Acceptance of Consumption-based Climate Policy Instruments and Implementation Challenges

Summary
The Carbon CAP project has assessed approximately 30 policy instruments with the potential to change the carbon emissions associated with consumer purchases. The results indicate that there is a group of instruments with the potential to reduce carbon significantly as well as facing few barriers to implementation; another group facing moderate barriers that could be overcome by placing them into portfolios, where weaknesses in one policy are reduced through other policies; and a third group where the barriers to implementation will be large, even in portfolios. A key finding is that instruments which change the characteristics of products available to consumers should have priority, while policies that affect consumer choices between products on the market could be applied at a second stage, and as a way to support the priority measures.

Carbon-CAP
Consumption-based Accounting and Policy

I. The Rise of Embedded Carbon

The new climate agreement reached in Paris in December 2015 represents an unprecedented universal commitment to tackling climate change, requiring a significant scale-up in effective mitigation actions. However, in a world where almost one quarter of carbon dioxide emissions are embedded in internationally traded goods and services, [1] such action can no longer be restricted to production-side climate policies (as is currently the case). The decisions and behaviours of consumers should also become a target for policy instruments.

Analysing emission trends based on imported or exported carbon – rather than merely on production based emissions - reveals that in the EU, emissions are higher than officially recorded under production-based carbon accounting. The opposite is true for countries such as China with economies built significantly on carbon-intensive exports (see **Figure 1**).

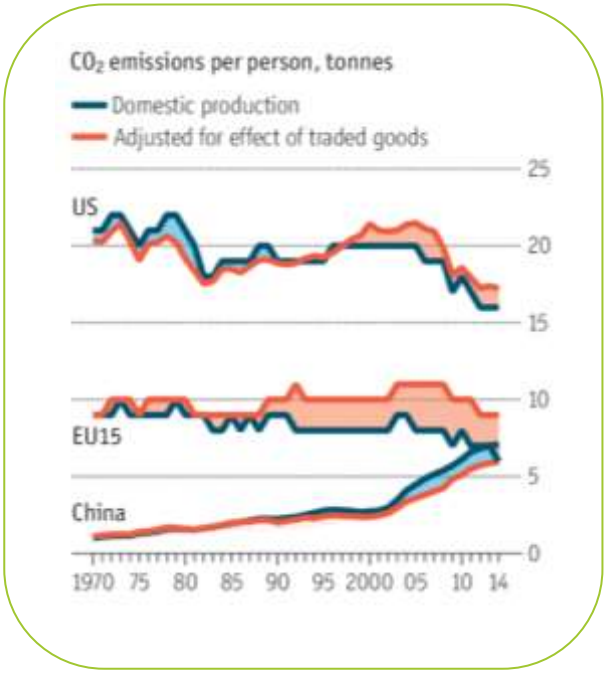

Figure 1. A comparison of annual carbon emissions when those emissions are attributed to the nation or region producing goods (blue lines) or consuming goods (orange line). Source: *The Economist*, data: Wood *et al* & C-CAP project

Authors:
D. Crawford-Brown *(4 CMR)*, M. Grubb *(UCL)*, S. Hawkins *(ICTSD)*, A. Villanueva *(IPTS)*, S. Salotti *(IPTS)*; with contributions from K.Scott *(University of Leeds)*, E. Arcese *(Climate Strategies)* and G. Canzi *(Climate Strategies)*

Therefore, it is necessary to complement production-side climate measures with policy instruments that target consumption. Doing so can also help unlock more effective cooperative action between countries as well as between consumers and producers of goods.

(...) it is necessary to complement production-side climate measures with policy instruments that target consumption. (...)

The Potential and Acceptability of Consumption Policies

Carbon-CAP assesses the ability of consumption-related policy instruments to deliver lower carbon lifestyles and business activities. Two of the central questions are:

1) Is an instrument likely to be sufficiently acceptable in order for it to be implemented? Four meanings of 'acceptable' are considered:

- **Economic:** *Does the instrument place the economic burden on members of society best able to bear that burden, or onto the poorest members?*
- **Legal:** *Is the instrument likely to face legal challenges it will be unable to withstand?*
- **International/ political:** *Will the instrument raise trade concerns that may affect international political acceptability?*
- **Institutional:** *Will the instrument encounter administrative challenges due*

2) If an instrument was implemented, how well could it bring about changes in consumer behaviour?

