

Social policies to reconcile lower emissions with social equity

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Scope of this lecture

- Climate change and mitigation policies a field of great complexity
- Approach from social policy perspective
- Therefore multi-disciplinary. My main sources:
 - Political economy
 - Social policy analysis
 - Theories of human need and social justice
- A synthesis paper
- Focused on household energy use and resulting emissions
 - See 'Carbon Mitigation Policies, Distributional Dilemmas and Social Policies' (2013) *Journal of Social Policy*, 42(2), pp. 191-213.

The climate challenge in one slide

- IPCC Report 2014 reiterated:
 - the extent and best predictions of global GHGs
 - the impact on human habitats and welfare
 - Scale of necessary mitigation responses
- To be consistent with a 2°C path global emissions must fall from around 50 billion tonnes of CO₂ today to well below 20 billion tonnes in 2050; in other words, by a factor of around 2.5.
- If world output grows by a factor of 3 over this period (implying an average world growth rate of around 2.8% pa), then emissions per unit of output would need to fall by a factor of c9
- UK Climate Change Act 2008: target (still) to reduce total GHG emissions by 80% 2050, and 34% by 2020 (compared to 1990)

This raises distributive and justice issues

- Agreement that tackling CC not just a technical or economic issue
 - IPCC, 2014, Working Group III on Mitigation, chapter 3
- At global level distinguish
 - Fair distribution of future emissions
 - Fair distribution of funding emissions reduction, and adaptation
- Both questions can be applied within nations

Social policy and justice

- Similar concerns in social policies in rich countries
- Provision of minimum level of welfare
 - An income floor, or access to employment to guarantee income floor
- Plus guaranteed access to provision of certain services on citizenship basis: health, education etc
 - Consequentialist arguments for such ‘social investment’, but ethical arguments too: health is a basic human need
- Funding via progressive allocation of burdens

Needs and just emissions

- This discourse reflected in some discussions of climate change policy
 - Henry Shue’s distinction between ‘necessary’ and ‘luxury’ emissions
 - ‘If all 40 million drivers of SUVs in the US switched to fuel-efficient cars, the savings alone would offset the emissions generated in providing electricity to all 1.6 billion people in the global South at present without it’ (World Bank)
 - Greenhouse Development Rights campaign
- Caney critiques ‘just emissions’ as a separate concern of global and intergenerational justice
 - Must focus on the ultimate ‘welfare’ goals of economic activity, energy use and consequent emissions
 - Yet he concludes this entails ‘meeting the basic needs’ of all people now and in the future

Justice, wellbeing and human needs

- I have argued that human need is a central core of both domestic, global and inter-generational conceptions of wellbeing
 - CASEpaper 182, July
- Sen's capability approach is a close alternative, but I argue
 - Need theory permits cross-cultural and inter-generational comparisons
 - Need theory less 'informationally demanding'
- As the available 'carbon space' contracts, I believe the idea of human need will become more central to both environmental justice and social justice
- Focus here on fair distribution of a) emissions and b) the burdens of reducing them

