



## Carbon Fatcat Companies in Greece

The European Emission Trading System (EU ETS) urgently needs fixing. Changed economic circumstances mean the demand for carbon emission allowances has drastically decreased, leading to a surplus of allowances that will undermine the effectiveness of the European carbon market until well after 2020. Due to low carbon prices and lack of scarcity of emission allowances in the market, the EU risks locking in high-carbon infrastructure and slowing down cleaner investments and progress towards a green and resource-efficient economy.

WWF Greece collaborated with Sandbag to investigate the Greek share in the surplus of EU emission allowances for the period from 2008 to 2011. The Greek cement and power sector were selected as specific points of attention to better understand the role of the EU ETS in driving low carbon development in the Greek industries, sustainable employment and competitiveness benefits. Based on these findings, a number of policy recommendations are formulated.

Our key finding is that the Greek and EU manufacturing sectors most aggressively resisting improvements to the Emissions Trading System (ETS) have received extensive government resources to protect them from the scheme in the form of free carbon allowances. In fact, in Greece these sectors were awarded 21.6 million allowances more than they needed, worth roughly €335 million.<sup>1</sup>

These free allowances have protected them from any direct costs over 2008-2011, and have even helped sustain ailing industries who have sold off spare allowances for income. The spare allowances which remain will continue to buffer many companies from ETS compliance costs for the foreseeable future.

WWF Greece and Sandbag call on policymakers to ignore special pleading from industry and tighten the supply of allowances in the EU ETS. We recommend backloading 1.4 billion Phase 3 carbon allowances as a prelude to cancelling 2.2 billion allowances in a package of structural reforms.

---

<sup>1</sup> Average 2008-2011 EUA price of €15.50 calculated by Sandbag by averaging daily closing prices. Data taken from the Blue Next exchange [www.bluenext.eu](http://www.bluenext.eu) in July 2012 (website now closed)

## Introduction

The Emissions Trading System (ETS), established in 2005, was designed as one of the European Union's central tools for combating climate change. The scheme polices greenhouse gas emissions from all large power stations and factories in the 27 EU Member States and in Norway, Lichtenstein and Iceland. This equates to some 11,000 installations producing around half of Europe's CO<sub>2</sub> emissions.

The EU ETS is based on the principle of "cap-and-trade": the EU sets an upper limit or "cap" on the total volume of greenhouse gas emissions allowed for its installations, translates this cap into a quantity of European Union Allowances (EUAs), and at the end of each year requires installations to hand in an EUA for every tonne of CO<sub>2</sub>e they have emitted. Installations that can reduce their emissions for less than the cost of carbon allowances will be financially incentivised to do so and, because allowances can be traded on the open market, the price of carbon tracks the cheapest abatement options available to meet the capped supply.

### Problem 1: Emissions caps have repeatedly been set at the wrong level

In order to reliably encourage emissions reductions the cap on emissions needs to be below business-as-usual levels; otherwise, the supply of allowances will exceed demand and the carbon price will crash. This was demonstrated clearly both in the so-called "pilot phase" of the scheme over 2005-2007, as well as in the second EU ETS trading period (2008-2012) during which an unexpected recession has again left business-as-usual emissions lower than the cap. The only reason that the carbon price has not again crashed to zero is because Phase 2 EUAs can be "banked" for use decades later when allowances might be more scarce.

Figure 1: EUA prices over 2005-2011



As with Phase 2, the third cap was also set before the recession started, with totally different business-as-usual emissions in mind. As a result, it is now far less stringent than expected and will be weakened still further by allowances banked forward from Phase 2.

### Problem 2: Excessive access to offsets

With much higher business-as-usual emissions envisaged, policymakers feared the costs of meeting the caps over 2008-2020 would be very high. To help alleviate these envisaged costs they granted ETS

installations access to large volumes of international offset credits: roughly 1.6 billion allowances are admissible over the period.<sup>23</sup>

With the Phase 2 caps set above business-as-usual levels, offsetting was essentially unnecessary; however, the low price of offsets relative to EUAs and eligibility concerns about certain credit types, has seen 555 million offsets surrendered into the scheme as of 2011<sup>4</sup>, pushing the total oversupply up to 950 million and counting. The European Commission expects oversupply to grow to 2 billion by 2020, with three quarters of this arising from offsets.

