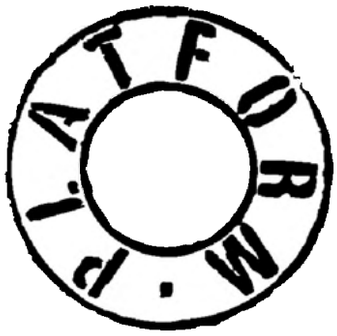
STOP THE CLOCK

THE ENVIRONMENTAL BENEFITS OF A SHORTER WORKING WEEK

MAY 2021



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Platform is a UK-based environmental and social justice collective with campaigns focused on the global oil industry, fossil fuel finance, and building capacity toward climate justice and energy democracy. www.platformlondon.org

The 4 Day Week Campaign is a national campaign group demanding a four-day week and shorter working time. www.4dayweek.co.uk

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INTRODUCTION

Acting on climate change has never been more popular in the UK, with 8 in 10 either 'fairly' or 'very' concerned about climate change. (1) There has been unprecedented recognition of the Climate Emergency since 2019 with mass protests, school strikes, warnings from the Bank of England, and the Committee on Climate Change insisting the bulk of policy action must happen within the next decade has built pressure for more ambitious action. This frames the need for the government to show greater climate leadership in the run-up to the 2021 UN COP26 Climate talks in Glasgow in November.

The Covid-19 pandemic has revealed that tackling global crises cannot be done successfully without building a more inclusive society and economy. (2) With physical and mental health services under strain, record-high levels of economic precariousness and the urgency of tackling the climate emergency, policies that can reduce carbon emissions while improving social and economic well-being have become crucial.

One idea that could contribute to these transformations has a long history in the union tradition and the labour movement: the reduction of working time. (3) How can a societal reduction in working hours help solve the climate crisis? In this report, we explore a range of environmental benefits from shifting to a four-day working week and how it would manifest in practice. What becomes possible at the household and society level when people have more freedom over how they spend their time, and how can that be good for the environment?

Our analysis shows that shifting to a four-day working week without loss of pay could shrink the UK's carbon footprint by 127 million tonnes per year by 2025. This represents a reduction of 21.3%, and is more than the entire carbon footprint of Switzerland. (4) It is also equivalent to taking 27 million cars off the road - effectively the entire UK private car fleet. (5) See the Methodology Appendix for the full calculations.

1 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/959601/BEIS_PAT_W36_-_Key_Findings.pdf

2 https://platformlondon.org/wp-content/uploads/2020/06/London-Leap-values.pdf

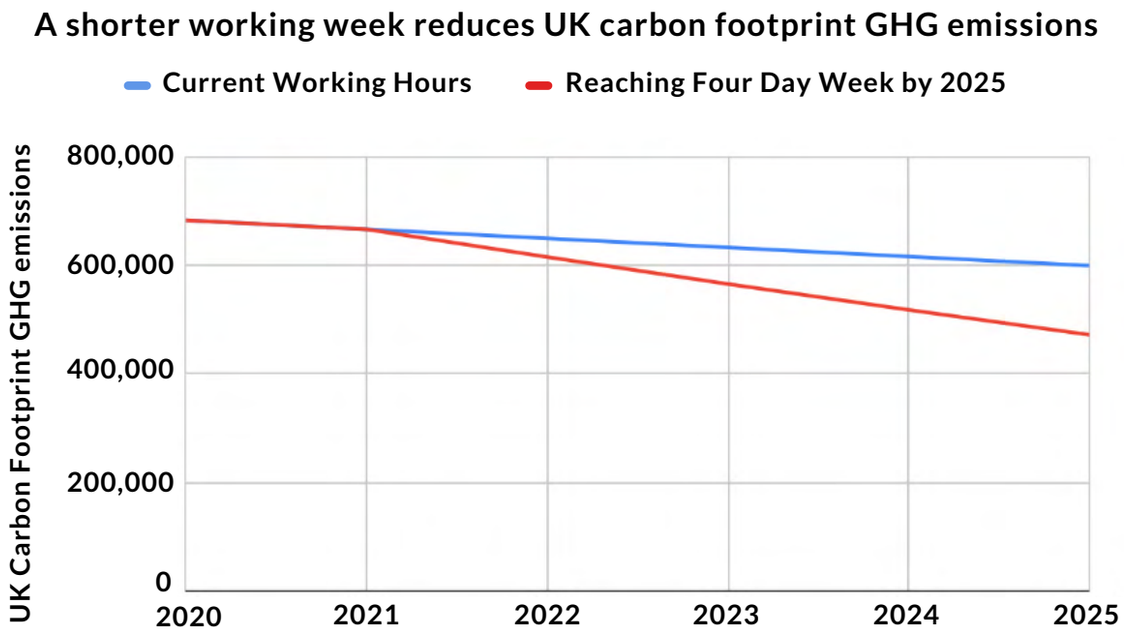
3 https://www.tuc.org.uk/speeches/tuc-general-secretary-speech-congress-2018
http://autonomy.work/wp-content/uploads/2019/05/Fridays4FutureV2.pdf

4 In 2019, the Swiss carbon footprint for 2015 was estimated at 114-116 million tonnes of CO2e https://www.bafu.admin.ch/dam/bafu/en/dokumente/wirtschaft-konsum/externe-studien-berichte/comparison_footprint_methods.pdf.download.pdf/Nathani_Frischknecht_Comparison_Footprint_Methods.pdf

5 The UK car fleet is 30.5 million vehicles. EPA gives the average annual carbon dioxide emissions of a typical passenger vehicle as 4.6 tons CO2. However, this is based on the average US vehicle emissions and US mileage - both of which are significantly higher than the UK. This means 127 million tonnes of CO2e would be equivalent to significantly more than 27 million cars. https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle

FIGURE 1: REDUCED CARBON FOOTPRINT GREENHOUSE GAS EMISSIONS FROM A SHORTER WORKING WEEK

Platform London analysis on data from UK Department for Environment, Food & Rural Affairs, Eurostat, Political Economy Research Institute / University of Massachusetts Amherst



This is especially important, as reducing our carbon footprint has proven significantly harder than reducing domestic emissions. Between 1990 and 2016 emissions within the UK's borders reduced by 41%, but the consumption-based footprint only dropped by 15%. (6) This is largely because the carbon footprint includes greenhouse gas emissions released overseas to satisfy UK-based consumption for products like clothing, electronics and processed foods - emissions that would not have been produced without UK demand. The UK government has less policy levers to reduce these emissions. A reduction in working hours could play a key role in addressing these hard-to-decarbonise emissions.

