

# Tricorona

## Emissions Trading

- State of the carbon markets -

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# The Kyoto Protocol

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# What is the Kyoto Protocol?

- An agreement of the members of the UNFCCC (United Nations Framework Convention on Climate Change) to combat Global Warming
- Stating, that the average Greenhouse Gas (GHG) emissions of the developed countries in the period 2008-2012 shall decrease to 95% of the emissions in 1990.
- If countries with 55% of the emissions (in 1990) ratify the Protocol, it shall enter into force.
- Entered into force on 16 February 2005.
- Further definitions and extension in the Marrakech Accords and further clarified in the annual COP/MOP meetings.

# The Principle Ideas of the Kyoto Protocol

- The climate is global and therefore it does not matter where in the world emissions reductions take place.
- The developed economies (as defined in 1990), so-called Annex 1 countries, are responsible for global warming due to their historic emissions and should bear the burden to reduce emissions.
- Annex 1 countries receive Assigned Amount Units (AAUs) corresponding their emissions target and must have one AAU for every metric ton of CO<sub>2</sub>eq. emitted.
- Trading of AAUs between the countries is allowed.
- Reductions abroad count equal to domestic reductions.
- Reduction activities in non-Annex 1 countries must not lead to exploitation, but to sustainable development instead.

# Reduction of other GHG Emissions

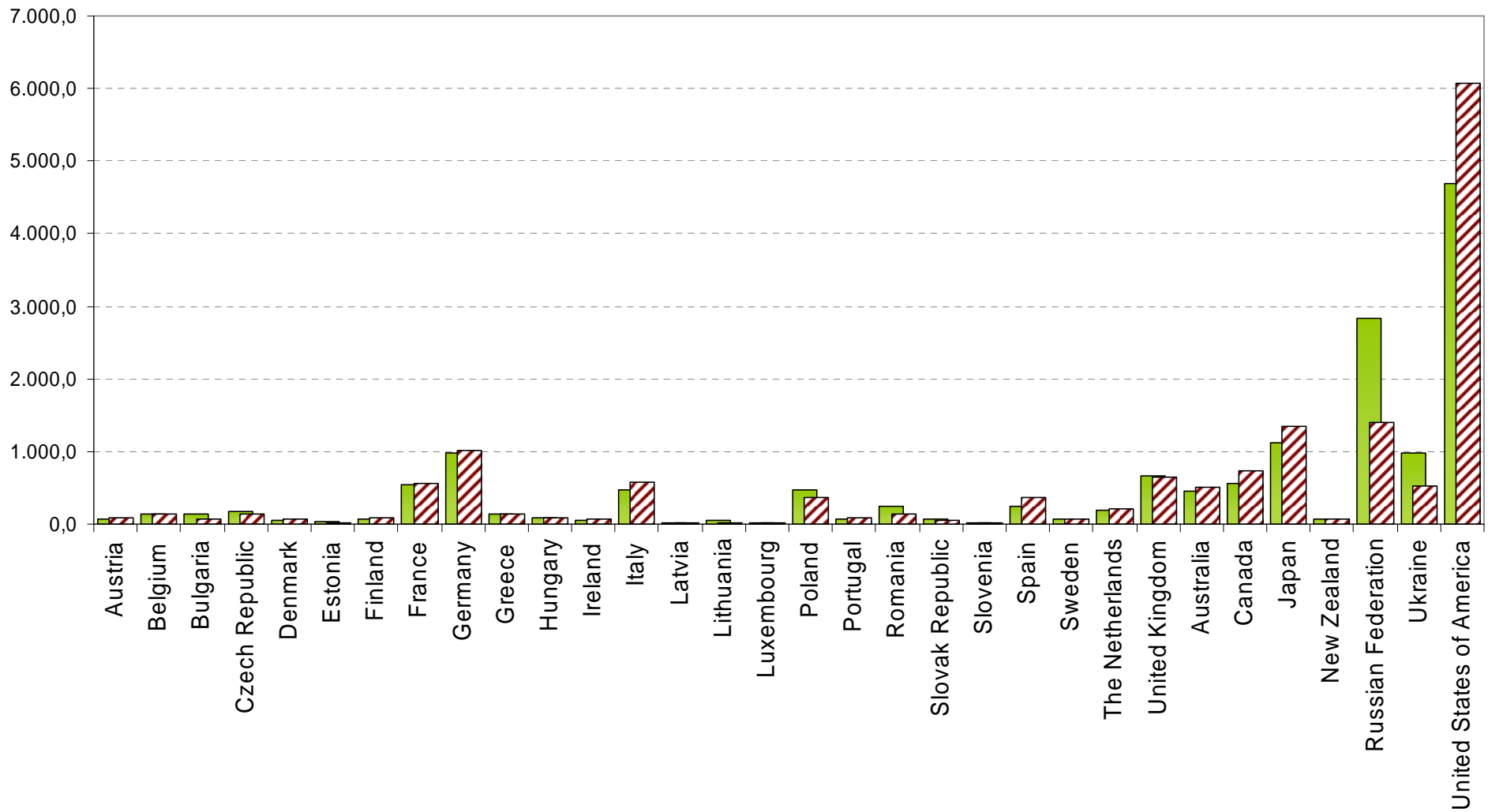
- Global Warming Potential (100 years) of some GHG {Benchmark: CO<sub>2</sub> = 1}:
  - CH<sub>4</sub> (Methane) = 21
  - N<sub>2</sub>O (Nitrous Oxide) = 310
  - HFC<sub>23</sub> (Hydrogenated Fluorocarbons) = 11,700
  - SF<sub>6</sub> (Sulphur Hexafluoride) = 23,900
  - CF<sub>4</sub> Perfluoromethane = 6,500
- Above gases mostly not allowed in developed countries, reduction potential mainly in non-Annex I countries (developing countries and Economies in Transition).

