



INFORSE-EUROPE

International Network for Sustainable Energy



UK Fiscal Policy Solutions to Climate Change

by

Martin Kemp

CAT

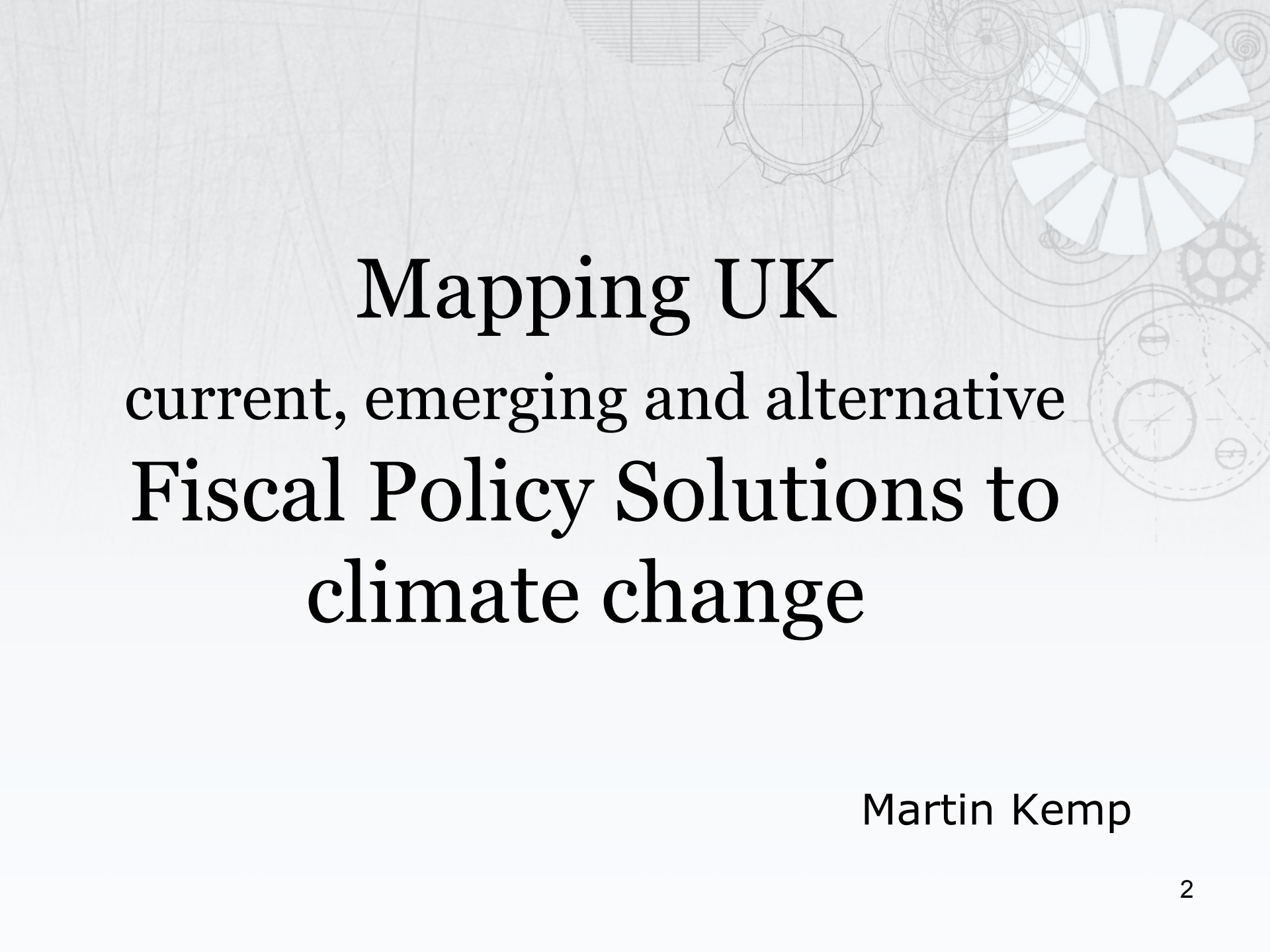
INFORSE-Europe

Sustainable Energy NGO Seminar

October 6-8, 2010

Centre for Alternative Technologies (CAT), Wales, UK

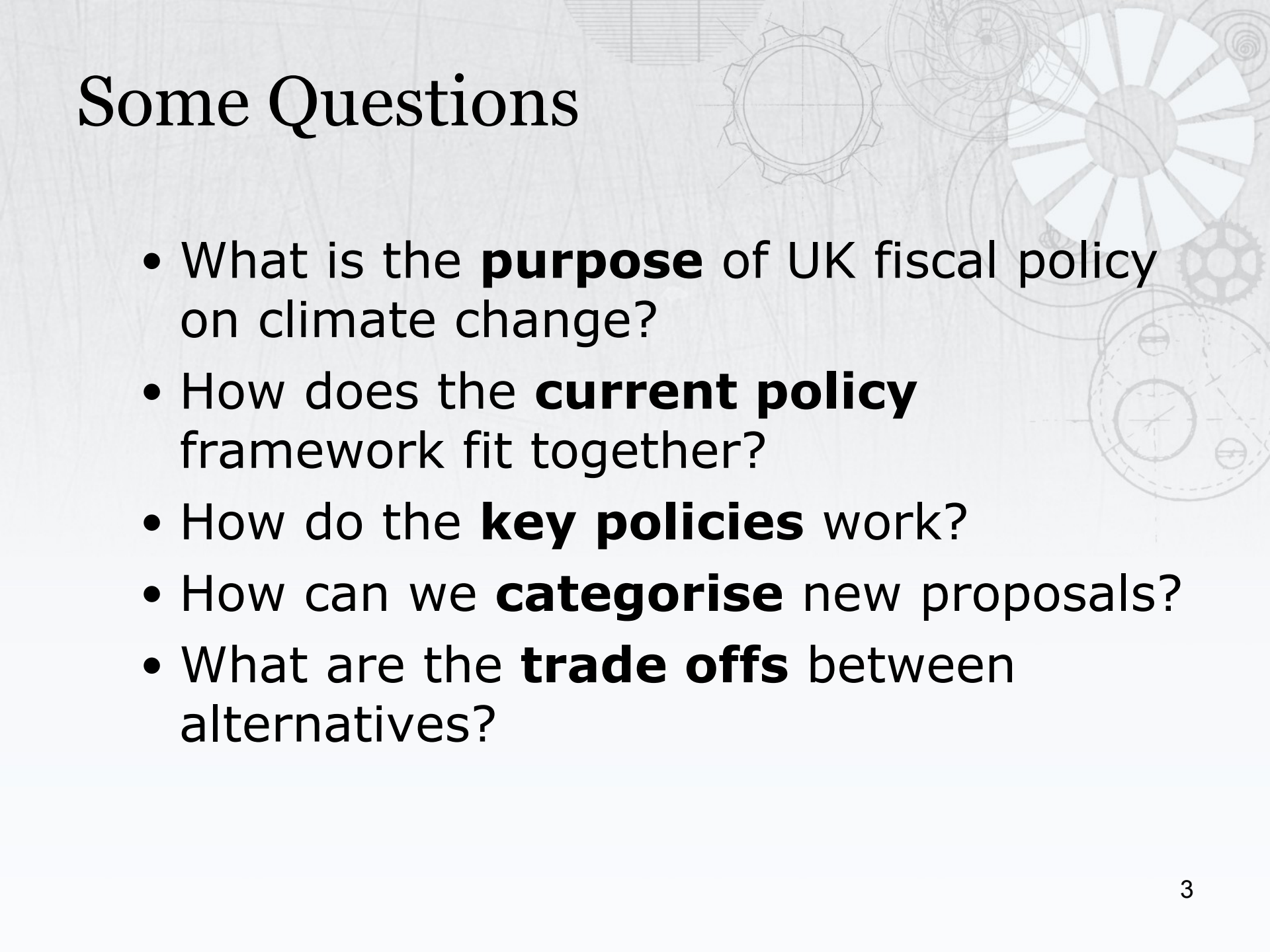
http://www.inforse.org/europe/seminar2010_CAT.htm

The background of the slide features a light gray, textured surface with faint, technical-style drawings of various mechanical components. These include several gears of different sizes and a large, multi-bladed fan or turbine-like structure. The drawings are rendered in a light, sketchy style, creating a technical and engineering aesthetic.

