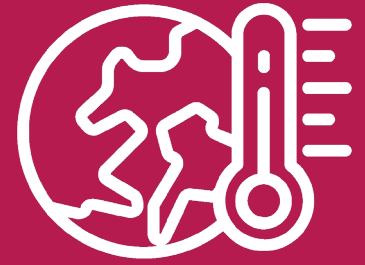


# It's high time to talk about the climate impacts of high consumers

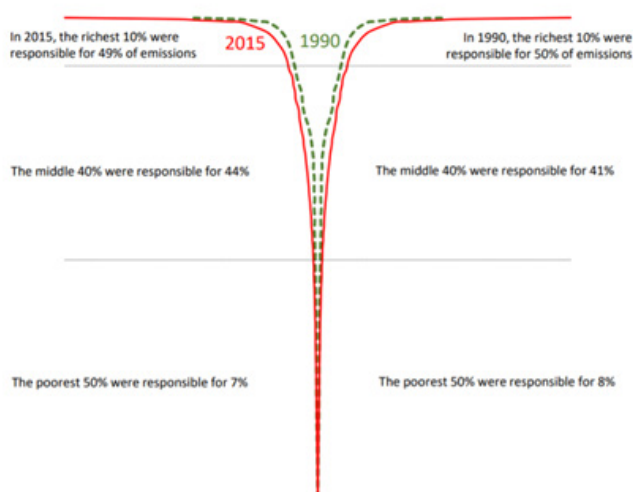


March 2022

As the dust settles on COP26 and the climate crisis deepens, it's a good time to have a serious look at a topic that arises whenever such events trigger a concentration wealthy people traveling via private jets. Compared with the average person, high net-worth individuals (HNWIs – or simply 'high consumers' in this article) use more energy and having bigger carbon footprints. And the gap is growing.

On all counts, 'more' and 'bigger' can be measured exponentially. In 2010, the ten per cent most affluent households emitted 34 per cent of global CO<sub>2</sub>, while the 50 per cent of global population in lower income brackets accounted for just 15 per cent (Hubacek et al, 2017). By 2015 – just five years later – the disparity had stretched to 49 per cent against seven per cent (Figure 1) (Kartha et al, 2020). Tracked back to 1990, those data – with income arranged vertically and corresponding shares of CO<sub>2</sub> emissions shown horizontally – neatly trace a telling silhouette, i.e. 'the champagne glass of carbon inequality' (Kartha et al, 2020).

**Figure 1: The 'champagne glass' of global carbon inequality in 1990 and 2015 (Kartha et al, 2020)**



Beyond massive carbon footprints, high consumers pose a second challenge: they also set social and material aspirations for people who want to be perceived as successful. The disparity of ecological footprints across social classes is also seen among nations: at both scales, the wealthy generate more negative environmental impacts than lower income groups (Lynch et al, 2019). And that suggests the environment is in for a solid trampling as both population and income levels increase.

For these reasons, we believe it's time for serious action to understand high consumers: who they are, what drives them and what makes them hard to reach? In turn, we need to ask how policy might trigger change.

## What makes high consumers high emitters?

In developed countries, domestic energy use and private transport are the main sources of individual environmental impacts (Peattie and Peattie, 2009).

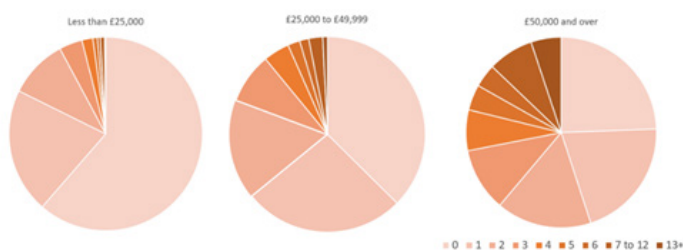
The physical aspects of the home, along with the knowledge, routines and values of the occupants, drive domestic energy use. High consumers tend to 'go big' to 'go home' (Gram-Hanssen, 2010). In this slice of energy data, the bottom half of the population accounts for <20 per cent of final demand, less than the top five per cent consumes (Oswald et al, 2020). While their homes may be more energy efficient, high consumers have more space to heat. They also own and use more luxury items and more gadgets – including multiples of some (e.g. entertainment centres, fridges) (Sovacool, 2011).

