

CRC Energy Efficiency Scheme Advice to Government on the second phase

24 September 2010

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- ② **Background and key messages**
- ② **The context for the CRC**
- ② **CCC advice on the cap**
- ② **Options for the design of the cap**
- ② **Other design issues**

Background



- Under the Climate Change Act 2008, the CCC is required to give advice to Government on any new cap and trade scheme
- In January 2010, the Government formally asked the CCC to provide advice on:

the level of the cap for the second phase of the CRC (2013-17)

- Actual cap will be set by Government in 2012
- We also comment on simplifying the scheme, and other design issues

Key messages



- ☉ If a cap is set, our analysis suggests an annual emissions **reduction of up to 4% by 2017** (30% reduction on 2008 levels)

- ☉ Establish a **minimum allowance price** in the auction to mitigate against the risk of a price crash, given abatement potential uncertainty.

- ☉ However, given the complexity of an auction based scheme **we consider alternative options for the second phase:**
 - Unlimited allowances at a fixed price as per the first phase (**preferred option**)
 - More fundamental redesign of the CRC within the broader context of carbon price strengthening

- ☉ We also consider **selected additional design issues:**
 - Separate league tables for the public and private sectors
 - Align the treatment of renewable heat to mirror renewable electricity
 - Review of the CRC threshold

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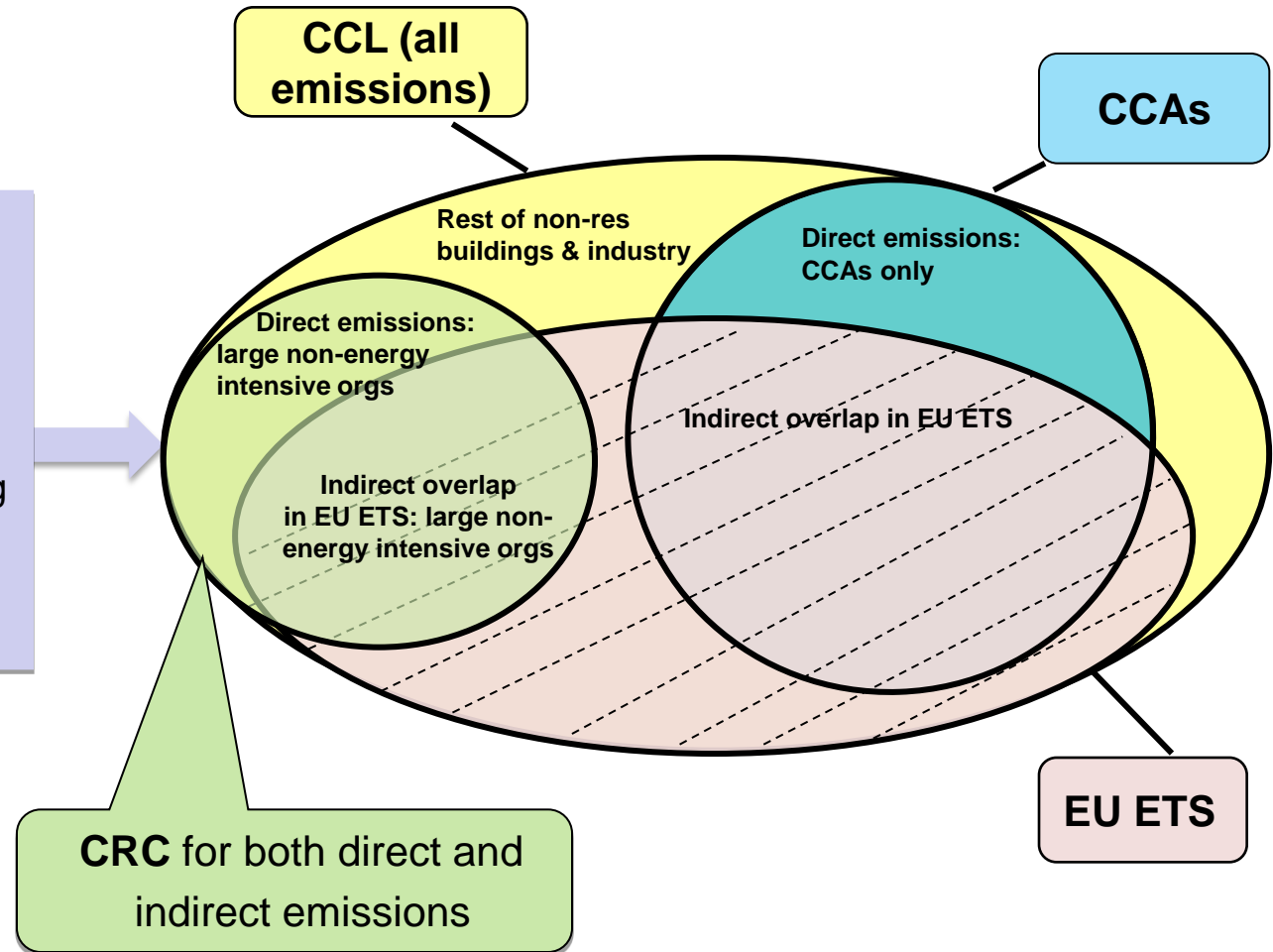
- ◉ **Options for the design of the cap**

