

Introduction to CBCA systems /thoughts on the application of consumption-based approaches

Carbon-CAP: First Stakeholder Workshop
The Role of Consumption-based Emissions in Climate Policy
Cambridge, UK
7-8 October 2014

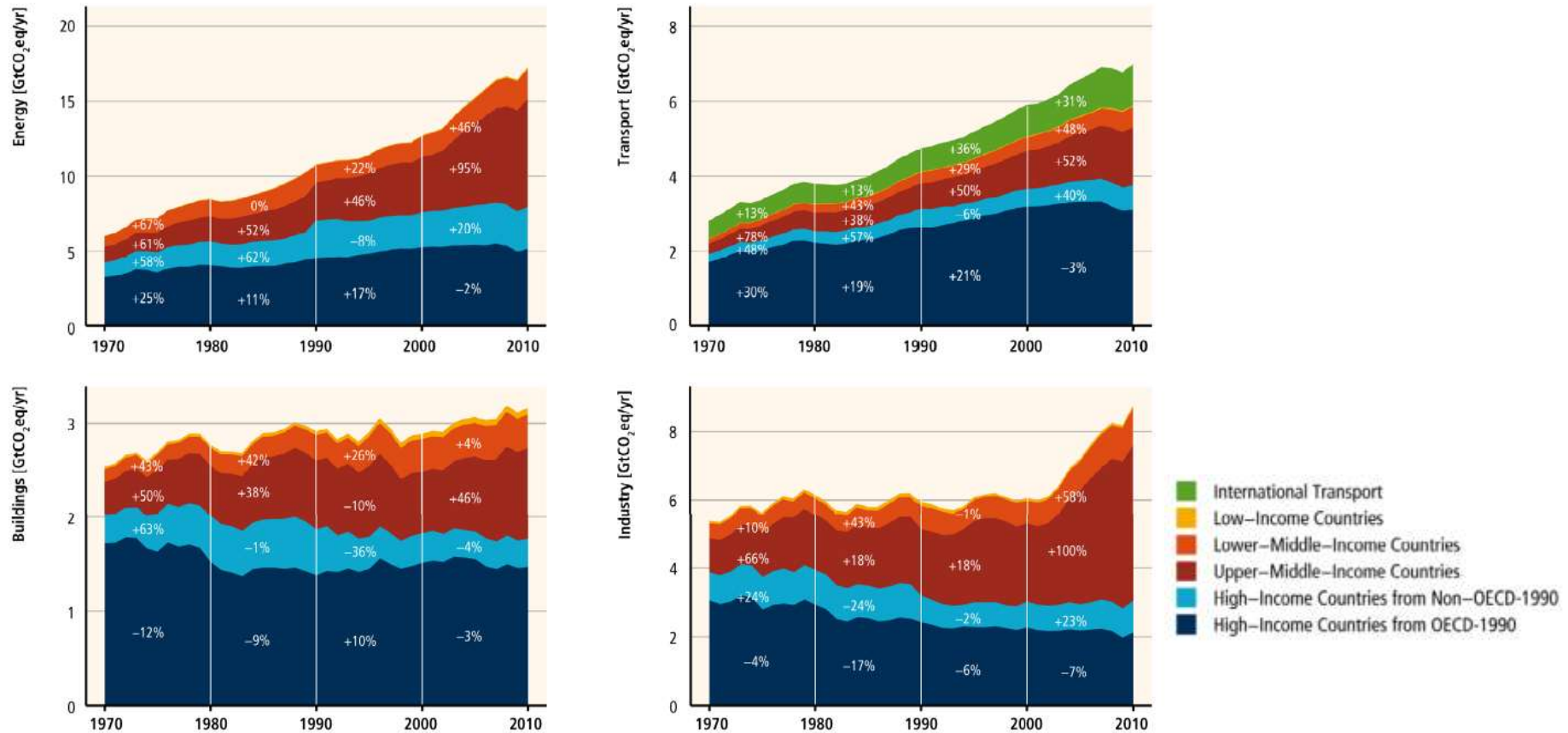
Jim Skea



Outline