Mapping UK current, emerging and alternative Fiscal Policy Solutions to climate change

Martin Kemp

Some Questions

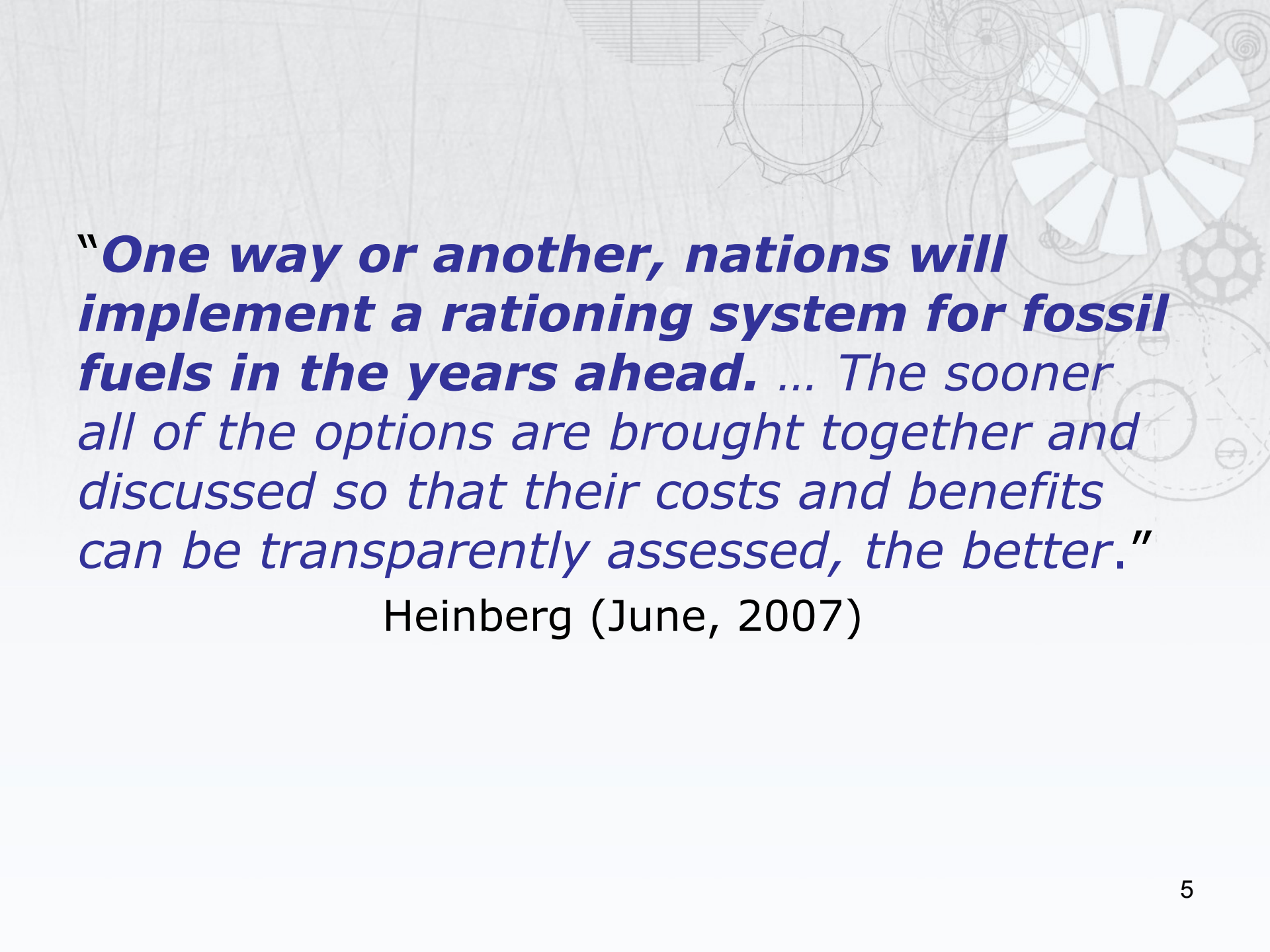


- What is the **purpose** of UK fiscal policy on climate change?
- How does the **current policy** framework fit together?
- How do the **key policies** work?
- How can we **categorise** new proposals?
- What are the **trade offs** between alternatives?

Purpose

The background of the slide features a light gray, technical drawing-style illustration of various mechanical components. On the right side, there is a large, prominent gear with a fan-like structure in the center. To its left and below, there are several other gears of different sizes and designs, some with dashed lines indicating hidden parts. The overall aesthetic is clean and industrial.

- To address climate change?
- To reduce carbon emissions?
- To deploy renewable energy technologies quicker and sooner?
- To reduce land based emissions?
- To promote biofuels?
- To internalise the price of carbon?
- To get investment in renewables?
- To help UK PLC?

The background of the slide features a light gray grid pattern overlaid with various technical drawings of gears and mechanical components. These drawings are rendered in a semi-transparent, light gray color, creating a subtle industrial or engineering aesthetic. The gears vary in size and orientation, some showing teeth and others showing internal structures.

“One way or another, nations will implement a rationing system for fossil fuels in the years ahead. ... The sooner all of the options are brought together and discussed so that their costs and benefits can be transparently assessed, the better.”

Heinberg (June, 2007)

Current and Emerging Policies

- EU Emissions trading scheme (ETS)
