REGERINGSKANSLIET

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# Sweden's national allocation plan for emission allowances 2008-2012

## 1. Introduction

The EU's greenhouse gas emission allowance trading scheme (EU ETS) has been in operation since 1 January 2005 and is based on the initial allocation of transferable allowances to installations covered by the scheme. At present, the scheme covers emissions of carbon dioxide from combustion installations and certain energy-intensive industry. Article 9 of Directive (2003/87/EC) of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC stipulates that all EU Member States shall develop a national allocation plan in advance of each new trading period, which is consistent with the criteria listed in Annex III of the aforesaid Directive. After issuance, the allowances can be used to meet the obligation of the companies concerned to surrender annually an amount of allowances equal to the verified emissions from the respective installation. According to the principles of this plan, unlike the allowances issued during the period 2005-2007, companies will be able to save unused allowances issued during the period 2008-2012 in order to meet their obligations in subsequent trading periods.

Other differences in the present allocation plan compared with the allocation plan published in spring 2004 for the initial trading period (2005-2007) are that the allocation this time is for a five-year period (2008-2012) instead of three years and that the EU Member States have commitments according to the Kyoto Protocol to limit the country's total emissions of greenhouse gases to an agreed level during the same period. Accordingly, the quantity of allowances allocated must be wholly consistent with the country's planned fulfilment of its commitments according to the EU burden sharing agreement and the common commitment. Allowance trading enables the actual emissions to be redistributed between installations in the trading scheme in order to

carry out the necessary emission reductions in a cost-effective way without jeopardising neither the particular country's ability to meet its quantitative commitment nor the policy instrument's impact on climate.

Allocation of allowances to operators in Sweden takes place after application. The installations concerned will be able to apply to the Swedish Environmental Protection Agency for allocation of allowances. A council consisting of representatives from the Swedish Environmental Protection Agency, the Swedish Energy Agency and the Swedish Agency for Economic and Regional Growth (Nutek) will then process the companies' applications and submit a proposal for allocation to the Swedish Environmental Protection Agency. This processing takes place on the basis of the provisions of the Emissions Trading Ordinance (2004:1205). After the Swedish allocation plan has been scrutinised by the Commission, and the Government has stipulated the total number of allowances to be allocated, the Environmental Protection Agency will make a final decision on allocation of allowances to each particular installation that has submitted an application.

## 1. Assessment of the total quantity of allowances to allocate to Swedish installations during the period

### 1.1. Sweden's commitment to limit emissions of greenhouse gases in accordance with the Kyoto Protocol and EU burden sharing

By ratification of the Kyoto Protocol, the EU and its Member States have undertaken, on average during the first commitment period of the Protocol (2008 to 2012), to reduce their greenhouse gas emissions by eight per cent compared to the level in 1990. This common commitment for the whole of the EU has been divided between Member States after negotiations, in an internal burden sharing (Council Decision 2002/358/EC). For Sweden, the agreement means that the emissions of the greenhouse gases regulated in the Kyoto protocol are to be limited to at most 104 per cent compared to the 1990 level.

Under the guidelines of the Kyoto Protocol, the parties shall send a report, at the latest by 31 December 2006, to the UN Framework Convention on Climate Change to establish the *assigned amount* based on the emissions during the base year. In January 2006, Sweden presented material to the European Commisison, including calculations of the quantity assigned to Sweden, which will be compiled with data from the other Member States and reported in aggregate form to the Convention. According to this emission inventory, Swedish emissions of greenhouse gases amounted to 71,809,610 tonnes of carbon dioxide equivalents in 1990 excluding the fluorinated gases. In order to establish the assigned amount, 1995 was used as a base year for emissions of fluorinated gases, which amounted to 642,438 tonnes of carbon dioxide

equivalents in that year. Sweden's share of the EU's common undertaking in accordance with the burden sharing agreement permits, taking into consideration the updated base year statistics, that greenhouse gas emissions in Sweden may amount to at most 75,350,130 tonnes of carbon dioxide equivalents per year on average during the first commitment period of the Protocol (2008-2012).[1]

Sweden annually submits a report on its emissions of greenhouse gases to the European Commission in accordance with the Decision 280/2004/EC. According to the most recent summary of reports by Member States made by the Commission, emissions of greenhouse gases in Sweden totalled 70.6 million tonnes of carbon dioxide equivalents in 2003, which is to be compared with emissions of 72.5 million tonnes of carbon dioxide equivalents in 1990[2]. Emissions have accordingly decreased by 2.6 per cent since the base year.

The Kyoto Protocol and the Marrakech Accords enable the parties to include absorption of carbon dioxide in carbon sinks. Every party is obliged to include absorption and emissions of carbon dioxide pursuant to Article 3.3 of the Protocol due to land use changes. Furthermore, the Parties may include absorption of carbon dioxide from ongoing land use. The Government has decided that Sweden is to apply Article 3.4 in the case of absorption of greenhouse gases in carbon sinks in forest and forested land but not in arable and pasture land and new vegetation. Under Article 3.4 of the Kyoto Protocol and the Marrakech Accords, Sweden can be credited with an additional 2.12 million tonnes of carbon dioxide absorption from growing forest and in forested land. The Swedish commitment thus means that greenhouse gas emissions may amount to at most 77.5 million tonnes of carbon dioxide equivalents annually during the period 2008 to 2012.

If the estimated amount of credits from government investments in the project-based mechanisms (Joint Implementation, JI and Clean Development Mechanism, CDM) are added, the total amount of emissions available to Sweden would increase by around an additional 1.1 million tonnes of carbon dioxide equivalents per year during the period 2008-2012. In general, this means that if emissions in the non-trading sector develop in accordance with the projection presented in the following section, approximately 33-34 million tonnes of carbon dioxide will be available for allocation to the trading sector in Sweden without

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[1] Swedish Environmental Protection Agency, *Sweden's Initial Report under the Kyoto Protocol, Calculation of Assigned Amount*, January 2006

[2] KOM(2005)655 Final

jeopardising the ability to meet the quantitative commitment according to the Kyoto Protocol and the EU burden sharing (criterion 1)[3].

### 1.2. Method to determine the total quantity of allowances allocated

The total quantity of allowances to allocate to Swedish installations through the principles presented in this plan has been decided upon by the Government taking into consideration a strict application of the criteria in Annex III of the Emissions Trading Directive. According to the Parliament's decision of 2 June 2006 (Government Bill 2005/06:184, bet. 2005/06:MJU15, rskr. 2005/06:134), the allocation for 2008-2012 should not exceed the estimated emissions according to the BAU projection for the ETS sector during the same period. It was furthermore stated that an aim should be for the annual allocation not to exceed the annual allocation in the initial period 2005-2007, although taking into account the expanded application of the Directive in Sweden to cover more sources of emissions not previously included.

The projection for the Swedish emissions of greenhouse gases in 2010 (corresponding to an average for the period 2008-2012) is based on the material provided by the Swedish Energy Agency and the Swedish Environmental Protection Agency in connection with the domestic climate policy Checkpoint 2004[4]. This material has been further processed by both agencies in 2005 in order to take into consideration changed prerequisites and to reflect the most probable development up to 2010[5]. It is mainly the macroeconomic development, the high rate of growth in energy-intensive industry and the assumptions on crude oil price movements that have changed the prerequisites in relation to the assessments made for the previous forecast. Furthermore, certain sensitivity calculations have been included due to the possibility of the oil price being higher than originally assumed. The prerequisites have also been revised to take into consideration the policy instruments and measures introduced after the projection in Checkpoint 2004 had been calculated. All in all, this means that the Swedish emissions are estimated to total around 71.7 million tonnes of carbon dioxide equivalents in 2010 (see Table 1).

If the proposals announced by the Government in various bills in the area of energy, transport and climate policies during 2006 are also included, the annual emissions are expected, according to the Swedish

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[3] Annex III of Directive (2003/87/EC) establishing a scheme for greenhouse gas emission allowance trading within the Community (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0087:EN:HTML)

[4] The Swedish Energy Agency's and the Swedish Environmental Protection Agency's material for Checkpoint 2004, *Projections on emissions of greenhouse gases,* in Swedish

[5] Swedish Environmental Protection Agency and Swedish Energy Agency, *Updating of the 2004 Forecast for Emissions of Greenhouse Gases 2010*, in Swedish

Energy Agency's estimate, to amount to 70.4-70.8 million tonnes of carbon dioxide equivalents in 2010, i.e. a further reduction of 0.9-1.3 million tonnes of carbon dioxide equivalents. These additional measures include an increased proportion of diesel which is mixed with rape methyl ester, investment support for conversion of heating systems, instruments to promote vehicles with renewable fuels and a continued introduction of speed cameras on the roads.

**Table 1.** Emissions of greenhouse gases in 1990 and 2000 and projected emissions for 2010 broken down by the trading and non-trading sector respectively in Sweden (million tonnes of carbon dioxide equivalents per year)

| | ETS sector | Non-ETS sector | Total Sweden |
|---|---|---|---|
| Emissions 1990 | - | - | 72.4 |
| Emissions 2000 | 21.2 | 47.2 | 68.4 |
| Projection 2008-2012 (BAU)[6] | 27.1 | 44.6 | 71.7 |
| Projection 2008-2012 (incl. additional measures)[6] | 27.1 | 43.3-43.7 | 70.4-70.8 |
| Kyoto commitment 2008-2012 | - | - | 75.3 |

As shown by this presentation, the volume of the Swedish emissions of greenhouse gases during the period 2008-2012 will be less than the commitment to restrict emissions made by Sweden in accordance with the EU burden sharing agreement. It is therefore other criteria in Annex III of the Directive than criterion 1 on consistency with the international climate commitment that limits the total number of allowances that can be allocated to Swedish installations. According to criterion 2, the allocation is to be consistent with actual and projected progress towards fulfilling the commitment and it may therefore not exceed the estimated emissions during the period. The projection produced by the Swedish Energy Agency and the Swedish Environmental Protection Agency includes an assessment of the technical and economic potential for reducing the emissions of greenhouse gases from the various sectors of society. This contributes to fulfilment of criterion 3. All in all, this means that the projection on carbon dioxide emissions in the ETS sector stated in Table 1 corresponding to 27.1 million tonnes of carbon dioxide per year represents an upper limit for the average allocation to the trading sector in Sweden during the period 2008-2012 taking into account the criteria in Annex 3 of the Directive. According to the presentation made in section 1.3 of this plan, the intended annual allocation to Swedish installations in the period 2008-2012 totals 25.2 million tonnes of carbon dioxide per year, which is less than the projected level by a broad margin (7 per cent). In the light of the domestic climate target, Sweden has decided to go further as regards limitation of the number of allowances that will be issued than would be required by the criteria in the Directive.

[6] The projection for 2010 represents an assumed average for emissions 2008-2012.

The European Commission notes in its further guidance on the Member States' allocation plans for the second trading period that a considerable number of the EU Member States have significant gaps to close to fulfil their commitments for the period 2008-2012 and that a number of these countries must reduce their allocation to meet their Kyoto targets[7]. It is underlined in the same guidance that other countries may need to retain the same cap as during the first period to align the plan with the potential to reduce emissions (criterion 3). The total allocation of allowances approved by the European Commission to be issued to Swedish installations included in the trading scheme during the period 2005-2007 amounts to an average equivalent of 23.2 million tonnes of carbon dioxide per year.

A number of new emission sources are included in the scheme for the period 2008-2012 due to amendments in the Emissions Trading Ordinance (2004:1205)[8]. This affects certain installations with combustion processes that are not directly categorised under the industrial activities listed in Annex 1 of the Directive. This expansion is taking place in line with the guidance notified by the Commission in December 2005[7], the primary intention being to achieve a harmonisation of the scope of the emissions trading scheme in the internal market by aiming for a uniform and consistent application of the Directive by different Member States. The additional emissions in the trading sector from installations covered by this expanded application of the concept of combustion installation total around 2 million tonnes of carbon dioxide per year during the period 2008-2012. A more detailed description of the activities concerned is contained in section 1.2.7.

According to the guidelines specified in Government Bill (2005/06:184) for establishment of a Swedish allocation plan for the period 2008-2012, any supplements that take place in the allocation, over and above the aforesaid redistribution of emissions between the ETS and the non-ETS sector as a result of the expanded definition of the concept of combustion installation, are to be balanced by new measures to reduce emissions in the non-trading sector by the corresponding volume even if this is not required taking into account the country's international commitment. The scope expected to arise as a result of the further measures in the non-ETS sector described above has, however, not led to any increased allocation to the ETS sector when establishing the total allocation level for 2008-2012.

The data collected in autumn 2006 in connection with companies applying for allocation of emission allowances will serve as the basis for

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[7] COM (2005)703, p.14

[8] Ordinance (2006:645) amending the Emissions Trading Ordinance (2004:1205) came into force on 1 July 2006 and the new emission sources are included in the scheme from 1 January 2008

establishment of the allocation to each particular installation although it will not affect the total quantity of allowances as specified in this plan. A rule is being introduced for scaling down the allocation for certain activities in those cases where the total quantity allocated after application adds up to an amount in excess of the amount allotted for incumbents in the plan.

### 1.2.1. Sweden's climate policy

Sweden has applied programmes and measures intended to limit emissions of greenhouse gases since 1988. Sweden's present climate strategy was adopted by the Parliament in March 2002 (Government Bill 2001/02:55, bet. 2001/02:MJU10, rskr. 2001/02:163) and constitutes an updating of goals and a further development of measures already applied. According to the Parliament's decisions in 2002 and 2006, the Swedish emissions of greenhouse gases for the period 2008-2012 are to be at least four per cent lower than the emissions in 1990, i.e. to amount to at most 69.6 million tonnes of carbon dioxide equivalents per year. This national target is to be achieved without compensation for carbon sinks or by flexible mechanisms.

In Government Bill (2005/06:172), the Government suggests that Sweden shall continue to play a leading role in international climate policy by decreasing national emissions and lay the basis in global collaboration for a long-term international regime to limit the impact on climate globally. Energy and climate issues are intimately related and the Government sees many advantages in developing an integrated energy and climate policy within which the EU emissions trading scheme has a powerful role.

Checkpoints have been introduced in 2004 and 2008 to monitor the Swedish climate management and the national climate target. The goal is to be subsequently followed up at checkpoints at least every fifth year. The latest review (Checkpoint 2004) included a possible reconsideration of the climate target. On 16 July 2006, the Parliament decided (Government Bill 2005/06:172, bet. 2005/06:MJU14, rskr 2005/06:389) to uphold the target that had been previously set. This means that the Parliament decided not to supplement the existing national climate target for 2008-2012 with a target that would include use of the flexible mechanisms. A reconsideration of the target's formulations in relation to the flexible mechanisms is to take place at the latest in connection with Checkpoint 2008. In the Government Bill, the Government made proposals for a number of new policy instruments and measures with a view to ensuring fulfilment of the national climate target, which, among other things, entails a continuation of the climate investment programme, an extension of the electricity certificate system to 2030, investment support for conversion from direct electric heating and oil-

based heating in housing and a shift to a carbon dioxide-differentiated vehicle tax.

According to criterion 1 in Annex III of the Trading Directive, the total allocation should be consistent with the national climate change strategy. The allocation specified in the plan is consistent with the domestic climate target in the event of a deduction against the total amount of allocated allowances and projected emissions in the non-ETS sector. The aggregate allocation (25.2 million tonnes of carbon dioxide per year) and the most recent projection for emissions of greenhouse gases in the non-ETS sector (43.5 million tonnes of carbon dioxide equivalents per year) total 68.7 million tonnes of carbon dioxide equivalents, which is lower than the emission level entailed by Sweden's national climate target (69.6 million tonnes of carbon dioxide equivalents per year).

However, it should be noted in this context that the Swedish allocation of allowances only affects the actual emissions from these installations to a very limited extent and thus the possibilities of meeting the domestic target. At the same time, as there is an evident link between the total allocation and actual emissions at the EU level, the impact of the trading scheme on the installation level and the national level primarily depends on the price of allowances and relative differences in the installations' marginal cost curves for emission reductions. By deciding on a quantity of allowances consistent with the national target, there is, however, greater freedom of choice as regards a national target for the period 2008-2012 which also includes use of the flexible mechanisms, which shall be given consideration at the latest in connection with Checkpoint 2008.

### 1.2.2. Sweden's energy policy

Swedish energy policy aims at securing a reliable supply of electricity and other forms of energy at internationally competitive prices. It should create conditions for efficient and sustainable energy use, as well as a cost-effective Swedish energy supply, with minimum negative impact on health, the environment and the climate. It should also facilitate the transition to an ecologically sustainable society.[9] According to the guidelines for national energy policy (Government Bill 2001/02:143, bet. 2001/02:NU17, rskr. 2001/02:317), the annual use of electricity produced with renewable sources of energy is to increase by 10 TWh to 2010 compared with the level in 2002. Furthermore, there is a planning target to create the prerequisites to establish 10 TWh of wind power by 2015.

[9] Government Bill (2001/02:143) on collaboration for a secure, efficient and environmentally friendly electricity supply

On 1 May 2003, the Swedish electricity certificate system was introduced, which is a market-based policy instrument, aiming to promote electricity production from renewable sources of energy. The system is based on producers of renewable energy being granted certificates in proportion to their production which are then demanded by electricity consumers who are obliged to be able to present a certain number of certificates in relation to their electricity consumption. In this way, the renewable forms of energy are exposed to competition and a market price is established for certificates corresponding to the lowest support requirement needed to comply with the level of ambition in the system, which increase over time. The Parliament has decided (Government Bill 2005/06:154, bet. 2005/06:NU17, rskr. 2005/06:141) to extend the electricity certificate system to 2030. This has been taken into consideration in connection with the most recent updating of the projections. However, it should be noted that the decrease in emissions resulting from the certificate system largely takes place in other countries with which Sweden shares the same electricity market since the fossil-based component of Swedish energy production is small.

As part of the transition of the energy system, Swedish nuclear power is to be decommissioned at the rate possible taking into account the need for electric power to maintain employment and welfare. The subsequent loss of capacity is to be replaced by more efficient use of electricity, conversion to renewable forms of energy sources and environmentally acceptable electricity production technology. In 1997, the Parliament decided that the conditions for phasing out the two nuclear power reactors at Barsebäck had been met. The first reactor was shut down on 30 November 1999 after an agreement on compensation had been reached between the state and the owners. The Government decided in December 2004 pursuant to the Phasing-out of Nuclear Power Act (1997:1320) to shut down the second reactor at the Barsebäck plant which took place on 31 May 2005.

International climate-related contributions motivated by energy policy are an important part of Swedish energy policy and the strategy for reducing the impact on climate by the energy sector. These contributions are mainly focused on bilateral and multilateral collaboration relating to the Kyoto Protocol's project mechanisms, Joint Implementation (JI) and the Clean Development Mechanism (CDM), see section 1.2.3.

The Parliament has decided (Government Bill 2005/06:145, bet. 2005/06:BoU9, rskr. 2005/06:141) to introduce a national programme for improved energy efficiency and energy-smart construction targeted on industry, the public sector, the construction and property sector and individuals. The goal is to reduce specific energy use per area of premises in buildings by 20 per cent by 2020 and 50 per cent by 2050 in relation to the level in 1995. This is to take place, in among other ways, by an Act on energy declaration for buildings.

In December 2005, the Government appointed a special commission with the task of being the Prime Minister's forum for discussion and analysis of the strategic issues required to create the prerequisites for the country to be able to overcome its dependence on oil by 2020. The Commission has been chaired by the Prime Minister and presented its report on 28 June 2006 with a number of concrete proposals for measures based on the specific prerequisites of various sectors to reduce emissions. The Commission has also included representatives of the business sector, interest organisations and universities. The proposals in the strategy include an increased yield of energy forest, pilot installations for production of the second generation of biofuels, environmental classification based on fuel efficiency, increased support for research and development, more stringent building regulations, public tendering and establishment of a special centre for energy efficiency. It is not intended to replace all use of oil by 2020 but to ensure that competitive alternatives to oil are available by that date for all kinds of manufacture and transport.[10]

More efficient use of energy and promotion of renewable energy sources are very important for the ability to overcome dependence on fossil fuels and limit the impact on the climate. The Government has therefore proposed a number of measures relating to various sectors of society with a view to developing a cost-effective and integrated energy and climate policy.

### 1.2.3. The project-based flexible mechanisms of the Kyoto Protocol

The two project-based flexible mechanisms of the Kyoto Protocol are central components of the international work to counteract climate change. Sweden's contributions in this area aim at developing the mechanisms into credible and efficient tools in the international climate regime. Sweden started pilot activity as early as 1993 within the framework of a pilot phase for joint implementation (AIJ) with the intention of participating in the development of institutions and procedures for joint implementation (JI). The Swedish programme for international climate investments (SICLIP) has been in existence since 1997 consisting of both direct investments in the project mechanisms and regional climate collaboration through climate projects in the Baltic Sea region (Testing Ground Facility).

The Swedish Energy Agency is responsible for the investments within SICLIP which at present consist of projects in South America, Asia, Central and Eastern Europe. SICLIP has had over SEK 190 million at its disposal of the government funds totalling SEK 350 million which were set aside for international climate policy measures for the period 2000-

[10] The Commission on Oil Independence, *Towards an Oil-free Sweden*, in Swedish, June 2006

2004 in connection with the 1997 energy policy decision. Agreements have been reached with project owners for three projects in Brazil and one project in India in the biofuel area within the Clean Development Mechanism. Projects are in process in Romania for combined power and heating and in Estonia for wind power within the Joint Implementation Mechanism.

Sweden is also taking part in the World Bank's Prototype Carbon Fund (PCF), which has served as an important example for development of projects within the framework of the Kyoto Protocol's project-based flexible mechanisms and the regulatory framework for these. The Swedish grant amounts to 10 million US dollars. The fund is intended to develop knowledge and routines by contributing to investments in various types of climate projects in countries with transitional economies and in developing countries.

Through the Government decision of 30 June 2006, Sweden is to take part and invest in the European Bank for Reconstruction and Development's (EBRD) climate fund, the Multilateral Carbon Credit Fund. The Swedish contribution to the fund totals SEK 18.6 million and primarily relates to projects in improved energy efficiency and renewable energy in some of the countries with transitional economies in which the bank operates.

The government commitment in all of the above-mentioned programmes and projects is calculated together to obtain CERs and ERUs equivalent to around 5.7 million tonnes of carbon dioxide equivalents by 2008-2012, which is equivalent to over 1.1 million tonnes of carbon dioxide equivalents per year during the period.

### 1.2.4. Cross-sector policy instruments

*Carbon dioxide and energy taxation*
Sweden has applied a general energy tax since the 1950s and a carbon dioxide tax since 1991 to relate the energy taxation system more clearly to the environment. The general level of carbon dioxide tax has been continuously raised since its introduction and there are special reduction rules for industry and fuels used for electricity production. Differentiation of the tax since 2004 has moreover been designed to favour establishment of co-generation of electricity and heat.

In 2000, the Parliament decided on a green tax shift which entailed increased tax on environmentally-damaging activity and a reduction of tax on work. According to the decision, a total of SEK 30 billion is to be tax shifted over a ten-year period. This has led to an increase in the carbon dioxide tax in several sectors and the general level is at present SEK 910 per tonne of carbon dioxide. The carbon dioxide tax has had a

considerable impact on emissions of carbon dioxide which is particularly clearly shown in fuel use in the district heating sector.

The Government has proposed in the Budget Bill for 2006 that carbon dioxide tax is to be reduced in a first step for the activities covered by the EU scheme for emission allowance trading. The reason for this is that emissions from these industries are already subject to a cap for emissions at the systemic level which means that additional charges will not have any impact in terms of further reduction of emissions in the trading scheme but only lead to a weakening of competitiveness and a redistribution of emissions between different installations. The cost-effectiveness of the trading scheme is based on a levelling-out of the marginal cost of emission reduction between countries and sectors ideally in order to correspond to the uniform allowance price in the scheme. Applying a carbon dioxide tax in parallel with the trading scheme for the same group of installations leads to a departure from this principle. The installations in the trading scheme that are intended to be completely exempt from carbon dioxide tax are industries and particularly efficient co-generation plants. For other installations, there will be downward adjustment of the carbon dioxide tax by SEK 120 per tonne of carbon dioxide. The assessment is made that this change in the carbon dioxide tax will have some impact on the Swedish emissions and this has been taken into account in the updated emission projections.

