



GREENHOUSE GAS EMISSION ALLOWANCES

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ΟΜΙΛΟΣ ΕΛΛΗΝΙΚΑ ΧΡΗΜΑΤΙΣΤΗΡΙΑ
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GHG Emissions: History

The climate is changing: A global problem that has to be dealt by international treaties

Reduction of greenhouse gas emission

KYOTO Protocol



ANNEX I

Developed Nations and Nations with Economies in Transition (EIT)

ANNEX II

Annex I countries without the countries with Economies in Transition (EIT)

Reduction targets for industrialized countries (Annex II) GHG emissions as percentage of a base year (normally 1990) for the average of 2008-2012 emissions.

Project Based Abatement (CDM & JI)
International Emissions Trading



EU Directives

- 2005-2007/Phase 1
- 2008-2012/Phase 2: (KYOTO)
- 2013-2020/Phase 3

Reduction targets for EU Member States GHG emissions per phase.
Allocation of EU allowances (EUAs)

European Trading Scheme
(EU ETS)

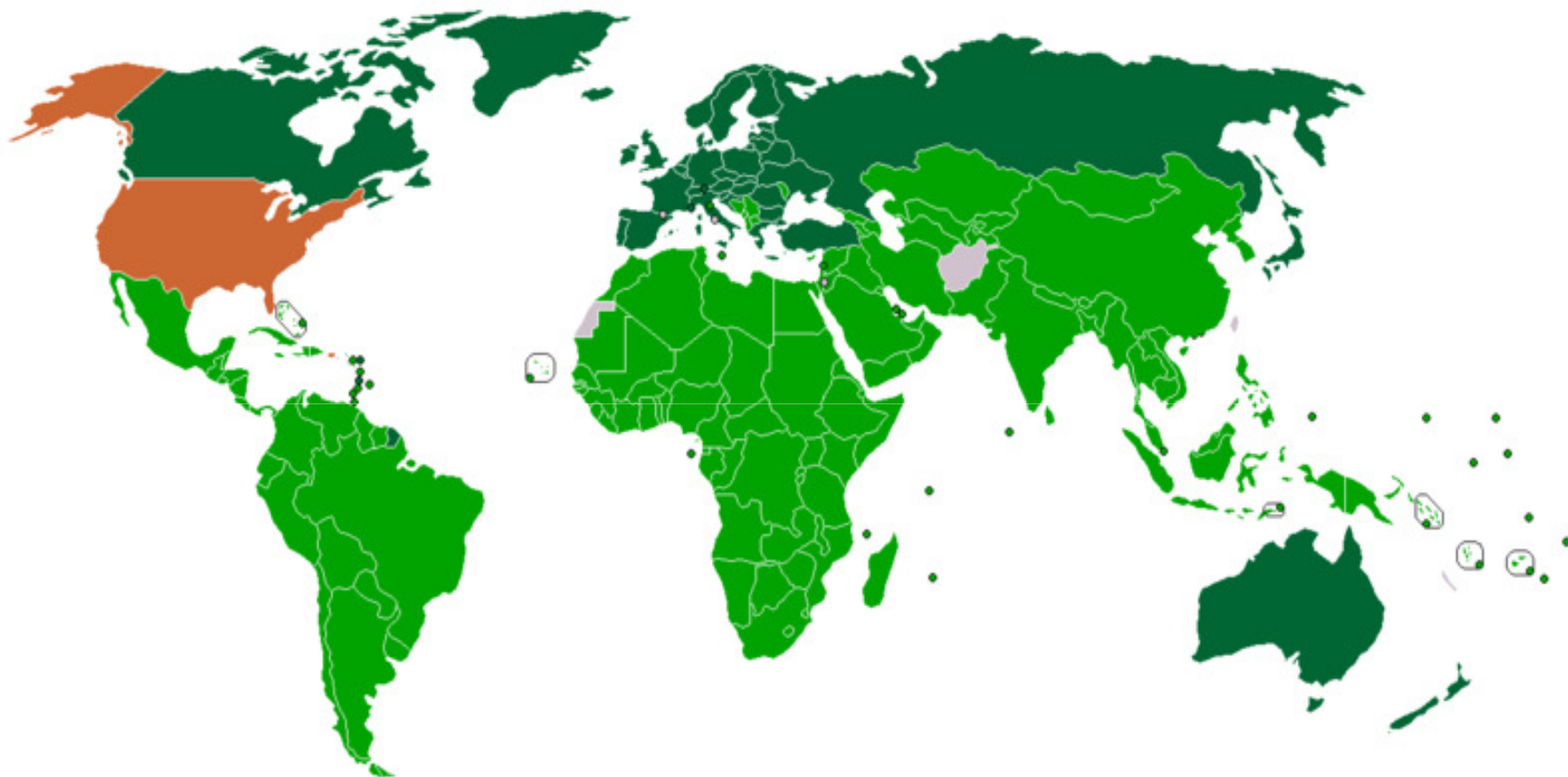


Allocation is granted based on the Member State's National Allocation Plan that is approved by EU:

