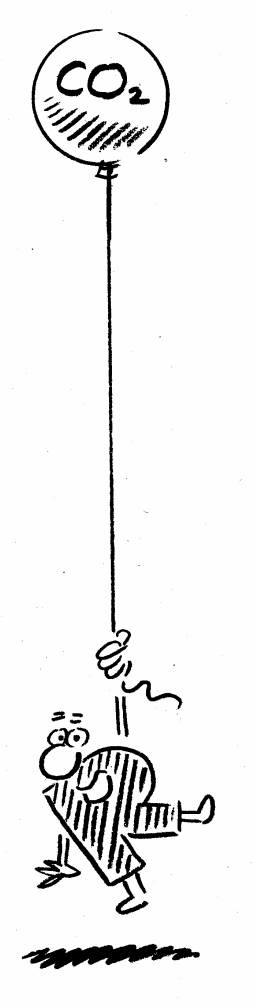

Carbon Reporting

Chris Tuppen
Director Sustainable Development

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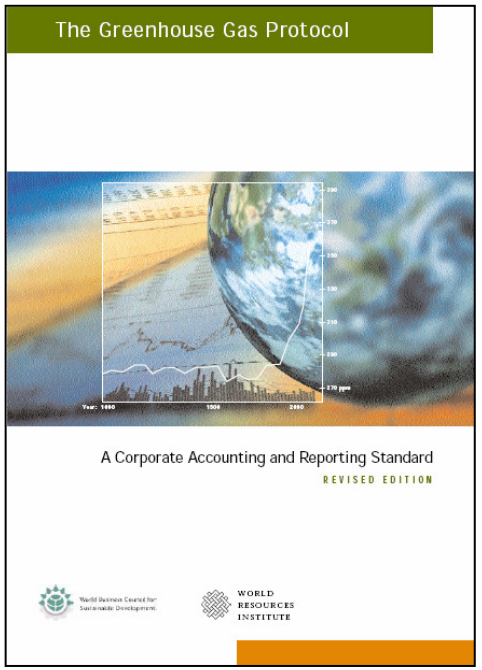
1998 Greenhouse Gas Protocol



Three Scopes

1. Direct emissions
2. Electricity
3. Optional eg business travel

Double Counting

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1996 – 2007 UK Footprint

	Emission Source	96/97 (Base) Amount (kg)	97/98 Amount (kg)	98/99 Amount (kg)	99/00 Amount (kg)	00/01 Amount (kg)	01/02 Amount (kg)	02/03 Amount (kg)	03/04 Amount (kg)	04/05 Amount (kg)	05/06 Amount (kg)	06/07 Amount (kg)
SCOPE 1	*Stationary Combustion*											
	Electricity Production - Oil Combustion	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	3,943,100	3,030,000	6,450,000	3,671,315	1,878,311
	Gas Combustion	110,770,000	98,230,000	106,301,846	99,910,828	95,606,308	87,599,284	91,629,939	92,599,797	81,196,740	83,794,467	71,270,559
	Oil Combustion	66,500,000	50,000,000	39,708,453	29,068,043	31,149,226	21,863,202	18,597,767	15,677,851	14,352,750	10,342,249	10,055,239
	Refrigeration Gases (HFCs and SF6 only)	500,000	500,000	500,000	503,100	782,480	1,126,314	1,075,614	886,004	2,406,894	1,433,998	3,240,410
	Commercial Fleet Diesel	167,232,000	183,208,000	177,004,765	175,799,622	165,411,269	166,479,057	146,286,319	131,282,272	126,699,464	123,340,509	125,686,194
	Commercial Fleet Petrol	18,480,000	3,927,000	806,584	892,165	1,730,012	1,491,142	2,115,145	3,951,175	3,603,799	5,933,994	5,162,533
	Company Car Diesel	24,021,000	32,130,000	10,655,000	11,996,472	6,539,183	6,120,716	7,794,778	8,182,373	11,153,473	15,392,853	15,337,594
	Company Car Petrol	16,296,000	9,312,000	28,387,408	34,668,715	30,378,257	38,127,971	25,238,685	25,513,068	17,303,091	12,072,696	9,273,486
	Total Scope 1 Emissions	407,799,000	387,307,000	367,364,056	356,838,946	335,596,736	326,807,686	296,681,348	293,123,140	263,166,211	261,382,081	242,504,326
SCOPE 2	*Purchased Electricity*											
	Grid Electricity	1,202,340,000	999,600,000	894,347,506	884,754,080	870,616,653	359,584,535	208,093,676	182,898,288	132,827,077	18,006,138	12,694,005
	CHP (low CO2) Electricity	0	0	0	0	0	283,800,000	411,252,000	411,252,000	307,424,890	310,791,276	328,835,505
	Total Scope 2 Emissions	1,202,340,000	999,600,000	894,347,506	884,754,080	870,616,653	643,384,535	619,345,676	594,150,288	440,251,967	328,797,414	341,529,510
	Combined Scope 1 & 2 Emissions	1,610,139,000	1,386,907,000	1,262,311,562	1,241,593,026	1,206,213,389	970,192,221	916,027,624	887,273,428	703,418,178	590,779,495	584,033,836
SCOPE 3	Cars on BT Business (Diesel)	729,257	729,257	729,257	375,732	794,318	822,231	581,916	600,521	600,826	1,805,450	1,642,309
	Cars/Motorcycles on BT Business (petrol)	4,254,113	4,254,113	4,254,113	4,381,918	4,710,125	4,354,311	3,508,096	3,584,361	3,785,867	1,420,477	1,033,503
	Refrigeration Gases (CFCs and HCFCs only)	9,133,260	9,133,260	15,568,105	14,802,692	8,852,369	10,186,366	7,534,434	6,727,767	7,763,662	4,375,817	6,388,124
	Rail travel	11,633,298	11,633,298	11,633,298	11,633,298	11,331,224	11,159,653	11,873,532	12,168,782	13,484,611	14,594,061	13,826,495
	Air Travel (short haul)	7,026,559	7,026,559	7,026,559	7,026,559	10,375,194	7,666,251	5,544,424	4,711,583	6,006,193	7,553,833	7,328,436
	Air Travel (long haul)	7,713,114	7,713,114	7,713,114	7,713,114	14,674,189	5,638,300	3,382,182	7,000,831	6,023,284	7,864,527	8,802,487
	Hire Cars (Diesel)	1,646,818	1,646,818	1,646,818	1,646,818	23,954	943,227	1,745,243	1,163,209	2,670,362	2,085,571	2,896,157
	Hire Cars (Petrol)	10,230,362	10,230,362	10,230,362	10,230,362	2,888,259	20,154,402	8,726,216	12,316,408	12,777,391	5,409,009	9,340,850
	Total Scope 3 Emissions	52,366,780	52,366,780	58,801,626	59,010,492	53,649,631	61,524,741	43,496,043	48,273,461	53,118,196	45,108,745	51,258,362
	Total CO2 emissions (kgs)	1,662,505,780	1,439,273,780	1,321,113,188	1,300,603,518	1,259,863,020	1,031,716,962	959,523,667	935,546,889	762,536,374	635,888,240	635,292,197