*The Environmental Code*

The Swedish Environmental Code was introduced on 1 January 1999 and contains large parts of the legislation in the field of the environment. The Code includes provisions on using the best possible technology in professional activities, conservation of raw materials and energy and giving preference to renewable energy sources. In its interim report Trading for a better climate – trading with allowances 2005–2007 etc. (SOU 2004:62), the parliamentary FlexMex2 delegation proposed that the installations covered by the EU scheme for emission trading should be exempt from the provisions of the Environmental Code as regards energy conservation and use of renewable fuels. The Environmental Code also places conditions on emissions of greenhouse gases by activities from installations that are not covered by the EU emission allowance trading scheme. It is difficult to estimate the impact of the Environmental Code on emissions since few permit decisions have been made where climate and energy aspects have been taken up.

*The Climate Investment Programme (Klimp)*

The Climate Investment Programme was introduced in 2002. It is a government support programme intended to stimulate local government and other players to make long-term investments in measures that reduce emissions of greenhouse gases. Altogether, funds equivalent to SEK 1,040 million were distributed through the programme during the period 2002-2006. As a result of decisions in the Parliament

(Government Bill 2005/06:172, bet. 2005/06:MJU14, rskr. 2005/06:144), the programme has been reinforced by SEK 200 million for 2006 and extended by annual funds of SEK 320 million for the period 2007–2008. The projects undertaken as a result of the Climate Investment Programme are estimated to bring about a reduction in emissions of around 0.4 million tonnes of carbon dioxide equivalents per year[11]. According to the regulatory framework, it should not be possible to obtain grants for projects aiming to reduce emissions of greenhouse gases within the ETS sector[12].

### 1.2.5. Measures in the non-ETS sectors

The projection produced by the authorities in connection with the updated calculation from the first checkpoint indicate that the Swedish emissions of greenhouse gases will decrease by 1.0 per cent by 2010 compared with the level for 1990. This decrease is taking place above all in the housing and service sector and within the agricultural and waste sectors (see Figure 1). A brief review of the measures considered to have the most impact on emission in the non-ETS sector by 2008-2012 is presented below.

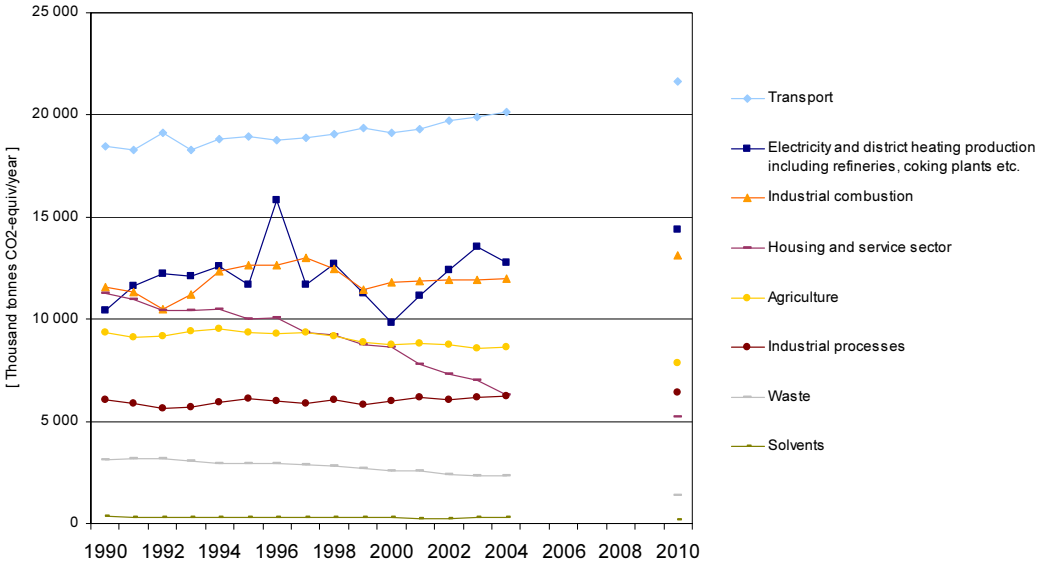


**Figure 1.** Historical and projected emissions of greenhouse gases, 1990-2004 and 2010 by sectors in accordance with the categorisation in reports to the UN Framework Convention on Climate Change[13].

[11] The Swedish Energy Agency and the Swedish Environmental Protection Agency, *Evaluation of Policy Instruments in Climate Policy*, in Swedish, Interim Report 2 of material for Checkpoint 2004

[12] NFS 2005:8

[13] The Swedish Environmental Agency and the Swedish Energy Agency, *Update of the 2004 Projection for Greenhouse Gas Emissions,* in Swedish, December 2005

*Measures in the housing and service sector*

Emissions of greenhouse gases from the housing and service sector are estimated to decrease by 42 per cent between 2000 och 2010. Among the reasons for this development are the carbon dioxide tax (which at present amounts to approximately € 100 per tonne of carbon dioxide), increased use of biofuels in houses and continued expansion of district heating networks. In recent years, a number of new measures have been undertaken to increase energy efficiency and reduce emissions from heating in premises and housing. These include government support for energy-saving measures and conversion to renewable energy in public premises and tax reduction for installation of energy-efficient windows in houses and installation of biofuel boilers in newly-built housing. In addition, the sector is one of the sectors that can obtain grants from the climate investment programme (Klimp), see section 1.2.4.

*Measures in the transport sector*

Emissions of carbon dioxide from the transport sector are estimated to increase by 13 per cent between 2000 and 2010 due to increased use of, in particular, diesel fuel in heavy road transport. This is the case despite measures leading to a continued increase in the share of renewable vehicle fuels and in the number of environmental vehicles. The measures whose impact has been assessed in connection with the establishment of the projection for emissions of greenhouse gases in 2010 include the Government's decision on a change in the tax rules for diesel cars with particle filters and an environmental rearrangement of vehicle taxation. It has furthermore been assumed that all petrol sold will contain five per cent ethanol fuel blend which is in practice already the case today. This contributes to emissions from petrol being expected to be relatively unchanged during the specified period. However, Sweden is working for the EU Fuel Quality Directive to be amended to permit up to ten per cent ethanol being blended with all petrol in the future.

Since 2004, carbon-dioxide neutral fuels have been exempt from carbon dioxide tax and energy tax in Sweden. This exemption from excise duty applies for five years, the intention being that these fuels will continue to be competitive in relation to conventional fuels in the market after this period. Today, more than every tenth new car sold is an environmental car and on 1 February 2006, a new law was introduced stating that all petrol stations that sell more than a specified volume of fuel per year must provide at least one renewable fuel. In June 2006, the Swedish Oil Commission proposed a number of measures with a view, among other things, to making energy use by the vehicle fleet more efficient, improving public transport and stimulating use of biofuel.

Some of the underlying reasons for the projected increase of greenhouse gas emissions by the transport sector to 2008-2012 are an increasing

population in combination with increased income and increased employment, along with an increased need for transport apace with industrial growth.

*Measures in the agricultural and waste sectors*

A continuous decrease of emissions of greenhouse gases is taking place in the agricultural sector owing, among other things, to continued reduced livestock keeping and use of mineral manure. In 2004, emissions by agriculture (excluding emissions from agricultural machinery which are included in the transport sector) were eight per cent lower than in 1990. Emissions are expected to continue to decrease until 2010 and will then be 16 per cent below the level in 1990.

In 2000, Sweden introduced a tax on landfill waste and a prohibition against landfill of sorted and combustible organic waste has subsequently been introduced. These prohibitions came into effect in 2002 and 2005 respectively although are being introduced gradually in certain regions which have not had time to install sufficient capacity for recycling and combustion. During the period 1990-2004, emissions from landfills have decreased by 28 per cent. New waste legislation is being prepared and the decreasing trend for greenhouse gas emissions from the waste sector is expected to lead to a decline in emissions by 55 per cent in 2010 compared with 1990.

### 1.2.6. Directives and other Community legislation taken into consideration when calculating the total quantity of allowances

According to criterion 4 in Annex III of the Emissions Trading Directive, account should be taken of other Community legislative and policy instruments when establishing the total allocation.

The Community legislation, which is considered to give rise to so-called *unavoidable* increases in emissions in the trading sector, is:

- *Directive 2003/17/EC amending Directive 1998/70/EC relating to the quality of petrol and diesel fuels*

  See section 2.4.

Besides consideration to the above-mentioned Directive, which is considered to lead to unavoidable increase in emissions, the following Directives have also been taken into consideration in the projections which serve as a basis for the decision on the total quantity of emission allowances to be allocated to Swedish installations in 2008-2012:

- *Directive 2003/96/EC restructuring the Community framework for taxation of energy products and electricity*

Sweden has taxed energy and carbon dioxide emissions for a long time for various reasons. The EU Directive on energy taxes does not significantly change Swedish emissions since the minimum tax rates for fuels in the Directive are substantially already met.

- *Directive 2001/77/EC on the promotion of energy produced from renewable energy sources in the internal electricity market*

  The Swedish electricity certificate system serves as a central part of the strategy to increase the share of electricity production from renewable energy sources. The Parliament recently decided to extend the system to 2030 and this decision has been included in the prerequisites for calculating the projections of greenhouse gas emissions. In addition to the long-term consequences of establishing quotas beyond 2010, this reinforces the assessment that the goal of increasing the use of renewable electricity by 10 TWh by 2010 will be achieved. The electricity certificate system is considered to lead to a considerable decrease in carbon dioxide emissions although the major part of this impact will take place in Sweden's neighbouring countries since the fossil component in the Swedish electricity production system is low.

- *Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC*

  From 1 January 2004, all production of heating and electricity in co-generation plants is subject to a revised taxation that entails that tax on fuels for heat production in combined plants is equated with that employed in industry. This change is intended to facilitate the establishment of new co-generation production, which increase resource efficiency and reduces emissions from the electricity system as a whole[14]. Since it is to some extent fossil-fuel based co-generation which is added to the system and changes in marginal production mainly affect emissions in other countries, the measures can, however, lead to an increase in Swedish emissions.

- *Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport*

  According to the biofuel directive, the share of biofuel and other renewable energy sources shall amount to at least 2 per cent in 2005

[14] On 6 June 2006, Sweden reported a further change in the carbon dioxide taxation to the European Commission entailing that particularly efficient installations (which comply with criteria of at least 38 per cent electrical efficiency and at least 89 per cent total efficiency) would be wholly exempt from carbon dioxide tax from 1 January 2007.

and at least 5.75 per cent in 2010 calculated by energy content. The actual outcome in Sweden in 2005 was 2.3 per cent. The government commission (SOU 2004:133) on introduction of renewable vehicle fuels recommends that the Government adopt the objective that the share of renewable fuels should be 5.75 per cent of the energy content in the quantity of vehicle fuels used by 2010. During the past period, the Government has undertaken a number of new measures to facilitate use of environmental cars though government tendering rules, legislation obliging petrol stations to provide renewable fuels, exemption from the congestion charge, tax relief, etc. The share of environmental cars of the total number of cars is accordingly expected to increase sharply in the next few years.

- *Directive 2006/32/EC on energy end use efficiency and energy services*

  The energy services directive is intended to achieve a more cost-effective and rational end use of energy and to remove obstacles in the market for energy services. The public sector is to assume a leading role in this work. Following on from the Directive, the Member States have non-binding targets of nine per cent energy efficiency improvement in nine years for end use of energy, with the exception of energy-intensive industries which participate in the scheme for emission allowance trading. Consideration is now being given on how to implement the Directive in Sweden although there are already a large number of measures that contribute to fulfilling the target, such as investment support for conversion from direct electricity to environmentally friendly heating, energy saving measures, energy efficiency programmes in energy-intensive industry (PFE) and programmes for energy efficiency and energy smart construction.

The effects of the following directives have *not* been taken into consideration in the forecast that serves as one of the bases for establishment of the total allocation for 2008-2012.

- *Directive 2002/91/EC on the energy performance of buildings*

  In Government Bill (2005/06:145), the Government has made proposals for a law on energy declaration for buildings. This proposes that practically all buildings are to have an energy declaration when newly built, when sold or transferred. The effects on greenhouse gas emissions that the Directive will give rise to in the short-term are difficult to assess. Together with the fact that houses and commercial buildings will not be inspected before 2009, this entails that the Directive has not been taken into consideration in the projections on which the allocation is based.

- *Directive 2005/32/EC establishing a framework for ecodesign requirements for energy-using products*

  This Directive is intended to improve the energy efficiency of energy-using products and their impact on the environment through the whole of the product's lifecycle. Since it has not yet been clarified how the Directive is to be incorporated in Swedish legislation, it has not been possible to take this into consideration in the projections for the period 2008-2012.

### 1.2.7. Introduction of further industrial combustion processes in the trading scheme

As a consequence of different interpretations of the meaning of the Directive as regards the concept of *combustion installation*, the scope of the scheme for greenhouse gas emissions trading has varied within the EU Member States in the initial trading period. These differences affect, for instance, the chemical industry and other activities where combustion takes place without the industry as such being included in the activities in Annex 1 of the Directive. To avoid the risk of distorting competition in the internal market which differences in application can give rise to, the Commission has presented a recommended interpretation in the further guidance notified in December 2005. According to the guidance, Member States should in all circumstances include combustion processes associated with crackers, carbon black, flaring, furnaces and integrated steelworks. [15]

The need to harmonise the application of the Directive by Member States has led to a change in the concept of combustion installation in the Swedish Emissions Trading Ordinance (2004:1205) entailing that additional Swedish industrial activities are included in emissions trading. The effect of this change is that as from 2008 the trading scheme in Sweden covers all installations in which combustion takes place with an installed power input of at least 20 MW, regardless of the purpose of the process and regardless of the fuel used[16], or which are subject to the Swedish rule on unilateral opt-in of smaller installations in accordance with Article 24 of the Directive. The Swedish interpretation of the concept of combustion installation thus coincides with the broadest interpretation that the European Commission presents in its further guidance of December 2005[17]. The change affects around 35 Swedish industrial installations (see Figure 2). Both in terms of emissions and the number of affected installations, the iron and steel sector is the sector

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[15] COM(2005) 703 Final

[16] In the case of combustion installations in industry which are not included in any of the activities given in Annex 1 of the Directive, units under 3 MW may be voluntary exempted from the aggregation rule when determining the total capacity installed.

[17] COM(2005) 703 Final

most affected by this broadened definition of the concept of combustion installation. The total number of Swedish installations in the EU trading scheme amounts to over 700 in the initial period 2005-2007.

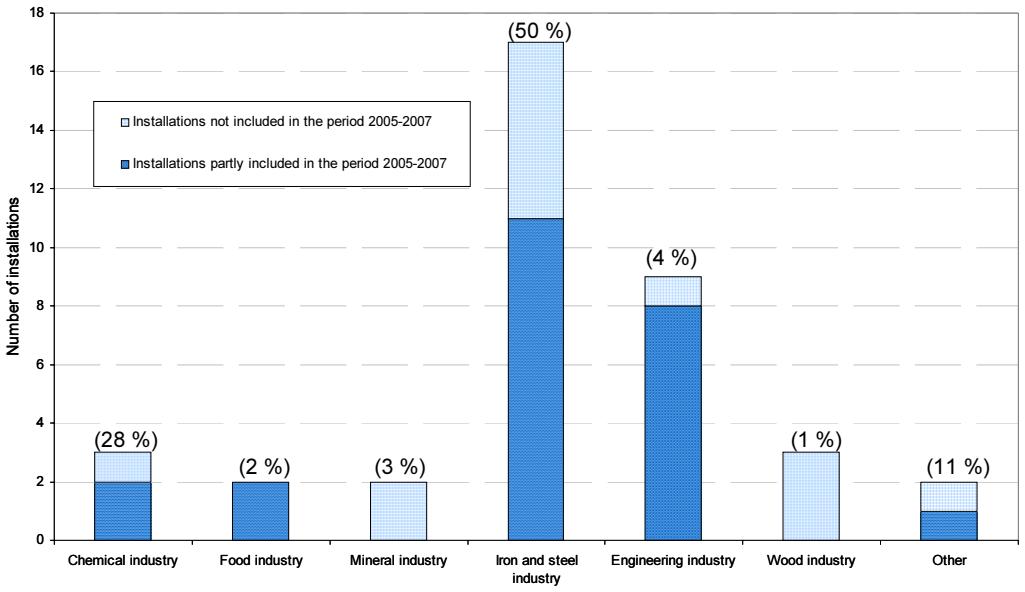


**Figure 2.** Additional installations as a result of the broadened definition of the concept of combustion installation for the trading period 2008-2012. Figures in brackets state the sector's share of the total quantity of additional emissions in the projection for the ETS sector in 2008-2012 as a result of the Swedish application of the concept of combustion installation in the Directive being broadened to more types of emission sources.

The reported transfer of emissions from the non-ETS to the ETS sector which the broadened application of the concept of combustion installation leads to, must be taken into account when establishing the total quantity of allowances that are to be issued during the period in question. According to assessments from the Swedish Environmental Protection Agency of the installations that will be covered by the broadened concept of combustion installation, the annual emissions from the trading sector are expected to be around 2.0 million tonnes of carbon dioxide higher compared with the original projection for 2010. These emissions from industrial combustion processes that were not previously included derive for the most part from emission sources in chemical industry (flaring, crackers, furnaces) and the iron and steel industry (hot rolling, reheating, etc.). The transfer of the emissions in question from the non-ETS to the ETS sector does not entail any change in the total Swedish emissions.

## 1.3. The total quantity of allowances to allocate to Swedish installations

The planned annual allocation of emission allowances to installations in Sweden amount to an average of 25.2 million tonnes of carbon dioxide in the period 2008-2012. Of this quantity, allowances equivalent of 22.2 million tonnes of carbon dioxide are intended for existing installations.

The total quantity of allowances to allocate according to this plan amounts to 126 million tonnes of carbon dioxide during the period 2008-2012, which is equivalent to an average of 25.2 million tonnes of carbon dioxide per year. Of this amount, 111 million tonnes of carbon dioxide (22.2 million tonnes of carbon dioxide per year) are intended for existing installations taken into commission before 30 June 2006 and they are issued proportionally during the five years of the period. The remaining 15 million tonnes of carbon dioxide are set aside in an unspecified reserve, primarily intended for allocation to new entrants. The quantity of issued allowances from the reserve may vary between the years 2008-2012, but amounts on average to 3 million tonnes of carbon dioxide per year. The total quantity of allowances also includes allocation for emission sources that are transferred to the trading scheme through the decision on a broader definition of the concept combustion installation as described in section 1.2.7. This part of the emissions from certain industrial activities with combustion emissions was not included in the allocation for the initial trading period 2005-2007. The total quantity of allowances to allocate constitutes almost 36 per cent of the projected emissions for Sweden as a whole from 2008-2012 which can be compared with the projected emissions for the ETS sector at the same time being calculated as totalling 38 per cent. In 2004, the emissions of carbon dioxide of the ETS sector amounted to 35 per cent of Sweden's total emissions of greenhouse gases calculated on the basis of the smaller number of industrial processes for combustion included in the scheme during the initial trading period.

With the intention of limiting the planned total available volume of allowances, the Government has decided to carry out a more extensive downscaling of allocation in the electricity and district heating sector compared with the previous period. The scale factor is established on the basis of the total available volume and the material submitted by the companies in connection with the application for allocation. In the light of presently available information, the scale factor will amount to around 0.3-0.4, which means that allocation to these installations is calculated to amount to 30-40 per cent of the emissions during the period on which the allocation is calculated (which is generally 1998-2001). Downscaling in the electricity and district heating sector is consistent with the assessment of the potential of the different sectors to reduce the emissions of greenhouse gases.

In the light of the fact that the allocation for 2005-2007 serves as the starting point for allocation in Sweden for 2008-2012, the proposed allocation to existing installations of 22.2 million tonnes of carbon dioxide will contribute to a greater scarcity of allowances for this category of installations than what was decided upon with respect to the initial trading period. Existing installations receive an allocation that is considerably lower than in the initial period, see Table 2. The fact that this is the case follows from the allocation to existing installations during the period 2005-2007 being retained during the period 2008-2012 despite the number of installations increasing as a result of the broader interpretation of the concept of combustion installation. An additional factor is that certain installations that are new entrants in the present period will become existing installations in 2008-2012. An account is given in section 1.3.1 of the estimated allocation of allowances in relation to the projected emissions for the existing installations in the respective sector.

**Table 2.** Annual allocation to existing installations during the first trading period (2005-2007) and the second trading period (2008-2012). The allocation for emission sources that have not been included in the initial trading period is reported separately to enable a relevant comparison to be made between the periods.

| | **2005-2005** [MtCO2/a] | **2008-2012** [MtCO2/a] |
|---|---|---|
| Total allocation | 23.2 | 25.2 |
| New entrants | -0.7 | -3.0 |
| Expansion | | -2.0 |
| Incumbents | 22.5 | 20.2 |

### 1.3.1. The total allocation in relation to historical and projected emissions of greenhouse gases

According to the projections of the development of emissions of greenhouse gases made by the Swedish Environmental Protection Agency and the Swedish Energy Agency, emission from refineries and the iron and steel industry are those that are expected to increase most to 2010. Emissions from the electricity and district heating sector fluctuate over time and largely comply with the inflow of water to the Swedish and Norwegian hydroelectric power reservoirs and variations in temperature. The share of hydroelectric power in Swedish electricity production varies considerably from year to year and generally amounts to 40-55 per cent. The rising emission trend in the projection for the electricity and district heating sector including refineries is due, among other things, to increased electricity production based on natural gas, the continued expansion of district heating and a number of substantial increases in refinery capacity. It is also important for the projection for 2010 that two nuclear power reactors have been shut down. Despite this,

Sweden is expected to export electricity corresponding to around 4.1 TWh per year at this time.[18]

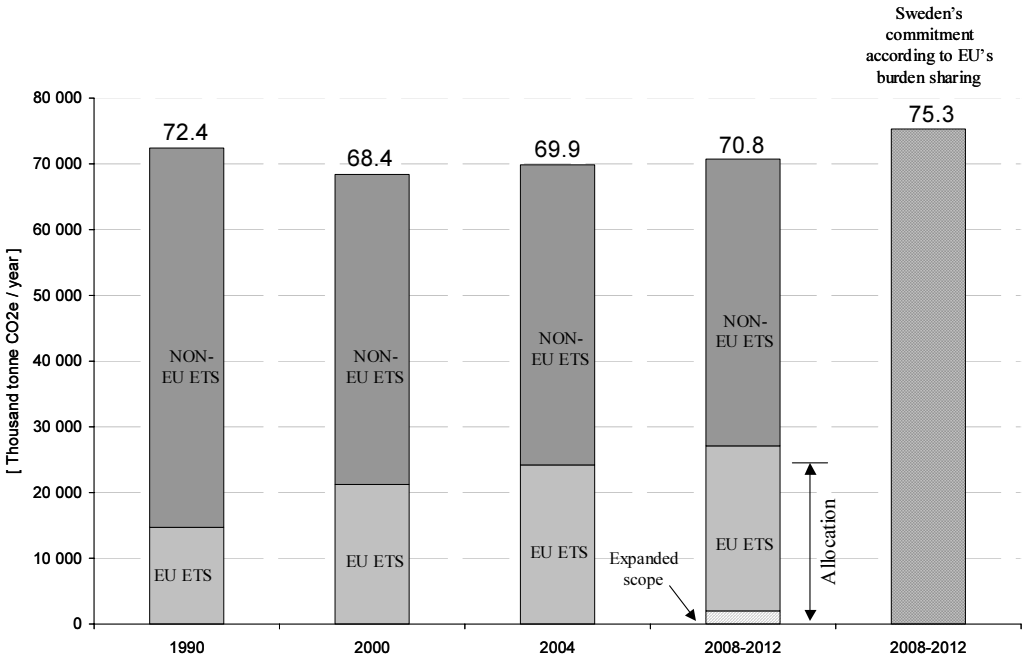


**Figure 3.** Emissions of greenhouse gases from the trading and non-trading sectors in Sweden respectively, historically and according to the projection for 2008-2012 including additional measures, in relation to planned allocation and Sweden's international commitment in accordance with the EU decision on burden sharing. (For 1990, the separation of emissions on trading and non-trading sectors is an estimate which must therefore be interpreted cautiously)

As shown in Figure 3, the total emissions of greenhouse gases in Sweden have decreased since 1990 and are estimated in accordance with the current projection to be less than the base year level during the period 2008-2012 as well. Swedish industry is modern, export-oriented and expansive which has entailed an increase of absolute emissions from industries in the trading sector in Sweden during the same period. This has taken place despite the decrease in specific emissions, among other things, due to measures to improve the energy efficiency of industrial processes. The increased productivity in Swedish basic industry has contributed to increased output and emissions and is in many cases directly linked to production without realistic possibilities of further reductions in the short-term.

