

## Trade sanctions and Climate Policy

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### Abstract

As Kyoto has come into force, it seems that trade sanctions to combat potential negative impacts on EU-competitiveness are "WTO-proof". The opposing views from empirical research and simulation studies leave room to the fear of deteriorating competitiveness, substantial sectoral adjustments and carbon leakage. Simulations with WorldScan, a global general equilibrium model, focus on climate policies and provide alternative answers to the question how to alleviate the problems associated with this policy. Import tariffs and export subsidies that compensate the effect of the energy tax on production cost, restore the competitiveness of European industries, at home and abroad. Both compensating import tariffs and export subsidies thus help to alleviate the problem of carbon leakage.

Simulations show that trade policy has favorable consequences, both economic and environmental. However its role is limited. Trade in energy-intensive goods plays a limited role in the economy as a whole. Within the context of Kyoto, relocation and loss of competitiveness is rather small. In a more stringent climate policy, like unilateral action by EU25 to reduce CO<sub>2</sub> emission 20% below 1990 levels, there may be some room for trade policy. Imposing tariffs and granting subsidies can restore import and export of energy-intensive goods to baseline levels. These sanctions mitigate the negative effects on income in abating countries and decrease carbon leakage. They accomplish that the reduction of European CO<sub>2</sub> emissions is achieved by improving energy efficiency rather than by relocation of industries. Abating countries, relying relative strongly on energy-intensive trade, like the Netherlands, benefit most. However, trade sanctions are not a credible threat to non-abating countries. They may reduce the positive effects of non-abating, but effects on income and production in energy-intensive sectors will not turn negative.

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## 1. Introduction

The European Union has ratified the Kyoto Protocol and begun to internalize the costs of meeting its commitments to reduce emissions. It has designed a trading scheme to help achieve its goal. Recently, the EU has set itself a climate change target to achieve by 2020 a 20% reduction in EU greenhouse gas emissions as compared to 1990 levels, or 30% if other developed nations agree to take similar steps.

Climate policy will lead to higher costs in terms of higher energy prices. There is some fear that European businesses will quickly feel at a competitive disadvantage with businesses based in countries that are not internalizing the costs. The absence of key industrialized countries from the Kyoto Protocol – in particular the US – may put the businesses of signed-up countries at a competitive disadvantage.

It can be expected that trade restrictive measures will be considered to tackle inaction on global warming (REFERENCE). This would both level the playing field in terms of trade, for those countries that are bearing the costs of implementing their Kyoto targets and it would raise the costs of inaction for those who are not. As part of the climate change regime it would be possible to incorporate multilateral trade restrictions against countries that chose to avoid their responsibilities to cooperate in reducing greenhouse gas emissions, where other states are reducing emissions and internalizing costs. These restrictions would most likely be in some form of duty on exports. Such duties could be devised to match the amounts saved by manufacturers in such countries as a result of their not having to bear the costs of complying with Kyoto. It is open for discussion whether the use of economic measures, including trade measures against other industrialized countries, would be effective, appropriate and legitimate for countries, or groups of them.

In this paper we want to answer the following questions.

- Does unilateral climate policy by the EU lead to changes in competitiveness and relocation of energy-intensive industries to non-abating countries?
- Is there a case for trade measures to restore the level playing field?
- How would trade measures, in particular import duties and export subsidies, mitigate the impacts of the climate policy?
- Could trade measures be used to persuade non-abating countries to join a climate coalition?



The Kyoto Protocol is only a first, small step towards mitigating global warming. Consequently, there will be only modest effects on competitiveness ((Babiker and Rutherford, 2005). In general, the macro-economic effects of an energy tax only appear to be rather limited. The energy-intensive sector is small; energy expenditure is even in that sector only a fraction of total production costs. Trade flows are hardly affected, because Intra-European trade is much more important than inter European trade. However, given the European ambition on climate change policy, we analyze a more stringent case: Point of departure in this report is EU-goal to bring emissions of the EU 30% below 1990 emission levels in 2020. In this case, macro-economic effects, structural shifts and changes in trade patterns can be expected to be more serious.