This report summarises existing sector-specific and economy-wide studies and literature exploring the range of environmental benefits resulting from a four-day working week, as well as the risks of potential negative environmental impacts. We consider how a four-day working week could support a cultural paradigm shift in how we generate abundance as a society, towards more sustainable futures. The conclusion identifies policies and measures that can help deliver the environmental benefits of a four-day working week. Finally, the report's methodology appendix lays out our analysis on the potential reductions to the UK's carbon footprint.

6 https://www.wwf.org.uk/sites/default/files/2020-04/FINAL-WWF-UK_Carbon_Footprint_Analysis_Report_March_2020%20%28003%29.pdf

EXISTING ANALYSIS ON ENVIRONMENTAL BENEFITS OF A SHORTER WORKING WEEK

DIFFERENT MEANS OF CARBON REDUCTION: EVIDENCE FROM SECTOR SPECIFIC CASE STUDIES

There is an array of evidence and case studies highlighting how reducing work hours can lower carbon emissions.

- **Electricity**: studies show that a reduction in working hours generally correlates with marked reductions in energy consumption. (7) Electricity that is used in workplaces can be saved when people spend more time away from energy-intensive equipment typical to many offices. A large-scale experiment from 2008-2009 in the State of Utah in the United States shifted most public sector state employees to a four-day week, to cut costs, save energy and carbon. The experiment showed that by eliminating Fridays as a work day, huge energy savings could be made by reducing the use of office lighting, elevator operating, heating or air conditioning. (8) Additionally, research from an Autonomy report published in 2020 reviewed data from UK households' energy consumption over work days versus week-end days to conclude that a three-day week-end would reduce carbon emissions by 117 thousand tons of CO2 per week across the UK (the equivalent to removing over 1.3 million cars off the road annually). (9)

- **Commuting**: a shorter working week can slash carbon emissions by reducing carbon-intensive commuting. A study by the University of Reading (10) - drawing on interviews with over two thousand working people and business owners - highlighted that two thirds of employers already offering a four-day working week say that their employees make fewer car journeys. When considering that, amongst the 26.5 million working people aged 16 – 74 in England and Wales, over half either drive themselves to work (15.3 million) or catch a lift (1.4 million) (11), it is clear that the impact of a large-scale reduction in working time would have a knock-on effect on carbon emissions due to commuting. In rural areas, nearly three quarters (73.4%) of workers travel by car (whether as driver or passenger). This method of travel also dominates the commute in urban areas (outside of London) with 67.1% of people either driving themselves or catching a lift. Even amongst Londoners, the car is the most popular single mode of travel, used by 29.8% of workers. According to the authors of the University of Reading study, by scaling up their results to apply to the UK as a whole, a national four-day working week would reduce the number of miles driven by employees travelling to work by 558 million each week. This in turn would reduce fuel consumption and travel costs.

7 https://cepr.net/documents/publications/energy_2006_12.pdf
8 https://www.scientificamerican.com/article/four-day-workweek-energy-environment-economics-utah/
9 https://autonomy.work/wp-content/uploads/2020/03/SparkingChangev4.pdf
10 https://assets.henley.ac.uk/defaultUploads/Journalists-Regatta-2019-White-Paper-FINAL.pdf?mtime=20190703085807&_ga=2.20252415.654796667.1569365806-1896037560.1567111195
11 https://www.racfoundation.org/assets/rac_foundation/content/downloadables/car-and-the-commute-web-version.pdf

In this scenario, car mileage could reduce by as much as 9%. More than half (51%) of employees said they would drive their car less if they were to shift to a four-day working week, most commonly reducing weekly mileage by 10-19 miles. (12) Transport is the main source of emissions in the UK. Government data shows that transport was responsible for around 28% of UK greenhouse gas emissions in 2018, almost entirely through carbon dioxide emissions. The main source of emissions from this sector is the use of petrol and diesel in road transport, in particular road transport through passenger cars. (13) Less time spent in traffic does not only have environmental benefits due to lower fuel use - research shows it is also good for mental (14) and physical health. (15) Less carbon-intensive commuting leads to less air pollution for instance, which causes almost 64,000 early deaths in the UK every year. (16)

- **Household consumption:** A number of studies have assessed the impact of different working hours on individual household consumption and energy intensive behaviours. (17) A US study combined calculations of carbon intensity of goods with spending data - finding strong evidence that households with longer work hours have significantly larger carbon footprints. (18) In the University of Reading study, when asked how they would use the extra day off, over two thirds of respondents said they would spend more time with their family and friends, over half said they would do more home-cooking and a quarter said they would engage in local volunteering, for instance. (19) These examples highlight how providing more time to people can enable them to make more space in their life for satisfaction that does not generate much carbon emissions. Households could prepare homemade food instead of consuming energy-intensive ready-meals, and walk or cycle instead of drive. (20) This holds true even when controlling for income: surveys of French household expenses showed that those working longer hours have more environmentally damaging patterns of consumption. (21)

