

US Federal Proposals

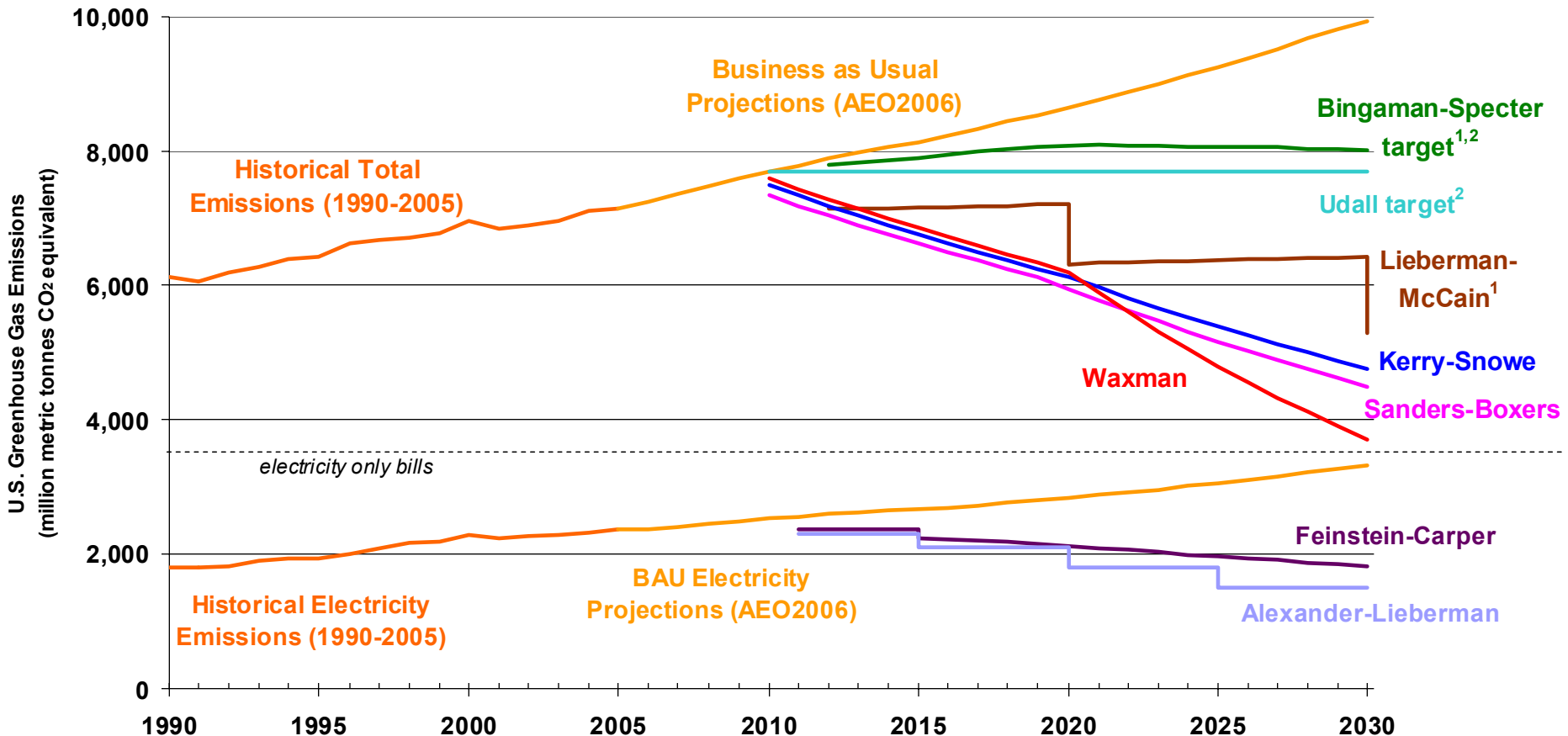
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Comparison of Targets Proposed in 110th Congress (as of 5/9/07)



¹ Projected emissions from non-covered sectors and sources taken from the EIA analysis (January 2007) of the Bingaman 109th Congress proposal.

