

Cement, waste and carbon markets

Problems related to waste incineration in cement kilns under the EU ETS

Report prepared for the European Commission in the framework of the reform of the EU Emissions Trading Scheme (EU ETS)

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INTRODUCTION

The cement industry is a major contributor to climate change. The production of cement, the second most consumed product in the world after water, is one of the most energy-intensive industrial processes.

Although the cement companies are committed to reducing their emissions under the Kyoto Protocol, its strategies to achieve this are causing serious environmental, social and economic problems. Firstly, the cement industry has focused on replacing traditional fossil fuel with industrial, municipal, and toxic waste in most cases without adequate controls, claiming that the burning of these materials is 'carbon-neutral'. Secondly, the cement industry has been active in the development of the European carbon market in which it has achieved a significant over-allocation of allowances for free without having to adjust and reduce emissions in any real way. In short, the cement industry has not reduced emissions as it claims and their climate strategies are an obstacle to the development of truly sustainable policies and projects in the waste sector.

This report presents the false solutions of the cement industry in the fight against climate change with a special focus on Spain, where civil society is taking the lead in the reporting of cement plants' wrongdoing. The Coordinadora Anti-incineración de Residuos en Cementeras, a network of local groups that are fighting waste incineration in cement kilns, has collected first-hand information of the many affected communities are paying the cement traps with their health and future of their economies.

This information is especially relevant in the context of the debate on the reform of the EU ETS, since it points to key methodological errors that are distorting the reality of this market and shadowing the very serious impacts to communities and local economies.

THE CEMENT INDUSTRY'S CONTRIBUTION TO CLIMATE CHANGE

The cement industry contributes significantly to climate change. According to data from 2006, cement production contributed about 8% of anthropogenic CO₂ emissions, or 6% of total global emissions of greenhouse gases. Currently, it is considered that the production of one tonne of cement results in the emission of approximately 0.65-0.95 tonnes of CO₂, depending on the energy efficiency of the process, the fuels used, and the specific type of cement (the production of white cement has higher emissions)

Direct emissions from cement manufacturing process originate from two main sources:¹

- Approximately 50% of CO₂ released during the manufacture of cement is due to the calcination, in which the limestone (CaCO₃) is transformed into lime (CaO) in the following reaction: $\text{CaO} + \text{CO}_2 \leftarrow \text{CaCO}_3$, releasing CO₂. This process produces clinker, an intermediate product in the manufacturing process of the cement that is finally cooled and ground into cement.
- About 40% of the CO₂ emitted during cement production is the result of burning fuel to provide heat energy required for ignition to occur. Furnaces in which the reaction occurs get heated up to 1,450 °C. The reaction requires 1,700 MJ / t, which cannot be decreased. Usually, the use of energy in the cement industry represents 30 to 50% of the production costs.
- 5% of CO₂ emissions are indirect because they are the result of the use of electricity to run the plant. According to the energy source and the efficiency at which the mixture is used in local power, this figure can vary from less than 1% to over 10%.
- Another 5% of CO₂ emissions are emitted by the various needs arising from quarry mining and transport.

International and European targets

In 1997, as part of the Framework Convention of the United Nations on Climate Change (UNFCCC), 197 governments adopted the Kyoto Protocol to limit and reduce emissions of greenhouse gases (GHG). The Protocol required that 37 industrialised countries, including the European Union (EU), to reduce their emissions by an average of 5.2% below 1990 levels by 2012.²

¹ WWF, *A blueprint for a climate friendly cement industry*, December 2008. Available at: <http://tinyurl.com/d6t8bk4>

² UN Framework for the Convention of Climate Change UNFCCC, Kyoto Protocol http://unfccc.int/portal_espanol/informacion_basica/protocolo_de_kyoto/items/6215.php

Under the Kyoto Protocol, the EU committed to reduce emissions of six greenhouse gases by 8% from 1990 levels by 2012.³ Within the EU, the Spanish government assumed an obligation to limit the growth of their emissions by an average of 15 % over 1990 levels.⁴

The response of the cement industry

In 1999, 10 leading companies in the cement sector created the Cement Sustainability Initiative, under the auspices of the World Business Council for Sustainable Development. This organisation brings together today 24 cement companies with operations in 100 countries, producing a third of the total production of cement worldwide. Its main mission is to promote environmental strategies in the sector. The Cement Sustainability Initiative has been instrumental in the development of strategies to mitigate emissions from cement production.