Another important explanation for the increased emissions in the ETS sector is the transfer of emissions that takes place from the non-ETS

[18] The Swedish Energy Agency's and the Swedish Environmental Protection Agency's material for Checkpoint 2004, *Projections on emissions of greenhouse gases,* in Swedish, Interim Report 1.

sector to the ETS sector. The policy instruments applied in Swedish energy and climate policy have led to a continuous transfer from individual to centralised heating through establishment of co-generation installations and expanded district heating systems. This is one of many explanations of the reduced emissions in the housing sector. Correspondingly, the increased emissions in the refinery sector (because of Directive 1999/32/EC and the supplement in Directive 93/12/EEC relating to the sulphur content of certain liquid fuels) are partly balanced by a simultaneous reduction of emissions in the transport sector in Sweden and abroad because of the improved quality of fuel which the measure is intended to achieve. The capacity of the Swedish petroleum refineries is larger than the domestic requirement which means that a considerable part of the petrol and diesel produced is exported to other countries. An increased use of waste heat from processes at Swedish refineries has moreover made possible a further expansion of the district heating networks, which contributes to reduced emissions in the non-ETS sector.

The emission projections presented below and in section 1.2 include the potentials for reducing emissions in all sectors. Taking into consideration current time perspectives and technical and economic prerequisites in the energy sector and the industrial sectors (see section 4.1), the total emissions from the installations covered by the emission allowance trading scheme are estimated to total 27.1 million tonnes of carbon dioxide per year on average during the period 2008–2012. This means that the total allocation corresponding to 25.2 million tonnes of carbon dioxide per year on average during the period 2008–2012 is consistent with criterion 3 on the potential for reducing emissions.

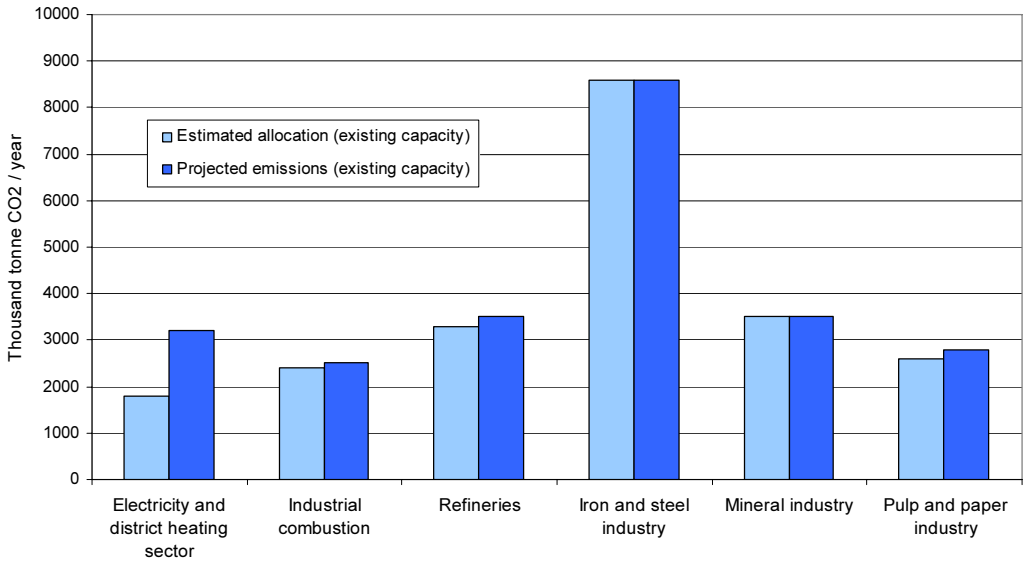


**Figure 4.** Tentative allocation of allowances to existing installations in the respective sector in relation to projected carbon dioxide emissions in 2008-2012.

The total emissions from *existing* installations in the ETS sectors are calculated to amount on average to 24.1 million tonnes of carbon dioxide per year during 2008-2012. Of this 3.2 million tonnes of carbon dioxide originates from existing installations in the electricity and district heating sector and a total of 20.9 million tonnes from industry. The principles for allocation presented in Chapter 2 are preliminarily estimated to give rise to a total allocation to existing installations in industry corresponding to approximately 20.4 million tonnes of carbon dioxide per year in connection with companies applying for allocation. The exact allocation will be established in the last quarter of 2006 after the agencies have processed the companies' applications for allocation of allowances. Figure 4 shows how a tentative estimate of the allocation during 2008-2012 to installations regarded as existing capacity in the current period (including additional sources due to expansion of scope) relates to the projected emissions for the same group of installations broken down by respective sector. The greatest shortage arises in the electricity and district heating sector which is estimated to obtain an allocation corresponding to just over half of their need for allowances. The numbers in the figure only relate to the allocation and the emissions that are considered to be in question within the existing capacity and thus not those portions relating to new entrants.

### 1.4. The significance of verified emissions in 2005

The verified emissions from 2005 for the installations in the trading scheme have in most Member States reported lower actual emissions than the allocated quantity of allowances decided for the same year. The emissions from the more than 700 Swedish installations included in the trading scheme were in total approximately 13 per cent lower than the number of allowances issued to the installations during the year. There are a number of causes for this. In common for the installations in the trading sector is that 2005 was characterised by unexpectedly high prices for allowances, which can be expected to have a disproportionately large limiting effect on emissions relative to the total allocation of allowances during the same period. Furthermore, the Swedish installations paid an unchanged carbon dioxide tax despite the introduction of the emissions trading scheme. Emissions from the electricity and district heating sector were further affected by there being considerably more precipitation than usual during the year which meant that production in the Scandinavian hydroelectric power stations replacedproduction based on fossil fuels in the electricity system. 2005 was also a relatively warm year which reduces the need for electricity and fuels for heating.

Within industry, emissions during 2005 have also been affected by a decreased use of oil in favour of electricity due to the high oil price. It has been noted that the assumed production level for calculating the allocation during the period 2005-2007 has not yet been reached in the case of some installations. Appurtenant to this is that the method for

calculating the allocation for certain categories of installations means that the average level of activity from 2005 to 2007 has been used as a basis, which can have the effect that there will be a surplus in 2005 and corresponding deficits in 2006 and 2007 because the allocations decided upon for incumbents are to be proportional for the three years.

The Swedish iron and steel industry was affected by a temporary decline in the world market during 2005 which meant that large parts of this industry was at a standstill in December. Besides a general decline in the total demand and well-filled stocks, this was due to the industry overall reducing its primary production with a view to counteracting a decline in prices in the world market. During the first half of 2006, production has taken place with, in principle, full capacity use.

In the Bill (2004/05:18) on Trading in emission allowances II, the Government has decided that the allocation to existing installations in the period 2008-2012 shall not be based on actual data from the initial period 2005-2007. The Parliament has agreed with the Government's assessment of this issue in Decision (Government Bill 2004/05:18, bet. 2004/05:MJU5, rskr. 2004/05:31).

There are no reasons today on the basis of the verified emissions for 2005 from Swedish installations in the scheme to undertake an adjustment of the assumptions made in this plan with respect to the projected development of emissions to 2008-2012. Verified emission data for 2005 can, however, serve as the basis for the agencies' assessment of certain projections specified in the allocation application.

## 2. Principles for calculating the quantity of allowances to allocate at sector and installation level

The allocation method described in equation 1 is used for existing installations in the trading scheme commissioned before 2002, with the exception of ore-based steel production. Allocation to these installations is calculated in proportion to each installation's average emissions during a historical period (FGP). The estimated number of allowances relates to annual allocation during the period 2008-2012 and is proportional for each year. Sweden does not intend during the period 2008-2012 to make use of the possibility of issuing allowances intended for existing installations for payment.

Emissions from the installations in the trading scheme are divided into the following two categories:

- **Raw-material related emissions** relate to emissions of carbon dioxide created from carbon in a process and which are combined in the raw material that is to be refined or in a process where carbon is added to remove an undesirable component from the raw material and the raw material cannot in principle be substituted for in the short-term at a reasonable cost. The definition also includes emissions arising in combustion of residual gases from some industrial processes. See section 4.1 for an account of the exact definition.

- **Fuel-related emissions** refer to all emissions of carbon dioxide from combustion of fossil fuels which do not constitute raw-material related emissions.

$$\text{Allocation} = k \times \left(\text{Emissions}^{\text{FGP}}_{\text{Fuel+raw material}}\right) + \text{Emissions}^{\text{Projection 2008–2012}}_{\text{Raw material}} \quad (1)$$

| | |
|---|---|
| $k$ | Factor which for combustion installations in the electricity and district heating sector is determined by the ratio between the quantity of allowances available for the sector and the total of the allocation-based historical emissions from these installations. For installations outside the electricity and district heating sector, k = 1.0 |
| $\text{Emissions}^{\text{FGP}}_{\text{Fuel+raw material}}$ | Average of the installation's fuel and raw-material related emissions during the period on which allocation is based (FGP). |
| $\text{Emissions}^{\text{Projection 2008–2012}}_{\text{Raw material}}$ | Supplement based on the installation's projected increase of raw-material related emissions between the allocation based period (FGP) and an average for 2008-2012. |

### 2.1. Allocation in proportion to the respective installation's historical emissions

The basis for calculation of the allocation for existing installations is the respective installation's historical emissions of carbon dioxide. This applies both to the fuel and raw-material related emissions. The period on which the allocation is based (FGP) is generally 1998-2001, although

it can in certain cases consist of a part of these four years, although never fewer than two.

In the cases where one or more exceptional events have taken place at an installation during this period, the allocation is based on a reduced number of years. An exceptional event means an operating stop because of a breakdown or a very extensive reconstruction or another event of a serious kind. In order for an event to be classified as exceptional, the reduced emission due to the event in question for each year must amount to at least 10 per cent of the average emission during the other baseline years (FGP). If the installation was affected by exceptional events for more than two of the years in the period, the allocation is based on the two years with the highest emissions.

The baseline period is adjusted for installations commissioned between 1998 and 2001, which means that the number of years decreases and is shifted towards later years for which the installation has data (see Table 3). However, the allocation is never based on emissions that have taken place after 2003.

**Table 3:** Baseline years for installations commissioned between 1998 and 2001.

| | | Period used for the calculation of allocation | | | | |
|---|---|---|---|---|---|---|
| | | 1999 | 2000 | 2001 | 2002 | 2003 |
| Commissioned | 1998 | X | X | X | | |
| | 1999 | | X | X | X | |
| | 2000 | | | X | X | |
| | 2001 | | | | X | X |

Historical data on which to base the allocation is only available to a limited extent for installations taken into commission in 2002 or later. The existing installations commissioned between 1 January 2002 and 30 June 2006 receive allocation on the basis of the benchmarks or the best available technology in a corresponding way that allocation takes place to new entrants (see Chapter 3). The final allocation to this type of installations in the electricity and district heating sector is scaled down, however, to the same extent as other existing installations in this sector, which receive their allocation calculated on the basis of historical emissions. This means that the scale factor ($k_{Energi}$) in accordance with equation 2 is to be used when calculating the allocation for these installations, as takes place otherwise in accordance with equation 3. The requirement for installations in the electricity and district heating sector to engage in highly efficient co-generation to be entitled to free allocation only applies to new entrants. As for other existing installations, allocation is to be evenly distributed over the years in the period 2008-2012. The reason for using the same output-based approach as for new entrants is that it is considered to give rise to undesired signals to the companies to calculate an emission-based allocation on an allocation period that includes later years than those specified in Table 3.

Issued allowances to these existing installations will not be taken from the unspecified reserve referred to in section 3.2 but they share the totally available amount of 22.2 million tonnes of carbon dioxide just like other existing installations (incumbents).

A restrictive scale factor ($k_{Energi}$) is applied to incumbent combustion installations in the electricity and district heating sector. This constant is determined by the ratio between total available volume for the electricity and district heating sector and the total of the claims for allocation which ensue from the current basis for allocation and data in the applications for the existing installations in the electricity and district heating sector (see equation 2). Downscaling takes place proportionally for all installations in the electricity and district heating sector independently of technology and the basis for allocation otherwise. Based on the data presently available, the scale factor will amount to approximately 0.3-0.4, which corresponds to a scaling down of 60-70 per cent relative to each particular installation's emissions during the baseline period on which the allocation is calculated. The final level of the scale factor is established at the earliest on 31 October 2006 which is the closing date for application to the authorities. For applications received between 30 September and 31 October 2006, the allocation is to amount to 90 per cent of what would have been allocated had the application been received before 30 September 2006[19].

$$k_{Energy} = \frac{22{,}2 - \sum_{i=1}^{n} Allocation(2008-2012)^{i}_{Industry}}{\sum_{j=1}^{m} Emissions(FGP)^{j}_{Energy'} + \sum_{p=1}^{q} Benchmarks(2008-2012)^{p}_{Energy''}} \quad (2)$$

| | |
|---|---|
| Industry | Existing installations in industry including the combustion processes included there. |
| Energy' | Installations in the electricity and district heating sector commissioned before 2002 |
| Energy'' | Installations in the electricity and district heating sector commissioned between 1 January 2002 and 30 June 2006 |

The reason for down-scaling of the allocation for these particular installations is that the potential to reduce emissions is greater for fuel-based emissions than for raw-material related emissions and that the electricity and district heating sector unlike the industrial sectors are not

[19] 21 a § Ordinance (2006:645) amending the Emissions Trading Ordinance (2004:1205)

exposed to competition from other countries outside the European trading scheme to any significant extent. The Government therefore considers that the allocation to existing installations in the electricity and district heating sector shall continue to be more restrictive than allocation in other sectors and activities. The starting point has been that allocation to existing installations in the electricity and the district heating sector is to be at least as restrictive as under the previous trading period[20]. The fact that the scale factor has become considerably more restrictive compared with the previous allocation period is a consequence of consideration being taken to the limited scope for the total allocation of allowances.

The Government makes the assessment that a lower allocation to existing installations in the energy sector has a very limited significance for the electricity price. It is primarily the alternative cost of the allowances that affects the variable production costs and which is thus most important for what impact the use of allowances has on the price of electricity.

### 2.2. Allocation to installations with raw-material related emissions

The emissions in this allocation plan which have been defined as raw-material related emissions cannot be reduced in the short-term perspective other than by decreasing output at the installations. Out of consideration to this circumstance and the vulnerability of these industries for non-European competition, a supplement is made in certain cases to the allocation based on historical emissions. The supplement corresponds to the installation's increase of raw-material related emission as a result of the projected increase in output during the period 2008-2012 relative to the period used for allocation based on historical emissions. A prerequisite is that the installation is not a new entrant but that the increase in emissions is a result of increased output within existing capacity. In the cases when the projection of raw-material related emissions is lower than the average of the historical emissions, the installation still receives its basic allocation, however, corresponding to the average of the historical emissions. The supplement made for the projected increase of raw-material related emissions is evenly allocated over the years in the period. The reasons for applying this allocation method to the raw-material related emission are described in more detail in section 4.1 on consideration to the potential for decreasing the emission and section 4.4 on consideration to non-European competition.

Just as in the case of new entrants, the fact that allocation to installations with raw-material related emissions is based on future activities entails a need to carefully assess the companies' output and emission projections.

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[20] Government Bill (2005/06:184) on Developed Greenhouse Gas Emissions Trading for Reduced Impact on the Climate

This is to be done in order for the allocation decided in advance to correspond to the most probable outcome during the period. An inspection of the affected companies' projections will be carried out by the Council for Allocation of Allowances (RUT) which has been established at the Swedish Environmental Protection Agency. This scrutiny takes place on the basis of the capacity already installed and what should be regarded as a reasonable degree of utilisation in the particular case taking into account the technical and economical prerequisites. To finally determine the level, a comparison is also made with available micro- and macroeconomic projections and analyses. The outcome of the verified emission data for 2005 can also serve as one of the bases in an assessment of this kind.

## 2.3. Allocation to ore-based steel production based on international benchmarks

Allocation to installations with ore-based primary steel production in integrated steelworks shall under certain prerequisites be calculated on the basis of an international benchmark corresponding to 1.91 tonnes of carbon dioxide per tonne of steel ingot.

There are a number of benefits in using an allocation method based on benchmarks, formulated in terms of emissions per unit of output, instead of historical emissions. A method of this kind can give special consideration to energy efficient technology (criterion 8) and the potential to reduce emissions (criterion 3). This will moreover lead to consideration in a more uniform way of measures undertaken to reduce emissions (criterion 7) through the installation that has reduced its specific emissions in relation to the benchmark applied having a reduced need to acquire additional allowances or the possibility of selling allocated allowances that are no longer required due to the measures. The method also has the potential to take into consideration growth in the carbon-dioxide efficient installations in the scheme and constitutes a long-term alternative since the base years used to establish the allocation can be updated without there arising counteracting incentives as would have been the case with an emission-based variant. In order for a benchmark-based method to be feasible, it is required that the group of installations covered by the application produce uniform and comparable products[21].

One of the sectors that has been considered as being especially suitable for allocation based on benchmarks is ore-based steel production[21]. Since this concerns an industrial sector which to a great extent operates in an international market it is relevant to also include installations in other countries in this comparison. For integrated steelworks where

[21] The FlexMex2 delegation (SOU 2005:10), *Trading for a Better Climate – from introduction to performance*

manufacture of steel ingots takes place with iron ore as the main raw material, allocation is therefore based on an European benchmark which amounts to 1.91 tonnes of carbon dioxide per tonne of steel ingot. This value has been calculated through an analysis of production and emission data for 2005 from all European integrated steelworks which also have co-generation plants at the same location. Data has been provided by the International Iron and Steel Institute (IISI), European Blast Furnace Committee (EBFC) and the independent transaction log (CITL). The emissions included in calculating the benchmark originate from the whole chain of refinement from coking plant, blast furnace, LD plant to continuous casting, including emissions of carbon dioxide that arise on combustion of the residual gases created in the aforesaid processes.

The Government considers (Bill 2005/06:184) that the total allocation to ore-based steel production in accordance with calculation with this benchmark should not be higher than the allocation which would be the outcome if instead the same allocation principle had been applied as in the initial trading period. A comparison is therefore made with the principle based on historical emissions with a supplement for estimated increase in raw-material related emissions. The reason for this rule is that the actual transition to an allocation procedure based on international benchmarks in the iron and steel sector should not have any negative impact on allocation to other activities in the ETS sector. The fact that Sweden decides to apply allocation based on a European benchmark for ore-based steel production can be regarded as an expression for testing a method of allocation which can be applied generally within the EU for future trading periods.

In the light of the above, allocation to installations with ore-based steel production should correspond to the lowest amount that is the result of calculation in accordance with i) the European benchmark described above and ii) allocation based on historical emissions with a supplement in accordance with the rule on raw-material related emissions already used in connection with the allocation for the initial trading period and which is described in section 2.2.

### 2.4. Installations with unavoidable increases in emissions due to other Community legislation

According to criterion 4 in Annex III of the Trading Directive, account should be taken, when allocating allowances, to unavoidable increases in emissions arising from other Community legislation. According to the Commission's guidance from January 2004, Member States should take into consideration such circumstances only in the cases when they affect emissions to a substantial extent (at least 10% of the emissions from an activity)[22]. The Community legislation which has been considered to give

[22] COM(2003)830 Final

rise to unavoidable increases in emissions for Sweden is the Directive of the European Parliament and of the Council (2003/17/EC) amending Directive 98/70/EC relating to the quality of petrol and diesel fuels. The currently identified increase in emissions of greenhouse gases that arises due to the provisions of the Directive originates from investments in a hydrocracker and hydrogen gas factory in the refinery sector.

For these emissions, a supplement is made to the part of the allocation based on historical emissions in a corresponding way as for raw-material related emissions. The supplement is obtained by subtracting the average emissions for the allocation period from the projected emissions at the installation in question during the period 2008-2012. It is furthermore the case that the supplement, as for other existing installations, shall be allocated proportionally between the years in the trading period.

### 2.5. Unilateral introduction of additional installations in the ETS sector

As a result of Article 24 of EC Directive (2003/87/EC) establishing a scheme for greenhouse gas emission allowances, Member States are able to apply from 2008 to include other activities and greenhouse gases than those specified in Annex 1 of the Directive. During the initial trading period, this possibility was limited to unilateral inclusion of additional emission sources at the installations that engage in some of the activities in Annex 1 under the capacity limits specified there. To date, Sweden has, after approval by the European Commission, included 261 combustion installation boilers with an installed thermal capacity below 20 MW which are connected for potential delivery of heat to a district heating system within which the total installed capacity among the installations included in the network exceeds 20 MW. In July 2006, Sweden applied as from the current period to include an additional 13 identified and all future identified installations in accordance with the same criteria. The application is not time-limited which means that the approval also applies to participation by these installations in the trading scheme after the end of the initial trading period.

The reasons for including these installations is that they should be covered by the same environmental control as other installations within the same district heating network, with a view to avoiding sub-optimisation and distortion of competition between these entities depending on capacity. Since heating is sold in local markets, the Government does not consider that the measures will have any affect on the European Community's internal market.

### 2.6. The competitive situation of peat

The economic situation of the Swedish peat industry causes concern partly due to peat as fuel being included in the trading scheme. The peat industry accounts for an important part of employment in certain Swedish regions. However, this issue cannot be resolved within the

framework of allocation allowances, since allocations are distributed to installations based on installation-specific historical emissions, regardless of the fuel they use or have used.

The peat extraction at peat cutting sites with special characteristics can in certain circumstances have more favourable characteristics in a life-cycle perspective from the point of view of the climate impact than can be taken into account with an emission factor based only on emissions from combustion. The conclusion of the authorities after investigation is that there is not a sufficient scientific basis at present for a reliable assessment of the climate effects of the peat industry in different conditions[23].

According to the Government's experience, work has been initiated in the peat industry to produce supplementary material to clarify in more detail the uncertain factors indicated by the authorities. The work of the peat industry will also concern the issue of a possible system for environmental certification of peat extraction sites. The Swedish government sees great potential in a peat industry which is more favourable to the climate. It is important that the authorities concerned monitor this work.

### 3. New entrants' access to allowances

A reserve containing allowances corresponding to on average 3.0 million tonnes of carbon dioxide per year during the period 2008-2012 is to be created primarily to meet the needs for allowances of new entrants.

According to the Emission Trading Ordinance (2004:1205), new entrants refers during the second trading period to every new installation that had not yet been commissioned, or a change in an existing installation by a change in its nature or performance or its expansion which had not yet been taken into commission, on 30 June 2006. This means that certain installations described as new entrants during the initial period can be described under the same heading in the period covered by this plan as well. Issuing of the quantity of allotted allowances to new entrants' accounts in the register takes place at earliest the year after the installation has been commissioned, which means that the allocation can be reduced if the installation is taken into commission at a later date than that stated in the allocation application. This rule is intended to avoid issuing allowances to installations which will not come into operation.

