



## Methodological and Ideological Options

## Economic Inequality and Household Energy Consumption in High-income Countries: A Challenge for Social Science Based Energy Research

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## ABSTRACT

Social science approaches commonly used in household energy consumption research tend to focus on regular, everyday determinants of household behavior (discourse, practices, sociotechnical relations, actor-networks, etc.). Their conceptual frames avoid consideration of economic inequality and how it affects home ownership, energy efficiency investment, norms, practices, power relations and, consequently, energy use. This may have roots in a split between macroeconomics and sociology dating from the mid-20th century, while a focus on regular, everyday determinants of behavior was no doubt useful in the relatively egalitarian societies of the 1950s–1980s. But economic inequality has rapidly increased within high-income countries over the past 30–40 years, enabling high-wealth individuals' influence to grow. We argue this has decisive effects on the choices available to households in their energy behavior and discuss four ways it plays out: the negative effect of decreasing home-ownership on dwellings' thermal quality; fuel poverty; the influence of wealth distribution on carbon emissions; and gender-based wealth inequality. We argue that the macroeconomic issue of income inequality is a determinant of household energy consumption practices and, focusing on practice theory, we map out key dimensions in which it could be explicitly included in social science frameworks used to study household energy consumption.

## 1. Introduction

Over the past 30–40 years economic inequality has steadily increased in almost all high-income countries (Piketty, 2014; Dorling, 2018). These countries have shifted, in that short time, from being among the most egalitarian high-wealth societies the world has ever known, to the point where their distributions of wealth and income are beginning to resemble those of the highly unequal societies of Europe immediately prior to the First World War (Winters, 2014). Sixty years of progress toward societies of egalitarian plenty has been all but reversed within a few short decades.

Strangely, the social science approaches most commonly used to investigate energy consumption patterns within these high-income countries do not seem to have caught up with this turn of events. These approaches were forged during the years of egalitarian plenty from the period of economic recovery after the Second World War until the last decades of the 20th Century. They do not incorporate the macroeconomic dimension of wealth and income distribution in their conceptual frameworks. As Ingham (2004, 2011) argues and Mizruchi and

Sterns (1995) demonstrate in detail, sociology avoided serious engagement with economic theory for most of the 20th Century. While some branches of social science have bucked this trend and are now seriously engaging with issues of economic distribution, such as in health and housing studies, a 'sociology of economics', as Smelser and Swedberg (2005) call it, has not yet penetrated the approaches commonly used in energy consumption studies.

These approaches are diverse but tend to belong to two main families. One is mostly derived from the synthesis of mainstream 20th Century sociology forged by Anthony Giddens (1979, 1984, 1990) with significant input from the more pragmatic approach of Pierre Bourdieu (1976, 1979, 1983) and the social discourse critique of Michel Foucault (1980, 1982, 1985). Its main modern variants are practice theory (Schatzki, 1996, 1997; Reckwitz, 2002a; Shove, 2010), actor-network theory (Latour, 1993, 2005) and sociotechnical systems theory (Bijker et al., 1987; Lovell, 2007). These approaches not only bracket out the increasing economic inequality that forms the context in which their research subjects consume energy. At a more fundamental level they have inherited 20th Century sociology's avoidance of critical

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engagement with the question of what money actually is and how it shapes some of the most fundamental features of society.

The second family, derived from experimental psychology, is most strongly represented in energy consumption studies by the theory of planned behavior (Ajzen, 2011) and the theory of reasoned action (Blair et al., 1988). These approaches take economics into account, but only at the micro-level. Their research subjects make choices based on costs and benefits in relation to personal values and internalized social norms, but no account is taken of macroeconomic factors such as income and wealth inequality or the question of what money is.

This paper has several modest aims. Firstly, we wish to challenge the social science energy consumption research community to consider how the rapid and persistent increase in economic inequality in high-income countries over the past 30–40 years has left its mark on the social context within which people consume energy.

Secondly, we wish to draw attention to the handful of studies that indicate this shift in economic fortunes is having significant effects on energy consumption patterns.

Thirdly, we wish to identify the 20th Century roots of modern sociology's relative indifference to issues of economic inequality and its effects on energy consumption.

Fourthly, drawing these threads together, we want to challenge social scientists to begin to theorize what economic inequality might mean for energy consumption research today. Here we will focus specifically on practice theory. By revisiting its roots in 20th Century sociology we will suggest how it could broaden its conceptual base to take economic issues, particularly economic inequality, into account. We single out practice theory because we cannot dig deep into five or six different approaches in one short paper, and because the use of practice theory is rapidly expanding in energy consumption research. Much of what we will say about practice theory also applies to its close cousins, actor-network theory and sociotechnical systems theory, with which it often overlaps in research practice.

Issues of economic inequality are also missing from government and other stakeholders' framings of energy consumption. This is a further reason we suggest that academic research – which is often funded by governments and other stakeholders – needs to take it more fully into consideration.