We use WorldScan a multi-sector, multi-region general equilibrium model to assess the impact of trade measures.

First, we examine the interplay between multilateral trade rules and the global climate regime with respect to a particular compliance mechanism (section 2). Next, we briefly explain the policy simulations and the methodology used (section 3). Result are discussed in section 4. Section 5 concludes.

## **2. A case for trade measures**

The relevance of uncoordinated, i.e. unilateral, trade measures, for environmental purposes has been debated extensively for decades. The United States has been active in implementing unilateral trade measures justified by environmental goals. There are many types of trade measures that can be utilized such as tariffs and subsidies. It is important to note that although the term ‘trade measure’ has mainly a negative ring to them; this is not necessarily always the case. For example the European Union has put in place trade measures aimed at improving access to the European markets from the countries affected by the tsunami disaster of December 2004.

In the case of trade and environment, the most famous case of a trade measure is that taken by the US in the famous of these measures is the ‘shrimp-turtle’ case. (Tarasofsky, 2005).

Given that the United States is not a party to the Protocol, an important consideration in the future is to know to what extent the WTO allows the Kyoto Protocol complying parties to take trade measures.

The interface between the WTO and the Kyoto Protocol is complex. This relationship is difficult to define because important aspects of the law emanating from the WTO and the Kyoto Protocol are not yet clarified. Although no trade measures are specifically mentioned for the first commitment period, Kyoto complying parties may wish to include trade measures aimed at offsetting the competitiveness impacts (Tarasofsky, 2005).

From a legal perspective, this is exercise of putting trade measures is a test situation, because by not participating in the Kyoto Protocol- which is a Multilateral Environmental Agreement (MEA), the non- participating party has not implicitly consented to altering its WTO obligations.

However, the technique of applying trade measures is applied in the case of other MEAs, to prevent free-riding and to create an atmosphere for non-parties to join the regime (Tarasofsky, 2005). Trade measures in the field of trade and environment are predominately meant as a means to convince non-abating countries to comply to the environmental regulation.

According to the authors of the New Economics Foundation report (New Economics Foundation, 2003), they have examined the question “whether implementing trading barriers to climate-



change policy is possible?” The authors have convincingly shown that the European Union does have a have a good chance to win any possible dispute over such a border tax.

Climate related trade restrictive measures are countervailing duties. The WTO allows states to impose these countervailing duties to offset the competitive trade advantage that foreign companies gain when they receive subsidies from their government. In the case of climate change, the US government and other governments of non-complying nations are not giving direct subsidies but indirectly favors its industry by not imposing climate policy on them. The use of remedial trade restrictions are allowed in particular where there has been ‘a good faith effort to reach an international agreement’. This principle was demonstrated in the shrimp/turtle case 1996. (New Economics Foundation, 2003).

Furthermore, in the climate context, trade measures are likely to be justified by the need to offset any competitive advantage held by producers in countries that have not implemented costly mitigation measures (Schram Stokke, 2004). Please see comment in box.

A variety of trade measures can be applied in the WTO, such as trade restrictions or tariffs, border tax adjustments and energy standards.

Therefore, the hypothetical argument discussed in this paper of applying export subsidies and/or import tariffs can be possible due to past arguments.

The case of subsidies of energy efficient products can only run **afoul** in few cases. These cases can be (i) subsidies for the development of biofuels, (ii) subsidies that require use of domestic technologies over foreign possibilities, and (iii) where subsidy is dependent on positive export performance (Tarasofsky, 2005).

Import tariffs and export subsidies maybe viewed as border tax adjustments (BTAs). According to Tarasofsky, (2005) although BTAs are permitted under GATT (General Agreement on Tariffs and Trade) but the amount of flexibility is limited under GATS (General Agreement on Trade in Services). Difficulties can arise where domestic service providers are treated differently for tax purposes than foreign providers.

Upon learning of past cases with convincing arguments, the question that remains to be answered is which type of trade measure can be used in putting pressure on non-confirming parties. This distinction is necessary under the Doha Development Agenda, which differentiates between “specific” and “non-specific” measures. In rudimentary terminology it is possible to say that ‘specific’ measures relate to an exact trade effecting only one industry, whilst ‘non-specific’



measure refers to (multiple) trade measures which effect many parts of the economy, society or environment. The Kyoto Protocol falls under the category of ‘non-specific’ measures, where measures are taken individually by parties in order to achieve objectives of the Protocol.