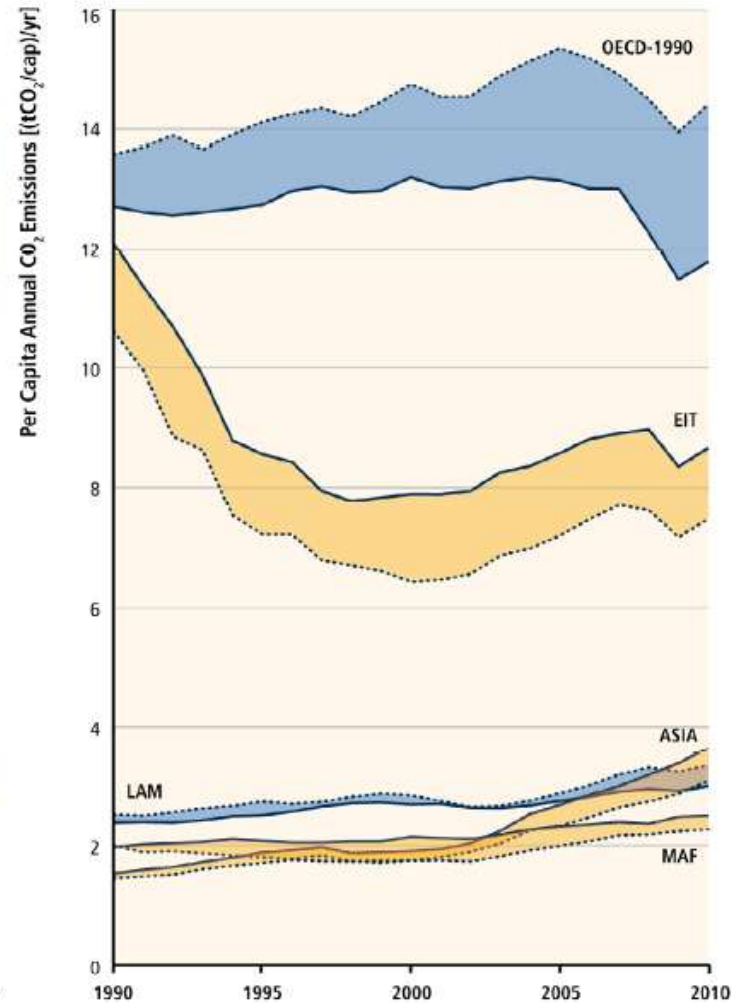
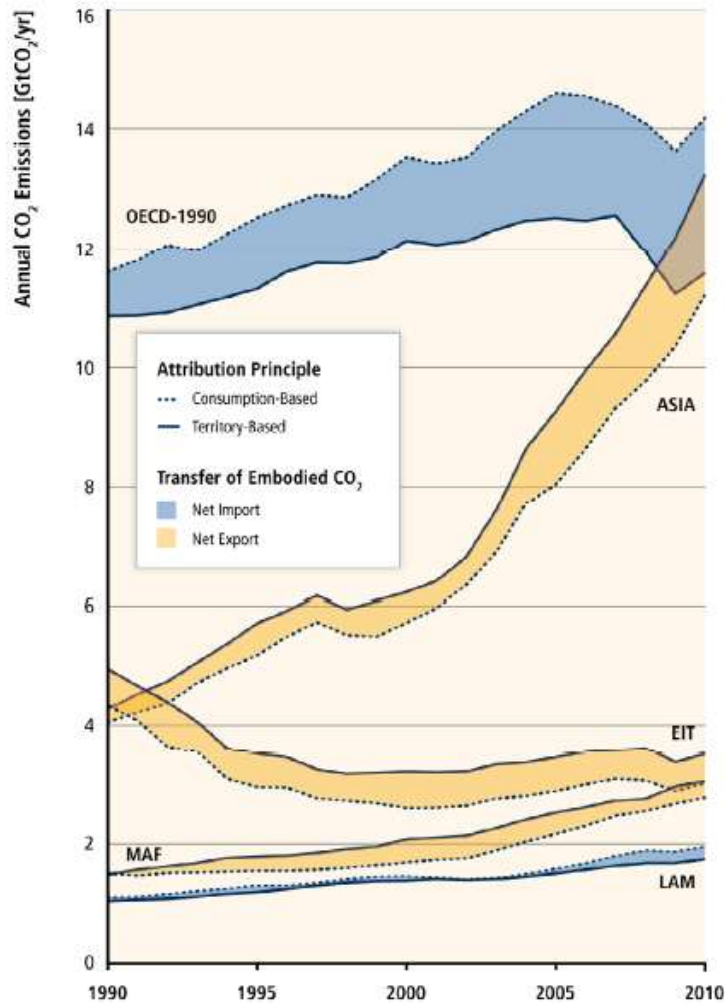
- Consumption-based emissions in IPCC
- The UK Committee on Climate Change Report
- Progress in the application of consumption-based accounting
- Gaining acceptance for consumption-based approaches