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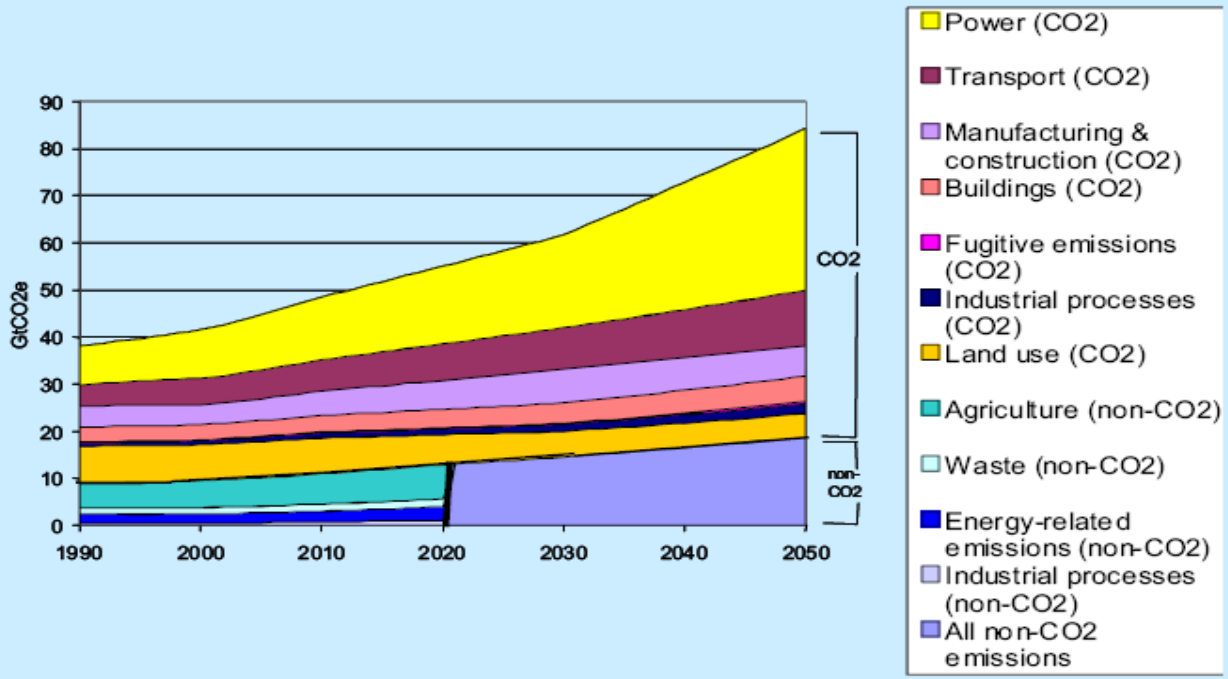
Growth in Global CO_2e Emissions

Figure A Historical and projected GHG emissions by sector (by source)



Source: WRI (2006), IEA (in press), IEA (2006), EPA (forthcoming), Houghton (2005).

2008

47 Gtonnes CO_2e

47,000,000,000 tonnes

1.67 Kg CO_2e / £ GDP

Diagram taken from the Stern Review

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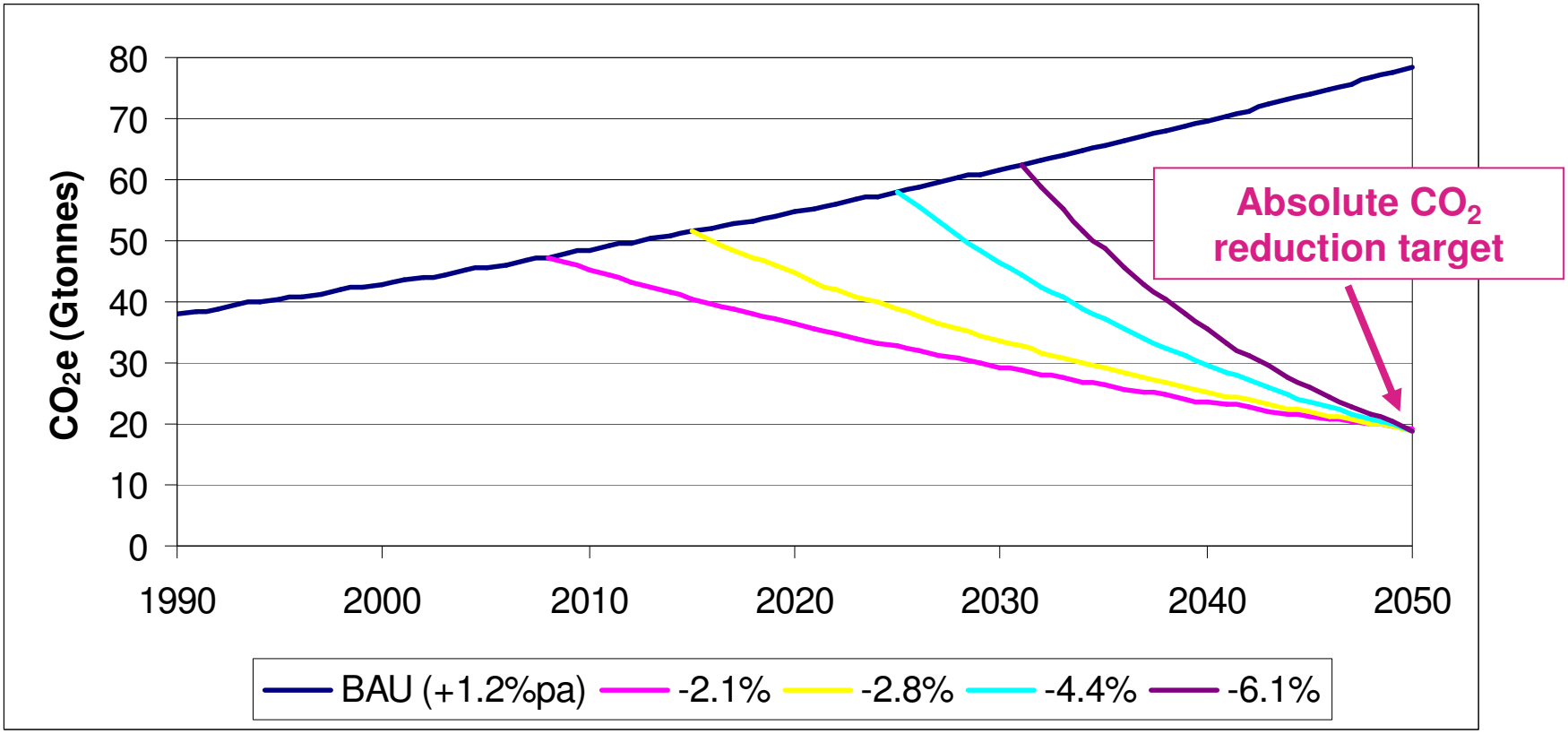
50% reduction on 1990 levels by 2050