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[23] Nutek, the Swedish Energy Agency, the Swedish Environmental Protection Agency and ITPS, *Commission relating to the Economic Prerequisites for Particular Regions in the light of the Situation for the Peat Industry*, in Swedish, June 2006

Operators with installations to be commissioned between 30 June 2006 and the end of the period 2008-2012 are able to apply for an allocation from the unspecified reserve of 15 million allowances (EUA) established for the period. The reserve constitutes a part quantity of the whole emission projection for the trading sector and has led to a downward adjustment of the allocation to existing installations with fuel-related emissions. The reserve constitutes 12 per cent of the total volume of allowances intended to be issued to Swedish installations during the period. The fact that the share is larger than the corresponding share in the initial period is due, among other things, to there being extensive plans for investments in new natural-gas based co-generation plants and new capacity in the cement industry, refinery sector, and the iron and steel sector. The method for calculating the size of the reserve is further described in section 3.2.

## 3.1. Principles for allocation to new entrants

Allocation to new entrants is calculated depending on the activity on the basis either of output-based benchmarks or a comparison with the best available technology (BAT). Allocation from the reserve takes place in accordance with the principle of "first come, first served" with respect to the date on which a valid application has been received by the authorities. If an operator applies for a free allocation at a date when the reserve of allowances is exhausted, the company is referred to the market for allowances.

### 3.1.1. The electricity and the district heating sector

In order to promote energy efficient technology, a new entrant in the electricity and the district heating sector can receive a free allocation from the reserve only if the installation in question fulfils the criteria to be regarded as highly effective in accordance with the definition in Directive (2004/8/EC) on the promotion of cogeneration based on a useful heat demand in the internal energy market. The fact that only highly-efficient co-generation installations can obtain a free allocation of allowances means in principle that no allocation is made to new condensing power plants or new hot water boilers without back-pressure production. One reason for this requirement is the endeavour to favour establishment of cogeneration in preference to less energy efficient alternatives, which corresponds to the content of criterion 8 on consideration for clean technology, including energy efficient technology.

Allocation to installations in the electricity and district heating sector takes place on the basis of output-based benchmarks in accordance with equation 3. These benchmarks amount to 337 tonnes of carbon dioxide per GWh electricity and 118 tonnes of carbon dioxide per GWh heat respectively. The allocation results from these benchmarks multiplied by

the fossil-based share of projected additional production at the new entrant's installation for each of the years 2008-2012.

$$\text{Allocation} = k \times FA \times (\text{Prod}_{el} \times 337 + \text{Prod}_{heat} \times 118) \qquad (3)$$

| | |
|---|---|
| *k* | Scale factor k=1.0 for all new entrants |
| *FA* | Fossil share expressed as the ratio between the estimated energy content of supplied fossil fuels and the total energy content in the fuels supplied to the installation. |
| $\text{Prod}_{el}$ | Total additional useful production of electricity [$GWh_{el}$/year] |
| $\text{Prod}_{heat}$ | Total additional useful production of hot water, steam, etc. [$GWh_{heat}$/year] |

The benchmarks are calculated on the basis of average carbon dioxide intensity during the period 2000-2004 among 464 Swedish combustion installations in the electricity and the district heating sector covered by the trading scheme[24]. In the calculations, installations have been included regardless of the technology and fuel used. Since allocation based on these benchmarks is only made to fossil fuel based production, the allocation is to be regarded as relatively restrictive for the group of installations intended to be covered by the application of the benchmarks.

The benchmark for electricity has been calculated on the basis of emissions and production of electricity from condensing power installations and co-generation plants. The benchmark for heat is based on emissions and production of heat from heat boilers and co-generation plants. When establishing the respective benchmark, electricity production at co-generation plants as previously has been weighted with a factor of 2.5 and heat with a factor of 1.0. This means that if a co-generation installation produces equal quantities of electricity and heat, 5/7 of the emissions have been attributed to the electricity and 2/7 of the emissions to heat. By taking into account the higher energy quality of electricity, co-generation is rewarded for its high energy efficiency which is a consequence of combined operation. The factor 2.5 is the same as can be used in accordance with Directive (2006/32/EC) on energy end use efficiency and energy services for electricity with a view to calculating primary energy savings.

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[24] Swedish Energy Agency (ER 2006:16), *Fuel-independent benchmarks in the energy sector,* in Swedish

During the initial trading period 2005-2007, the benchmarks applied to new entrants in the electricity and the district heating sector in Sweden gave rise to an allocation considerably more restrictive than corresponding installations received in other countries in the northern European electricity market[25]. The new benchmarks specified in equation 3 have been calculated on the basis of a more complete material than was available for allocation in the previous period and is considered to result lead to the Swedish allocation to new entrants in the form of highly efficient co-generation plants in the electricity and district heating sector approaching the allocation in other countries. However, it continues to be the case that the new entrants in the electricity and district heating sector which do not fulfil the requirement for highly efficient co-generation will not receive any free allocation at all, which is a rule which Sweden alone applied during the initial trading period.

### 3.1.2. Industrial sectors

The Government considers that unlike allocation to new entrants in the electricity and district heating sector, it is neither possible nor appropriate in the present situation to use benchmarks as a basis for allocation in industry with the exception of ore-based steel production[26]. Calculation of allocation to new entrants in the industrial sectors (including combustion installations in industry) therefore takes place on the basis of a comparison with the best available technology (BAT) for the respective product or process. This also applies to ore-based steel production in the cases where it involves new entrants.

The Swedish Environmental Code (SFS 1998:808) requires professional businesses to use the best available technology in new installations. The requirements in the Environmental Code aim, among other things, at ensuring fulfilment of the IPPC Directive. Through an assessment of what is to be regarded as the best available technology in the particular case, taking into account reasonable costs and time for adaptation, specific emissions are established, expressed in tonnes of carbon dioxide per product unit, as a basis for the allocation of the new or expanded installation.

## 3.2. Method for calculating the size of the reserve

The volume of 15 million tonnes of carbon dioxide which has been set aside in the reserve has been calculated on the basis of the material from the Swedish Environmental Protection Agency on which new

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[25] IVL Swedish environmental institute, *Harmonising New Entrant allocation in the Nordic Energy Sectors – current principles and options for EU ETS Phase II*, B1679, May 2006

[26] Government Bill (2005/06:184) on Developed Emissions Trading for Reduced Impact on Climate

installations and capacity expansions are expected to arise during the period 2008-2012[27]. A considerable part of the scope is occasioned by the plans to establish new natural-gas based co-generation plants in southern Sweden. Other sectors in which a considerable need of allowances for new entrants has been identified during the period in question are the refinery sector, ore production and cement manufacturing.

The establishment of the size of the reserve is based on a review of existing investment plans for over thirty installations in the trading sector. These known plans apply both to new establishment and expansion of previously installed capacity. A considerable part of the current investments for the period have already received decisions on permits in accordance with the Environmental Code. The volume reserved for new entrants has been deducted from the projected emissions from the ETS sector when determining the total allocation for the existing installations in the scheme.

### 3.3. The possibility of using the reserve for unforeseen requirements

Experiences from the first trading period show that unforeseen requirements for allocation might arise, for instance, in connection with companies appealing against the agencies' allocation decisions to the Environmental Court. It should therefore also be possible to use the reserve for other purposes than only for allocation to new entrants. This applies on condition that there are still unused allowances in the reserve.

## 4. Technical and economic aspects of allocation

### 4.1. Consideration of the potential to reduce emissions

According to criterion 3 in Annex III of the ETS Directive, allocation shall take into consideration the potential, including the technical potential, to reduce emissions from the operations covered by the system. The background is that a reduction can be achieved in certain sectors at a lower cost than the corresponding reduction in other sectors. This means that more progress can be demanded of operations where reductions are less expensive and less of operations where reductions are expensive[28].

With a view to comparing potentials to reduce emissions between different sectors, the Swedish Energy Agency has analysed the possibilities of reducing emissions from *the electricity and district heating*

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[27] The Swedish Environmental Protection Agency (Dnr 502-4984-05 Hk), *Survey of new entrants for the trading period 2008-2012,* in Swedish

[28] COM(2003)830, p.26

*sector*. In this review, a number of possible technical measures were identified, such as different forms of fuel conversions and efficiency measures. The study which is based on a survey of a number of district heating systems which together account for over half of the emissions from the sector in question, indicates a potential for reduction of annual emissions by approximately 1.0 million tonnes of carbon dioxide at a marginal cost of € 25 per tonne of carbon dioxide. Since this cost is calculated without taking into consideration other policy instruments it tends to be an underestimate of the emission reduction that can theoretically be expected to be undertaken at a particular emission price. The stated level corresponds to around 1/3 of the studied installations' annual carbon dioxide emissions, which indicates a relatively large potential compared with other sectors. However, this result is not directly transferable to the remaining emissions in the sector in question since an overview analysis shows that the average carbon dioxide intensity is about half as great for the installations not covered by the study. [29]

Making emission reductions in addition to the aforesaid potential should be more expensive since it would to a large extent entail a replacement of waste fuel and fossil fuel-based peak load production which is seldom used. According to the study, one of the most cost-effective and largest emission reduction measures in the sector is conversion from peat to biofuel. Measures have also been identified which lead to increased carbon dioxide emissions locally but at the same time a decrease in emissions globally since the overall effect depends on the system limit established.

Even though the technical and economic potential to decrease emissions is relatively larger in the energy sector than the industrial sector, it should be pointed out that natural prerequisites and a transition in the electricity and district heating sector initiated at an early date have led to Swedish specific emissions (tonne of carbon dioxide per generated GWh) being very low in an international comparison. This combined with a large energy-intensive industry means that the energy sector only accounts for just under 20 per cent of the Swedish emissions in the ETS sector. For EU-25, the energy sector accounts for around 60 per cent of the total emissions in the trading scheme.

The Swedish Environmental Protection Agency has analysed the technical and economic potential to reduce emissions of carbon dioxide from the *industrial sectors* included in the ETS sector. The percentage-wise largest reduction potential which is possible to undertake in industry taking into consideration the technical prerequisites is in the pulp and paper industry. There are only few raw-material related

[29] The Swedish Energy Agency (ER 2006:17), *Potential of reducing carbon dioxide emissions – an assessment of the electricity and district heating sector*, in Swedish

emissions in this sector. Possible measures include increased energy conservation and continued replacement of light fuel oil with biofuel. However, this work has been in process for a long time, which has entailed that the specific use of energy of the forest industry has decreased by around 30 per cent over the past three decades. [30]

There is some scope in the mineral industry for reduction of the specific emissions by energy efficiency and increased use of renewable fuels. The total potential of technically possible measures to decrease emissions of greenhouse gases in this sector to 2010 amounts to around 0.12 million tonnes of carbon dioxide per year[31]. Many of the measures identified in this sector lead, however, to increased production capacity, which means that the absolute emissions from the installations can be expected to increase at the same time. In manufacture of cement in Sweden limestone is mixed with other additives and is fired in a rotary kiln after which the material is sintered to clinker. The greater part of emissions of carbon dioxide from the cement industry take place during this calcination of limestone. The process for producing lime and ceramic products is based on separation of carbon dioxide from limestone or dolomite. Since this industrial process is intended to release carbon dioxide from the raw material, this emission is therefore rather unavoidable.

The potential to decrease emissions from Swedish refineries is very small since a number of energy-saving measures have been taken in this industry which has made the Swedish installations into the most energy efficient in the world. This is confirmed by regular comparisons based on the Solomon Energy Efficiency Index (EEI) in hundreds of refineries around the world. In 2000, the largest Swedish refineries were placed in second, third and seventh place among the most energy efficient refineries. Despite this, emissions from the Swedish refineries have increased at a faster rate than the output in the past ten-year period, the explanation for which is the substantial increase in the complexity of the installations. The measures considered possible to undertake by 2010 taking into consideration the technical and economic potential total around 0.08 million tonnes of carbon dioxide per year.[32] In the operation of catalytic crackers in this sector, a coating of coke is created which must be regularly burnt off in a regeneration in order for the process to continue. These emissions are included in this plan as raw-material related, see below.

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[30] The Swedish Environmental Protection Agency (Dnr 503-677-05 Hk), *Assessment of the possibility to reduce emissions of fossil carbon dioxide from the industrial sectors covered by the scheme for greenhouse gas emissions trading*, in Swedish

[31] IVL Swedish Environmental Institute, *Investigation into the possibilities of decreasing emissions of carbon dioxide from the mineral industry*, B 1651, in Swedish, October 2005

[32] The Swedish Environmental Protection Agency (Dnr 503-677-05 Hk), *Assessment of the possibility of decreasing emissions of fossil carbon dioxide from the industrial sectors covered by the scheme for greenhouse gas emissions trading*, in Swedish

The ore-based iron and steel industry is the branch of industry that accounts for the largest carbon dioxide emissions in Sweden and at the same time, one of the sectors that is considered to have most difficulties in reducing emissions. When iron or steel is produced in Sweden based on ore the process make use of magnetite ore pellets, coal, limestone and dolomite. The process takes place mainly in a blast furnace producing pig iron. This is refined into steel which is cast into ingots for further processing. A chemical reaction takes place in the process so that the iron atoms in the ore are freed from oxygen atoms and liquid pig iron is obtained. Oxygen is released with the aid of carbon and hydrogen. Carbon dioxide (and water vapour) are produced as a result of this chemical process which is necessary to produce iron with the present technology. The quantity of carbon dioxide released is accordingly closely correlated with the quantity of iron to be produced. Drastically reducing these emissions in the short and medium-term is not possible since it would require a change of technology.

Certain measures in the form of improved yields, process optimisation and improved balance in the hot flow can, however, give rise to certain emission reductions in production of sheet bars. The Swedish steel works have previously reduced their energy use by, for instance, improving the quality of the coke and pellets used. In the perspective up to 2010, the technically most realistic measures consist of decreasing emissions from these installations by further optimising the ratio between coal and coke in the process.[32] The reduction of around 0.3-0.4 million tonnes of carbon dioxide per year which a measure of this kind would lead to has been included as one of the assumptions in the projection which serves as one of the starting points for allocation in this plan. Correspondingly, the technical and economic potential to decrease emissions from the other energy and industrial sectors has also been incorporated in the total projection for the trading sector.

The review of the technical and economic possibilities to reduce carbon dioxide emissions from the industrial sectors show that there is considerable difficulty in a number of manufacturing processes to reduce emissions without this taking place by decreased output. These emissions are referred to in this plan as *raw-material related emissions* and are generally created from carbon which is combined with the raw material which is to be refined or carbon that is added to remove an undesirable component from the raw material. In the short- and medium-term, there is no possibility for reducing emissions from use of these raw materials in the processes in question other than by reducing output at the installations concerned.

In the light of the difficulties in the short and medium term of replacing certain of the raw materials that give rise to carbon dioxide emissions in many of the processes in the ETS sector (criterion 3) and the conditions described in section 4.4 on the Swedish export industry's exposure to

non-European competition, these raw-material related emissions continue to be given special consideration when allocating allowances between installations. Since this principle is also applied to allocation in the initial period, this is considered to have a minimal impact on the administrative burden for the operators concerned.

*Raw-material related emissions* refers to the emissions of carbon dioxide that arise[33]:

1. from fossil carbonated mineral and carbonated fossil additives in manufacture of cement clinker, lime, glass, mineral wool, ceramic products, paper pulp, iron ore pellets or steel,
2. from carbonated alloy substances and carbonated iron and steel scrap used in steel manufacture,
3. from coke or anthracite used for reduction of iron ore to metallic iron or foaming of slag in manufacture of steel in electric arc furnaces,
4. in use of carbon electrodes and injection coal in steel manufacture,
5. in combustion of coke in regeneration of catalysts at mineral oil refineries,
6. in use of light petrol or natural gas for hydrogen production at mineral oil refineries,
7. in combustion of blast furnace gas or LD gas at iron and steel works or combustion installations linked to iron and steel works,
8. in combustion of process residual gases or ventilation gases from manufacturing processes in the chemical and engineering industry and other industries than those referred to in Annex I of the Directive.

The above definition of raw-material related emissions largely coincides with the definition applied in the Swedish allocation plan that specified allocation for the period 2005-2007. One difference is that a supplement has been made in the form of item 8 because of the scheme's expansion to combustion processes in industry where residual gases from production processes are either recovered for electricity and heat production or alternatively flared.

The definition of raw-material related emissions in Swedish legislation substantially coincides with the definition of process emissions according to the Commission's guidelines for monitoring and reporting of emissions in the EU trading scheme[34].

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[33] 9 § Ordinance (2006:645) amending the Emissions Trading Ordinance (2004:1205)

[34] COM (2004)130 Final

Almost 40 per cent of the total emissions from Swedish installations in the ETS fall under the definition of raw-material related emissions presented above. The largest share of raw-material related emissions is located in the iron and steel industry, the mineral industry and the mineral oil refineries.

### 4.1.1. Emission treds in industry

As shown in the previous section, Swedish industry has worked for a long time to decrease emissions and make its energy use more efficient. In combination with a shift from oil to electricity, among other things, this has entailed a substantial reduction of the specific use of oil in relation to production value (see Figure 5). Following on from the sharp increases in output in Swedish industry, absolute emissions have, however, increased substantially despite the specific emissions of industry per produced unit being among the lowest in the world.

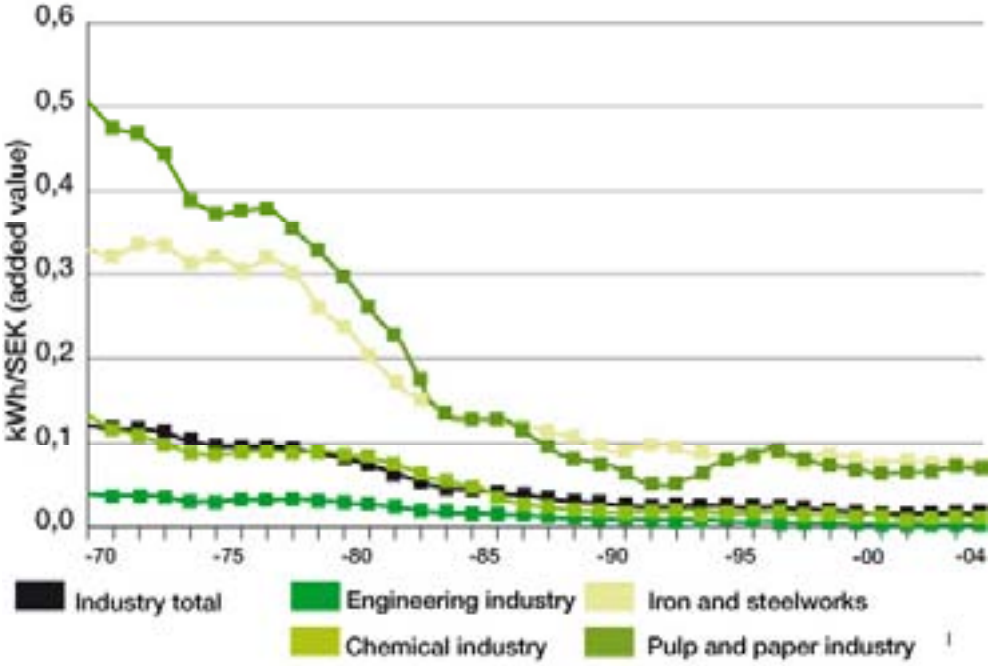


**Figure 5**. Swedish industry's specific oil use 1970-2004[35]

Figure 6 shows the development of the specific emissions in terms of carbon dioxide per production value for Swedish installations in refineries, chemical industry, the iron and steel sector and the paper and pulp industry during the period 1990-2004. The comparison shows that the specific emissions in the refinery sector and the iron and steel sector have been relatively unchanged. This means that the development of the absolute emissions of carbon dioxide from these industries is closely associated with changes in the production value. There has been a downward trend in the pulp and paper industry and the chemical industry, which are characterised by a lower portion of raw-material

[35] The Swedish Energy Agency, *Energy in Sweden 2005*

related emissions than the other two industries, at least for development since the mid-1990s.

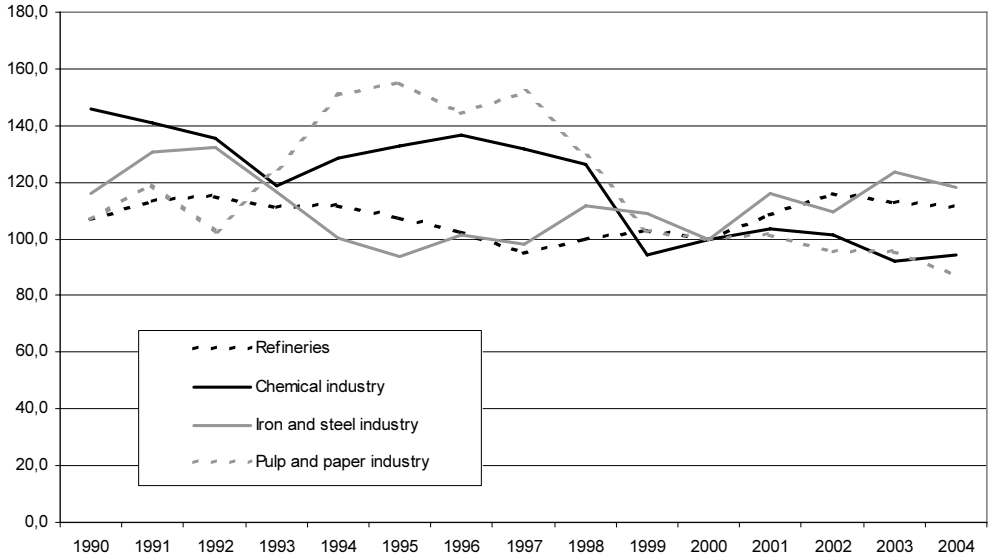


**Figure 6.** Change of specific emissions in terms of carbon dioxide per production value for Swedish installations within some branches of industry sectors between 1990-2004. As a basis for this comparison, the relative development has been indexed against the value in year 2000 for all industries ($index_{2000}=100$).[36]

The average annual reduction of the emission intensity of industry as shown in Figure 6 is considerably lower than the value shown for the link between emissions och economic development in the European Commission's further guidance. As a result of an already very low carbon dioxide intensity in the energy sector, industry accounts for a share of the Swedish emissions in the ETS sector which is higher than the corresponding share in many other Member States. The ETS sector's share of total emissions is not either constant but is increasing (cf. Figure 3) unlike the assumption made in the further guidance in connection with the reasoning on how statistics of carbon dioxide use can be used to establish the total quantity of allowances to allocate[37].

The energy-intensive industry's relatively limited possibilities for achieving emission reductions without having a negative impact on the production value is confirmed by international comparisons, including a study of carbon dioxide decoupling in energy-intensive industries which has been carried out on behalf of the Nordic Council of Ministers[38]. The

[36] Data from the Swedish Environmental Protection Agency and Statistics Sweden, own calculations

[37] COM(2005)703, p.14

[38] TemaNord 2006:528, *Decoupling of CO2 Emissions from Energy Intensive Industries*

empirical data analysed in this study indicates that only one of the four most energy intensive industries in Sweden can show signs of a decoupling of carbon dioxide emissions and value-added. This could be observed in the chemical industry, which is partly due to an increased recovery of the energy content of residual gases.

### 4.2. Taking early action into account

Many of the Swedish installations covered by the trading scheme have undertaken measures at an early stage to make their use of energy more efficient and to decrease emissions of greenhouse gases. The carbon dioxide tax on use of fossil fuels introduced in 1991 is one of the factors that have contributed to this development. The Government is not intending to apply any special method for rewarding those who have undertaken early measures at installation level. The allocation principles presented in this plan are still considered to take sufficient account of the fact that many operators have reduced their emissions. This is due to the choice of the allocation period (1998-2001) and in particular the decision for the allocation for 2008-2012 not to shift this historical time series forward in time compared with the period used for allocation in the initial trading period (2005-2007).