# Status of the Kyoto Protocol

- Contract signed by all major emitters and nearly all nations of the world.
- Ratified by nearly all major emitters and nearly all signatories.
- “Problem children”: Canada, USA
- Signed and ratified by Canada, but disregarded by current government.
- Signed but not ratified by USA, the largest emitter to date.
- Not signed and/or ratified by some minor GHG emitters.

# Kyoto Targets: Allowance against Actual Emissions (Graph)

■ Kyoto Target    ▨ 2003 Emissions

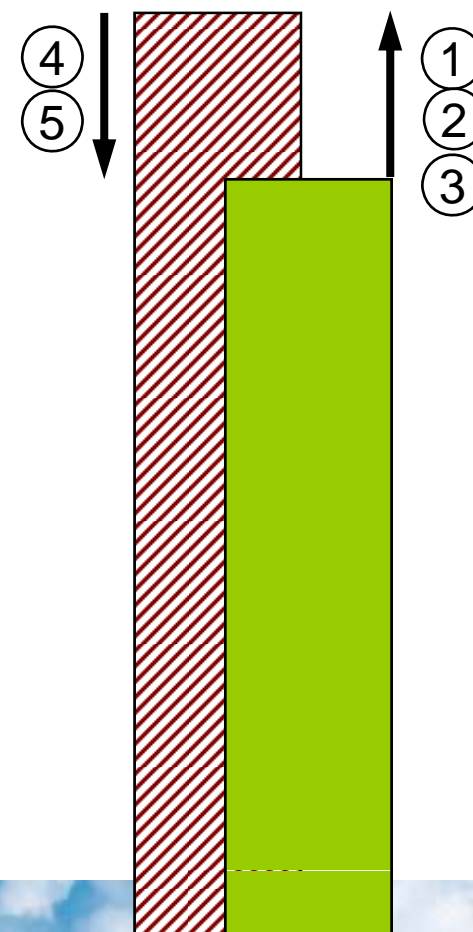


# Kyoto Compliance of the EU

- Under the Kyoto Protocol, the European Union agreed to GHG reductions of 8% below levels of 1990.
- The Burden Sharing Agreement redistributes the reduction targets among the member states.
- EU allows for international emissions reduction projects (intra- and extra-EU).
- EU supervises its members' activities to comply with the individual Kyoto Targets.
- Testing period 2005-2007

