The European Energy Efficiency Directive and its implementation in the German industrial sector

Dr. Dörte Fouquet
Becker Büttner Held
Avenue Marnix 28
1000 Brussels
Belgium

Jana Nysten, LL.M.
Becker Büttner Held
Avenue Marnix 28
1000 Brussels
Belgium

Keywords

energy efficiency action plans, national implementation, Energy Efficiency Directive (EED)

Abstract

The European Commission, in 2011, proposed a Directive on energy efficiency. After adoption, which is to be expected some time in 2012, possibly even this summer, the Directive will have to be implemented in the national laws of the EU Member States. In this regard, the Directive leaves some discretion to the Member States. They have to set themselves a national indicative energy efficiency target for 2020, with a view to the achievement of the overall EU target of at least 20 % increased energy efficiency. They have to decide on measures to achieve this target. Some binding measures are, however, already set out in the Directive, such as the "energy savings obligation" in article 6. The energy savings obligation, though formulated in very general terms, has been said to be particularly detrimental for industry, as it would introduce a cap on energy sales. Another binding measure is the energy audit obligations imposed on large enterprises, although the Member States again have some discretion to determine exactly who can audit and how the results will be used. Member States will have to develop their own answers to the "open question" how to implement the provisions and objectives of the Directive.

In Germany, the current law on energy efficiency measures entered into force only in November 2010, and largely relies on information obligations and market dynamics. The more interventionist approach of the proposed new Directive may necessitate changes in this approach, and may possibly cause additional challenges for German industry. Various proposals are being discussed on European as well as on national level, such as for example, creation of a special fund into which companies would have to contribute based, for example, on their energy consumption and which would be used to finance energy efficiency improvement measures. Another alternative under consideration is a system of white certificates.

It is the purpose of this paper to explain – based on the example of Germany – what exactly the European Commission's proposed Directive requires Member States to do in order to improve the energy efficiency of the industrial sector, to show where there is room for discretion and to introduce suggestions on how this discretion could be exercised. However, as Member States are different, there will not be a "one size fits all" solution, and nothing like that will be suggested. Rather, the focus will be on what Germany has done, is doing and may be doing in the future.

Introduction

The efficient use of energy is important not only for the protection of the environment and to mitigate climate change, but it is also a factor worth considering when it comes to industrial competitiveness. (Primary) energy prices are high and ever-rising, so that many firms consider measures improving their energy efficiency in order to save on their energy bill. The resulting production cost reduction could lead to competitive advantages in the markets. Thus, in principle, one would think that industry would support legislation to increase energy efficiency out of self-interest (not environment- or climate-related). However, upon second view, this is not necessarily the case; as such legislation may require changes that are not cost-effective from a financial perspective.

Accordingly, the industry in Europe has been on the watch since the European Commission's June 2011 proposal for a Directive on energy efficiency[1] (hereafter: the Energy Efficiency Directive; the Directive) in,: If the Directive gets through the European Parliament and the European Council, it will have to be implemented in the national laws of the 27 European Member States. Not only is there always a danger that the different systems adopted by Member States might be discriminatory against foreign industry or set their own industry at an advantage, but the provisions of the Directive itself could also mean a stronger effort to be undertaken by European industry, in general. Indeed, even while the negotiations on the Directive are on-going in the European Parliament and the European Council, it is already heavily criticized by European industry.[2]

Criticism has been voiced not only at the European level, but – due to the Member States implementation obligations – also on the national level. The German Chamber of Industry and Commerce ("Deutscher Industrie- und Handelskammertag"; DIHK), for example, stated that, while generally energy efficiency should be improved, the improvement should not be forced violently and by all means.[3] In particular, as Germany has so far been a country with hardly any energy efficiency legislation and has proven quite reluctant in the negotiations on the proposed European Directive, this paper will thus look at the possible implementation pathways and their impact on the German industrial sector.

To this end, first the current German law on energy efficiency will be assessed, in so far as it applies to the industrial sector. Then the proposed Energy Efficiency Directive will be looked at, focussing again on the provisions that would impact industry. Afterwards, the question of how to best implement the provisions of the Directive in Germany will be discussed, thereby considering the agendas of both the government and German industry. Finally, and as a conclusion, suggestions will be made on how the Directive could (best) be implemented and energy efficiency increased in the German industrial sector.

The current German Law on energy services and other energy efficiency measures

The German Law on energy services and other energy efficiency measures ("Gesetz über Energiedienstleistungen und andere Energieeffizienzmaßnahmen"; EDL-G)[4] was adopted in July 2010,[5] more than two years after the end of the official implementation period for Directive 2006/32/EC on final energy efficiency and energy services.[6] In fact, the European Commission had already progressed to the second phase of the infringement proceedings against Germany by the time the German government finally took action. The haste with which the legislation was enacted showed from the very beginning: the law was not only attacked for lacking ambition, but the government itself announced, even prior to its adoption, that this "pure implementation law" would be revised at a later point and replaced by a proper energy efficiency law.[7] The proposed new European Energy Efficiency Directive may thus finally offer the opportunity to correct the shortcomings of the past and give reason for the German government to come up with the promised "proper" energy efficiency law.

As mentioned, the current EDL-G can be seen as a mere shell, containing hardly any substantive provisions but with almost every article creating a regulatory power to issue further regulations at some point in time. The very few substantive provisions are taken almost literally from Directive 2006/23/EC.[8] Accordingly, the EDL-G aims at contributing to the overall EU target of achieving at least 9 % energy savings in the years 2008–2016. In this respect, the government adopted its so-called National Energy Efficiency Allocation Plans, as they were mandated by the EU Directive, explaining the national targets and reporting on the measures to achieve them.