### **Problem 3: Excessive free allocations**

To help facilitate the adoption of emissions trading and to protect the competitiveness of their industries, most Member States gave their manufacturing sectors enough free allowances to cover all of their expected emissions in Phase 2. These free allocations might have been overly generous even under the most favourable economic conditions but with the advent of the financial crisis they proved grossly inflated. These excessive free allocations had two significant results:

- They pushed up National Allocation Plans across the EU, directly enlarging the overall caps in Phase 1, Phase 2 and indirectly enlarging the cap in Phase 3.<sup>5</sup>
- Once the recession hit, manufacturing sectors were left holding very large surpluses of allowances, which they could sell on (mostly to power companies) as a revenue source or retain for use in the future.

Under new EU product benchmarks introduced from 2013, free allocations to the power sector will end and free allocation to industry will substantially diminish. Several sectors will be granted additional free allowances, however, because they are categorised as “carbon leakage exposed”, but we note that the EU carbon leakage assessment applied an obsolete €30/t carbon price estimate. To put this number in context, the current carbon price is less than €5/t. In addition, the carbon leakage assessment did not take into the account comparable climate legislation arising in some of the regions against which European products compete, such as carbon pricing systems in Australia, California, and South Korea. We explore how Greek manufacturing sectors have benefited from excess free allocations in the sections which follow.

---

<sup>2</sup> Öko-Institut, Greenpeace EU Unit and WWF European Policy Office ‘Strengthening the EU ETS’ June 2012  
[http://awsassets.panda.org/downloads/greenpeace\\_wwf\\_2012\\_studie\\_emissionshandel\\_en.pdf](http://awsassets.panda.org/downloads/greenpeace_wwf_2012_studie_emissionshandel_en.pdf)

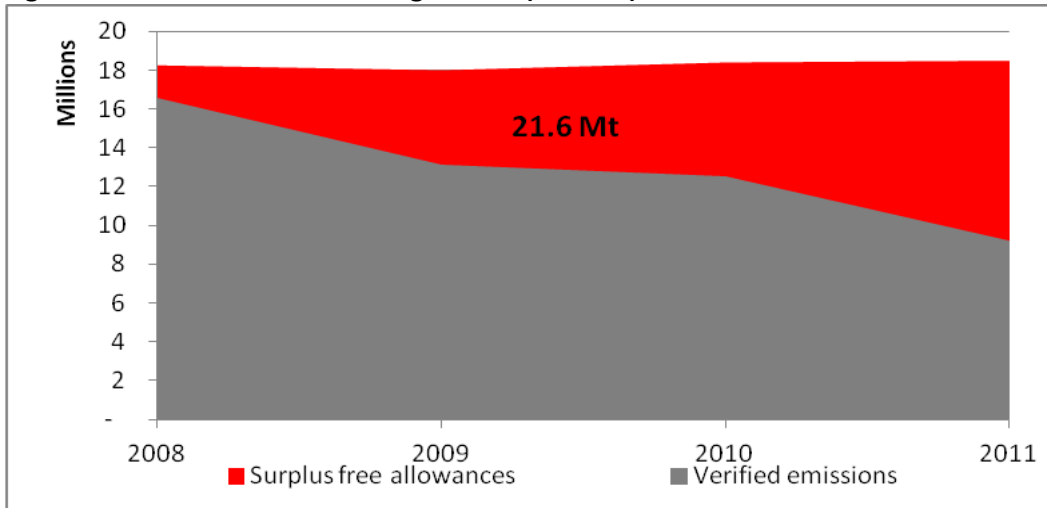
<sup>3</sup> [http://ec.europa.eu/clima/policies/ets/reform/docs/com\\_2012\\_652\\_en.pdf](http://ec.europa.eu/clima/policies/ets/reform/docs/com_2012_652_en.pdf)

<sup>4</sup> Taken from the EU Transaction Log

<sup>5</sup> The Phase 3 cap has been enlarged by the Phase 2 National Allocation Plans because it is set in reference to them. See Article 10 of the consolidated ETS Directive.