- ◉ **Other design issues**

There are three main top-down policy instruments for emissions reduction in the non-residential sector

Non-energy intensive firms face:

- EU ETS impacts on electricity prices
- **Climate Change Levy**, adding approx. 5% of energy costs



The incentives under existing instruments appear insufficient to unlock energy efficiency potential

Analysis by the Carbon Trust (2005) showed:

- (i) Energy costs make up a small proportion of total operating costs (e.g. 1-3%).
 - EU ETS and CCL in turn account for a small proportion of energy costs (e.g. 5% for CCL)
- (ii) Existing policies did not tackle the range of non-financial barriers prevalent in the sector

Proposed **new policy instrument** to target this sector to strengthen financial & reputational incentives



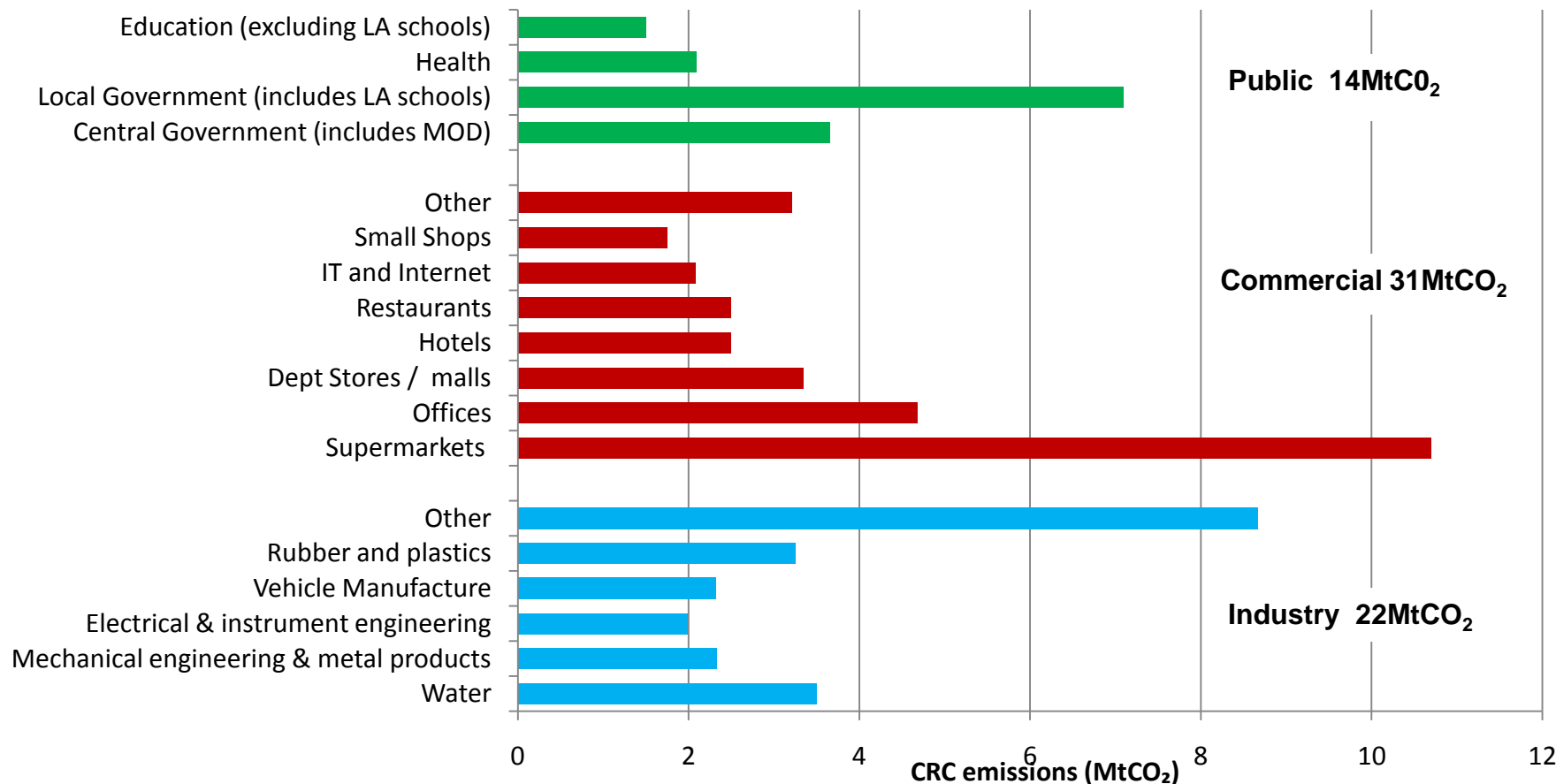
CRC

CRC emissions of up to 67 MtCO₂ account for approximately 10% of UK GHG emissions