This issue raises questions regarding a possible way forward. Fundamentally, it is possible to impose trade measures against countries which have gained an advantage by not compiling to the multilateral environmental agreement; however there are problems related to the legal designs of the trade measure and dealing at the WTO and its appellate body.

There are certainly a lot of strategies under current WTO rules, which favor the parties confined by the multilateral agreement. In the case of the Kyoto Protocol this is further strengthened given the fact that the Protocol’s adaptation side (adaptation is the ultimate objective of the UNFCCC Convention to achieve, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to **adapt** naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner (UNFCCC)) will affect issues related to biodiversity and land use. Nevertheless, this area needs further research.

#### **What can we expect?**

The theory of international trade makes a strong case for free trade. Nevertheless, governments persist in attempting to influence or control international trade. The most familiar instrument is a tax on imports or tariff. From the classical theory of comparative advantage it follows that tariffs are inefficient for the world as a whole. For a country that levies a tariff the theory is ambiguous. The country suffers from both a production cost and a consumption cost. However, if a country is large enough to influence world prices (its terms of trade), it could be better off.

In a more Keynesian economy, if international capital movements passively adjust to balance of trade, a tariff can stimulate domestic income by switching demand from foreign goods to domestic goods.

Real world settings may complicate things even further. Tariffs and export subsidies should be considered in an economy with existing distortions; energy taxes vary over regions and sectors, carbon taxes vary over fuels. The effect of a trade measure may differ from that in a ‘first-best-world’. A subsidy on energy intensive exports may mitigate existing distortions and render marginal rates of substitutions more in line with marginal costs. Hence, resulting in an efficiency gain.

All in all, the theoretical effect of trade measures is ambiguous. Simulations with a real-world, quantitative model could bring decisive answers.



### 3. Methodology

#### WorldScan

The macroeconomic consequences of climate policy scenarios are assessed using the applied general equilibrium model WorldScan. This model has global coverage and in particular details regions within Europe (see Lejour, 2005, and Bollen, Manders and Mulder, 2004). The model distinguishes various sectors and is sufficiently detailed to monitor the development of energy-related CO<sub>2</sub> emissions<sup>1</sup>. This study focuses particularly on the energy-intensive sector. This sector comprises chemicals, pulp&paper, metal [CHECK]. The emissions ceiling defined generates an endogenous shadow price known as ‘carbon tax’ or ‘emissions price’. A global ceiling with free emissions trade would result in a single worldwide emission price.

#### Policy cases

In this study we assess three policy variants:

|            |                                                                                                                                                                                                                                                                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EU         | The group of 25 EU-countries accepts emission targets 20% below their 1990 emission levels. Within the EU25, unrestricted emission permit trading is allowed. The 20%-reduction target for the EU25 as a whole is consistent with a global emissions profile heading for a 2 degree global warming (the EU long term goal) and convergence to equal per capita emissions rights in 2020. |
| EU-IMP     | Imported energy-intensive goods are taxed in such a way that imports from non-abating countries to abating countries remain at baseline level.                                                                                                                                                                                                                                           |
| EU-IMP-EXP | Imported energy-intensive goods are taxed in such a way that imports from non-abating countries to abating countries remain at baseline level <i>and</i> exported energy-intensive goods from abating to non-abating countries are subsidized in such a way that exports remain at baseline level.                                                                                       |

#### Baseline

The assessments are in terms of policy-induced deviations in 2020 from a baseline that does not contain any post-Kyoto climate change policy. This baseline is a global scenario characterized

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<sup>1</sup> We do not explicitly address emissions reductions of non-CO<sub>2</sub> greenhouse gases and the emissions ceilings imposed pertain to CO<sub>2</sub> only. Implicitly, it is assumed that non-CO<sub>2</sub> emission reduction targets are met as well.

by relatively high growth rates, called GLOBAL ECONOMY (REFERENCE). It should be noted that the effects of climate policy depend strongly on the underlying baseline. Table 3.1 gives some key characteristics on the baseline.