Income grouping and sector distribution of emission trends



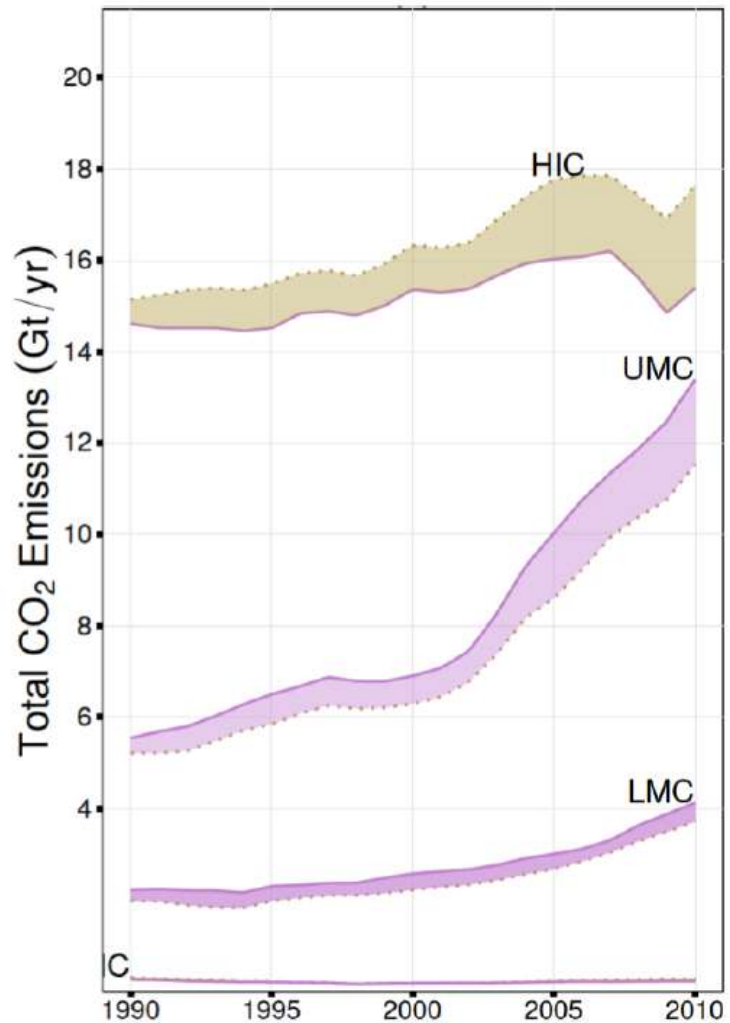
Source: IPCC AR5 WG-III Chapter 5 (subject to reserve by 13 countries)

Territorial and consumption emissions in 5 world regions



Source: IPCC AR5 WG-III Chapter 5

CO₂ emissions from fossil fuels for 4 income groupings



Source: Final draft , IPCC AR5 WG-III Summary for Policymakers

The use of income-based country groupings in the IPCC Working Group III report

As a condition for our acceptance of the IPCC Working Group III's reportmy delegation wishes to express our substantial disagreementwith respect to the use of income-based country groupings – i.e. the references to and use of country groups such as “high income countries”, “upper middle-income countries”, “lower middle-income countries”, “low income countries”.

My delegation ... considers as unacceptable the use of such income-based country groupings in this report and its Technical Summary. We will not consider ourselves bound to the use thereof. Such references as used in the report and its Technical Summary may not be equally appropriate from the policy-making perspective.