CRC emissions account for 33% of non-residential emissions (both direct and indirect):

- two thirds of public sector emissions
- more than half of commercial emissions
- a sixth of industry emissions



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Method used to derive the cap

Consistent with method used to propose the first three carbon budgets we:

- Developed a reference (business as usual) emissions scenario to 2017; and
- Netted off realistically achievable abatement potential from this.



Used two modelling tools to identify abatement potential in the CRC sectors:

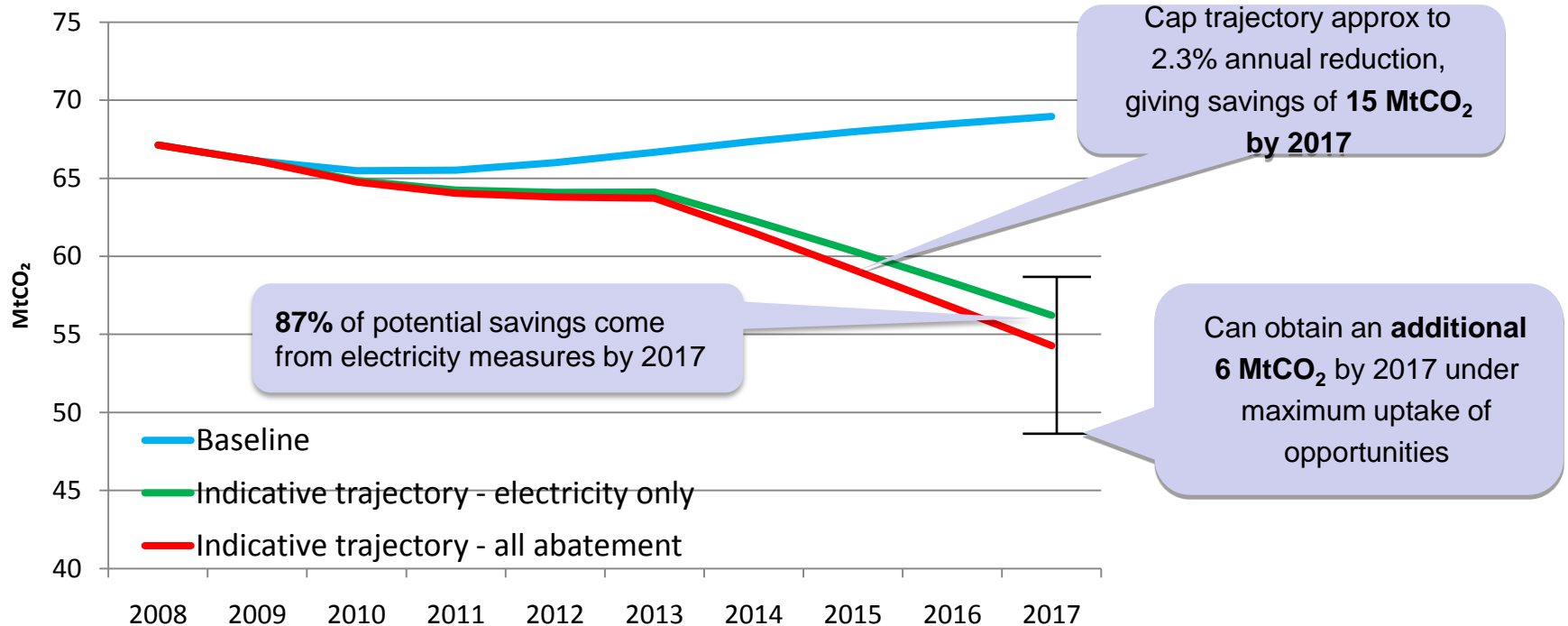
- **ENUSIM** – estimates energy consumption in the UK industrial sector and the uptake of energy efficiency measures.
- **N-DEEM** – assesses energy consumption and the potential impact of energy efficiency measures in the non-domestic building stock.