12 https://theconversation.com/work-less-to-save-the-planet-how-to-make-sure-a-four-day-week-actually- cuts-emissions-124326
13 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/86288 7/2018_Final_greenhouse_gas_emissions_statistical_release.pdf p.14
14 https://link.springer.com/article/10.1007/s11116-017-9766-2
15 https://www.sciencedirect.com/science/article/pii/S0160412017318263
16 https://platformlondon.org/wp-content/uploads/2021/04/PLATFORM_LEAP-POLICY-DOCR2.pdf p.8
17 E.g. https://www.researchgate.net/publication/271506702_21_Hours_Why_a_Shorter_Working_Week_Can_Help_Us_All_to_Flourish_in_the_21st_Century
18 https://www.tandfonline.com/doi/abs/10.1080/09538259.2019.1592950
19 https://assets.henley.ac.uk/defaultUploads/Journalists-Regatta-2019-White-Paper-FINAL.pdf?mtime=20190703085807&_ga=2.20252415.654796667.1569365806-1896037560.1567111195 p.8
20 https://www.researchgate.net/publication/223228448_A_time_use_perspective_on_the_materials_intensity_of_consumption
21 https://www.tandfonline.com/doi/abs/10.1080/00346764.2011.563507

- **A shift towards low-carbon activities:** The creation of more free time outside of work creates the possibility for a society-wide movement towards low-carbon 'soft' activities. (22) These include reading and playing, exercising, spending time with the family, relaxing, and investing in personal education, amongst other things. Reviewing the impact of the work time reduction to a 35 hour work week in France has highlighted clear trends towards more domestic and lower carbon activities such as rest, and spending time with family. (23) The introduction of the French national measure quickly contributed to the emergence of new daily routines for workers. (24) People did not use their free time to consume more, but instead to draw more value and wellbeing from their time at home and with their relatives.

- **Indirect impact on emissions through health benefits:** With a three-day weekend, there are more opportunities for workers to exercise, spend time outdoors or do other things that improve their physical and mental health. (25) The health benefits of a shorter working week have been well documented for the UK economy (26) and could lower demand for carbon-intensive health services and pharmaceuticals. According to a study from the University of Adelaide in Australia, a key way to reduce carbon emissions from the health system is to reduce the need for patients to access healthcare. (27) In the UK, data from 2019 showed that the largest share of the NHS's carbon emissions were by far from the supply chain (62%), followed by delivery of care (24%), and travel to and from healthcare sites by patients and visitors and staff commuting. (28)

ECONOMY WIDE EVIDENCE

Beyond the evidence drawn from particular sector or local studies, international studies show quantitative correlations between long work hours and environmentally harmful consumption patterns on one hand, and shorter working hours and more sustainable practices on the other. (29)

High working hours encourage energy-intensive consumption of goods and services. Examples include the buying of ready-made meals, weekend vacations, household equipment, and van-delivered items bought online when there is too little time to go shopping locally. The ecological damage of daily consumption in the UK does not only translate into carbon emissions within the UK. Our consumption also fuels the production of goods and services from abroad that would not be produced without UK demand yet generate significant emissions and pollution elsewhere. This type of ecological damage is registered by the carbon footprint, which is a key variable to reduce in a global effort against climate change.

22 https://www.mdpi.com/2071-1050/5/4/1545 p.1560
23 https://www.tandfonline.com/doi/pdf/10.1080/15487733.2005.11907964?needAccess=true p.51
24 https://www.tandfonline.com/doi/pdf/10.1080/15487733.2005.11907964?needAccess=true p.50
25 https://www.tandfonline.com/doi/abs/10.1080/17439760.2017.1374436?journalCode=rpos20
26 http://autonomy.work/wp-content/uploads/2019/01/Shorter-working-week-final.pdf p.33-47
27 https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30177-8/fulltext
28 https://www.thelancet.com/action/showPdf?pii=S2542-5196%2820%2930271-0 p.87
29 https://www.bbc.com/worklife/article/20190802-how-shorter-workweeks-could-save-earth

The Center for Economic and Policy Research published “Are Shorter Work Hours Good for the Environment?” in 2006, comparing work hours and energy use between a range of European countries and the USA. The authors David Rosnick and Mark Weisbrot found that if the US took advantage of its high level of productivity by shortening the work week or taking longer vacations, it would gain a number of environmental benefits. If the US adjusted to (then) EU-15 practices in working time, its energy consumption could be reduced by as much as 20%. Its 2002 carbon emissions would have fallen to 3% below those in 1990, approaching the Kyoto target. In contrast, if the EU adapted to US working hours and gave up their shorter workweeks and longer vacations, the EU would consume an additional 25% more energy. (30)

A Swedish study from 2015 quantified a relationship between working hours and carbon emissions, using a microlevel analysis of time use and consumption patterns of Swedish households to estimate the effects on changing income and availability of leisure time. In “Would shorter working time reduce greenhouse gas emissions?”, Jonas Nässén and Jörgen Larsson found that a 1% decrease in working hours may reduce energy use by 0.7% and greenhouse gas emissions by 0.8%, using data from Swedish households. The paper sets out the potential for gradual reduction towards a 30-hour working week to result in significantly slower growth of energy demand. This paper did not factor in maintaining pay levels despite a reduced working week, so the environmental benefits would largely be due to lower income. (31)

A 2012 study from the Political Economy Research Institute at the University of Massachusetts Amherst used a cross-national panel of 29 OECD countries over the years 1970-2007 to show a clear relationship between lower hours of work and reduced ecological footprints, carbon footprints and carbon emissions. (32) The authors of the research identified working time as a pivotal variable defining the consumption patterns within a given economy. By analysing cross-national variation in working hours over 37 years, the paper is able to predict impacts on the national ecological footprint, the carbon footprint and carbon dioxide emissions. It predicts that a 10% reduction in working hours will have a ‘scale effect’ of reducing the ecological footprint by 12.1%, the carbon footprint by 14.6% and the carbon emissions by 4.2%. It will also have a ‘compositional effect’ of reducing the ecological footprint by 4.9% and the carbon footprint by 8.6%. The ‘compositional effect’ on carbon emissions is not statistically significant.

