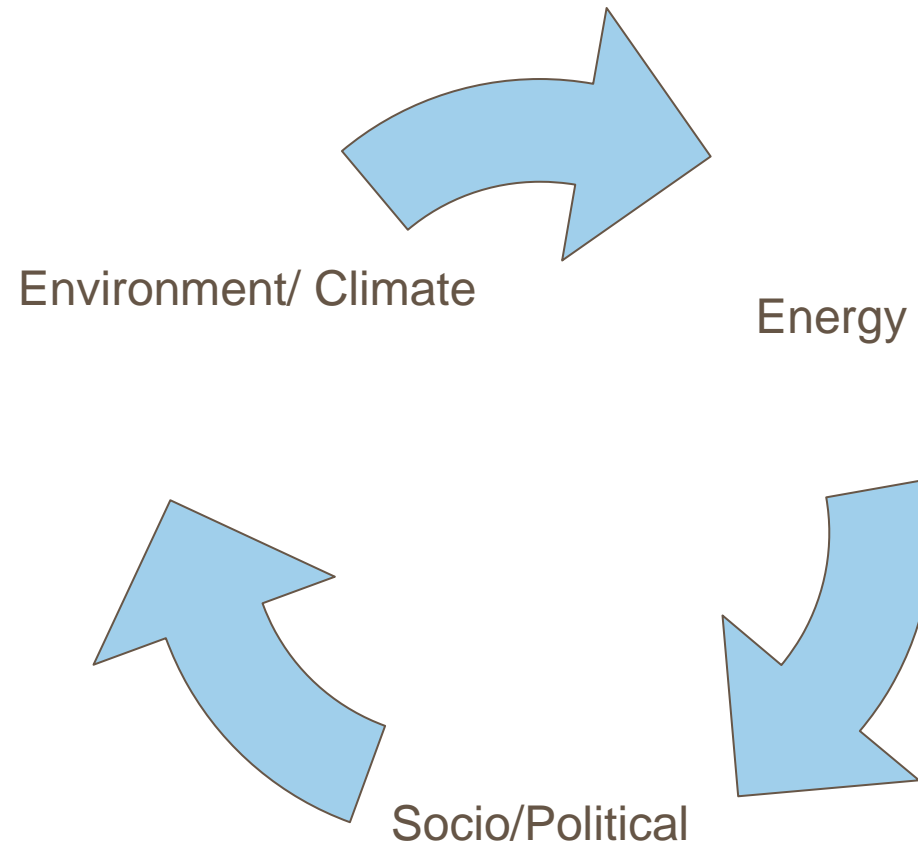




# Policy Issues in Environmental Taxation

Chris Lenon

# Environmental tax has wide reaching consequences



# “Environmental tax” policy challenges

- Environmental policy
- Energy policy
- Electricity/Power policy
- Fiscal policy
- Tax policy
- Social policy
- National and Regional competitive position
- Technology priorities
- Land use policies - Forestry
- Transport policy

# “Environmental tax”

- Tax raises money to fund government expenditure
- Is “Environmental tax” different?
- Is its purpose to change behaviours?
- Should only taxes/levies/permits which underpin environmental policy be branded as environmental?
- Environmental pricing includes all mechanisms by which governments make charges for the price of environmental externalities
- The impact of the quantum of environmental pricing on the total burden on business including existing taxes etc needs to be monitored – don’t use environmental pricing as a way to increase the overall burden

# Existing and future commitments

- UK commitments
- European commitments
- COP process
- What is happening elsewhere?

