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# Social justice and climate change: Addressing energy poverty at the European scale<sup>1</sup>

## 1. Introduction

Developed and developing countries alike are currently undergoing a major structural shift in their fiscal regimes. In part, this is due to the environmental externalities created by economic activity, resulting in seemingly intractable problems such as climate change. The move towards environmental taxation is particularly felt by final consumers, who may experience, *inter alia*, in form of increased prices for energy – either because companies indirectly pass the cost of ‘carbon taxes’ to the final bill, or due to direct levies on energy service-paying customers. The relationship between energy consumption and ‘climate justice’, therefore, has become a significant field of academic study and policy discussion over the past decade (Bulkeley, Castán-Broto, and Maassen 2011; Büchs, Bardsley, and Duwe 2011).

It should be pointed out that these developments are taking place against the background of rising income inequalities in developed countries (Johns, Cowling, and Gakidou 2013). The combined effect of increasing energy tariffs and decreasing incomes means that individuals, households and communities are facing an elevated risk of falling into energy poverty – a situation that can be understood as the inability to access materially- and socially-necessitated energy services in the home (Bouzarovski 2013). In this brief paper, therefore, I discuss the implications for energy poverty – in procedural and distributional justice terms – of a regulatory shift away from labour taxation onto environmental externalities in the energy domain. I argue in favour of the continued importance of state involvement in this sphere, the implementation of low carbon policies beyond taxation, and the articulation of a broader programme of systematic support for the energy poor in the European Union.

This paper first outlines some of the broader scientific debates surrounding the definition and driving forces of energy poverty at the European scale (which is its primary geographic focus). I then explore evidence about some of the distributional dimensions of current fiscal and pricing policies on energy poverty. This is drawn from global experience on the topic, and highlights the generic issues at stake. The paper subsequently moves onto an exploration of some of the wider institutional and spatial measures that can support low-carbon transitions, while alleviating poverty at the same time. A special focus is placed on the implementation of area-based

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measures, planning policies and market transformation and energy efficiency approaches to help the energy poor.

## ***2. Understanding energy poverty in Europe: patterns and challenges***

Definitions of energy poverty abound in the academic and policy literature; there is no general consensus on what the condition entails. In this paper, it is conceptualized in relation to more general understandings of poverty: as the inability to access a level of domestic energy services that would allow a household to participate in the customs and practices that define membership of society (also see Buzar 2007). Energy poverty has traditionally been seen as ‘fuel poverty’ in the UK and Ireland, where it is possible to observe a relatively well-established tradition of state policy, as well as a broader scientific debate over the causes, components, symptoms and consequences of the phenomenon. More recently, France has formulated a definition of ‘energy precariousness’ based on a household spending more than 10 per cent of its income to meet energy needs; Slovakia is also said to possess an official definition. Energy poverty considerations have also been integrated within a range of EU-level decisions, debates and regulatory frameworks, including Directives 2009/72/EC and 2009/73/EC of the European Parliament and the Council, concerning common rules for the internal market in electricity and natural gas supply. Among other points, the directives required member states to adopt a definition of ‘vulnerable customers’ (Bouzarovski, Petrova, and Sarlamanov 2012).

In the UK, fuel poverty was traditionally described as a situation in which a household needs to spend more than 10 per cent of its total income (before housing costs) on all fuel used to heat its homes to an acceptable level. Two aspects of this definition are especially significant with respect to some of the discussions of distributed justice highlighted below: First, ‘needing to spend’ does not refer to actual expenditure, but rather a hypothetical level that largely reflects the energy efficiency of the dwelling, heating systems and appliances in it; Second, ‘acceptable level’ generally refers to a level of energy services in line with the standards recommended by the World Health Organization (WHO) – 18 °C for bedrooms and 20-21 °C for living rooms (Boardman 2013). However, this definition was recently changed following a government-sponsored review undertaken by Professor John Hills at the London School of Economics. The new UK fuel poverty indicator considers households poor if *i*) their ‘required fuel costs’ are above the median level for the entire population; and *ii*) spending that amount would leave them ‘with a residual income below the official poverty line’ (Hills 2012). However, this approach attracted a significant amount of controversy, as it led to a significant reduction in the projected number of fuel poor households, against a background context where the government ‘cut overall support reaching the fuel poor in England by 26 per cent and cut the energy efficiency budget reaching fuel poor homes, the most effective long term solution for tackling fuel poverty, by 44 per cent’ (Jansz and Guertler 2012, 2).