Average world GDP growth at constant prices (1980 to 2007) = 3.6% pa
Decoupling of world CO2e emissions from economy (1990 to 2007) = 2.4% pa
Net business as usual growth of world CO2e emissions = 1.2 % pa

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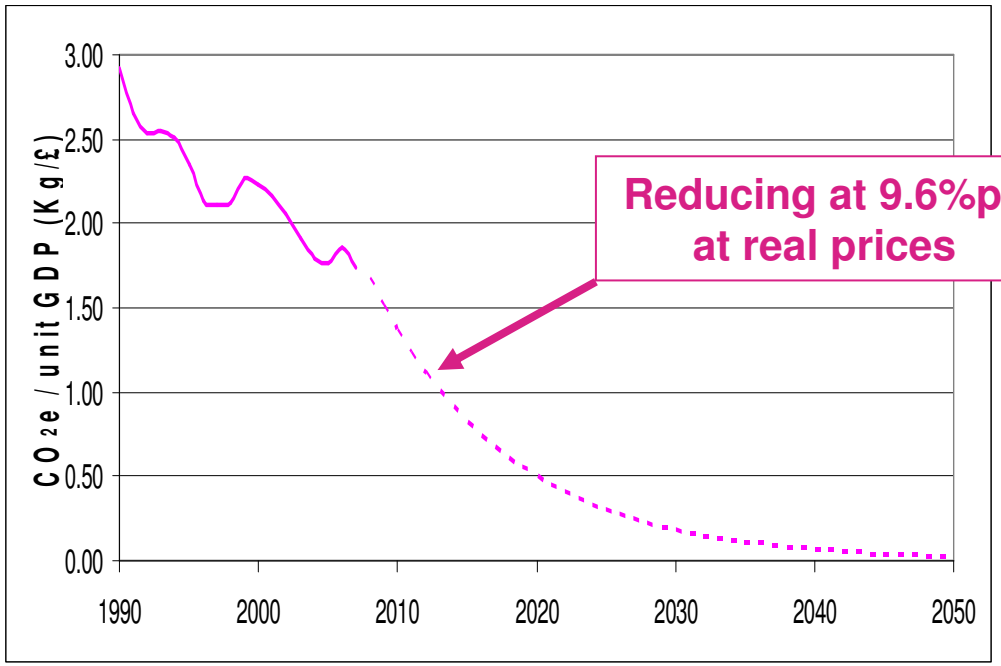
World CO_2e intensity for 80% reduction in emissions



But what should a company do?

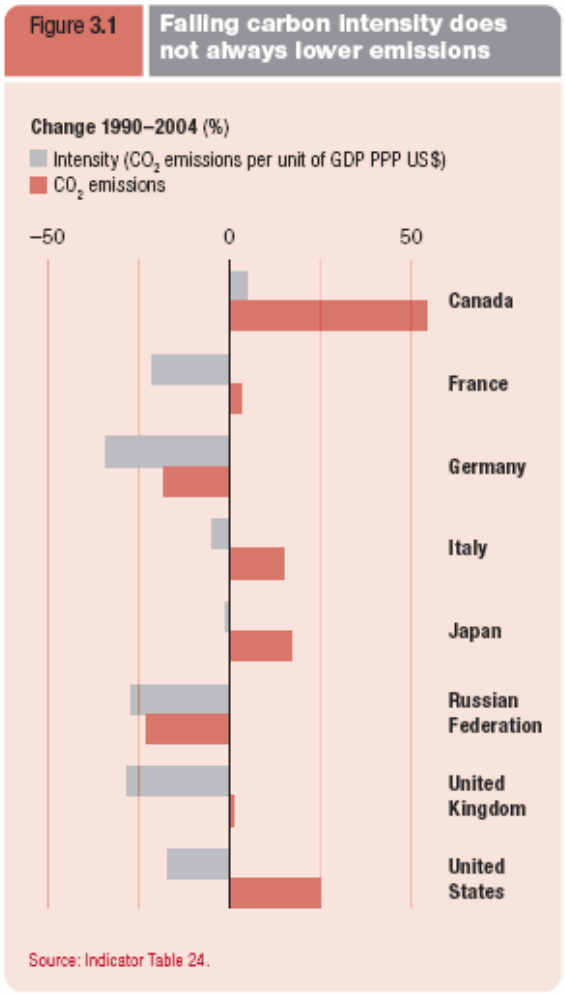


Diagram taken from the UNDP Human Development Report 2007/8

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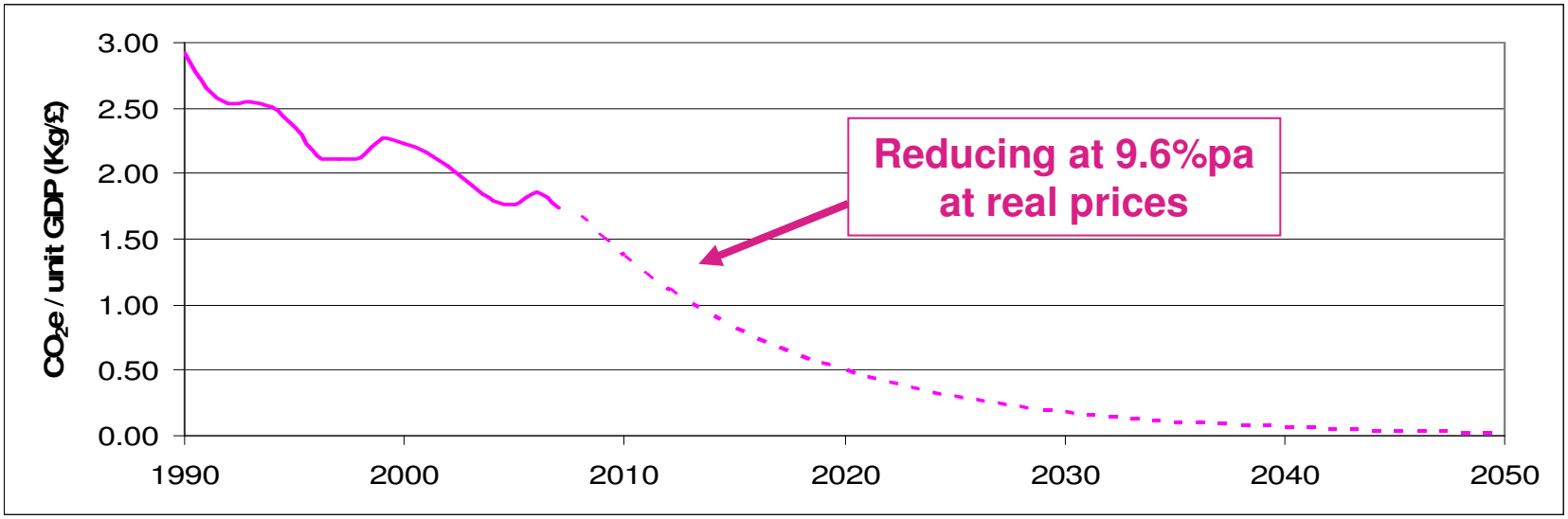
A company should .....



