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RESEARCH ARTICLE



# Navigating labor-market transitions: an eco-social policy toolbox for public employment services

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**ABSTRACT**

Current societies are heavily reliant on employment as a cornerstone of prosperity, both in terms of individuals' access to income and social security and to finance welfare states through tax revenues. At the same time, work is often linked to environmentally harmful activities and not necessarily oriented toward meeting human needs. Against this background, work emerges as a key lever for a social-ecological transformation, and public employment services (PES) as key actors in labor-market policy – an area that has largely ignored environmental objectives until now. This article contributes to the small but growing field of research on eco-social labor-market policies by developing a novel set of 15 measures for eco-social labor. These indicators are grouped into six key thematic clusters of action for PES: (1) information and consultancy; (2) eco-social retraining and qualification; (3) sustainable mobility; (4) working time distribution; (5) livelihood provisioning; and (6) ecological eligibility criteria for unemployment benefits. The proposed policy measures are PES-oriented and offer concrete options toward transformation. While the policy toolbox has been developed in the context of Austria, it can also be used as a framework for other countries.

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## Introduction

The multiple environmental crises call for a radical transformation of economic and social structures (Hirth et al. 2023). This also includes the organization and the societal role of work. Currently, much of paid work is linked to environmentally damaging activities and not necessarily focused on human well-being (Gerold, Hoffmann, and Aigner 2023). At the same time, employment fulfills a crucial function in modern welfare states. It is not only the main mechanism through which households have access to income and social security, but also a key source for financing welfare states through tax revenues (Hirvilammi 2020). Furthermore, employment is also supposed to grant social participation, inclusion, and recognition (Frayne 2015). However, to provide individuals with jobs, continuous economic growth is necessary to offset productivity gains (Antal 2014; Jackson and Victor 2011). The impracticability of combining ecological goals with economic growth on the one hand (Vogel and Hickel 2023), and the essential role of employment on the other, poses critical challenges for transforming societies toward sustainability.

Against this background, the transformation of work emerges as a key area of societal and state transformations. The necessity for shifting toward an "eco-social state" (Jakobsson, Muttarak, and Schoyen 2018; Koch and Fritz 2014; Laruffa, McGann, and Murphy 2022) or an "eco-welfare state" (Gough 2016; Hirvilammi et al. 2023) has recently received increased attention. While the critical role of work and employment in this context is regularly addressed, discussions around eco-social labor-market policies have only recently started to gain traction (Bohnenberger 2022; Laruffa, McGann, and Murphy 2022; Lee and Koch 2023; Stamm et al. 2020). Currently, European labor-market policies still focus on maintaining economic growth and full employment to secure welfare for members of society. Despite discussions around "greening" the labor market through technological solutions, most labor-market and unemployment policies neglect sustainability issues (Stamm et al. 2020).

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This article contributes to the small but growing field of research on the use of labor-market policies to promote eco-social objectives. Based on a comprehensive analysis of European policies and potential strategies outlined in key literature, we formulate an eco-social labor market-policy toolbox for Austria. The 15 measures presented comprise the following six thematic areas: (1) information and consultancy; (2) eco-social retraining and qualification; (3) sustainable mobility; (4) working time distribution; (5) livelihood provisioning; and (6) ecological eligibility criteria for unemployment benefits. The proposed measures provide practical and concrete strategies on how public employment services (PES), one of the most important state actors in the field of labor-market policy, can actively contribute to a social-ecological transformation. Although initially developed in the Austrian context, these measures can be implemented in other European countries with context-specific adjustments.

Our article is organized as follows. The second section explores the theoretical framework and literature review in the field of sustainable work and eco-social labor-market policy. The third section provides a concise overview of the materials and methods utilized and we then report our results in the fourth section through the presentation of proposed measures. Finally, we contextualize the results within a broader scope and discuss limitations and avenues for further research.

