



DESIGNING WELFARE SYSTEMS FOR A 1.5° FUTURE

POLICY BRIEF



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SUMMARY FOR POLICYMAKERS

In sustainability debates, policymakers and commentators often treat social and environmental outcomes as separate, if not conflicting, objectives (Fritz & Koch, 2019; Otto & Gugushvili, 2020). This inhibits the pursuit of sustainability goals and limits efforts to increase wellbeing for all while meeting climate mitigation targets. It is thus critically important to identify synergies across welfare and climate policies and develop a joint approach to socio-ecological problems. This policy brief presents welfare policies that have been identified as potential solutions for improving equality and wellbeing while reducing carbon emissions. The list of policies was informed by an extensive literature review and expert consultation carried out within the European Horizon 2020 project “EU 1.5° Lifestyles”. Working time reduction (WTR) and universal basic services (UBS), in particular, emerged as highly desirable and feasible policy solutions. These options are fundamental for achieving the objectives of the Paris Agreement and the EU Green Deal while limiting the risks of social tensions.

Both WTR and UBS policies are highly context-specific and lead to vastly different outcomes depending on their design. This brief presents a science-based overview of each policy’s carbon-reduction possibilities and synthesises the existing academic literature on WTR and UBS’ social impacts. Research and consultations highlight how WTR can be both fair and effective if the hours and earnings for all workers are reduced, while incorporating state subsidies to make up lost income for more vulnerable workers. To effectively and fairly reduce emissions, everyone should work less but not everyone should earn less. UBS, meanwhile, are most effective when they ensure equal access, are provided in their lowest carbon footprint options, and are provisioned democratically, featuring citizens’ assemblies or similar models. For example, public housing built with a reduced carbon footprint in mind and in consultation with local citizens has a higher potential of being ecologically, politically, and economically sustainable.



THE NEED FOR JOINT APPROACHES TO WELFARE AND CLIMATE

- Effective climate policies like reducing consumption, scaling down high-emitting industries, and increasing the price of nonrenewable energy often have distributional effects that may burden vulnerable groups such as low-income households, low-skilled workers, agricultural workers, and rural populations, amongst others. This relationship exacerbates political polarisation and societal division, and can increase energy poverty. A climate-welfare tradeoff emphasises existing contrasts between fulfilling human needs and reducing environmental pressures instead of identifying mutually beneficial solutions. Failing to integrate climate and social policy also ignores the reality that a healthy environment is vital to the long-term health of society. Put differently, **well-designed welfare policies are fundamental enablers for the transformations sought by the Paris Agreement and the EU Green Deal.**
- Welfare policies that reduce top incomes also have positive climate impacts. High-income groups are responsible for a significantly higher share of household consumption emissions than the rest of the population (UNEP, 2020; Oxfam, 2020). The top 10% of emitters in the EU emit 41% of all emissions, and more than the bottom 50% of emitters combined (Chancel, 2022). **Combating inequality is environmentally beneficial.**
- This policy brief introduces six welfare policies (job guarantees, income ceilings, working time reduction, free public transport, building renovation programs, and universal basic services) that are vital to climate mitigation. The Delphi process conducted as a part of **the EU 1.5° Lifestyles project assessed each policy's desirability and feasibility in the short and medium term (2025 to 2050).**
- **Working Time Reduction (WTR)** and **Universal Basic Services (UBS)** emerged as the most favoured policies by the experts. These, however, can lead to different outcomes depending on their design, calling for a science-based proposal to their definition and implementation.

POLICY RECOMMENDATIONS:

Implement policies at the national or sectoral level that uniformly reduce working hours.

- The low share of emissions by low-income groups, the lower carbon intensity of their activities, and the need to preserve income to protect wellbeing, suggest that income reductions from WTR policies should be proportionally allocated, with higher reductions for high income groups.
- To accomplish this, sectoral or national WTR policies should feature three-way cost sharing between the state, employees, and employers, and include additional state



subsidies to protect earnings for low-income workers.

- State representatives or unions may also negotiate sectoral bargaining agreements that reduce work hours in the highest emitting industries.

Expand existing social services into a Universal Basic Services framework, guaranteeing affordable universal access to healthcare, childcare, transport, public housing, telecommunication, energy, and education.

- Guaranteeing basic needs will reduce social tensions, and potentially political pushback to the green transition, generated by climate crises and economic disruption.

- Democratically provisioned services, like public housing, can reduce emissions by mandating stricter environmental standards and prioritising sustainable materials.