Bahamas, Bolivia, Egypt, India, Iraq, Jordan, Malaysia, Maldives, Qatar, Saudi Arabia, Sudan, Syria, Venezuela

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Reducing the UK's carbon footprint



House of Commons Energy and Climate Change Committee Report April 2012

Recommendations:

- If the Government wishes the UK to continue its lead on climate policy it must recognise the growth in the UK's consumption-based emissions.
- DECC should explore the options for incorporating consumption-based emissions data into their policy-making process.
- 'We recommend that the Government commission the CCC [...] to explore the implications that consumption-based accounting may have for the UK's carbon budgets'



House of Commons
Energy and Climate Change
Committee

Consumption-Based Emissions Reporting

Twelfth Report of Session 2010–12

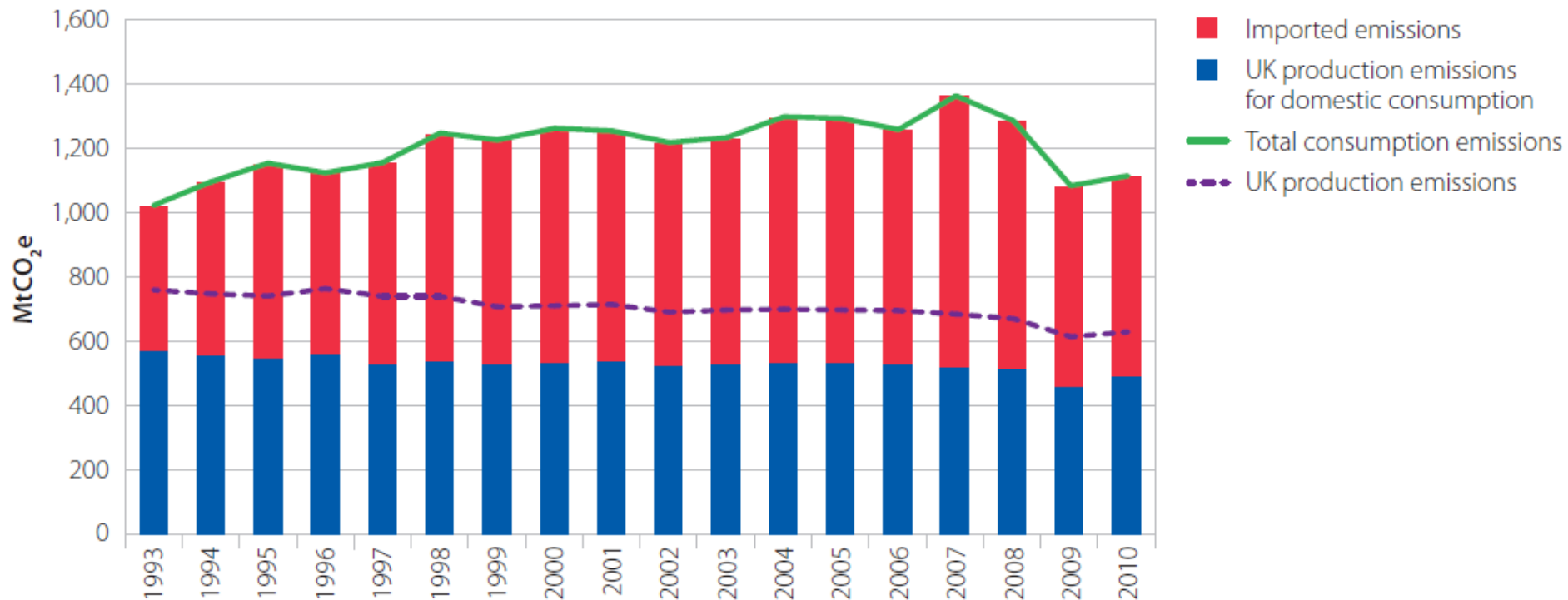
Volume I

*Volume I: Report, together with formal
minutes, oral and written evidence*

*Additional written evidence is contained in
Volume II, available on the Committee website
at www.parliament.uk/lecc*