- 90% to existing installations
- New entrant reserve & Auctioning: ~ 10% of the allocation:
 - New entrant reserve: ~ 6%
 - Auction of allowances: ~ 4%

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GHG Emissions: Participation of countries (*KYOTO*)



- Green** = Countries that have ratified and signed the Kyoto Protocol (Annex I countries in light green & Annex II countries in dark green)
- Gray** = Countries that have not yet decided
- Brown** = Countries that have no intention to ratify the agreement

Carbon Market: Glossary of allowances

European Union Allowances – EUAs (1EUA = 1tn CO2)

Materialization of the EU ETS quotas, the tradable unit under the EU ETS. One EUA represents the right to emit 1 tone of CO2.

European Union Aviation Allowances – EUAAs (1EUAA = 1tn CO2)

Materialization of the EU ETS quotas for aircraft operators, the tradable unit under the EU ETS. One EUAA represents the right to emit 1 tone of CO2.

In addition to regional carbon trading schemes (as EU ETS) other emission trading opportunities have been opened through Kyoto protocol's flexibility mechanisms:

- **Joint Implementation (JI),**
- **Clean Development Mechanism (CDM)**
- International governmental trading of **Assigned Amount Units (AAUs)**. AAU can be defined as the total amount of greenhouse gases that each Annex I country is allowed to emit during Kyoto period. They are issued by UN and are tradable units of one CO2 equivalent (1tCO2e)

All Kyoto mechanisms may be used by Annex I countries to fulfill their Kyoto commitments.

- CDM permits industrialized countries to finance projects for reducing greenhouse gas emissions in developing countries, while
- JI allows industrialized countries to finance such projects in another industrialized country (including countries with economies in transition).
- Credits earned through these mechanisms are known as **Certified Emission Reductions (CERs)** and **Emission Reduction Units (ERUs)** respectively.

EU ETS

✎ Europe controls half of its carbon emissions through the **Emissions Trading System (ETS)**.

- It is one of the world's biggest policies aimed at promoting a low-carbon, clean energy future.
- In this ETS, emissions from the industries on Energy sector, Iron, Steel, Cement and Chemicals are traded.
- The system provides access to sellers and buyers of emissions, provide profits and additional expenses to the participants.

In this respect and according to a survey by the UK's NGO **SANDBAG**, named **Carbon Fat Cats** (June 2011) finds that:

- the top ten Fat Cats are all Iron & Steel and Cement companies
- between 2008-2010 they accumulated **240 million tonnes of surplus allowances**, enough to cover the combined annual emissions of Austria, Denmark, Portugal and Latvia
- this surplus is **worth €4.1bn1**, four times Europe's entire environment budget over the same period and could grow to €5.65bn1 by the end of 2012.

The benefits of emission allowances

- ✎ Each allowance has a **“value”** corresponding to **one tonne of carbon dioxide equivalent** (1tCO₂e).
 - Its price accordingly defines the marginal cost of emitting greenhouse gases, and gives the emitter an opportunity to better assess alternative courses of action.
- ✎ Potential actions include:
 - reducing the output of a commodity which causes carbon emissions,
 - installing innovative technologies to reduce emissions,
 - or buying additional EUAs/CERs, if this is more cost efficient than cutting emissions.
- ✎ The market price for EUAs accordingly represents a **crucial economic factor** for European power generators.

What influences carbon prices?

- ✎ Carbon prices are primarily influenced by **fundamental factors** known from the electricity market like weather, coal, gas and oil prices.
- ✎ The price of EUA is also strongly influenced by **political decisions** made by the EU concerning the total amount of allocated allowances (EU cap).
- ✎ For phase III with new allocation mechanism, **the availability of EUAs** will be a crucial price driver in the first years of phasing-in auctioning mechanism. The surplus of EUAs banked over and brought to the market from phase II will play an important role as well.
- ✎ **The economic downturn in European countries** in recent years has also shown a profound effect on energy demand that influenced supply and demand side of EU ETS market and consequently EUA market prices.
- ✎ Additionally, political decisions concerning the **limit of project-based credits** allowed to be used for compliance has created a link between EUA and CER prices. These prices are said to mutually influence one another.
- ✎ The critical factors for price correlation are **demand for CERs** - how many CERs are allowed to be imported to EU system and supply of CERs - how many are issued from CDM projects.