The roadmap of the CSI companies poses the major strategies of this sector to reduce its emissions⁵. One of the most important is the substitution of fossil fuels by fuels called 'alternative' (waste of various kinds and biomass), and the substitution of raw materials (marl and limestone) with by other materials. Other strategies include improving energy efficiency in the production process, and investing in CCS - carbon capture and storage. Although each of these strategies has its own problems, this report focuses on the replacement of fossil fuels with 'alternative' fuels given the serious impacts to public health and the environment and the great social response that this has raised.

³ UE (2008) Directive 2003/87/CE: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:275:003_2:0032:ES:PDF

⁴ UE (2008) Directiva 2003/87/CE : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:275:003_2:0032:ES:PDF.

⁵ Cement Sustainability Initiative, *Cement Technology Roadmap*, 2009. Available at: http://www.wbcscement.org/pdf/technology/WBCSD-IEA_Cement%20Roadmap.pdf

WASTE INCINERATION: THE CEMENT INDUSTRY'S FALSE SOLUTION TO MITIGATE CLIMATE CHANGE.

Replacing fossil fuels with waste and biomass

The replacement of fossil fuel with 'alternative' fuel, so-called by the cement industry, consists in reducing the use of petroleum coke, the usual fuel, using instead waste and, or biomass.

So-called 'alternative' fuels used by the cement industry are:

- Industrial solid waste
- Municipal solid waste (MSW)
- Refuse Derived Fuel (RDF)
- Tires
- Waste oils and solvents
- Plastics, textiles and paper waste
- Biomass:
 - MBM – meat and bone meal
 - Wood chips and wood waste
 - Recycled paper
 - Agricultural waste such as rice husks, sawdust
 - Sewage sludge
 - Biomass crops

In 2006 the SCI businesses burned 13 million tonnes of waste, equivalent to an annual increase of 10-15% of the absolute volumes of 2000-2006. According to the industry report,⁶ 80% of these volumes are alternative fossil fuel in the region of Annex 1 countries region compared to 60% fossil and 40% biomass in the non-Annex 1 region.

The cement sector justifies the use of waste and biomass as fuel for two main reasons. Firstly, it argues that these fuels imply lower emissions of greenhouse gases since the balance of carbon released is considered neutral. Secondly, it states that if these wastes are not used in the combustion process of the cement, they would need to burn more fossil fuels or would be creating methane in landfills (in the case of biodegradable waste), so that using them in the production of cement diverts them from landfill.

⁶ Cement Sustainability Initiative, *Cement Industry Energy and CO₂ Performance "Getting the Numbers Right"*, 2009. At: http://www.wbcscement.org/pdf/CSI%20GNR%20Report%20final_updated%20Nov11_LR.pdf

With these arguments, the cement industry is green-washing the main reasons why it is repositioning in the industrial market as waste incineration, which has little to do with environmental issues but rather follows their economic interests. Indeed, waste incineration in cement is an environmentally harmful activity with worse consequences for public health and that does not reduce emissions as it's claimed.

The European Commission should reconsider the methodology to account for emissions from waste incineration if it aims to implement sustainable policies that deliver real emissions reductions.

Environmental, social and economical impacts

Waste incineration and "alternative" fuels do not only not reduce GHG and toxic emissions (especially when certain hazardous industrial waste or certain types of plastics are used as fuel),⁷ but increases them, as has been shown with Volatile Organic Compounds (VOCs) and mercury in recent years, with the increasing use of waste⁸ (11.2% energy substitution in 2009, with the Spanish regions of Valencia, Andalusia and Catalonia in the lead).