## Greek Manufacturing Sectors in the EU Emissions Trading Scheme

Figure 2: Greek ETS manufacturing sectors (CITL 2-9) over 2008-2011

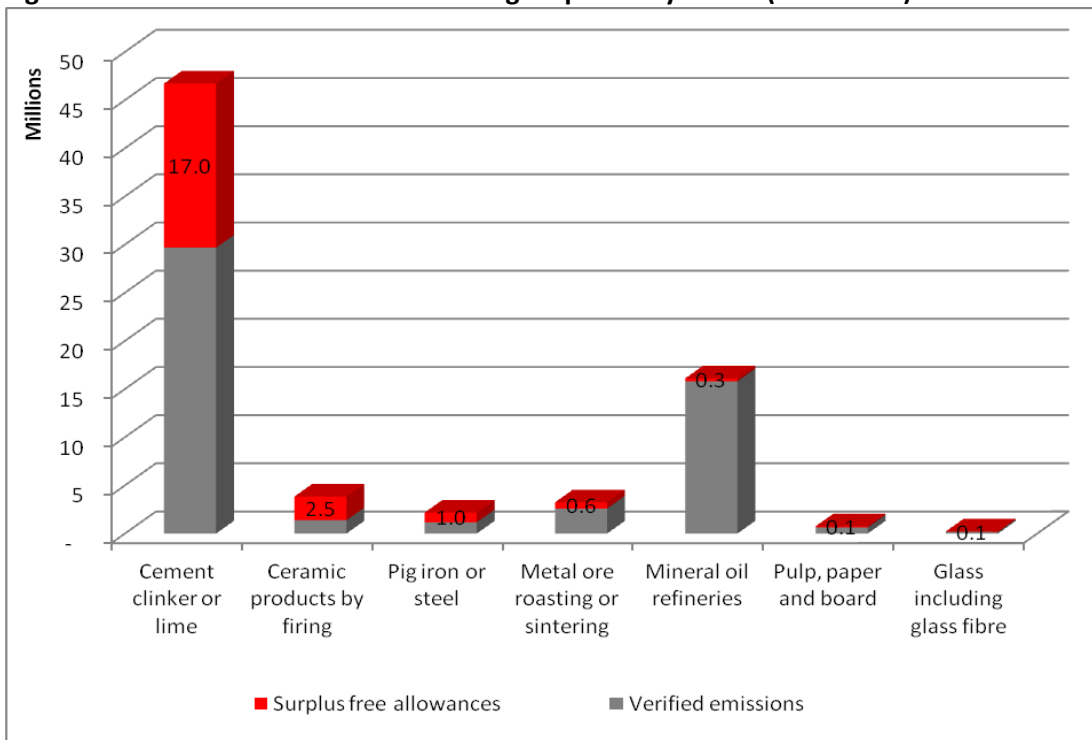


(Source: EUTL via the European Environment Agency)

Figure 2 charts the free carbon allowances awarded to manufacturing sectors by the Greek government over the past four years compared with their verified emissions. It is clearly visible that industrial installations were already oversupplied in 2008 with surpluses increasing year-on-year as overall production has declined. Note that this is not the case for the Greek power sector, which has faced a shortfall of allowances since the beginning of the trading period. The response of the power industry, and of PPC in particular, is examined in the next section.

We can see the breakdown of these cumulative surpluses by industrial sector in Figure 3 below.

Figure 3: Cumulative Greek manufacturing surpluses by sector (2008-2011)



(Source: EUTL via the European Environment Agency)