## Theoretical framework and literature review

In the following section, we first outline necessary changes to make work sustainable, drawing on current literature. We then provide an overview of previous research on eco-social welfare states, including the role of labor-market policies.

### *Moving toward "sustainable work" and "eco-social labor"*

The current organization of work in our societies is inextricably linked to environmental destruction and often fails to cater to the satisfaction of human needs (Gerold, Hoffmann, and Aigner 2023; Lee and Koch 2023). The necessary transformation of work therefore goes well beyond the creation of "green jobs" and technological fixes to decarbonize the economy (Hofbauer et al. 2023; Kreinin and Aigner 2021). In some industries, a conversion to more climate-friendly products and services is possible (Bohnenberger 2022). Other sectors need to contract or be phased out (UNDP 2015) – either because they are inherently unsustainable, such as the fossil-fuel industry or aviation, or because their contribution to society is doubtful, such as marketing or gambling (Kreinin and Aigner 2021).

This would also reflect a more profound understanding of "just transition" that is aligned toward a social-ecological transformation (Eder, Kreinin, and Wukovitsch 2023; Kreinin 2020). The concept of just transition has its roots in the trade-union movement, aiming to protect workers' livelihoods during the transition to a low-carbon economy (Stevis and Felli 2016). More recently, the concept has been adopted by a wide range of actors, which has also led to different, sometimes conflicting interpretations (Kalt 2021). While eco-modernist strands promote the creation of green jobs within a green economy, approaches oriented toward environmental justice advocate for more systemic changes, also in the context of persistent colonial structures (Eder, Kreinin, and Wukovitsch 2023; Kreinin 2020).

As jobs in production tend to be more energy intensive than in the service sector, structural changes from the former to the latter would lower environmental impacts (Hardt et al. 2020). Shifting the occupational composition toward more labor-intensive jobs in the service sector could also counteract negative employment effects that result from low or negative growth rates (Jackson and Victor 2011). As these changes are insufficient to achieve environmental goals, it is also necessary to reduce overall levels of production and consumption (Hardt et al. 2020).

Implementing reductions in working hours can mitigate job losses as reduced volumes of work, especially in industries to be contracted or phased out, could be shared among more people. Shorter working hours would also facilitate more sustainable lifestyles, as many climate-friendly activities are relatively time-intensive (Knight, Rosa, and Schor 2013). Positive environmental effects can also be expected if working time reductions go along with lower incomes (Nässén and Larsson 2015). One form of consumption that is directly linked to being employed is commuting (Gerold, Hoffmann, and Aigner 2023). In Austria, 60% of commutes are done by automobile, and 39% of the car-kilometers driven on working days are for commuting to work (VCÖ 2020). Incentives for using more sustainable forms of transport could reduce emissions from commuting.

The structural change toward climate-friendly occupations requires large-scale retraining and qualification programs (Bohnenberger 2022; Ding and Hirvilammi 2024; Kreinin and Latif 2022). Information and access to such programs should be available both to young persons before entering the labor market as well as to those currently employed in unsustainable occupations. Such initiatives could address skill shortages in the care sector and promote gender balance

in the workforce (OECD 2019; Scheffler and Arnold 2019). In Austria, only about 19% of healthcare professions (other than physicians) and 3% of childcare workers are male (Statistik Austria 2023a, 2023b). Retraining toward care and service sectors can also provide alternative employment opportunities for workers in carbon-intensive industries (Hardt et al. 2020). While potentially requiring wider cultural change for acceptance, employment in the care sector can provide meaningful activities that are crucial to enhancing public welfare.

The distribution of paid and unpaid work still follows a highly gendered pattern (Gershuny 2018). Women, who perform the majority of unpaid tasks, face various disadvantages. To address the effects of lower income, pensions, social status, and financial independence, a more equitable distribution of paid and unpaid work is necessary, alongside other measures to reduce income inequality (Bohnenberger 2022; Dukelow and Murphy 2022). This should also go hand in hand with a revaluation of the important and often hidden role of unpaid reproductive work (Barca 2020; Biesecker and Hofmeister 2010).