These pollutants have serious implications for public health. There is an extensive scientific literature that demonstrates the relationship between increased morbidity and mortality from various cancers and proximity to waste incinerators.⁹

Cement plants have no means to filter volatile heavy metals (mercury, thallium, cadmium, etc..) that are present in petroleum coke and waste. The cement industry is one of the

⁷ The incineration of PVC produces dioxins. The incineration of polycarbonates (Bisphenol A) produces phenol, which damages the nervous system; the incineration of polyethylene 1-3 butadiene, benzene and toluene, all of them carcinogens; the incineration of the polystyrene hydrocarbons generates several polycyclic aromatic hydrocarbons (PAHs) and benzopyrene, which is also carcinogenic; incineration of the polyurethane isocyanate generates a carcinogen affecting the respiratory system, the tire incineration generates dioxins and furans, PAHs and 1-3 butadiene. Presentation by Fernando Palacios, CSIC researcher at the Fourth Meeting of the National Network Against Waste Incineration in Cement kilns, November 2012 in Altsasu, Spain. Available at: www.airelimpio.org

⁸ The mercury emissions increased from 206 kg in 2009 to 320 kg in 2010. In the case of VOCs, the increase went from 174 to 183 t. Fuel switching has certainly had influence these emissions increases, given that the production of clinker has actually decreased by 2%. It should be noted that not all cement plants in Spain measure their mercury emissions and therefore the data do not appear in the official national EPER register. Actual emissions may be in fact much higher.

⁹ J. García Pérez et al., *Cancer mortality in towns in the vicinity of incinerators and installations for the recovery or disposal of hazardous waste*. Environment International, Volume 51, January 2013, Pages 31-44. Environment International 51 (2013) 31-44, Instituto de Salud Carlos III.

largest emitters of mercury, second only to the coal power plants. Most factories have bag filters, which only serve to limit emissions of particulate matter. In 2010, the cement industry issued 35.136 tonnes of oxides of nitrogen, 4,833 t of sulphur oxide and many contaminants, including 183 t VOC volatile organic compound (including the dangerous dioxins, furans and PCBs) and 320 kg of mercury.¹⁰

But besides air pollution one of the negative impacts of waste incineration is the subversion of the EU's Waste Hierarchy,¹¹ the science-based milestone of European waste management legislation, which provides definite criteria to prioritise the different options. Clearly, after waste prevention, reuse and recycling are the most beneficial options for waste management and climate change mitigation.

The prevention of climate friendly alternatives

Reducing, reusing, and recycling municipal waste are effective and high-impact means of reducing greenhouse gas (GHG) emissions.¹² When discarded materials (waste) are recycled, they provide industry with an alternate source of raw materials. This results in less demand for virgin materials whose extraction, transport and processing are a major source of GHG emissions. Recycling thus reduces emissions in virtually all extractive industries: mining, forestry, agriculture, and petroleum extraction.

Additional energy (and associated emissions) are saved in the manufacturing process itself, as recycled materials generally require less energy to be turned back into products.¹³ In this way, recycling can save three to five times as much energy as incineration captures by burning.¹⁴ This is particularly notable in products such as aluminium, where the direct energy required to recycle is 88% less than that required to produce primary aluminium.¹⁵

Recycling of paper and wood products has a notable double impact. Not only does it reduce the demand for virgin wood fibre, thus reducing emissions from deforestation, but it also preserves forests' ability to continue to act as carbon sinks (removing carbon from the atmosphere).

Furthermore, the EU has recently launched the Roadmap for a Resource Efficient Europe,¹⁶ in which waste management will have a central role. In the words of Janez Potočnik, EU

¹⁰ Emission data from the official Spanish registry of emissions EPER: <http://www.prtr-es.es>

¹¹ Waste Framework Directive (2008/98/EC), Article 4

¹² US EPA, Solid Waste Management And Greenhouse Gases: A Life-Cycle Assessment Of Emissions And Sinks, 3rd Edition. 2006.

¹³ IPCC, 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Waste Generation, Composition, and Management Data, Ch. 2, 2006.

¹⁴ J. Morris, "Comparative LCAs for Curbside Recycling, Versus Either Landfilling or Incineration With Energy Recovery." International Journal of Life Cycle Assessment, 2005.

