



REFORM

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EU ETS on intensive care

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Overview

1. CAP & TRADE theory

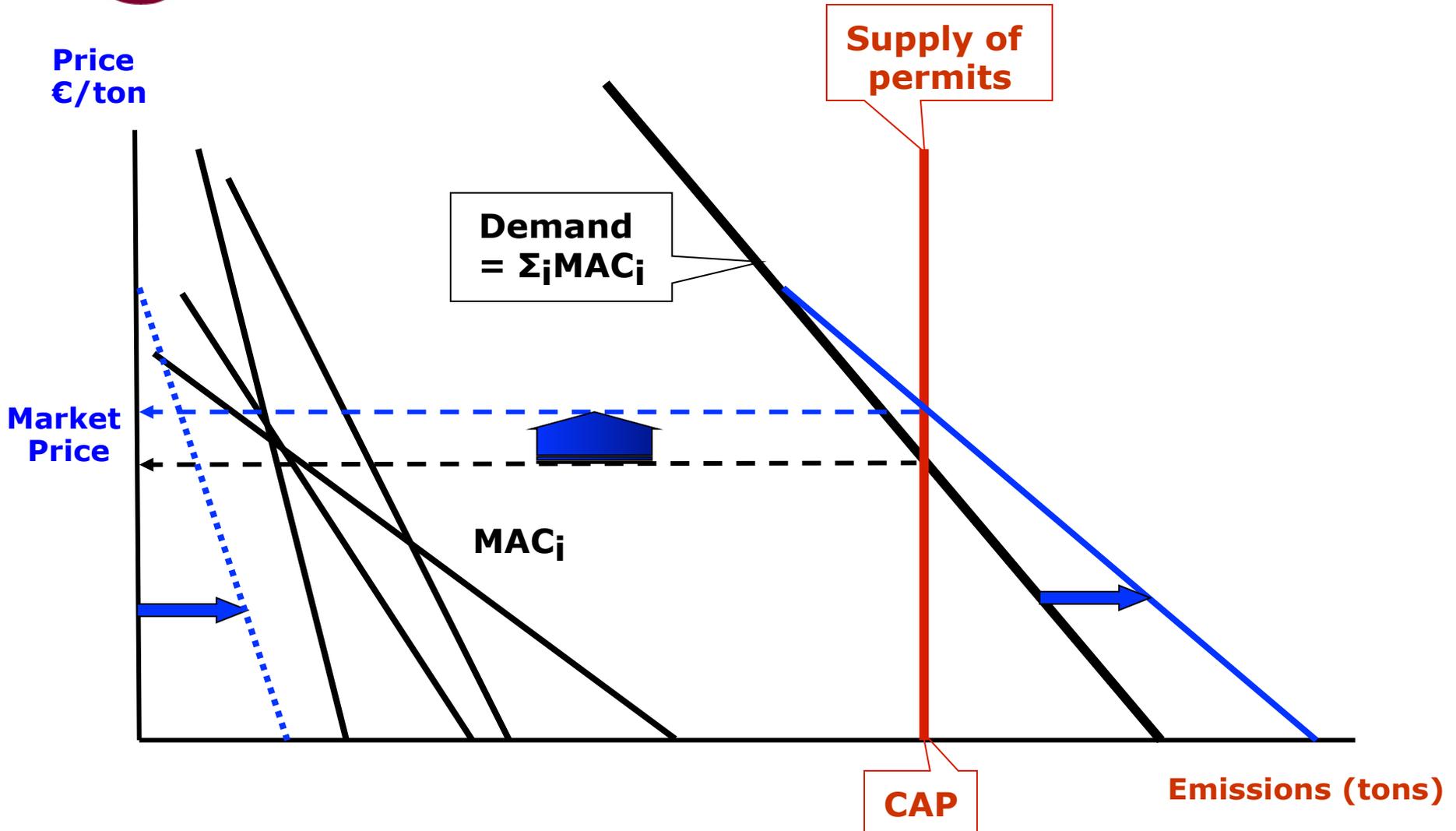
2. CAP & TRADE practical set-up

3. EU ETS Phases 1:2005-07 & 2:2008-12

4. EU ETS Phases 3:2013-20 & 4:2020-30

5. EU ETS diagnosis and life-extension

Emissions Trading (ET) via CAP & TRADE





Efficiency = least Abatement Costs (AC^*) for the sum of the emissions e_i equal to the CAP imposed

Minimize $\sum_i AC_i (e_i)$ contingent on $\sum_i e_i = CAP$

Minimize Lagrangean $\sum_i AC_i (e_i) - \lambda[\sum_i e_i - CAP]$

AC^* when Marginal AC are equal for all emitters:

$$MAC_a \dots = MAC_i \dots = MAC_z = \lambda$$

$$\text{with } \lambda = \partial AC^* / \partial CAP$$

ET announced scores on 4 main criteria



**Effective
CAP**

**Efficient
TRADE**

**Fair
EQUAL SHARES**

**Feasible
STAKEHOLDERS
MARKET**



- **Define BUBBLE (Who's IN/OUT?), free of leakages**
 - **Relevant emission sources**
 - **Size of sources**
 - **Type of activities (homogeneous ⇔ disparate)**
 - **Geographical scope**
 - **Span of public authority (market regulator)**
- **CAP time-line: periodical, consecutive phases ⇔ linearly extinguishing to 0 in 2050?**
- **Introduce quota supply in the market**
 - **Perfect auctions <> gaming the system**
 - **Free gift: Who gets how much? Why? How long?**
- **Supervise performance & transactions**