To reduce overall dependency on wage income, especially if people work in jobs that are unsustainable, health endangering, or perceived as meaningless, it is important to provide alternative sources of income and provisioning (Gerold, Hoffmann, and Aigner 2023). Additional emphasis should be placed on strengthening workers' rights under labor law, particularly if they want to leave climate-damaging jobs. Furthermore, providing sufficient opportunities for individuals to engage in sustainable activities, also outside the job market, is essential (Bohnenberger 2022; Littig 2018).

The preceding literature overview on the necessary changes in the area of work provides the basis for our understanding of "eco-social labor." In this article, we define eco-social labor as work that: (1) facilitates self-determined sustainable lifestyles (including fair remuneration); (2) enables individuals to pursue needs-oriented and environmentally friendly activities (both in terms of the production process and the product/service provided); (3) recognizes and includes unpaid forms of labor; and (4) facilitates a redistribution of paid and unpaid work, especially between genders.

## Eco-social welfare states and labor-market policy

After having summarized key points in the literature on work, employment, and the social-ecological transformation, we shift our focus to discussions in the realm of sustainable welfare and eco-social policy.

Given mounting evidence that green growth, at a scale needed to avoid societal and environmental catastrophe, is not realistic (Haberl et al. 2020; Hickel and Kallis 2020; Vogel and Hickel 2023), several authors have stressed the need for developing post-growth welfare solutions (Koch 2022, 2020). Current welfare systems are largely reliant on economic growth, and labor-market policy aiming for full employment plays a crucial role in this relationship. Economic growth often leads to increased employment rates, consequently reducing the necessity for public spending, such as unemployment benefits. At the same time, high employment rates increase tax revenues and therefore the scope for funding public services (Hirvilammi 2020). This is bolstered by a wage-earning culture in which commodified labor and the satisfaction of human needs by private consumption are normalized, prioritized, and serve as a prerequisite for social participation (Dermine and Dumont 2022; Fitzpatrick 1998; Gerold, Hoffmann, and Aigner 2023).

Overcoming the growth dependence of welfare states is thus closely linked to the transformation of work. This requires far-reaching changes that go beyond state policies within the scope of the "environmental state." The "environmental state" has been defined in relation to governments' continued emphasis on (green) economic growth, with techno-fix or ecological modernization solutions proposed as a way to achieve sustainability (Duit, Feindt, and Meadowcroft 2016). While governments have increasingly begun to adopt policies aimed at addressing environmental concerns, there is a "glass ceiling" to more transformative action due to the limitations of states' own structural constraints, including the economic growth imperative (Douglas 2020; Hausknost 2020). To overcome the limitations of the "environmental state" – in other words, moving toward sustainable welfare without growth – scholars have emphasized the necessity for an "eco-social state" (Dukelow and Murphy 2022; Koch 2020).

Public employment services (PES) are key actors in the field of labor-market policy. As either government-run or government-sponsored agencies, they are tasked with connecting jobseekers with employers through information, placement, and active support services. PES play a crucial role in promoting employment opportunities, alleviating skills shortages and integrating individuals into the labor market. While PES in Europe have recently begun to address sustainability concerns in work and production, these discussions and strategies largely follow the logics of the "environmental state." As Stamm (2020, 43) notes, "[t]he vast majority of labor market and unemployment policies are still widely unaffected by any discussion of an integrative

sustainability or ecosocial transformation in Europe." Instead, the focus is on the employment effects resulting from the contraction of certain sectors (e.g., mining, steel, automotive) or on debates about "green jobs" or "green skills." In the context of labor-market and unemployment benefits, "sustainability" is often narrowly understood as the financial or fiscal stability needed to finance these measures (Stamm et al. 2020).