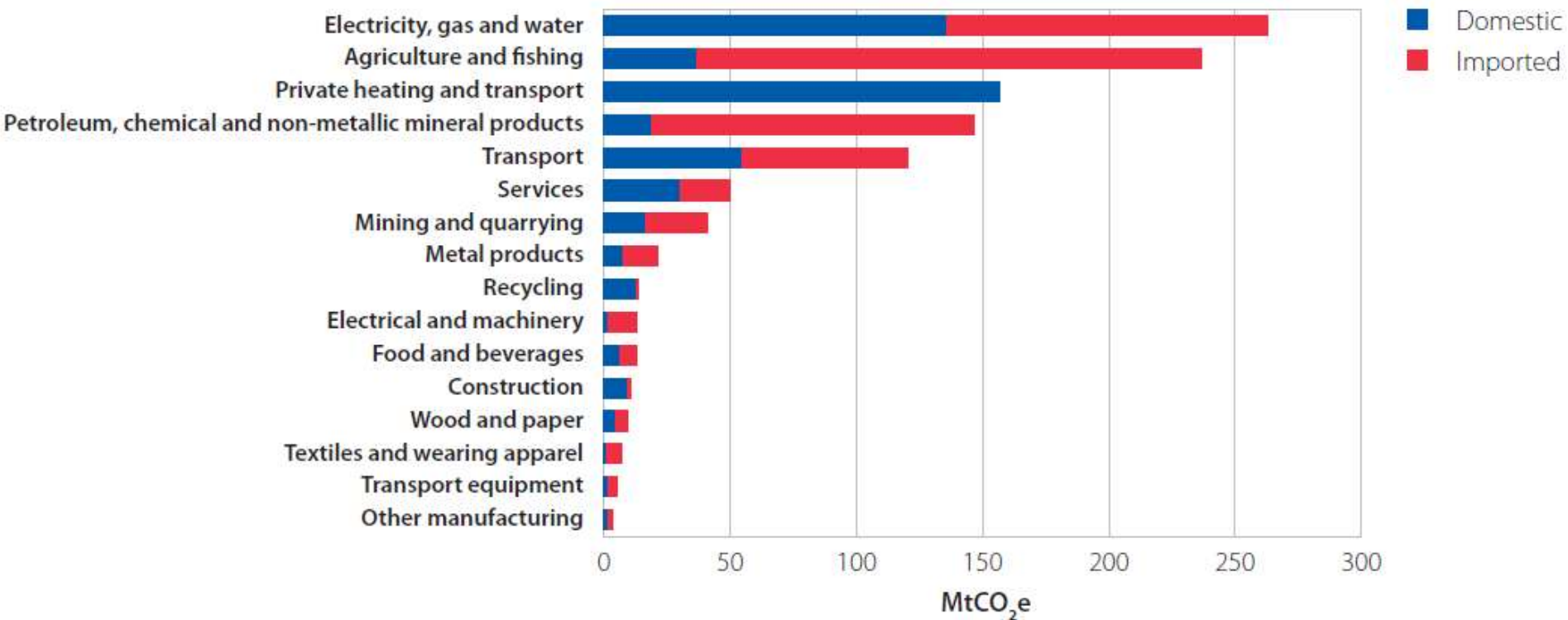
*Ordered by the House of Commons
to be printed 27 March 2012*

UK consumption emissions have grown relative to production emissions (but recession effect)