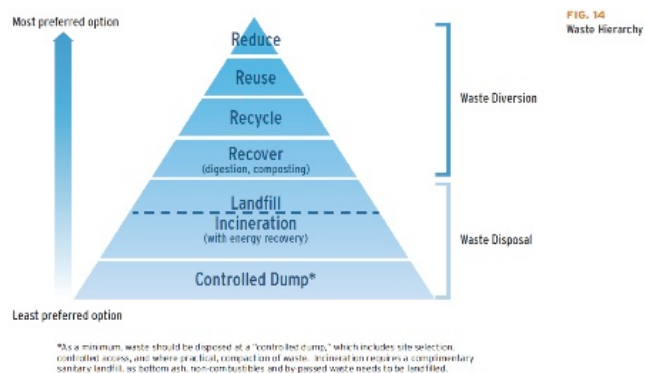
¹⁵ M. Schlesinger, Aluminum Recycling, CRC Press, 2006.

¹⁶ <http://ec.europa.eu/resource-efficient-europe/>

Commissioner for the Environment, with this Roadmap “we will have moved close to a resource efficient society when landfilling is reduced to virtually zero, when we only bury the residues of the residues and when energy recovery (incineration) is limited to non-recyclable materials.”¹⁷

So, why burn tires if the rubber tires may be crushed to allow the separation of the steel strip that can be used as a binder in road asphalt and soils, and recycling of the steel? Why burn sewage sludge can be used as organic amendment in crops and restoration of degraded soils? Why burn MSW fractions that otherwise could be recycled and used as new raw materials? The EU ETS is acting as a driver for the least environmental options in waste management and is damaging the positive steps taken forward by other successful EU environmental policies that prioritise the Waste Hierarchy principles.

Waste Hierarchy



Daniel Hoornweg and Perinaz Bhada-Tata, “What a Waste: A Global Review of Solid Waste Management,” World Bank, March 2012. Available at: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/0,,contentMDK:23172887~pagePK:210058~piPK:210062~theSitePK:337178,00.html>

Profits - the real reasons behind burning waste in cement kilns

Petroleum coke is the fuel used in a majority of the cement production process, an almost residual product obtained in the distillation of petroleum and containing a large amount of heavy metals (mercury and nickel amongst others). Its price has increased significantly in recent years, as it is indexed to coal. As previously mentioned, fossil fuels account for 30-50% of the total costs of cement production.

In Spain, the economic benefits for the cement industry to reposition itself as waste management are threefold: first, the cement companies receive subsidies and grants from the Administration for managing municipal solid waste, about 20 euros / tonne for Spain of so that the new fuel can be achieved for free or it can even bring net profit.¹⁸ Secondly, the industry is insulated from the rising cost of petroleum coke. Finally, the cement industry

¹⁷ Let's Recycle News Service, Aim to burn only non-recyclables, says Commission, 3 October 2011.

¹⁸ Cement kilns could profit up to 20 €/t of RDF burning. Greenpeace, *La puerta de atrás de la incineración de residuos*, May 2012, p. 39.

does not count emissions related to the combustion of waste (see below), allowing them to save part of the allocated EUAs by the European Commission to meet its climate obligations.

This strategy is reinforced by some of the local government policies,¹⁹ which had planned to build waste incinerators but now can no longer afford the high costs. In that sense, the Spanish economic situation has accentuated the trend of waste incinerated in cement kilns, especially encouraged by the general budget cuts, the private sector disinterest in investing in incinerators and the withdrawal of state subsidies to renewable energy facilities and waste incinerators, following the approval of Royal Decree 1/2012 of 27th January.²⁰

Green washing: the false neutrality of biomass and waste incineration

Companies using biomass as fuel argue that emissions from the use of these energy sources are "neutral", that the biogenic carbon is part of a natural cycle, and that therefore there is no need to count them. These companies claim that the only net difference to the climate comes from the addition of fossil carbon into the atmosphere. Nevertheless, scientists and environmentalists say that all emissions should be measured, since all of them affect the atmosphere.²¹ Even the Scientific Committee of the European Environment Agency in September 2011, called it a serious methodological mistake to consider GHG emissions replacing fossil fuels with biomass as carbon neutral, regardless of their origin.²²

The incineration of waste in cement is touted as a "green" solution to the problem of climate change for their alleged reduction in emissions compared with fossil fuel use. Such claims are false but persuasive for those unfamiliar with the subject. Actually, the cement industry is backed up by the loophole in the accounting standards known as climate "biogenic carbon", and this is how it manages to green-wash its climate policies.