High use of energy for private transport is directly linked to social practices that high consumers also engage in more often, including commuting further to work, shopping, educational activities,

leisure, etc. In the US, for example, the ten per cent of households with the highest incomes emit ~12 MtCO<sub>2</sub>/yr from using gasoline, against just 3.6 MtCO<sub>2</sub>/yr for the ten per cent with the lowest income (Sager, 2019).

Flying too far or too often has garnered condemnation in recent years. And while one might assume that low-cost airlines opened the world to more adventurers, it is more the case that it enabled seasoned travellers to do it more often for less cost (Fig. 2). Before Covid-19 grounded everyone, in most countries less than half of people reported flying at least once per year while more than 50 per cent of emissions from passenger aviation were linked to the one per cent of people who fly most often (Gössling and Humpe, 2020; Hopkinson and Cairns, 2020).

**Figure 2: Number of international flights in 2019 by income (UK) (Department for Transport, 2021)**



### What drives high consumption?

Desire to demonstrate social status (Di Muzio, 2015) and the internalisation of societal expectations have been linked to high consumption, as have things like habit, emotion, coercion, (March and Olsen, 2004) and psychological aspects or personality traits (Håkansson, 2014).

But putting the blame on individuals misses the heavy influence of the culture of consumerism and all that feeds into it – advertising, materialism and the capitalist economic system – to promote a set of lifestyle values that overlook (or consciously disregard) how excess consumption negatively impacts personal, social and ecological well-being (Kasser and Kanner, 2004).

These two elements – personal and societal influences – suggest that to change behaviour, it may be necessary to challenge existing habits and break societal norms, confronting the idea that having things is the path to happiness.

### Hard to reach, but for very different reasons

As part of efforts to achieve a ‘just, clean energy transition’, much research has focused on ways to engage with ‘hard-to-reach consumers’ – typically considered those who under-consume because the combination of low incomes, poor-quality homes and energy pricing makes it difficult to afford what would be considered ‘sufficient’ energy supply for health and well-being.

In reality, high consumers represent the biggest opportunity to reduce emissions from energy and transportation. But convincing them to change comes requires overcoming substantial challenges. Some may be completely disconnected from the reality of the climate crisis; others may not engage with information about sustainable consumption (perhaps because such messaging rarely targets this audience). They may also ‘feel’ the consequences of climate change less, as it is easier for them to absorb the costs associated with climate adaptation. In fact, even having to pay environmental taxes may have a negligible effect. The bottom line is that high consumers can afford to keep polluting (Peattie and Peattie, 2009; Kenner, 2015).

### Who decides what is excessive?

The notion that this segment of the population ‘overconsumes’ raises the loaded question of what represents an adequate standard of living. In the UK, even average consumers consider that buying birthday presents, consuming alcohol and eating out are minimum necessities – a finding that likely applies to most developed countries (Hirsch, 2019).

To date, there is no widely accepted, clear definition of overconsumption in academic literature. Some studies identify quantitative classifications or look at specific resources, and most recognise that it is context-dependent and often linked to psychological traits. Some suggest that a certain consumption level becomes ‘overconsumption’ only if the quest for material goods and services does not lead to happiness.

Arguably, those in the lowest income groups would have the most to gain in well-being from increased consumption. This can be linked to the concept of welfare, especially the well-being of others (whether current peers or future generations), such that the decision to shift to sustainable consumption practices would be guided by certain moral choices, reflecting how people experience the world now and how they wish it to be in future.