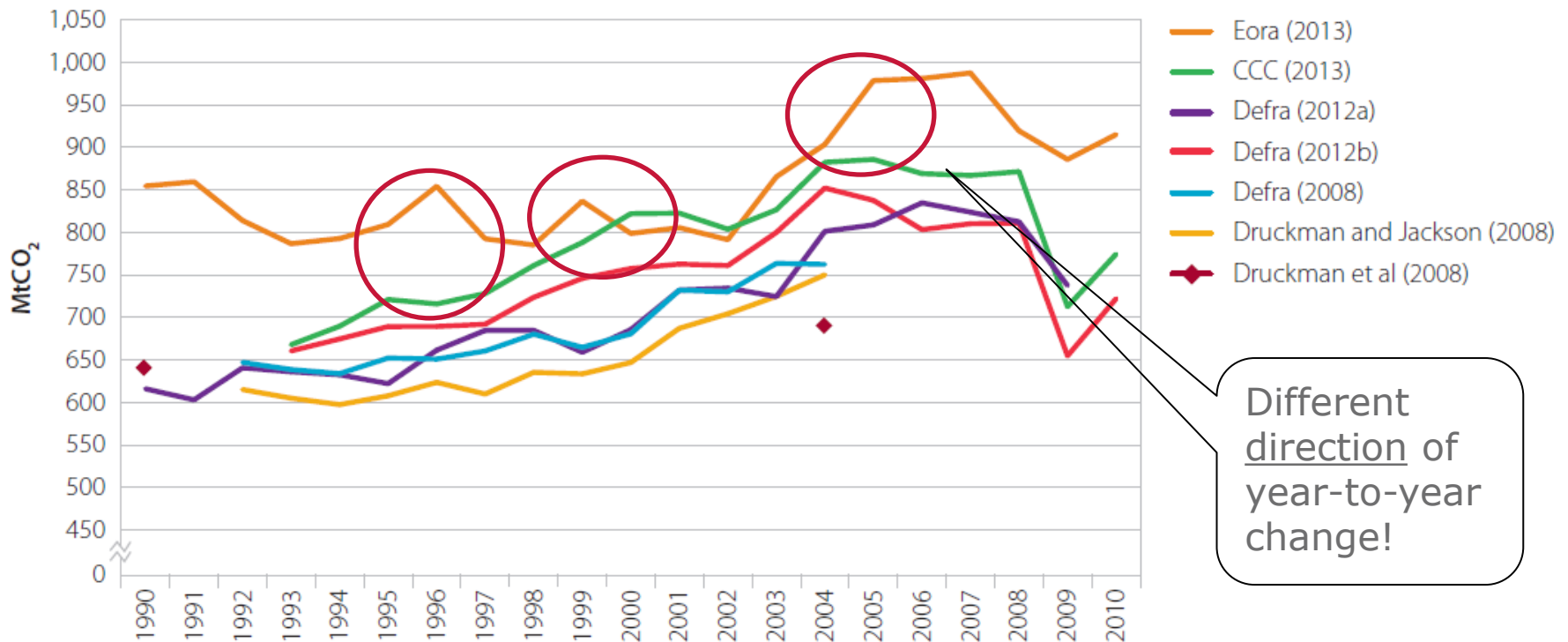
Source: UK Committee on Climate Change

...and we know roughly where they come from...