The German government, with those measures tried to take a market-oriented approach: the idea was to improve the efficiency at the end-user level in a cost-efficient manner, by creating and strengthening a market for energy services and other energy efficiency measures in which as many contractors possible would offer their services in a competitive environment. (§3 I,II EDL-G). In that effort, the public sector would function as a role model (§3 III EDL-G).

However, the obligated parties under the law are mainly energy suppliers (suppliers and grid operators) and energy companies. The final consumers can remain passive – they need to be informed about the availability of energy audits and energy

1. European Commission, Proposal for a Directive of the European Parliament and of the Council on energy efficiency and repealing Directives 2004/8/EC and 2006/32/EC, 2011/0172 (COD).

2. For example, Eurochambres, the association of European chambers of commerce and industry, considers the 1.5 % level of annual savings obligations for energy companies in article 6 of the Directive inappropriate and not cost-effective for a free European energy market, as it fears that national authorities will simply pass on the additional costs to the private sector. See: http://www.europolitics.info/sectorial-policies/industry-fears-savings-targets-would-cause-production-drop-artb327508-14.html. BASF even threatened to close production sites in Europe, arguing that a fairer way would be to establish energy efficiency targets would by sector, as the industry sector was performing way better than the transport sector, for example.

3. DIHK, "Energieeffizienz steigern, aber nicht mit der Brechstange!" Newsletter, 29.03.2012.

4. Gesetz über Energiedienstleistungen und andere Energieeffizienzmaßnahmen (EDL-G); Stand: 12.11.2010; available for download at: http://bmwi.de/BMWi/Navigation/Energie/Energieeffizienz-und-Energieeinsparung/energieeinsparung,did=339094.html.

5. It should be noted that since 2001, an agreement with industry has been in place, according to which firms undertake to reduce CO^2 emissions. As one way of doing so is improving energy efficiency and reducing energy consumption, and in particular, increased use of cogeneration technologies is a area of the agreement, this agreemenent can be seen as an early energy efficiency measure. However, the agreement itself focusses on environmental and climate protection. BMWi, "Vereinbarung zwischen der Regierung der Bundesrepublik Deutschland und der deutschen Wirtschaft zur Minderung der CO_2-Emissionen und der Förderung der Kraft-Wärme-Kopplung in Ergänzung zur Klimavereinbarung", Berlin, 25.06.2001.

6. See: http://bmwi.de/BMWi/Navigation/Energie/Energieeffizienz-und-Energieeinsparung/energieeinsparung,did=339094.html. The Directive 2006/32/EC, as the predecessor of the current proposal, has been found to have hardly any positive impacts on increasing energy efficiency in Europe and the Commission found that without any further action, Europe would fail to meet its target of at least 20 % increase in energy efficiency by 2020 (a realistic scenario showed a mere 9 %). As the description of the German law, which is a "1:1" implementation, shows, the Directive 2006/32/EC hardly contained any substantive obligations. With the newly proposed Energy Efficiency Directive, the Commission seeks to address those shortcomings. See: European Commission, Impact Assessment accompanying the Proposal for a Directive of the European Parliament and of the Council on energy efficiency and repealing Directives 2004/8/EC and 2006/32/EC, COM 2011/790, p. 11.

7. Also: Thole/Kachel "Zahnloser tiger Energieeffizienzgesetz – Handlungsspielräume fpr Energieversorgunsgunternehmen", 6 Infrastrukturrecht 2010, p. 122–126, at 122.

8. This led for example to inconsistencies, at least in the formulation, between the definitions in the EDL-G and the German Energy Industry Act ("Energiewirtschaftsgesetz", EnWG).

services, but whether they act upon this information is left to them. Notably, the EDL-G notably makes no distinction between industrial consumers and private consumers.

In the course of the legislative process for the EDL-G, the German Ministry for the Environment ("Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit"; BMU) fought for an obligation that industry, and particularly energy intensive industry, develop internal energy management.[9] Companies would have to adopt a system to influence organizational and technical as well as behavioural processes in the company to systematically and economically reduce overall energy consumption and to improve the efficiency of their industrial processes. By establishing baselines in energy use and identifying opportunities for energy savings, such systems not only increase the potential for saving energy, but also to strengthen the competitiveness of the enterprises through savings on their energy bills. A certain European standard for such systems was adopted and implemented in Germany. Additional, inclusive standards exist for environmental management.[10] However, the German Ministry for the Economy ("Bundesministerium für Wirtschaft und Technologie"; BMWi) opposed to the introduction of such an obligation to have internal energy management, and the EDL-G consequently leaves it to the enterprises themselves whether they take up the energy services offered.

Interestingly, many, and in particular energy intensive, firms in Germany have adopted on a voluntary basis energy management systems. While the systems differ depending on the structure, size and energy intensity, they prove to be quite successful and it is reported that some firms got more than 200 % of their investments reimbursed by savings on their energy bills.[11]

Overall, Germany so far tried to decouple economic growth as far as possible from resource use, to reduce the burden on the environment and to strengthen the sustainability and competitiveness of the German economy.[12]

For example, in 2009, the Federal Ministry for the Environment asked the Association of German Engineers to manage a specific Centre for Resource Efficiency (VDI ZRE). The aim of the Centre for Resource Efficiency is the promotion of an integrated use of technologies protecting the environment, natural resources and the climate. Mostly through awareness raising, case studies and best-practice databases, the Centre for Resource Efficiency aims to reduce resource consumption in German industries[13]. In terms of overall efficiency policies, this programme is part of a broader scheme and various initiatives during the last 10 years in Germany to increase efficiency and sustainability[14] in the industry.