² Bill contains flexibility mechanisms which allow actual emissions to rise above the target.

Costs Estimates

Table 4. Core price and welfare results: U.S. + World Policy.

	CO ₂ -e Price (\$/tCO ₂ -e)			Change in Welfare (%)		
	287 bmt	203 bmt	167 bmt	287 bmt	203 bmt	167 bmt
2015	18	41	53	0.01	-0.04	-0.07
2020	22	50	65	-0.13	-0.32	-0.55
2025	26	61	79	-0.36	-0.69	-1.05
2030	32	74	96	-0.45	-1.08	-1.47
2035	39	90	117	-0.19	-0.77	-1.51
2040	47	109	142	-0.12	-0.92	-1.84
2045	57	133	172	-0.24	-1.28	-1.90
2050	70	161	210	-0.18	-1.45	-1.79

Summary of Climate Change Bills Introduced in the 110th Congress

Draft as of May 9, 2007

	Who's regulated	Allocation	Price limit / flexibility	Offsets	Technology
Bingaman-Specter (January draft)	Economy-wide energy-related CO ₂ emissions regulated near point of fossil fuel production; process & non-CO ₂ emissions regulated at source	55% directed to industry, declining 2% per year; 29-30% directed to states; remainder includes offsets, sequestration, adaptation, and technology	\$7 / ton CO ₂ safety valve, rising at 5% per year above inflation	Set-aside for offsets	Detailed technology provisions funded up to \$50 billion from allowance sales
Udall (March draft)		20% directed to industry; 25% directed to technology; remainder includes adaptation, states, sequestration, developing countries, and general revenue	Unspecified safety valve, rising over time	Domestic offsets for sequestration	Establishes Advanced Research Project Agency for Energy (ARPA-E) with funding from allowance sales
Lieberman-McCain (S. 280)	Large downstream sources (more than 10,000 tons CO ₂ per year) regulated at source; all transport emissions regulated at refinery	No more than 50% to industry; details unspecified	Borrowing (with interest)	Up to 30% of obligation can be met with sequestration and international offsets	Unspecified technology programs funded from allowance sales
Kerry-Snowe (S. 485)	Economy-wide emissions regulations left up to EPA	Unspecified	None	Domestic sequestration	Extensive specification of additional regulations and standards
Sanders-Boxer (S. 309)				None	
Waxman (H.R. 1590)				None	
Feinstein-Carper (S. 317)	Electricity-sector emissions regulated at the power plant	85% directed to industry, declining to zero by 2036, based on generation	Borrowing	Extensive agricultural offsets	Additional incentives for carbon capture and storage.
Alexander-Lieberman (S. 1168)		75% directed to industry based on heat input.	None	Domestic offsets in six categories	

Why Regulate Upstream?

Because virtually all of the carbon in fossil fuels is emitted as carbon dioxide during combustion, these emissions can be regulated at any point in the fossil fuel production / consumption chain

UPSTREAM (Fuel Producers)



Extraction

Total Sources

22,000

Oil & gas wells

1,500

Coal mines

*Refineries
Gas pipelines*



Fuel Processing / Transport

Total Sources

1,500

*Electric Generators
Industrial Plants*



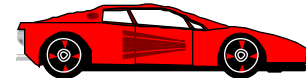
Major Emitters

Total Sources

10,000

DOWNSTREAM (Fuel Consumers)