- CRC Energy efficiency scheme **Live 1st April**
- Renewable Obligation (RO)
- Feed in Tariffs (FiT) [Under 5MW] **Live 1st April**
- Use of System Charges
 - Balancing, Transmission and Network
- Renewable Transport Fuels Obligation
- Renewable Heat Incentive [Emerging] (RHI)

At what level?

Carbon

- EU Emissions Trading Scheme: **Huge Biz**
- CRC Energy Efficiency Scheme: **Big Biz**

Transport

- Renewable Transport Fuel Obligation (**All**)

Electricity

- Renewable Obligation (**5MW+**)
- Feed in Tariff (**under 5MW**)

Heating

- Renewable Heat Incentive (**All**)

Department of Energy & Climate Change

The background of the slide features a light gray, technical drawing-style illustration of various mechanical components. On the right side, there is a prominent white fan with multiple blades. Surrounding it and extending across the top and right are several interlocking gears of different sizes and designs, some with teeth and others with smooth edges. The overall aesthetic is clean and industrial.

- Created in October 2008
- Budget threatened – Announcement Oct-2010
- DCLG moving teams to DECC.

Welsh Assembly Government.

- Launching Energy Revolution – Thursday
- Called for 100% renewables electricity
- Integrating land use and energy policy
- Limited Devolved responsibility.

ETS design (phase 1)

The background of the slide features a light gray, technical drawing-style illustration of various mechanical components. On the right side, there is a large, prominent gear with many teeth. To its left and slightly below, there is a fan-like structure with multiple blades radiating from a central hub. Other smaller gears and circular patterns are scattered across the background, creating a complex, industrial aesthetic.