The ‘compositional effect’ assumes that while overall working hours decrease, GDP remains constant. The ‘scale effect’ assumes that GDP shrinks alongside the reduction in working hours. The compositional effect is thus more reflective of a shorter working week without loss of income. Households have both income and time budgets and they take both into account when making decisions. This means that households with less time will choose time-saving activities and products that are often more carbon-intensive, such as faster transportation. In contrast, households with more time have more agency to choose lower-carbon activities and products

30 https://cepr.net/documents/publications/energy_2006_12.pdf p.7
31 https://journals.sagepub.com/doi/abs/10.1068/c12239
32 https://www.peri.umass.edu/publication/item/503-reducing-growth-to-achieve-environmental-sustainability-the-role-of-work-hours-thomas-weisskopf-festschrift-conference-paper

The authors of the University of Massachusetts Amherst research use their quantitative findings to conclude that greater environmental changes can be achieved by reducing GDP alongside working hours: "*In a market economy without mechanisms to reduce hours, productivity growth is translated into GDP growth, which in turn is converted into income and consumption. [...] Labor market outcomes such as working time are a key factor in the dynamics of spending, and indeed, the operation of a consumer culture. When "work and spend" prevails, advertising and marketing are more effective and competitive consumption is more pronounced. Furthermore, this path leads to higher environmental impact, because productivity growth is converted into environmentally degrading production and consumption.*" (33)

Lastly, in 2018 a study published by Boston College University used model estimation techniques to review US data over 6 years. The authors of "Working Hours and Carbon Dioxide Emissions in the United States, 2007–2013" concluded that state-level carbon emissions and average working hours had a strong, positive relationship, which holds across a variety of political, economic, and demographic drivers of emissions. Most importantly, the positive relationship established between higher working hours and higher carbon emissions held true even when controlling for GDP growth, adding weight to the evidence on the compositional effect of shorter working hours. (34) These results support the idea that shorter working hours do not only contribute to lower emissions through lower levels of production across the economy, but also through time-affluence enabling less carbon-intensive lifestyles at the household level. In the authors' words "*working time reduction may represent a multiple dividend policy, contributing to enhanced quality of life and lower unemployment as well as emissions mitigation*". (35)

ENVIRONMENTAL RISKS OF A SHORTER WORKING WEEK

A thorough review of the environmental consequences of reduced working hours must also consider the potential for more leisure time to lead to greater consumption of carbon-intensive goods and services.

For instance, if people were to use their three-day weekends to take more flights for short holidays, driving far away to do more shopping or even stay at home watching TV with high consumption of heating or air-conditioning, the three day weekend could actually be harmful to the environment. (36) A 2013 study "'Friday off': Reducing Working Hours in Europe" concluded that the positive impacts of a reduction in work hours also depend on the 'social multiplier' effect of the policy and the coordination between workers on common days off. For instance, if reduction of work hours is implemented as a general Friday off, it is more likely that people can coordinate convivial free time and that society will culturally re-organise towards different consumption habits, than if the reduction in hours is allocated randomly across different firms and sectors. (37)

33 https://www.peri.umass.edu/publication/item/503-reducing-growth-to-achieve-environmental-sustainability-the-role-of-work-hours-thomas-weisskopf-festschrift-conference-paper p.5-6
34 https://dlib.bc.edu/islandora/object/bc-ir:108204/datastream/PDF/view p.24
35 https://dlib.bc.edu/islandora/object/bc-ir:108204/datastream/PDF/view
36 https://www.sciencedirect.com/science/article/abs/pii/S0959652617301300
37 https://www.mdpi.com/2071-1050/5/4/1545/htm p.1562

Additionally, if work hours are reduced for individual employees but there is no change in the overall hours and days that offices or shops are open, then reduced working hours would likely lead to more employees being hired by companies to ensure the work is done. Depending on how working hours are structured (e.g. if workers are expected to work half days rather than full days), this could lead to higher levels of overall commuting. (38)

Lastly, depending on the sector, it is possible that reduced working hours could lead to employers compensating for the tightening of their workforce availability by increasing the use of automated equipment. This could lead to greater energy consumption - although decarbonisation of electricity generation can reduce the potential negative consequences.

The potential negative environmental impacts can be reduced through complementary policies that will encourage additional leisure time away from resource-intensive or environmentally harmful consumption. According to the authors of "'Friday off': Reducing Working Hours in Europe", achieving the positive effects of a work hour reduction would benefit from stronger union bargaining power and from social policies that influence how people use their additional free time and how firms respond to the new limits on work hours. (39) To ensure that shorter working hours deliver environmental benefits and lower carbon emissions, accompanying structural policies should promote a large-scale shift from high carbon consumption towards a more convivial, lower-carbon society. Relevant policy recommendations are laid out in the conclusion.

POTENTIAL OF A CULTURAL PARADIGM SHIFT IN HOW WE SPEND TIME

One of the few positive outcomes from the Covid-19 pandemic has been that many people have become more conscious of their carbon footprints and the impact of our consumption model on the environment. In April 2020, a poll by Ipsos found that 71% of people in 14 countries felt that climate change was as serious a crisis as the pandemic. (40) In July 2020, a survey by green energy provider Bulb found that more than a third of the UK public lived more sustainably during lockdown. (41) The changes induced by spending more time at home included buying fewer clothes, walking more and buying local groceries. Other shifts reported by Bulb included being more mindful of energy use at home and recycling more. Meanwhile, a US survey conducted by the Boston Consulting Group (42) at the same time found that 70% of people were more aware of their environmental impacts than before. (43) This shift in collective consciousness indicates that changing where and how workers spend their time could empower some people with extra mental space to keep aligning their lifestyle to their growing environmental awareness.