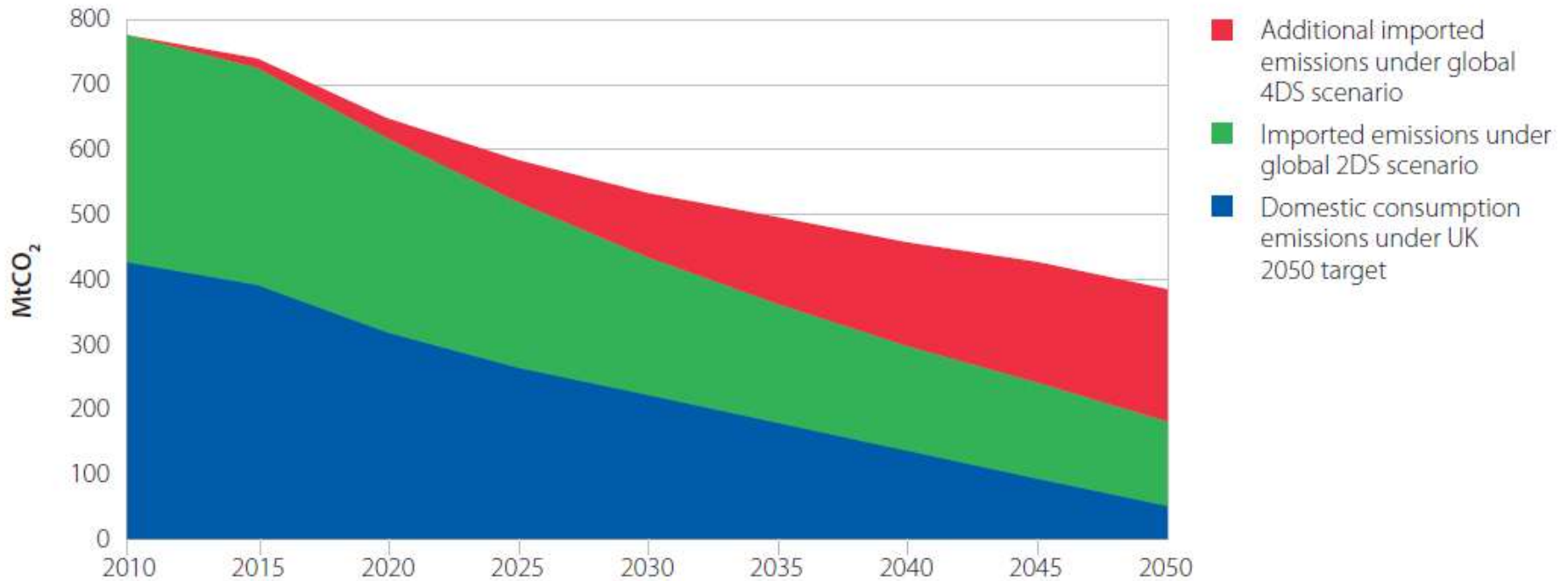
Source: UK Committee on Climate Change

....but modelling uncertainty is troubling



Source: UK Committee on Climate Change

Scenarios for domestic and imported UK consumption emissions to 2050 (CO₂)



Source: UK Committee on Climate Change

CCC recommendations

- Continue to account for carbon budgets on the basis of production emissions given accounting conventions and available policy levers.
 - Moving to a consumption-based accounting methodology would be disruptive and impractical given international accounting conventions
 - Uncertainties over measuring and projecting consumption emissions.
- But consumption emissions should be monitored
- An ambitious and comprehensive global deal driving new policies is essential – as a consequence the UK's carbon footprint would fall.
- Border carbon adjustments are not an alternative to a global deal but should not be ruled out as a possible transitional measure
- Policies to encourage resource efficiency and sustainable consumption could help to reduce the UK's carbon footprint.

Outline

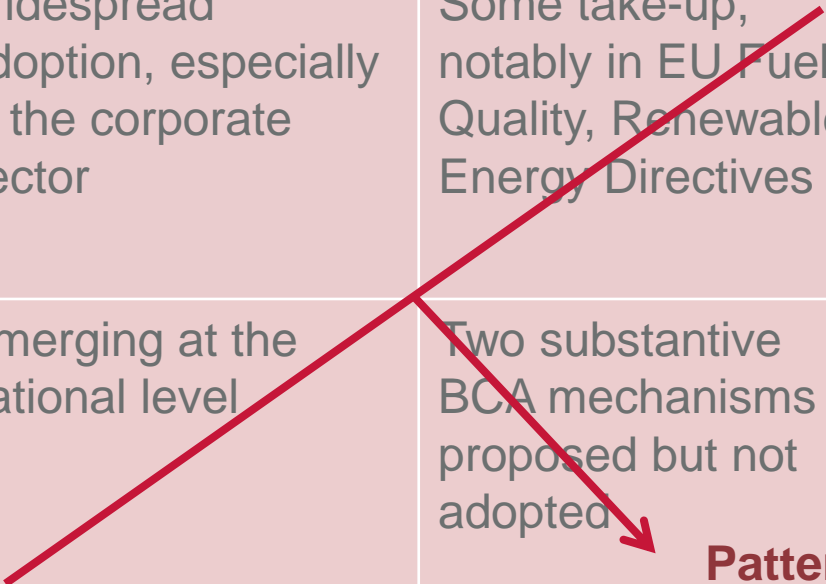
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“Hard” and “soft” applications

- “Soft” applications are either of a voluntary nature or the information generated is used contextually to inform decision-making
- “Hard” applications involve compulsion and establish, or would establish, quantitative criteria, emission targets/caps and/or tariffs/taxes

Extent of take-up

	“Soft”	“Hard”
LCA-based	Widespread adoption, especially in the corporate sector	Some take-up, notably in EU Fuel Quality, Renewable Energy Directives
MRIO-based	Emerging at the national level	Two substantive BCA mechanisms proposed but not adopted



Pattern of uptake

Fitness for purpose: criteria

- Data availability and timeliness
- Completeness and standardisation (LCA limitation)
- Parametric uncertainty
- Structural uncertainty (regions, sectors etc)
- Institutional processes for agreeing methodologies

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How do GHG emissions get reported?