Analysis on the cap

Maximum abatement potential

- Cap could embody an annual emissions reduction of up to 4%.
- Gives potential savings of 21 MtCO₂ / year by 2017.
- This equates to a 30% reduction in emissions versus 2008 level.

CRC emissions trajectory under the central scenario by 2017



Substantial uncertainty about baseline emissions and the abatement potential

CRC baseline emissions

Uncertainty will be resolved

The reporting requirements will provide two years worth of actual data (2011 & 2012) to inform the setting of the final cap in 2012

CRC abatement potential

Existing modelling tools (ENUSIM & N-DEEM) have several limitations for estimating CRC sector savings and cap setting:

- *Non-CRC specific (sectors and technologies)*
- *Age of data, particularly for N-DEEM*
- *Does not give rate of uptake of technologies over time*

Recommendation: Government undertakes further work prioritising those CRC sectors that offers most contribution for specific abatement modelling.

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Implications of uncertain emission coverage and abatement potential on setting the cap



Risks of setting a cap that is not reflective of feasible emissions reduction in the sector:

- An overly generous cap could see a crash in price of CRC allowances, undermining incentives to abate

Solution: establish a minimum price in the CRC auction

- A cap that is too tight could create spikes in the price of allowances

Solution: maintain the use of the safety valve in the capped phase

Option 1: Auction with a minimum price and safety valve

HOWEVER, an auction based scheme would impose additional complexity and costs, while the benefits are unclear.

Alternative options to an auction-based scheme for the second phase



Option 2: Extending the first phase design to the second phase (preferred)

- Unlimited allowances sold at a fixed price
- Would deliver financial and reputational incentives offered by a cap
- But without the complexity and costs of dealing with an auction
- Some CRC revenues may be used to address barriers to energy efficiency uptake; this would help ensure reduction target is met in the absence of a cap

Option 3: More fundamental reform of the scheme (beyond the scope of this report)

(i) Reform revenue recycling:

- Complexity of revenue recycling methodology means unclear how it impacts on incentives
- Unclear as to whether it rewards/penalises those already energy efficient

(ii) Dropping the sale of allowances:

- Broader reform to strengthen the carbon price (e.g. reform of the Climate Change Levy) may negate the need for additional financial incentives offered by the CRC allowances
- But retain the CRC's powerful reputational incentives of mandatory reporting and league tables