*Cars and trucks
Homes and office buildings
Small industrial facilities*



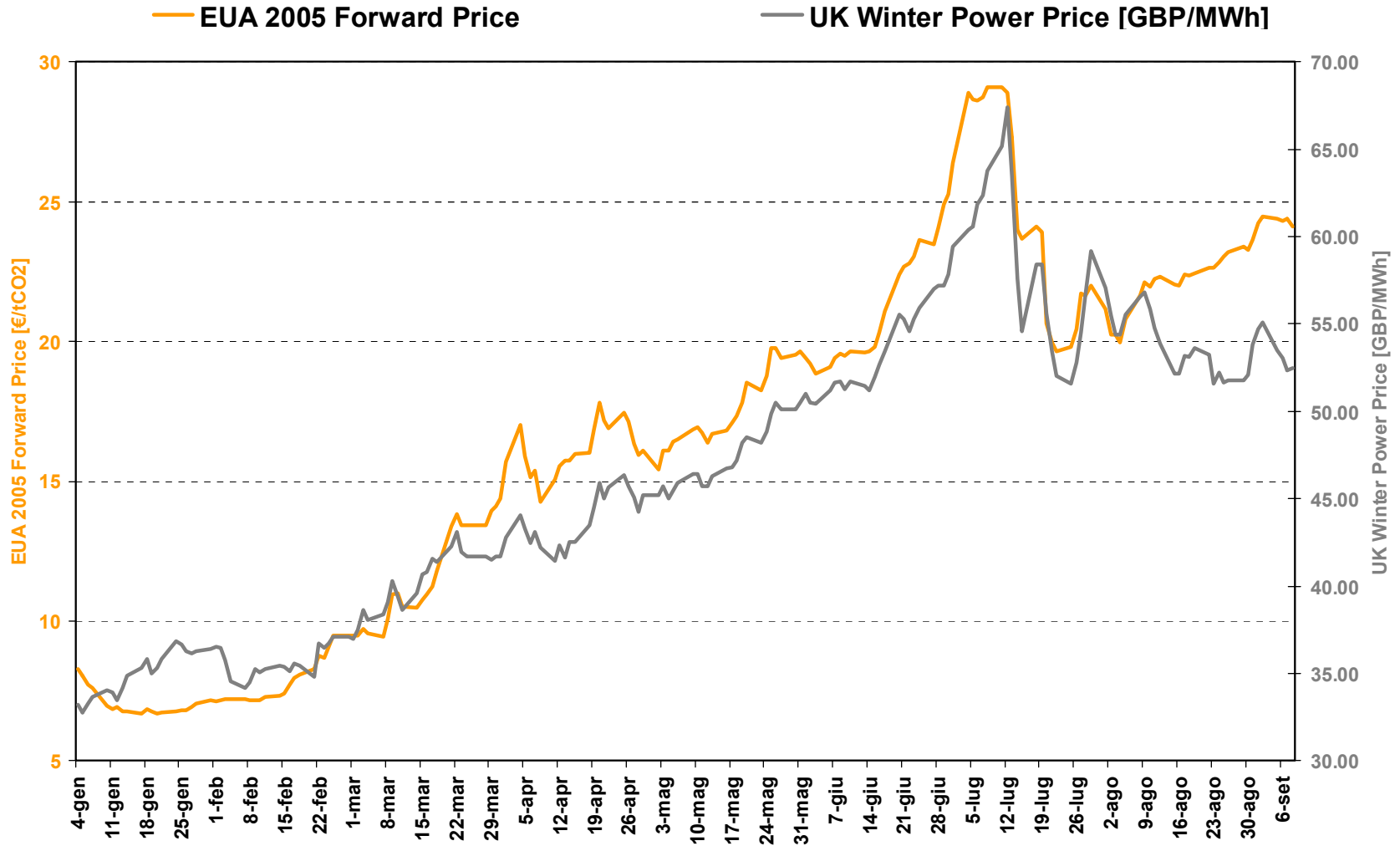
Other Direct Emitters