The UNFCCC seeks IPCC's advice on methodology - Task Force on National Greenhouse Gas Inventories (TFI)



2006 IPCC Guidelines for
National Greenhouse Gas Inventories

Volume 1

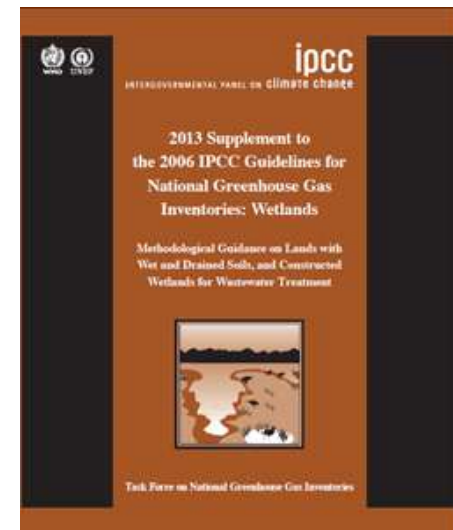
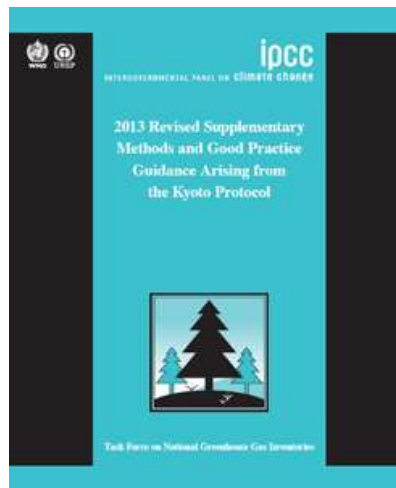
General Guidance
and Reporting

Edited by Steven Eggleston, Lumin Dumanila,
Kyoko Miwa, Todd Ngram and Kyoto Tansie



IPCC National Greenhouse Gas Inventories Programme

IGES



Five sectorally
defined volumes

The process – the wetlands supplement

UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA) invited the IPCC to prepare additional methodological guidance on wetlands in December 2010 – initial “think piece” by Iceland, 2008

Date	Action	Comment
May 2011	IPCC 33	Plenary approves ToR, Chapter outline and this work plan, guidance to authors
June – Aug 2011	Call for Nomination of Authors	IPCC invites nominations for authors and Review Editors from Governments and International Organisations.
Aug 2011	TFB select Authors	Selection by TFB considering expertise and geographical coverage, (The IPCC Bureau will be informed.).
Nov 2011	1 st Author Meeting	To develop zero order draft
Feb 2012	2 nd Author Meeting	To develop first order draft for review
Apr – May 2012	1 st Expert Review	8 weeks review by experts
July 2012	3 rd Author Meeting	To consider comments and produce second order draft for review
Oct 2012	Literature cut-off date	Only papers published before this date will be considered
Oct – Nov 2012	2 nd Expert & Government Review	8 weeks review by experts and governments
Feb 2013	4 th Author Meeting	To consider comments and produce final draft
April – May 2013	Government Consideration	Distribute to governments for their consideration prior to approval (at least 4 weeks prior to the Panel)
2013 (b/c)	Adoption/acceptance by IPCC 36	Final draft submitted to IPCC Panel for adoption/acceptance
Oct 2013	Distribute Guidelines	Distribute document to governments and Parties to UNFCCC (before SBSTA39 in December 2013)

Tier levels depend on data availability

Three tiers do not correspond to three “scopes” under the GHG Protocol

Tier 1 – generic emission factors x activity

Tier 2 – country-specific emission factors x activity

Tier 3 – detailed measurements or modelling

Would economic modelling be Tier 4?

Concluding thoughts

- Practical application of life cycle/consumption-based accounting approaches is growing
- More developed for: a) life cycle approaches; b) “soft” applications
- Only one existing “hard” application identified (FQD) – uses a life cycle approach
- If life cycle approaches were a technology, you could say they were in early commercial deployment
- If MRIO approaches were a technology, you could say they were at the pilot/early demonstration stage
- More research is needed to underpin successful application of consumption-based accounting approaches:
 - Reducing ambiguities and both parametric/structural uncertainties
 - Timeliness and ease of practical application
 - Robustness to legal challenge
- Wider application ultimately makes sense

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<http://www3.imperial.ac.uk/icept/ourresearchactivities/rcukenergyprogramme>