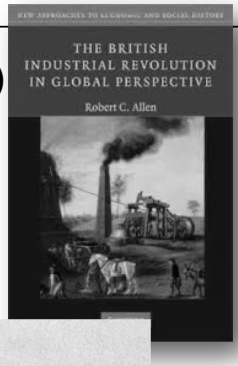
Cheap energy [print]

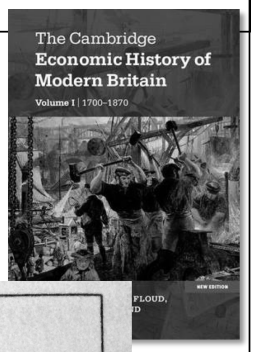


British coal production 1560–1800 (Allen, 2009:82)

- Half of growth from mines in Northumberland and Durham (Northeast) – mostly shipped to London
- Most of remainder usually served local markets, mined from west of Britain, Scotland, Wales
- Local use tended to be for salt, blacksmithing, lime burning
- *see* Booth (2009)

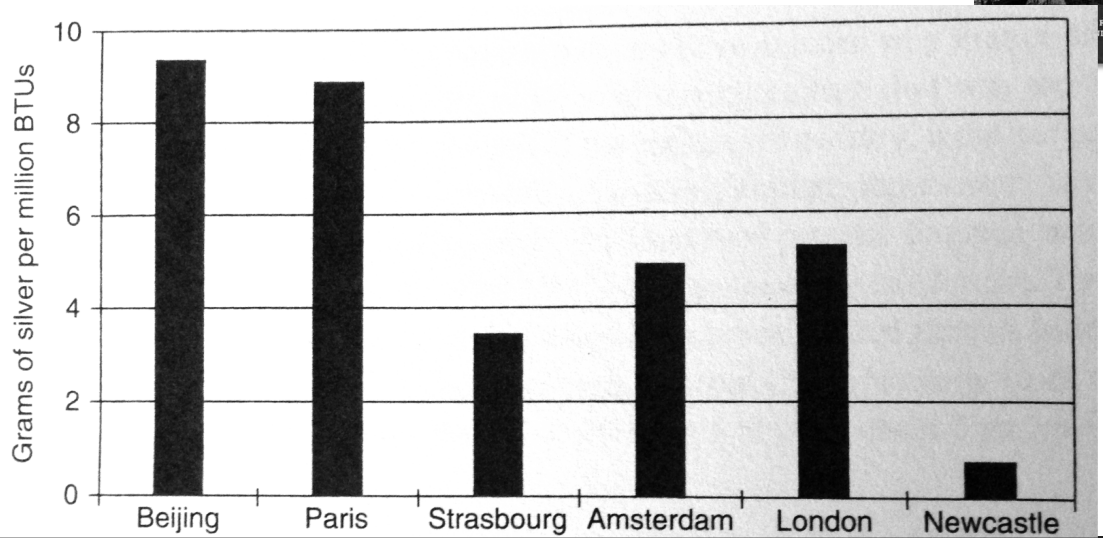
	Coal production (thousands of tons)		
	1560	1700	1800
Scotland	30	450	2,000
Cumberland	2	25	500
Lancashire	7	80	1,400
North Wales	5	25	150
South Wales	15	80	1,700
Southwest	13	150	445
East Midlands	20	75	750
West Midlands	30	5,10	2,550
Yorkshire	15	300	1,100
Northeast	90	1,290	4,450
Total	227	2,985	15,045

Cheap energy

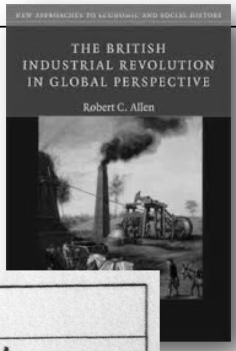


Price of energy, early 1770s (Allen, 2014:300)

- Newcastle price = 1/8th of London price (transport)
- Low prices in mining areas; higher prices in consuming areas (see Allen, 2009:82-3)