This presentation

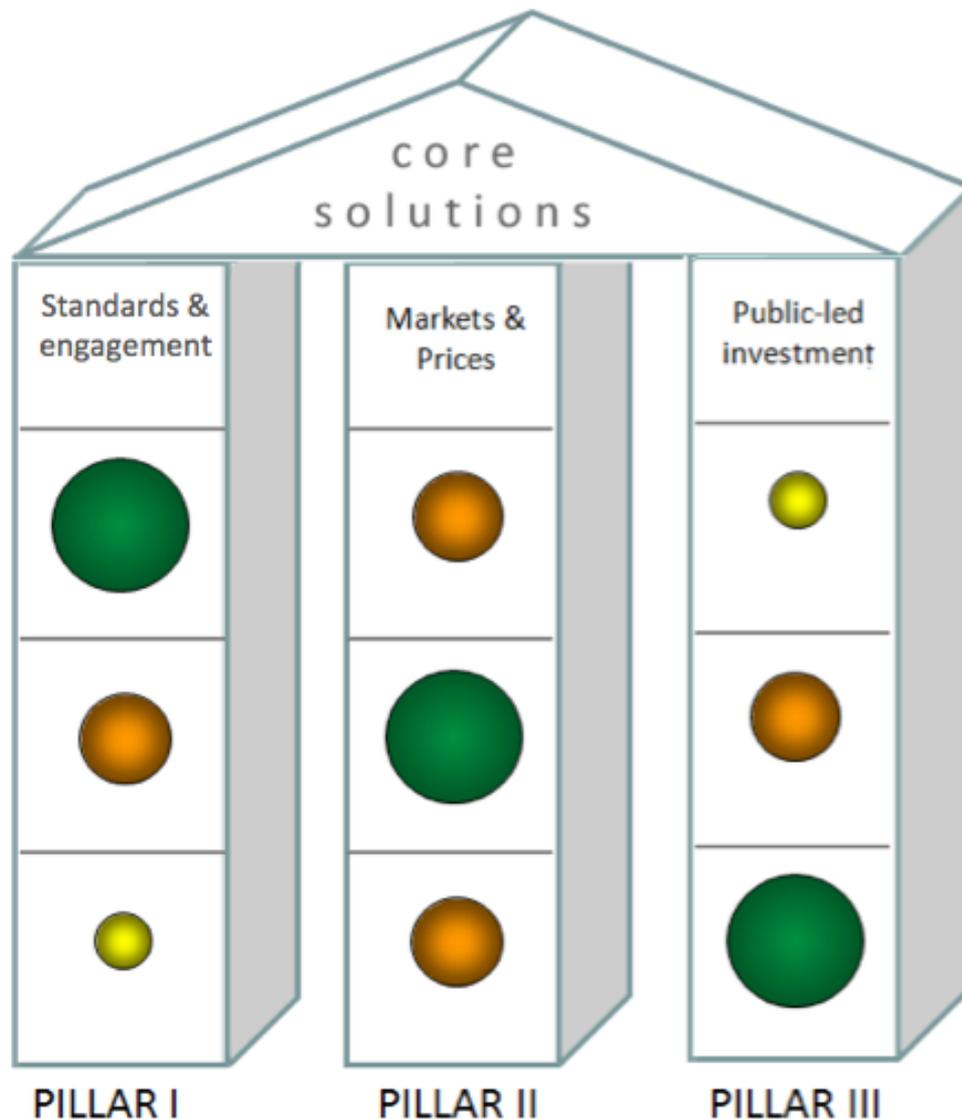
- Michael Grubb's 3 Pillars of 'planetary economics':
- Pillar II: Carbon pricing, distributional dilemmas and countervailing social policies
- Pillar I: Changing behaviour: standards and engagement in housing policy
- Pillar III: Transformation and public-led investment: green new deal
- Conclusions and recommendations

Carbon mitigation policies: Grubb's three domains

- Energy efficiency -> Standards and Engagement
 - decision-making theory: satisficing
- Markets and pricing -> Price Carbon
 - decision-making theory: optimising
- Innovation and infrastructure -> Strategic public-led Investment
 - decision-making theory: transforming

Key: no magic bullet; must use all three and exploit synergies

Avoid 'ideal search' for second domain



Realm of Opportunity

Smarter choices
(eg. energy efficiency)

Cleaner products and processes

Innovation and infrastructure investment

Field of theory

'Behavioural economics'
(eg. barrier, transaction, psychology & satisficing)