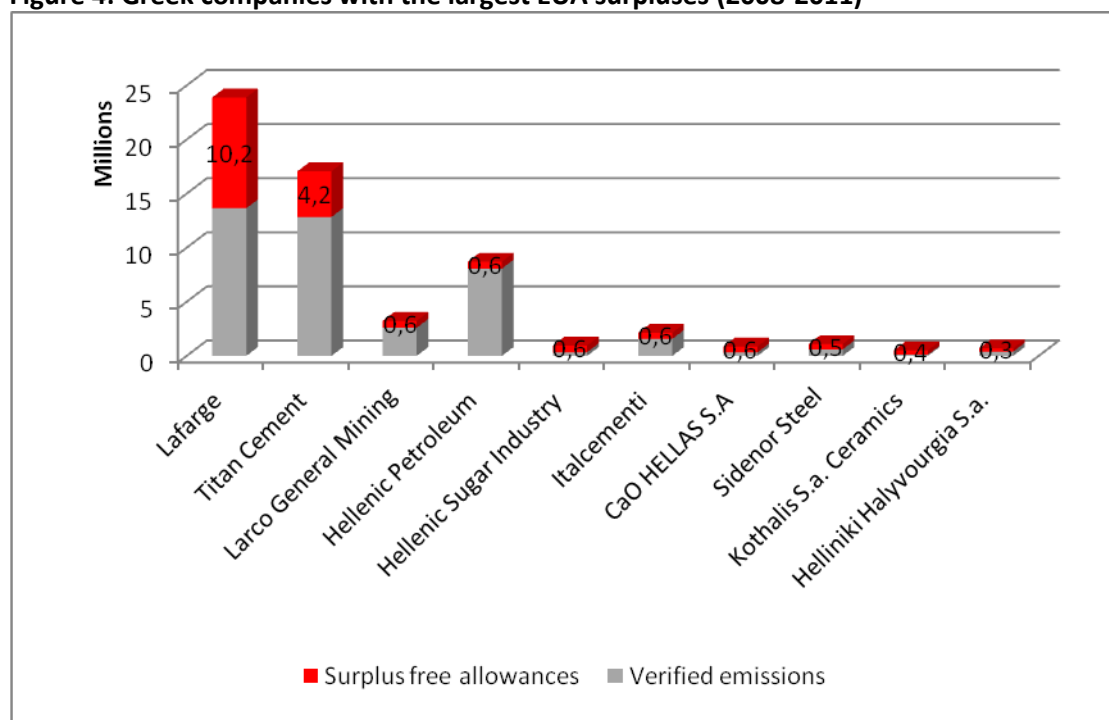
The largest volume of these surpluses (17Mt) is concentrated in the cement sector which accounts for 17Mt or 79% of all industrial surpluses; however, all sectors have been oversupplied with free

allowances, most notably the ceramics sector which received nearly 3 times the allowances it needed (278%), and the steel sector which received nearly double the allowances required (187%).

### The ten most oversupplied Greek companies

Just as industrial surpluses are concentrated in one sector, they are also controlled by just a few key companies. Using Sandbag’s ETS company database we identified those firms with the largest cumulative surpluses over 2008-11. WWF Greece then checked this data against publically listed company holdings and approached each of the companies identified to corroborate this data. Our research found that **18.7 million** surplus free allowances had been awarded to just ten companies, equivalent to **87%** of Greece’s manufacturing surplus. As expected from our sectoral profile of Greek installations, the majority of this surplus is concentrated in cement companies, i.e. Lafarge (10.2Mt) and Titan (4.2Mt).

**Figure 4: Greek companies with the largest EUA surpluses (2008-2011)**



(Source: EUTL, Sandbag and WWF Greece)

These surplus allowances can either be sold to gain revenues or can be carried over to the third phase of the ETS (2013-2020) in order to protect companies against their future carbon costs. Limited ETS information in companies’ Annual Reports and limited feedback received from the companies we approached make it difficult to determine to what extent companies have adopted either strategy.<sup>6</sup>

We can, however, approximate the value of these EUA assets by comparing them against the **€15.50** average value of EUAs over the course of 2008-2011. We also note that, despite being oversupplied, these companies have surrendered international offset credits for compliance, thereby increasing the volume of spare EUAs available to them.

<sup>6</sup>All companies appearing in the top-ten list were contacted by WWF Greece in the process of the research, with the aim of offering an opportunity for comments and feedback.