### 4.3. Taking clean technology into account

According to the criteria set for the production of an allocation plan, the principles for allocation shall take energy-efficient technology into account, among other things. According to the Commission's guidance, highly-efficient co-generation is an example of energy-efficient technology[39]. Swedish energy policy is designed in such a way as to promote the establishment of new co-generation and, in principle, all co-generation installations that are built fulfil the criteria to be considered as being highly efficient in accordance with the definition in the Co-generation Directive. According to the principles specified in this plan, an installation is required to be highly-efficient co-generation to be able to receive any free allocation as a new entrant in the electricity and the district heating sector. This gives rise to incentives to produce electricity on existing heat bases, which leads to higher resource and energy efficiency compared with establishing separate electricity and heat production.

### 4.4. Consideration to non-European competition

According to the eleventh criteria in Annex III of the Trading Directive the plan may contain information about the manner in which the existence of competition from countries or entities outside the European Union will be taken into account. According to the Commission's

[39] COM (2003)830 Final

guidance for application by the Member States of the aforesaid annex, the establishment of allocation shall take place at operation level, taking this into account, and not lead to any change in the total quantity of emission allowances issued[39].

The Swedish industries covered by the emission allowance trading scheme are very export-oriented as shown by the summary in Table 4. Since a considerable part of the output that is exported goes to countries outside EU-25, there is a risk that the competitiveness of these installations will deteriorate in the cases where the other installations which operate in this market are not subject to corresponding emission restriction. However, it should be noted that the share sold in the internal market is also exposed to competition from entities in countries which do not have the corresponding costs for emissions of greenhouse gases.

**Table 4.** Export share of total production and share of export that went to countries outside EU-25 for different industrial branches in Sweden in 2004.

| Industry | Share of export of total production | Share of export that goes to non-EU25 countries |
|---|---|---|
| Metal ore mines | 37% | 37% |
| Basic chemical industry | 57% | 38% |
| Steel and metal works | 81% | 28% |
| Pulp and paper industry | 68% | 25% |
| Petroleum refinery | 61% | 34% |

*Source: Statistics Sweden and own calculations*

The Swedish Institute for Growth Policy Studies (ITPS) notes in its report "Basic industry and Kyoto" that trade with allowances has considerable effects on the competitiveness of Swedish energy-intensive industry[40]. According to the calculations made by ITPS, manufacturers of cement and lime and petroleum refineries have been most affected. Since a relatively larger share of exports from the mineral industry goes to markets outside the EU and the industrial structure is sensitive to cost changes, the effects will be even greater for the cement and lime industry compared with the refinery sector, for instance.

Sweden accounts for a substantial part of the EU's mining production (see Table 5). Output of iron ore is controlled wholly by demand in the steel industry and is therefore dependent on the development of this market. Around 80 per cent of the Swedish steel output is exported to other countries (see Table 4). In the world market, the Swedish installations only account for a limited share of the total output and the ability to influence the price level is therefore low. This means that the mines and the iron and steel industry are sensitive to cost changes at the

[40] ITPS (A2004:019), *Basic Industry and Kyoto - effects on competitiveness of emissions trading,* in Swedish

same time as the latter accounts for the largest carbon dioxide emissions in Swedish industry. Some of the mining industry's foremost competitor countries outside the EU are Brazil, Australia and Canada.

**Table 5.** Sweden's share of EU's mining output in 2002

| **EU-25** | | |
|---|---|---|
| Iron | 89% | 1st |
| Gold | 27% | 2nd after Finland |
| Zinc | 24% | 2nd after Ireland |
| Silver | 17% | 2nd after Poland |
| Lead | 30% | 3rd after Ireland, Poland |
| Copper | 11% | 3rd after Poland, Portugal |

*Source: Swedish Association of Mines, Mineral and Metal Producers (Progress report 17 July 2006, www.mining.se)*

After Finland, the Swedish industry has the second greatest capacity for pulp and paper production in Europe and provides over a tenth of the EU's paper requirements. Sweden is the world's fourth largest exporter of paper and the third largest exporter of pulp. Brazil, North America, Indonesia and Chile are the foremost competitors as regards pulp production. For paper production, the United States (kraftliner) and Canada (newspaper) are some of the industry's largest competitor countries outside the EU-25.

Among the short-term effects for a number of the installations in basic industry are that a restrictive allocation entailing a need to purchase additional allowances can imply that they will face difficulties creating profitability in liaison with increases in output. Apace with more countries undertaking to limit their emissions of greenhouse gases, the risk decreases for a distortion of competition and moving out production which in the worst case can lead to carbon dioxide leakage and even an increase of global emissions.

## 5. Use of emission reduction units and certified emission reductions for surrender in the emissions trading scheme

Operators in the Swedish register are permitted as a collective to use CERs and ERUs corresponding to a share of at most 20 per cent of the total quantity of allowances (EUA) which will be issued in Sweden during the period 2008-2012.

The EU's trading scheme has been linked to the global market for credits from the project-based flexible mechanisms through the Directive (2004/101/EC) of the European Parliament and ofthe Council, amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Community, in respect of the

Kyoto Protocol's project mechanisms (the Linking Directive), This enables operators in the trading scheme to use credits from the joint implementation (JI) and the Clean Development Mechanism (CDM) instead of European allowances (EUA) to some extent. According to Article 11(a), every Member State shall decide on the highest share of emission reduction units (ERUs) and certified emission reductions (CERs) which may be used to fulfil the obligation to annually surrender an amount of allowances corresponding to the actual emissions at the installations. The background to this is the Marrakech agreement's principle on supplementary which states that a considerable part of the country's efforts to achieve the climate target should consist of domestic measures.

The project mechanisms are a central component in the global climate regime and contribute to more cost-effective emission reductions, the involvement of developing countries in climate measures and sustainable development in the host country. Through the linking directive, Annex III to the Directive (2003/87/EC) establishing a scheme for greenhouse gas emission allowance trading has been equipped with an additional criterion stating that the allocation plan must specify the maximum quantity of ERUs and CERs which may be used by companies for fulfilment in the trading scheme during the period in question. For the period 2008-2012, companies in the Swedish register may collectively use ERUs and CERs corresponding to a share of at most 20 per cent of the total quantity of allowances issued, which, on average, means 5.0 million ERUs and CERs per year. For both existing installations and new entrants, the highest permitted use need not be evenly allocated over the period in question.

In Government Bill (2005/06:184), the Government has assigned the starting point that all operators should be given the right to use CERs and ERUs to an extent compatible with the national limitation. With a view to avoiding the rule for downscaling of allocation to installations in the electricity and district heating sector as described in section 2.1 having a negative impact on the ability of these installations to use CERs and ERUs, the total scope for existing installations is allocated in proportion to their historical emissions instead of the estimated allocation. When the scope is then recalculated to express a share of the company's allocation instead, the level of a particular installation may deviate upwards or downwards from the general limitation. New entrants have per definition no historical emissions and may therefore use CERs and ERUs corresponding to 20 per cent of the allocation for each particular installation.

The emission reduction units and certified emission reductions which the operator may use when surrendering allowances in the register do not include credits from project activities attributable to the absorption of carbon dioxide by land use and forestry. Moreover, credits from

nuclear power projects may not be used for surrender in the Swedish emissions trading registry[41].

## 6. Participation by the public

The establishment of the Swedish allocation plan has been preceded by a number of committee investigations and preparatory work which has been circulated for comment. In connection with these referral procedures, individuals have also been able to submit statements.

The interparliamentary FlexMex2 delegation, has had the task of drafting proposals for a Swedish system and regulatory framework for the Kyoto Protocol's flexible mechanisms and the national implementation of the EU emissions trading directive. As is usually the case for such committees, representatives of the relevant industrial bodies have participated in this work.

On 19 January 2005, the delegation submitted its final report Trading for a Better Climate - from introduction to application (SOU 2005:10) to the Government. Among other things, this material deals with the issue of allocation principles for the period 2008-2012. The report was circulated for comment in spring 2005 in accordance with the usual procedure in Sweden where all stakeholders among authorities, industrial representatives and interest organisations most closely affected by the proposals are invited to submit their comments. The referral was circulated to 129 stakeholders and 77 written submissions were received which are available at the Ministry of Sustainable Development (dnr. M2005/1155/E). The previous interim reports from the delegation, Trading for a Better Climate (SOU 2003:60), Trading for a Better Blimate – permits and allocation, etc. (SOU 2003:120) and Trading for a better climate – trading in emission allowances 2005-2007 etc. (SOU 2004:62), have been circulated for comment in the same way.

During 2005, the Swedish Energy Agency and the Swedish Environmental Protection Agency have reported their experiences of implementing the EU emissions trading scheme in Sweden[42]. The agencies propose a number of improvements to the current legislation in their report, including proposals referring to the allocation principles. The report has been circulated for comment and the result of this procedure has served as one of the starting points for preparation of certain adaptations to the Act and Ordinance concerning Greenhouse Gas Emission Trading and the Swedish allocation plan for the trading period 2008-2012.

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[41] Ordinance (2006:1109) amending the Emissions Trading Ordinance (2004:1205)

[42] The Swedish Energy Agency and the Swedish Environmental Protection Agency, *Experiences from the introduction of the EU trading scheme,* in Swedish, March 2005

In October 2005, the Swedish Energy Agency presented its final report on the use of benchmarks as a basis for allocation of allowances in the energy sector. The report contains material for calculation and analysis of the benchmarks used in this plan for new entrants in the electricity and district heating sector. It was circulated for comment in connection with the above-mentioned report on experiences from the Swedish Environmental Protection Agency and the Swedish Energy Agency.

The Ministry for Sustainable Development has considered the issue of Swedish implementation of the linking directive in the ministerial memorandum *The project-based mechanisms in accordance with the Kyoto Protocol and the Linking Directive* (Ds 2005:19). The report which contains documentation for the regulatory framework relating to approval of project activities and the companies' use of credits from the project mechanisms has been circulated for comment and the outcome is available at the Ministry for Sustainable Development (M2005/3225/E).

In connection with the Swedish allocation plan being notified to the European Commission, it was made available for the public who were invited to submit points of view on the content. This possibility was announced through a press release and on the Government's website (www.regeringen.se) which can also be accessed through Sweden's emission allowance trading portal (www.utslappshandel.se). This enables any remaining points of view to be taken into consideration before a final decision on allocation is made.

In order to be taken into consideration, points of view must be submitted at the latest by 30 September 2006. Points of view are to be submitted in writing to Ministry for Sustainable Development, 103 33 Stockholm, Sweden, or via e-mail to nap@sustainable.ministry.se

## 7. National criteria

### 7.1. Application for allocation of allowances

One of the conditions for an installation to receive free allocation of allowances is that the operator applies for an allocation to the competent authority (Swedish Environmental Protection Agency). A special council for allocation of allowances (RUT) consisting of representatives from the Swedish Environmental Protection Agency, the Swedish Energy Agency and the Swedish Agency for Economic and Regional Growth (Nutek) will thereafter process proposals for allocations to each particular installation. On basis of applications received, The Swedish Environmental Protection Authority will make a decision on allocation of allowances at the latest by 31 December 2006 or after the

Commission's assessment of the allocation plan has been concluded, depending on which takes place last.

### 7.2. Allocation of allowances when process gases are used by another operator than the operator generating them

According to the guidance notified by the European Commission in January 2004, Member States shall establish principles for allocation of allowances between installations when gases constitute waste from a production process and then are subsequently used as fuel by another operator.

In Sweden, a need for such balances to be struck arises in, for instance, ore-based steel production where waste gas from processes are used to produce electricity and heating in separate power stations. In the Swedish allocation, the allowances are issued to the operator for the installation that transfers the gas provided that there is an agreement on this kind of distribution between the parties concerned.