Match or exceed this trend – ie its CO_2e per unit of contribution to GDP* should drop by at least 9.6% pa

A company's contribution to GDP is defined as its Value Added, where:

Value Added = EBITDA + employee costs = turnover – bought in costs and services

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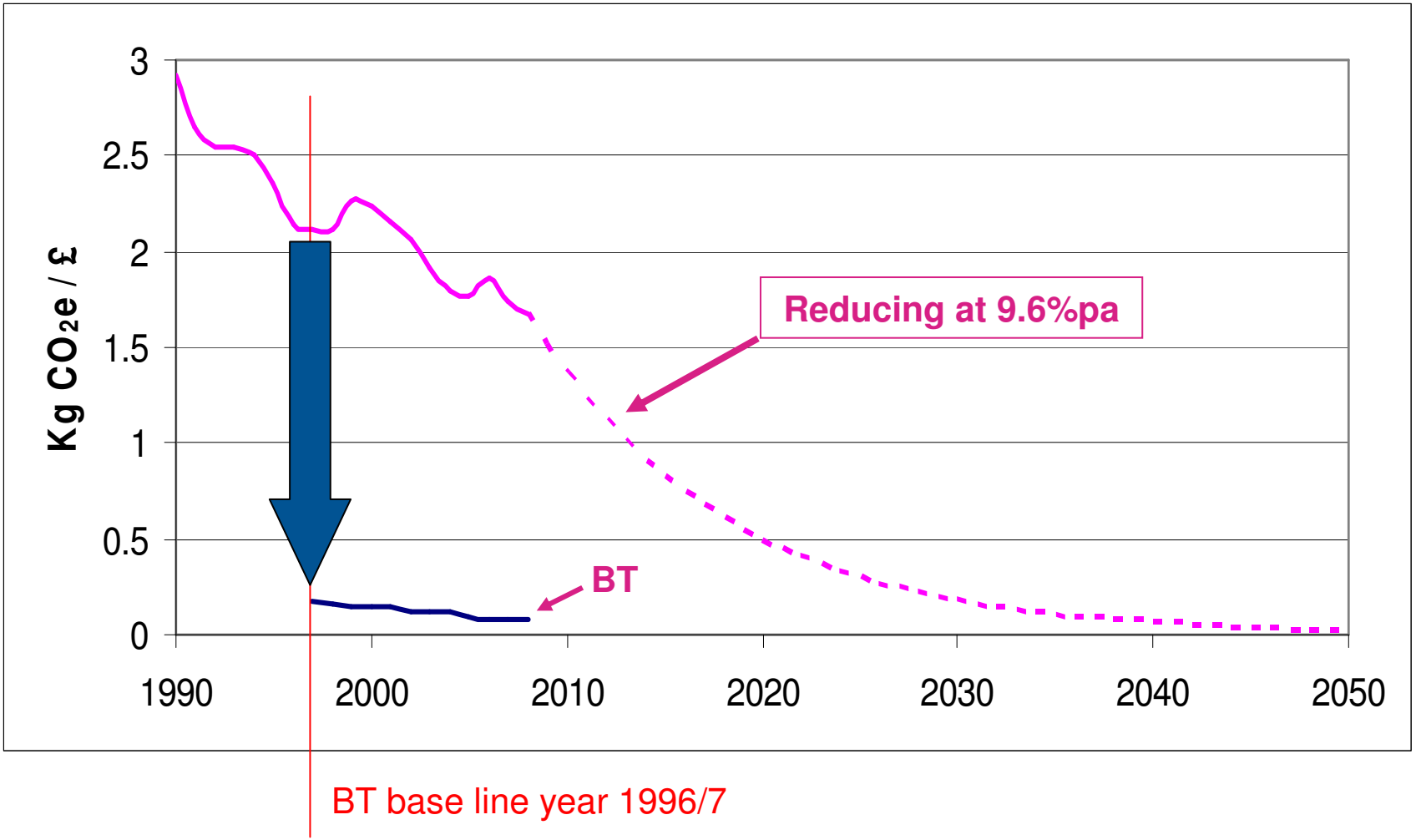
Adding in BT's CO_2e intensity