- Investing in the care economy by expanding the supply of healthcare and childcare services, for example, will create new low-carbon jobs and likely shift existing workers into more environmentally sustainable care work.

THE SCIENCE BEHIND THE RECOMMENDATION

WELFARE POLICIES AND CLIMATE MITIGATION

Achieving the 1.5-degree target set by the Paris Agreement implies curbing carbon emissions from human activities within the remaining global carbon budget. For the EU27, this requires a reduction of household carbon footprints by almost 70% from 2015 levels by 2030 and over 90% by 2050. The scale and speed of this reduction will require significant societal transformation. Effective welfare policies can help soothe associated social tensions.

Several welfare policies can support the transition to a 1.5° society. These options aim to promote wellbeing, resilience, and equity while addressing the challenges posed by climate change. In this brief, welfare policies are classified as **labour policies**, touching on aspects of right to work, income, and working time, and **public services**, focusing on public provisioning of quality services for meeting basic needs for all. The EU 1.5° Lifestyles project featured early consultation with policy experts, i.e. Delphi process, from five of the EU member states: Germany, Hungary, Latvia, Spain and Sweden. The following policy suggestions emerged from those discussions.



Labour policies

Prominent labour policies highlighted during the consultation and featured widely in literature surrounding the green transition include job guarantees, income ceilings, and working time reduction.

Job guarantees refer to permanent programs with the primary objective to ensure job opportunities at a living wage for all (Tcherneva, 2019; Alcott, 2013). By encouraging high-quality, well-paid jobs, these programs have the potential to address unemployment and low-paying jobs, thereby reducing poverty while promoting social inclusion and income equality. To generate social and environmental benefits, job guarantee programs can prioritise job opportunities for women, low-income, and low-skill groups in sectors of low-carbon intensities that support environmental and climate goals.

The implementation of **income ceilings** as maximum income caps or income ratios can promote a more equal society and foster social cohesion (Khan et al., 2022). Considering the existing correlation of income and carbon emissions, income ceilings for high-income earners can reduce carbon footprints from luxury consumption.

Working time reduction is often discussed as a tool to reduce unemployment and reduce environmental impacts (Antal et al., 2020; Gunderson, 2019; King & van den Bergh, 2017). This is done by breaking the cycle of working to earn to consume, enabling a better work-life balance, and freeing up time for childcare and personal care, or for voluntary work.

Public services

A rapid and comprehensive transition to an ecologically sustainable economy will generate significant socioeconomic disruption. This disruption, either in the form of reduced consumption, diminishing employment in unsustainable industries, or rising social tensions, has the potential to disproportionately threaten the most vulnerable members of society. Social services have a critical role to play in ensuring the green transition is fair, equitable, and prosperous. Some of the most-discussed policies for provisioning public services in recent scientific literature and policy documents include free public transport, renovation programs for energy-inefficient buildings, and the development of UBS.

Private car use is the largest contributor to per-capita carbon emissions from transport in most countries (Akenji et al., 2021). The provision of **free public transport** can contribute to reducing carbon footprints, traffic congestion, and improve air quality and road safety (Štraub & Jaroš, 2019). Implementing free public transport requires careful planning to ensure it is financially sustainable and tailored to the community's needs.

Residential heating and cooling is an important contributor to household carbon footprints. The implementation of a public **renovation program for energy-inefficient buildings** is a viable solution for reducing climate impact from housing (Kirby, 2022). Such a program could involve government funding and technical support to enhance the energy efficiency



of buildings, upgrade safety features, and modernise their design to align with current standards. The renovation of existing buildings also contributes to avoiding emissions and other impacts from new constructions and reduces the financial impact of energy bills with particular relevance to low-income households.

Universal basic services is a proposal to meet fundamental needs for all within environmental limits (Coote, 2023). Today, basic services such as food, housing, and healthcare, are unequally distributed with certain segments of the population having insufficient access to them. UBS approaches envisage that these services would be provided by public or collective institutions, ensuring access at no cost for all. While the social benefits of UBS are immediately evident, the reduction of climate change impacts resulting from UBS derives from ensuring that services are provided via low-carbon options.