## Policy making to reshape consumption practices

Bearing in mind we live on a finite Planet, policy-makers and economists who seek to address environmental and social issues while arguing for sustained perpetual quantitative growth (measured in GNP or GDP) are, in our opinion, acting without engaging in necessary debates. At the opposite end of the spectrum, degrowth proponents emphasise meeting basic human needs and ensuring a 'good life' (Rosa and Henning, 2017), while reducing impacts on the environment to a sustainable level and building a fair system for all. This approach involves valuing well-being, sustainability and equity indicators over GDP when assessing progress, noting that the consequent decrease in material and energy consumption would likely drive GDP down (Kallis, 2011). We would argue that sufficiency, rather than development or degrowth, should inform policy-making (McMichael, 2016). The concept of energy sufficiency is based on the idea that everyone has access to the quantity and quality of energy services they need and to a 'fair share' of the energy services while ensuring the impacts of energy systems do not exceed environmental limits (Darby and Fawcett, 2018).

Clearly, households with higher incomes have greater potential to achieve positive impacts through lifestyle changes, reducing their use of resources associated emissions with minimal consequences for their well-being. But most people do not want to embrace voluntary simplicity or scale down access to goods and services they consider enrich their lives (Bookchin, 1989).

To date, most countries do not recognise high consumption as an issue requiring specific policy initiatives, whether due to oversight, lack of understanding or an explicit decision for ideological and political reasons (including the constant drive for economic growth). Many cities have set net-zero targets, with a strong focus on technology and infrastructure policies, but few efforts directly tackle behavioural factors and none explicitly address high-income households (Mundaca et al, 2019). As high consumption and large carbon footprints are spatially concentrated in high-income cities and suburbs – while their negative effects (i.e. displaced air pollution) typically spill over into less affluent areas – this may be the most important arena for policy action (Moran et al, 2017).

But current efforts are missing the mark. In fact, some are shown to negatively impact vulnerable households while having little influence on middle

and high-income households (Brons et al, 2002; Labandeira et al, 2017; Schulte and Heindl, 2017). Price mechanisms may force low-income households to cut back consumption to dangerous levels, while those in higher income brackets benefit from more efficient equipment (Lutzenhiser, 1993). Similarly, roll-out of in-house displays (IHDs) to track energy consumption and costs seem unlikely to change the behaviour of high-income households but may prompt 'hyper-consciousness' among low-income households. These examples raise the question of whether more sensitised energy policy instruments are needed for different households.

Shifting towards a sustainable society will require significant cultural, material and behavioural changes at different levels (in households, businesses, etc.). Ultimately, effective policy measures would require 'cracking' the false belief that owning and using an ever-growing range of goods and services is the path to achieving personal happiness, status and national success, as well as a normal motivation and an acceptable cultural desire. Going forward, it may be helpful to distinguish among 'citizens' as people willing to serve the common good, 'consumers' who prioritise seeking pleasure, and 'consumer-citizens' who engage with political issues through conscientious consumption (Mol, 2009).