## Kaya formula captures the required transformation of the energy system – effectively a new industrial revolution

$$F(\text{CO}_2) = P * (\text{GDP}/P) * (\text{E}/\text{GDP}) * (\text{F}/\text{E})$$

Changes required to achieve a 70% reduction in GHG emissions in 2050

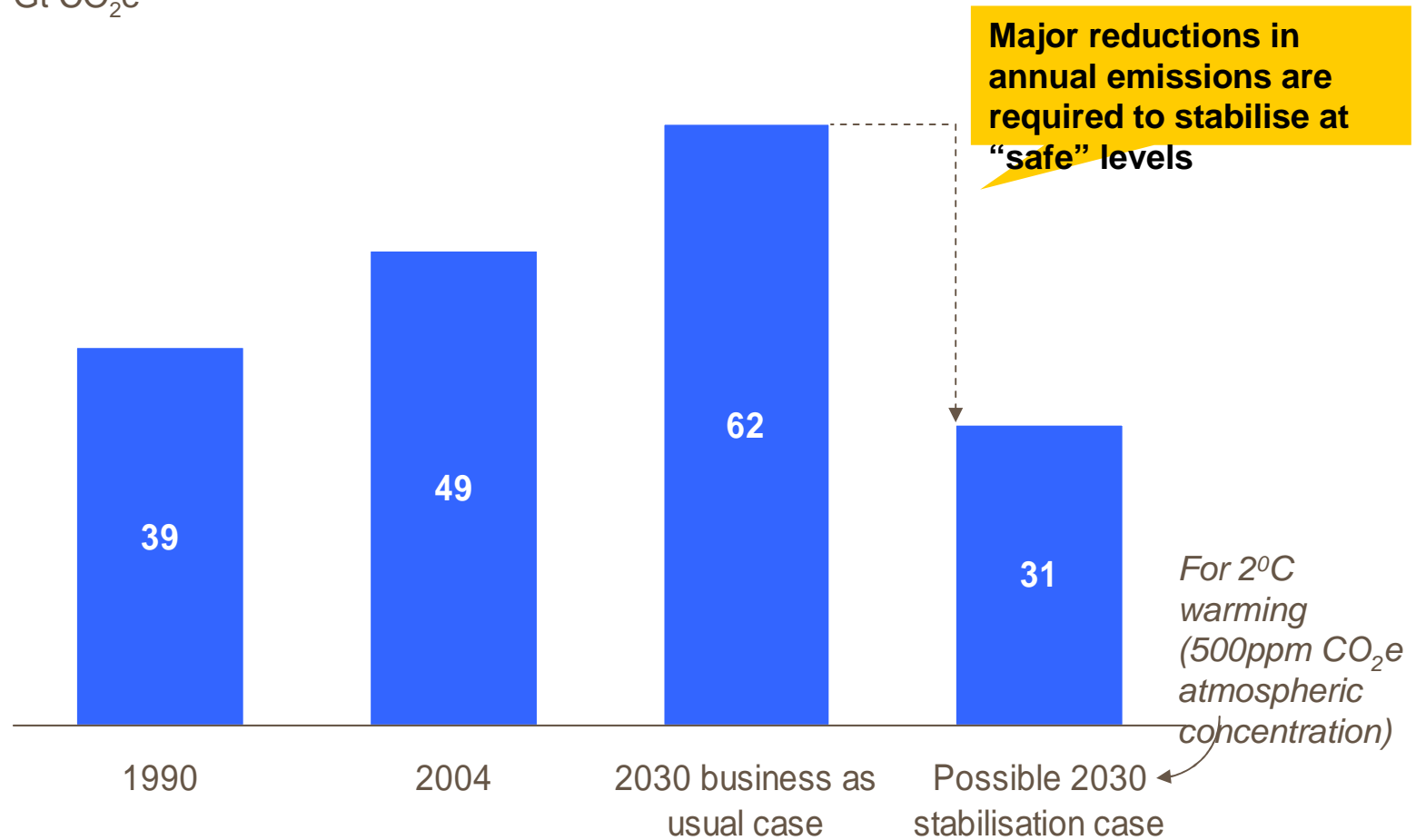
Global population	GDP/capita	Energy intensity of GDP	Carbon intensity of energy	
74%	74%	74%	74%	
150%	58%	58%	58%	1%/yr population growth
150%	220%	30%	30%	2%/yr GDP/P growth
150%	220%	80%	<b>11%</b>	20% efficiency improvement

- F is global CO2 emissions from human sources,
- P is global population,
- GDP is world GDP and (GDP/P) is global per-capita GDP,
- E is global primary energy consumption and (E/GDP) is the energy intensity of world GDP,
- and (F/E) is the carbon intensity of energy.