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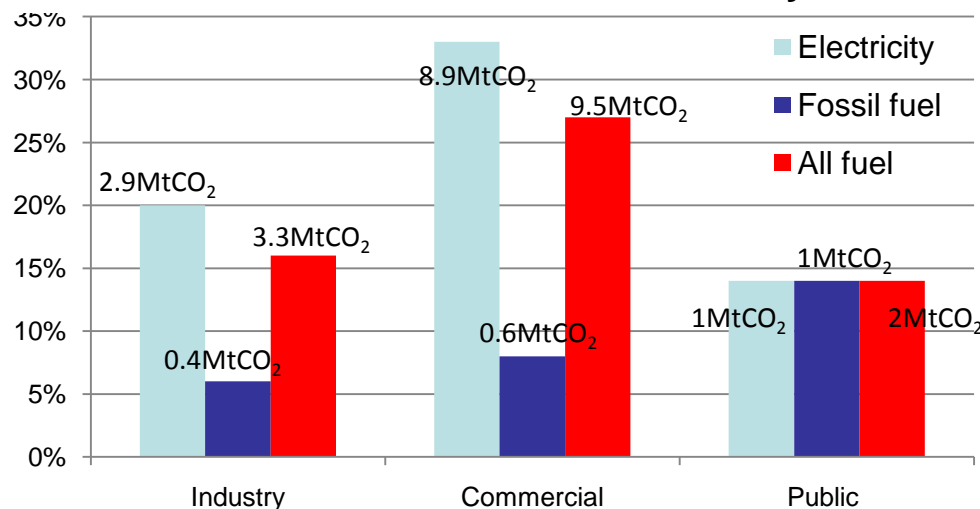
Separate league tables for the public and private sectors

Currently, one league table to avoid the complexity and fragmentation of sector-specific tables

But, clear differences exist between public and private sector organisations:

- Increasingly budget constrained public sector less able to invest in energy efficiency improvement, even with short payback periods
- Under the CRC, emissions intensity would rise if services are maintained while total revenue expenditure is cut
- Public sector abatement potential is lower, only 14% compared to 27% for the commercial sector

% of sectoral emissions abated by 2017



Risk of one league table:

- Poor ranking in the league table could result in transfer of funds from public to private sector via revenue recycling mechanism

Solution:

- Separate league tables for public and private sectors

Currently, renewable electricity generation and heat are treated differently under the CRC:

- **Renewable electricity generation** – emissions are rated at the grid average and CRC allowances must be bought where Renewable Obligation or Feed-in Tariff is claimed. This avoids double incentives.
- **Renewable Heat** – emissions are zero rated and allowances are not required even if in the future the proposed Renewable Heat Incentive is claimed. Gives renewable heat a double incentive.

We consider that financial support for renewable energy should be provided primarily by targeted instruments (e.g. FIT and RHI) and not the CRC. Therefore assuming adequate support for renewable heat is provided by the RHI:

- **Renewable heat should be treated in the same manner as renewable electricity generation**
- **Recognise investment in renewable heat alongside the performance league table, in order to provide a reputational incentive**

Threshold for inclusion in the CRC



Currently, qualifying threshold for inclusion in the scheme is based on annual electricity consumption of 6,000 MWh.

But, simplifying the scheme (option 2) could strengthen the case for lowering the threshold

If consideration were to be given to lowering the threshold for inclusion to 3,000MWh, would need to take into account:

- Further evidence on additional emissions coverage and abatement potential
- Transactions costs of smaller organisations complying with the CRC
- Alternative options that may be more appropriate for incentivising energy efficiency improvement in SMEs (DECC currently considering this).

Key messages



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Future work of the Committee



2010

- Advice on the level of the fourth carbon budget (2023 – 27)

2011

- Review of renewable energy ambition
- Advice on the Scottish cumulative emissions budget
- Third annual report to Parliament
- Advice on use of offset credits to meet the second carbon budget
- Review of international shipping emissions
- Review of sustainable bioenergy

2012

- Advice on inclusion of international aviation & shipping in carbon budgets
- Fourth annual report to Parliament

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