Businesses request the emissions they need.
Each member state submits National Allocation Plan
National Allocation Plans are agreed
Businesses receive credits (EUA's) free
Business emits
Over estimate = purchase (enter CDM/JI)
Under estimate = sales
Business submits credits

EU Emissions Trading Scheme

The phases:

Phase 1 (2005→2007)

Phase 2 (2008→2012)

Phase 3 (2013→2020)

Aim: Phase 3 (agreed 2008) states 60-80% carbon reduction by 2050

How: Business trading via National Allocation Plans

Next: Exact cap coming June 2010

Problems (Phase 1)

Over allocation of permits

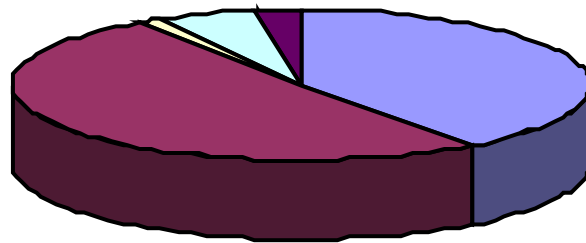
Permits free

Limited scope??

Money from: Business / NA

Where does the money go in phase 3?

Allocation of ETS / EUA revenue



- Given to business
- Member State in proportion to 2005 emissions.
- Member State (if Eastern block) or EU?
- Member State (if 'low per capita income' or 'high renewable')
- EU CCS demonstration

EU ETS development

	Auctioning	Additional scope
Phase 1 2005→2007	0%	NA
Phase 2 2008→ 2012	~3%	Glass, mineral wool, gypsum, flaring from offshore oil and gas production, petrochemicals, carbon black and integrated steelworks.
Phase 3 2013→2020	~60%	Aviation

ETS and Carbon accounting.

- Targets (ETS etc) are on what we measure..
- Limited measurement could move emissions.
- The climate science is based on emissions.
- Tighter targets seems prudent.

Renewable Obligation process

The background of the slide features a light gray, technical drawing-style illustration of various mechanical components. On the right side, there is a large, prominent gear with a fan-like structure in the center. Below it, several smaller gears and circular components are visible, some with dashed lines indicating hidden parts. The overall aesthetic is that of a mechanical or engineering blueprint.

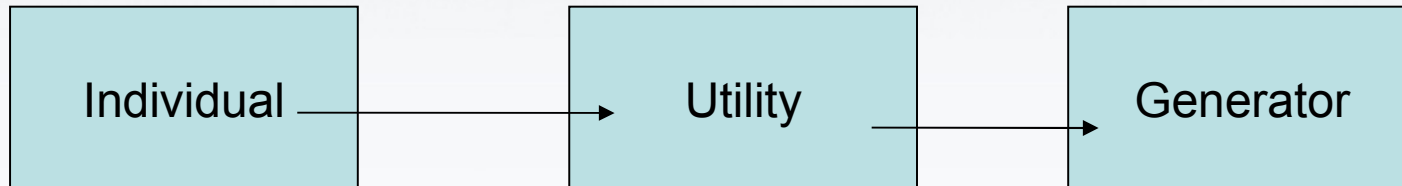
- Incentive for electricity producers to use renewables.
- Utilities trade to buy renewable obligation certificates (ROCs).
- To meet the suppliers obligation.
- Roc value varies on supply and demand.
- The buy out rate puts a price ceiling on the ROC.
- Now banded (variable rate depending on tech)
- Banding effectively decreases the cap.

Who buys out?