Rational expectations+ economics

Evolutionary & complexity economics

PILLAR I

PILLAR II

PILLAR III



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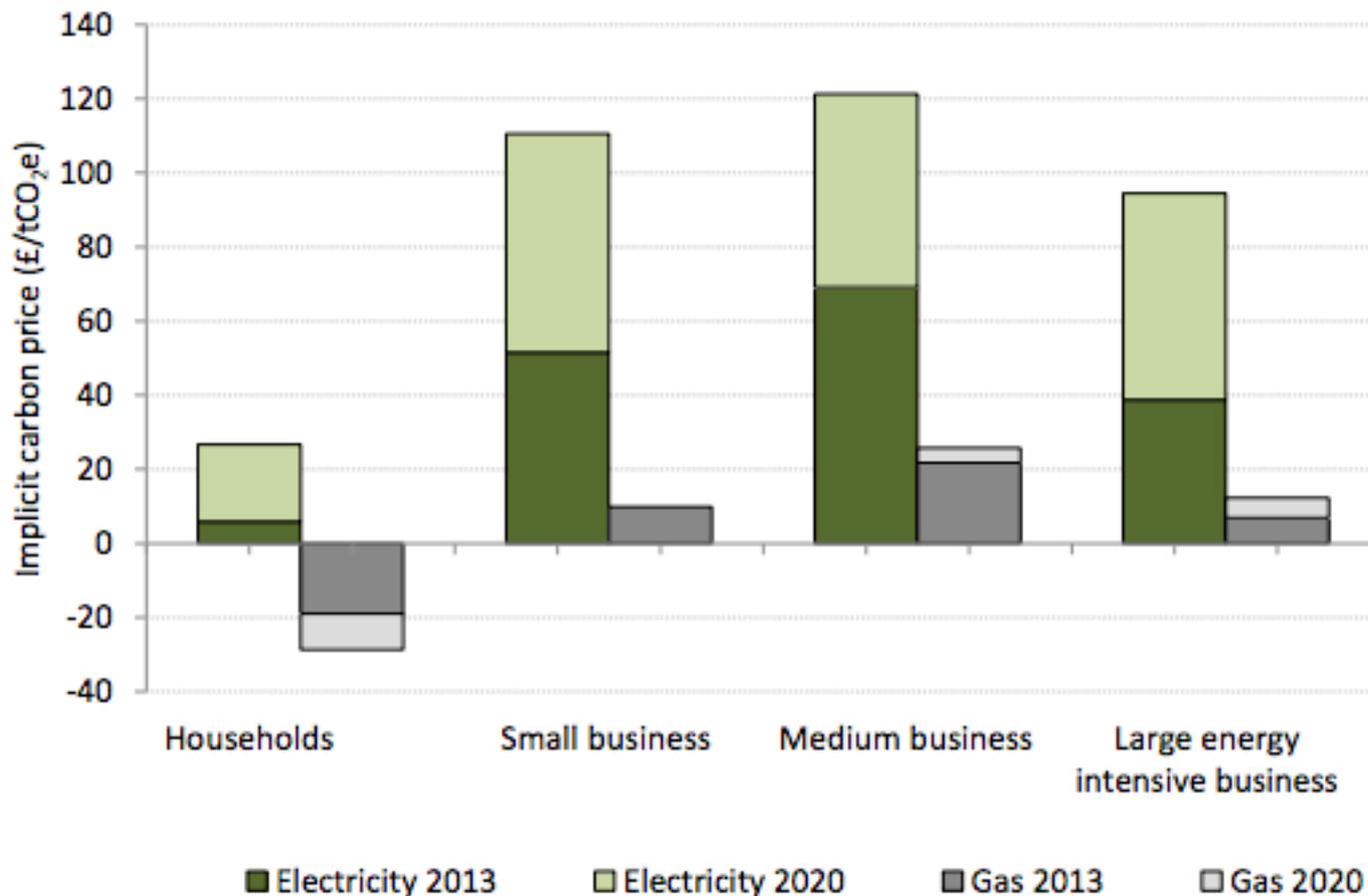
My central argument

- Priority still accorded to pillar II - markets and pricing – despite problems
 - In particular integrating emissions reduction with welfare/equity policies
- Therefore argue for more recourse to:
 - Pillar I: both public regulation and community engagement
 - Pillar III: strategic investment
- In combination they can generate a new form of eco-social policy

Pillar II: carbon pricing

- Energy policy serves several objectives
 - Reduction of carbon emissions is just one
- To achieve this a single consistent carbon price helpful
 - Say £60/tCO₂e today
 - But layering of policies results in complex variations in UK
 - And in some domains very low or negative
 - IFS/CCCEP Report

Figure ES.1: Implicit carbon prices (£/tCO₂e) by end-user and fuel type, 2013 and 2020



Source: Authors' calculations (see Appendix B for full sources and methodology). Figures in 2013 prices.

CMPs in the UK: Pillar II

Upstream policies

A simplified summary:

a) Upstream

- ETS: EU Emissions Trading System
- CFP: Carbon Floor Price
- CCL: Climate Change Levy
- CRC: Carbon Reduction Commitment
- RO: Renewables Obligation

Downstream policies

targeting certain households/ dwellings

- Pre-2013:
 - CERT (Carbon Emissions Reduction Target)
 - CESP (Community Energy Saving Programme)
 - Decent Homes
 - Warm Homes
- Post 2013:
 - Green Deal
 - ECO (Energy Company Obligation)
- And one ongoing ‘counter-policy’:
 - 5% reduced rate VAT on household energy (£5.2b)
 - Unusual in EU where full VAT levied

Distributional impacts

- Most downstream programmes mandate or impose obligations on energy companies
- Result – and intention – is that company obligations will be paid for by final consumers via rise in tariffs
- But this inherently regressive:
 - CASEpaper 152

Fig. 7. Average and marginal GHG intensity of expenditure by quintile (2009).