Given the trend from welfare toward "workfare" states, active labor-market policies (ALMPs) have become a core field for PES. While concerns around ecological aspects are absent (Dukelow 2022; Stamm et al. 2020), so are social concerns, as activation policies have frequently led to the creation of low-paid and precarious jobs (Brodkin and Marston 2013). Instead of using the available time of the unemployed in ways that could benefit society or the environment, activation policy is largely oriented toward taking on work dictated by the market. This approach often subsidizes profit-maximizing activities through workfare-ist activation policies, viewing work as an end and a responsibility rather than a means. At present, only a few European countries allow unemployed people the flexibility to choose environmentally beneficial tasks for the benefit of society (Dukelow 2022; Laruffa, McGann, and Murphy 2022; Stamm et al. 2020).

A few recent publications in the field of sustainable welfare and social policy have started to engage with the question of how to realign labor-market policies along social and ecological goals. Stamm et al. (2020, 42) investigate the role of "eco-social innovations," understood as "small-scale associations, cooperatives or organisations that create new integrative practices combining both social and environmental goals" in four European countries. The authors find that these initiatives largely rely on public support (e.g., subsidized employment). Although they offer valuable inspiration for eco-social labor, they have not yet been integrated into current labor-market and unemployment policies.

Ding and Hirvilammi (2024) propose a just transition-inspired approach to labor-market policy based on three pillars: creating employment opportunities compensating for job losses in carbon-intensive sectors, education and training addressing the growing demand for "green skills," and improved social protection to ensure income security. Sustainable labor-market policies should be reoriented toward improving these three forms of labor security instead of generating employment to stabilize the current expansionary economic model. The authors further suggest expanding labor-market policies also to unpaid work. Similarly, Dukelow and Murphy (2022) mandate a realignment of ALMPs not only in terms of ecological and social goals, but also to support non-commodified forms of work. Such measures could be linked to cash transfers and services that enable individuals to pursue ecologically and socially valuable activities beyond paid employment. To democratize these policies, Laruffa, McGann, and Murphy (2022) suggest integrating citizens in designing these policies, for example by defining the activities that are considered valuable from an ecological and social perspective. Likewise, Lee and Koch (2023) argue that social protection systems need to be decoupled from the requirement to engage in wage labor. Based on citizen forums in Sweden, they propose several policies that would strengthen the relation between work and human-needs satisfaction within planetary boundaries, such as universal basic services, working-time reductions, sabbaticals conditioned on civic participation, and education.

Our study builds on Bohnenberger (2022) who proposes eight labor-market strategies to green employment (also see the discussion below). Although her approach primarily focuses on formal, paid employment, we aim to provide inspiration for labor-market policies which also target unpaid work and its relation to paid employment. The strategies put forward by Bohnenberger address various actors in the field of labor-market policies, including private companies and trade unions, while we focus on options for implementation by PES.

## Materials and methods

To develop a concrete toolbox of eco-social labor-market policies, this article describes a multi-step process as indicated in Figure 1. An in-depth description of the materials and methods of each step can be found in Neier et al. (2022).

### *The case*

Austria serves as an exemplary case study for developing eco-social labor-market policies. The Austrian Public Employment Service, or *Arbeitsmarktservice* (AMS), plays a central role in implementing both passive and active labor-market policies. As a key institution under the Federal Ministry of Labor and Economy, the AMS is tasked with executing labor-market objectives defined by national and European guidelines. Unique to Austria is the integrated involvement of social partners, such as the Chamber of Labor and the Chamber of Commerce, in the creation and monitoring of ALMPs. This organizational arrangement ensures a more inclusive