Another recent measure was the adoption of the so-called "ProGress" programme in February 2012, as the result of the German government's decision in its Raw Materials Strategy of 20 October 2010 to develop a national resource efficiency program. It is primarily a sustainability measure, intended to structure the extraction and use of natural resources in a sustainable way and to reduce associated environmental pollution as far as possible.

A common characteristic of all these measures is their intent not to hamper competitiveness; indeed, they were largely profitable for German industry.

Currently, there are various ideas discussed already in the course of the adoption of the EDL-G – and sometimes invoked as a threat in case the law would not deliver the desired results – ranging from tax measures to a system for white certificates. Indeed, the second National Energy Efficiency Allocation Plan (NEEAP) suggested that the German government should implement a pilot "white certificates" project, thereby drawing experience from other EU Member States. It was also promised that an annual 10 billion Euro would be available for financial support to the industry in realizing the economic energy savings potentials established for that sector.[15]

Furthermore, the German energy tax exemption for energy intensive enterprises are to be linked to the implementation of certain energy efficiency measures, such as, in particular, the installation of energy management systems.[16] A special Energy Efficiency Fund has already been established in 2011, with a volume of 90 million Euro, to be used for various efficiency improvement measures also in the industrial sector.[17]

While there had been a lot of criticism of the law from the moment of its adoption, the German reporting due under the Directive 2006/32/EC speaks of a success in energy efficiency improvements even without any further actions and solely relying on the EDL-G as well as the investment incentives and voluntary obligation schemes in place until June 2011.[18] Germany has the biggest market in energy services among all Member States, with many and diversified players. Energy services contracting – in various forms – is frequently used by the German industrial sector to improve their energy performance.[19] While in energy management systems, various different services can be combined, even offered by different contractors, the most commonly used form of energy contracting remains basic en-

9. Thole/Kachel "Zahnloser tiger Energieeffizienzgesetz – Handlungsspielräume fpr Energieversorgunsgunternehmen", 6 Infrastrukturrecht 2010, p. 122–126, at 122.

10. BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 91. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html

11. BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 91f. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html.

12. BMU, February 2012, overview on the Resource Efficiency Programme; http://www.bmu.de/english/economy_products/doc/48542.php

13. For a detailed overview of the measures taken by the German government, see : EEA, "2011 survey of resource efficiency policies in EEA member and co-operating countries – GERMANY"2011 available for download at: http://www.vdi.de/44139.0.html.

14. For a detailed overview of the measures taken by the German government, see : EEA, "2011 survey of resource efficiency policies in EEA member and co-operating countries – GERMANY" 2011 available for downld at: http://www.vdi.de/44139.0.html.

15. BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 102f. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html

16. While the amendments to the energy taxation laws have to be implemented by 2013, there is, as yet, only a proposal from the Ministry of Finance on the new tax exemption for energy intensive enterprises. See: Schiebold/Liebheit, "Gretchenfrage: Steuerbefreiungen oder nein?" http://www.derenergieblog.de/alle-themen/energie/gretchenfrage-steuerbefreiungen-ja-oder-nein/; BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 102f. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html.

17. http://www.bmwi.de/BMWi/Navigation/Energie/Energieeffizienz-und-Energieeinsparung/effizienzfonds,did=375120.html.

18. BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 13f. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html.

19. BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 82. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html.

ergy supply contracting.[20] With that – and in particular as there is no obligation on the firms hiring the contractor to improve their processes – it is the energy supplier who will improve its generation (or transmission) processes. The efficiency improvements are thus achieved at the front of the supply chain, where they are easiest to realize, with only the contractor taking action. Energy savings contracting whereby measures are taken at the level of the industrial end user are more complex and thus less frequently used. It should be noted though, that process optimization need not necessarily be done in the form of contracting. Rather, quite a few firms have started investing in research and deployment of new technologies to reduce their energy consumption – incentivised not only by the savings on their energy bills, but also by some (federal and local) government-funded programmes.[21]

The current German "Law on Cogeneration"

Germany supports electricity from cogeneration plants through a Feed-In Tariff system,[22] thereby encouraging firms with a large electricity demand to use the heat from industrial processes efficiently, e.g. for their own purposes or for example for district heating.[23] Since 2009, the law specifically mentions energy savings as one of its objectives (§1 KWKG).[24] The Feed-In Tariff system is modelled similar to the German support system for renewable energy, in the sense that the grid operator into whose grid the electricity is fed has an obligation to purchase the electricity at a fixed price. To that end, cogeneration plants benefit from guaranteed grid access and priority transmission (§4 KWKG).[25] German law provides that the priority for cogeneration is the same as for renewable energy (§4(1) KWKG)[26] – thus there is no first or second priority.