Methodology

The acceptability of a policy instrument can differ significantly across sectors of goods and services. Therefore, the analysis of policy instruments was divided into applications in transport, food, buildings, paper and plastics, textiles and consumer goods/ machinery.

The evidence base for judgments of acceptability was based on literature reviews, analysis of existing legal frameworks including the World Trade Organization (WTO), economic analysis of the impacts of policy instruments on different socio-economic groups, and experience within the European Union when applying similar instruments. For each of the sectors and aspects of 'acceptability', scores were assigned between 1 (a significant barrier to adoption) and 3 (not a significant barrier). These were then combined for a multiplicative compound score.

Acceptability Levels of Consumption Policies

This phase of the project focused on identifying policy instruments likely to achieve the highest level of acceptability, based on each of the four 'acceptability' criteria..

Economics (distributional impact on consumers)

Based on an analysis of national expenditure statistics for different groups of goods in six European countries, instruments that exclude entire groups of households from consumption were found to be most at risk of causing unacceptable distributional effects. Unsurprisingly, the food sector as well as energy provision for households are most prone to such effects. In particular, instruments penalizing the cost-advantage of many conventional, carbon-intensive products run the risk of negative

distributional effects. However, this regressive effect can be reduced through fees, taxes or subsidies.

'Soft' policy instruments which enhance consumer knowledge of carbon implications of product choice - such as information campaigns, labelling initiatives, rankings and award campaigns or product placement - will have fewer distributional effects. Government procurement policies and approved technology lists can also be used without much risk of distributional effects.

Legal and international/political issues

Many of the policy instruments could have impacts beyond European Union borders (spill-over effects) due to their objective of tackling emissions embodied in internationally traded goods and services. This would in turn have impacts on trade which is significant because of its role as an engine for growth and development.

Consumption-based instruments would alter trade flows due to changes in demand patterns induced through product substitution and/or consumption reductions. Some policy instruments would only lead to indirect trade impacts which are not a major source of concern. These include waste targets and/or requirements, refund mechanisms and deposit systems, recycling requirements, improved recycling infrastructure, mandatory metering of power and heat consumption, product sharing, transport and building infrastructure improvements, information campaigns or benchmarked carbon-intensive material charges.

However, some instruments can have direct impacts on trade when they affect market access or when they involve a risk of discrimination. These include consumer subsidies, product tax incentives, preferential finance terms, government procurement or approved technology lists. Two instruments in particular would lead to significant trade barriers: product bans and limits on the number of products that can be sold annually within a country.

Trade impacts can be both positive and negative, and, at least to some extent, managed. For example, developing robust and harmonised carbon footprinting methodologies helps reduce compliance costs for producers where technical regulations, labels or other instruments require carbon footprint information. This lowers market access barriers for producers and reduces the risk of bias against some producers or countries introduced by inconsistent methodologies.

Given global trade interactions, it is also important to consider how the instruments fits within the WTO's legal framework. While a full assessment is only possible once the details of the instrument's design and implementation are known, many of the proposed measures are theoretically possible.

When implementing measures on the basis of embodied carbon, the issue of whether products embodying different levels of carbon are to be considered 'like' products will arise. Generally, WTO rules apply to product-related process and production methods (PPMs) which affect the physical characteristics of the final product. The rules have long been interpreted as not applying to non-product related PPMs (npr-PPMs) which are not physically incorporated in the product.

So far the interpretation of 'likeness' under WTO case law has largely been limited to the physical characteristics of the products, while embodied carbon relates to the methods of production. This would mean that two otherwise identical products with different levels of embodied carbon are considered to be 'like' and hence subject to WTO disciplines. The understanding is however evolving with recent case law and the increasing uptake of instruments targeting embodied carbon, such as carbon labels.

In the meantime, in the case of conflict with trade rules, countries could seek justification for the measures through GATT Article XX which provides for exceptions, including on environmental grounds. WTO

case law has shown that WTO rules do not trump environmental measures as long as key principles and conditions are respected.