Total Sources

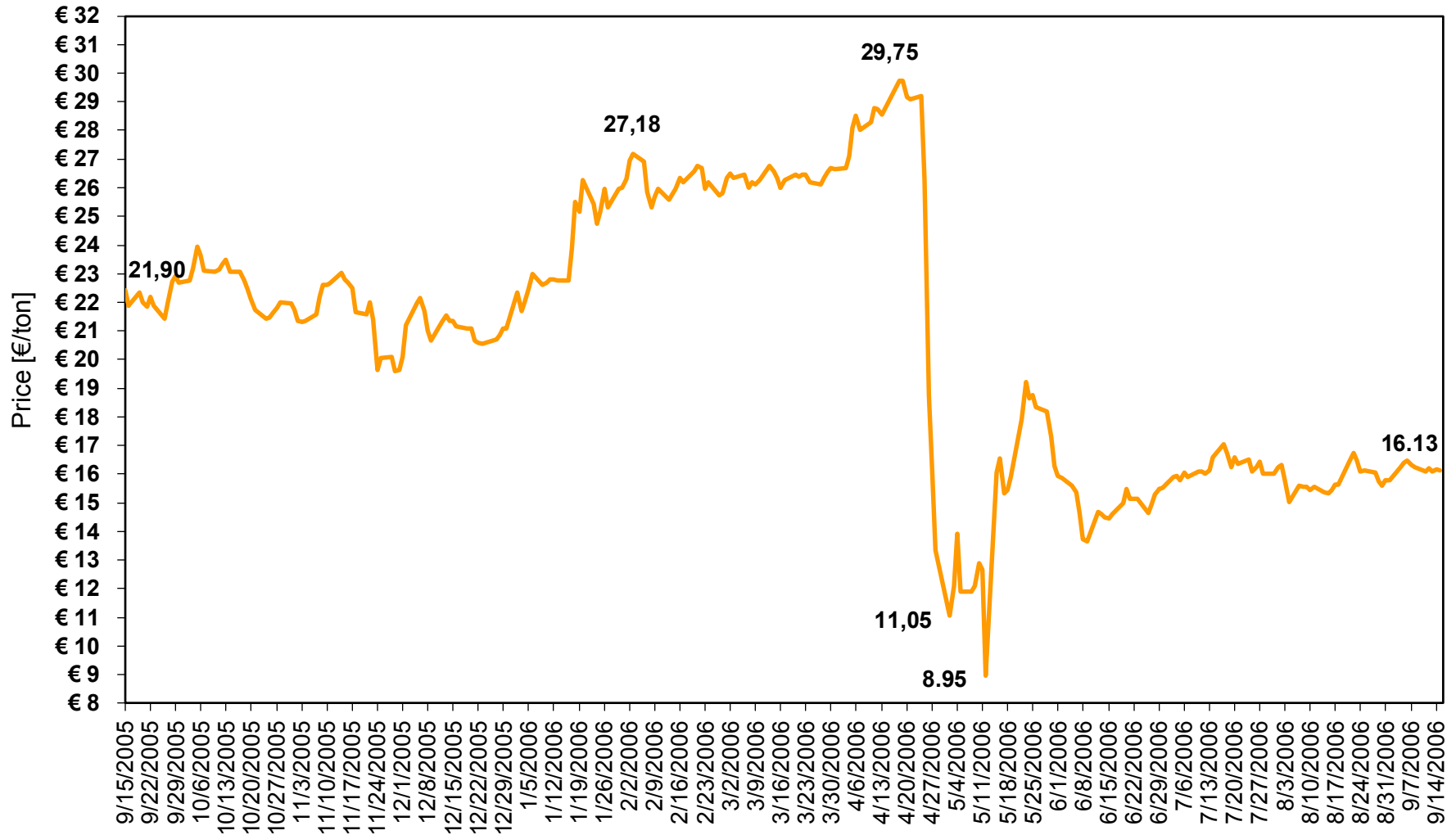
100s of millions

Least number of sources

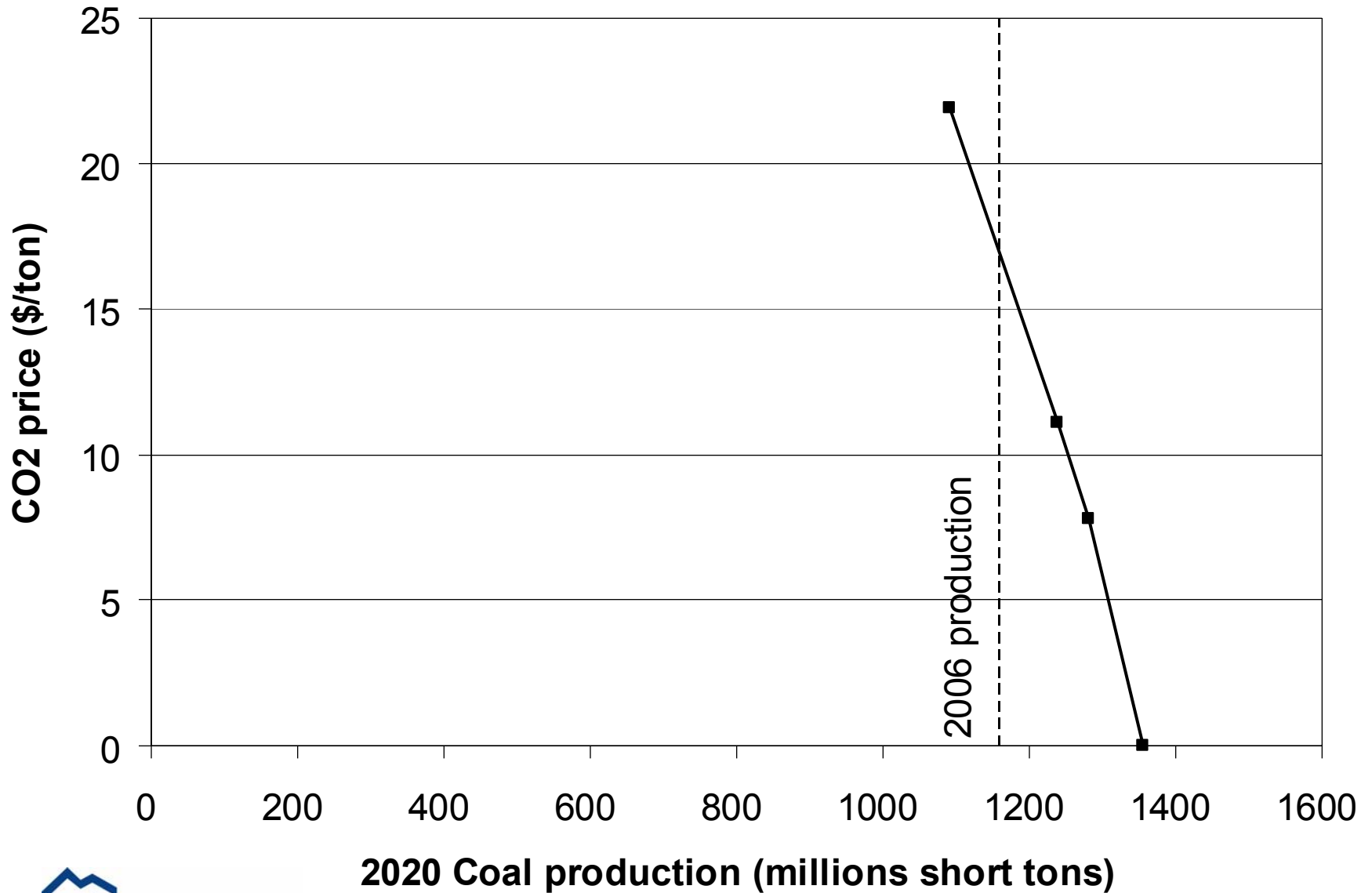
Permit v. Electricity Price



EUA Spot Price [€/ton], September 2005 – September 2006



Coal at different prices



Household costs at different prices