When the KWKG was last amended in July 2011, this was seen only as a "small revision". Deployment and use of cogeneration is still not up to the levels the German government wishes. Accordingly, amendments are planned to improve the existing legal framework for support. In particular, a further alignment with the regime governing renewable energy is planned: the rules applicable for renewables in case of congestion shall explicitly be made applicable also for electricity from cogeneration, so that for example in case a cogeneration plant is cut off, the operator could claim compensation.[27] Also, the support for modernization of existing plants will be strengthened, though the support rates in general are not increased.[28] This failure to raise support level has been criticized as a particular weakness of the proposed amendments, as this is likely to be the most effective way to incentivize the use of cogeneration technology.[29]

The European Energy Efficiency Directive

The proposed Energy Efficiency Directive, though still under negotiation,[30] has the following core features:

First, it would introduce some form of energy efficiency target and Member States would have to develop some form of plan on how to reach it (Art. 3). The discussion here basically centres on the question of flexibility: either binding (minimum) measures and a non-binding target, or a binding target with more freedom on how to achieve it. While the European Commission and the European Council would accept the target of 20 % increase in energy efficiency by 2020 that the European Union has committed to, leaving it up to the Member States to set an indicative national target, the European Parliament calls for binding national targets. In return, the Parliament would give some more flexibility to the Member States when implementing the Directive. The Council's version combines a non-binding target and a greater degree of flexibility.[31]

Second, there would be a public sector obligation to annually renovate a certain percentage of the publicly owned buildings (Art. 4). Here, the European Commission suggested 3 % p.a of all buildings with a useful floor area of more than 250 m². The Parliament reduced this to 2.5 %, but called for deep renovation rather than mere cost-effective renovation. The Council though – thus the Member States themselves – watered this down to 3 % of all buildings owned by the central government, introduced several exemption possibilities, for example for historic buildings, and a three-year transitional period during which the obligation would only apply to buildings with a useful floor area exceeding 500 m².

Third, an annual 1,5 % energy savings obligation is foreseen in all three versions of the Directive (Art. 6). The Commission leaves it wide open on how Member States can implement this provision.[32] The Parliament seeks to restrict the extent to which obligated parties can pay a certain amount of money into a specific fund rather than actually take measures to improve

20. BMWi "2. Nationaler Energieeffizienz-Aktionsplan (NEEAP) der Bundesrepublik Deutschland", 2011, at 83f. available for download at: http://bmwi.de/BMWi/Navigation/Service/publikationen,did=438584.html.

21. In Germany, in particular the KfW Bankengruppe offers investment incentives for firms improving their energy performance by reducing their energy consumption and/or integrating renewable energy (from own production). See for an example: http://www.kfw.de/kfw/de/Inlandsfoerderung/Programmuebersicht/BMU-Umweltinnovationsprogramm/Was_wird_gefoerdert.jsp.

22. Gesetz für die Erhaltung, die Modernisierung und den Ausbau der Kraft-Wärme-Kopplung (KWKG) Stand: 14.12.2011, available at: http://www.gesetze-im-internet.de/bundesrecht/kwkg_2002/gesamt.pdf.

23. Cogeneration plants collect and prepare for use the heat that is generated by burning primary energy sources in order to produce electricity. With that they can reach an efficiency of about 90 %, meaning that only 10 % of the primary energy resources go to waste. See e.g. http://www.bine.info/hauptnavigation/publikationen/basisenergie/publikation/kraft-und-waerme-koppeln/. For an example of a firm maintaining a cogeneration plant to cover their electricity and heat demand, see for example the Ferrero work site in Stadtallendorf, or refer to B.KWK, "Kraft-Wärme-Kopllung, Chance für wirtschaft und Umwelt" available at: http://www.bkwk.de/aktuelles/Broschur/Broschur_Internet.pdf.

24. Also: Jacobshagen/Kachel, KWKG Kommentar §1, in: Danner/Theobald, Energierecht Kommentar, Band 4, C.H. Beck, München, 2012.

25. For more information on the system, consult: Jacobshagen/Kachel, KWKG Kommentar, in: Danner/Theobald, Energierecht Kommentar, Band 4, C.H. Beck, München, 2012

26. A similar provision can be found in §8(1) of the German Renewable Energy Act ("Gesetz über den Vorrang Erneuerbarer Energien", EEG) available at (also in English): http://www.bmu.de/erneuerbare_energien/gesetze/eeg/doc/47585.php.

27. Jacobshagen/Kachel, "Auf dem Weg zur KWK Novelle", Energie und Management, 1. März 2012, p. 3.

28. Only for plants falling under the emission trading scheme.

29. Jacobshagen/Kachel, "Auf dem Weg zur KWK Novelle", Energie und Management, 1. März 2012, p. 3.

30. The following presentation is based on the version of March 29, 2011, send from the Council to the delegations, which provides a four column comprehensive overview of the Commission's original proposal, the position adopted by the European Parliament's Committee on Industry, Technology, Research and Energy (ITRE) and the latest version from the Council. Article Numbers in brackets all refer to the Directive in this version.

31. Unsurprisingly, as in the Council it is the Ministers of the 27 European Member States discussing the proposal and trying to agree on a common position.

32. Interestingly, though, the Impact Assessment then mentions only a system of white certificates.

energy efficiency, but suggests several other methods on how the obligation can be met which include white certificates or taxation measures. The Council again sees the fund as an option, and would even accept a "full" buy-out possibility for the companies falling under the obligation. It further agrees with the Parliament that the obligation shall be on "energy distributors and/or retail energy sales companies. However, it foresees an exemption for companies subject to emissions trading and generally leaves it to the Member States to decide on whom the obligation shall be imposed, as long as the criteria are non-discriminatory and objective, so that small businesses for example, or operators of closed distribution networks can be excluded.[33] Further, the Council would explicitly allow "grandfathering" of savings achieved from actions implemented since December 31st, 2008, and would also allow for so-called statistical transfers of achieved savings between obligated parties in different Member States. Further, the Council would stagger the savings rate into three periods, beginning in 2014, with a 1 % obligation in the first period, 1,25 % in the second and 1,5 % in the third, resulting in a reduction in the overall savings achieved until 2020.