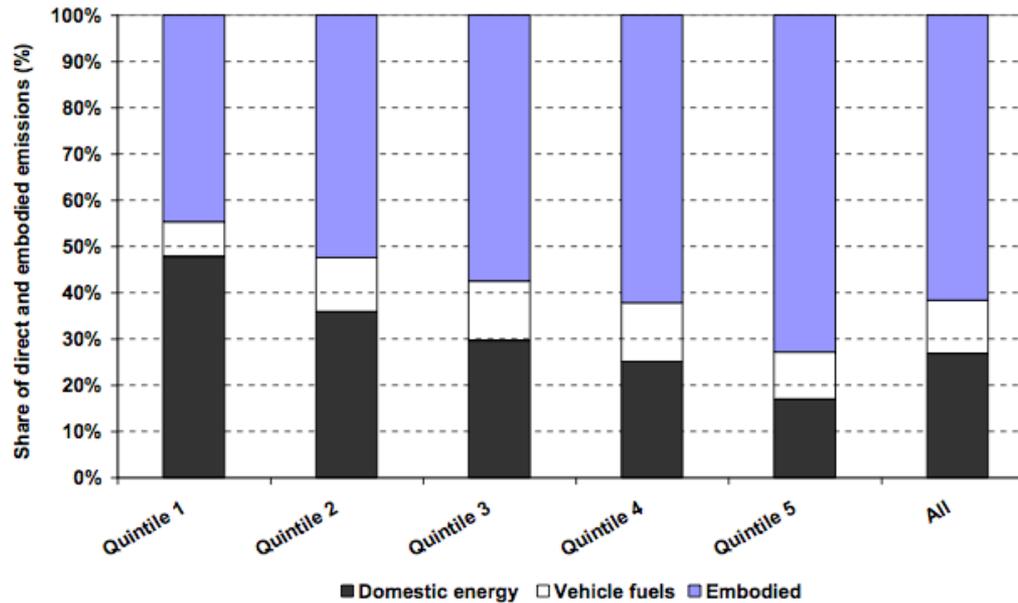
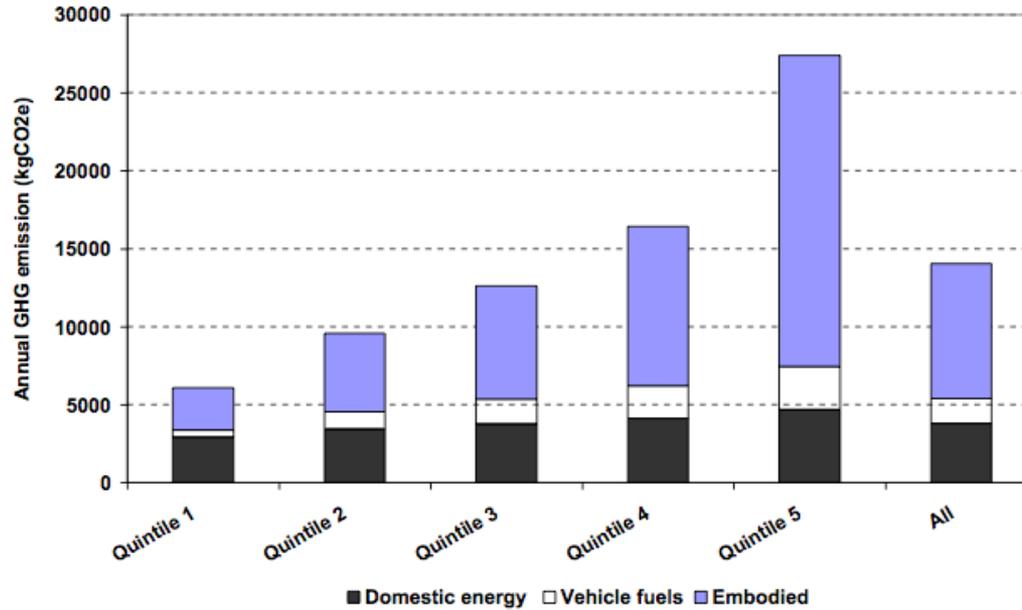