$$\left(\text{Intensity} = \frac{CO_2e}{\text{Value Added}} \right)$$



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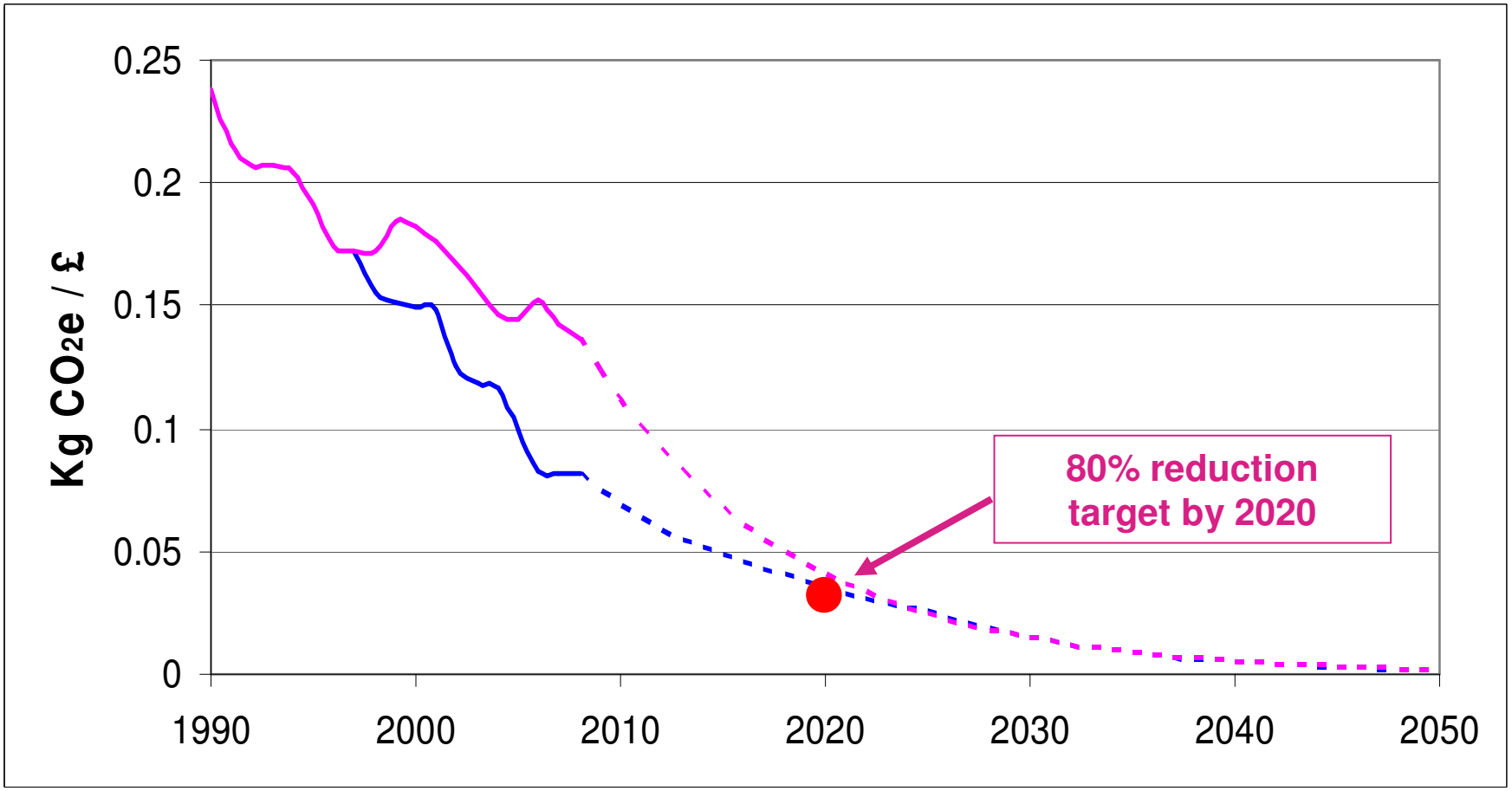
Setting a Climate Stabilisation Intensity Target



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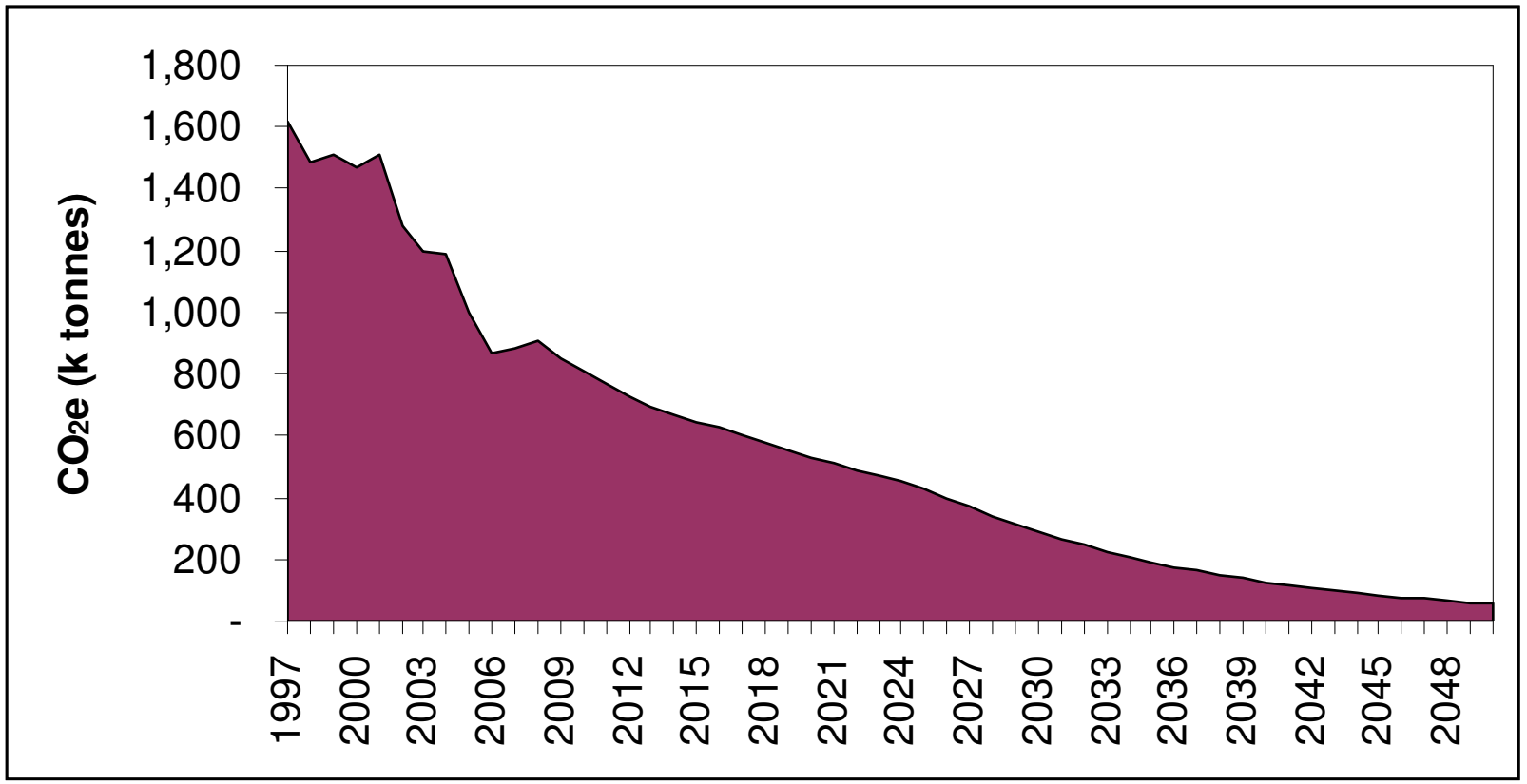
BT's emissions are dropping in real terms



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Advantages of a CSI target

- Combines company environmental and financial performance
- Links company performance to global environmental and economic performance
- Accommodates the normal dynamics of businesses such as organic growth, acquisitions and outsourcing
- Provides a framework for modelling future strategy
- Allows straightforward benchmarking

Climate Stabilisation

Ensures emission reductions are sufficient to prevent catastrophic climate change.

Intensity Target

Links climate protection to economic growth.