**Table 1: Estimated value of ETS assets in Greek top ten oversupplied companies**

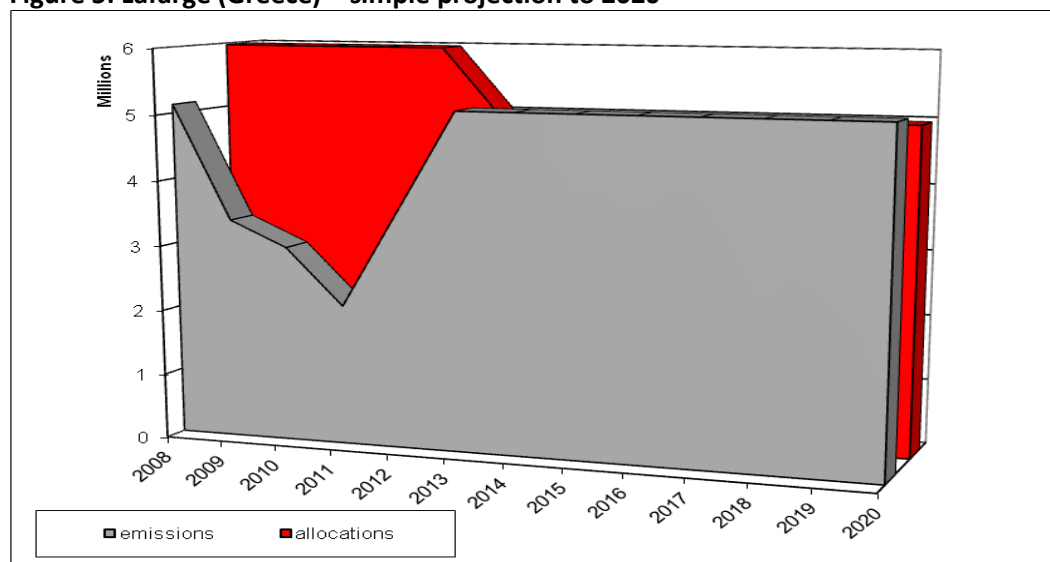
Company	EUA surplus	Value at €15.50
Lafarge	10,241,882	€ 158,749,171
Titan Cement	4,222,282	€ 65,445,371
Larco General Mining	641,972	€ 9,950,566
Hellenic Petroleum	639,311	€ 9,909,321
Hellenic Sugar Industry	618,254	€ 9,582,937
Italcementi	568,369	€ 8,809,720
CaO HELLAS S.A	554,855	€ 8,600,253
Sidenor Steel	484,825	€ 7,514,788
Kothalis S.a. Ceramics	402,063	€ 6,231,977
Helliniki Halyvourgia	307,840	€ 4,771,520
<b>TOTAL</b>	<b>18,681,653</b>	<b>€ 289,565,622</b>

### Fatcats forever? / Manufacturing companies armoured against Phase 3

Clearly, Greek manufacturing companies' competitiveness has not been negatively affected from the EU ETS over Phase 2 (2008-2012) and indeed they potentially accrued substantial windfall profits from the carbon market. In spite of this, companies tend to invoke future costs and shortfalls under Phase 3 (2013-2020) of the scheme to explain their continued resistance to tightening the ETS cap. As the Greek Ministry of Environment, Energy & Climate Change has already published draft allocations for Phase 3, this allows us to evaluate to what extent these shortfalls will, in reality, arise.<sup>7</sup>

Below we plot how far into Phase 3 the two most oversupplied companies, Lafarge and Titan, will be protected from direct carbon costs if they were to use all of their Phase 2 allowances as a buffer. For each company we generously assume that emissions return to their 2008 levels by 2013. In both cases surplus Phase 2 allowances are more than sufficient to protect them from all direct costs in Phase 3.