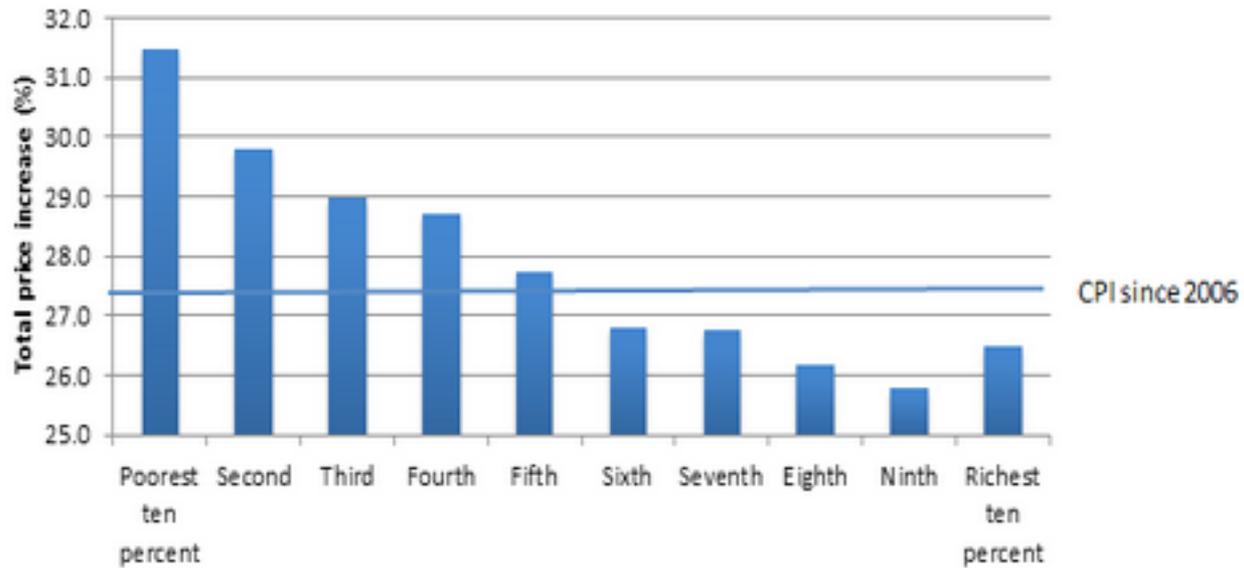