**Table 3.1** Key-figures baseline, population, income, primary energy use and CO<sub>2</sub>-emissions by region in Global Economy, yearly growth rates 2000-2020.

|                      | Population | National Income | Primary Energy | Emissions |
|----------------------|------------|-----------------|----------------|-----------|
|                      |            |                 | %              |           |
| EU25                 | 0.4        | 2.8             | 1.9            | 1.8       |
| Netherlands          | 0.7        | 3.0             | 1.3            | 1.0       |
| USA                  | 0.8        | 2.9             | 1.2            | 1.2       |
| Developing countries | 1.3        | 5.6             | 4.4            | 4.3       |
| World                | 1.1        | 3.4             | 2.7            | 2.7       |

Most trade occurs within regions, interregional trade is of minor importance. Only 12% of all energy-intensive production is exported outside Europe. Demand for energy-intensive goods is only partly met by imports from outside Europe. Table 3.2 shows the relevance of international trade in energy-intensive goods.

**Table 3.2** Key-figures baseline, trade in energy-intensive goods in Europe and the Netherlands in 2000 and 2020.

|                                                               | 2000 | 2020 |
|---------------------------------------------------------------|------|------|
| <i>Imports from outside EU25 (share of total demand in %)</i> |      |      |
| EU25                                                          | 7    | 25   |
| Netherlands                                                   | 13   | 39   |
| <i>Exports outside EU25 (share of total production in %)</i>  |      |      |
| EU25                                                          | 12   | 19   |
| Netherlands                                                   | 14   | 21   |

Imports of energy-intensive goods from outside EU25 are rather limited. These imports (as share of total demand) are projected to quadruple over the next twenty years.

Exports of energy-intensive goods to regions outside EU25 are higher than imports from outside EU25. The growth in exports is projected to increase, but at a moderate rate. In 2020 imports are higher than exports.

There are considerable differences among countries. For the Netherlands international trade in energy-intensive goods (both imports and exports) is relatively important.

#### 4. Results

Table 4.1 shows simulation results for the three policy cases. In each simulation the carbon tax needed to meet the reduction target and the leakage rate is given<sup>2</sup>. For different regions the real effects on national income of the climate policy are given.

*Table 4.1 Macroeconomic effects of unilateral action by EU25 in 2020, permit trading within EU25*

|                      | EU   | EU-IMP | EU-IMP-EXP |
|----------------------|------|--------|------------|
| Carbon tax (US\$/tC) | 345  | 357    | 407        |
| Leakage (%)          | 25   | 22     | 14         |
| Income effects (%)   |      |        |            |
| EU25                 | -2.6 | -2.5   | -2.4       |
| Netherlands          | -4.4 | -4.2   | -3.9       |
| USA                  | 0.1  | 0.0    | 0.0        |
| Developing countries | 0.3  | 0.2    | 0.0        |
| World                | -0.5 | -0.5   | -0.6       |

Unilateral action by EU25 to reduce emissions in 2020 to -20% compared to 1990 levels (EU) induces negative income effects. Income effects for the Netherlands are above European average, due to the energy intense character of the Dutch economy. Non-abating regions benefit because of an improved competitiveness and lower energy prices. The world as a whole suffers an income loss (the tradeoff is a gain for global emissions).

Carbon leakage is high. For every ton of carbon reduced in the EU, emissions in the rest of the world rise by 0.25 ton. EU energy intensive industries loose their competitive position to non-abating countries. World energy prices will slightly fall due to depressed demand from EU-countries.

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<sup>2</sup> Climate policy induces a rise in emissions in non-abating regions (carbon leakage). There are two reasons for this leakage. First, non-abating countries will have a competitive advantage; energy-intensive production will increase. Second, lower world energy prices may induce an increased energy demand in non-abating countries. The leakage rate is defined as the increase of emissions in non-abating countries as a fraction of emission reductions in abating countries.