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 1 | Combustion installation | | AB Enköpings Värmeverk | HPC Simpan | 03-563-013240-2004 |
| 2 | Combustion installation | | AB Enköpings Värmeverk | PC Stenvreten | 03-563-014026-2004 |
| 3 | Combustion installation | | AB Enköpings Värmeverk | PC Tjädern | 03-563-014027-2004 |
| 4 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Akalla | 01-563-071852-2004 |
| 5 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Bredäng | 01-563-071917-2004 |
| 6 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Brista | 01-563-071868-2004 |
| 7 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Brännbo | 01-563-071824-2004 |
| 8 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Danderyd | 01-563-071862-2004 |
| 9 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Fagersjö | 01-563-072145-2004 |
| 10 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Farmen | 01-563-071768-2004 |
| 11 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Farsta | 01-563-072142-2004 |
| 12 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Galten | 01-563-071755-2004 |
| 13 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Gasturbin Södra | 01-563-072165-2004 |
| 14 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Giggen | 01-563-071889-2004 |
| 15 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Gubben Noak | 01-563-071893-2004 |
| 16 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Hammarby | 01-563-071911-2004 |
| 17 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Ätten | 01-563-071937-2004 |
| 18 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Håsta | 21-563-12716-2004 |
| 19 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Hässelby | 01-563-071821-2004 |
| 20 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Högdalen P1-5 | 01-563-072134-2004 |
| 21 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Krigsrådet | 01-563-072107-2004 |
| 22 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | KVV Djuped | 21-563-12709-2004 |
| 23 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Lastaren | 20-563-013810-2004 |
| 24 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Lidingö | 01-563-071863-2004 |
| 25 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Liljeholmen | 01-563-071877-2004 |
| 26 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Ludvigsberg | 01-563-071940-2004 |
| 27 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Arlanda | 01-563-071850-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 28 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Långe Jan | 01-563-072114-2004 |
| 29 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Nacka Forum | 01-563-072111-2004 |
| 30 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Norrbacka | 01-563-071817-2004 |
| 31 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Orminge | 01-563-071751-2004 |
| 32 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Fiskeby Board, Avfallspanna 1 | 00-563-000617-2004 |
| 33 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Kotorget | 21-563-12706-2004 |
| 34 | Combustion installation | | Ljusdal Energi AB | HVC Gärdeåsen | 21-563-13537-2004 |
| 35 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Sjukhuset | 17-563-012297-2004 |
| 36 | Combustion installation | | Lycksele Energi AB | Forsbacka HVC | 24-563-009465-2004 |
| 37 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Rotebro | 01-563-071816-2004 |
| 38 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Panncentralen Grums Fjärrvärme | 17-563-011542-2004 |
| 39 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Saxen | 20-563-013814-2004 |
| 40 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Skarpnäck | 01-563-072109-2004 |
| 41 | Combustion installation | | Skellefteå Kraft AB | Dalen panncentral | 24-563-009467-2004 |
| 42 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Södersjukhuset | 01-563-072048-2004 |
| 43 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Valsta | 01-563-071803-2004 |
| 44 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Vilunda | 01-563-071779-2004 |
| 45 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Värtan | 01-563-071855-2004 |
| 46 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Älvsjö | 01-563-071928-2004 |
| 47 | Combustion installation | X | Alvesta Energi AB | Rådmannen | 07-563-007233-2004 |
| 48 | Combustion installation | X | Alvesta Energi AB | Virdavallen | 07-563-007240-2004 |
| 49 | Combustion installation | | Alvesta Energi AB | Axeln | 07-563-007241-2004 |
| 50 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Årsta | 01-563-071923-2004 |
| 51 | Combustion installation | | Arboga Energi AB | Arboga värmeverk | 19-563-10310-04 |
| 52 | Combustion installation | X | Arvika Fjärrvärme AB | Lyckeverket | 17-563-011844-2004 |
| 53 | Combustion installation | | Bodens Energi Aktiebolag | Värmeverket | 25-563-14719-04 |
| 54 | Combustion installation | X | Bollnäs kommun | Psyk. Sjukhusets HVC | 21-563-13544-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 55 | Combustion installation | | Bollnäs kommun | Säverstaverket | 21-563-13541-2004 |
| 56 | Combustion installation | | AB Borlänge Energi | FVC Bäckelund | 20-563-013110-2004 |
| 57 | Combustion installation | | Borås Energi AB | HVC Hultasjön | 14-563-060878-2004 |
| 58 | Combustion installation | | Borås Energi AB | HVC Lasarettet | 14-563-060879-2004 |
| 59 | Combustion installation | | Borås Energi AB | Ryaverket | 14-563-060902-2004 |
| 60 | Combustion installation | | Borås Energi AB | Viared 1 | 14-563-060881-2004 |
| 61 | Combustion installation | | Borås Energi AB | Viared 2 | 14-563-060884-2004 |
| 62 | Combustion installation | | Bråvallakraft AB | Bråvalla Kraft AB | 05-563-019035-2004 |
| 63 | Combustion installation | | C4 Energi AB | Allöverket | 12-563-43981-2004 |
| 64 | Combustion installation | | C4 Energi AB | Panncentral CSK | 12-563-43988-2004 |
| 65 | Combustion installation | X | Elektra Värme AB | PC Edsbyverken | 21-563-9767-2004 |
| 66 | Combustion installation | | Ena Kraft AB | ENA Kraft | 03-563-013241-2004 |
| 67 | Combustion installation | | Energiverken I Halmstad AB | PC Östergård | 13-563-009201-2004 |
| 68 | Combustion installation | | Energiverken I Halmstad AB | HVC Turbingatan | 13-563-009205-2004 |
| 69 | Combustion installation | | Energiverken I Halmstad AB | PC Vapnöhöjden | 13-563-009202-2004 |
| 70 | Combustion installation | | Eskilstuna Energi & Miljö AB | HVC Vattumannen | 04-563-010147-2004 |
| 71 | Combustion installation | X | Eskilstuna Energi & Miljö AB | HVC Lagersberg | 04-563-010150-2004 |
| 72 | Combustion installation | | Eskilstuna Energi & Miljö AB | HVC Torshälla | 04-563-010149-2004 |
| 73 | Combustion installation | | Falbygdens Energi AB | Panncentral Dotorp | 14-563-052216-2004 |
| 74 | Combustion installation | | Falbygdens Energi AB | Panncentral Marjarp | 14-563-052075-2004 |
| 75 | Combustion installation | X | Falkenberg Energi AB | Ång- och hetvattencentral Bacchus | 13-563-009795-2004 |
| 76 | Combustion installation | | Falkenberg Energi AB | Hetvattencentral Spettet | 13-563-009271-2004 |
| 77 | Combustion installation | | Falu Energi & Vatten AB | HVC Syran | 20-563-011959-2004 |
| 78 | Combustion installation | | Finspångs Tekniska Verk AB | Finspångs Värmeverk | 05-563-013137-2004 |
| 79 | Combustion installation | X | Fjärrvärme I Osby AB | Gullarpsverket | 12-563-039862-2004 |
| 80 | Combustion installation | | Emmaboda Energi och Miljö AB | Kajan | 08-563-011579-2004 |
| 81 | Combustion installation | | Forsmarks kraftgrupp AB | Forsmarks Kärnkraftstation | 03-563-012667-2004 |
| 82 | Combustion installation | | Forsmarks kraftgrupp AB | Gunnarsbo Kraftverk | 03-563-012669-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 83 | Combustion installation | | Fortum Värme Nynäshamn AB | Kraftvärmeverket Nynäshamn | 01-563-074486-2004 |
| 84 | Combustion installation | | Oskarshamn Energi AB | P1, P2 och KVV | 08-563-009668-2004 |
| 85 | Combustion installation | | Gotlands Energi AB | Förrådet 3 | 09-563-6078-04 |
| 86 | Combustion installation | X | Gotlands Energi AB | Värmekraften 1 | 09-563-6021-04 |
| 87 | Combustion installation | X | Gotlands Energi AB | Cementa | 09-563-6204-04 |
| 88 | Combustion installation | X | Gotlands Energi AB | Pinjen 1 | 09-563-6079-04 |
| 89 | Combustion installation | | Graninge Järfälla Värme AB | Säbyverket | 01-563-056035-2004 |
| 90 | Combustion installation | | AB Borlänge Energi | FVC Hagbacken | 20-563-013061-2004 |
| 91 | Combustion installation | | Kalmar Energi Värme AB | Nybro Energicentral | 08-563-008234-2004 |
| 92 | Combustion installation | | Kalmar Energi Värme AB | Draken | 08-563-008235-2004 |
| 93 | Combustion installation | | Kalmar Energi Värme AB | HVC Dvärgen | 08-563-008237-2004 |
| 94 | Combustion installation | | Graninge Mälarkraft Värme AB | HVC Bro | 01-563-056021-2004 |
| 95 | Combustion installation | X | Graninge Mälarkraft Värme AB | HVC Hallonvägen | 01-563-056016-2004 |
| 96 | Combustion installation | | Graninge Värme AB | Fjärrvärmeverket Sollefteå | 22-563-010685-2004 |
| 97 | Combustion installation | | Gällivare Värmeverk AB | Hetvattencentralen | 25-563-18639-04 |
| 98 | Combustion installation | | Gävle Energi AB | Carlborg hetvattencentral | 21-563-13796-2004 |
| 99 | Combustion installation | | Gävle Energi AB | Ersbo Hetvattencentral | 21-563-13797-2004 |
| 100 | Combustion installation | | Gävle Kraftvärme AB | Johannes bioenergianläggning | 21-563-13795-2004 |
| 101 | Combustion installation | X | Ale Fjärrvärme Aktiebolag | Alafors Panncentral | 14-563-067448-2004 |
| 102 | Combustion installation | | Göteborg Energi AB | Angeredscentralen | 14-563-059258-2004 |
| 103 | Combustion installation | | Västerviks Värmeverk AB | Gamlebyverket | 08-563-009441-2004 |
| 104 | Combustion installation | X | Ale Fjärrvärme Aktiebolag | Bohus Panncentral | 14-563-059250-2004 |
| 105 | Combustion installation | | Göteborg Energi AB | Hammarkullecentralen | 14-563-059259-2004 |
| 106 | Combustion installation | X | Göteborg Energi AB | Högsbo KVV | 14-563-059260-2004 |
| 107 | Combustion installation | | Skellefteå Kraft AB | Malå kraftvärmeverk | 24-563-010607-2004 |
| 108 | Combustion installation | | Göteborg Energi AB | Marconicentralen | 14-563-059263-2004 |
| 109 | Combustion installation | X | Ale Fjärrvärme Aktiebolag | Nödinge Panncentral | 14-563-059248-2004 |
| 110 | Combustion installation | | Göteborg Energi AB | Rosenlunds Kraftvärmeverk | 14-563-059267-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 111 | Combustion installation | | C4 Energi AB | Panncentral Söder | 12-563-43985-2004 |
| 112 | Combustion installation | | Göteborg Energi AB | Rya Värmecentral | 14-563-059268-2004 |
| 113 | Combustion installation | X | Göteborg Energi AB | Sisjöns panncentral | 14-563-059269-2004 |
| 114 | Combustion installation | | Göteborg Energi AB | Sävenäsverket | 14-563-059272-2004 |
| 115 | Combustion installation | | Fjärrvärme i Frölunda Aktiebolag | Tynnererds Panncentral | 14-563-059252-2004 |
| 116 | Combustion installation | | Göteborg Energi AB | Volvo Tuve | 14-563-059266-2004 |
| 117 | Combustion installation | | Graninge Värme AB | Panncentral Plogen | 22-563-010684-2004 |
| 118 | Combustion installation | | Göteborg Energi AB | Östra Sjukhuset | 14-563-059275-2004 |
| 119 | Combustion installation | X | Haparanda Värmeverk AB | Haparanda Värmeverk AB | 25-563-18638-04 |
| 120 | Combustion installation | | Hedemora Energi AB | HVC Hamre | 20-563-009595-2004 |
| 121 | Combustion installation | | Hofors Energi AB | Hofors Energi Ångcentralen | 21-563-11886-2004 |
| 122 | Combustion installation | X | Hällefors Värme AB | P2-P3 | 18-563-012433-2004 |
| 123 | Combustion installation | | Härnösand Energi & Miljö AB | Kraftvärmeverket | 22-563-011301-2004 |
| 124 | Combustion installation | | Hässleholm Fjärrvärme AB | Beleverket | 12-563-43893-2004 |
| 125 | Combustion installation | | Jämtkraft AB | Lugnviksverket KVV | 23-563-9475-04 |
| 126 | Combustion installation | | Jämtkraft AB | Minnesgärdet | 23-563-10341-04 |
| 127 | Combustion installation | | Jämtkraft AB | Öneberget | 23-563-10844-04 |
| 128 | Combustion installation | | Göteborg Energi AB | Rya Kraftvärmeverk | 00-563-000111-2004 |
| 129 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Huskvarna förd. station, HCHF | 06-563-015546-2004 |
| 130 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Huskvarna Vapen, HCHV | 06-563-015551-2004 |
| 131 | Combustion installation | | Jönköping Energi AB | Hetvattencentralen Ryhov, HCRY | 06-563-015554-2004 |
| 132 | Combustion installation | | Jönköping Energi AB | Hetvattencentralen Östra Klinikerna, HCÖK | 06-563-015562-2004 |
| 133 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Österängen, HCÖN | 06-563-015563-2004 |
| 134 | Combustion installation | | Karlshamn Energi AB | HVC Stilleryd | 10-563-005904-2004 |
| 135 | Combustion installation | X | Karlshamn Energi AB | PC Lasarettet | 10-563-005995-2004 |
| 136 | Combustion installation | X | Karlshamn Energi AB | PC Vägga | 10-563-005994-2004 |
| 137 | Combustion installation | X | Karlshamn Energi AB | PC Östralycke | 10-563-005981-2004 |
| 138 | Combustion installation | | Karlshamn Kraft AB | Karlshamnsverket | 10-563-005832-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 139 | Combustion installation | | Karlskoga Kraftvärmeverk AB | KVV | 18-563-013067-2004 |
| 140 | Combustion installation | | Karlskoga Kraftvärmeverk AB | Skogsrundan | 18-563-013106-2004 |
| 141 | Combustion installation | | Affärsverken Karlskrona AB | Värmeverket Gullberna | 10-563-004978-2004 |
| 142 | Combustion installation | | Affärsverken Karlskrona AB | Värmeverk Väster Udd | 10-563-004980-2004 |
| 143 | Combustion installation | | Karlstads Energi AB | Centralsjukhusets Hetvattencentral | 17-563-010635-2004 |
| 144 | Combustion installation | | Karlstads Energi AB | Kosterns Hetvattencentral | 17-563-010637-2004 |
| 145 | Combustion installation | | Karlstads Energi AB | Kraftvärmeverket i yttre hamn | 17-563-010639-2004 |
| 146 | Combustion installation | | Karlstads Energi AB | Kraftvärmeverket på Heden | 17-563-010641-2004 |
| 147 | Combustion installation | | Karlstads Energi AB | Kronoparkens hetvattencentral | 17-563-010643-2004 |
| 148 | Combustion installation | | Katrinefors Kraftvärme AB | Katrinefors kraftvärme kw | 14-563-050617-2004 |
| 149 | Combustion installation | | Katrineholm Energi AB | PC-Väster | 04-563-012095-2004 |
| 150 | Combustion installation | | Katrineholm Energi AB | PC-Öster | 04-563-012092-2004 |
| 151 | Combustion installation | | AB Kramfors Energiverk | Hetvattencentralen Brunne | 22-563-011300-2004 |
| 152 | Combustion installation | | Kungsörs Kommun | HVC Flaket | 19-563-11300-04 |
| 153 | Combustion installation | | Kungälv Energi AB | Munkegärdeverket | 14-563-52392-2004 |
| 154 | Combustion installation | | Köpings Kommun | Norsa hetvattencentral | 19-563-10560-04 |
| 155 | Combustion installation | X | Köpings Kommun | Lasarettets reservcentral | 19-563-10564-04 |
| 156 | Combustion installation | X | Köpings Kommun | Östanås reservcentral | 19-563-10563-04 |
| 157 | Combustion installation | X | Landskrona Kommun, Tekniska Verken | PC Bronsängen | 12-563-44522-2004 |
| 158 | Combustion installation | | Landskrona Kommun, Tekniska Verken | Hetvattencentral | 12-563-44519-2004 |
| 159 | Combustion installation | X | Landskrona Kommun, Tekniska Verken | PC Västra Fälanden | 12-563-44520-2004 |
| 160 | Combustion installation | | Jönköping Energi AB | Kraftvärmeverket Torsvik, KVVT | 00-563-000427-2004 |
| 161 | Combustion installation | | Brikettenergi AB, S B E Svenska | Ulricehamn | 00-563-000622-2004 |
| 162 | Combustion installation | X | Jönköpings läns landsting | Höglandssjukhuset Eksjö | 06-563-012658-2004 |
| 163 | Combustion installation | | AB Aroskraft | Aroskraft Block 3 | 19-563-10793-04 |
| 164 | Combustion installation | | Mälarenergi AB | Mälarenergi Block 4 | 19-563-10788-04 |
| 165 | Combustion installation | X | Landskrona Kommun, Tekniska Verken | PC Lasarettet | 12-563-44521-2004 |
| 166 | Combustion installation | | Öresundskraft Produktion AB | Västhamnsverket | 12-563-46563-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 167 | Combustion installation | | Länssjukhuset i Kalmar, Landstinget Kalmar | Länssjukhuset i Kalmar | 08-563-000866-2005 |
| 168 | Combustion installation | | Nordisk Carbon Black AB | Nordisk Carbon Black AB | 12-563-48835-2004 |
| 169 | Combustion installation | X | Öresundskraft Produktion AB | Biogasanläggningen | 12-563-46587-2004 |
| 170 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Oljehamnen | 21-563-12711-2004 |
| 171 | Combustion installation | | Finspångs Tekniska Verk AB | Grosvad | 05-563-018937-2004 |
| 172 | Combustion installation | | LaxåVärme AB | Lindåsen | 18-563-009691-2004 |
| 173 | Combustion installation | | Lidköpings Värmeverk AB | Pc filen | 14-563-059635-2004 |
| 174 | Combustion installation | | Lidköpings Värmeverk AB | PC Släggan | 14-563-059643-2004 |
| 175 | Combustion installation | | Linde Energi AB | HVC Gnistan | 18-563-010177-2004 |
| 176 | Combustion installation | | Ljungby Energi AB | Ljungsjöverket | 07-563-005242-04 |
| 177 | Combustion installation | | Ljusdal Energi AB | HVC Sjulhamre | 21-563-13540-2004 |
| 178 | Combustion installation | | Lulekraft AB | Lulekraft AB | 25-563-016191-2004 |
| 179 | Combustion installation | X | Universitetssjukhuset i Örebro, Örebro Läns Landst | Universitetssjukhuset i Örebro | 18-563-013353-2004 |
| 180 | Combustion installation | | Luleå Energi AB | HVC 2 Aronstorp | 25-563-18645-04 |
| 181 | Combustion installation | | Luleå Energi AB | HVC Bergnäset | 25-563-18643-04 |
| 182 | Combustion installation | X | Luleå Energi AB | HVC 5 Gammelstad | 25-563-18642-04 |
| 183 | Combustion installation | | Lunds Energikoncernen AB | GTKVV | 12-563-47061-2004 |
| 184 | Combustion installation | | Lunds Energikoncernen AB | ÅKV | 12-563-47054-2004 |
| 185 | Combustion installation | | Lunds Energikoncernen AB | SV | 12-563-47058-2004 |
| 186 | Combustion installation | | Sydkraft Värme Syd AB | Flintrännans fjärrvärmecentral (FFC) | 12-563-40394-2004 |
| 187 | Combustion installation | X | Lycksele Energi AB | Skogsbacka | 24-563-009474-2004 |
| 188 | Combustion installation | | Marks Värme AB | Assbergsverket | 14-563-052212-2004 |
| 189 | Combustion installation | X | Mjölby-Svartådalen Energi AB | HVC Industrigatan | 05-563-015681-2004 |
| 190 | Combustion installation | | Mjölby-Svartådalen Energi AB | HVC Sörby | 05-563-015679-2004 |
| 191 | Combustion installation | X | Mjölby-Svartådalen Energi AB | HVC Trojenborg | 05-563-015684-2004 |
| 192 | Combustion installation | X | Mjölby-Svartådalen Energi AB | HVC Östanå | 05-563-015686-2004 |
| 193 | Combustion installation | | Mälarenergi AB | Hallstahammars fjärrvärme | 19-563-13075-04 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 194 | Combustion installation | | Mälarenergi AB | KVV, Block 1 och 2 | 19-563-13072-2004 |
| 195 | Combustion installation | | Mälarenergi AB | HVG | 19-563-13074-04 |
| 196 | Combustion installation | | Mölndal Energi AB | Riskullaverket | 14-563-48443-2004 |
| 197 | Combustion installation | | Mölndal Energi AB | Valåsdalens Panncentral | 14-563-48440-2004 |
| 198 | Combustion installation | | Norrenergi AB | Solna värmeverk | 01-563-054430-2004 |
| 199 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Sannaverket | 17-563-012299-2004 |
| 200 | Combustion installation | | Norrenergi AB | Sundbybergs värmeverk | 01-563-054435-2004 |
| 201 | Combustion installation | | Norrtälje Energi AB | EC Arsta | 01-563-076161-2004 |
| 202 | Combustion installation | | Nässjö Affärsverk AB | Nässjö Kraftvärmeverk | 06-563-014071-2004 |
| 203 | Combustion installation | | OKG AKTIEBOLAG | Oskarshamnsverket | 08-563-009557-2004 |
| 204 | Combustion installation | X | Oskarshamn Energi AB | PC Gråsparven | 08-563-009666-2004 |
| 205 | Combustion installation | | Skara Energi AB | Värmeverket Harven | 14-563-067478-2004 |
| 206 | Combustion installation | | Boliden Bergsöe AB | Boliden Bergsöe AB | 12-563-047765-2004 |
| 207 | Combustion installation | | Umeå Energi Aktiebolag | Norrlands Universitetssjukhus PC | 24-563-014079-2004 |
| 208 | Combustion installation | | RINGHALS AB | Ringhals | 13-563-009825-2004 |
| 209 | Combustion installation | X | Ringsjö Energi AB | Hetvattencenral Kv. Betan | 12-563-47082-2004 |
| 210 | Combustion installation | X | Ringsjö Energi AB | Hetvattencentral Kv. Laxen | 12-563-47083-2004 |
| 211 | Combustion installation | X | Ringsjö Energi AB | Hetvattencentral Kv. Närke | 12-563-47081-2004 |
| 212 | Combustion installation | | Ronneby miljö & teknik AB | Sörbyverket | 10-563-006195-2004 |
| 213 | Combustion installation | | AB PiteEnergi | HVC Backenverket | 25-563-08819-2004 |
| 214 | Combustion installation | | Falu Energi & Vatten AB | Västermalmsverket | 20-563-011956-2004 |
| 215 | Combustion installation | | Sandviken Energi AB | Kraftvärmeverket Björksätra | 21-563-13370-2004 |
| 216 | Combustion installation | | Skellefteå Kraft AB | Hedensbyn | 24-563-009466-2004 |
| 217 | Combustion installation | | Danisco Sugar AB | Jordberga sockerbruk | 12-563-42110-2004 |
| 218 | Combustion installation | | Skövde Kommun | P-C Lönnen | 14-563-047993-2004 |
| 219 | Combustion installation | | Skövde Kommun | Värmecentralen P4 | 14-563-047989-2004 |
| 220 | Combustion installation | | Västfastigheter Västra Götalandsregionen | Värmeverket KSS-Ryd | 14-563-049828-2004 |
| 221 | Combustion installation | | Smedjebacken Energi AB | Smedjebacken HVC | 20-563-012423-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 222 | Combustion installation | | Vattenfall AB | Ångcentralen Långasjönäs - Kisa | 05-563-016910-2004 |
| 223 | Combustion installation | | Locum AB | Reservkraft Huddinge sjukhus. Hus D | 01-563-063845-2004 |
| 224 | Combustion installation | | Strängnäs Energi AB | HVC P10 | 04-563-009843-2004 |
| 225 | Combustion installation | X | Strängnäs Energi AB | Brandstation | 04-563-009845-2004 |
| 226 | Combustion installation | X | Strängnäs Energi AB | Thomasgymnasiet | 04-563-9848-2004 |
| 227 | Combustion installation | X | Sundsvall Energi AB | Alnöverket | 22-563-013284-2004 |
| 228 | Combustion installation | X | Sundsvall Energi AB | Bergsåkersverket | 22-563-011299-2004 |
| 229 | Combustion installation | X | Sundsvall Energi AB | Bredsandsverket | 22-563-013293-2004 |
| 230 | Combustion installation | X | Sundsvall Energi AB | Finstaverket | 22-563-013285-2004 |
| 231 | Combustion installation | | Sundsvall Energi AB | Granloholmsverket | 22-563-013596-2004 |
| 232 | Combustion installation | | Sundsvall Energi AB | Korstaverket | 22-563-013283-2004 |
| 233 | Combustion installation | | Sundsvall Energi AB | Nackstaverket | 22-563-013287-2004 |
| 234 | Combustion installation | | SVENLJUNGA ENERGI AB | Svenljunga Värmeverk | 14-563-054104-2004 |
| 235 | Combustion installation | | Svenska Kraftnät Gasturbiner AB | Hallstavik Kraftverk | 01-563-063119-2004 |
| 236 | Combustion installation | | Svenska Kraftnät Gasturbiner AB | Kimstad Kraftverk | 05-563-014632-2004 |
| 237 | Combustion installation | | Svenska Kraftnät Gasturbiner AB | Lahall kraftverk | 13-563-009087-2004 |
| 238 | Combustion installation | | Svenska Kraftnät Gasturbiner AB | Stallbacka Kraftverk | 14-563-050697-2004 |
| 239 | Combustion installation | | Sydkraft Gasturbiner AB | Barsebäcksverket | 12-563-037468-2004 |
| 240 | Combustion installation | | Sydkraft Gasturbiner AB | Halmstadsverket | 13-563-010606-2004 |
| 241 | Combustion installation | | Sydkraft Gasturbiner AB | Karlshamnsverket | 10-563-005762-04 |
| 242 | Combustion installation | | Sydkraft Gasturbiner AB | Öresundsverket | 12-563-37466-2004 |
| 243 | Combustion installation | | Sydkraft Mälarvärme AB | GFC Gasverkets fjärrcentral | 18-563-011386-2004 |
| 244 | Combustion installation | X | Sydkraft Mälarvärme AB | Hallsbergs Hetvattencentral | 18-563-011380-2004 |
| 245 | Combustion installation | | Sydkraft Mälarvärme AB | Kumla hetvattencentral | 18-563-011384-2004 |
| 246 | Combustion installation | | Sydkraft Mälarvärme AB | Nora panncentral | 18-563-011377-2004 |
| 247 | Combustion installation | | Sydkraft Mälarvärme AB | Nyby Panncentral | 03-563-012645-2004 |
| 248 | Combustion installation | | Sydkraft Mälarvärme AB | Utmeland hetvattencentral | 20-563-013512-2004 |
| 249 | Combustion installation | | Sydkraft Mälarvärme AB | Vattumyren panncentral | 20-563-013513-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 250 | Combustion installation | | Sydkraft Mälarvärme AB | Åby-verket | 18-563-011385-2004 |
| 251 | Combustion installation | X | Sydkraft Värme Syd AB | Borgås kraftvärmeverk | 13-563-010577-2004 |
| 252 | Combustion installation | | Sydkraft Värme Syd AB | Fjärrvärmeverket Älmhult | 07-563-007091-2004 |
| 253 | Combustion installation | X | Österåker Värme AB | Hacksta Värmeverk | 01-563-071230-2004 |
| 254 | Combustion installation | X | Sydkraft Värme Syd AB | Gjutarens panncentral | 14-563-056191-2004 |
| 255 | Combustion installation | | Sydkraft Värme Syd AB | Hammargårds värmeverk | 13-563-010578-2004 |
| 256 | Combustion installation | | Sydkraft Värme Syd AB | Heleneholmsverket (HVK) m. Heleneholms fjärrvärmec | 12-563-40399-2004 |
| 257 | Combustion installation | X | Sydkraft Värme Syd AB | Jägersro fjärrvärmecentral (JFC) | 12-563-40422-2004 |
| 258 | Combustion installation | | Sydkraft Värme Syd AB | Limhamns fjärrvärmecentral (LFC) | 12-563-40423-2004 |
| 259 | Combustion installation | X | Sydkraft Värme Syd AB | Mölnlycke fjärrvärmecentral | 14-563-056190-2004 |
| 260 | Combustion installation | X | Sydkraft Värme Syd AB | Noltorps värmecentral | 14-563-056195-2004 |
| 261 | Combustion installation | | Sydkraft Värme Syd AB | Sävelundsverket | 14-563-056194-2004 |
| 262 | Combustion installation | | Sydkraft Värme Syd AB | Utklippans fjärrvärmecentral (UFC) | 12-563-40420-2004 |
| 263 | Combustion installation | X | Eksjö Energi AB | Återvinningscentralen | 06-563-014703-2004 |
| 264 | Combustion installation | | Sydkraft Värme Vilhelmina AB | Panncentralen Sågen | 24-563-013390-2004 |
| 265 | Combustion installation | | Vattenfall AB | Roma Kraftverk | 09-563-6135-04 |
| 266 | Combustion installation | | Sydkraft ÖstVärme AB | Händelöverket | 05-563-019034-2004 |
| 267 | Combustion installation | | Sydkraft ÖstVärme AB | NE-stationen | 05-563-19062-2004 |
| 268 | Combustion installation | | Sydkraft ÖstVärme AB | Skeppsdockan | 05-563-019063-2004 |
| 269 | Combustion installation | | Säffle Fjärrvärme AB | Panncentralen Säffle Fjärrvärme | 17-563-011843-2004 |
| 270 | Combustion installation | | Säffle Fjärrvärme AB | Panncentralen Säffle Sjukhus | 17-563-011851-2004 |
| 271 | Combustion installation | | Söderenergi AB | Fittjaverket | 01-563-081618-2004 |
| 272 | Combustion installation | | Söderenergi AB | Geneta panncentral | 01-563-081624-2004 |
| 273 | Combustion installation | | Söderenergi AB | Huddninge maskincentral | 01-563-081621-2004 |
| 274 | Combustion installation | | Söderenergi AB | Igelstaverket | 01-563-081609-2004 |
| 275 | Combustion installation | | Söderhamn Energi AB | HVC Granskär | 21-563-13487-2004 |
| 276 | Combustion installation | | Södertörns Fjärrvärme AB | Skogås Värmeverk | 01-563-081401-2004 |
| 277 | Combustion installation | | Sörred Energi AB | Sörred Energi AB | 14-563-062615-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 278 | Combustion installation | | Tekniska Verken i Kiruna AB | Kiruna Kraftvärmeverk | 25-563-17067-04 |
| 279 | Combustion installation | | Tekniska Verken I Linköping AB | Gärstadverket | 05-563-17194-04 |
| 280 | Combustion installation | | Tekniska Verken I Linköping AB | Kraftvärmeverket | 05-563-018561-2004 |
| 281 | Combustion installation | | Tekniska Verken I Linköping AB | Lambohov HVC (HVC 60) | 05-563-017196-2004 |
| 282 | Combustion installation | | Tekniska Verken I Linköping AB | Tannefors HVC (HVC 30) | 05-563-17188-04 |
| 283 | Combustion installation | | Tekniska Verken I Linköping AB | Tornbyverket | 05-563-017197-2004 |
| 284 | Combustion installation | | Tekniska Verken I Linköping AB | Ullstämma HVC (HVC 70) | 05-563-17190-04 |
| 285 | Combustion installation | | Tekniska Verken I Linköping AB | Universitetssjukhuset HVC (HVC 90 US) | 05-563-17084-04 |
| 286 | Combustion installation | | Tranås Energi AB | Södra Vakten | 06-563-015272-2004 |
| 287 | Combustion installation | | Tranås Energi AB | Tallbacken | 06-563-015273-2004 |
| 288 | Combustion installation | | Trollhättan Energi AB | Krongårdens värmeverk | 14-563-052663-2004 |
| 289 | Combustion installation | | Trollhättan Energi AB | Lextorps värmeverk | 14-563-052662-2004 |
| 290 | Combustion installation | | Trollhättan Energi AB | Stallbacka värmeverk | 14-563-052661-2004 |
| 291 | Combustion installation | | Uddevalla Energi AB | Brattåsverket | 14-563-058839-2004 |
| 292 | Combustion installation | | Uddevalla Energi AB | Hovhultsverket | 14-563-067434-2004 |
| 293 | Combustion installation | | Umeå Energi Aktiebolag | Backencentralen | 24-563-013684-2004 |
| 294 | Combustion installation | | Celsius Fastighets AB | Celsius Fastigheter AB | 12-563-48925-2004 |
| 295 | Combustion installation | | Umeå Energi Aktiebolag | Panncentral kv Ryttaren | 24-563-013686-2004 |
| 296 | Combustion installation | | Umeå Energi Aktiebolag | Ålidhemsanläggningen | 24-563-013912-2004 |
| 297 | Combustion installation | | Vattenfall AB | Knivstaverket | 03-563-011532-2004 |
| 298 | Combustion installation | | Vattenfall AB | Arendals Kraftverk | 14-563-053876-2004 |
| 299 | Combustion installation | | Vattenfall AB | Marvikens Kraftverk | 05-563-017003-2004 |
| 300 | Combustion installation | | Vattenfall AB | Slite Kraftverk | 09-563-6138-04 |
| 301 | Combustion installation | | Vattenfall AB | Hultungs Kraftverk | 09-563-6133-04 |
| 302 | Combustion installation | | Vattenfall AB | Stenungsunds Kraftverk | 14-563-053875-2004 |
| 303 | Combustion installation | | Vattenfall AB | Visby Kraftvärmestation | 09-563-6137-04 |
| 304 | Combustion installation | | Vattenfall AB | Bergsättersverket - Motala | 05-563-016904-2004 |
| 305 | Combustion installation | | Vattenfall AB | Fisksätra Panncentral | 01-563-064820-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 306 | Combustion installation | X | Vattenfall AB | Boxholm - gamla ångcentralen | 05-563-016905-2004 |
| 307 | Combustion installation | | Vattenfall AB | Hemse Kraftverk | 09-563-6136-04 |
| 308 | Combustion installation | | Vattenfall AB | Hultsfreds värmeverk | 08-563-010075-2004 |
| 309 | Combustion installation | X | Vattenfall AB | Panncentralen Väster - Motala | 05-563-016908-2004 |
| 310 | Combustion installation | | Vattenfall AB | Boländerna | 03-563-012236-2004 |
| 311 | Combustion installation | | Vattenfall AB | Husbyborgverket | 03-563-012268-2004 |
| 312 | Combustion installation | | Vattenfall AB | Vänersborg, Vassbotten | 14-563-052345-2004 |
| 313 | Combustion installation | | Vattenfall AB | Vetlanda Ångcentral | 06-563-015274-2004 |
| 314 | Combustion installation | | Vattenfall AB | Baggeboverket i Tibro | 14-563-052348-2004 |
| 315 | Combustion installation | | Vattenfall AB | Tidaholms värmecentral | 14-563-052347-2004 |
| 316 | Combustion installation | | Vattenfall AB | Västerbyverket i Götene | 14-563-052341-2004 |
| 317 | Combustion installation | | Vattenfall AB | Årjängs fjärrvärme | 17-563-011611-2004 |
| 318 | Combustion installation | | Vattenfall AB | Vänersborg, Önafors | 14-563-052343-2004 |
| 319 | Combustion installation | | Vattenfall AB | Jordbro värmeverk | 01-563-072561-2004 |
| 320 | Combustion installation | | Vattenfall AB | Bollmora värmeverk | 01-563-072558-2004 |
| 321 | Combustion installation | | Vattenfall AB Kalix Fjärrvärme | Vattenfall Kalix Fjärrvärme AB | 25-563-18640-04 |
| 322 | Combustion installation | | Vattenfall AB | PC Brandkärr | 04-563-010521-2004 |
| 323 | Combustion installation | | Vattenfall AB | Idbäcksverket | 04-563-010523-2004 |
| 324 | Combustion installation | | Vimmerby Energi AB | Södra Näs | 08-563-009613-2004 |
| 325 | Combustion installation | | Locum AB | Reservkraft Karolinska Sjukhusområdet | 01-563-064939-2004 |
| 326 | Combustion installation | | Värnamo Energi AB | Pc Sjukhuset | 06-563-015418-2004 |
| 327 | Combustion installation | | Västerbergslagens Värme AB | FVC1 Craboverket | 19-563-11291-04 |
| 328 | Combustion installation | | Västerbergslagens Värme AB | LVC2 Lasarettets panncentral Ludvika | 20-563-012941-2004 |
| 329 | Combustion installation | | Västerbergslagens Värme AB | LVC4 Lyviksverket | 20-563-012942-2004 |
| 330 | Combustion installation | X | Västerbergslagens Värme AB | FVC3 Gröndal | 19-563-11294-04 |
| 331 | Combustion installation | X | Västerbergslagens Värme AB | LVC5 Folkets hus Ludvika | 20-563-012943-2004 |
| 332 | Combustion installation | | Västerviks Värmeverk AB | Karstorpsverket | 08-563-009440-2004 |
| 333 | Combustion installation | | Västerviks Värmeverk AB | Stegeholmsverket | 08-563-009439-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 334 | Combustion installation | | Växjö Energi AB | Sandviksverket | 07-563-006628-2004 |
| 335 | Combustion installation | | Växjö Energi AB | RPC Teleborg | 07-563-006627-2004 |
| 336 | Combustion installation | | Växjö Energi AB | Täljstenen | 07-563-006626-2004 |
| 337 | Combustion installation | | Ystad Energi AB | Anoden | 12-563-45314-2004 |
| 338 | Combustion installation | X | Åtvidabergs Fjärrvärme AB | ÅFA-Faccetten | 05-563-015377-2004 |
| 339 | Combustion installation | | Ängelholms Energi AB | KVV-Åkerslund | 12-563-43391-2004 |
| 340 | Combustion installation | | Ängelholms Energi AB | PC Södra industriområdet | 12-563-43389-2004 |
| 341 | Combustion installation | | Vattenfall AB | Bäcks Kraftverk | 09-563-6134-04 |
| 342 | Combustion installation | | Öresundskraft Produktion AB | Fjärrvärmecentral Israel | 12-563-46583-2004 |
| 343 | Combustion installation | | Spendrups Bryggeriaktiebolag | Spendrups Bryggeri AB Vårbyenheten | 01-563-078539-2004 |
| 344 | Combustion installation | | Österlens Kraft AB | Värmeverket | 12-563-46097-2004 |
| 345 | Combustion installation | | Övik Energi AB | Sjukhuset | 22-563-013766-2004 |
| 346 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Gasverket | 01-563-070747-2004 |
| 347 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Notnäs | 17-563-012296-2004 |
| 348 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Ångcentralen Nordic Paper | 17-563-001529-2005 |
| 349 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Örebro Kartongbruk, P4 | 18-536-11992-2004 |
| 350 | Combustion installation | | Akzo Nobel Surface Chemistry AB | Site Stenungsund | 14-563-047103-2004 |
| 351 | Combustion installation | | Akzo Nobel Surface Chemistry AB | Ångcentralen | 22-563-012007-2004 |
| 352 | Combustion installation | | Arizona Chemical AB | Arizona Chemical AB | 21-563-11853-2004 |
| 353 | Combustion installation | | Arla Foods AB | Arla Foods Vimmerby | 08-563-010985-2004 |
| 354 | Combustion installation | | Astra Zeneca AB | Snäckvikenanläggningen | 01-563-073129-2004 |
| 355 | Combustion installation | | Berendsen Textile Service AB | Berendsen Textil Service AB | 04-563-007681-2004 |
| 356 | Combustion installation | | Boliden Mineral AB | Rönnskärsverken | 24-563-009507-2004 |
| 357 | Combustion installation | | Borealis AB | Krackeranläggningen | 14-563-057291-2004 |
| 358 | Combustion installation | | Borealis AB | Polyetenanläggningen | 14-563-057290-2004 |
| 359 | Combustion installation | | Borås Wäfveri Beredning AB | Ryda Beredningsverk | 14-563-058635-2004 |
| 360 | Combustion installation | | Fastighets AB G-mästaren | Carlsberg Sverige AB Bromma | 01-563-054474-2004 |
| 361 | Combustion installation | | Casco Adhesives AB | Casco Adhesives Ångcentral | 17-563-011597-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 362 | Combustion installation | | Danisco Sugar AB | Arlövs sockerbruk | 12-563-39919-2004 |
| 363 | Mineral industry | | CC Höganäs Byggkeramik AB | CC Höganäs Byggkeramik AB | 12-563-46404-2004 |
| 364 | Combustion installation | | Danisco Sugar AB | Köpingebro sockerbruk | 12-563-39920-2004 |
| 365 | Combustion installation | | Danisco Sugar AB | Örtofta sockerbruk | 12-563-39916-2004 |
| 366 | Combustion installation | | Sydkraft ÖstVärme AB | Navestad | 05-563-019060-2004 |
| 367 | Combustion installation | | Vattenfall AB | Findus Sverige AB | 12-563-41808-2004 |
| 368 | Combustion installation | | Gelita Sweden AB | Gelita Sweden AB | 12-563-40050-2004 |
| 369 | Combustion installation | | Hydro Polymers AB | Hydro Polymers AB | 14-563-054710-2004 |
| 370 | Combustion installation | | Jönköping Energi AB | Kraftvärmverket Munksjö, KVVM | 06-563-015378-2004 |
| 371 | Combustion installation | X | Karlshamn Energi AB | PC IFÖ | 10-563-005989-2004 |
| 372 | Combustion installation | | Karskär Energi AB | Karskär Energi AB | 21-563-11855-2004 |
| 373 | Combustion installation | | Karlshamns AB | Karlshamns AB / Ångcentral | 10-563-006485-04 |
| 374 | Combustion installation | | Kemira Kemi AB | Kemira Kemi AB | 12-563-41543-2004 |
| 375 | Combustion installation | | Masonite AB | Masonite AB | 24-563-013310-2004 |
| 376 | Combustion installation | | Stenungsunds Energi och Miljö AB | Stenungsunds Energi och Miljö AB | 14-563-067034-2004 |
| 377 | Combustion installation | | Norrmejerier Ek för | Umeå mejeri | 24-563-009642-2004 |
| 378 | Combustion installation | | Arvika Fjärrvärme AB | Panncentralen Arvika Gjuteri | 17-563-011850-2004 |
| 379 | Combustion installation | | Perstorp Support AB | Perstorp Specialty Chemicals - Perstorp | 12-563-38888-2004 |
| 380 | Combustion installation | | Procordia Food AB | Eslövsfabriken | 12-563-43972-2004 |
| 381 | Combustion installation | | Saab Automobile AB | Saab Automobile AB | 14-563-062116-2004 |
| 382 | Combustion installation | | Sala-Heby Energi AB | Sala-Heby Energi AB, Värmeverket i Sala | 19-563-11229-04 |
| 383 | Combustion installation | X | SCA Timber AB | Bollsta Sågverk | 22-563-012192-2004 |
| 384 | Combustion installation | | SCANIA CV AB | Scania Oskarshamn | 08-563-009611-2004 |
| 385 | Combustion installation | | SCANIA CV AB | Scania, Södertälje | 01-563-063204-2004 |
| 386 | Combustion installation | | SSAB Tunnplåt AB | SSAB Tunnplåt i Borlänge | 20-563-014050-2004 |
| 387 | Combustion installation | | Sydkraft Mälarvärme AB | Hasselfors Panncentral | 18-563-013068-2004 |
| 388 | Combustion installation | | Sydkraft Mälarvärme AB | Panncentral Siljans Sågverk | 20-563-013511-2004 |
| 389 | Combustion installation | | Trelleborg Industri AB | Ångcentralen A-omr. | 12-563-40245-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 390 | Combustion installation | X | Sala-Heby Energi AB | Sala-Heby Energi AB, Sjukhuset i Sala | 19-563-11224-04 |
| 391 | Pulp and paper industry | | KLIPPAN MÖLNDAL AB | Klippan Mölndal | 14-563-056402-2004 |
| 392 | Combustion installation | | Vattenfall AB | Panncentral Lövholmens såg | 25-563-14600-2004 |
| 393 | Combustion installation | | Vattenfall AB | Moelven Valåsen | 18-563-010666-2004 |
| 394 | Combustion installation | | Setra Sågade Trävaror AB | Skinnskatteberg Sågverk | 19-563-013139-2004 |
| 395 | Combustion installation | X | Vattenfall AB | Panncentralen Electrolux - Motala | 05-563-016906-2004 |
| 396 | Combustion installation | | Vattenfall AB | Ångcentralen Boxholms såg | 05-563-016909-2004 |
| 397 | Combustion installation | | Vin & Sprit AB | Bränneriet | 12-563-31794-2004 |
| 398 | Combustion installation | | Volvo Aero AB | Volvo Aero Corporation | 14-563-060160-2004 |
| 399 | Combustion installation | | Volvo Construction Equipment Components AB | Volvo Constr Equipment Components AB | 04-563-011681-2004 |
| 400 | Combustion installation | | Umeå Energi Aktiebolag | Volvo Lastvagnar AB, Umeå | 24-563-013400-2004 |
| 401 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | PC Stenstaliden | 17-563-012300-2004 |
| 402 | Combustion installation | | Volvo Powertrain Corporation | Volvo Powertrain AB | 14-563-063719-2004 |
| 403 | Combustion installation | | Övik Energi AB | Treetex | 22-563-013763-2004 |
| 404 | Mineral industry | | Cementa AB | Degerhamnsfabriken/Cementa AB | 08-563-010405-2004 |
| 405 | Mineral industry | | Cementa AB | Skövdefabriken/Cementa AB | 14-563-056947-2004 |
| 406 | Mineral industry | | Cementa AB | Slitefabriken/Cementa AB | 09-563-5614-04 |
| 407 | Mineral industry | | Höganäs Bjuf AB | Höganäs Bjuf AB | 12-563-41801-2004 |
| 408 | Mineral industry | | Kalkproduktion Storugns AB | Kalkproduktion Storugns AB | 09-563-4721-04 |
| 409 | Mineral industry | | Lafarge Tekkin AB | Vittinge Tegelbruk | 19-563-11723-04 |
| 410 | Mineral industry | | Nordkalk AB | Nordkalk AB Köping | 19-563-11190-04 |
| 411 | Mineral industry | | Nordkalk AB | Nordkalk AB Luleå | 25-563-16776-04 |
| 412 | Mineral industry | | Pilkington Floatglas Aktiebolag | Pilkington Halmstad | 13-563-010737-2004 |
| 413 | Mineral industry | | Rexam Glass Limmared AB | Rexam Glass Limmared AB | 14-563-050996-2004 |
| 414 | Mineral industry | | Saint-Gobain Isover AB | Saint-Gobain Isover AB | 12-563-31805-2004 |
| 415 | Combustion installation | | Skandinavisk Termoekonomi AB | Panncentralen City | 01-563-054472-2004 |
| 416 | Mineral industry | | SMA Oxelö kalkverk AB | Oxelö Kalkverk | 04-563-010788-2004 |
| 417 | Mineral industry | | SMA Svenska Mineral AB | Boda Kalkverk | 20-563-014012-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 418 | Mineral industry | | SMA Svenska Mineral AB | Rättviks Kalkverk | 20-563-014011-2004 |
| 419 | Mineral industry | | SMA Svenska Mineral AB | Sandarne Kalkverk | 21-563-13061-2004 |
| 420 | Mineral industry | | AB Svensk Leca | AB Svensk Leca, Lättklinkerfabriken | 05-563-018714-2004 |
| 421 | Mineral industry | | Wienerberger AB | Haga Tegelbruk | 03-563-012996-2004 |
| 422 | Mineral oil refinery | | Nynas Refining AB | Nynäshamns Raffinaderiet | 01-563-066582-2004 |
| 423 | Mineral oil refinery | | Nynas Refining AB | Göteborgs Raffinaderiet | 14-563-053874-2004 |
| 424 | Mineral oil refinery | | Preem Raffinaderi AB | Preem Raffinaderi AB, raffinaderiet | 14-563-052091-2004 |
| 425 | Mineral oil refinery | | Shell Raffinaderi AB | Shell Raffinaderi AB | 14-563-052342-2004 |
| 426 | Mineral oil refinery | | Skandinaviska Raffinaderi AB, Scanraff | Scanraff | 14-563-055527-2004 |
| 427 | Combustion installation | | AB Fortum Värme samägt med Stockholms stad | Örebro Kartongbruk, P6 | 18-563-011991-2004 |
| 428 | Pulp and paper industry | | ABB Power Technologies AB, Figeholm | ABB Power Technologies AB | 08-563-011417-2004 |
| 429 | Combustion installation | | Arctic Paper Håfreströms AB | Arctic Paper Håfreströms AB | 14-563-052053-2004 |
| 430 | Pulp and paper industry | | Arctic Paper Munkedals AB | Arctic Paper Munkedals AB | 14-563-004149-2005 |
| 431 | Pulp and paper industry | | AssiDomän Cartonboard AB | AssiDomän Frövi | 18-563-012234-2004 |
| 432 | Pulp and paper industry | | Billerud AB | Gruvöns bruk | 17-563-010253-2004 |
| 433 | Pulp and paper industry | | Billerud Karlsborg AB | Karlsborgs bruk | 25-563-15855-2004 |
| 434 | Pulp and paper industry | | Billerud skärblacka AB | Billerud Skärblacka AB | 05-563-17905-04 |
| 435 | Pulp and paper industry | | Bäckhammars Bruk AB | Bäckhammars Bruk AB | 17-563-012164-2004 |
| 436 | Production and processing of ferrous metals | | AB Sandvik Materials Technology | AB Sandvik Materials Technology | 21-563-12803-2004 |
| 437 | Pulp and paper industry | | Crane AB | Crane AB | 01-563-079835-2004 |
| 438 | Pulp and paper industry | | Domsjö Fabriker AB | Domsjö Fabriker AB | 22-563-013247-2004 |
| 439 | Pulp and paper industry | | RexCell | Långedsverken | 14-563-068865-2004 |
| 440 | Pulp and paper industry | | RexCell | Skåpaforsverken | 14-563-068866-2004 |
| 441 | Pulp and paper industry | | Fiskeby Board AB | Fiskeby Bruk | 05-563-015373-2004 |
| 442 | Pulp and paper industry | | Mondi Packaging Dynäs AB | Frantschach Pulp & Paper Sweden AB | 22-563-009341-2004 |
| 443 | Pulp and paper industry | | Holmen Paper AB | Bravikens Pappersbruk | 05-563-017962-2004 |
| 444 | Pulp and paper industry | | Holmen Paper AB | Hallsta Pappersbruk | 01-563-074504-2004 |
| 445 | Pulp and paper industry | | Holmen Paper AB | Holmen Paper, Wargöns Bruk | 14-563-059243-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 446 | Pulp and paper industry | | Iggesund Paperboard AB | Iggesunds Bruk | 21-563-12422-2004 |
| 447 | Pulp and paper industry | | Kappa Kraftliner AB | Kappa Kraftliner Piteå | 25-563-15784-2004 |
| 448 | Pulp and paper industry | | KLIPPAN AB | Klippans Bruk | 12-563-40900-2004 |
| 449 | Pulp and paper industry | | KLIPPAN AB | Lessebo Bruk | 07-563-007481-2004 |
| 450 | Pulp and paper industry | | Knauf Danogips GmbH | Knauf Danogips GmbH Inlands Kartongbruk | 14-563-050033-2004 |
| 451 | Pulp and paper industry | | Korsnäs AB | Korsnäsverken | 21-563-12180-2004 |
| 452 | Pulp and paper industry | | METSÄ TISSUE AB | Katrinefors bruk | 14-563-052394-2004 |
| 453 | Pulp and paper industry | | METSÄ TISSUE AB | Nyboholms bruk | 06-563-012661-2004 |
| 454 | Pulp and paper industry | | METSÄ TISSUE AB | Pauliströms bruk | 06-563-012662-2004 |
| 455 | Pulp and paper industry | | M-real Sverige AB | M-real Sverige AB, Husums fabrik | 22-563-011302-2004 |
| 456 | Pulp and paper industry | | NORDIC PAPER SEFFLE AB | Nordic Paper Seffle AB | 17-563-010629-2004 |
| 457 | Pulp and paper industry | | Rottneros Rockhammar AB | Rockhammars Bruk | 18-563-011979-2004 |
| 458 | Pulp and paper industry | | Rottneros Rockhammar AB | Rottneros Bruk | 17-563-011712-2004 |
| 459 | Pulp and paper industry | | SCA Graphic Sundsvall AB Ortviken | Ortvikens pappersbruk | 22-563-012769-2004 |
| 460 | Pulp and paper industry | | SCA Graphic Sundsvall AB | Östrands massafabrik | 22-563-012707-2004 |
| 461 | Pulp and paper industry | | SCA Hygiene Products AB | SCA Hygiene Products AB | 14-563-057425-2004 |
| 462 | Pulp and paper industry | | SCA Packaging Munksund AB | SCA Packaging Munksund AB | 25-563-16416-2004 |
| 463 | Pulp and paper industry | | SCA Packaging Obbola AB | SCA Packaging Obbola AB | 24-563-013133-2004 |
| 464 | Pulp and paper industry | | Munksjö Aspa Bruk AB | Munksjö Aspa Bruk AB | 18-563-010730-2004 |
| 465 | Pulp and paper industry | | SMURFIT MUNKSJÖ HYGIEN AB | Smurfit Munksjö Hygien AB | 06-563-012434-2004 |
| 466 | Pulp and paper industry | | SMURFIT MUNKSJÖ LAGAMILL AB | Smurfit Munksjö Lagamill AB | 07-563-007720-2004 |
| 467 | Pulp and paper industry | | Smurfit Munksjö Papper AB | Smurfit Munksjö Paper AB, Billingsfors | 14-563-052659-2004 |
| 468 | Pulp and paper industry | | StoraEnso Grycksbo AB | Grycksbo Bruk | 20-563-012865-2004 |
| 469 | Pulp and paper industry | | StoraEnso Fors AB | Stora Enso Fors AB | 20-563-013609-04 |
| 470 | Pulp and paper industry | | Stora Enso Hylte AB | Stora Enso Hylte AB | 13-563-011900-2004 |
| 471 | Pulp and paper industry | | StoraEnso Kvarnsveden AB | STORA ENSO Kvarnsveden AB | 20-563-014920-2004 |
| 472 | Pulp and paper industry | | Stora Enso Nymölla Aktiebolag | Nymölla Bruk | 12-563-39624-04 |
| 473 | Pulp and paper industry | | Stora Enso Pulp AB | Norrsundets Bruk | 21-563-11983-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 474 | Pulp and paper industry | | Stora Enso Pulp AB | Skutskärs Bruk | 03-563-012671-2004 |
| 475 | Pulp and paper industry | | Stora Enso Skoghall AB | Skoghalls Bruk | 17-563-010645-2004 |
| 476 | Pulp and paper industry | | Svanskog Bruk AB | Svanskog Bruk AB | 17-563-009592-2004 |
| 477 | Pulp and paper industry | | SWEDISH TISSUE AB | Swedish Tissue AB | 05-563-018517-2004 |
| 478 | Pulp and paper industry | | Södra Cell AB | Södra Cell Mönsterås | 08-563-010272-2004 |
| 479 | Pulp and paper industry | | Södra Cell AB | Södra Cell Mörrum | 10-563-006110-2004 |
| 480 | Pulp and paper industry | | Södra Cell AB | Södra Cell Värö | 13-563-9967-04 |
| 481 | Pulp and paper industry | | Utansjö Bruk AB | Utansjö Bruk | 22-563-012281-2004 |
| 482 | Pulp and paper industry | | Waggeryd Cell AB | Waggeryd Cell AB | 06-563-012517-2004 |
| 483 | Pulp and paper industry | | Vallviks Bruk AB | Vallviks Bruk | 21-563-12503-2004 |
| 484 | Pulp and paper industry | | Åmotfors Bruk AB | Åmotfors Bruk AB | 17-563-012162-2004 |
| 485 | Production and processing of ferrous metals | | KANTHAL AKTIEBOLAG | Kanthal AB | 19-563-11220-04 |
| 486 | Production and processing of ferrous metals | | Erasteel Kloster AB | Erasteel Kloster AB | 03-563-013707-2004 |
| 487 | Production and processing of ferrous metals | | Ovako Bar AB | Ovako Bar AB | 20-563-015326-2004 |
| 488 | Production and processing of ferrous metals | | Höganäs AB | Höganäs Halmstadverken | 13-563-010858-2004 |
| 489 | Production and processing of ferrous metals | | Höganäs AB | Höganäs AB | 12-563-43428-2004 |
| 490 | Production and processing of ferrous metals | | Outokumpu Stainless AB | Avesta Jernverk | 20-563-015387-2004 |
| 491 | Production and processing of ferrous metals | | Outokumpu Stainless AB | Outokumpu Stainless AB, Degerfors | 18-563-013320-2004 |
| 492 | Production and processing of ferrous metals | | Ovako Steel AB | Ovako Steel AB, Hofors | 21-563-13214-2004 |
| 493 | Production and processing of ferrous metals | | Scana Steel Björneborg AB | Scana Steel Björneborg AB | 17-563-011951-2004 |
| 494 | Production and processing of ferrous metals | | SSAB Oxelösund AB | SSAB Oxelösund AB-Ämnestillverkning | 04-563-011683-2004 |
| 495 | Production and processing of ferrous metals | | SSAB Tunnplåt AB | SSAB Tunnplåt AB, Metallurgi | 25-563-17244-04 |
| 496 | Production and processing of ferrous metals | | Uddeholm Tooling AB | Hagfors Jernverk | 17-563-013210-2004 |
| 497 | Production and processing of ferrous metals/ Roasting or sintering | | LKAB | LKAB Kiruna | 25-563-16920-04 |
| 498 | Production and processing of ferrous metals/ Roasting or sintering | | LKAB | LKAB Malmberget | 25-563-16924-04 |
| 499 | Production and processing of ferrous metals/ Roasting or sintering | | LKAB | LKAB Svappavaara | 25-563-16922-04 |
| 500 | Combustion installation | | Partille Energi AB | Björndammens PC | 14-563-059256-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 501 | Pulp and paper industry | | Cascades Djupafors AB | Cascades Djupafors AB | 10-563-005879-2004 |
| 502 | Combustion installation | | Volvo Personvagnar AB | Volvo Personvagnar AB Karosskomponenter | 10-563-006146-2004 |
| 503 | Combustion installation | | PERSTORP OXO AB | Perstorp Oxo AB | 14-563-059946-2004 |
| 504 | Combustion installation | | Flen Kraft & Värme AB | Talja Panncentral | 04-563-012107-2004 |
| 505 | Combustion installation | | Emmaboda Energi och Miljö AB | Lindås | 08-563-011580-2004 |
| 506 | Combustion installation | | Umeå Energi Aktiebolag | Hetvattencentral, Holmsunds såg | 24-563-013691-2004 |
| 507 | Combustion installation | | Bromölla Fjärrvärme AB | Bromölla Fjärrvärme AB | 12-563-45340-2004 |
| 508 | Combustion installation | | Jämtkraft AB | Lugnviksverket P1 och P2 | 23-563-9476-04 |
| 509 | Combustion installation | | Arvika Fjärrvärme AB | Styckåsen | 17-563-011847-2004 |
| 510 | Combustion installation | | Mälarenergi AB | Panna 5 | 19-563-10789-04 |
| 511 | Combustion installation | | Ystad Energi AB | Äpplet | 12-563-45323-2004 |
| 512 | Combustion installation | | Hässleholm Fjärrvärme AB | Bokeberg | 12-563-43896-2004 |
| 513 | Combustion installation | | Uddevalla Energi AB | Panncentralen I17 | 14-563-058838-2004 |
| 514 | Production and processing of ferrous metals | | Uddeholm Technology AB | Hagfors Jernverk | 17-563-011336-2004 |
| 515 | Combustion installation | | Falu Energi & Vatten AB | HVC Lasarettet | 20-563-011958-2004 |
| 516 | Combustion installation | | Uddevalla Energi AB | Panncentral Söder | 14-563-058837-2004 |
| 517 | Combustion installation | | Falu Energi & Vatten AB | HVC Reserv | 20-563-011960-2004 |
| 518 | Mineral industry | | Orrefors Kosta Boda AB | Orrefors Glasbruk | 08-563-009616-2004 |
| 519 | Combustion installation | | Vattenfall AB | PC Nyköpings Lasarett | 04-563-010522-2004 |
| 520 | Combustion installation | | KARLIT AKTIEBOLAG | Karlit AB | 03-563-012239-2004 |
| 521 | Production and processing of ferrous metals | | Scandust AB | ScanDust AB | 12-563-37090-2004 |
| 522 | Combustion installation | | Värnamo Energi AB | Pc Långa Raden | 06-563-011831-2004 |
| 523 | Combustion installation | | Värnamo Energi AB | Pc Havren | 06-563-015416-2004 |
| 524 | Combustion installation | | Fresenius Kabi AB | Fresenius Kabi, fabrik Brunna | 01-563-053242-2004 |
| 525 | Combustion installation | | Lunds Energikoncernen AB | LHVC | 12-563-47053-2004 |
| 526 | Combustion installation | | Jokkmokks Värmeverk AB | Jokkmokks Värmeverk AB | 25-563-15565-04 |
| 527 | Mineral industry | | KemaNord AB | Kalkugnen | 22-563-011940-2004 |
| 528 | Combustion installation | | Fjärrvärme I Osby AB | Reservcentralen | 12-563-39871-2004 |