In addition to provisions on metering and billing (Art. 8), the proposed Energy Efficiency Directive, also contains a provision on energy audits and energy management systems (Art. 7). Here, the Commission wants all large businesses to be audited every three years, beginning no later than June, 2014, the Parliament would be content with every four years, and the Council makes it every five years. While the Commission and the Parliament would allow energy audits in the course of an energy management system to count towards that obligation, the Council deems a certified energy management system sufficient to exempt the enterprise in question entirely from the obligation. The Council also disagrees with the idea of minimum criteria for energy management system being established on EU basis; rather a reference to the existing European and International standards in the recitals should suffice. In addition, the Directive would contain provisions further encouraging the market in energy services, and thus follow its predecessor.

Further, the proposed European Energy Efficiency Directive would introduce an obligation on the Member States to consider their heating and cooling potentials and to take them into account in one way or another (Art. 10). The Commission wants national heating and cooling plans – and the Parliament agrees – with the Member States taking necessary measures to implement them.[34] Such measures particularly include the requirement that all newly built or refurbished installations with a thermal input exceeding 20 MW – including not only electricity generation plants but also industrial plants – would need to be equipped with high efficient cogeneration technology and be connected to district heating and cooling networks, unless a cost-benefit analysis suggests otherwise or there is insufficient heat load. While the Council principally agrees on the cost-benefit analysis as a decision basis for authorisations and permits, it is way less strict; rather than drawing up a plan or roadmap, Member States shall assess their potentials, and if the assessment does not positively identify such potential, then the provisions on the mandatory cogeneration equipment do not apply. If there is a potential, then a cost-benefit analysis has to be carried out,[35] and the potential need be considered in the authorization and permit procedures. Further, the Council would allow the Member States – under certain conditions in accordance with their own implementing legislation – to exempt certain individual industrial installations from the obligation, as well as generally to exempt peak load and back up capacities planned to operate below 1,500 hours per year.[36]

As regards cogeneration, the Directive would introduce guarantees of origin for electricity from cogeneration (art. 11(10)) and it would grant priority or guaranteed access, guaranteed transmission and priority dispatch (Art. 12(5)). While the Parliament wants Member States to ensure that the priority access and dispatch for renewable energy is not hampered, the Council would leave it to the Member States which of the two to rank higher, and would also allow differentiation within the different types.

How to implement the proposed Directive in Germany

While the discussion above touches on only a few requirements of the Directive,[37] it already comes clear that implementation will be quite a challenge for the Member States. Against this background, the paper will now return to its focus on the impact of the Directive on the German industrial sector: the savings targets, the annual savings obligation, the obligation to be connected to district heating networks and the priority for cogeneration. Energy management systems will also be discussed briefly.

THE INDUSTRY'S POSITION

In the latest discussions in Germany on how to effectively implement the European Energy Efficiency Directive, the industry generally cautioned against too ambitious energy efficiency targets. While the overall EU wide 20 % target would be well in line with the German national agenda even without any further measures,[38] the 1,5 % annual energy savings obligation in article 6 of the Directive is taken by the industry as a real affront, and in fact as impossibility. For example, the German

33. The Commission and the European Parliament instead provide for an exemption for (certain) small businesses, the Commission even providing criteria on what would be considered small, while the Parliament leaves it to the national market conditions. While neither of them would count energy for self use towards these limits, it is not certain that the operator of a closed distribution network for example, would come within this exemption.

34. The Parliament here suggests taking the roadmaps, as it calls them, as the basis for permit and authorisation procedures. The Commission does not specify, but wants the plans to be taken into account for spatial planning.

35. Interestingly, the Council refuses to delegate the competence to adopt a methodology to the European Commission and rather suggests a list directly in the Annexes of the Commission according to which Member States have to carry out the analysis while the Parliament would allow the Commission to do so, but within the framework of certain guidelines it would include in the Annex.

36. This latter, general exemption applies also to all other installations. Nuclear and CCS equipped installations are exempt as well.

37. Though others argue it is insufficient still, mainly because it lacks binding targets, a view that may even be supported by the Commission's very own Impact Assessment, finding – in an optimistic scenario – only an increase of 19 %, rather than 20 %: See: European Commission, Impact Assessment accompanying the Proposal for a Directive of the European Parliament and of the Council on energy efficiency and repealing Directives 2004/8/EC and 2006/32/EC, COM 2011/790, p. 27f.

38. As the Prognos AG calculated and raised in the latest hearings in the Committee for Economy and Technology (Ausschuss für Wirtschaft und Technologie) in the German Bundestag, see: http://www.bundestag.de/dokumente/textarchiv/2012/37819673_kw09_pa_wirtschaft/index.html.

steel industry announced that it had almost exhausted its savings potentials and had reduced its primary energy consumption by 40 % since 1960. Further reduction potentials in the steel industry would simply be way below the ambitious 1,5 % savings rate.[39] Thus while it is recognized that in the building sector or in private households there may be significant potential, the proposed Energy Efficiency Directive in general faces reluctance from the German Industry.[40]

As regards the overall energy efficiency target, to the German industry a binding target seems unacceptable. Citing concerns about competitiveness and growth, opponents emphasize the crucial distinction between energy efficiency and energy savings. Energy efficiency would mean consuming less energy while maintaining the same (or even achieving a higher) degree of productivity. Energy savings could also mean that energy is saved simply by producing less, thereby seriously affecting and disadvantaging the industry. Energy intensive industry would thus – contrary to the market demand – have to cut back on their production. In this regard, it is argued that the Directive lacks a clear definition or distinction between the two, and that as long as pure energy savings are considered for the achievement of any kind of target, this would constitute a "cap in production".[41]