- Imposing import tariffs on energy-intensive imports to mitigate increased imports from non-participating regions (EU-IMP) mitigates income loss for abating regions. Benefits for non-participating countries decrease. Imposing tariffs restore income losses to some extent. However effects are small. Trade between Europe and the rest of the world is limited. The restoration of imports to the baseline level boosts domestic energy-intensive production. A slightly higher carbon tax is needed to meet reduction targets. These higher taxes exert a downward pressure on income.
- Imposing export subsidies (on top of import tariffs) to keep exports to non-abating regions at baseline levels (E1-IMP-EXP) further decreases negative income effects. The Netherlands, an exporter of energy intensive products, benefits above average. Subsidies have a distorting effect on the global economy.

**Table 4.2**      **Effects on production energy intensive sector of unilateral action by EU25 in 2020, permit trading within EU25**

|                      | EU                 | EU-IMP | EU-IMP-EXP |
|----------------------|--------------------|--------|------------|
|                      | Income effects (%) |        |            |
| EU25                 | -26                | -22    | -12        |
| Netherlands          | -33                | -29    | -16        |
| USA                  | 3                  | 2      | 1          |
| Developing countries | 4                  | 3      | 1          |
| World                | -2                 | -2     | -2         |

- Structural effects are large

**Decomposition income effects**  
[P.M]

**Structural effects**

Energy-intensive industry is heavily affected by climate policy. Table 4.2 shows the effects on production in different regions in each policy variant.

**Table 4.2**      **Effects on production energy-intensive industry of unilateral action by EU25 in 2020, permit trading within EU25**

|                      | EU-30 | EU30<br>+ import tariffs | EU-30<br>+ import tariffs<br>+ export subsidies |
|----------------------|-------|--------------------------|-------------------------------------------------|
|                      |       | (%)                      |                                                 |
| EU25                 | -26   | -22                      | -12                                             |
| Netherlands          | -33   | -29                      | -16                                             |
| USA                  | 3     | 2                        | 1                                               |
| Developing countries | 4     | 3                        | 1                                               |
| World                | -2    | -2                       | -2                                              |

- Macroeconomic effects are small, effects on energy intense sector are more pronounced. Energy intensive sector suffers relatively hard from climate policy. The Netherlands production losses are relatively strong. The Netherlands is energy intensive.
- Again, the Netherlands benefits most from export subsidies.

**Table 4.2**      **Effects on imports and exports energy-intensive goods**

|                           | EU-30 | EU30<br>+ import tariffs | EU-30<br>+ import tariffs<br>+ export subsidies |
|---------------------------|-------|--------------------------|-------------------------------------------------|
|                           |       | (%)                      |                                                 |
| <i>Netherlands</i>        |       |                          |                                                 |
| Production                | -33   | -29                      | -16                                             |
| Imports from EU24         | -30   | -25                      | -20                                             |
| Imports from outside EU24 | 8     | 0                        | 0                                               |
| Exports to EU24           | -28   | -22                      | -24                                             |
| Exports outside EU24      | -39   | -45                      | 0                                               |

- Exports to regions outside EU25 fall dramatically with climate policy
- Imports of energy-intensive goods from regions outside EU25 rise
- Restoring imports to baseline values further decreases exports outside Europe. Imports from outside the EU25 are partly substituted for European energy-intensive goods. Together with a higher carbon tax this leads to a rise in production costs of energy intensive goods.

## 5. Conclusions

- Unilateral action by EU is expensive and inefficient (carbon leakage)
- Trade measures to restore competitiveness, mitigate EU negative income effects and reduce carbon leakage.
- Trade measures do not result in negative income effects or production losses in energy-intensive industries in abating country
- Trade measures are not a credible threat to non-abating countries
- Inviting non-abating countries to join a system of permit trading, granting them emission targets equal to their baseline values, only slightly affects these countries. Given the low-cost abating options, these countries might gain from the export of emission permits. However, given the low permit price in a global market and the relatively small reduction, the effects are negligible.
- Trade measures do not seem to be effective in persuading non-abating countries to join a climate change regime. However, these measures mitigate the negative structural effects for hard-hit sectors. Theoretically speaking, it is possible to raise import duties to a level where they may be harmful for outsiders. It seems unlikely that WTO-agreements allow for these extreme measures.