SELECTED POLICIES IN DETAIL

A rapid transition to an ecologically sustainable society must reduce consumption among the rich without sacrificing equity or the wellbeing of millions of low-income people. Accordingly, the policy experts consulted for the project narrowed their list to two policies that, combined, have the potential to reduce ecological footprints without sacrificing basic needs. The first policy, **working time reduction**, would reduce consumption by reducing income and shifting individuals' time from work to leisure. The second policy, expanding existing welfare states to create **universal basic services**, would guarantee high levels of wellbeing for marginalised communities and workers with reduced incomes while allowing states to decarbonize portions of their economy. Taken together, working time reduction and universal basic services provide a blueprint for societies to confront the climate crisis while increasing shared prosperity. Just as importantly, the experts judged it feasible for both policies to be implemented by 2030.

Working Time Reduction

WTR policies have the potential to lower consumption levels by decreasing income and changing lifestyles, significantly reducing ecological footprints. The social and ecological effects of WTR, however, are not fully understood. Policymakers, unions, employers, and researchers, among others, have long held interest in the impact of WTR on the wellbeing, productivity, and employment rates of workers. The existing literature suggests that WTR policies can effectively improve wellbeing and reduce consumption

Working time has decreased for most of the last century around the world, and particularly in rich countries. The decline, however, has slowed in recent decades (Huberman and Minns, 2007; Feenstra et al., 2015). Among OECD countries, average annual hours worked decreased slightly from 1799 hours to 1767 hours between 2010 and 2019 before falling to



1687 hours during the pandemic and rebounding in the following two years (OECD, 2022). Proponents argue that reducing working time can reduce unemployment, promote employee health, happiness, and productivity, and redistribute unpaid care work. Critics note that reductions can increase unit costs for firms, resulting in higher prices and lower investment, as well as reducing incomes and increasing precarity for workers (De Spiegelaere, S., and Piasna, A., 2017).

In their review of the existing literature on WTR schemes, the European Trade Union Initiative (ETUI) concluded that most local and national experiments had mixed results in achieving their desired goals. Many voluntary reductions (initiated by employers and employees) were effective at defending against layoffs and a few, primarily in Sweden, increased employment rates. Policies that encouraged voluntary reductions at the firm or national level often featured substantial real wage decreases in return for employment protection, and increased the number of part-time workers, especially among low-income workers. Voluntary systems did little to change the balance of care work in households or the degree of overall workplace intensity. Collective reductions, such as those imposed in France, shared the costs more widely between employees, employers, and the state, and less effectively reduced unemployment but encouraged more full-time work and slight changes to gender roles. Across every example, the ETUI concluded that the success of a program depended heavily on its adaptation to local contexts including labour markets, office cultures, and gender norms (De Spiegelaere, S., and Piasna, A., 2017).

WTR policies also impact the climate. At the heart of the question surrounding the ecological impacts of WTR is whether it reduces consumption by redistributing time and income toward sustainable leisure and care, or whether workers use their additional time to engage in carbon-intensive activities like travel. Additionally, it is relevant whether ecological footprints are primarily time or income sensitive. Initiatives that fail to target WTR policies appropriately may increase the likelihood that reduced working time or income entails negative externalities like increased air travel that outweigh the initial ecological savings of reduced work and income.

There is an extensive and growing literature on the ecological dimensions of WTR. Antal et al. (2020) conducted a meta-analysis of the existing research and found that previous studies were inconclusive on the link between WTR and emissions, primarily due to the difficulty of comparing studies with widely varying methodologies. Mallinson and Cheng (2021) find a strong correlation between average work time and statewide CO₂ emissions in the U.S. This finding is supported by Fremstad et al. (2019) who calculate that working time reduction policies in the U.S. generate modest reductions in carbon emissions, though to a lesser extent.

In a longitudinal study of Swiss employees, Neubert et al. (2022) found that WTR reduced emissions-generating behaviours and increased wellbeing. Most of the reduction was driven by reduced income rather than reduced work time. Specifically, lower incomes after WTR reduced emissions through decreasing spending on clothing, downsizing living



spaces, and limiting car and air travel. Less working time, meanwhile, decreased the frequency by which employees commuted to work by car. Nässén and Larsson (2015) similarly demonstrate that, among Swedish households, a decrease in working hours of 1% reduced emissions by 0.8%. They attribute the decrease almost exclusively to reduced consumption following income decline. In contrast, Shao and Rodriguez-Labajos (2016) find that while emissions increase with working time in developed countries, the trend does not hold in developing nations where additional income is not spent on carbon-intensive leisure. Additionally, in a follow-up study, Shao and Shen (2017) zoom in on 15 wealthy European nations and find that since 2000, working time and emissions have decoupled in ways similar to developing nations.