# The global challenge is huge and will require multi-decadal change processes across industries

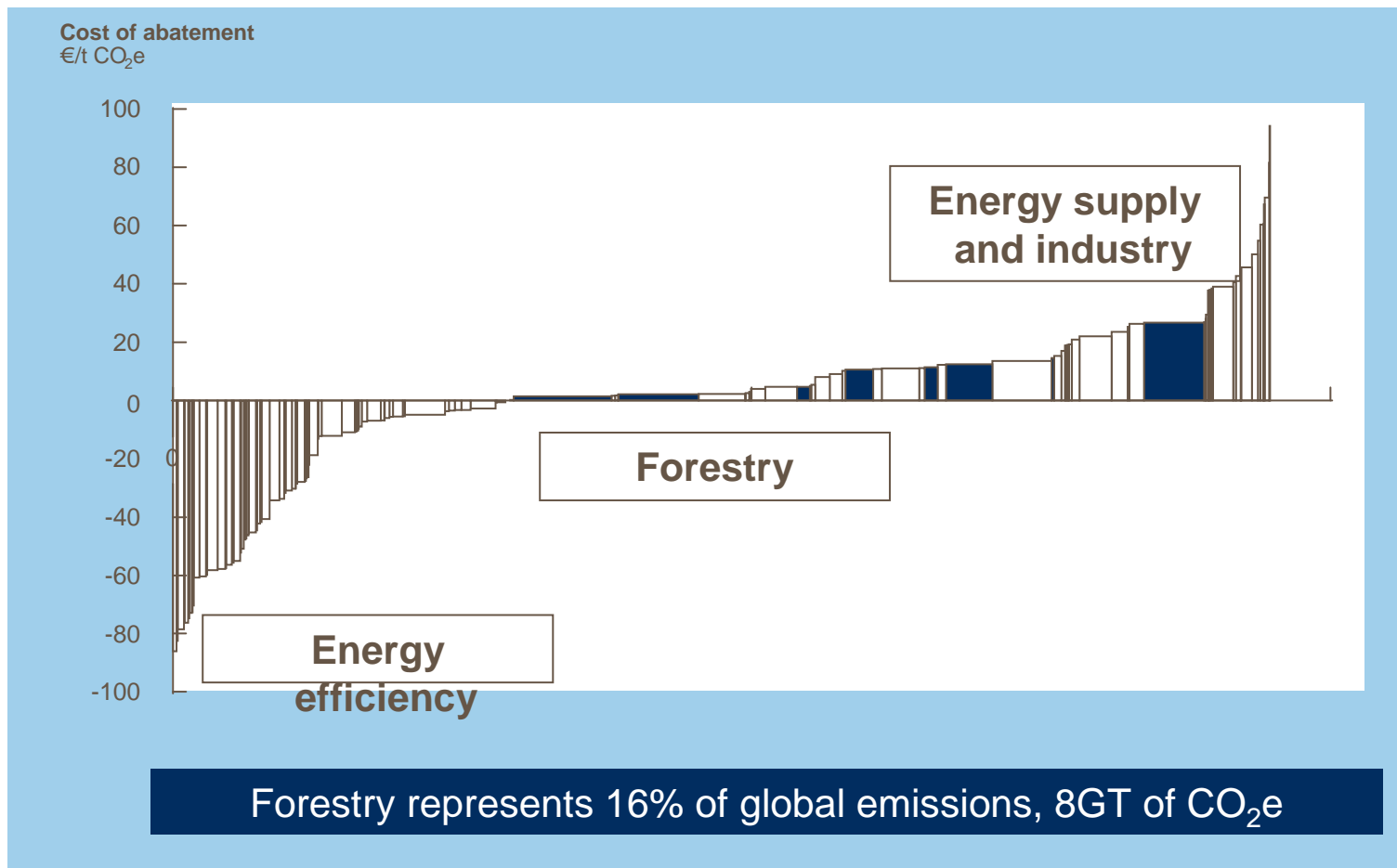