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**Lamy rejects call to act against non-Kyoto states (*Financial Times*, July 01, 2004, by Vanessa Houlder)**

New calls for trade sanctions against countries that spurn the Kyoto global warming treaty have been rejected by Pascal Lamy, the European Union's trade commissioner. Such action would risk sacrificing the EU's long-term climate goals "for uncertain and short-term benefits", he said.

He also warned it would be "counterproductive to contemplate retaliatory action" when Russia had said it would speed up ratification of the Kyoto Protocol.

Mr Lamy's views were set out in a letter to Caroline Lucas, a member of the European parliament, who asked him to comment on a report on the issue by the New Economics Foundation, a London-based think-tank.

The academic discussion about the use of trade sanctions in climate policy was "far from over", said Mr Lamy. The possibility that the EU would launch sanctions against countries that refused to ratify Kyoto was first raised in 2001 when the EU decided to pursue its Kyoto obligations unilaterally, even though the US had rejected the treaty.

The NEF report said European businesses were likely to feel quickly at a competitive disadvantage compared with countries that were not absorbing the costs of meeting Kyoto targets. The EU's emissions trading scheme, to be introduced in January, was likely to result in big rises in energy prices.

"Based on existing rulings of the WTO, it would now be effective, appropriate and legitimate for countries, or groups of them, to use economic measures, including trade measures, against other industrialised countries," the NEF report said.

Mr Lamy said the legal issues raised in disputes involving environmental considerations were "more complex than they seem". But he rejected the idea of trade dispute mechanisms this time, mainly because the EU's current stance was "strategically and tactically the course which serves both our own and the world's interests best".

The EU decision to press ahead with greenhouse gas cuts would offer a stable planning perspective and the scope for seizing the initiative in new environmental technologies and services, where EU businesses could establish an enduring competitive advantage.

But Mr Lamy said there was "clearly a case for being aware of any adverse effects on our industry". He said it was relevant to keep under review the scope for action under WTO rules to "level the playing field".

"Rather than setting out on a course which involves an engagement at the level of technical arguments about Gatt conformity it would be better to be able to win the political debate with the non-ratifiers of Kyoto by setting a responsible example and achieving consensus through dialogue."

The relation between measures taken to mitigate climate change and the WTO must be seen in the general context of how environmental measures relate to the multilateral trading system.

Trade liberalisation and environmental protection are both desirable objectives and should be mutually supportive. The WTO explicitly recognises that trade and economic endeavours should be conducted in accordance with the objective of sustainable development and so far



no dispute under the WTO has arisen over trade measures adopted in the context of a Multilateral Environmental Agreement (MEA). The EU supports the view that, subject to specific conditions being met, trade measures taken pursuant to an Multilateral Environmental Agreement (MEA), should benefit from special treatment under WTO provisions. The Kyoto Protocol does not include trade measures as such, but depending on how policies and measures and the Kyoto mechanisms are implemented, they could raise issues, difficult to assess at this stage, concerning the relationship with the WTO Agreement. However, the potential impact of WTO rules on the implementation of the Kyoto Protocol should be further addressed in the international climate negotiations as well as in the broader context of the interface between trade and environment in the New Round of negotiations. The Buenos Aires Plan of Action specifically mentions issues such as transparency, competitiveness issues, non-discrimination and non-distortion of competition. Furthermore, the Parties could envisage a clause whereby possible disputes between them concerning the implementation of the Protocol should be solved through the dispute settlement regime laid down in that Protocol<sup>31</sup> rather than under the WTO.

The imposition of tariffs on imported US goods to offset relatively low cost energy because of non-participation has been suggested as a solution. But it is also acknowledged that this would be 'politically and legally a sensitive undertaking', underlining once again the inherent unfairness in relying on trade measures to enforce environmental regulations.

World Trade Organization (WTO) rules allow nations some flexibility to both pursue sound environmental policies and maintain a level playing field for domestic and foreign competition. Yet, this flexibility is limited and, when it comes to climate change, its edges are poorly defined.