Institutional (administrative and procedural complexity)

At a national level, the introduction of innovative policy instruments into legislation is often constrained by a complex set of factors. The Network of European Environment Protection Agencies has noted multiple barriers to EU-wide environmental policy planning - barriers that could reduce institutional acceptability, especially when they are in conflict with EU-wide goals such as the development of the single economic market in Europe.

EU decision-making processes can be unwieldy and result in a loss of coherence of the original proposal. For industries that will be affected, the lack of certainty can reduce the ability to modernise or adapt quickly. Conversely, decisions on proposals can also be made at very short notice with insufficient time for effective involvement by all interested parties. For example, there are a number of areas where there are inconsistencies and overlaps between the EU Integrated Pollution Prevention and Control (IPPC) Directive and other (sectoral) directives. These kind of inconsistencies could delay implementation of consumer-based policies and instruments.

The key finding here is that consumer policy instruments that are similar in resources and institutional knowledge to existing programmes in the EU, will find the greatest acceptability. The clearest cases are infrastructure improvement, supply chain procurement requirements and approved technology lists. All of these have analogues in other areas of EU and national policy.

The Bottom Line: A 'Short List' of Promising Instruments

To assist with choices between policy instruments, the options were ranked in three tiers.

The first tier contains instruments that are judged to be strong across the four criteria of acceptability. The third tier contains instruments for which there is a significant barrier to acceptance on at least one of the criteria. Instruments in the middle (second) tier have only medium acceptability on most categories.

The Future for Consumption Policies

To effectively reduce emissions at the global level, consumption-based climate policy instruments will

1st rank	2nd rank	3rd rank
• Approved technology lists • Supply chain procurement requirements • Carbon-intensive materials charge • Infrastructure improvements • Product location at sale • Retailer product choice	• Regulatory standards • EGS trade agreement • Recycling requirements, waste targets & prices • Voluntary agreements by trade associations • Business emission agreements & allowances	• Government procurement • Information campaigns • Ranking & award campaigns • Voluntary trade body standards • Minimum price limits

Note: Please refer to the full report for more details available at:
http://www.carboncap.eu/index.php/news-media/reports/72-carbon-cap-d5-2-policy-options-annex

have to be part of the policy mix.

A range of instruments are available for application in various combinations with each other and with production-side policies (see text box). Each instrument will encounter different types of barriers in terms of 'impact' and 'acceptability' that will be largely influenced by their exact design and implementation, as well as the context and combination in which they will be applied.

The assessments carried out in the context of the Carbon-CAP project provide a useful first overview of promising instruments and a starting point for identifying opportunities and challenges to focus on in future deliberations and analyses.

A key lesson is that consumer choice is difficult to influence when consumers have equal access to high and low carbon goods that meet the same needs. Therefore the rankings of effectiveness and acceptability of instruments developed in this briefing reflect a tiered approach in which instruments that alter the range of products available, their ease of access and/or the cost (due to carbon charges) are applied first.

The second and third ranks of instruments might then be considered means to support the instruments in the first rank. This is consistent with the lesson that instruments are most effective when introduced as complementary portfolios.

Text Box: Instrument Complementarity and Policy Packages

Introducing instruments in a portfolio has three main advantages. First, consumer-oriented policy should not have the effect of wholly 'individualising' responsibility solely on end-users. It should spread responsibilities across many sectors, across consumers and across producers. Second, emissions are caused by many different decisions at many different levels from primary production to consumption to disposal. Consumer-oriented policies only act on part of these, and individual consumer-based instruments further focus the scope of application. Finally, experience has shown policies are often most effective when developed in mutually reinforcing ways since weaknesses in any one instrument can be counterbalanced by strengths of another instrument. This often helps in negotiations between groups implementing and affected by an instrument.

.

References

1. Glen P. Peters et al. 2012. "A synthesis of carbon in international trade." Biogeosciences, 9, 3247-3276.

Published by Climate Strategies – Carbon-CAP Consortium Partner Carbon-CAP Consortium Leader

Other Partners of Carbon-CAP Consortium

Project website: www.carboncap.eu