¹⁹ The Generalitat Valenciana envisaged the construction of 3 or 4 MSW incinerators in the regional plans for waste management. These construction plans that have been stopped since the incineration of MSW has been diverted to 3 cement plants. The Government of Navarra approved the incineration of about 40,000 t of MSW in Olazti cement factory, which will supplant the planned construction of an incinerator in Tafalla.

²⁰ The Royal Decree 1/2012 of 27th January abolished bonuses and incentives for new electricity facilities under the 'special regime', affecting renewable energy installations and also waste incinerators.

²¹ See, for example, a letter signed by 90 scientists experts on the matter: <http://216.250.243.12/90scientistsletter.pdf>

²² See report: <http://www.eea.europa.eu/about-us/governance/scientific-committee/sc-opinions/opinions-on-scientific-issues/sc-opinion-on-greenhouse-gas>. Citado en: The Guardian,

The confusion comes from the biased interpretation of the methodological requirements of the Intergovernmental Panel on Climate Change (IPCC) for national emissions inventories. The IPCC provides guidelines to avoid emissions double-counting. For example, the diesel used to transport agricultural products could have in the inventory of emissions from transport and agriculture at the same time. Thus, the IPCC estimates that the best place to account for biogenic emissions from deforestation for example, is in 'Changing Land use'. If these trees when burned, the total emissions should be included in the sector of Land Use, and not in the energy sector to avoid the double counting.

In relation to the incineration of biomass, namely IPCC says: "The CO₂ emissions from the combustion of biomass materials contained in residues (for example, waste paper, food and wood) are biogenic and should not be included in total estimates of national emissions."

However, this is only a partial quote. The complete quote is the following:

"CO₂ emissions from the combustion of biomass materials (eg, paper, food and wood waste) contained in the waste are biogenic emissions and should not be included in estimates of total national emissions. Nevertheless, if the waste is used for energy purposes, emissions of fossil and biogenic CO₂ should be estimated. Fossil CO₂ should be included in national emissions under the Energy Sector while biogenic CO₂ should be reported as an information item also in the energy sector. Moreover, if the combustion, or any other factor, causing long-term reduction in total carbon incorporated in living biomass (eg, forests), the net release of carbon should be evident in the calculation of CO₂ emissions described in the Agriculture, Forestry and Other Land Use (AFOLU) in the volume of the 2006 Guidelines." ²³ [emphasis added]

So when a single facility (such as a cement plant or an incinerator) is being evaluated for its emissions, there is the possibility of double counting of biogenic emissions. That does not mean that emissions should be ignored, but they should be counted just once. Therefore, the IPCC, U.S. EPA and the European Environment Agency recommend having biogenic emissions of individual facilities.²⁴

The under-reported emissions of waste and biomass incineration

The emission of biogenic waste incineration varies with the amount of organic waste (for example, food scraps and paper) compared with the amount of fossil fuel products (eg plastic) contained in the waste.

But if we take the conventional incinerators estimates as to the presence of biomass in municipal solid waste, it is considered that an average of 50% of CO₂ emissions from

²³ Guendehou, et al., "2006 IPCC Guidelines for National Greenhouse Gas Inventories; Chapter 5: Incineration and Open Burning of Waste," Intergovernmental Panel on Climate Change National Greenhouse Gas Inventories Programme, p. 5.5, 2006. At: www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_5_Ch5_IOB.pdf.