The WTO also would probably uphold such as tax even if it were to fall disproportionately on imports so long as the true intent was to protect the environment rather than to shield domestic industry from competition.

[*Nigel Purvis* , 2003, Climate Policy and Competitiveness, National Commission on Energy Policy Background Paper]

As long as the US fails to join the rest of the world in tackling climate change, the EU should impose taxes on imported goods from the United States and, alternatively, redress the added production costs of European goods exported to the US. A **Time to tax the non-compliers of Kyoto** *published in the European Voice, 17-23 February*

- EU ratified Kyoto protocol, US did not
- Fear for competitive disadvantage
- Call for trade measures to
  - Restore level playing field
  - Persuade non-abating countries to join
- Following questions arise
  - Does unilateral climate policy by the EU lead to changes in competitiveness and relocation of energy-intensive industries to non-abating countries?
  - Is there a case for trade measures to restore the level playing field?
  - How would trade measures, in particular import duties and export subsidies, mitigate the impacts of the climate policy?
  - Could trade measures be used to persuade non-abating countries to join a climate coalition?
- Assess number of policy cases
  - Simulations with WorldScan
  - Stylized climate regime
- We will show that there might be a case for trade measures. Trade measure mitigate some of the negative effects of unilateral climate policies. However, these measure are not enough to do the job.



Trade policy may have favorable consequences, both economic and environmental, for abating countries. However its role is limited. Trade in energy-intensive goods plays a limited role in the economy as a whole. In a more stringent climate policy there may be some room for trade sanctions. Imposing tariffs and granting subsidies on export can restore import and export of energy-intensive goods to baseline levels. These sanctions mitigate the negative effects on income in abating countries and decrease carbon leakage. They accomplish that the reduction of European CO<sub>2</sub> emissions is achieved by improving energy efficiency rather than by relocation of industries. Abating countries, relying relative strongly on energy-intensive trade, like the Netherlands, benefit most. However, trade sanctions are not a credible threat to non-abating countries. They may reduce the positive effects in non-abating countries, but income gains and production increases in energy-intensive sectors will remain positive.

Stokke (2005) examines the interplay between multilateral trade rules and the global climate regime with respect to a particular compliance mechanism \_ trade measures.

The relevance of unilateral, uncoordinated trade measures for environmental purposes has been debated extensively for decades. The United States in particular has been active in implementing unilateral trade measures justified by environmental goals.

In the climate context, trade measures are likely to be justified primarily by the need to offset any competitive advantage held by producers in countries that have not implemented costly mitigation measures.

The “environmental window” of the global trade regime is provided by certain general exceptions to these various principles, laid out in Article XX of GATT and largely emulated in other WTO agreements. Subject to the chapeau requirement that they “are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination ... or a disguised restriction on international trade”,

Trade measures may be compatible with the global trade regime if they are “necessary to protect human, animal or plant life or health” or “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production and consumption”

The Greens/EFA in the European Parliament calls on the Commission to take appropriate trade measures, including border tax adjustments, against industrialised and emerging countries which do not intend to bear their fair share of the burden of combating global climate change.

European parliament calls on the Commission to take seriously into account the "free-rider" problem in the area of climate change mitigation; calls on the Commission and the Member States to investigate the possibility of adopting border adjustment measures on trade in order to offset any short-term competitive advantage producers in industrialised countries without carbon constraints might have; stresses that the international trade patterns have a major impact on climate change; calls, therefore, on the WTO to incorporate a sustainable development mechanism into its work;

European Parliament resolution on "Winning the Battle Against Global Climate Change" (2005/2049(INI))

The European Commission (Mandelson, 2006) has serious doubts about the idea of a specific "climate" tariff on countries that have not ratified Kyoto. This would be highly problematic under current WTO rules and almost impossible to implement in practice. It is also suspected not to be good politics. Not participating in the Kyoto process is not illegal. Nor is it a subsidy under WTO rules. How would we choose what goods to target? China has ratified Kyoto but has no Kyoto targets because of its developing country status. The US has not ratified, but states like California have ambitious climate change policies.

Mandelson, Peter (EU Trade Commissioner), 2006, Trade Policy and Climate Change, SPEECH/06/805, Brussels.