# How to Reach the Kyoto Target?

1. Art. 17 - Emission Trading
2. Art. 6 - Joint Implementation
3. Art. 12 - Clean Development Mechanism
4. Reduction of CO<sub>2</sub> emissions
5. Reduction of other GHG emissions



# Purchase of Emission Credits

Purchasing emission credits from other Annex I countries, or investing into GHG reduction projects abroad is sometime cheaper than domestic reductions. Through the flexible mechanisms, the possibilities are:

→ Art. 17 - Emissions Trading (AAU trading);

→ Art. 12 - Clean Development Mechanism (CDM): Emission reduction projects in non-Annex I countries generate Certified Emission Reductions (CERs);

→ Art. 6 - Joint Implementation (JI): Emission reduction projects in Annex I countries generate Emissions Reduction Units (ERUs).

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1 CER and 1 ERU equal 1 ton of CO<sub>2</sub>eq.

# Art. 17 - Emissions Trading

## - "Hot air" -

- Few potential seller countries (Ukraine, Russian Federation, Romania, Poland), but with very large volumes.
- Reductions a result of economic collapse in the East in the 1990-s and considered "Hot Air".
- Politically highly disputed in potential buyer countries.
- Politically acceptable only from Green Investment Schemes (GIS)

# JI and CDM Essentials

## 1. [Additionality](#)

To avoid windfall profits and make a real climate contribution, the emission reduction project's documented objective must be to reduce emissions.

## 2. [Real Carbon Reductions](#)

Emission reductions must be real, measurable, lasting and certified by independent third parties. This excludes forestry projects and any other temporary emission reduction.

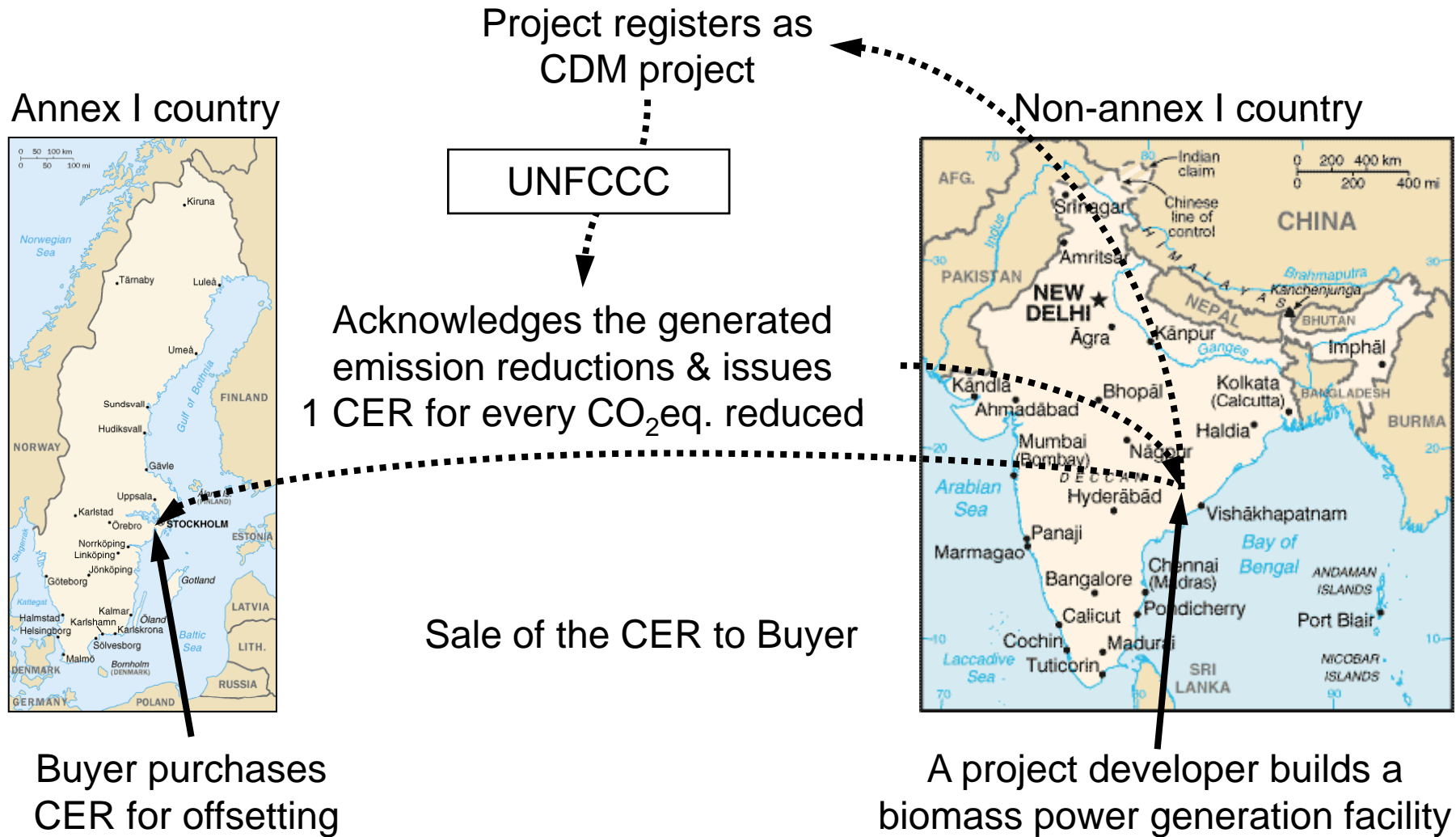
## 3. [Transparency](#)