## Global annual GHG emissions

Gt CO<sub>2</sub>e



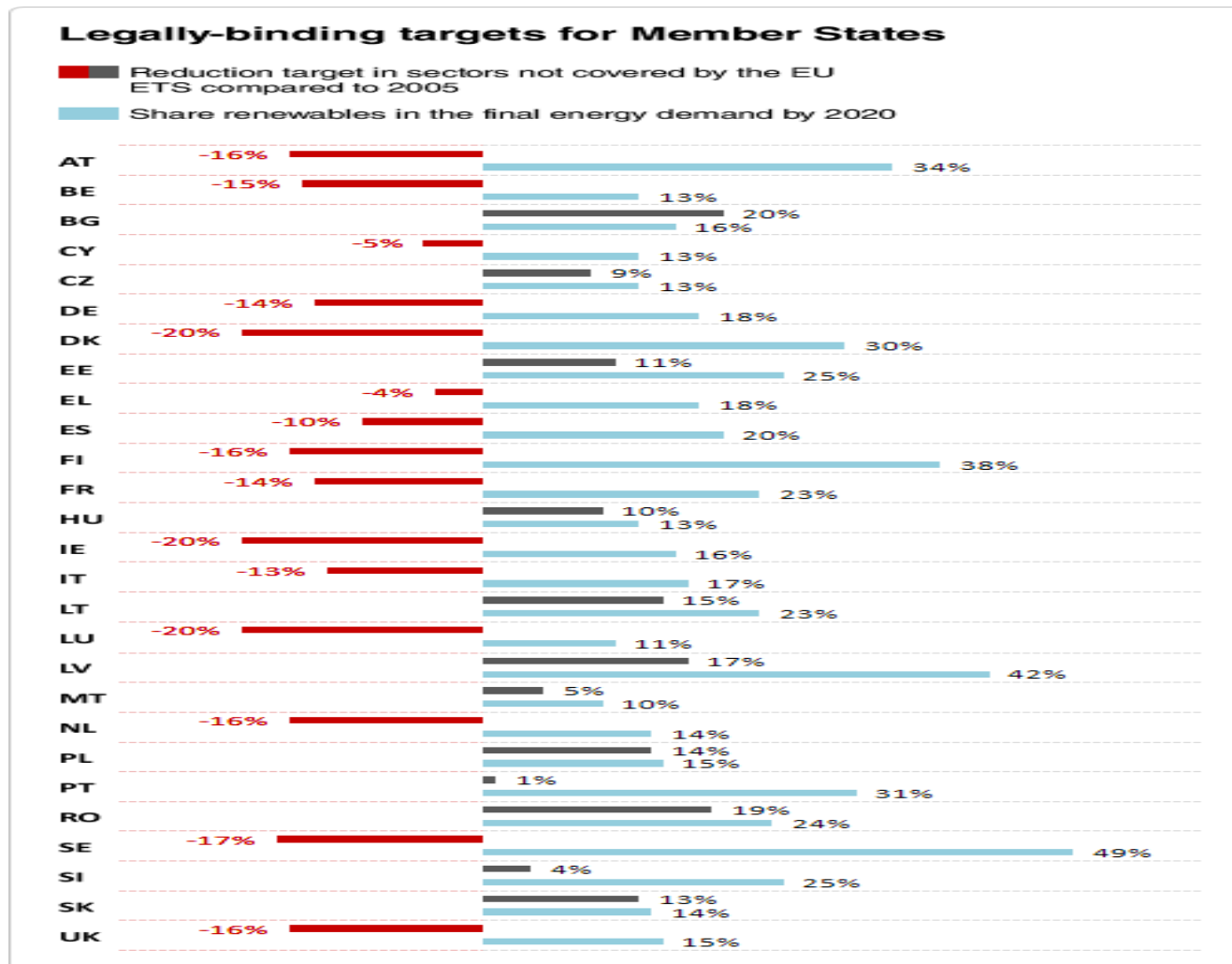
Source: IPCC; Stern Review (Part I and III); McKinsey