**Figure 5: Lafarge (Greece) – simple projection to 2020**



<sup>7</sup> <http://www.ypeka.gr/Default.aspx?tabid=830&language=el-GR>

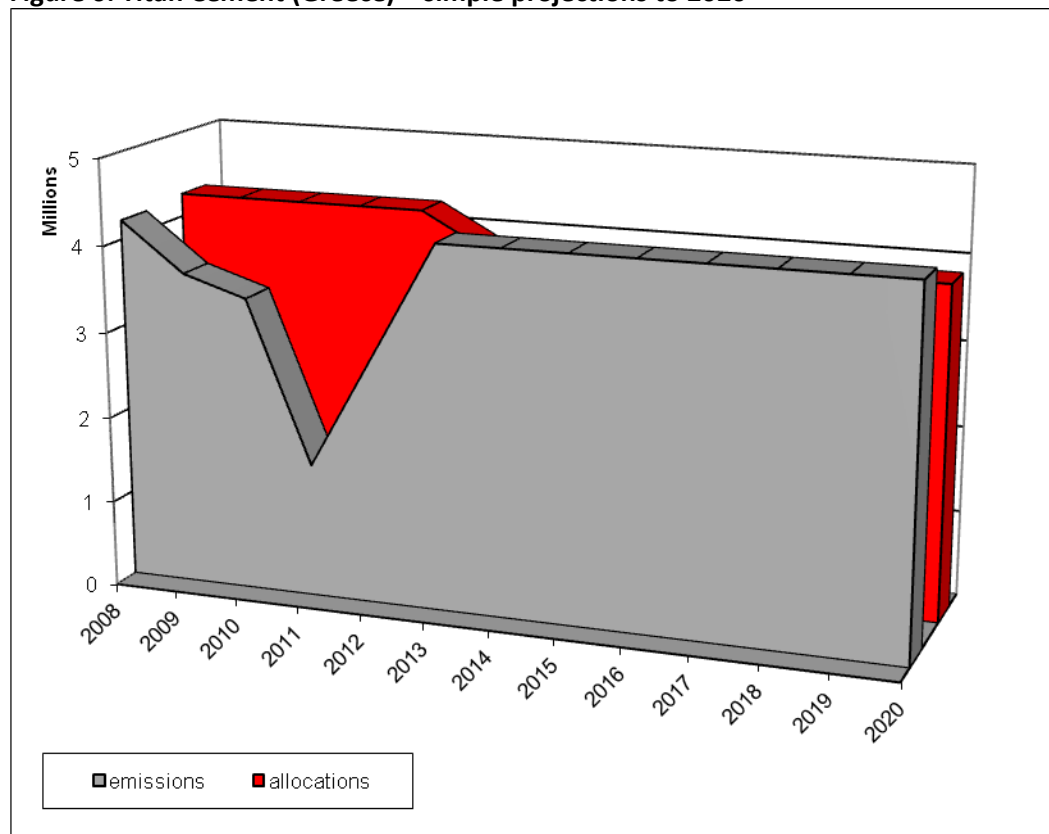
**Table 2: Lafarge (Greece) – simple projection to 2020**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Emissions (Mt)	5.13	3.38	3.00	2.14	3.63	5.13	5.13	5.13	5.13	5.13	5.13	5.13	5.13
Allocations (Mt)	5.97	5.97	5.97	5.97	5.97	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96
<b>Cumulative Surplus</b>	<b>0.84</b>	<b>3.43</b>	<b>6.41</b>	<b>10.24</b>	<b>12.58</b>	<b>12.41</b>	<b>12.24</b>	<b>12.07</b>	<b>11.91</b>	<b>11.74</b>	<b>11.57</b>	<b>11.40</b>	<b>11.23</b>

Even if Lafarge’s Greek operations returned to 2008 levels (240% of current levels) across Phase 3, surpluses by the end of 2020 would be 11.23 million – even larger than they are today which means the company could still benefit from this surplus well into the fourth trading phase after 2020.

Similarly, if Titan Cement’s Greek operations returned to 2008 emissions levels (273% of current levels), the company would be protected against all direct costs all the way across the phase and well beyond.

**Figure 6: Titan Cement (Greece) – simple projections to 2020**



**Table 3: Titan Cement (Greece) – simple projection to 2020**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Emissions (Mt)	4.22	3.65	3.42	1.55	2.88	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22
Allocations (Mt)	4.27	4.27	4.27	4.27	4.27	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
<b>Cumulative Surplus</b>	<b>0.05</b>	<b>0.66</b>	<b>1.50</b>	<b>4.22</b>	<b>5.61</b>	<b>5.25</b>	<b>4.90</b>	<b>4.54</b>	<b>4.19</b>	<b>3.83</b>	<b>3.48</b>	<b>3.12</b>	<b>2.77</b>

### Exploring the power sector: the case of PPC

The electricity sector is the biggest emitter in the EU ETS. It is also the sector that is least exposed to carbon leakage and has the some of the most affordable abatement technologies available to it. For these reasons, most EU governments have felt less need to protect power companies from their full compliance costs under the scheme and have generally assigned them fewer free allowances than necessary to cover their emissions, seeking instead to prioritise free allowances for their manufacturing sectors.