Fig. 8. Equivalised direct and embodied emissions by quintile.

Domestic energy is a necessity

- Necessities with income elasticity <1 , notably energy and food
 - All necessities: Q1 spends 57%, Q5 27%
 - Energy and food: Q1 spends 36%, Q5 13%
- A fact of life? necessities have high GHG intensity than non-necessities
 - A major issue for carbon pricing
 - But especially for programmes paid for via energy prices
- Moreover prices rising faster:

Cumulative inflation by income decile January 2006-July 2014



Fuel poverty impacts

- Turn to basic need arguments: fuel poverty
 - Hills Report definition: ‘where a household has required fuel costs above the median and, were it to spend that amount, would be left with a residual income below the official poverty line’
 - Results from:
 - Dwelling characteristics, household characteristics, and energy prices
 - 2.7m households fuel poor in 2009
 - ‘Fuel poverty gap’ £1.1b
 - Excess costs faced by fuel poor

Countervailing 'social' policies:

1. Compensation

- The standard argument: compensate the losers
- Current policies:
 - Warm Home Discount (£0.3b)
 - Strictly speaking a reduced energy payment
 - Winter Fuel Payment and Cold Weather Payment (£2.2b)
- Winter Fuel Payments very poorly targeted

Can compensation be made to work?

- JRF report says adjustments can be compensated,
 - Even if Domestic fuel taxed at 20%
- Models:
 - CPF on gas, non-metered fuels and transport, and VAT rate increase on household energy
 - + changes to Universal Credit, in particular, increasing the basic amounts of Universal Credit and reducing withdrawal rate

Figure 1: Distributional impact on income of CPF on gas, non-metered fuels and transport and increased VAT on household energy (large carbon tax with transport) and associated compensation package

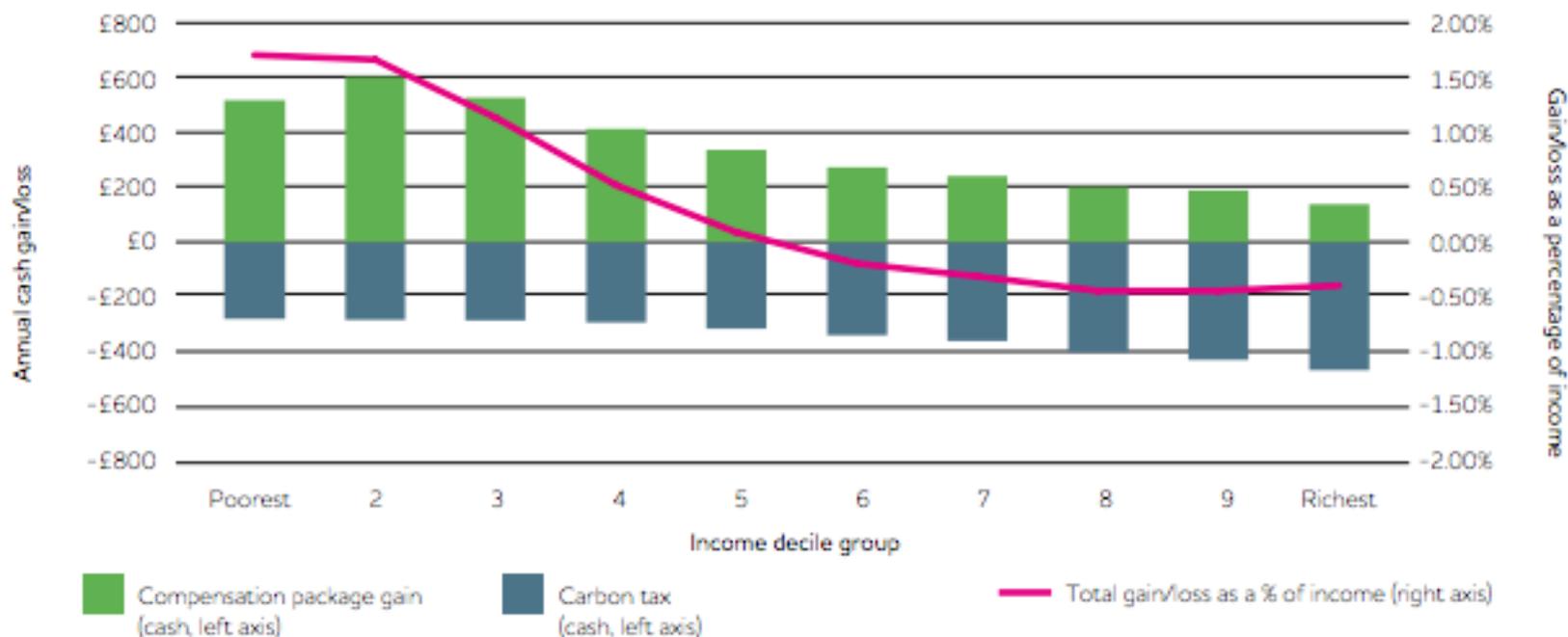


Figure 2: Winners and losers by income decile from large carbon tax with transport and associated compensation package



Compensation: conclusion

- Costly
 - Increasingly so as more ambitious carbon reductions set
 - Little left over for energy efficiency measures
- A further extension of means-testing
 - Further lock-in of people facing high marginal withdrawal rates
- Low-income losers remain
- Politically very difficult

Countervailing ‘social’ policies:

2. Targeted energy efficiency policies

- Before 2013:
 - Mix of energy supplier obligations (listed earlier), plus
 - Subsidised public programmes
 - Warm Front: targeted grants to households receiving benefits or tax credits
 - Decent Homes: upgrading of social housing
- Now, ending of direct public spending in favour of:
 - Green Deal: provision of loans repaid through energy bills
 - ECO: obligations to improve low income housing, deprived areas and hard-to-heat housing

Distributional critiques

- Many criticisms of Green Deal
 - Committee on Climate Change
 - IFS/CCCEP Report
 - Hills Report
- And ECO continues regressive consumer funding approach
 - Hills: a combination of Green Deal and ECO would probably *increase* fuel poverty

