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Benefits for European Farmers from Carbon Trading

Possible models and perspectives for the south
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1. Kyoto Protocol

1.1. EU GHG Targets

1990-2012: 8%

1990-2020: 20%!



1.2. Toolbox

i) Emission Trading System (ETS): →
EU: 1-1-2005

ii) Joint Implementation (JI)

**iii) Clean development Mechanism
(CDM)**



2. Why farmers?

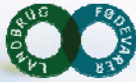
2.1 The Puzzle

Agriculture not part of EU ETS!

Why not?

Should farmers participate?

Benefits?



EU CO₂ emissions, six industrial sectors 1997

| Sector | CO ₂ Emissions percentage, EU |
|----------------------------------|--|
| Electricity (and heat) producers | 29.9 |
| Iron and Steel | 5.4 |
| Oil and gas | 3.6 |
| Building materials | 2.7 |
| Chemicals | 2.5 |
| Paper and pulp | 1.0 |
| Total | 45.1 |



2.2 GHG emission,

Agriculture:

EU: 10%

Denmark: 18%

Transportation: 20%

Residential: 10%



2.3. The Hague Failure, 2000

→ **US: Also land use and agriculture**

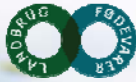
More attractive to join (US/China/India).
New land use practices rewarded.



3. Benefits

3.1 “Low hanging fruits”

Huge potential for ‘easy’ savings.
(Olesen og Dalgaard (2007) and
UNCTAD/WTO (2007))



→ Organic farming...

Chemical fertilizer etc.
(Fliessebach, 2007)

Huge potential in arable sector,
less in livestock and
negative for vegetables.
(Halberg, 2008)

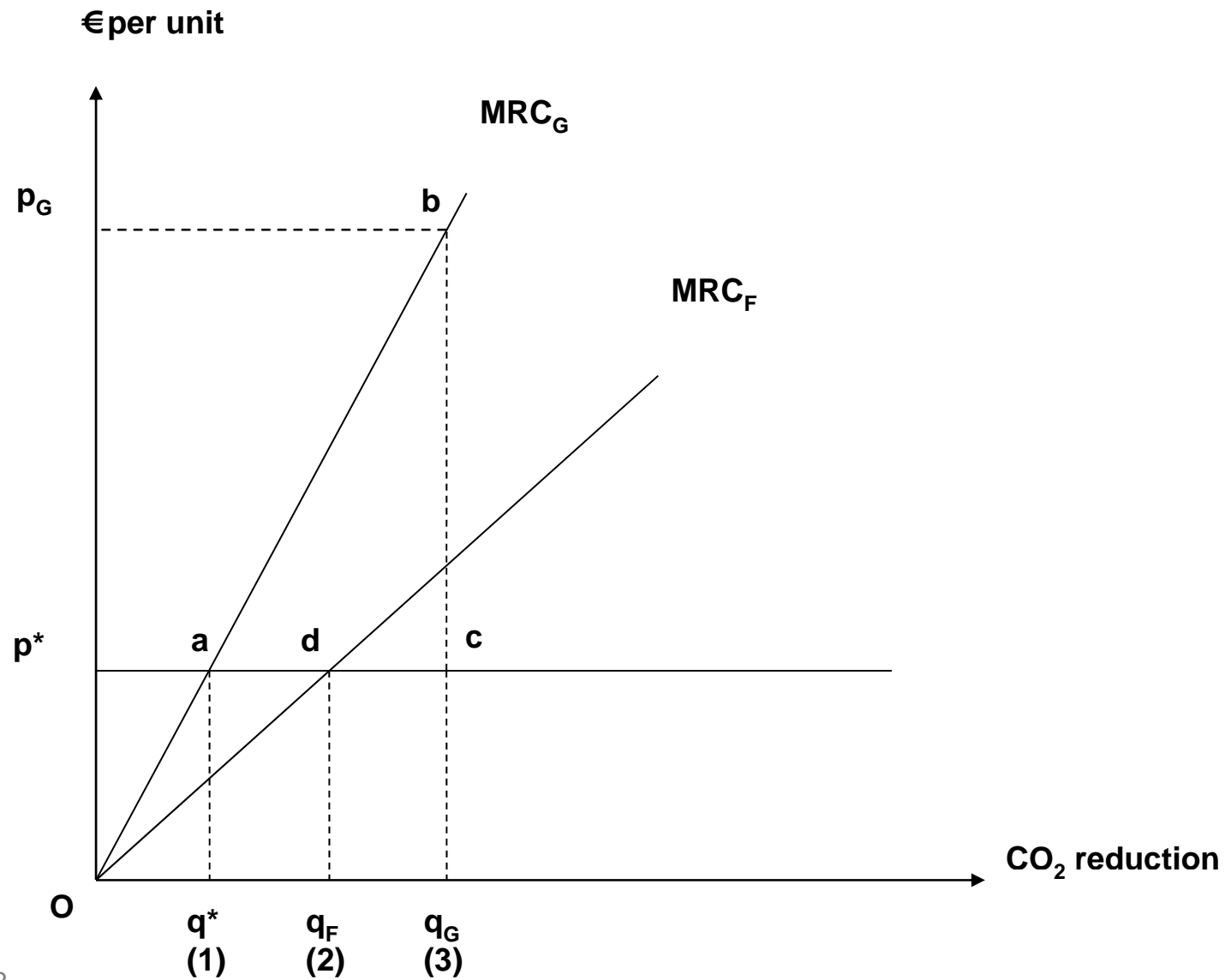
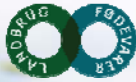
Overall: Relatively low MRC



3.2 Grandfathering

Besides becoming a net seller, farmers may ask for a favourable allocation of allowances (grandfathering).

A subsidy to develop more sustainable agriculture. Economic gain from trade:





Overall:

Both buyer and seller wins!

Yes, economic gains are likely for farmers
in the EU ETS.

What about documentation?

4. Documentation

GHG reduction in agriculture comes from many sources

Adapted Emission Factor Approach (AEFA)

Example: Methane from cows

- Cow units x Emission Factor_{cow} = GHG reduction



Fixed or variable emission factors?
Rewarding cut down or changing
management and technologies?

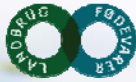


Easy recording: Livestock numbers, area of crops, fertilizer application

Difficult recording: Management practice

Can we design a practicable system with the right dynamics?

Combination of compulsory and voluntary records?



How to make it beneficial for farmers?

Measurement / estimates of GHG emissions that use existing farm data

Calculation models that reflect positive dynamic changes in farming practice

- Including carbon capture in soils

Public funding of transaction costs



5. Perspective for “the south”

Possibilities for Clean development
Mechanism (CDM)?

Low start level of emissions and
production = little potential for further
reduction



Could certain farming practices in the south be granted a premium for low emissions?

Capacity for reliable administration?

High documentation costs



6. Conclusion

European farmers can gain income by participating in the EU ETS

Low MRC & option of favorable grandfathering.

Because documentation is complicated and/or expensive, we suggest:



→ Adapted Emission Factor Approach
(AEFA)

Important to design the system to give the
right dynamics.

Farmers in the south will have difficulties
to profit from the system.

CDM and high documentation costs.