Greece is no exception to this rule, and the state-owned power company PPC has been obliged to purchase 17 million allowances from the market to cover its 195Mt emissions over 2008-2011. It would have been obliged to purchase substantially more allowances if electricity demand had not been greatly reduced by the recession (PPC emissions are down 10% in 2011 against 2008 levels).

From 2013, most power companies across Europe will be obliged to purchase all of their allowances from the market, for PPC this means moving from currently paying for 4% of its ETS allowances to paying for 100% in 2013. Despite advanced warning of these changes, PPC had done little to improve its energy portfolio and protect itself from future compliance costs.

One would expect that PPC – a state owned company with privileged access to the country's lignite deposits, that produces 75% of total power generation in Greece, that owns the entire electricity transmission system and controls 92% of the Greek electricity market<sup>8</sup> – would have a certain flexibility in diversifying its energy mix. Even so, the company has failed to adapt in any way during this last decade, and instead of replacing obsolete units with clean energy alternatives, the PPC has insisted on extending their operational life, recently signing a contract for yet another unit that will emit 4.4 million tonnes of CO<sub>2</sub> per year. At the same time, despite being the first company to enter the Greek renewable energy market (through its subsidiary PPC Renewables), PPC has demonstrated an extremely poor performance in the field. For its flagship projects, wind farm installations, PPC comes only 6<sup>th</sup> in the supplier rankings in terms of installed capacity<sup>9</sup>, while for solar power projects its share amounts to barely 0.05% of the total installed capacity<sup>10</sup>.

Despite the collapsing carbon price, a lack of proactive investment will find PPC forced to pay a substantial compliance cost for every kWh it generates from 2013, costs that will inevitably be passed on to end consumers. In this context, PPC has already proposed to the Regulatory Authority of Greece an increase in all tariffs (low, medium and high voltage customers)<sup>11</sup>. In turn, Greece's energy intensive industries have responded by suggesting that Greece should follow the paradigm of some Member States that will grant free allocations to their electricity generators in Phase 3. These Energy Intensives fail to note, however, that only 10 Member States (from Eastern Europe) were made eligible for exemptions from full auctioning<sup>12</sup>, and this in order to give them a reasonable opportunity to modernize their electricity sector. For the older member states (including Greece that entered the EU in 1981) it was considered that they had ample time to upgrade their infrastructure and invest in clean technology. This means that any Greek state aid under the form of free allowances to the power sector would be in breach of European energy market legislation.

However if PPC and the Greek government are truly concerned about increasing compliance costs of the EU ETS there are ways to avoid rising energy prices for the end consumer. As of 2013 the Greek government will gain considerable new revenues from auctioning its emission allowances to the power sector. This offers an opportunity to dedicate these funds to renewable and energy saving technologies that can help in creating sustainable employment, aid competitiveness and confer environmental benefits.

---

<sup>8</sup> <http://www.dei.gr/Default.aspx?id=1144&nt=18>

<sup>9</sup> HWEA Wind Energy Statistics, May 2012, <http://www.eletaen.gr/drupal/sites/default/files/Statistics.pdf>

<sup>10</sup> 0,7MW in a total of 1.334MW, <http://www.ppcr.gr>, [http://www.helapco.gr/ims/file/market\\_statistics/pv-stats\\_greece\\_Q3-2012.pdf](http://www.helapco.gr/ims/file/market_statistics/pv-stats_greece_Q3-2012.pdf)

<sup>11</sup> Regulatory Authority of Energy, Announcement, 11/12/2012, [http://www.rae.gr/site/categories\\_new/about\\_rae/factsheets/general/11122012\\_2.csp](http://www.rae.gr/site/categories_new/about_rae/factsheets/general/11122012_2.csp)

[http://www.rae.gr/site/file/categories\\_new/about\\_rae/factsheets/general/05122012?p=file&i=0](http://www.rae.gr/site/file/categories_new/about_rae/factsheets/general/05122012?p=file&i=0)

<sup>12</sup> These are Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland and Romania.