38 https://www.mdpi.com/2071-1050/5/4/1545/htm p.1559
39 https://www.mdpi.com/2071-1050/5/4/1545/htm p.1563-64
40 https://www.ipsos.com/en/two-thirds-citizens-around-world-agree-climate-change-serious-crisis-coronavirus#:~:text=A%20new%20Ipsos%20poll%20conducted,crisis%20as%20Covid-19%20is.
41 https://bulb.co.uk/blog/how-lockdown-made-us-more-conscious-of-our-impact-on-the-planet?utm_medium=affiliate&utm_source=IR&clickid=03G1TQWA8xyLWOVwUx0Mo3EOUkB0ap1FDW CSys0&irgwc=1&dclid=CODzv76JnvACFUUO0wodGMkALw
42 https://www.bcg.com/publications/2020/pandemic-is-heightening-environmental-awareness
43 https://www.independent.co.uk/climate-change/sustainable-living/covid-lockdown-sustainable-fashion-climate-b1819664.html

There is growing agreement among scientists that moving towards a more environmentally sustainable economy requires an urgent move away from our extractivist and consumerist economic model. (44) That is, an economy that is centered around extracting labour and natural resources - both here in the UK and abroad - for the purpose of producing and selling goods and services in the pursuit of profit and affluence for a global minority. If we are to find other ways to sustain our lives and to generate abundance for ourselves that do not rely on over-exploiting the Earth's resources, we must change the way value is created in society. Globally renowned economists such as Kate Raworth (45), Amartya Sen (46) or Serge Latouche (47) have all insisted that a paradigm shift in what is considered 'of value' is necessary to ensure that collectively we do not overshoot our pressure on Earth's life-supporting systems, on which we fundamentally depend.

This includes a radical shift in how we value paid and unpaid work. Currently, most of the activities undertaken by the public that aim to protect or improve our connection to the environment lie in the category of 'unpaid work'. Additionally, care work - a typical low carbon activity - falls disproportionately on women and is largely unpaid. In the context of Covid-19 recovery, with care work being more important than ever and more and more people wanting to contribute to a shift in our connection to and protection of the environment, providing more space to do so could sustain a large-scale cultural shift - one that could support overall well-being across society. There is wide-ranging evidence from well-being economic literature and across various contexts in the Global North showing that activities such as socialising, exercising and volunteer work contribute more significantly to wellbeing than a high level of material consumption. (48)

Looking at a discrete example, the French government introduced in 2000 a maximum working week of 35 hours, with a slogan of 'Work less - live more'. The reform aimed to reduce unemployment and gender inequality, and to improve work/life balance. Employees gained an average of four additional hours of free time per week without salary reduction. (49) Many commentators on the reform agreed that the new work arrangements had — at least to a certain degree — accelerated a re-evaluation of non-materialist aspirations. (50) For example, in a post-implementation study by the 'Ministry of Employment and Solidarity', to the question "What would you prefer in the future?", a majority of respondents (54%) chose "earning less money" over "earning more and having less free time" (41%).

44 https://www.nature.com/articles/s41467-020-16941-y
45 https://www.kateraworth.com/doughnut/
46 https://www.unipol.it/sites/corporate/files/document_attachments/sen_2010_eng_ugf_01-01-2010_en.pdf
47 https://www.researchgate.net/publication/320132688_The_Path_to_Degrowth_for_a_Sustainable_Society
48 https://www.researchgate.net/publication/30529548_Happiness_Lessons_From_A_New_Science
49 https://www.tandfonline.com/doi/pdf/10.1080/15487733.2005.11907964?needAccess=true p.50
50 https://www.tandfonline.com/doi/pdf/10.1080/15487733.2005.11907964?needAccess=true p.51

In addition to changing the structural conditions of consumption (more time, same wages), the 35-hour week French reform actually supported, and perhaps even accelerated, a cultural shift away from a number of materialist values by opening up more mental space for self-reflexivity around consumption habits and what holds value in life. (51) For many people, consuming carbon-intensive goods and services is indeed connected to a certain amount of comfort that people seek out to balance the exhaustion that comes from engaging in work. When the level of energy invested in work lowers, a space opens up for further agency over how or whether to spend for the purpose of improving one's own wellbeing. Unsurprisingly, the vast majority of French employees who attained the 35-hour work week said that their overall quality of life improved. (52)

In the face of an escalating climate crisis, a cultural shift like the one observed in France in the early 2000s over the transition to the 35-hour work week could be important in supporting a transformed relationship between people, our communities and our natural environment - especially if it is more ambitious and radical in scope.

Mainstream economic models that national growth targets are based upon do not take into account the fact that the resources available on earth that enable life to be possible are limited. (53) In the face of this reality, it is not only discreet policies that are needed but a stark paradigm shift. Environmental grassroots movements in the UK have been calling for this shift over decades. (54) By freeing one day a week for non-work activities, it is also mental space that becomes more available. That mental space could be crucial in generating society-wide thinking and innovations towards a Just Transition.

Moving towards a shorter working week would help break the habit of living to work, working to earn, and earning to consume. People may become more attached to relationships, pastimes, communities and places that absorb less money and more time. It would help society to manage without carbon-intensive growth, because other forms of abundance are cultivated closer to home, whilst also reducing greenhouse gas emissions. (55)

In that sense a shorter working week could be framed as an investment in human capital, at a time where everyone's contribution and creativity is required to imagine tomorrow's sustainable society. Evidence from Utah - after its year-long experiment of shifting state employees to a four-day working week - showed the unexpected outcome of increased volunteering. (56) This sustains the idea that many workers want to be more involved in transforming society for the better and do so when given the chance. Reclaiming free time to foster meaningful shifts in environmental consciousness can also be found in some grassroots' call for climate strike action on a day off such as #FridaysForFuture. (57)

51 https://www.tandfonline.com/doi/pdf/10.1080/15487733.2005.11907964?needAccess=true p.52 https://ulysse.univ-lorraine.fr/discovery/fulldisplay/alma991004002049705596/33UDL_INST:UDL
52 https://journals.sagepub.com/doi/10.1177/0032329206293645
53 https://co2colonialism.org/wp-content/uploads/2019/11/Carbon-Pricing-Volume-2-Webready.pdf
54 https://platformlondon.org/wp-content/uploads/2020/06/London-Leap-values.pdf
55 https://neweconomics.org/2010/02/21-hours
56 https://www.scientificamerican.com/article/four-day-workweek-energy-environment-economics-utah/
57 https://fridaysforfuture.org/what-we-do/who-we-are/

SHORTER WORKING WEEKS AND A JUST TRANSITION?

The climate emergency calls for a fundamental overhaul of our economic system. The urgency of climate action must not drive us towards neo-extractive or more authoritarian models, and must not displace the need for a Just Transition for workers and the planet. Working people must be at the heart of reshaping and reorganising how work is structured in a zero-carbon economy, including working hours.