Green growth for a low carbon future

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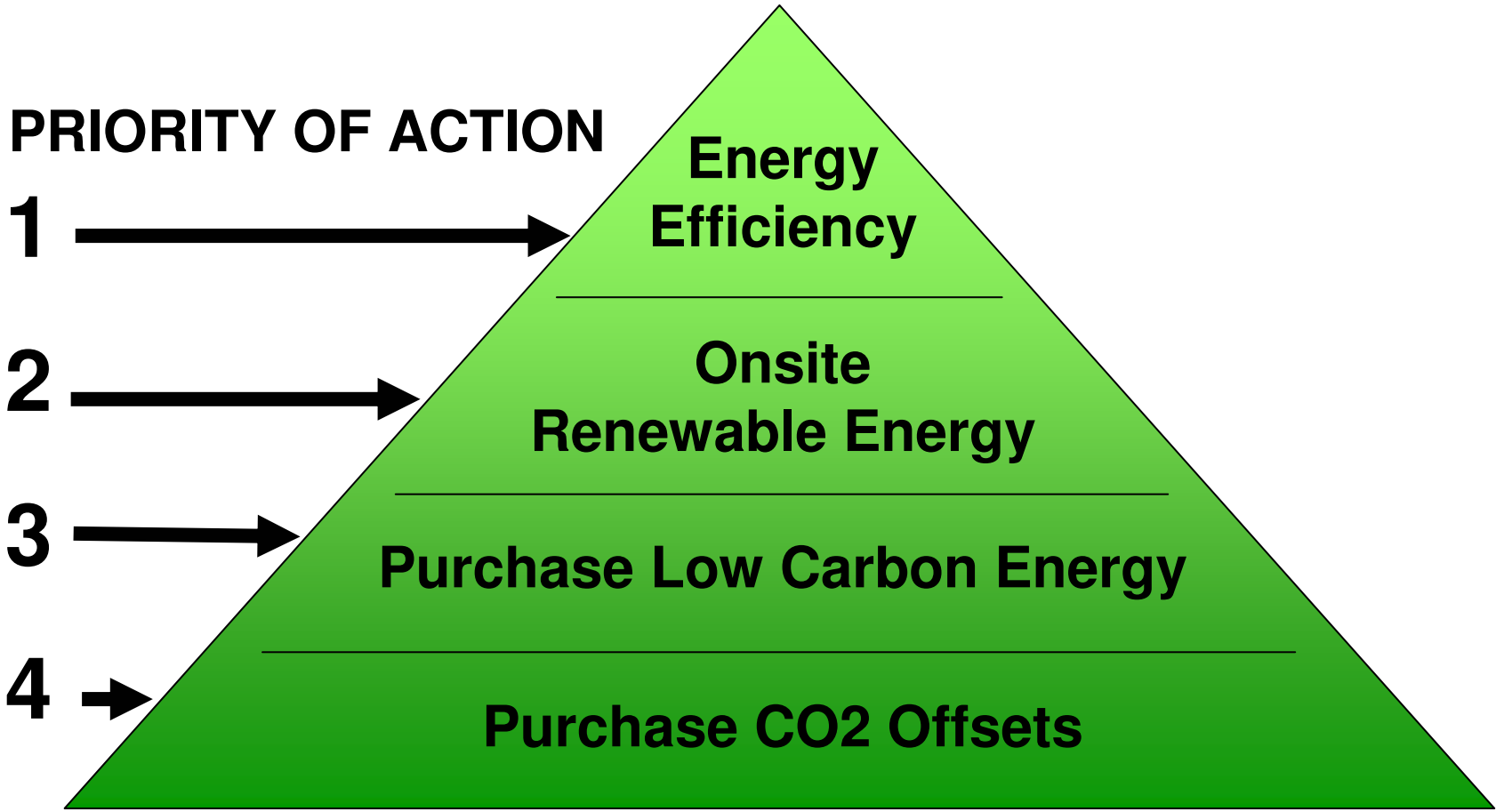
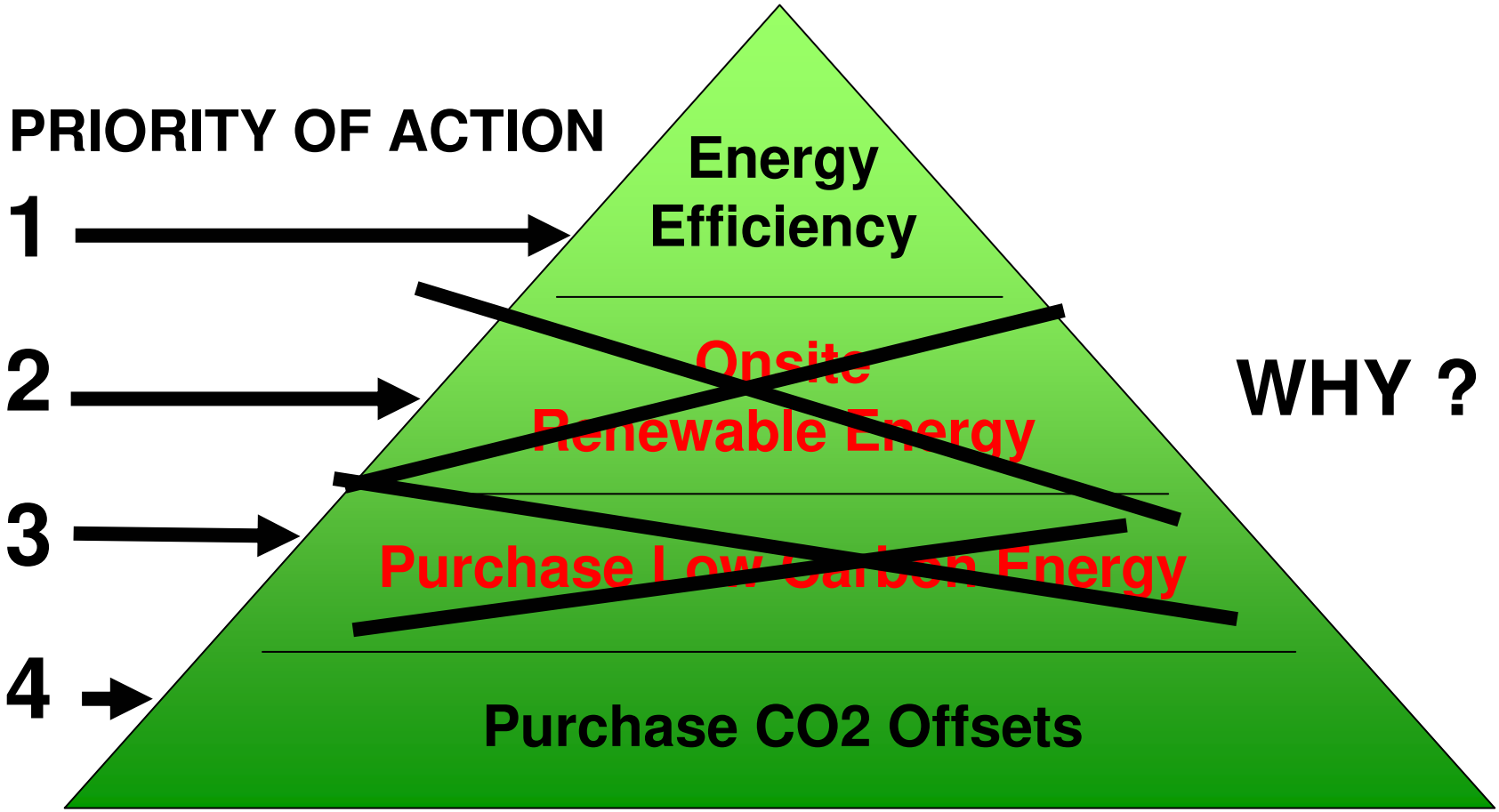