The energy savings obligation makes the "cap" more explicit is rejected based on the same rationale.[42] Besides the fact that it may be impossible to reach for some industry sectors, or only possible at a very high cost, the problem of how to count those savings is invoked as another argument against such a provision: obligated enterprises would have to try to come up with a system to manage the savings, and thus the behaviour of the customers. Further, they could possibly be held liable for the non-energy-efficient behaviour of their customers, or even worse – the practical impossibility to further improve in this area.[43] Further, the sanctions mechanism foreseen in art. 9 of the proposed Directive[44] is seen as incompatible with the principles of liberalized energy markets; and it is further argued that it imposes significant costs.[45]

Rather, the Industry stresses that the system in place actually delivers: the German industry by means of self-obligation and incentivized by tax advantages has been, and still is, constantly working on the improvement of its energy efficiency and the reduction of carbon emissions. And the tax incentives to particularly energy intensive enterprises are not the sole reason; rather the market itself and the need to be competitive is incentive enough to implement all cost-effective measures to achieve savings on the energy bill. With energy prices rising, the incentive will grow even stronger.

Consequently, the provision on mandatory energy audits or energy management systems is attacked. While most enterprises, in particular larger ones, already have one or other system in place, are well informed about their consumption and in fact already take measures to reduce it, it is said that an obligation would merely cause unnecessary extra costs.[46]

On the question of obligatory cogeneration, the objection is based on similar grounds: If it is economically sensible to make use of the waste heat, then the investment in cogeneration will be made.[47] If not, then this is not done and should not be done. It is an investment decision in which the firms themselves perform a cost-benefit analysis, and it is argued that this should remain the case. Industry questions whether any obligation makes much sense, as on the one hand EU legislation requires that heat demand be reduced, but on the other hand requires more investment in cogeneration and district heating network capacities.[48] Nevertheless, the priority provisions in the proposed Directive to make cogeneration financially more attractive are, by and large, welcomed.[49]

39. See the comments of the Industry Association Steel (Wirtschaftsvereinigung Stahl) at the hearing in the Bundestag: http://www.bundestag.de/dokumente/textarchiv/2012/37819673_kw09_pa_wirtschaft/index.html.

40. It should be noted though, that some industrial sectors, notably the electronic and electronical industry, welcome most of the measures proposed, as they will mean increased demand for their products. They are, asking, for example, for "highest efficiency" standards in public procurement. See: Central Association of the Electro and electronic industry ("Zentralverband Elektrotechnik- und Elektronikindustrie"; ZVEI) "Kurzstellungnahme der Elektroindustrie zur öffentlichen Anhörung „Energieeffizienz" des Ausschusses für Wirtschaft und Technologie", p. 4, available at: http://www.zvei.org/Verband/Publikationen/Seiten/Kurzstellungnahme-Energieeffizienz.aspx.

41. Compare: German Chamber of Industry and Commerce("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 3f, available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben.

42. Here, again, the division of opinion between industry sectors should be noted. While most reject the energy savings obligation, those production sectors in some way or other benefitting from the need for e.g. IT control systems or more efficient (electronic) systems support the proposal. See e.g.: Central Association of the Electro and electronic industry ("Zentralverband Elektrotechnik- und Elektronikindustrie"; ZVEI) "Kurzstellungnahme der Elektroindustrie zur öffentlichen Anhörung „Energieeffizienz" des Ausschusses für Wirtschaft und Technologie", p. 3, available at: http://www.zvei.org/Verband/Publikationen/Seiten/Kurzstellungnahme-Energieeffizienz.aspx.

43. The Federal Industry Association argues that operators of closed distribution networks should anyways be exempted, as their primary function is in making use of the energy generated during industrial processes and not energy supply. See: Federal Association of the German Industry ("Bundesverband der Deutschen Industrie", BDI) Stellungnahme, p. 6, available at: http://www.bdi.eu/download_content/EnergieUndRohstoffe/Stellungnahme_Richtlinienvorschlag_Energieeffizienz.pdf.)

44. Similarly, the reporting obligations are criticized, also from a data protection perspective. See: German Chamber of Industry and Commerce("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 12 available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben.

45. Compare: German Chamber of Industry and Commerce("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 6 available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben. (As regards the costs, it is mentioned that while first borne by the obligated parties, they will then be passed on, another reason for objection as energy prices are high and increasing still. Those high prices are a reason why the industry submits that any kind of target or obligation is not necessary anyways, as it is already incentivized to improve efficiency, simply to remain competitive, See: Federal Association of the German Industry ("Bundesverband der Deutschen Industrie", BDI) Stellungnahme, p. 6, available at: http://www.bdi.eu/download_content/EnergieUndRohstoffe/Stellungnahme_Richtlinienvorschlag_Energieeffizienz.pdf.)

46. As it would mean that some form of standard would need to be implemented, which the system would need to respond to, and enterprises with a working system in place would have to get at least approval/certification of their system or adopt a new/additional one. See, e.g., German Chamber of Industry and Commerce ("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 8 available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben

47. German Chamber of Industry and Commerce ("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 9 available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben

48. German Chamber of Industry and Commerce ("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 11 available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben

49. In this respect, it is said, that they are to be supported at least as long as there is priority for renewable energy, but that it would be preferable in the long term for all sources to compete freely. Compare: German Chamber of Industry and Commerce("Deutsche Industrie und Handelskammertag", DIHK), Stellungnahme, p. 11 available at: http://www.dihk.de/themenfelder/recht-und-fairplay/eu-internationales-recht/recht-der-europaeischen-union/positionen/dihk-positionen-zu-eu-gesetzesvorhaben

Overall, the German industry suggests more market-oriented, flexible and innovative solutions, in which energy efficiency is not the ultimate, stand-alone, objective but a component to be considered in investment decisions. Moreover, it is argued, this is already being done by the enterprises themselves. Importantly, the existing market-oriented emission trading system should not be tampered with – and double obligations for enterprises subject to that system need to be avoided.[50] The existing framework of self-obligations and tax advantages is suggested as appropriate, and more discretion for the Member States to shape their national incentive systems is seen as desirable.[51] While further incentives, such as financing for the relatively high upfront investment costs or better and less confusing information on the measures available, would be welcome, any rigid obligations are seen as detrimental to industrial competitiveness and growth.