# The global abatement curve for carbon has three distinct elements



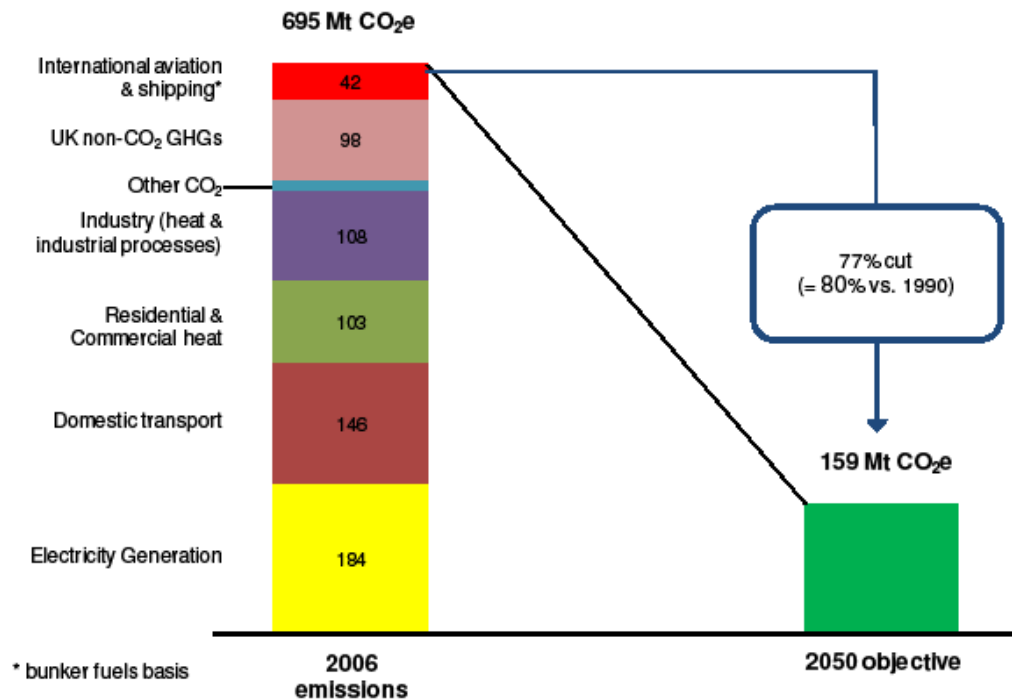
\* LULUC – Land Use and Land Use Change  
\*\* Includes forestry potential in Annex-1 countries  
Source: McKinsey Global Cost Curve 2.0, IPCC, IEA