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## References

- Bookchin, M. (1989) Death of a small planet. *The Progressive*, 53 (8), pp. 19-23.
- Brons, M., Pels, E., Nijkamp, P. and Rietveld, P. (2002) Price elasticities of demand for passenger air travel: a meta-analysis. *Journal of Air Transport Management*, 8 (3), pp. 165-175.
- Darby, S. and Fawcett, L. (2018) Sufficiency-introduction-Final (energysufficiency.org). European Council for an Energy Efficient Economy.
- Department for Transport (2021) *National Travel Survey 2002-2019*. Available from: <http://doi.org/10.5255/UKDA-SN-7559-6>
- Di Muzio, T. (2015) The Plutonomy of the 1%: Dominant Ownership and Conspicuous Consumption in the New Gilded Age. Millennium: *Journal of International Studies*, 43 (2), pp. 492–510.
- Gössling, S. and Humpe, A. (2020) *The global scale, distribution and growth of aviation: Implications for climate change*. Available from: <https://doi.org/10.1016/j.gloenvcha.2020.102194>
- Gram-Hanssen, K. (2010) Residential heat comfort practices: understanding users. *Building Research and Information*, 38 (2), pp. 175-186.
- Håkansson, A. (2014) What is overconsumption?—A step towards a common understanding. *International journal of consumer studies*, 38 (6), pp. 692-700.
- Hopkinson, L. and Cairns, S. (2020) *Elite Status: global inequalities in flying*. Report for Possible, March 2021.
- Hirsch, D. (2019) *A Minimum Income Standard for the United Kingdom in 2019*. Available from: <https://www.jrf.org.uk/report/minimum-income-standard-uk-2019>
- Hubacek, K., Baiocchi, G., Feng, K., Castillo, R.M., Sun, L. and Xue, J. (2017) Global carbon inequality. *Energy, Ecology and Environment*, 2 (6), pp. 361-369.
- Kallis, G. (2011) In defence of degrowth. *Ecological Economics*, 70 (5), pp. 873–880. Available from: <https://doi.org/10.1016/j.ecolecon.2010.12.007>
- Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A. and Gore, T. (2020) *The Carbon Inequality Era: An assessment of the global distribution of consumption emissions among individuals from 1990 to 2015 and beyond*.
- Kasser, T. and Kanner, A.D. (Eds.) (2004) *Psychology and consumer culture: The struggle for a good life in a materialistic world*. American Psychological Association. Available from: <https://doi.org/10.1037/10658-000>
- Kenner, D. (2015) *Inequality of overconsumption: The ecological footprint of the richest*. Cambridge: Global Sustainability Institute, Anglia Ruskin University.
- Labandeira, X., Labeaga, J.M. and López-Otero, X. (2017) A meta-analysis on the price elasticity of energy demand. *Energy Policy*, 102, pp. 549-568.
- Lutzenhiser, L. (1993) Social and behavioral aspects of energy use. *Annual Review of Energy and Environment*, 18, pp. 247–289.
- Lynch, M. J., Long, M.A., Stretesky, P.B. and Barrett, K.L. (2019) Measuring the ecological impact of the wealthy: excessive consumption, ecological disorganization, green crime, and justice. *Social Currents*, 6 (4), pp. 377-395.
- March, J. G. and Olsen, J.P. (2004) *The logic of appropriateness*. In *The Oxford handbook of political science*. Available from: <https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199604456.001.0001/oxfordhb-9780199604456-e-024>
- McMichael, P. (2016) *Development and social change: A global perspective*. London: Sage.
- Mol, A. (2009) Good taste: The embodied normativity of the consumer-citizen. *Journal of Cultural Economy*, 2 (3), pp. 269-283.
- Moran, D.D., Kanemoto, K., Jiborn, M., Wood, R. and Seto, K.C. (2017) *Carbon Footprints Concentrated in Few Global Cities*. Available from: <https://ssrn.com/abstract=2984473> / <http://dx.doi.org/10.2139/ssrn.2984473>
- Mundaca, L., Sonnenschein, J., Steg, L., Höhne, N. and Ürge-Vorsatz, D. (2019) The global expansion of climate mitigation policy interventions, the Talanoa Dialogue and the role of behavioural insights. *Environmental Research Communications*, 1 (6), 061001.
- Oswald, Y., Owen, A. and Steinberger, J.K. (2020) Large inequality in international and intranational energy footprints between income groups and across consumption categories. *Nature Energy*, 5 (3), pp. 231-239. doi:10.1038/s41560-020-0579-8.

Peattie, K. and Peattie, S. (2009) Social marketing: A pathway to consumption reduction? *Journal of Business Research*, 62 (2), pp. 260-268.

Rosa, H. and Henning, C. (2017) *The good life beyond growth: New perspectives*. Routledge.

Sager, L. (2019) Income inequality and carbon consumption: Evidence from Environmental Engel curves. *Energy Economics*, 104507.

Schulte, I. and Heindl, P. (2017) Price and income elasticities of residential energy demand in Germany. *Energy Policy*, 102, pp. 512-528.

Sovacool, Benjamin K. (2011). Conceptualizing urban household energy use: climbing the "Energy Services Ladder". *Energy Policy*, 39 (3). pp. 1659-1668. ISSN 0301-4215.

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