Colour of the chameleon depends on initial assignment of permits

LEVIES

- Yearly full auction (renting)
- Open auction every few years
- Auction of futures and options
- Partly auctions / partly gifts
- Assign permits to $MAC_i = \lambda$

PERMITS

- Grandfathering
- Gifted along expected emissions



- **Free Permits = 100%(Ph1), 96%(Ph2) of actual emissions**
 - **Price patterns Ph1 down to zero; Ph2 idem, but hold up by banking permits from Ph2 into Ph3**
 - **Banking delutes role of CAP + extends problems in next Phase**
- **Trade in excess permits = 'Tail wags Dog'**

Ref.: Aviel Verbruggen. Windfall and other profits. *Energy Policy* 36 (2008) 3249-51

 - **Permit price on excess emissions beyond free assignments**
 - **Marginal is derivative of total (not the reverse)**
 - **MC-pricing may work iff all submarginal units also pay the costprice at the margin (+ long-run optimum)**
 - **No financial incentives from 0 euro bill**
 - **Source of windfall- excess profits for corporates**
- **Price is symbolic (joke)**
 - **Support by stock-stakeholders (ETS companies)**
 - **No carbon leakage by climate policy (yes by globalization)**
 - **ET popularity is growing wherever industry understands it is a symbolic dance without impact, but source of money-making**



- **Permit assignment**
 - Free for exposed industry, not for electricity generation
 - ≈ 2 Gton surplus Jan.2013 (banked free Ph2 permits), expected to be ≈ 2.6 Gton in 2020
 - Share of auctions *would* increase to 71% in year 2020
 - Electricity sector is hoarding permits
 - Backloading shifts problems to end Ph3 (into Ph4)
 - CERs (CDM) are squeezed out as part of the surplus
- **Market stability reserve**
 - Comitology creature for Ph4
 - ETS metamorphoses from periodical cap steering to permanent price control
 - 'cap on emissions' is now 'cap on the price of permits'
- **Yearly cap 1.74% linear reduction factor (≈ 0.038 Gton)**
 - Insufficient to respect +2°C warming
 - Commission proposes 2.2% after 2020, but 2.6% needed



- **Uniform approach applied on Diverse realities**
 - **Not effective (CAP shrinking follows autonomous emission reductions by innovation and de-industrialization)**
 - **Not efficient ('playing fields' not leveled; disparity covered with a thin sheet of an almost zero carbon price)**
 - **Discriminatory (Aristotle)**
 - **Swindle profits, eroding social cohesion & resolve**
 - **Recurrent defects plastered with comitology spit & polish**
 - **Joke market – mainly speculation, hoarding**
- **Market-based instrument or captured regulator?**
 - **EU ETS champions meddling & muddling by politics, officials, stock-stakeholders**
 - **'Market' risks by uncertain comitology & lobbying outcomes**
 - **Theoretical mirage (toy of economists and eurocrats), but structurally flawed**



EU ETS: the wrong diagnosis & discourse (Sandbag as highlight)

- **Sandbag's take-away message**
The ETS is a powerful policy instrument to help the EU make a meaningful contribution to fight climate change, but its current design features are limiting its effectiveness
- **Europe needs a single, unified policy instrument on climate**
 - Too many activities lead to GHG emissions to regulate each one individually
 - No single country can address the climate crisis on its own
 - A homogenous regulatory environment minimizes the impact on businesses
- **Emissions trading is the most workable policy option**
 - It avoids prescriptive command-and-control regulations, and provides an incentive for continuous innovation
 - A carbon price set *a priori* does not ensure an agreed-upon target is achieved
 - It does not encroach on Member States fiscal prerogatives



- **Discourse:** Government CAPs emissions & Companies TRADE marginal surplus and shortfall permits in a perfect market
 - ⇔ **Reality:** Big corporates TRADE hoarded permits to CAP the price of the emissions
- **Discourse:** The market frees policy makers from difficult choices, e.g., picking the winning technologies
 - ⇔ **Reality:** public interest policy is overrun by big corporates ruling their own mitigation efforts and pace
ETS: today's most illustrious case of CAPTURED regulation
- **Discourse:** ETS flagship, most workable policy option, 'current' design needs a bit improvement, ...
 - ⇔ **Reality:** 'current' is 2005-2014 ... - EU ETS is structurally flawed, breathing on intensive care with effort spent on life-extension



- **Insane coalition of caretakers**
 - **Neoliberal economists, blinded by Langrange formula (bandwagon honours, publications, contracts)**
 - **Consultants (complicated, opaque, structurally flawed case)**
 - **Banks & trader cy's (may make some gains)**
 - **Eurocrats (discretionary power, exposure, career)**
 - **What administration can successfully construct & control a global, artificial, multi-billion market?**
 - **ETS companies:**
 - **Especially the big ones (billions profits, zero mitigation costs)**
 - **Power companies are leading the dance:**
 - **Control ETS regulation via comitology**
 - **Control permit prices via transactions and reserves**
 - **TINA believers: environmental NGOs, e.g. SANDBAG (no guts, nor brains to develop alternatives?)**

EU ETS turns dream in nightmare



**ETS = CAPTURED regulator
most illustrious case today**



**Globally Non-
feasible**