Overall, there is widespread agreement that the key contributing factor to the emergence of energy poverty in developed countries is the combination of high energy prices, low household incomes, and poor residential energy efficiency. Of relevance to some of the discussion provided in the section to follow, however, are emergent arguments that energy policies should not be reduced only to distributional issues (such as energy prices, expenditure, consumption, income and affordability),

since broader spatial, social and institutional factors also influence a household's inability to access adequate energy services in the home. Researchers working in this vein have emphasized the importance of issues of justice – in terms of procedure, distribution and recognition – in shaping the energy-poverty nexus, as well as the technically and temporally precarious nature of access to energy services *per se* (Walker and Day 2012). The failure to perceive the inherently dynamic and complex nature of energy poverty, it has been claimed, has prevented scientists and policy makers from developing effective policies to address the problem.

One of the consequences of the lack of a clear knowledge base and scientific consensus on the driving forces and constituent dynamics of energy poverty in the European context is the lack of a common measurement and monitoring framework. Based on various statistics, it is possible that there are up to 160 million people in Europe who are suffering from this condition. Worst-hit are the post-socialist countries of Central and Eastern Europe (especially Bulgaria, Romania, Poland, Slovakia, Hungary and the Baltic states), in addition to Southern European countries (Greece, Malta, Cyprus, Portugal, and to a lesser extent Spain and Italy). Low-income households in countries on the 'Atlantic seaboard' (France, Belgium, the UK and Ireland) are also vulnerable at above average level (Bouzarovski 2013). However, one of the consequences of the lack of sufficient knowledge and the relative widespread extent of energy poverty in the European context is the relegation of debates about it to the domain of populist politics: this is evidenced, for example by the representation of domestic energy deprivation as the flip side of the low carbon transition in the recent German federal election (Der Spiegel 2013).

### **3. *Energy justice: Distributional aspects of the low-carbon transition***

As was pointed out above, households who are energy poor receive inadequate domestic energy services (primarily heating, but also lighting, space cooling etc.). Households who are deprived of energy in the home in general cannot afford to pay for energy services. Thus, the share of energy expenditure in their total income ('the energy burden') is disproportionately high. However, it should be pointed out that households with the lowest incomes normally prioritize other expenditure over energy, and thus their energy burdens are actually lower than the households who are slightly richer than them, but also fuel poor. If they could properly pay for it, the energy burdens of the lowest-income households would also be high. This is why the affordability aspects of energy poverty can only be thought of hypothetically, in terms of whether a household needs to have a high energy burden in order to have a home that is adequately warm, lit, etc. Definitions of energy poverty on the basis of actual energy burdens leaves out the households who have low energy burdens but are still poor because, possibly, they prioritize 'eating' over 'heating'.

Energy poverty is not necessarily about reducing energy consumption, or the energy bill. It is about enabling households to have decent energy services in the home.

- This means that the amount that some energy poor households can pay for energy *needs to increase*. As will be argued in the next few paragraphs, income support is the best way to do this;
- In order for *all* energy-poor households to need to spend less on energy, it is indeed best to give them opportunities to reduce the energy bill, i.e. get better energy services at a reduced price via improved energy efficiency;

- There is a third group of energy-poor households: those who have disproportionately high energy needs due to their demographic make-up (having small children, teenagers, pensioners, or unemployed individuals in the home); who are trapped in particular housing, heating or property tenure arrangements that do not allow for energy efficiency investment or fuel switching; and who are unable to access energy poverty amelioration support for various socio-cultural reasons (Buzar 2007). As discussed below, they need more systematic support through information campaigns and area-based retrofitting schemes.

The broad consensus in the literature is that taxes on carbon (and energy) are generally regressive, as are, in principle, all fiscal instruments of this type targeting consumption. The fact that lower-income households have greater energy burdens than those with higher incomes means that a carbon tax is expected to have a negative impact on the distribution of income (despite the issue above, with energy burdens being lower among the poorest households). Overall, however, the distributional impacts of carbon levies are highly dependent on issues such as household size, location and the nature of consumption, rather than income (Dresner and Ekins 2006; Haug et al. 2010; Gough 2013). This means that depending on the method used, a carbon tax may be shown to have almost no regressive impacts at all (as demonstrated, for example, by, for example, Tiezzi 2005; Martini 2009).

Also significant in this case is the type of fuel that is being targeted; while taxes on diesel and petrol – and even natural gas – are generally less harmful to the poor, it has been demonstrated that, in the European context, placing the tax burden onto electric bills often highly disproportionately affects poor households (see, for example, Poltimäe and Võrk 2009). This is particularly true in Eastern and Central European countries, where large parts of the urban population may be unable to switch away from electricity; a similar situation can be found in among a select group of households in the UK, where many environmental levies have been loaded onto electricity bills. In addition, it should be pointed out that ‘schemes that put a price on carbon emissions further upstream ... have an effect not only on downstream energy prices but also on all other goods and services owing to the higher price of the energy used in their production’ (Büchs, Bardsley, and Duwe 2011, 291). Although this means that such policies are ‘likely to have additional regressive effects’ there is evidence to suggest that upstream mitigation efforts ‘will have weaker regressive effects’ than downstream ones if companies that are targeted ‘are less able to pass on the price increase directly to consumers’ (ibid).