THE GOVERNMENT'S POSITION

Until quite recently, the German government did not officially take any position in the negotiations on the proposed Energy Efficiency Directive. Only on February 23rd, 2012, a common position was reached between the environment and economy ministries which that the government and industry are quite in line: The bottom line of the communication is that article 6 and the savings obligation should not be a cap on production. Rather, the German government supports a binding energy efficiency target, and the corresponding obligation in article 6 of the proposed Directive, thereby making the important distinction between energy savings and energy efficiency. Member States, in setting their targets and in choosing their measures, should retain freedom to choose whether they want to increase their energy efficiency by 6,3 % over three years as compared to the previous three years, or whether they want to reduce their energy consumption by 4,5 % in three years as compared to the respective reference period.[52] From among those two options, and the discussions around them (that is Germany introducing the 6,3 % energy efficiency target), it seems clear that Germany would choose the former, rather than what is considered "planned economy" with a cap on production and sales.[53]

The German government has not yet defined its implementation plans for achieving the target. Certainly, a more flexible approach would be supported.[54] The market-oriented approach of investment incentives stemming from a dedicated fund, as well as the current system of tax incentives for energy-intensive industries is generally evaluated as effective and sufficient. Linking the tax exemption to the implementation of energy management systems is still on the table, and will enter into force, it seems, in 2013.[55] A recent publication on their functioning and on the plans for the future does not suggest any other measures.[56] Nevertheless, the possibility of the introduction of white certificates has also been on the table for some time, and in recent publications it was said that a pilot project would be launched soon.[57] No such project has been started, however, and while it does not appear anymore in the latest publication, there may be something going on in this regard behind closed doors.[58] This would not be totally against the industry's interests, as some associations actually call for a certificate system and refer to experience, e.g., from Denmark, where the white certificates system is said to have improved and strengthened the relationship between suppliers and the customers.[59]

DISCUSSION OF THE MEASURES AND SUGGESTIONS BASED ON EXPERIENCES FROM THE PAST

As said, the government and the industry in Germany are quite in line. Notwithstanding possible objections in Europe, they agree on a more flexible approach, relying on voluntary, market-driven developments, rather than binding measures. It remains to be seen how that will work out on the European level and what the Directive will eventually look like.

For Germany, based on the preferences of the industry and the experiences from the past, this approach might actually work out. Efficiency improvements achieved by some industries are quite impressive, and indeed, the argument that no obligation is needed as saving energy is in the economic interest of the enterprises themselves makes sense.[60] Also, the self

50. This important argument was by the Commission itself, albeit more as an unsolved question. The Impact Assessment to the Directive showed a significant price drop – even down to zero – in the prices for ETS certificates. However, the Commission nevertheless concluded that it would suffice to simply monitor the price development. Industry cannot live with this uncertainty. In order not to endanger the investment incentives deriving from the ETS system, the industry thus calls for an exemption of all enterprises subject to the ETS. See e.g.: Federal Association of the German Industry ("Bundesverband der Deutschen Industrie", BDI) Stellungnahme, p. 9, available at: http://www.bdi.eu/download_content/EnergieUndRohstoffe/Stellungnahme_Richtlinienvorschlag_Energieeffizienz.pdf

51. Arguing that efficient and cost-effective systems have beenadopted by enterprises in Germany, as well as in other Member States such as Denmark or the Netherlands, see: Federal Association of the German Industry ("Bundesverband der Deutschen Industrie", BDI) Stellungnahme, p. 6, available at: http://www.bdi.eu/download_content/EnergieUndRohstoffe/Stellungnahme_Richtlinienvorschlag_Energieeffizienz.pdf.)

52. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit/ Bundesministerium für Wirtschaft und Technologie, Ergebnispapier EU Energieeffizienzrichtlinie und Erneuerbare Energiengesetz, 23 February 2012, p. 5, available at: http://www.bmu.de/energiewende/downloads/doc/48391.php.

53. "Europa streitet umd Effizienzmaßnahmen" Energie und Management 1 April 2012, p. 1. See also: Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit/Bundesministerium für Wirtschaft und Technologie, Pressemitteilung 23 February 2012, available at: http://www.bmu.de/pressemitteilungen/aktuelle_pressemitteilungen/pm/48390.php. (Under the link, live recordings from the press conference are available as well.)

54. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit/Bundesministerium für Wirtschaft und Technologie, Ergebnispapier EU Energieeffizienzrichtlinie und Erneuerbare Energiengesetz, 23 February 2012, p. 5, available at: http://www.bmu.de/energiewende/downloads/doc/48391.php.

55. Schiebold/Liebheit "Gretchenfrage: Steuerbefreiungen ja oder nein?" http://www.derenergieblog.de/alle-themen/energie/gretchenfrage-steuerbefreiungen-ja-oder-nein/.

56. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit/ Bundesministerium für Wirtschaft und Technologie, Broschüre, "Energiewende auf gutem Weg – Zwischenbilanz und Ausblick" 23 February 2012, p. 9, available at: http://www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere_energiewende_bf.pdf.

57. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit/ Bundesministerium für Wirtschaft und Technologie, Broschüre, "Energiewende auf gutem Weg -–Zwischenbilanz und Ausblick" 23 February 2012, p. 9, available at: http://www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere_energiewende_bf.pdf.

58. In this regard, for example the Federal Ministry for the Environment, Nature and Nuclear Safety ("Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit", BMU) has just recently with a call for tender for a study on the implementation of the proposed EU Energy Efficiency Directive reminded the tenderers that a system of such white certificates should be considered in the study. See: Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit "Ausgestaltung und mögliche Umsetzung des EUEffizienzvorschlages in nationales Recht" FKZ: UM 11 41 144 Vergabenummer: 543/2012 Aktenzeichen: ZG I 3 - VSt - 543 / 2012.

59. See for example: "Wenn aus Pflicht Lust wird" Energie & Management, 1 April 2012, p. 4.

60. Also, the concerns on the functioning of the ETS are quite realistic – if not

obligation agreement between the government and the industry through which industry commits to improve efficiency and to reduce emissions in exchange for tax reductions has proven quite successful, so that, overall, Germany is on track in meeting its own national energy efficiency targets.[61]

There remain nevertheless, issues to be solved for Germany:

First of all, the target suggested by the German government – and their preference for a real energy efficiency target, rather than the energy savings option – would need to be implemented in some manner. This could be done, for example, with a system of white certificates, in which obligated parties would be awarded a certain number of certificates for measures increasing the efficiency of a process (while retaining the same level of production). Certification procedures would thus have to create a baseline to compare the energy required without the improvements with the new post-improvement situation. By contrast, in a system based on energy savings, only the reduction in energy consumption would be looked at. While the calculation of a baseline is more complex than a simple comparison of energy consumption, it would not mean a cap on production. Rather, industries facing increasing demand could still contribute to meeting the target, by making their processes more efficient, while not being forced to reduce their output. There would have to be some kind of certainty, provided for example by a publicly available list, possibly in the law, of "for how much" a measure counts, so that firms in making their investment decisions would know what they have to choose in order to meet their obligation under the certificate scheme. In fact, such certainty in how much they can get from the investment is important to incentivise firms to invest in energy efficiency measures on the one hand, while on the other it is the basis for any way to account for the achievement or non-achievement of the energy efficiency target. Naturally, such a scheme would result in the most "cost-effective" (thus: cheapest and least intervening) measures to be taken first, but this need not be a bad thing, as along the way, one would have to turn to "deeper" measures.[62]

However, as a note of caution, if the list (or other) would have to be agreed upon on European level, which seems not to be what the German "flexible" approach suggests, then this would certainly be a difficult process. Rather, the system could best be national, with Member States being free also on which measures to support most – and taking due account on what they have supported in the past.[63] Such measures could address both support to specific technologies, such as cogeneration, but it could also mean mandatory audits or the development of energy efficiency managing systems. A national approach would mean that there could be no cross border transfer of the certificates, as they would have different values. The different preconditions and approaches of the Member States do not, in any event, allow for a "one size fits all" when it comes to energy efficiency obligations. National schemes to implement article 6 of the proposed Directive could make the provision more agreeable.[64]

In order not to undermine the emission trading system, enterprises subject to this system could be exempted from the certificates system, in a way that energy efficiency improvements achieved within their respective internal processes would not result in the allocation of any white certificates. They could be kept within the existing system of voluntary self-obligations and tax incentives, in addition to the ETS system. This would likely reduce the impact of the white certificates on the carbon price, as the former system would largely apply only to private consumers, while the latter system would cover the (energy-intensive) industry. This way, the distinction between private households and industry might be able to address the issue that it is mainly the building and transport sectors, rather than industry, which underperform on energy efficiency.

Conclusion

The German proposal for implementing the proposed Energy Efficiency Directive is still in the making. It took a long time to reach consensus on a position acceptable to both he German government and industry. A great degree of flexibility is offered in a proposal that mainly relies on industry's financial interest in reducing its energy bills by making production processes more efficient. A white certificates system for private customers, with a "national" reference list of energy efficiency improvement values could complement the existing system, relying on voluntary obligations and tax incentives (and, possibly, on other financial incentives).

aligned, then a "blind" savings obligation and other rigid measures would make the prices for carbon drop and would render the emission trading system ineffective – however, as the alignment of the two EU policy instruments is a measure to be taken at EU level, is beyond the scope of this paper and for discussion elsewhere.

61. BMWi Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit/ Bundesministerium für Wirtschaft und Technologie, Broschüre, "Energiewende auf gutem Weg – Zwischenbilanz und Ausblick" 23 February 2012, p. 9, available at: http://www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere_energiewende_bf.pdf.

62. Compare the experience from Italy, where first of all more efficient light bulbs were rolled out. See e.g. European Council for an Energy Efficient Economy (ECEEE) "Energy Efficiency Obligations – the EU Experience" 2 March 2012, p. 11.

63. For example, it would discriminate against Italian companies, if the EU would value the roll-out of CLF light bulbs very highly on the certificates, as this measure is to the largely exhausted in this country. Similarly, in Germany many firms already have energy audits and even energy management systems and would be discriminated against, if this would not be taken into account.

64. For the evaluation of how the Member States perform, it would then be necessary to take (increase in) production into account as well, so as to measure how much more efficient the production has become, rather than how much less energy they consumed.