

# PERSONAL CARBON ALLOWANCES (PCA)

- Present methods for mitigation of global warming have not been efficient enough (taxes, EU-CTS etc).
- CO2 taxes: unbalanced social consequences, uncertain results, politically unacceptable high tax levels are required in order to yield necessary CO2 reductions.
- EU industrial cap and trade scheme: No success so far.
- NEED FOR SUPPLEMENTARY SCHEMES:
- *New proposal: Personal Carbon Allowances (PCA).*

# PCA PRINCIPLES

- Every adult is allotted a certain quota of CO<sub>2</sub> emission per year (free) – children have reduced quotas.
- Quotas can be traded - perhaps on special markets.
- Quotas include CO<sub>2</sub> emission from household consumption for electricity, heat and transport – this will typically cover 25 % to 50 % of total CO<sub>2</sub> emission.
- Consumptions are registered on a personal CO<sub>2</sub> account using a personal CO<sub>2</sub> credit card.
- Related proposals: Tradable Energy Quotas (TEQ) and Cap and Share (C&S) – but different principles.

## SOME PCA QUESTIONS

- National or international schemes?
- Different caps in different countries?
- Overlap with EU Industrial Trade and Cap Scheme, e.g. in relation to electricity production and household electricity consumption. Should be correlated.
- Why not integrate all final consumption in a single PCA?
- How to divide CO<sub>2</sub> emission between heat and electricity in co-generation plants?
- Institutional arrangements should be adapted to the PCA scheme – households should have flexible possibilities and detailed information to facilitate use of the scheme.

# UK CASE STUDY

- Private members bill to Parliament on PCA in July 2004, not adopted as legislation.
- Environmental Audit Committee in 2008 supports further work on PCA: "Personal carbon trading could be essential in helping to reduce our national carbon footprint."
- PCA would cover around 44% of the UK CO<sub>2</sub> emission (when including household consumption of heat, electricity, transport fuels and air tickets).
- Huge variations in personal carbon emissions, but low-income groups in general have lower emissions.

# DANISH CASE STUDY

- Little political/scientific interest for PCA in DK so far.
- 60% of Danish households get their heat and electricity from cogeneration plants combined with district heating.
- Tariffs include a relatively large fixed part – counteracts energy savings.
- Danish houses are relatively well insulated (compared to the UK).
- PCA could cover between 30 and 40% of total Danish CO<sub>2</sub> emission (preliminary evaluation) if institutional changes were introduced (e.g. no fixed tariffs).

# DISCUSSION

- Controversial discussion on relative merits of green taxes versus cap and trade schemes. Stems mainly from priority of social balance and different cost estimates.
- Even with EU cap and trade system plus PCA some sectors are left out: e.g. the service sector, agriculture and small business. These sectors should be better integrated in the mitigation of global warming.
- Co-ordination of the different mitigation schemes may be needed to avoid counteracting effects. More analyses are needed.

# PCA CONCLUSIONS

- The PCA scheme has a promising potential for direct and balanced involvement of private people in mitigation of global warming.
- So far there is no empirical experience with PCA (except for rationing schemes during World War 2).
- Most of the political discussion and scientific analysis have so far taken place in the UK (and in the US).
- Cost estimates for PCA are very preliminary.
- More research and analysis are needed in order to promote PCA – with focus on industrial countries.

# REFERENCES

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