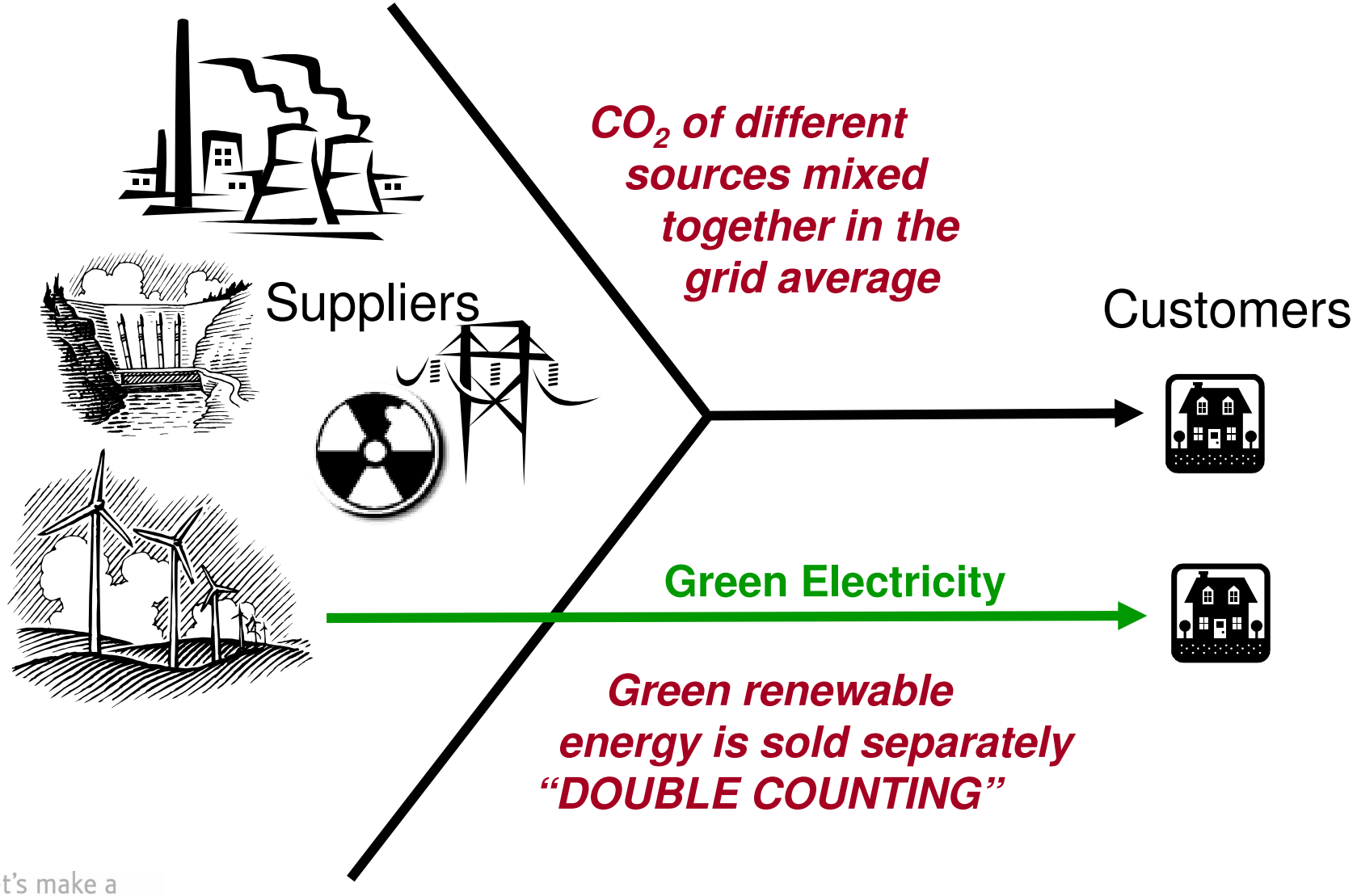
Any company wishing to reduce its carbon footprint, needs to follow a hierarchy of action.