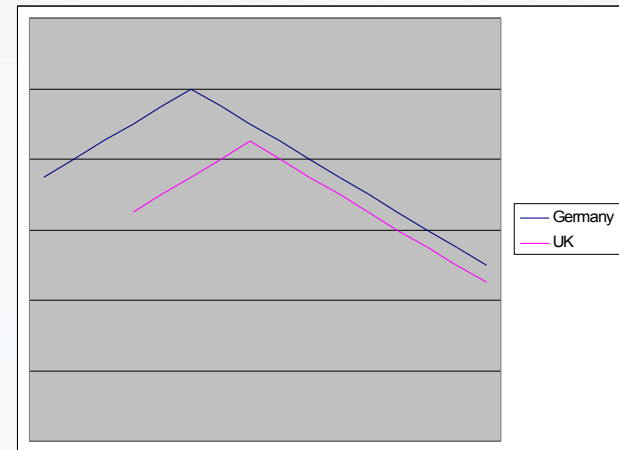
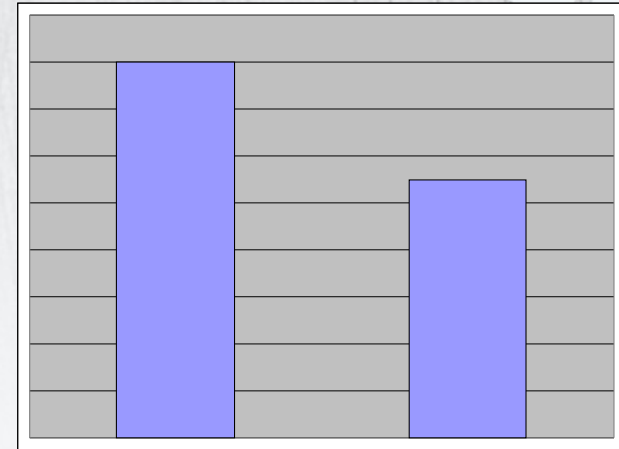
Feed In Tariff

- Set rate per kWh per technology
- Utilities charge customers premium.
- Investors get guaranteed return.



RO or FIT?

- Very similar mechanics but different outs, why?
- History
- England and Germany
- Inputs: **Pricing**
- Germany cut 15-17%
 - 1st April 2010
- Leapfrog!?
- Stage of deployment
- Learning Rates



Renewable heat incentive

Aim: 78TWh (pa) of renewable heat by 2020

10% of 2008

~13% of 2020 based on DECC target met.

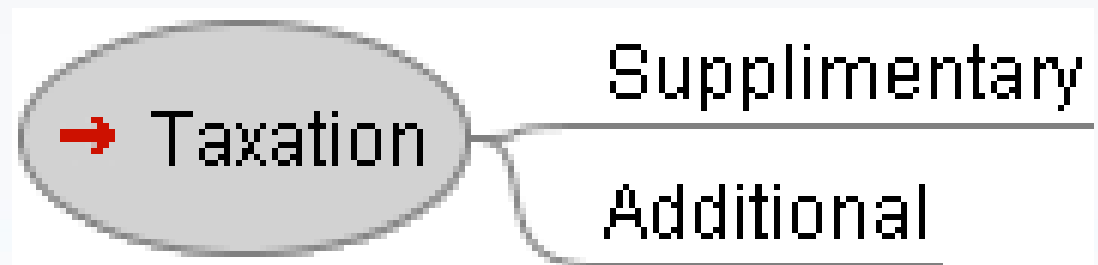
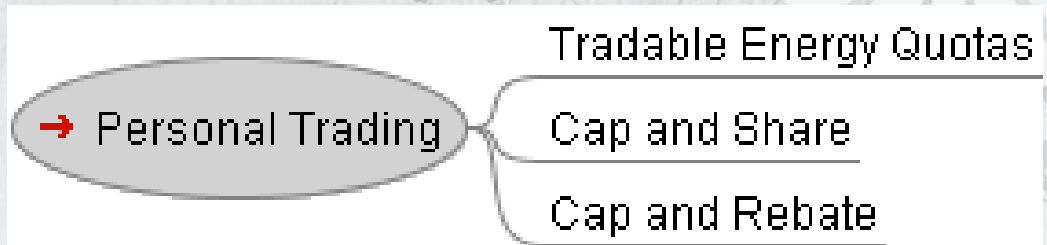
System: Roughly the same as FiT

No exports for heat

Has 'deeming' of demand

- promotes efficiency
- limits rebound.