Cheap energy

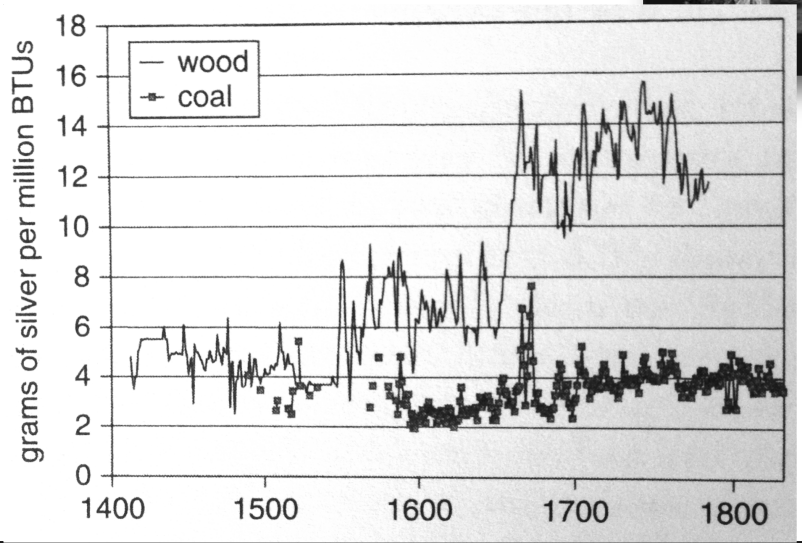


Real prices of wood and coal in London

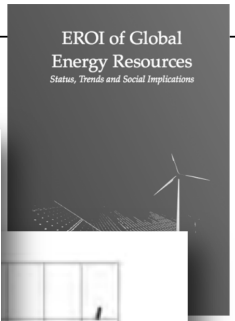
(Allen, 2009:87)

- Population growth in London (international trade)
- Relative price effect

"The coal trade took off when London got big enough to drive the price of wood fuel high enough to make it profitable to mine coal in Northumberland and ship it to London."
– Allen (2009:89)



The 'price' of cheap energy? [print]

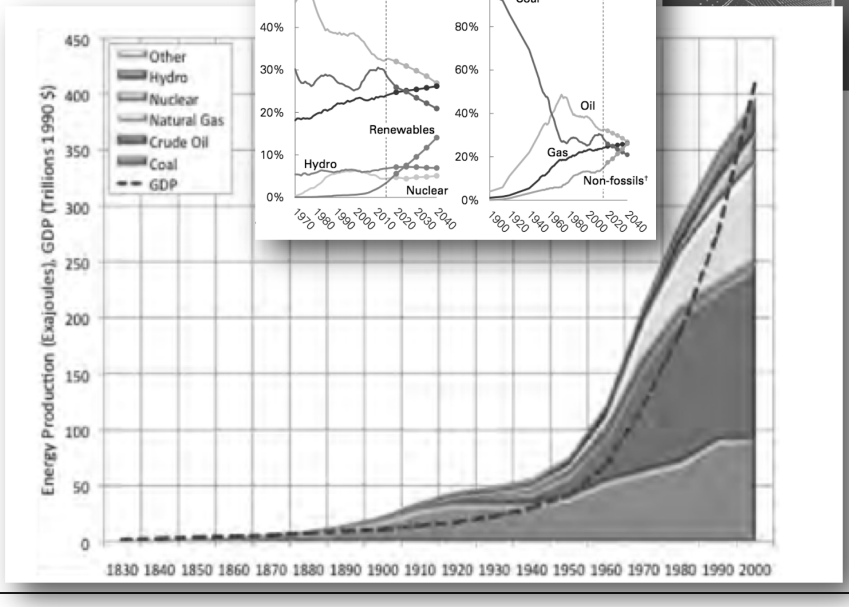


Global use of hydrocarbons for fuel see also BP (2018:46)

(Lambert, 2013:6)

- 800x increase since 1750
- EROI = *Energy Return On (Energy) Invested*
  - Wood 30:1
  - Coal 80:1
  - Oil …

