a fair effort sharing between Member States whilst seeking the most cost-effective delivery of new climate and energy objectives?

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Are new financing instruments or arrangements required to support the new 2030 framework?

Investments in CHP and DHC are very capital intensive and have very long payback periods and low profitability in comparison to conventional energy investments, putting these energy efficiency technologies at a disadvantage under current market conditions, as assessed in the Commission's communication "Europe can save more energy by combined heat and power generation" (COM2008/771 final). Financing instruments catered to the different situations in Member States can help overcome this barrier at comparatively low costs. Depending on the circumstances financing instruments can incentivize the refurbishment or development of existing installations or the establishment of new installations. Similar financing instruments are available for other technologies and in order to incentivize the development of these energy efficient technologies foreseen inter alia by the Energy Efficiency Directive it seems appropriate to establish comparable financing instruments or arrangements. The necessity is demonstrated by the assessment in the Commission's communication and such instruments would help and support Member States in realizing the potential, contributing to job creation, growth and competitiveness.

Herausgeber:

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