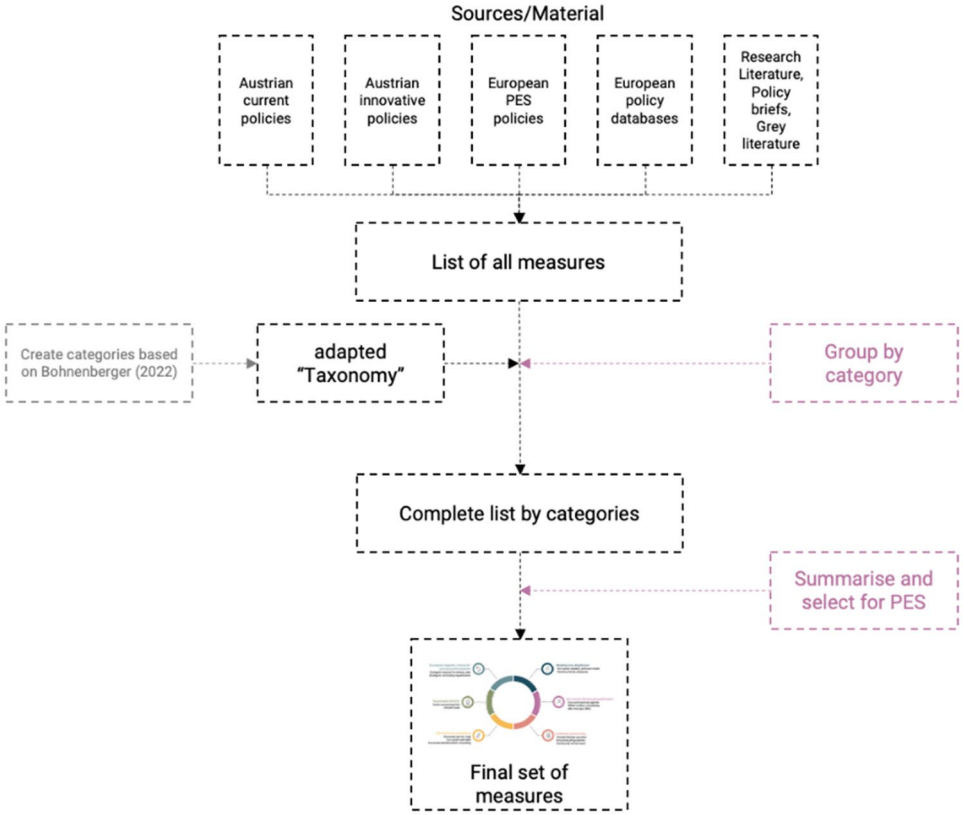


**Figure 1.** Clustering process of identified labor-market policies.

and dynamic approach, through contestation between the institutionalized representative bodies for workers and employers. This framework is also reflected in Austria's significant expenditure on ALMPs, among the highest in Europe (OECD 2024), which signals the country's commitment to proactive labor-market interventions and implementing novel policy measures. The structure of the AMS, which includes federal, regional, and local organizations, allows for tailored policy implementation that considers regional disparities. Under the leadership of Johannes Kopf, the current chairperson of the management board, the AMS, furthermore, actively promotes the use of labor-market policies to advance the social-ecological transformation, with a strategic commitment by the AMS to combine social and environmental policy fields.[1] This institutional framework, coupled with the AMS' explicit commitment to driving transformation, makes Austria a compelling case for gaining insights into how institutions can proactively play a pioneering role within the European context.

## Data gathering

To obtain an overview of potentially relevant measures, we conducted a comprehensive review of eco-social labor-market policies in three distinct areas. First, we carried out a country-specific review of policies by the AMS, examining 46 regular AMS policies and 13 innovative, locally specialized pilot projects in Austria through the lens of sustainability, focusing on the extent to which climate and environmental goals were present. Second, we reviewed policies from 12 other European PES to collect promising practices, resulting in the assembly of 64 additional policies.[2] Third, we supplemented the identified policies with ideas from the literature, including research articles and non-peer reviewed documents such as reports and policy briefs, adding 28 additional measures to circumvent the risk of status-quo bias. In total, our review encompassed 151 measures, which are detailed in the Supplemental Material as Table A1. While there are some thematic overlaps and varying degrees of transformative potential, the full list provides a comprehensive picture of the current situation and highlights promising measures to advance eco-social goals.