²⁴ The Guardian, *EU carbon target threatened by biomass 'insanity'*, 2 April 2012: <http://www.guardian.co.uk/environment/2012/apr/02/eu-renewable-energy-target-biomass>

burning waste are biogenic, so only half of the actual CO₂ emitted are reported. Studies show a wide range of biogenic emissions of waste from 43%²⁵ to 61%²⁶.

Furthermore, it should be noted that many of the residues used as fuel in cement kilns come from oil (plastics, oils, tires, textiles, solvents, etc.), and have nothing to do with biomass. This waste will no longer be reused or recycled and its incineration will therefore require a whole new product manufacturing process for their production, marketing and consumption involving new extraction, processing, transportation, etc. Composting of organic matter and its application as an amendment to the land acts as carbon sequestration and therefore it delays the return of GHGs into the atmosphere, which in the case of incineration is immediate.

Unreported emissions from incineration of waste in cement pose a methodological gap in the international emissions accounting and in particular the EU ETS, which is currently overestimating the emission reductions in the cement sector.

²⁵ J. Mohn, et al., "Fossil and Biogenic CO₂ from Waste Incineration Based on a Yearlong Radiocarbon Study," *Waste Management*, Volume 32, Issue 8, August 2012, Pages 1516–1520.

²⁶ A. Koehler et al., "Probabilistic and Technology-Specific Modeling of Emissions from Municipal Solid-Waste Incineration," *Environ. Sci. Technol.*, 2011, 45 (8), pp 3487–3495.

EU ETS: FAVOURING THE CEMENT SECTOR

Under the EU ETS, EUAs over-allocations are no secret and today the market faces a surplus of carbon credits equivalent to 0.9 Gt. Of this amount, 78% is attributable to only ten steel and cement companies, which have confirmed benefits of at least 1.8 billion Euros. Moreover, despite enjoying such net excess credit, these two sectors have yielded 138Mt of carbon offsets, further compounding their existing surpluses.²⁷

The cement industry is one of the sectors with the greatest over-allocation of EUAs, and despite the over-allocation has been a widespread problem throughout the EU ETS, eight cement companies are amongst the main beneficiaries and have received more permits than actually needed.²⁸

CEMENT SECTOR			
	EU ETS	Freely allocated T/CO2-eq.	Verified emissions T/CO2-eq.
SPAIN	Total EU ETS Phase 1 (05-07)	8.935.3221	88.117.771
	Total EU ETS Phase 2 (08-12)	125.550.669	81.740.162
EU	Total EU ETS Phase 1 (05-07)	580.626.082	560.233.969
	Total EU ETS Phase 2 (08-12)	856.690.898	649.355.900

Source: own elaboration from database of European Commission in: <http://www.eea.europa.eu/data-and-maps/data/data-viewers/emissions-trading-viewer>

Not satisfied with the surpluses that have accumulated from the national allocation plans across Europe, European trade groups, and Cembureau Eurofer, have persistently resisted proposals to increase the emission reduction targets of the EU ETS.²⁹

Amongst the ten companies most favoured by the over allocation of EUAs, the following cement companies are highlighted:

²⁷ Sandbag, *Loosing the Lead*, 2012: http://www.sandbag.org.uk/site_media/pdfs/reports/losing_the_lead.pdf

²⁸ Sandbag, *Carbon Fat Cats*, 2012. At: <http://www.sandbag.org.uk/maps/companymap/>

²⁹ ídem 25

Profits from sells of EUAs and carbon offsets during period 2008-2011³⁰				
	Surplus Mt	Offsets Mt	Estimated value E/Million	Reported benefits E/Million
Lafarge	41,6	11,4	526	562
Cemex	18,4	2	228	245
Holcim	17,4	5,2	225	180
Heidelberg Cement	16,6	3,1	210	240
Italcementi	13,2	4,2	171	135
Cementos Portland	11	1,0	135	108

For the third phase of the EU ETS, the cement industry sector has become exempt from the auction of emissions permits claiming the risk of "carbon leakage". The industries that have managed to apply to this condition will receive a greater allocation of free emissions permits in the period of 2013 - 2020,³¹ so the problem of over-allocation of permits for the cement sector cannot be expected to be corrected promptly if the EC does not take action. In contrast, the cement will continue to receive an over-allocation of emissions permits to be incinerating natural resources that could be reused or recovered in much more efficient ways.