Alternative Policies



New Tax

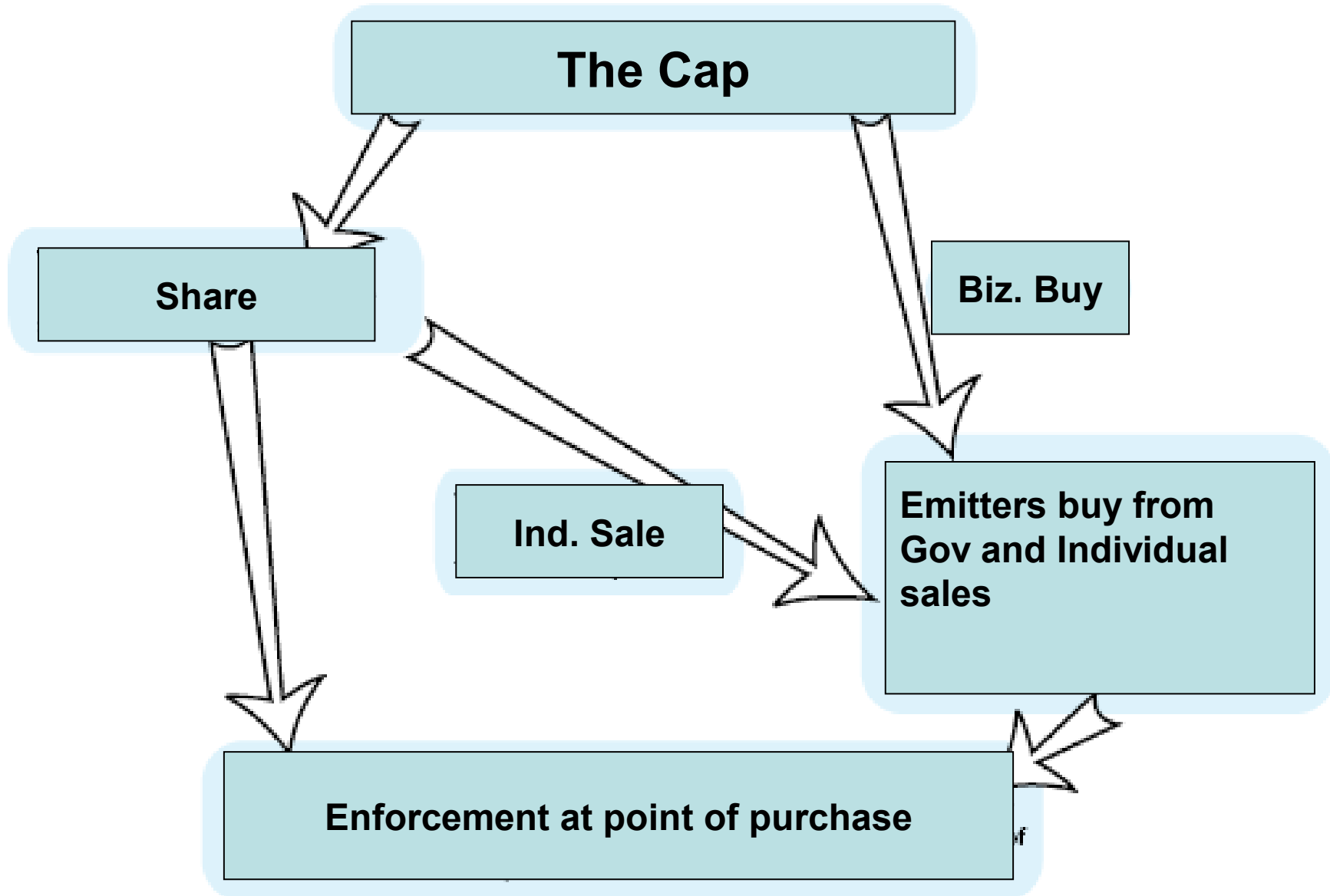
Supplementary

- Provides revenue
 - For Fuel Poor?
 - For Adaptation?
- Perceived as party political

Substitute

- Seen as 'efficient' tax reform.
- Tax 'bads' not 'goods'
- Makes a much wider debate.
- After carbon tax 'rent'