The expanding literature on economic inequality has not yet explored its gender-specific effects in depth. However, we outline one area where increasing economic inequality does appear to be having gender-specific effects on access to energy services.

In Section 2 we outline key factors in the persistent increase in economic inequality of the past 30–40 years. In Section 3 we outline four areas of recent research which reveal clear evidence of its effects on energy consumption. In Section 4 we discuss the sociology that lies at the root of practice theory and suggest ways it needs to broaden so as to function better in today's socioeconomic climate. We conclude in Section 5.

## 2. The Growth of Economic Inequality

A difficulty in studying economic inequality is that incomes and wealth among the richest are often hidden from public view. In his early study on income distribution in France in 1901–1998, Piketty (2001) revived a methodology pioneered by Vilfredo Pareto (1848–1923) and Simon Kuznets (1891–1985), of using tax data rather than household surveys to estimate top incomes (see commentary in Milanovic, 2014). Using this approach, Atkinson (2003) offered a long-run study of top incomes in the UK, while Piketty and Saez (2003) did the same for the US. Atkinson and Piketty (2007) made a similar study of continental Europe and all other high-wealth countries, and similar studies were offered for developing and emerging economies (Atkinson and Piketty, 2010; Alvaredo et al., 2013).

Piketty's *Capital in the 21st Century* (Piketty, 2014) utilized data on inequalities in both income and accumulated wealth, going back to the

18th Century for the UK and France, and the 19th Century for a number of other countries. It revealed persistently high income and wealth inequality in all countries until a turning point after 1914, when inequality began to reduce and continued to do so until the 1970s. In the 1980s the trend reversed again and inequality steadily increased toward pre-1914 levels. Findings for the most recent years are continually updated, the most recent being in Alvaredo et al., (2017a, 2017b).

A crucially important finding of this team, supported by Winters' (2011, 2017) longer-run study, is that the 30-year period from the end of the second World War until the mid-1970s was unique in recorded human history. This period saw persistent real economic growth together with unprecedented levels of economic equality in high-wealth countries. Many of today's social scientists were born and brought up during this period and the sociology that found its way into our conceptual frameworks was forged and synthesized in those years. But these were not normal times in the history of the world. As Ingham (2011), Piketty (2014), Acemoglu and Robinson (2012) argue, certain key factors converged to make these years different.

Firstly, two world wars and the Great Depression had destroyed vast fortunes of accumulated wealth among moneyed elites. Because money begets money, it became much harder for a privileged few to continue to multiply their fortunes simply by investing. Secondly, after the socio-economic shock of the Depression, labor movements became dominant in most high-wealth countries and the New Deal was launched in the US, with progressive taxation and universal social welfare. Thirdly, leaders of the Allied nations in the Second World War judged that competitive trade wars and opportunist currency devaluations had heavily contributed to the economic disarray that led to the rise of Nazism and Fascism. A conference to forge a new economic world order was held at Bretton Woods, New Hampshire in 1944, resulting in a unique compromise between free market and interventionist economic approaches – heavily influenced by economist John Maynard Keynes. Under the Bretton Woods system, trade would be relatively free of tariffs and barriers so that each country could produce at its most efficient level, but exchange rates would be strictly controlled to prevent cheating by devaluing. Bretton Woods 'sought to establish free markets in everything except money and capital' (Ingham, 2011: 85).

Fourthly, while Bretton Woods was in force, high-wealth countries' economies had little competition from communist and developing countries. Competition was emerging from medium-sized Asian countries like South Korea and Taiwan, but China, India and most of South East Asia were not yet high-tech industrialised, while the European Communist bloc had its own trade pact, Comecon (Thomas, 2009). The combined effect of these factors was that, for almost 30 years from the late 1940s until the mid-1970s, the high-wealth countries achieved unprecedented, persistent real (i.e. inflation-adjusted) economic growth of around 4% per adult per year in Continental Western Europe and 2.5% per adult per year in the English speaking high-wealth countries (WID, 2018), with historically low levels of economic inequality.

For example, in the US from 1950 to 1970 the top earning 10% received about 35% of total income, while average real income per capita increased from €16,500 to €28,000.<sup>1</sup> Hence everybody was more than one-and-a-half times as well-off in 1970 as they had been in 1950, regardless of their position on the income scale. The situation in Germany was similar. Between 1950 and 1970 the top earning 10% earned around 30% of total income, while average per capita income increased from €8426 to €22,516.

Bretton Woods lasted until the early 1970s, when US President Richard Nixon withdrew the US from the exchange rate agreement (Ingham, 2011). It was further weakened by the huge oil price increases of the 1970s, the burden of government debt and subsidies to industry, and increasing trade protectionism. About this time 'neoliberalism', a reformulated version of classical liberal economics, was being

<sup>1</sup> Expressed as purchasing power parity in constant 2016 values

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