

# Key principles for decarbonisation

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# Four problems

- Getting to national zero carbon – do something NOW
- Road congestion
- Falling road tax revenues
- Funding for local
  - road maintenance, renewals and enhancements
  - public transport

# Zero Carbon

Minimise the pain

Requires a very large number of people to change behaviour

Solutions must be acceptable – regarded as “fair”

So we need ALL of

- Strong rules and regulation
- Supportive public attitudes
- Correct incentives on individuals – correct price! We don't have this

# The importance of the right price

Polluter pays

Taxes

act instantly

**yield revenues: can be used for compensation - fairness**

Guides people to make right choices

Reveals minimal compliance costs

choice by those who experience them

# Most valuable use for remaining carbon emissions?

You don't start with the biggest emitter!

Marginal abatement cost

a ranking across ALL sources of CO2 of cost per unit reduction

Start with the sources which have lowest compliance cost per unit

Hydrocarbons are particularly valuable in transport - high energy per unit mass <https://www.theccc.org.uk/publication/net-zero-technical-report/>

Road user charging has a NEGATIVE compliance cost!

# Current distortions

At current official carbon price fuel duty would be £0.03/litre.

It is actually £0.58/litre

Electricity bears a charge for carbon

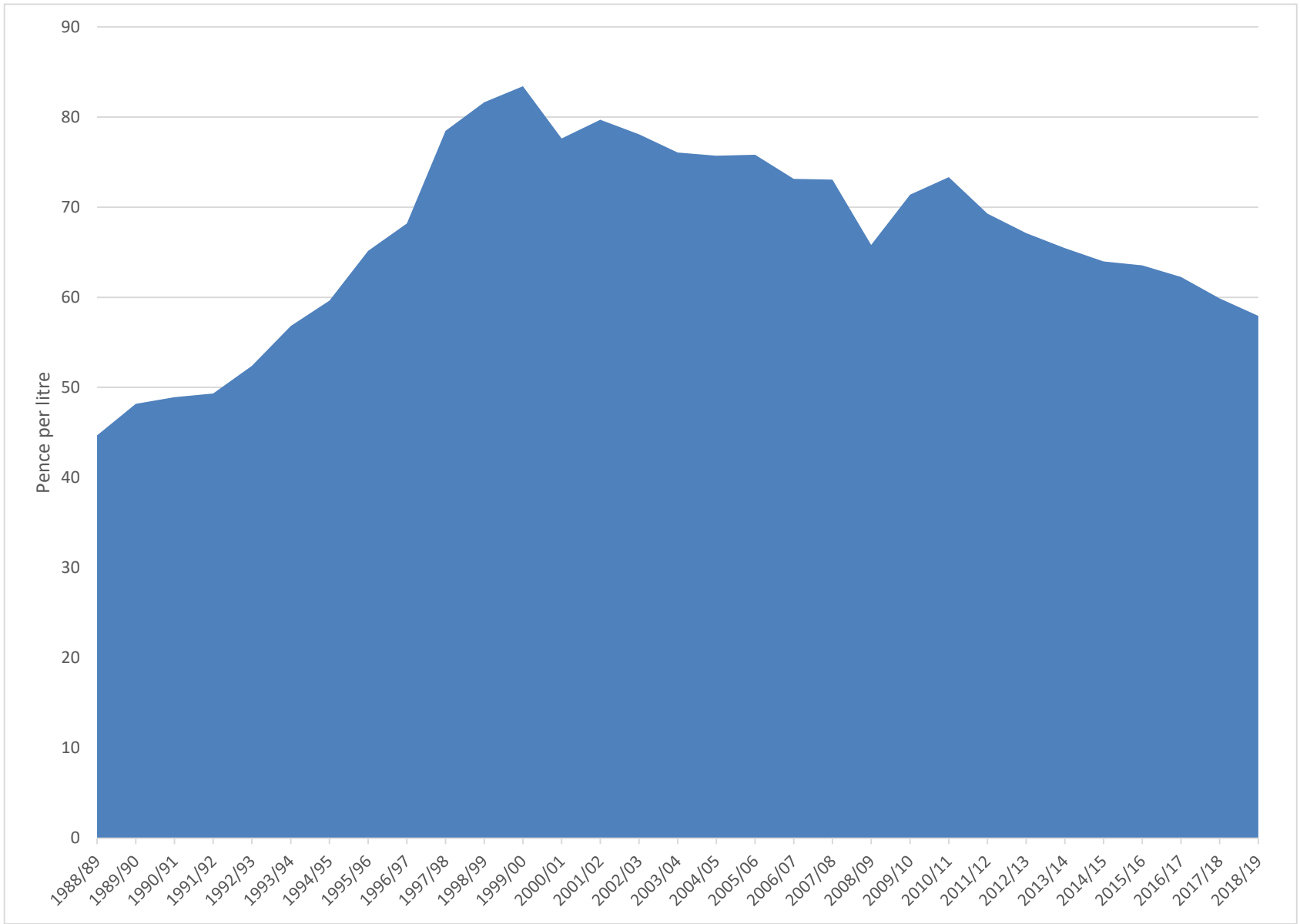
BUT domestic users only pay 5% VAT

subsidy of £50 per tonne of CO<sub>2</sub> ?

Inconsistency between carbon use in domestic heating and in road fuels!

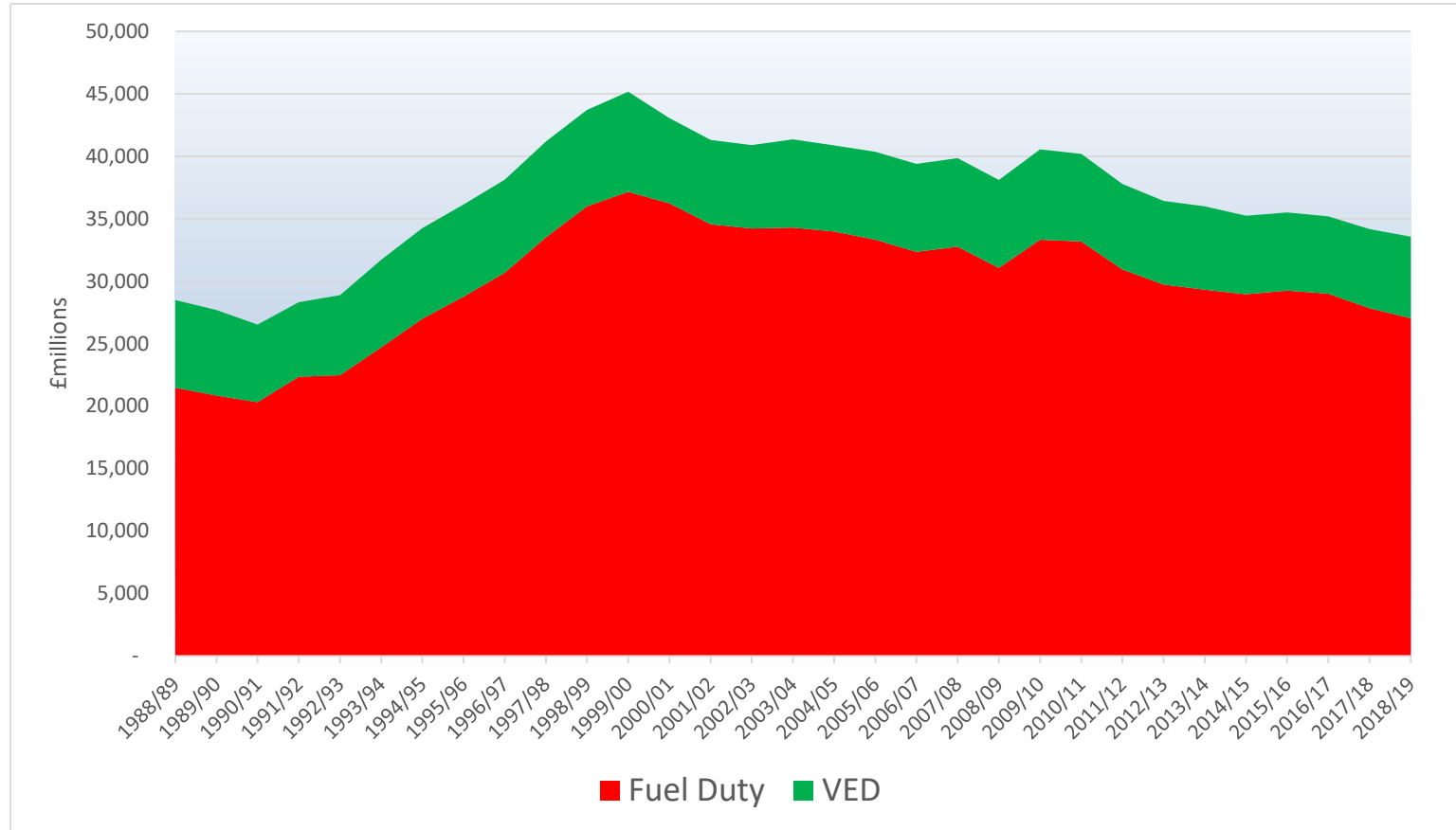
# Rate of fuel duty

1988 to 2019 (constant 2018/19 prices)