At the same time, it is widely known that low energy prices are not an efficient method of re-distributing income. Research by the IMF and World Bank in particular, has found that overall, universal energy price subsidies almost always benefit high income households, because such groups consume greater absolute amounts of energy compared to poorer ones. The typical finding is that the consumers in the richest 20 percent of the population get six times as much total benefit from fuel subsidies as do those in the poorest 20 percent (Dolan 2013). It is this oft-repeated notion that has prompted many international financial institutions to insist on energy price increases in Eastern and Central European countries, where ‘indirect subsidies’ on residential energy bills were one of the dominant features of communist central planning (Gray 1995). The expectation has been that increased energy prices will deliver energy

efficiency gains. But the lack of systemic support for energy efficiency and fuel switching, alongside the failure to develop targeted social protection programmes, has meant that energy poverty has become widespread in Eastern and Central Europe, while many countries have failed to reduce the energy intensities of their economies.

Various authors have found that the regressive effects of carbon levies can be reduced via more progressive designs, such as the tax-free electricity allowance that was in place in the Netherlands between 1996 and 2001 (European Environment Agency 1996; Wier et al. 2005). A more general recommendation stemming from the literature, however, is that distributional issues need to be addressed under a separate aegis to that of environmental policies; indeed, work by the World Bank has shown that income transfers provide a much fairer way of helping vulnerable households, as opposed to interventions in energy prices (Alderman and Yemtsov 2012). Within the context of the expenditure patterns of energy-poor households discussed above, this means that regardless of the tax regime in place, *income support via the social welfare system is still needed to support households who are at the lowest end of the energy consumption scale.*

#### ***4. Addressing climate change and supporting the energy-poor: Moving beyond taxation***

In terms of ameliorating energy poverty overall, energy efficiency measures (improving the built fabric, heating systems, and appliances) have been shown time and again to be the most effective way of addressing energy poverty across the board (Boardman 2013). This fact brings into the fore questions pertaining to the kinds of groups and places that can benefit from the fiscal revenues generated by carbon taxes – an area which is very much a grey zone in the literature, mainly because such benefits are often ‘highly uncertain and difficult to measure, especially in monetary terms’ (Zhang and Baranzini 2004, 516).

In essence, many of these approaches lie ‘beyond taxation’ since they bring into the fore the kinds of populations that are recognized as worthy of the redistributed income and the procedures through which households and communities can access assistance. Indeed, there is a body of evidence to suggest that investing in public transport and targeting vulnerable households in particular geographical areas can offset the regressive short-term distributional effects of carbon taxation (Martini 2009, 32). At the same time, systematic energy efficiency policies (involving retrofit and support) can help address the dual objectives of reducing energy poverty and addressing climate change. Such policies need to take into account a broader strategy of ‘market transformation’, including a combination of voluntary and compulsory steps such as standards, labels, incentives, and research and development (for example, see Oikonomou et al. 2008). In all of this, it is important for ‘expenditure on energy efficiency measures to be linked to the householder’ (Preston, White, and Guertler 2010, 11) mainly via easily accessible grants and subsidies. Analyses by the Association for the Conservation of Energy and the Centre for Sustainable Communities suggest this would be most fairly funded from income taxation rather than levies on energy bills (ibid).

Of no less importance in this context is the mobilization of planning frameworks so as to ensure that some of the broader structural problems surrounding energy poverty

can be dealt with in a systematic and comprehensive manner, alongside fiscal policies to support the low carbon transition. This can entail measures such as supporting neighbourhoods, cities and regions to address domestic energy deprivation via the development of affordable and locally-sourced low carbon energy, ensuring the pooling of household resources via various informal or formal networks so as to reduce individual energy needs, formulating regulatory processes and practices that can support fuel/supplier switching and facilitate energy efficiency investment (particularly in the private rented sector, housing in multiple occupancy, and apartment blocks) and implementing information campaigns and area-based policies – while building the capacity of community organizations and local authorities – in order to address retrofits in ‘hard-to-treat’ properties.

Overall, therefore, the establishment of tax and climate policies that can help address energy poverty is a complex but not unattainable task. The approaches proposed in this paper include:

- Making sure that the state welfare system can still support households who are at the lowest end of the energy consumption scale;
- Designing tax policies that are themselves progressive, for example by ensuring that low-income groups or particular fuels are not ‘unduly burdened by climate change costs’ (Preston, White, and Guertler 2010, 10) and standing charges that cannot be reduced by saving energy and act against the ‘polluter pays’ principle.
- Putting in place the necessary frameworks for institutionally sound, socially inclusive and politically empowering public participation processes in the implementation of retrofit measures;
- Developing measurement and monitoring frameworks to understand the drivers of energy vulnerability in relation to the low carbon transition and structural socio-economic change at the European scale.

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