The three-step process as well as key outcomes for the Austria-specific and European PES-policy review form the basis for the wider discussion and analysis of the eco-social toolbox developed in this article.

## Clustering, categories, and selection

The measures identified in the data-gathering process cover a wide range of thematic fields, targeting various actors at different geographical and temporal scales. In order to cluster them into relevant fields of

action, we inductively developed a system based on the eight categories proposed by Bohnenberger (2022) for promoting sustainable employment: (1) conversion of plants and businesses; (2) environmental labor law; (3) climate decommodification; (4) eco-social job guarantee; (5) vocational guidance and retraining; (6) distribution of employment time; (7) alternative income sources; and (8) equalization of income.

The proposed categories were adapted through an iterative clustering to group all measures based on their goals and the actors who could implement them. This process allowed for an accessible overview of the field, culminating in a list of six categories covering a wide range of PES-relevant policy fields (see Figure 2). The new clustering includes a novel category, "Sustainable mobility" as well as a slightly edited "Information and consultancy" category focusing on PES services toward social-ecological transformation, which includes aspects of the original "Conversion of plants and businesses" category.

### *Selecting measures*

To prevent "policy dropping" or listing varieties of policy measures without functional and practicable details for implementation, we selected relevant examples for each of the six categories to provide in-depth insights and an operational policy tool for PES (Fitzpatrick, Parrique, and Cosme 2022). The selection process was based on three criteria, namely (1) alignment with eco-social labor (according to our definition presented above); (2) feasible scope for PES action; and (3) choosing the most inclusive option when faced with multiple similar measures. The final outcome is a list of 15 concrete measures for eco-social labor-market policies, divided between six key categories for PES action.

## Results

Based on our analysis of existing PES policies in Austria as outlined above, we find that the AMS has not yet positioned itself strongly at the interface between labor and climate policy. AMS activities with an explicit eco-social orientation can be found only sporadically and regionally. They are rarely integrated into regular funding programs or only established in the form of a separate funding initiative for education and training. There is nevertheless a slight trend toward environmental and climate issues (Neier et al. 2022). Similar statements can be made with respect to other European countries. While it is possible to identify some individual measures with transformative potential, the broader goal of productive employment still stands in conflict to overall climate objectives. Some exceptional examples are *supported volunteer work* in Finland, where job seekers are entitled to unemployment benefits while doing voluntary or community service, effectively providing a quasi-employment guarantee.[3] Another one is the German pilot project *Solidarische Grundeinkommen* (Solidarity Basic Income) which provides 1,000 long-term unemployed persons a job in one of eleven social-ecological sectors and is financed by the city of Berlin.[4] Despite its name, the