Comparing countervailing social programmes

- Hills report impact on fuel poverty of spending £500m pa on:
 - Compensation and reducing bills
 - Energy efficiency policies, distinguishing
 - Broad and narrow targeting
- Notwithstanding current inadequacies, targeted energy efficiency policies superior on all counts
 - And benefits of broad targeting (to all housing with SAP rating < 55) extends beyond fuel-poor

TABLE 1. Estimated impact on various measures of fuel poverty of spending £500m via different policy strategies, UK 2016

			Numbers of fuel poor (%)	Lifetime change in fuel poverty gap (£m)	Estimated net present value impact, equity weighted (£m discounted)
Thermal efficiency policy	Narrowly targeted*	Tax funded	-55	-2,630	1,730
		Supplier funded	-55	-2,930	1,900
	Broadly targeted*	Tax funded	-18	-680	860
		Supplier funded	-13	-390	1,360
Reducing energy costs	Rebate policy	Tax funded	-28	-70	600
		Supplier funded	-28	-40	490
		Increase in means-tested benefits	-28	-3	550
Improving incomes	Increase in Winter Fuel Payments		-10	0	420

Note: *Broadly targeted: delivers fully subsidised insulation and heating measures to households living in dwellings with a SAP of 55 or less. 'Narrowly targeted' restricts this to households receiving means-tested benefits.

Source: Hills (2012), Tables 7.13, 7.14, 7.15.

Pillar II downstream CMPs: Evaluation

- Present incentive-based policies to improve domestic energy efficiency inequitable and inefficient
- Company obligation approach inequitable by design
 - Will probably increase fuel poverty
- Economy-wide carbon pricing would be more equitable
 - Would capture higher embodied emissions of higher income groups
- As would tax-financed retrofitting programmes

A carbon limit to redistribution?

- ‘Income redistribution may increase aggregate emissions’
 - (Chitnis et al 2014)
- Marginal GHG intensities of expenditure decline by quintile
 - c20% lower for Q5 than Q1
- Here a potential conflict between environment and equity if limited to pillar II policies

An alternative: variable pricing of energy

- ‘Rising block tariffs’ would deal directly with this trade-off
- I.e. Extend the range of necessary goods subject to some measure of non-price allocation
 - Household energy
 - Water
- Little research
- Can this be achieved with existing private ownership and regulatory structure of basic utilities?

Turn to PILLAR I

Use of homes and rebound

- Grubb labels this ‘Standards and engagement’
 - Rather different things
 - Says little about engagement
 - Confined to narrow range of theoretical approaches
- Affecting ‘things’ v affecting people’s behaviour
- Non-price policies cover a wide spectrum:
 - Information
 - ‘Nudge’
 - Participation
 - Standards and regulation
- Briefly survey, again concentrating on domestic energy

From information to nudge

- Provide households with information
 - Eg Energy Saving Trust, Carbon Trust
 - Weak effect on domestic energy saving outside emergencies for various reasons:
 - ‘Satisficing’ not ‘optimising’ the dominant household strategy (back to Simon)
- ‘Nudge’
 - Change ‘choice architecture’
 - Recognises bounded rationality
 - Eg labels
 - Great success eg in fridges and other appliances, therefore electricity consumption
 - More difficult re buildings where costs and complexity greater
 - Opposition of companies ubiquitous
 - Smart meters?

From nudge to participation

- From nudge to ‘think’ (Stoker et al)
 - Collective deliberation;
 - Recognise that institutions affect preferences
 - Bradshaw study of ‘decent life budget’
 - Consensual decision-making with experts and public
 - Resulted in radical recommendations, eg no cars
 - Would cut UK carbon emissions by 37%
- Also need to recognise impact of private companies on choice architecture
 - Numerous examples of mis-selling: ½ of energy switches made by poor households following doorstep sales resulted in a worse deal
 - Implies public regulations over private providers

Collective engagement in carbon saving

- Move from individual to collective decision-making
- Numerous examples:
 - Steward on ‘transformative innovation’
 - Moving from singular technologies to networks of innovation
 - Local groups can join up the pieces
 - Power on retrofitting of estates and community participation
 - Jackson and Victor on meaningful participation
 - Encourages longer-term and joined-up thinking
- Helps address rebound (see below)