Tradable Energy Quotas - Design

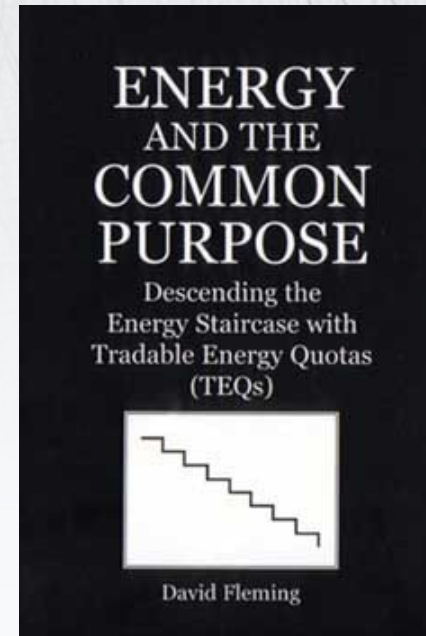


Tradable Energy quotas in practice

-Individuals get an annual allowance of carbon.
Effectively an additional income.

This could be cashed in or used as needed

-When you purchase a fossil fuel you need to pay in credits.



Cap and Share

THE CAP: A cap on greenhouse gas emissions and an annual quota of emission entitlements is set based on scientific evidence.



THE SHARE: Emission entitlements are shared equally to every citizen.



THE SALE: Citizens sell their entitlements via post offices and banks.



THE BUY: Primary oil, gas and coal companies buy entitlements to cover the emissions from their fuels.



THE ENFORCEMENT: Inspectors match entitlements to emissions and enforce the cap by fining companies with too few entitlements.

Balance of Proposals (Big debate)

Taxation

A clear price for business?

Substitution

More efficient economy

Supplementary

More money for fuel poor and adaptation funding

“Boring”

Trading

A cap on emission?

Lowest abatement cost

TEQ

Greater Energy Awareness

Cap and Share

Encouragement to decrease cap.

“Evil”

Objective Mapping



EU Emissions Trading Scheme
CRC Energy Efficiency Scheme

Renewable heat incentive
Feed in Tariff (UK)

Renewable Obligation
Renewable Transport Fuel Obligation

Limit emission

Help UK PLC

Increase RE Deployment

Increase investment

**Bring technology
forward**

Are FiTs bad?

Monbiot – FiT bad use of public money?

High marginal abatement cost?

Technology dependant (PV yes)

Larger questions on distributed generation.

Onsite generation decreases energy demand!

Heads or Tails?

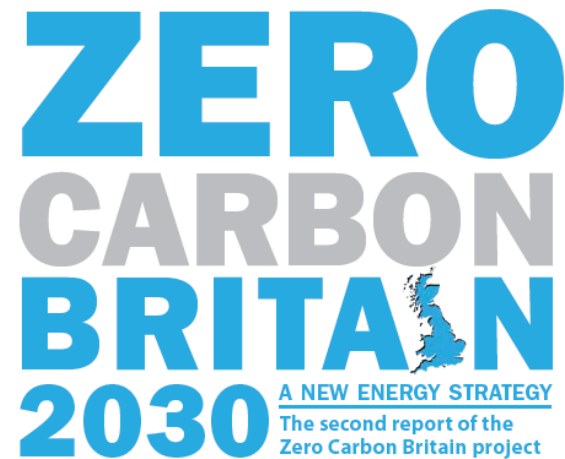
Ignoring FiT's – Cost comparable by 2013

PVMA methodology!!

ZeroCarbonBritain 2030

- Mixed approach
- Lots of targeted intervention
 - Retrofitting etc.
- A hybrid core policy
 - Cap and trade
 - Carbon tax
- New Business models
 - Align priorities

- Why?
 - Cap + fixed price.



The background of the slide is a light gray technical drawing or blueprint. It features various mechanical components, including several gears of different sizes, a fan-like structure with multiple blades, and various circular and rectangular shapes with lines and dots, suggesting a complex mechanical system or a set of engineering plans.

Questions?