## WWF and Sandbag policy recommendations

- Temporarily withhold (backload) at least 1.4 billion EUAs from Phase 3 auctions as an emergency measure, with a view to cancelling them at a later stage, in order to tackle the current oversupply in the ETS.
- Align the EU ETS with climate-proof 2020 (i.e. at least 30% CO<sub>2</sub>-reductions) and 2050 (i.e. 80- 95% CO<sub>2</sub>-reductions) objectives by removing additional EUAs and increasing the linear reduction factor to at least 2.6%.
- Prepare flanking policies to close loopholes that are undermining the carbon price signal. No further access to international emission reduction credits (CDM and JI) should be introduced if the EU decides to increase its overall emission reduction target by 2020. These are currently being trading at a price of approximately 0.5 euro per ton.
- A full re-assessment of sectors at risk of carbon leakage must take place as soon as possible, with the aim to shorten the list of sectors eligible for additional free allowances. This is especially justified given that any backloading of emission allowances will not reduce the amount of free allowances available to installations

WWF and Sandbag specifically call on Greek policymakers to:

- Increase the transparency on how Greek companies have managed their surpluses and to what extent revenues from the ETS have been re-invested in clean technologies
- ignore industrial power consumers' demands for exemptions or further illegal increases in free allocations. The EU ETS has no significant impact on industrial competitiveness.
- accelerate and further enhance its efforts in decarbonising the power sector, by prioritising the increase of renewables in the energy mix and boosting energy efficiency policies in all sectors.

The EU ETS, one of Europe's central climate policies, has been underperforming, and will continue to fail, unless more is done. Some improvements have been agreed already for the next trading phase (2013-2020) of the EU ETS, with harmonised free allocation rules to apply across all EU Member States and more auctioning of allowances for the power sector. This, however, does not solve the legacy of surplus allowances from Phase 2 and the European Commission has taken the initiative to make a temporary adjustment to the supply of allowances in the scheme. Greek policy makers must build on these proposals in order to push for structural reforms to the ETS at EU level.

This combination of short and long term adjustments to the EU ETS could lead to an increase of the carbon price as of 2013, reaching up to €30 per tonne by 2020: this would spur investments in low carbon technologies, avoid lock-in of carbon intensive infrastructure, and ensure a competitive advantage for European industry in the race to a decarbonised economy by 2050.

As mentioned earlier, a higher carbon price would also significantly increase the income that Greek authorities gain from the auctioning of ETS allowances under the third trading phase (2013-2020): increasing EU climate ambition to 30% domestic CO<sub>2</sub>-reductions would generate a state income of 6 billion euro, an increase of 2.9 billion euro compared to business as usual<sup>13</sup>.

Greek policy makers should reinvest 100% of these revenues in national climate policy in a way that would not only benefit economic growth and employment, but also address the social impacts of the ETS – e.g. by spurring retrofit investments that will help households withstand increasing power and fuel prices. A part of these revenues could even be used for targeted support to industry, under strict conditions that it assists them in the transition to renewable energy and energy saving technologies

---

<sup>13</sup> Öko-Institut, Greenpeace EU Unit and WWF European Policy Office. (November 2012). *Auctioning revenues under different climate ambition scenarios for the EU Emissions Trading Scheme*  
[http://awsassets.panda.org/downloads/oko\\_institut\\_2012\\_the\\_cost\\_of\\_inaction\\_auctioning\\_revenues.pdf](http://awsassets.panda.org/downloads/oko_institut_2012_the_cost_of_inaction_auctioning_revenues.pdf)



**Η αποστολή του WWF Ελλάς**

είναι να διατηρήσει την πλούσια βιοποικιλότητα της Ελλάδας ως αναπόσπαστο στοιχείο της Μεσογείου και να παρεμποδίσει – και μακροπρόθεσμα να αντιστρέψει – την υποβάθμιση του περιβάλλοντος, με στόχο την αρμονική συνύπαρξη ανθρώπου και φύσης.

[www.wwf.gr](http://www.wwf.gr)

**For further information:**

**Damien Moris**

Senior Policy Advisor

Sandbag

Email: [damien@sandbag.org.uk](mailto:damien@sandbag.org.uk)

Mobile +44 791 466 9569

**Μιχάλης Προδρόμου**

Υπεύθυνος ενεργειακής

πολιτικής

WWF Ελλάς

Email: [m.prodromou@wwf.gr](mailto:m.prodromou@wwf.gr)

Τηλ: 210 3314893