EU Phase III

- ☛ The decisions coming from **revised EU emission Directive** from 2009 will bring the following changes to EU ETS in the coming phase:
- **EU-wide cap** will be determined for each year and adjusted so that it corresponds to expected emission trends over the period
 - **Power sector will not be awarded with free allowances** implying that from 2013 energy companies will need to buy allowance on auctions;
 - Carbon intensive industries that are subjected to carbon leakage will still **receive free allowances** while other industry installations will have to buy allowances throughout phase III
 - **New Greenhouse Gasses (GHG)** will be included in the scheme
 - **New sectors will be covered** as well: capture, transport and storage of GHG. These sectors will receive free allowances

Changes in EU ETS System valid from 2013


Phase II 2008-2012

- 5 years
- National Allocation Plans with different caps
- National regulation for allocation
- Free Allocation with small percentage to be auctioned (4% on an EU basis)
- CO2 Allowances
- Maintenance of EUAs in national registries

Phase III 2013-2020

- 8 years
- Limits on an EU basis decreasing yearly, -21% decrease until 2020 (compared to 2005)
- Harmonized allocation regulation (benchmarks)
- Important increase in the percentage to be auctioned (above 50%) – Common auction platform (possibility for opt out platforms)
- Adding of more greenhouse gases and activities
- Possibility of plants' exemption with emissions less than 25000t
- Maintenance of allowances in the EU registry. The management of the national accounts will continue to be realized by the EU Member states managers.

Phase III: EU-ETS - Auctioneer

 **Auctioneer:** Public or private entity which is appointed by each EU Member State in order to:

- i. Auction the volume of allowances to be auctioned by each Member State appointing it
- ii. Receive the auction proceeds due to each Member State appointing it
- iii. Disburse the auction proceeds due to each Member State appointing it

 **Time of appointment:**

- According to the Regulation, the appointment of the auctioneer must be achieved on time and before the start of the auctions (transitional or definitive common auction platform)
- The start date of the transitional or definitive common auction platform has not yet been defined according to the so far existing non definitive documents of EU

The appointment of the same auctioneer by **more** than one Member states is allowed. The Member states notify the Committee of the contact details of the Auctioneer. The appointment of an Auctioneer is **mandatory**.

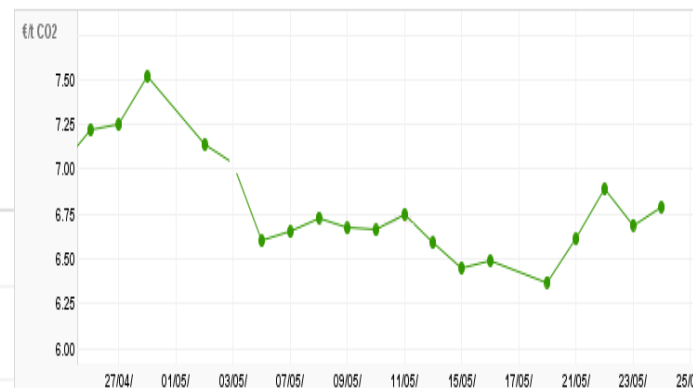
The role of the Auctioneer and the role of the Common Auction Platform Manager are not compatible.

Evolution of the prices of EUAs for the last year (and 30 days)

Price



Price



Source: EEX

ATHEX: Auctioning of EUAs – Phase II

The Ministry of Environment, Energy and Climate Change assigned ATHEX to auction new entrant reserve EUAs of the Member State Greece (Phase II, Period 2008 – 2012)

 In **2011** 10.000.000 EUAs were auctioned:

- 11 Auctions
- Total amount 10.000.000 mil. EUAs
- Revenue for Hellenic Transmission System Operator (HTSO) 105.826.153 €
- Revenue for Green Fund 5.569.798 €

 In **2012** 2.000.000 EUAs were auctioned:

- 2 Auctions
- Total amount 2.000.000 mil. EUAs
- Revenue for Hellenic Transmission System Operator (HTSO) 13.328.500 €
- Revenue for Green Fund 701.500 €

PRICE EVOLUTION IN ATHEX SINCE JUNE 2011



ATHEX: Phase III - Auctioneer

ATHEX having as a goal to be Auctioneer has proceeded to the following actions:

1. Appointment of ATHEX **as an Auctioneer** of the Common Platform **from the Greek Ministry of Environment, Energy and Climate Change**
 - For the auctioning of not yet allocated EUAs that Member State- Greece may still possess (Phase II 2008 – 2012)
2. Approach of **other Member states** with the goal to take on the role of the Auctioneer for them

Athens Exchange: Secondary Derivatives Market

Athens Exchange plans to start a **Secondary Derivatives Market of EUAs**

1. Market participants

Trading :

- The existing Group's Members trading either for their own account or for customers' accounts
- Participation of Market Makers
- Participation of an operator or an aircraft operator

Clearing and Settlement :

- Clearing Members - Union & European Registry
- AthexClear – Central Counterparty (CCP)

2. Proposed Derivatives' Market Products

- Futures in EUAs, CERs και EUAAs yearly cycle or/and quarter cycle
- Five day Futures in EUAs



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AND CLEAN SEAS**