

Comments on “Green Paper on Greenhouse Gas Emissions Trading Within the European Union”

A Joint Position Paper by



International Energy Agency
(Implementing Agreement on District Heating and Cooling Including the
Integration of Combined Heat and Power)

and



Euroheat & Power

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This paper does not necessarily fully reflect the views of each of the individual participant countries of the Implementing Agreement on District Heating and Cooling, including the integration of CHP.

The following comments address key questions posed in the Green Paper of the European Commission (Com 2000/87). To provide a context for these comments, we first summarize the importance of District Heating and Cooling (DHC) and Combined Heat and Power (CHP) in meeting greenhouse gas (GHG) emission goals for the European Union (EU).

INTRODUCTION

DHC and CHP will be critical to meeting EU GHG reduction goals because they are carbon-lean technologies. We believe that a properly designed EU GHG emission trading system will help expand the use of these energy-efficient technologies. The EU trading system will be a key element supporting the development of an international emissions trading system.

The carbon reduction potential of DHC and CHP is large. An analysis by Euroheat & Power¹ has determined that without the existing DHC/CHP industry, EU carbon emissions would be 6% higher than today. Expanding DHC and doubling the share of CHP production, according to the Community goal, will further reduce EU carbon emissions 8% by 2010.

By linking energy users together, DHC systems connect energy users to sources of wasted energy, including power generation energy recovered through CHP. CHP is substantially more energy efficient than separate generation of electricity and thermal energy because heat that is normally wasted in conventional power generation is recovered. Compared to a conventional, electricity-only power plant at 30-40% efficiency, CHP plants can reach efficiencies of 80-90%. This fuel use reduction results in substantial reductions in emissions of GHG and air pollution.

DHC is important for implementing CHP because it expands the pool of potential users of recovered thermal energy. Low-temperature thermal loads -- commercial and residential building heating and cooling -- are served by DHC. Low-temperature thermal loads provide optimal CHP, with higher power output and efficiency compared with higher temperature loads often found in industrial CHP applications.

DHC also provides opportunities to productively use other sources of energy that are generally wasted, thereby eliminating fuel consumption and associated GHG emissions. Examples of these additional energy sources include:

- waste heat from industrial processes;
- energy from municipal waste or landfill gas;
- many forms of biomass; or
- heat contained in sewage effluent.

We welcome the Commission initiative on emissions trading and believe that establishment of a European system of emissions trading will provide important experience prior to the start of international trading in 2008.

¹ "Actual and future CO2 reduction of district heating and combined heat and power in different Western and Eastern European countries," by Hans Hof for the Committee for Ecology of Euroheat & Power, June 2000.

COMMENTS

Scope of an EC emissions trading system

Question 1: Which sectors should be covered by emissions trading within the Community? Do the LCP and IPPC Directives offer a useful starting point for defining the sectoral coverage of a community emissions trading system?

The approach recommended in the Green Paper relative to sectors covered is a good one, which will promote two important objectives: simplicity in the initial implementation, and sufficient liquidity for an effective market. With these objectives in mind, it is appropriate to focus on large point sources of carbon dioxide, and the Large Combustion Plant (LCP) directive provides a good starting point. Based on this directive, plants larger than 50 MW fuel input in key sectors, including electricity and heat production, would participate in the trading system.

This approach will mean that a significant portion of the district heating capacity in many countries will be included in the trading system. In Sweden, for example, over 60% of district heating capacity comes from plants with output capacity greater than 50 MW. However, in some countries this portion may be lower, and these countries may desire to expand the pool in the trading system to include district heating plants smaller than 50 MW. We believe that it is important to provide this type of flexibility to Member States. This is particularly important because most new district heating systems will be developed in smaller communities.

However, one implication of the focus on large point sources is potentially problematic for district heating. As a district heating system expands, its emissions will likely increase, requiring more carbon emission allowances and thus higher operating costs. Yet by expanding, and therefore eliminating multiple small emission sources that would otherwise supply heating energy for buildings, the district heating system creates substantial net environmental benefit. In order to avoid a competitive disadvantage that constrains this environmental benefit, it is critically important to ensure that strong European policies and measures in non-trading sectors will be applied.

Overall, we believe that the sectors suggested, and the thresholds based on the LCP directive, are an appropriate starting point for an emissions trading scheme. Clearly, the power production and district heating sectors are strongly interlinked in most countries and should be approached in an integrated manner. For the longer term, we agree with the statement on page 14: "Since economic gains from trading arise from differences in abatement costs between companies covered by the trading system, this would argue in favour of as wide and as varied a sectoral coverage as possible."

Question 2: Should there be a common emissions trading scheme within the European Community for certain sectors in the interest of fair competition, maximum transparency and legal certainty for companies?

Yes, a common scheme is appropriate due to growing integration of the power, gas and district heating sectors. A common emissions trading scheme is necessary for the power and gas sectors because integration of the electricity and gas markets in Europe

is proceeding rapidly. Cross-border trade of emissions would be a necessary complement to cross-border trade of electricity and gas, and would lead to lower emissions and lower costs. The district heating sector is strongly related to the power sector (through CHP) and the gas sector (through fuel purchases) in all countries. Integration of district heating in a common scheme is necessary for fair competition and maximum transparency.