# Fuel Duty & VED receipts

(2018/19 prices)



£45 bn in 1999/00

£34 bn in 2018/19



# Road pricing ?

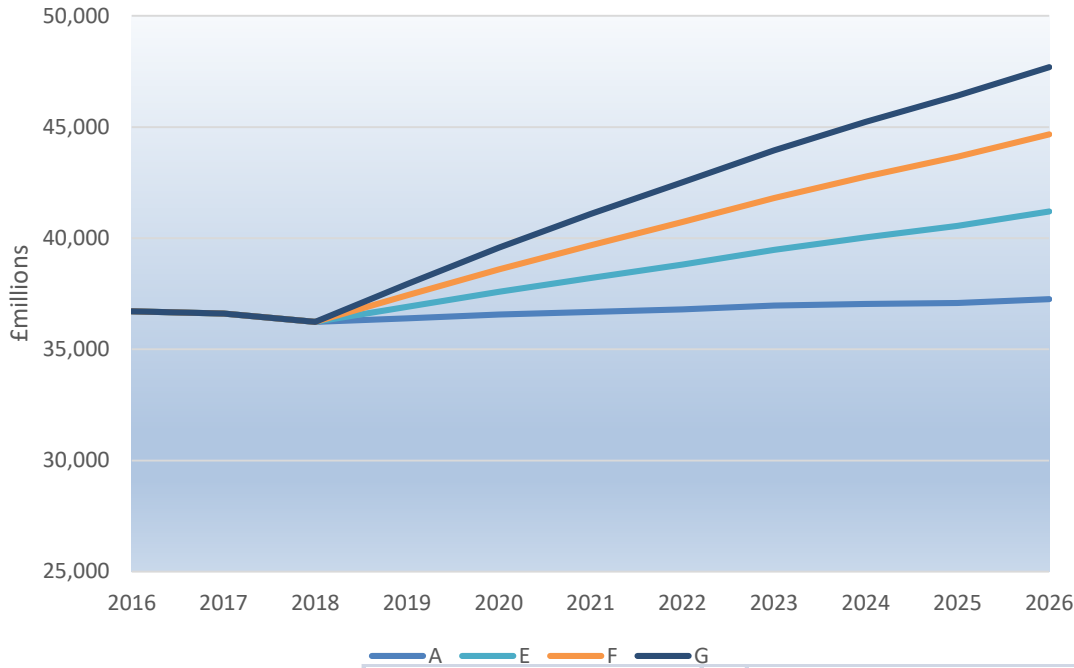
Road user charging **will have to** replace fuel duty....

.....but not yet?

Fuel duty as an interim measure

- Administration is established
- Cheap to collect
- Hard to evade
- Incentivises right behaviour on carbon, congestion, environment

Illustrative fuel duty and VED scenarios (2018/19 prices)



Scenario	Fuel Duty	Additional average annual Yield	Yield in 2026
	pence/litre	£billions	
A	58		37
E	58 to 66	2	41
F	58 to 74	4	46
G	58 to 83	6	49
			10

# Making increase fuel duty acceptable?

Recovery of fuel duty rate towards historical rates will

- reduce traffic and congestion (elasticity -0.3)
- reduce CO2 emissions (elasticity -0.7)
- create incentives to switch to EVs and public transport
- generate significant revenues ←————— !!

# Compensation and public acceptance

Ring-fence INCREMENTAL revenue for local transport

Public trusts are legally watertight:

- London Transport 1933 to 1947

- Port of London Authority

- NHS Foundation Trusts

- Public Benefit Corporation (N America)

Trustees must use the funds according to the Objects

- e. g. improvement of local transport and roads

They can borrow on the markets

David Bayliss, Stephen Glaister and Tony Travers, *Funding Transport*, available from [s.glaister@ic.ac.uk](mailto:s.glaister@ic.ac.uk)

Committee on Climate Change, *Net Zero: Technical Report*, May 2019

Committee on Climate Change, , *Net Zero: The UK's contribution to stopping global warming*, May 2019

Joshua Burke, Rebecca Byrnes and Sam Fankhauser , *How to price carbon to reach net-zero emissions in the UK*, Grantham Research Institute on Climate Change and the Environment and the Centre for Climate Change Economics and Policy, May 2019

## Public expenditure on British roads (2018/19 prices)