Standards and regulation

- Very effective
 - EU ban on incandescent lights
 - Directives on energy performance of buildings
 - Building SAPs (Standard Assessment Procedures) and tighter building regulations
 - DECC estimates of effect of ‘product policies’ on domestic energy bills
- Global spread of building standards and quantitative targets – and rarely reversed
- But shunned in much economic analysis
 - Fear of confronting consumer sovereignty
 - Fear of confronting business sovereignty

But.... rebound

- Perverse economic responses to energy saving
 - Direct: turn up thermostats
 - Indirect: increased consumption of other goods
 - Could even apply to behavioural ‘sufficiency’ measures, such as voluntarily reducing thermostat
- Studies of importance
 - Grubb: 10-30%
 - Chitnis et al: re 6 energy efficiency measures: 0-32%
 - Indirect and embodied rebound dominates
 - Rebound greater for lower income households
 - Spend savings on necessities with higher GHGs
- Conclusion: not an overwhelming problem
 - And can be reduced via local participative engagement

PILLAR III: Transformation and public-led investment

- Grubb: Strategic choices of large entities can influence development of complex systems over time and space
 - Governments and MNCs
 - Need big thinking to address threats to integrity of social systems and fundamental human needs
 - In terms of energy and emissions, key processes are innovation and infrastructure
 - To stay within 2°C requires \$0.5-1.0 trillions pa of investment
- Stern: call for large scale low carbon industrial revolution
- State strategic role and resource mobilisation key?

Green growth and Green New Deals

- This takes us upstream and away from my more specific focus on domestic energy, but
 - Green New Deal proposals call for large scale refurbishment and retrofitting programmes
 - ‘Every building a power station’
 - FIT programme relevant here, but fitful
 - Green investment bank
 - Zhengalis on financial space for funding infrastructure investment following 2008 crisis
 - Mazzucato on lead role of public agencies

Conclusions 1

- Current UK downstream policies for household carbon reductions inadequate and inequitable
 - Even taking into account existing (feeble) targeted measures
- This reflects the over-reliance on pillar II
 - Hegemony of market mechanisms plus lobbying and game-playing of corporations and subsequent lock-in
 - (Gough 2011 BA Report)
- Must incorporate pillars I and III
- All three necessary to secure equity with fast carbon reduction

Conclusion 2

- This requires policy integration.
- Lafferty distinguishes here
 - Vertical integration within sectors
 - Horizontal integration across sectors
 - Low Carbon Transition Plan 2009?
- Upcoming research project to study PI:
 - Across three ministries: environment, social and finance
 - Across four countries

Conclusion 3

- Extend needs-based approach to domestic energy (and water?)
 - Reverse block tariffs
 - Switch from company obligations to tax-financed subsidies and low-interest loans
 - Upstream carbon pricing preferable to downstream
 - Investigate personal carbon allowances and trading applied to energy and fuels

Conclusion 4

- Strengthen pillar 1 programmes
 - Utilise the local knowledge of communities and local government to create joined-up policies
 - Decentralise and re-empower local governments
 - Develop community ownership of renewable electricity generation
 - 700,000 energy suppliers in Germany
 - Extend standards and regulation of new and sold dwellings
 - Control the supply of private misinformation and enhance public energy saving advice

Lessons from Germany

Combines all three pillars (Power and Zulauf)

1. National legal framework, tough standards, tight regulation; plus independent advice, pilot projects; close accreditation of energy installers; substantial role of municipalities, whole house approach
2. Subsidies: KfW investment federal and lander bank: low interest loans for refurbishment; nb. No reduced VAT for domestic energy
3. Ambitious federal goals for renewable energy
 - (UK policies) do not go far enough on any of the key dimensions: the regulatory framework, the level of financial incentive or the clarity of the message... (Shroeder et al 2011)

Conclusions

- But political economy means being aware of obstacles
- Both social and environmental policy affected by ‘3 Is’:
 - Ideas
 - Interest
 - Institutions
- Bad timing:
 - The urgent challenge of climate change emerged during era dominated by neo-liberalism (Meadowcroft)
- Environmental policies linked to varieties of capitalism and welfare regimes
 - ‘Welfare states and environmental states: a framework for analysis’:
<http://personal.lse.ac.uk/goughi/>
- But that is another seminar!