# European targets



# Carbon policy – UK emission reductions

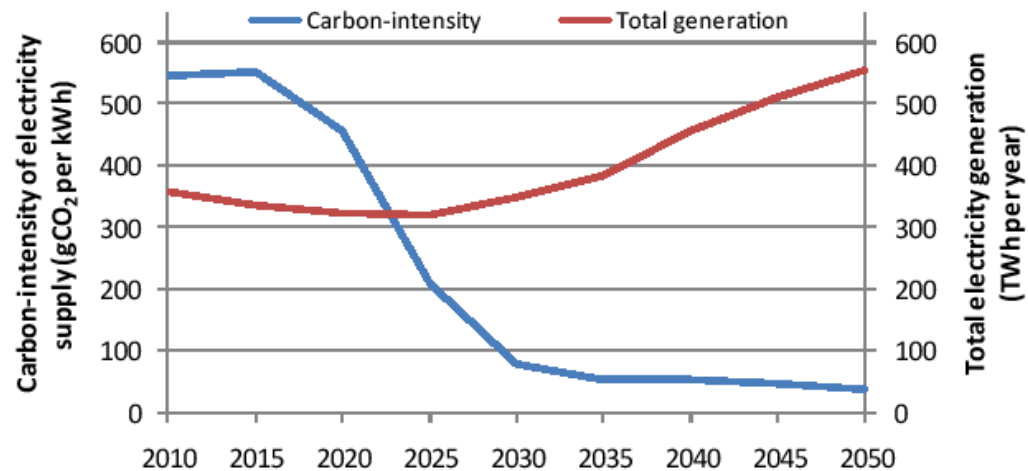
In its report in December, the CCC recommended that global emissions should fall to around 2 tonnes CO<sub>2</sub>e per capita by 2050, meaning a cut for the UK of around 80% vs. 1990 levels



# Carbon policy – decarbonising electricity - UK

The CCC emphasised the importance of largely decarbonising the power sector by 2030 on the way to achieving an 80% target by 2050

- The precise mix of renewables, nuclear and CCS is uncertain, but thermal plants with CCS offer more operational flexibility than wind or nuclear.



# Emission Trading

- European ETS enters Third phase in 2013 with agreed targets
- Impact of Fiscal crisis
- The ETS covers roughly 50% of European emissions
- Lack of accounting framework
- Inconsistent tax treatment across Europe will reduce the efficiency of the market
- UK receipts £5.2bn in 2014/5 (IFS report)

# Emissions outside the Emission Trading system

- 50% of emissions are outside the ETS
- Which mechanisms can be used to establish a carbon price consistent with the ETS for these emissions?
- Difficulties in revising the Energy Tax Directive to include a carbon element
- Carbon reduction commitment
- Carbon taxes
- Which is the most efficient mechanism with lowest cost compliance?

# Social Policy implications

- From an economic perspective, reduce all emissions efficiently
- Will Fuel poverty be replaced by Fuel/Carbon poverty
- Mechanisms to deal with this should
  - Maintain a carbon price to reduce emissions
  - Provide non tax measures to deal with fuel poverty
  - Energy efficiency and education become crucial
- Measures like the 5% VAT rate on electricity will need to be removed, currently subsidise each household by £158/annum (IFS report)

# Forestry – a low cost opportunity to reduce emissions?

- UK currently has 10% forestry land area compared to European average of 25%
- Current aspirational target is 25% land area
- Forestry is a potentially low cost abatement opportunity
- Which policy framework do we need to achieve this target?
- Which tax policies would encourage achieving this target?
- Do existing tax policies support overall policy objectives?
- Should we differentiate between commercial and heritage woodland?

# Mechanisms : Subsidies through tax

- Tax incentives for “environmentally good” projects are often proposed – how effective are they? Complicated, not understood, expensive to administer or access.
- Is direct support such as feed in tariffs more effective?
- Should incentives or subsidies for “environmentally bad” activities be removed?
- Need for a long term consistent framework that governments stick to, to send the right signal.
- Transitional measures need to be designed with care given the scale of transition costs.
- Are exemptions/reductions subsidies or policy choices?

# Concluding remarks

- The objective should be to reduce environmentally harmful activities at the lowest marginal cost – use the most appropriate measures.
- Offset mechanisms are key to achieving this together with a coherent, long term policy framework
- Exporting environmentally harmful activities and/or emissions achieves nothing but harms the competitive position of Europe – trade exposed industries are important
- Technological development **and** deployment of new technology are crucial to reducing emissions
- Double taxation does not reduce emissions or improve the environment