For those most impacted by the climate emergency to have a say in shaping a more sustainable society, work reduction policies should ensure that everyone is empowered by the benefits of having more free time. As it is those earning most that also have the biggest carbon footprints in the UK, (58) it would be unfair for that strand of population to be the only beneficiaries of the work time reduction. Those on lower incomes should not be pushed to seek additional work in their free time to meet their basic needs, or face restricted access to local facilities for low-carbon leisure. Policy shifts towards a four-day working week need to go hand in hand with a redistribution of income on the labour market and increased wages for lower-earners so that all workers have a fair and decent pay. (59) This is why unions' participation in this transition is crucial, through enhanced collective bargaining to help prevent the policy from coming at the expense of those already most impacted by socio-economic precarity.

A NOTE ON THE USE OF THE TERM: FOUR-DAY WEEK

Throughout this report, we refer to the transformative potential of the four-day working week. However, it is important to note that the arguments made also apply more generally to the principle of shorter working time with no reduction in pay, the precise models of which may vary in line with industry-specific requirements and existing variations in working patterns.

CONCLUSION AND POLICY RECOMMENDATIONS

By introducing shorter working hours, the government can accelerate climate action. Our analysis indicates that shifting to a four-day working week by 2025 could shrink the UK's annual carbon footprint by 127 tonnes of greenhouse gas emissions, address some of the hardest to decarbonise emissions from international transport and manufacturing, and reduce the outsourcing of pollution to poorer countries.

To ensure the full environmental benefits of a shorter working week are gained, the government should put in place policies that support people in building low carbon leisure time into their routines and provide the necessary infrastructures for convivial, non-wage work and play. (60) No loss of pay is an important principle in reducing work hours. However, many people in the UK are already on very low wages. We anticipate that the best way to improve economic conditions for those on the lowest pay will involve a combination of higher minimum wages, Universal Basic Income and Universal Basic Services, although the exact configuration of these policies are outside the scope of this report.

58 https://www.sciencedirect.com/science/article/pii/S0921800913000980
59 https://www.tuc.org.uk/blogs/four-day-week-decent-pay-all-its-future
60 https://www.mdpi.com/2071-1050/5/4/1545/htm p. 1560

The provision of green space, especially where it is currently lacking, is a necessary additional step. Currently, access to green space is incredibly unequal in the UK, especially along class and ethnicity lines. (61) This is why any policy to improve access to green space should prioritise populations and regions that have been disadvantaged in that regard. New planting of woods and forests to restore the environment should take place near urban centres where possible, alongside increased urban greening, pocket parks and rewilding within cities.

Policies could also promote the cultural conditions for a voluntary observance of the extra day-off, such as regulation of shopping hours or planning of festivals and public cultural, sports and community events in the new day-off. (62) Increased funding for theatres and arts can enliven the UK's cultural sector - hit hard by the pandemic - and increase public participation. Expanding (rather than cutting back) libraries, community centres and sports grounds can provide more zero-carbon activities in people's local neighbourhoods. Greater support for educational and training possibilities for adults can be combined with more free time to boost skills (including but not limited to green skills).

To support a cultural shift away from carbon-intensive consumption, policies limiting ecologically harmful advertising should also be introduced. Scientific evidence highlights that advertising indirectly causes climate and ecological degradation through its encouragement of the 'work & spend' cycle, as it leads people to place higher value on consumption of what they see advertised and lower value on having more time available for lower-carbon activities. (63)

Finally, improving public provision of free and low-carbon leisure at the local level can support a shift towards more neighbourhood-focused lifestyles with less commuting and more socialising and community building. One of the key policy recommendations coming out of a participatory process across various London grassroots groups was the provision of 'connected, thriving, green neighbourhoods' including investments in cycling, walking and disability infrastructure at the local level. (64) Improved public transport can increase spending low-carbon time with family and friends.

These are all policies that improve individual and collective well-being, health and happiness and build community cohesion. They also reduce the risk of additional free time being channelled into pollution-intensive consumption, instead encouraging and providing low carbon leisure, education and cultural activities.

61 https://policy.friendsoftheearth.uk/insight/englands-green-space-gap
62 https://www.mdpi.com/2071-1050/5/4/1545/htm p.1563
63 https://static1.squarespace.com/static/5ebd0080238e863d04911b51/t/5fbfcb1408845d09248d4e6e/1606404891491/Advertising p.11-12
64 https://platformlondon.org/wp-content/uploads/2021/04/PLATFORM_LEAP-POLICY-DOCR2.pdf p.1

APPENDIX: METHODOLOGY

1) THE UK'S CARBON FOOTPRINT

Between 1990 and 2016, territorial emissions within the UK's borders reduced by 41% but the consumption-based carbon footprint only dropped 15%, mainly due to goods and services coming from abroad. (65)

The key difference between the carbon footprint and carbon emissions is that the carbon footprint adjusts for greenhouse gases embodied in imports and exports, so that it better reflects the carbon emissions associated with a country's consumption. At 703 million tonnes in 2018, the UK's carbon footprint remained more than 1.5x the UK's territorial greenhouse gas emissions (451.5 million tonnes of CO2e), (66) largely due to the embedded emissions from imports.