BUT, in future renewable energy may be removed from this hierarchy of action



Because of “double counting” and “additionality”



To remove “double counting”, the total CO2 calculations should be equal on both the supply and demand side.

Supply Side:
Electricity Suppliers

- RWE Npower XX
- British Gas XX
- EON XX
- British Energy XX
- EDF…. XX

TOTAL CO2 = XXX
(GHG Reporting ‘Scope 1’ Emissions)

=

Demand Side:
Electricity Consumers

- Households XX
- Business users XX
- Industry XX
- Government XX

TOTAL CO2 = XXX
(GHG Reporting ‘Scope 2’ Emissions)

To remove “double counting”, every customer should have the CO2 of the source of their supply on their electricity bill.

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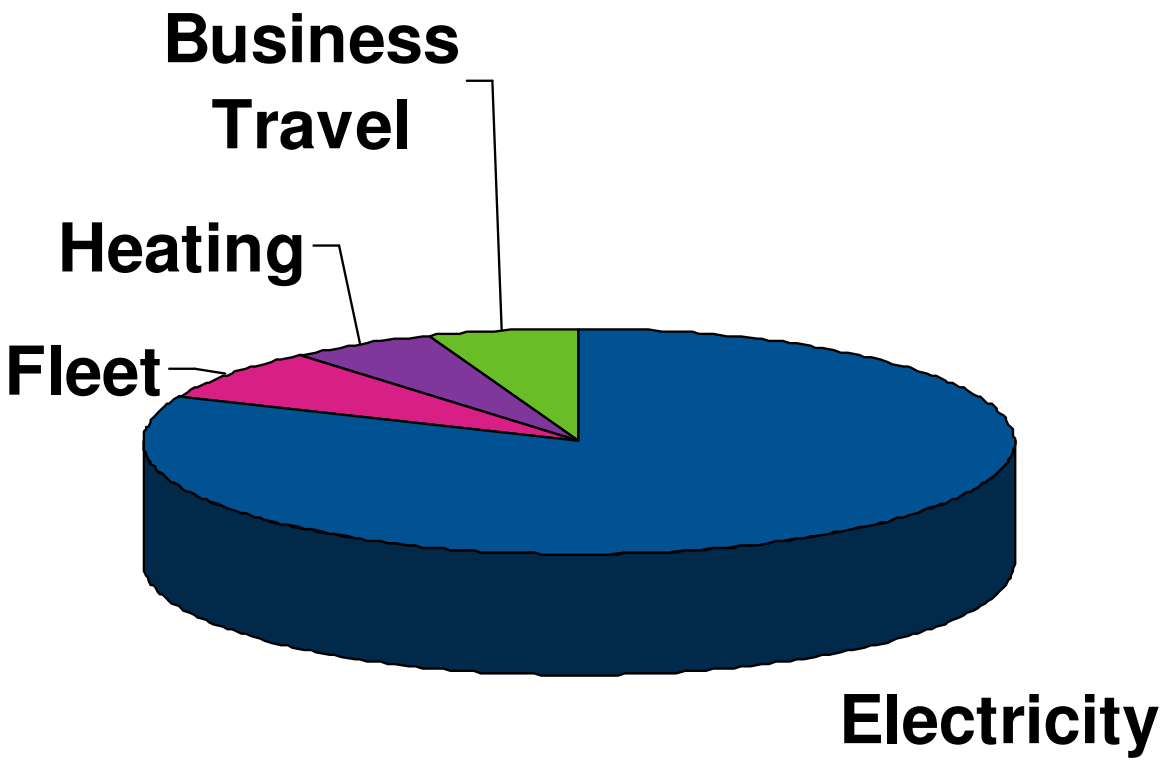
All electricity should be labelled on an A to G scale

Electricity CO_2 Label		CO_2 / kWh	%	KWh supplied	CO_2 tonnes
A	*Renewable / zero carbon*	0g	30 %		
B	*Low carbon / CCS*	<200g	50 %		
C	*Gas CHP*	<300g	%		
D	*CCGT Gas*	<400g	10 %		
E	*UK Average / Gas*	<600g	%		
F	*Good Coal / Oil*	<800g	10 %		
G	*Coal*	>800g	%		
TOTAL ELECTRICITY CO_2			B	xxxx	xxxx

*

* **NUCLEAR WASTE – this label could include a column showing nuclear waste at 0.0025g/kwh**

2007: BT's Distribution of Energy



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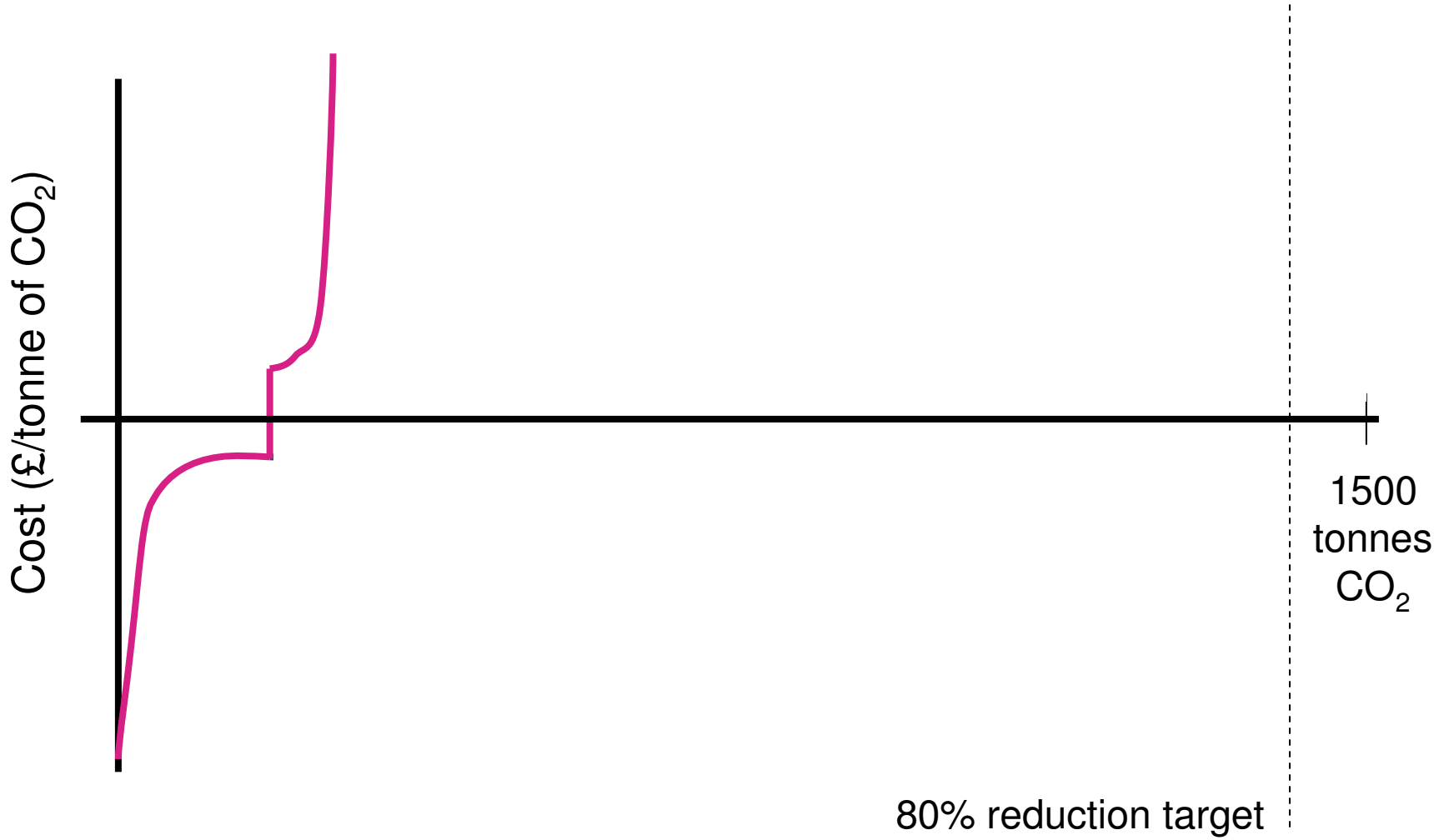
BT's UK CO2 abatement cost curve to 2016



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The logical approach for BT now will be to …..

- Campaign for a carbon accounting framework that encourages market pull and drives the right behaviour
- Buy the cheapest electricity regardless of source
- Divorce all decisions on on-site renewables from climate change strategy
- Abandon our tough targets

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