There is growing, but not uniform, evidence that WTR policies decrease emissions primarily by reducing incomes. Simultaneously, the literature on the general macroeconomic impacts of WTR suggests that programs with the largest benefits to employee and household wellbeing are either temporary measures to prevent layoffs or schemes that only minimally reduce real wages. Within this context, policymakers should carefully navigate the competing tensions of reducing incomes in the name of the environment and preserving incomes to protect wellbeing.

Universal Basic Services

UBS are state and collectively provisioned services that satisfy all basic needs, for everyone. From its first theorization, UBS has defined human needs broadly, as the “participation, health and critical autonomy” (Doyal and Gough, 1991) and “affiliation, bodily integrity and practical reason” (Nussbaum, 2000) of every member of society. Building UBS implies scaling up existing welfare states to provide clean air and water, nutrition, child and healthcare, education, housing, energy, security, transit, and digital communication, among others. UBS also reorients how welfare states provide their services. Instead of framing services as gifts granted by privileged leaders to a needy few, UBS prioritises democratic dialogue that allows community members to appropriately influence what services are provided and how. Importantly, UBS also recognizes that a fundamental human need is a sustainable ecosystem. UBS does not provide for general welfare at the cost of a thriving planet, but instead centers climate action in the design of public services to ground political-economic decisions within the realities of the biosphere (Coote, 2023).

UBS should be provisioned largely, but not exclusively, by a democratically accountable state. In addition to directly providing services, central and local governments must ensure equal rights of access across socio-economic groups, set and enforce standards and obligations through social licensing, collect and invest necessary funds, and encourage diverse models of provisioning in response to different local contexts. The state should partner with a diverse range of civil society groups, including unions, cooperatives, nonprofits, and citizen organisations, to maximise legitimacy and effectiveness (Coote,



2023).

Many countries and municipalities already deploy services in line with UBS principles like universality, devolved decision making, and decommodification. The Norwegian government provides continuous childcare from age one to six for all its citizens. It combines “a legal guarantee to a place for all children with fees that are both low overall and income-related” (Ellingsaeter, 2014: 53-76). Private firms provide additional childcare coverage without detracting from the public system because the state still covers a high proportion of childcare costs, caps fees on private coverage, imposes tight regulations on staff qualifications, limits profit to what is “reasonable”, and ensures that parents sit on kindergarten boards (Coote, 2023). Publicly provisioned and universal childcare is an important example of UBS’ potential to effectively promote wellbeing while respecting ecological limits. Looking at healthcare more generally provides insight into the climate benefits of UBS. Significantly privatised healthcare systems (when measured through private share of healthcare spending) like the United States, United Kingdom, and Australia less comprehensively meet the basic needs of children and families (OECD, 2020) and have larger carbon footprints than predominantly public systems (Pichler et al., 2019). Expanding childcare services additionally has the potential to reduce emissions by generating a substantial number of low-carbon jobs (Isser, 2019).

UBS should also provide safe, inter-connected, frequent, reliable and adequately funded public transport along with walking and cycling paths. Public transport’s climate benefits are clear. Taking public transportation in the United States reduces CO₂ emissions by 45% compared to driving an average-emitting car alone (Pei, 2021). The United Nations estimates that shifting from cars to public transportation can reduce up to 2.2 tons of carbon emissions annually per individual and living car-free reduces annual carbon footprints by up to 3.6 tons (United Nations). Worldwide, buses and trains emit over 2 times fewer emissions on average than cars (International Energy Agency, 2019). Framing low-carbon transport as a universal and necessary service would enable it to be genuinely useful to as many people as possible and result in a virtuous cycle of widespread adoption.

KEY TAKEAWAYS

In conclusion, policymakers should consider the potential of WTR and UBS policies to enhance wellbeing and reduce ecological footprints, but they must carefully navigate the trade-offs involved. The success of WTR programs depends on local contexts, and achieving both environmental and wellbeing goals may require nuanced approaches. UBS offer a comprehensive framework for providing essential services, aligning with democratic influence and ecological sustainability. Policymakers should prioritise UBS that promote democratic dialogue, climate action, and universal access, such as public



transport, which significantly reduces carbon emissions. Balancing wellbeing, ecological goals, and societal needs is essential, and effective policy measures can contribute to a more sustainable and equitable future.





ABOUT US

The EU 1.5° Lifestyles consortium includes ten research partners (universities, research institutes, enterprises, and NGOs) from **Germany, Finland, Hungary, Latvia, Netherlands, Spain and Sweden.**



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