These are emissions released overseas to satisfy UK-based consumption. Products including clothing, processed foods and electronics imported into the UK are counted as the manufacturing country's territorial emissions, not the UK's - although they would not have been produced were it not for UK demand. These emissions account for 46% of the UK's carbon footprint. (67)

This means that the UK is effectively outsourcing a significant proportion of its emissions to other, often poorer countries. (68)

2) THE UK'S CARBON FOOTPRINT: 2009-2025

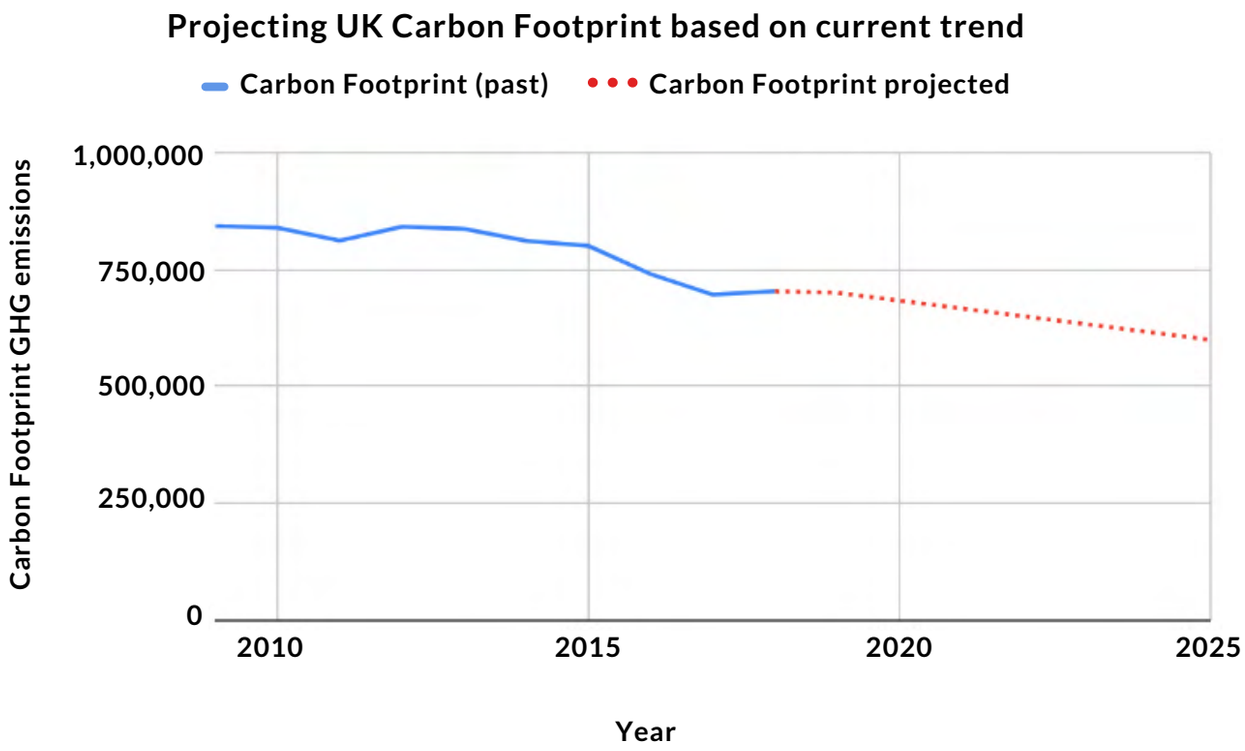
The UK government publishes official statistics of the UK's carbon footprint in tonnes of greenhouse gas emissions (tonnes of CO2e). (69) These are broken down by emissions from household direct use of fossil fuels (eg in transport and domestic heating), emissions from goods and services produced domestically, and emissions from imported goods and services. (70)

The most recent statistics (published in April 2021) cover the UK's 2018 carbon footprint, and runs back to 1997. To estimate the UK's up-to-date carbon footprint for 2021, and to project it forward to 2025 based on the existing trend, we took the government's estimates for the annual carbon footprint for the most recent ten years: 2009 - 2018.

We then ran a Least Squares Linear Regression to fit an ideal linear trend from the existing data, before extending the existing linear trend forward, to predict the UK's carbon footprint for 2019-2025.

FIGURE 2: PROJECTING THE UK'S CARBON FOOTPRINT FORWARD TO 2025

Platform London analysis on data from UK Department for Environment, Food & Rural Affairs



3) TRANSITION FROM CURRENT UK AVERAGE WORKING TIME TO A FOUR-DAY WEEK

A range of data exist for current UK working hours. We used official data provided by the UK government data to Eurostat, for "Hours worked per week of full-time employment". (71) This is based on official government surveys with workers. The average number of weekly hours corresponds to the number of hours the person normally works. This covers all hours including extra hours, either paid or unpaid, which the person normally works. It excludes the travel time between the home and the place of work as well as the main meal breaks (normally taken at midday).

65 https://www.wwf.org.uk/updates/uks-carbon-footprint
66 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/862887/2018_Final_greenhouse_gas_emissions_statistical_release.pdf
67 The carbon footprint does not include emissions from UK products and services that are exported.
68 https://www.opendemocracy.net/en/oureconomy/the-uk-claims-to-be-a-world-leader-in-fighting-climate-change-its-wrong/
69 https://www.gov.uk/government/statistics/uks-carbon-footprint
70 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/979588/Defra_UK_carbon_footprint_accessible_rev2_final.pdf
71 https://ec.europa.eu/eurostat/databrowser/view/tps00071/default/table?lang=en