Cement plants in Spain: corruption and social mobilisations

In Spain, the 35 cement factories currently open were 17.084 million tonnes of CO₂ in 2011.³² However, the allowances granted in the II National Emissions Allocation Plan 2008-2012 amounted to 28.064 million, with an annual surplus of almost 11 million tonnes of CO₂.

The main groups to benefit from these generous subsidies were: Cemex with 3.97 million tons, Cementos Portland Valderribas with 1.90 million, Asland Lafarge with 1.27 million and Holcim with 1.26 million.

Some of these facilities take advantage of these allowances by only operating the plant during a few months to keep these rights. This is the case of the Uniland plant in Santa Margarida i els Monjos, and the cement plant in Vallcarca, both in Catalonia. Something similar happened with the plant of Sant Feliu de Llobregat of Cemex in 2010, with a very low rate of emissions at 20,000 tonnes and allowances of 775,000 t. This plant currently holds the clinker kiln closed.

³⁰ Sandbag, *Loosing the Lead*, 2012:

http://www.sandbag.org.uk/site_media/pdfs/reports/losing_the_lead.pdf

³¹ More information: http://ec.europa.eu/clima/policies/ets/cap/leakage/index_en.htm

³² Data of Spanish Registry for GHG Emissions: <http://www.renade.es>

The CEMEX plant at Castillejo-Yepes has also closed its furnaces. However, in December 2012 it requested an environmental permit to increase the incineration of waste from 47,000 t to 147,000 t, a step to continue using emission allowances granted for free.



Demonstration of local groups in Alicante against waste incineration in CEMEX cement plant. 13 March 2012. Picture by Carlos Arribas.

CONCLUSIONS – RECOMMENDATIONS TO THE EU ETS

The over-allocation of EUAs to the cement sector has contributed to the excessive amount of 0.955 Gt of allowances in the EU ETS.

The cement sector strategy to increase profits by increasing the use of so-called alternative fuels, has an important effect on the carbon market, as their emissions are underreported by at least 50%. On top of that, waste incineration in cement kilns poses a number of environmental and social threats, which are being challenged by local communities, especially in Spain, but also in other parts of the world. Ultimately, the EU ETS support to waste incineration in cement kilns undermines the EU policies on municipal solid waste (MSW) management as articulated around the principles of the Waste Hierarchy, which prioritises waste reduction, reutilisation, and recycling.

The European Commission should consider the information presented in this report in relation to the environmental, social and economic impacts of waste incineration in cement in the EU ETS and rectify their policies accordingly.

Recommendations:

- ✓ **Burning waste should be excluded from the EU ETS.**

The EU ETS or any other European climate policy should not provide incentives to increase waste incineration. In the context of retiring a number of allowances from the EU ETS, the allowances given to waste incineration in cement kilns should be left out of the system.

- ✓ **Accounting of biogenic emissions needs to be a requirement for any activity included under the EU ETS and ‘hot air’ resulting from previous inaccurate accounting should be cancelled out.**

The methodology for accounting emissions related to fuel uses should be revised and updated on the light of scientific evidence that points to a 50% systematic under-reporting in the case of waste and biomass use for fuel. Therefore, the cement sector has not only had an over-allocation of allowances but it has actually underreported its emissions by 50%. This hot air, i.e. allowances that do not represent any emissions reductions, should be cancelled out.

- ✓ **Retire the freely allocated allowances given to the cement sector and revise the criteria to include them under the “carbon leakage” category.**

The cement sector enjoys an excessive amount of freely allocated EUAs that are contributing to the enormous surplus in the EU ETS. This over-allocation should be rectified through the cancellation of all this ‘hot air’. Moreover, cement kilns depend on the mineral resources of the locations where they are placed; it is unclear how they could dislocate the cement plants in other countries and therefore the criteria to include them under a ‘carbon leakage’ category should be revised.