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|---|---|---|---|---|---|
| 529 | Combustion installation | | Munkfors Värmeverk AB | Munkfors Värmeverk AB | 17-563-011055-2004 |
| 530 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | A9 Garnisonen | 17-563-012301-2004 |
| 531 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Håstaäng | 21-563-012714-2004 |
| 532 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Högdalen P6 | 01-563-072119-2004 |
| 533 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Karolinska | 01-563-071865-2004 |
| 534 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Källhagsverket | 20-563-013812-2004 |
| 535 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Björkberg | 21-563-12713-2004 |
| 536 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Delsbo | 21-563-12708-2004 |
| 537 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | PC Sjukhuset | 21-563-12712-2004 |
| 538 | Combustion installation | X | AB Fortum Värme samägt med Stockholms stad | Til | 01-563-071810-2004 |
| 539 | Combustion installation | X | Affärsverken Karlskrona AB | PC Grenadjären | 10-563-004982-2004 |
| 540 | Combustion installation | X | Affärsverken Karlskrona AB | PC Lallerstedt | 10-563-004986-2004 |
| 541 | Combustion installation | X | Bollnäs kommun | Reservcentral Höghammar | 21-563-13543-2004 |
| 542 | Combustion installation | X | Bollnäs kommun | Reservcentral Mejeriet | 21-563-13542-2004 |
| 543 | Combustion installation | X | AB Borlänge Energi | AB Borlänge Energi FVC AVR Fagersta By | 20-563-013112-2004 |
| 544 | Combustion installation | X | AB Borlänge Energi | AB Borlänge Energi FVC Dala Emballage | 20-563-013059-2004 |
| 545 | Combustion installation | X | AB Borlänge Energi | AB Borlänge Energi FVC Dala Profil | 20-563-013060-2004 |
| 546 | Combustion installation | X | C4 Energi AB | Pc Hammar | 12-563-43989-2004 |
| 547 | Combustion installation | X | Eksjö Industri AB | Eksjö Industri AB | 06-563-011984-2004 |
| 548 | Combustion installation | X | Energiverken I Halmstad AB | PC Bäckagård | 13-563-009204-2004 |
| 549 | Combustion installation | X | Falu Energi & Vatten AB | HVC Regementet | 20-563-011957-2004 |
| 550 | Combustion installation | X | Finspångs Tekniska Verk AB | Förvaltningshuset | 05-563-018936-2004 |
| 551 | Combustion installation | X | Finspångs Tekniska Verk AB | Norrmalm | 05-563-018935-2004 |
| 552 | Combustion installation | X | Finspångs Tekniska Verk AB | Nyhem | 05-563-018934-2004 |
| 553 | Combustion installation | X | Fortum Värme Nynäshamn AB | Fjärrvärmesystemet Nynäshamn/PC 1 | 01-563-074487-2004 |
| 554 | Combustion installation | X | Fortum Värme Nynäshamn AB | Fjärrvärmesystemet Nynäshamn/PC 2 | 01-563-074489-2004 |
| 555 | Combustion installation | X | Fortum Värme Nynäshamn AB | Fjärrvärmesystemet Nynäshamn/PC3 | 01-563-074492-2004 |
| 556 | Combustion installation | X | Fortum Värme Nynäshamn AB | Fjärrvärmesystemet Nynäshamn/PC 4 | 01-563-074502-2004 |