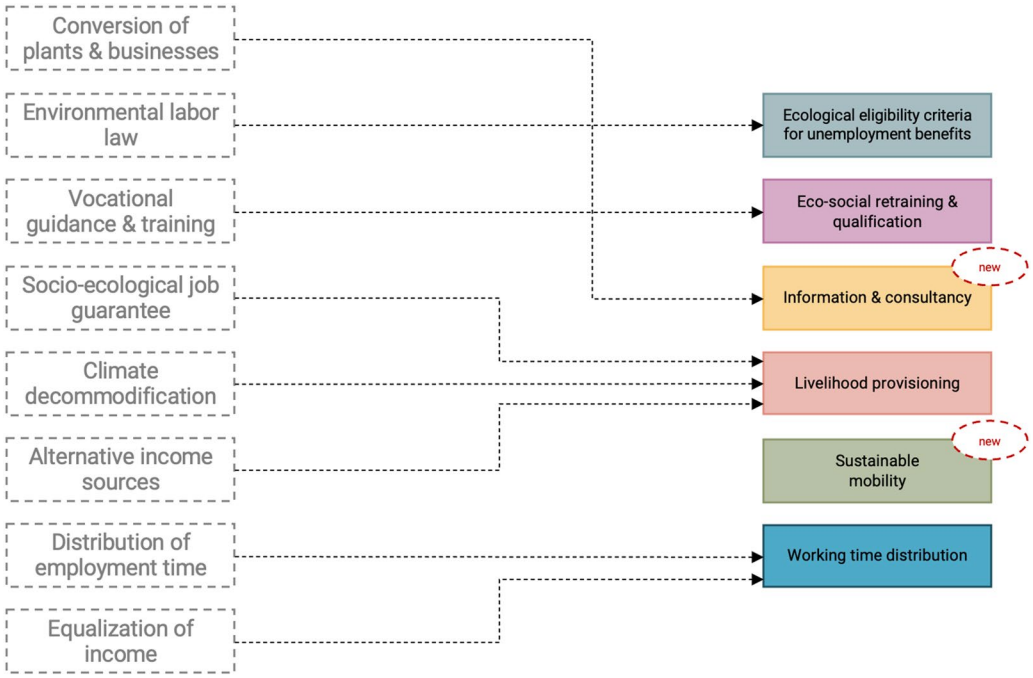


**Figure 2.** An adaptation of Bohnenberger's (2022) eight labor-market strategies into six strategies for PES.

latter scheme is more akin to a job guarantee than a universal basic income. These individual measures, although limited, already show the potential of ALMPs to contribute to a social-ecological transformation through eco-social measures. More information on the measures can be found in the Supplemental Material (Table A1) and in Neier et al. (2022).

In the following discussion, we present the set of 15 eco-social labor-market policies, allocated to the following six thematic areas (1) information and consultancy; (2) eco-social retraining and qualification; (3) sustainable mobility; (4) working time distribution; (5) livelihood provisioning; and (6) ecological eligibility criteria for unemployment benefits (see Figure 3). For each field of action, we describe the proposed measures and actors involved, give examples of existing policies on which the proposed measure could build, and briefly discuss their social-ecological impact.

Many of the measures depend on a coherent understanding of eco-social labor, which is lacking in Austrian and European PES. The current terms primarily used by PES – "green" and "sustainable employment" – are strongly oriented toward the predominantly technical concepts of "green skills" and "green jobs" (European Commission 2013) with limited transformative potential. However, a common *eco-social strategy* is needed for consistent planning of eco-social labor-market policies. For this it is necessary to specify which occupational groups and sectors, and the associated qualifications and skills, will be in greater demand in the labor market in the future and should therefore be promoted through targeted programs and policies. It is also crucial to define *un*sustainable work that needs to be phased out. As outlined above, an understanding of eco-social labor should focus on meeting human needs and include both paid and unpaid forms of work.

### *Information and consultancy*

One of the key functions of PES is to provide information and advice to both employers and jobseekers on labor-market trends, skill requirements, and job opportunities. In order to adapt these activities to social-ecological needs, we propose three measures.

First, an *eco-social job-trail map* would support both PES counselors as well as workers who want to leave environmentally harmful jobs. This idea is based on an Austrian research project that developed such a map for jobs that cannot be performed for a whole working life due to the associated physical or mental health burden (e.g., nursing assistants and waiters) (Flecker et al. 2012). This model could be adapted to unsustainable jobs, providing a concrete list of alternative occupations that meet social and environmental criteria, as well as the necessary retraining measures. Workers should be able to use at least some of their skills in their new jobs.