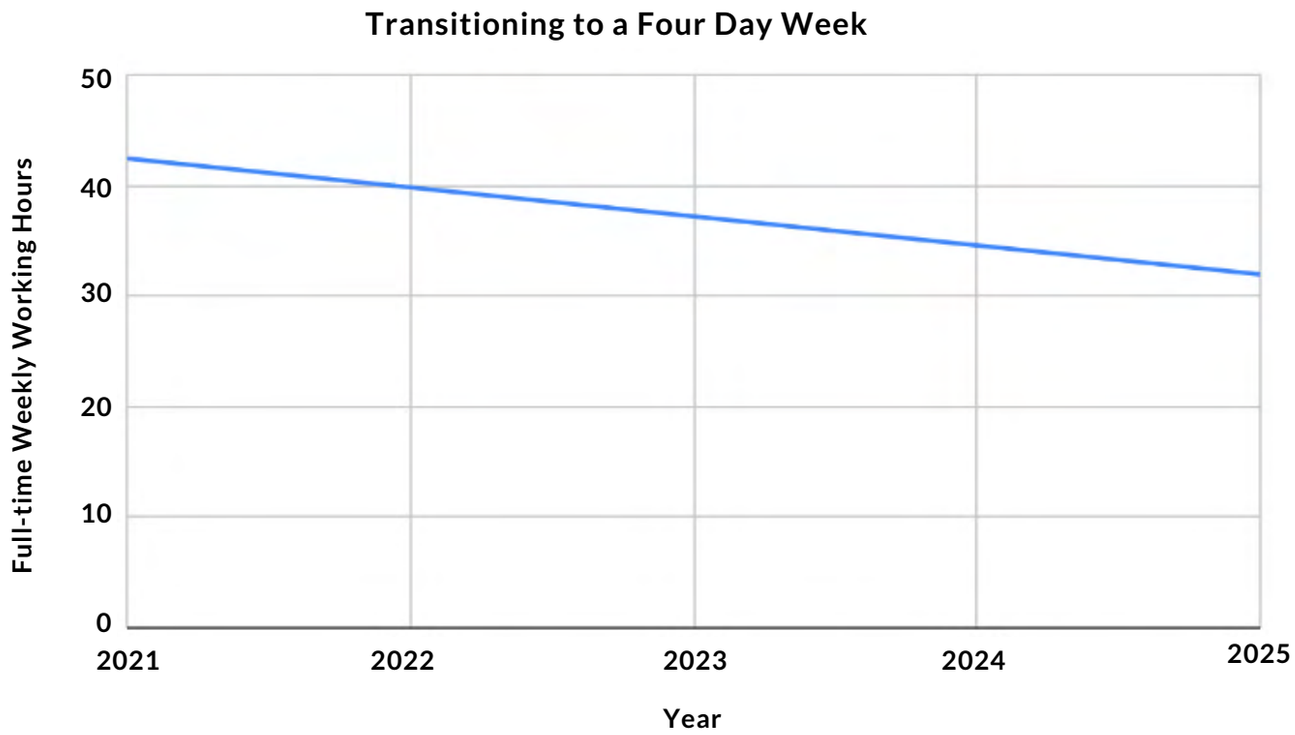
The most recent data for the UK is for 2019: 42.5 hours of work per week for a full time worker. (72) We assume that the average full time working week in 2021 remains 42.5 hours.

This analysis takes a four-day, average 32-hour working week with no reduction in pay as the target, as the goal set out by the 4 Day Week campaign. (73)

This analysis assumes that it will take four years to transition the UK from an average 42.5 full-time working week in 2021 to an average 32 hour full-time working week in 2025. Assuming that the annual reduction in working hours is evenly spread across the four years, that represents an annual reduction of 2.625 hours.

FIGURE 3: TRANSITIONING FROM THE 2021 FULL-TIME WORKING WEEK TO A FOUR-DAY WORKING WEEK IN 2025

Platform London projection on data from Eurostat



72 https://ec.europa.eu/eurostat/databrowser/view/tps00071/default/table?lang=en
73 https://www.4dayweek.co.uk/why

4) GENERAL IMPACT ON CARBON FOOTPRINT BY REDUCING AVERAGE WORK HOURS

A 2012 study by the Political Economy Research Institute at the University of Massachusetts Amherst found that a reduction in working hours tended to reduce the carbon footprint as well as the ecological footprint and territorial carbon emissions. (74)

The paper "Reducing Growth to Achieve Environmental Sustainability: The Role of Work Hours" used data spanning the years 1970 to 2007 from 29 OECD member nations classified as high-income by the World Bank. By analysing cross-national variation in working hours over 37 years, they were able to determine if longer work hours result in less sustainable consumption patterns.

The impacts of work patterns on household consumption are represented through the 'compositional effect'. To test the compositional effect, the authors estimated the effect of work hours, net of GDP per capita and other control variables, on their three dependent variables. They found that work hours had a significant and positive impact in reducing the ecological footprint and the carbon footprint, but the impact on territorial carbon emissions was not statistically significant. This is assumed to be the case as territorial carbon emissions are production-based whereas the ecological footprint and carbon footprint are consumption-based.

The paper predicts that a reduction in working hours by 10% will have a 'compositional effect' of reducing the ecological footprint by 4.9% and the carbon footprint by 8.6%.

The 'compositional effect' assumes that while overall working hours decrease, GDP remains constant. This makes it a useful coefficient to represent a reduction in working hours with no loss in pay.

5) CALCULATING THE IMPACT ON THE UK'S CARBON FOOTPRINT FROM A GRADUAL REDUCTION IN WORKING HOURS TO A FOUR-DAY WEEK BY 2025

Our analysis uses the compositional effect coefficient on the carbon footprint cited in the PERI-Amherst paper above - that a 10% reduction in hours will reduce the carbon footprint by 8.6%.

We combine this compositional effect with the projected reduction in working hours from a transition to a four-day week by 2025 from (3) above, and with the projected existing trend for the UK carbon footprint in 2022-2025 from (2) above.

74 https://www.peri.umass.edu/publication/item/503-reducing-growth-to-achieve-environmental-sustainability-the-role-of-work-hours-thomas-weisskopf-festschrift-conference-paper

TABLE 1: SUMMARY OF ANALYSIS

Platform London analysis on data from UK Department for Environment, Food & Rural Affairs, Eurostat, Political Economy Research Institute / University of Massachusetts Amherst

	2021	2022	2023	2024	2025
Existing Carbon Footprint GHG trend (tonnes CO2e)	666,415	649,673	632,930	616,188	599,445
Average full-time Weekly Working Hours	42.5	39.875	37.25	34.625	32
% Reduction in Carbon Footprint	0.00%	5.31%	10.62%	15.94%	21.25%
Carbon Footprint GHG with shorter work week (tonnes CO2e)	666,415	615,164	565,691	517,996	472,081
Reduction in Carbon Footprint GHG emissions with shorter hours)tonnes CO2e)	0	34,509	67,240	98,191	127,364

FIGURE 1: REDUCED CARBON FOOTPRINT GREENHOUSE GAS EMISSIONS FROM A SHORTER WORKING WEEK

Platform London analysis on data from UK Department for Environment, Food & Rural Affairs, Eurostat, Political Economy Research Institute / University of Massachusetts Amherst