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|---|---|---|---|---|---|
| 557 | Combustion installation | X | Fortum Värme Nynäshamn AB | Fjärrvärmesystemet Nynäshamn/PC5 | 01-563-074503-2004 |
| 558 | Combustion installation | X | Graninge Kalmar Värme AB | HVC Lindsdal | 08-563-008238-2004 |
| 559 | Combustion installation | X | Graninge Mälarkraft Värme AB | Effektvägen | 01-563-060268-2004 |
| 560 | Combustion installation | X | Gällivare Värmeverk AB | Krickans panncentral | 25-563-18641-04 |
| 561 | Combustion installation | X | Göteborg Energi AB | Backa panncentral | 14-563-067451-2004 |
| 562 | Combustion installation | X | Göteborg Energi AB | Rya gasmotorer | 14-563-067453-2004 |
| 563 | Combustion installation | X | Göteborg Energi AB | Trattens panncentral | 14-563-059276-2004 |
| 564 | Combustion installation | X | Hagfors Bioenergi AB | Hagfors Bioenergi AB | 17-563-012511-2004 |
| 565 | Combustion installation | X | Hedemora Energi AB | HVC Bergbacken | 20-563-015359-2004 |
| 566 | Combustion installation | X | Hedemora Energi AB | HVC Björnen | 20-563-015358-2004 |
| 567 | Combustion installation | X | Hedemora Energi AB | HVC Haggården | 20-563-015355-2004 |
| 568 | Combustion installation | X | Hedemora Energi AB | HVC Säters Sjukhus | 20-563-015360-2004 |
| 569 | Combustion installation | X | Hedemora Energi AB | HVC Åsen | 20-563-015366-2004 |
| 570 | Combustion installation | X | Hällefors Värme AB | Hällefors Värme AB P1 | 18-563-12432-2004 |
| 571 | Combustion installation | X | Hällefors Värme AB | Hällefors värme P6 | 18-563-012550-2004 |
| 572 | Combustion installation | X | Hällefors Värme AB | Hällefors Värme AB/ PC 514 | 18-563-012431-2004 |
| 573 | Combustion installation | X | Härnösand Energi & Miljö AB | Transportabel oljepanna TC 12 | 22-563-013761-2004 |
| 574 | Combustion installation | X | Härnösand Energi & Miljö AB | Deponigaspannan Saltvikshöjden | 22-563-013762-2004 |
| 575 | Combustion installation | X | Hässleholm Fjärrvärme AB | Garnisonen | 00-563-000594-2004 |
| 576 | Combustion installation | X | Hässleholm Fjärrvärme AB | Ljungdala | 12-563-43894-2004 |
| 577 | Combustion installation | X | Jämtkraft AB | F4 | 23-563-10847-04 |
| 578 | Combustion installation | X | Jämtkraft AB | Göviken | 23-563-10849-04 |
| 579 | Combustion installation | X | Jämtkraft AB | Körfältet | 23-563-10845-04 |
| 580 | Combustion installation | X | Jämtkraft AB | Odensala Östra | 23-563-10846-04 |
| 581 | Combustion installation | X | Jämtkraft AB | Torvalla | 23-563-010848-2004 |
| 582 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Dalvik, HCDA | 06-563-015509-2004 |
| 583 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Ljungarum, HCLJ | 06-563-01552-2004 |
| 584 | Combustion installation | X | Jönköping Energi AB | Hetvattencentral Ljungarums fördelningsstation | 06-563-015553-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 585 | Combustion installation | X | Jönköping Energi AB | Kraftvärmeverket Ryhov, KVVR | 06-563-015564-2004 |
| 586 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Liljeholmen, HCLH | 06-563-015507-2004 |
| 587 | Combustion installation | X | Jönköping Energi AB | Hetvattencentralen Simsholmen, HCSH | 06-563-015555-2004 |
| 588 | Combustion installation | X | Karlskoga Kraftvärmeverk AB | Kranen | 18-563-013107-2004 |
| 589 | Combustion installation | X | Karlstads Energi AB | Transportabla panncentraler Heden | 17-563-013693-2004 |
| 590 | Combustion installation | X | Katrinefors Kraftvärme AB | Pilen | 14-563-050632-2004 |
| 591 | Combustion installation | X | Kraftringen Produktion AB | Oljepanna 4 | 12-563-47106-2004 |
| 592 | Combustion installation | X | Kraftringen Produktion AB | PC Hembygdsgatan | 12-563-47107-2004 |
| 593 | Combustion installation | X | Kraftringen Produktion AB | PC Melitta | 12-563-47105-2004 |
| 594 | Combustion installation | X | Kraftringen Produktion AB | PC Tegelbruket | 12-563-47110-2004 |
| 595 | Combustion installation | X | Kraftringen Produktion AB | Värmeverket | 12-563-047103-2004 |
| 596 | Combustion installation | X | Kungälv Energi AB | HVC Orren | 14-563-052367-2004 |
| 597 | Combustion installation | X | Köpings Kommun | Ullvi | 19-563-10561-04 |
| 598 | Combustion installation | X | Landskrona Kommun, Tekniska Verken | PC Bulten | 12-563-44523-2004 |
| 599 | Combustion installation | X | Landskrona Kommun, Tekniska Verken | PC Landsverk | 12-563-44524-2004 |
| 600 | Combustion installation | X | Lidköpings Värmeverk AB | PC Ulriksdal | 14-563-059645-2004 |
| 601 | Combustion installation | X | Linde Energi AB | HVC Frövi | 18-563-010178-2004 |
| 602 | Combustion installation | X | Linde Energi AB | HVC Hagaberg | 18-563-010179-2004 |
| 603 | Combustion installation | X | Linde Energi AB | HVC Vedevåg | 18-563-010180-2004 |
| 604 | Combustion installation | X | Ljungby Energi AB | Reservcentral Ekebacken | 07-563-005235-2004 |
| 605 | Combustion installation | X | Ljungby Energi AB | Reservcentral Gänget | 07-563-005236-2004 |
| 606 | Combustion installation | X | Ljungby Energi AB | Reservcentral Lasarettet | 07-563-005238-2004 |
| 607 | Combustion installation | X | Ljungby Energi AB | Reservcentral Mossen | 07-563-005239-2004 |
| 608 | Combustion installation | X | Ljungby Energi AB | Reservcentral Solrosen | 07-563-005240-2004 |
| 609 | Combustion installation | X | Ljungby Energi AB | Reservpanncentralen CTC | 07-563-005241-2004 |
| 610 | Combustion installation | X | Ljungby Energi AB | Reservpanncentralen Uven | 07-563-005234-2004 |
| 611 | Combustion installation | X | Ljusdal Energi AB | HVC Östernäs | 21-563-13539-2004 |
| 612 | Combustion installation | X | Kraftringen Produktion AB | Alnarps panncentral | 12-563-47052-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 613 | Combustion installation | X | Kraftringen Produktion AB | Återbruket | 12-563-047049-2004 |
| 614 | Combustion installation | X | Lycksele Energi AB | Lilltjärns PC | 24-563-014777-2004 |
| 615 | Combustion installation | X | Marks Värme AB | Snickarens Panncentral | 14-563-052309-2004 |
| 616 | Combustion installation | X | Mälarenergi AB | Gryta gasmotor/gaspanna | 19-563-13077-04 |
| 617 | Combustion installation | X | Mälarenergi AB | Kungsängsverkets gaspanna | 19-563-13078-04 |
| 618 | Combustion installation | X | Mölndal Energi AB | Astra Zenecas effektcentral | 14-563-063687-2004 |
| 619 | Combustion installation | X | Mölndal Energi AB | Eklanda Östra effektcentral MPC 13 | 14-563-063686-2004 |
| 620 | Combustion installation | X | Mölndal Energi AB | PC Brandstation | 14-563-063691-2004 |
| 621 | Combustion installation | X | Mölndal Energi AB | Stubberåkersgatans effektcentral MPC 15 | 14-563-063684-2004 |
| 622 | Combustion installation | X | Norrtälje Energi AB | EC Brännäset | 01-563-076167-2004 |
| 623 | Combustion installation | X | Norrtälje Energi AB | EC Flygfältet | 01-563-076172-2004 |
| 624 | Combustion installation | X | Norrtälje Energi AB | EC Nordkap | 01-563-076196-2004 |
| 625 | Combustion installation | X | Nässjö Affärsverk AB | Hetvattencentral Svedjan | 06-563-015120-2004 |
| 626 | Combustion installation | X | Nässjö Affärsverk AB | Oljepannanläggning Lasarettet | 06-563-015132-2004 |
| 627 | Combustion installation | X | Nässjö Affärsverk AB | Oljepannanläggning Segheten | 06-563-015131-2004 |
| 628 | Combustion installation | X | Nässjö Affärsverk AB | Oljepannanläggning Västerhaga | 06-563-015133-2004 |
| 629 | Combustion installation | X | Olofströms Kraft AB | Agrasjö Panncentral | 10-563-006109-2004 |
| 630 | Combustion installation | X | Olofströms Kraft AB | Ekerydsplan panncentral | 10-563-006104-2004 |
| 631 | Combustion installation | X | Olofströms Kraft AB | Jämshögs Panncentral | 10-563-006107-2004 |
| 632 | Combustion installation | X | Olofströms Kraft AB | Larsgården Panncentral | 10-563-006106-2004 |
| 633 | Combustion installation | X | Olofströms Kraft AB | Vilbokens Panncentral | 10-563-006108-2004 |
| 634 | Combustion installation | X | Oskarshamn Energi AB | FP och OP | 08-563-009667-2004 |
| 635 | Combustion installation | X | Oskarshamn Energi AB | PC Bomans Fanér | 08-563-009672-2004 |
| 636 | Combustion installation | X | Oskarshamn Energi AB | PC Kristineberg | 08-563-009665-2004 |
| 637 | Combustion installation | X | Oskarshamn Energi AB | PC Ratten | 08-563-009673-2004 |
| 638 | Combustion installation | X | Oskarshamn Energi AB | PC Saft | 08-563-009670-2004 |
| 639 | Combustion installation | X | Kraftringen Produktion AB | Hetvattencentral Sallerup | 12-563-47087-2004 |
| 640 | Combustion installation | X | Ronneby miljö & teknik AB | Hjorthöjden | 10-563-006196-2004 |

| ID-nr | MAIN ACTIVITY | OPT-IN (<20MW) | OPERATOR | INSTALLATION NAME | PERMIT- nr |
|---|---|---|---|---|---|
| 641 | Combustion installation | X | Ronneby miljö & teknik AB | Loket | 10-563-006197-2004 |
| 642 | Combustion installation | X | Rättviks Teknik AB | Värmeverket | 20-563-009838-2004 |
| 643 | Combustion installation | X | Sala-Heby Energi AB | OP Videgatan | 19-563-13098-04 |
| 644 | Combustion installation | X | Skara Energi AB | Diakonen | 14-563-067497-2004 |
| 645 | Combustion installation | X | Skara Energi AB | Tjuren | 14-563-067494-2004 |
| 646 | Combustion installation | X | Skellefteå Kraft AB | Kuggstången | 24-563-009468-2004 |
| 647 | Combustion installation | X | Skellefteå Kraft AB | Lasarettet | 24-563-009469-2004 |
| 648 | Combustion installation | X | Skellefteå Kraft AB | Skruven PC | 24-563-009471-2004 |
| 649 | Combustion installation | X | Sundsvall Energi AB | Nacksta industriområde | 22-563-014217-2004 |
| 650 | Combustion installation | X | Surahammars Kommunal Teknik AB | PC Nybygget | 19-563-11597-04 |
| 651 | Combustion installation | X | Surahammars Kommunal Teknik AB | PC Enbärsvägen Surahammar | 19-563-11594-04 |
| 652 | Combustion installation | X | Surahammars Kommunal Teknik AB | Värmeverk Surahammar | 19-563-11596-04 |
| 653 | Combustion installation | X | E.ON Sverige Värme AB | Hallsberg Söder hetvattencentral | 18-563-011379-2004 |
| 654 | Combustion installation | X | Sydkraft Mälarvärme AB | Hallsberg VME Hetvattencentral | 18-563-011378-2004 |
| 655 | Combustion installation | X | Sydkraft Mälarvärme AB | Stormyrens hetvattencentral | 20-563-13519-2004 |
| 656 | Combustion installation | X | Sydkraft Mälarvärme AB | Sörby Hetvattencentral | 18-563-011382-2004 |
| 657 | Combustion installation | X | Sydkraft Värme Syd AB | Klöxhultsskolans panncentral | 07-563-007917-2004 |
| 658 | Combustion installation | X | Sydkraft Värme Syd AB | Wallenstam panncentral | 14-563-056196-2004 |
| 659 | Combustion installation | X | Sydkraft Värme Syd AB | Värnamo fjärrvärmeverk | 06-563-015375-2004 |
| 660 | Combustion installation | X | Tekniska Verken I Linköping AB | Cloetta HVC (HVC 45) | 05-563-017183-2004 |
| 661 | Combustion installation | X | Tekniska Verken I Linköping AB | FFV HVC (HVC 80) | 05-563-017192-2004 |
| 662 | Combustion installation | X | Tekniska Verken I Linköping AB | Kärna Brunn HVC | 05-563-017185-2004 |
| 663 | Combustion installation | X | Tekniska Verken I Linköping AB | Ljungsbro HVC (HVC 40) | 05-563-18112-04 |
| 664 | Combustion installation | X | Tierps Fjärrvärme AB | Gasolanläggningen | 03-563-013882-2004 |
| 665 | Combustion installation | X | Tierps Fjärrvärme AB | Oljecentralen | 03-563-012932-2004 |
| 666 | Combustion installation | X | Tranås Energi AB | PC Vitsippan | 06-563-012614-2004 |
| 667 | Combustion installation | X | Uddevalla Energi AB | Kuröd | 14-563-068391-2004 |
| 668 | Combustion installation | X | Uddevalla Energi AB | Rosenhäll | 14-563-068392-2004 |

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|---|---|---|---|---|---|
| 669 | Combustion installation | X | Uddevalla Energi AB | Skogslyckan | 14-563-068394-2004 |
| 670 | Combustion installation | X | Uddevalla Energi AB | Torp | 14-563-068396-2004 |
| 671 | Combustion installation | X | Uddevalla Kommun | Skansverket | 14-563-069237-2004 |
| 672 | Combustion installation | X | Ulricehamns Energi AB | HVC vid Simhallen | 14-563-062701-2004 |
| 673 | Combustion installation | X | Vallentuna Närvärme AB | Okvista Värmeverk | 01-563-071241-2004 |
| 674 | Combustion installation | X | Vallentuna Närvärme AB | Vallentuna Värmeverk | 01-563-071269-2004 |
| 675 | Combustion installation | X | Varberg Energi AB | Panncentral vid sjukhuset i Varberg | 13-563-007806-2004 |
| 676 | Combustion installation | X | Vattenfall AB | Bjuvs fjärrvärmecentral | 12-563-41806-2004 |
| 677 | Combustion installation | X | Vattenfall AB | Centralskolan - Tidaholm | 14-563-054459-2004 |
| 678 | Combustion installation | X | Vattenfall AB | Storfors Värmeverk | 17-563-011612-2004 |
| 679 | Combustion installation | X | Vattenfall AB | Swedish Match - Tidaholm | 14-563-052352-2004 |
| 680 | Combustion installation | X | Vetlanda Energi och Teknik AB | PC Lasarettet | 06-563-012591-2004 |
| 681 | Combustion installation | X | Vetlanda Energi och Teknik AB | PC Lärkträdet | 06-563-012593-2004 |
| 682 | Combustion installation | X | Vetlanda Energi och Teknik AB | PC Stocken | 06-563-012596-2004 |
| 683 | Combustion installation | X | Vetlanda Energi och Teknik AB | PC Västerleden | 06-563-012599-2004 |
| 684 | Combustion installation | X | Vimmerby Energi AB | Blomgatan | 08-563-009614-2004 |
| 685 | Combustion installation | X | Vimmerby Energi AB | Tallholmen | 08-563-009612-2004 |
| 686 | Combustion installation | X | Visby Energi | Skrubbs (Panna 2) | 09-563-5402-04 |
| 687 | Combustion installation | X | Visby Energi | Österby (panna 1) | 09-563-5401-04 |
| 688 | Combustion installation | X | Västerbergslagens Värme AB | FVC2 Fårbo | 19-563-11293-04 |
| 689 | Combustion installation | X | Västerbergslagens Värme AB | FVC6 Lasarettets panncentral eks | 19-563-011297-2004 |
| 690 | Combustion installation | X | Västerbergslagens Värme AB | LVC6 Högbergsskolan A | 20-563-012945-2004 |
| 691 | Combustion installation | X | Västerbergslagens Värme AB | LVC7 Högbergsskolan C | 20-563-012946-2004 |
| 692 | Combustion installation | X | Ystad Energi AB | Sandskogen | 12-563-45318-2004 |
| 693 | Combustion installation | X | Ystad Energi AB | Snibben | 12-563-45321-2004 |
| 695 | Combustion installation | X | Öresundskraft Produktion AB | Fjärrvärmecentral St Maria | 12-563-46584-2004 |
| 696 | Combustion installation | X | Öresundskraft Produktion AB | Fjärrvärmecentral Ättekulla | 12-563-46585-2004 |
| 697 | Combustion installation | X | Öresundskraft Produktion AB | Fjärrvärmecentral Ödåkra | 00-563-000519-2004 |

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|---|---|---|---|---|---|
| 698 | Combustion installation | X | Österåker Värme AB | Säby Värmeverk | 01-563-071235-2004 |
| 699 | Combustion installation | X | Övik Energi AB | Må deponigaspanna | 22-563-014038-04 |
| 700 | Combustion installation | X | Sydkraft Värme Syd AB | Björknan Mönsterås Fjärrvärme | 08-563-009945-2005 |
| 701 | Combustion installation | X | Sydkraft Värme Syd AB | Stolpen Mönsterås Fjärrvärme | 08-563-009942-2005 |
| 703 | Combustion installation | | Luleå Energi AB | HVC 1 Fräsen | 25-563-018644-2004 |
| 704 | Combustion installation | | ABB FASTIGHET AB | Energicentralen | 20-563-9471-2005 |
| 705 | Combustion installation | X | Affärsverken Karlskrona AB | PC Kungsmarken | 10-563-006617-2005 |
| 706 | Combustion installation | | Kalmar Energi Värme AB | Energicentral Kalmar Tech Park | 08-563-009302-2005 |

The list presented above will be supplemented with information on

- installations which are subject to the latest, and by the European Comission not yet approved, Swedish application on unilateral inclusion of additional installation (opt-in),
- installations which are affected by the decision to broaden the concept of combustion installation and thus will be included in the ETS from 1 January 2008,
- allocation to individual installations in accordance with the outcome of the application prodecure taking place during the autumn 2006.