Emission reduction projects must have openly accessible documentation, stakeholder consultations and be registered with the United Nations.

## 4. [Contribution to Sustainable Development](#)

The project's host country must benefit from sustainable development through the project beyond the climate component (e.g. technology transfer, jobs, infrastructure)

# Art. 12 - Clean Development Mechanism



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# The European Emission Trading Scheme (EU ETS)

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# EU ETS: How Does it Work?

- National governments issue EU Emission Allowance Units (EUAs) to certain industrial GHG emitters (e.g. combustion capacity > 20 MW).
- A country must define the allocation procedure & rules in a National Allocation Plan (NAP).
- The NAP (and thus total number of EUAs to be issued) must be approved of by the European Commission.
- Trading of EUAs between installations Europe-wide is allowed.
- The Linking Directive allows for limited import of CERs and ERUs
- Total allocated EUAs will be less than the expected emissions in business-as-usual case.
- → Someone will have to reduce emissions, since supply of EUAs does not satisfy demand

# Installations in the EU ETS

- Emitters hold account for EUAs at respective national registry.
- ETS installations must monitor their annual GHG emissions.
- All installations must annually verify emissions and surrender an equivalent amount emission rights.
- Must have one emission right for every ton CO<sub>2</sub>eq. emitted.
- Emission rights allowed: EUAs (unlimited), CERs & ERUs (percentage only)
- Penalty for every ton emitted not covered by emission rights applies (100 EUR/t) + EUAs have to be supplied.

# Other Global Markets

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# The US position

- The Waxman-Markey Bill cleared the House Energy and Commerce Committee on a 33-25 vote on 21stMay.
- Proposed cap-and-trade covering 85% of US emissions to reduce emissions 17% below 2005 levels by 2020.
- International Offsets from “qualified international programs”. The cap on offsets is currently set at 2bn tons/year of which 50% can be reached with International Offsets.
- Obama’s goal is to have a legislation on climate change before Copenhagen. It has to clear more committees on its way to a house vote and can expect large resistance from lobbyists and the Republican Party.

## Outstanding issues

- What will constitute an International Offset?
- How much will be auctioned?
- What will be left of the actual bill once it has gone through the various committees and the House?