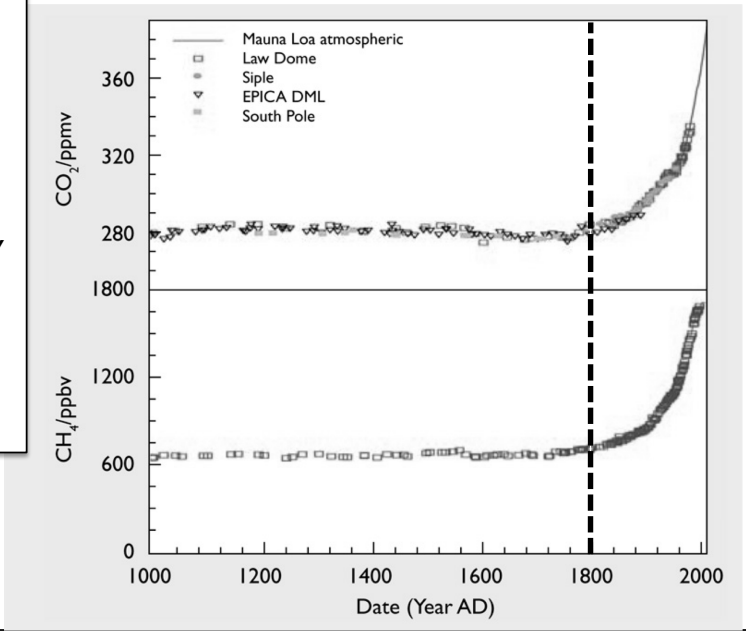
see Johnson et al (2012)



The ‘price’ of cheap energy?

CO_2 and CH_4 over the last 1000 years (BAS, 2010)

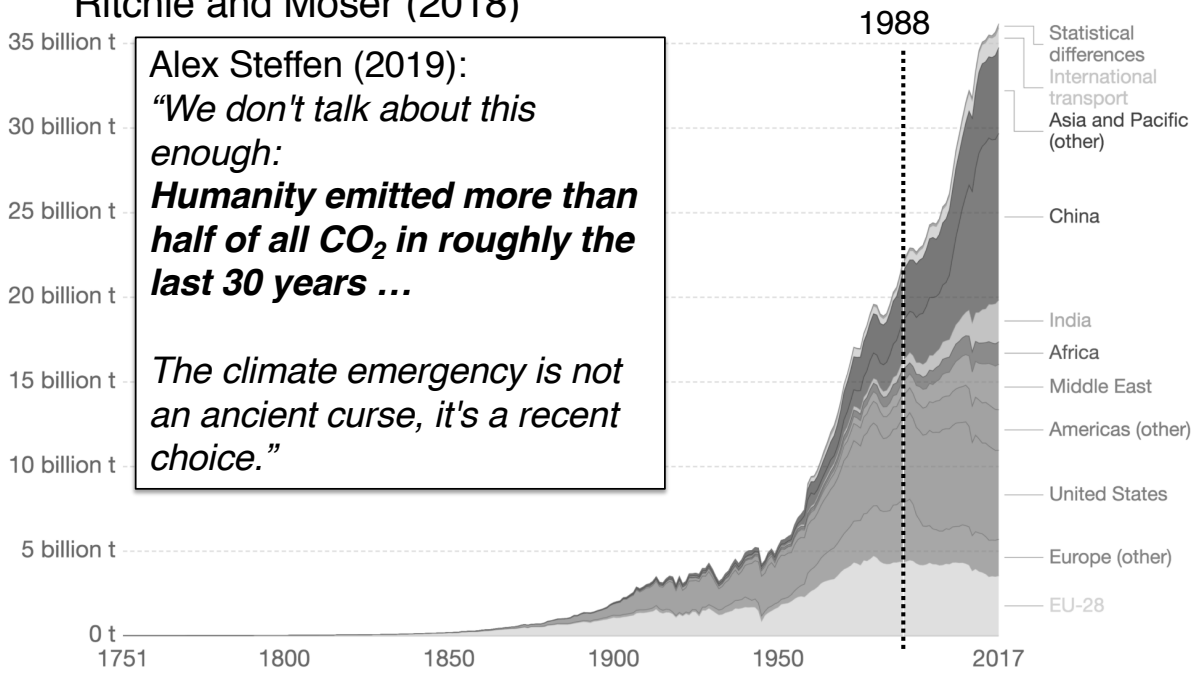
“Antarctic ice cores show us that the concentration of CO_2 was stable over the last millennium until the early 19th century. It then started to rise, and its concentration is now nearly 40% higher than it was before the industrial revolution” (BAS, 2010)



The ‘price’ of cheap energy? [p]

Annual total CO_2 emissions, by world region
Ritchie and Moser (2018)

see also Watts (2018)

Alex Steffen (2019):
“We don't talk about this enough:
Humanity emitted more than half of all CO_2 in roughly the last 30 years …

The climate emergency is not an ancient curse, it's a recent choice.”