Question 3: Would the flexibility offered by a co-ordinated scheme such as “opting-in”/“opting-out” be compatible with the requirements of the internal market, or would any advantages of such flexibility be outweighed by increased complexity?

Yes, the advantages of such flexibility would be outweighed by increased complexity.

Question 4: What scope is there for individual Member States to include more sectors in their domestic trading scheme than might be covered by a Community scheme?

It is important that the Community scheme be implemented in as common and integrated a manner as possible. We assume that by “domestic trading scheme” the EC means the specific framework established in a Member State for trading within the integrated EU scheme by entities located within that State.

Allocation of emission allowances

Question 5: Should the overall amount of allowances allocated to the trading sector in each Member State be subject to agreement at Community level?

The amount of allowances allocated to the trading sector in each Member State should be determined by each Member State based on common principles and methodology established at the Community level.

Question 6: Should the way in which allowances are allocated to individual companies be the subject of agreement at Community level? Or, do you consider detailed guidelines based on the state aid provisions and other rules of the Treaty to be sufficient to safeguard fair treatment?

The allocation principle will be very important for DHC and CHP. Each method has its own advantages and disadvantages:

- With an allocation system based on past emissions (“grandfathering”) is not an appropriate allocation approach because it will tend to reward inefficient producers and penalize efficient ones.
- It would however be possible to grandfather based on benchmarking which establishes an amount of allowances per unit of output for each sector. For CHP plants the total useful energy output will include both electricity and thermal energy. With the benchmarking approach, a CHP plant, for example, should be allocated allowances for both its heat and power production.
- With an allocation system based on auction, fewer allowances will be needed for DHC and CHP compared to competitors using carbon-rich technologies. This is

an appropriate approach for the long term, particularly if the funds collected are recycled in a way that rewards more efficient plants.

- It will be necessary to adjust the allocations in future compliance periods to reflect the mix of plants in operation. The most appropriate allocation system for the future must be based on emissions per unit of product output. In the energy sector, allowances should be allocated based on total useful energy output.

Grandfathering based on historical emissions is not acceptable to initiate the system. Grandfathering based on benchmarking is a better approach for initiating a trading system. In the long run, we believe that an allocation system based on emissions per unit of total useful energy output is the most appropriate approach because it will most efficiently reward the most environmental beneficial producers.

The principles for allocation of allowances should be the subject of agreement at Community level. The uniformity of allocation approach is not significant for DHC (which is not traded across borders) but it is important for CHP. A common allocation approach will ensure fair competition for CHP plants across borders.

It is also important that the allocation process rewards early action to reduce carbon emissions, or at least does not penalize early action.

Synergy with other policies and measures

Question 7: Is it agreed that a balance has to exist between sectors engaged in emissions trading within the Community on the one hand, and non-trading policies and measures applied to other sectors on the other?

It is very important for DHC that a balance exists between emissions trading and non-trading policies and measures. Systems representing the majority of DHC output will belong to the trading system, while building heating technologies will be covered by non-trading policies and measures. If there is not a balance between the relative burdens of emission trading and domestic policies and measures, DHC will be at a competitive disadvantage when acquiring new customers.

Question 8: How can environmental effectiveness (in terms of fulfilling the Kyoto Protocol's commitments) and transparency be safeguarded using a mix of emissions trading, energy taxes and environmental agreements with targets based on energy efficiency per unit of output?

The experience from taxation of the European CHP industry suggests that a common carbon dioxide trading system will produce more emissions reductions at lower cost compared to many of the existing domestic energy tax systems. This conclusion is especially valid for Denmark, Finland and Sweden, where the present and suggested energy tax systems neglect the full environmental benefits of CHP. In these countries, heat from CHP plants is taxed as if the heat would have been produced in heat-only boilers. From a GHG perspective, these rules are absurd. Today, those taxation laws prevent the CHP industry from reducing existing carbon dioxide emissions.

Combining emissions trading and taxation could make sense only if the taxation scheme is strictly designed to benefit the environment, as opposed to raising government revenues.

We believe that emissions trading is a more effective, transparent and environmentally beneficial approach in the DHC sector compared to environmental agreements.

Compliance and enforcement

Question 9: Are the currently available instruments (Monitoring Mechanism, infringement procedures) sufficient or should additional tools be developed in order for the Community to adequately assess compliance in the context of emissions trading within the Community?

One monitoring and quantification issue that is of concern for DHC relates to future allocation of allowances for expanding DHC systems. Such expansion eliminates emissions from building boilers, and future allocations should account for this. Building boilers do not have the historical emissions data normally expected in order to meet the quantification standards for emissions trading. This does not mean that such emissions should not be credited in the allocation. Rather, a conservatively low estimate, based on fuel use or heat use and an assumed efficiency, can and should be used.

Question 10: Do the elements of compliance and enforcement mentioned above warrant co-ordination or harmonisation at Community level, and which elements are more appropriately undertaken by Member States?

Compliance and enforcement mechanisms should be strongly harmonized at the Community level.