Second, an *eco-social work label* would provide information on whether a job is sustainable and socially useful. Companies reporting a vacancy to the PES could voluntarily fill in an online questionnaire and the PES could award the label as a service to companies offering eco-social jobs. The label would be visible in job databases and help jobseekers to quickly identify sustainable and socially useful jobs. Several private job databases already offer jobseekers the possibility to filter for "green" or "sustainable" jobs. However, their criteria are often not transparent and follow a technology-oriented understanding of sustainability. The eco-social work label


**Figure 3.** Selected measures of eco-social labor-market policies.

would, in contrast, use the defined eco-social strategy as described above, specifying which occupational groups and sectors are understood to be sustainable. This label would provide a more reliable and standardized label, incentivizing employers to offer eco-social jobs and increasing their attractiveness in the competition for skilled workers. The label could also be used for other PES programs, for example as a condition for certain subsidies.

Finally, an *eco-social transformation consultancy* for enterprises would support employers in their transition toward sustainable business goals and production processes. In particular, the services of regional offices could be used to advise companies on the implementation of social-ecological transformation plans for their operations. In addition, forums could be set up where enterprises, together with the PES and experts, were able to exchange knowledge and experience on sustainable occupations and skills, as well as the corresponding business-transformation strategies. The New Digital Skills initiative (AMS 2021), a forum in which the AMS collaborates with renowned companies and research institutes to identify digital skills needed in the future, as well to offer research-based information on concrete recommendations for the necessary retraining and qualification, could serve as a model for such an action.

### Eco-social retraining and qualification

To enable structural change toward a sustainable economy, eco-social retraining and qualification programs play a key role (Bohnenberger 2022). The AMS already offers a range of measures targeted toward structural changes in the labor market that could be extended under the framework of an *eco-social sectoral agenda*. Work foundations, for example, are a historically proven concept in Austria that facilitate the adjustments in labor demand within specific regions or industries. These foundations were created in collaboration with particular industries or companies, and training measures are financed by the participating companies, while the AMS contributes by paying an increased unemployment benefit to participants. There are various forms of work foundations. One one hand, out-placement foundations support workers affected by redundancies by offering reorientation and retraining. In-placement foundations, on the other hand, can be used to provide targeted training opportunities to unemployed individuals in response to acute labor shortages in specific companies or industries. In the past, work foundations have had high reintegration-success rates and are considered an effective instrument for promoting sectoral mobility (Offermann 2010). Additionally, some work foundations with a climate and environmental focus are already being used regionally in Austria.

The *skilled workers scholarship* aims to develop trained workers in sectors where there is a shortage of staff. To receive such a scholarship, the instruction must be included in the list of eligible courses. Currently, the list contains only one scholarship in the field of the environment, and tertiary education is excluded. Therefore, the number of scholarships in the environment, health, and care sectors should be expanded. Amid the COVID-19 crisis, the AMS increased its qualification program by €700 million, primarily targeting key labor-intensive sectors such as healthcare (BMA 2021).

By analogy with programs to attract women into traditionally male-dominated professions (e.g., technology, engineering, or mathematics), we propose a *men into care (MiC)* program. This initiative would facilitate the transition of men into the nursing and childcare sectors. It could include a career-orientation course, followed by training in a nursing/childcare profession, and vocational counseling. The PES would finance the training and provide unemployment benefits. The program would be aimed at male jobseekers interested in care professions. No previous formal or practical qualifications would be required to enter the MiC program. The measure could help to alleviate the shortage of skilled workers in the care sector (OECD 2019; Scheffler and Arnold 2019) and contribute to a more gender-balanced composition of the workforce.

### Sustainable mobility

To promote sustainable mobility, we propose two measures, both of which address the need to shift from motorized private transport to more active and public transport. *Active commuting time* is based on the idea that part of the time spent commuting by bicycle or on foot is counted as working time. One kilometer of active commuting could be equivalent to three minutes, and individual journeys could be limited to a maximum of 45 minutes. At the end of the quarter, employers would be able to submit their employees' active mobility time to the national PES and receive two-thirds of the costs back. This measure is expected to benefit companies in terms of increased employee well-being and reduced sick leave (Hendriksen et al. 2010; Kemen 2016). As costs to the health system are expected to fall, this measure could also be partly funded by national health organizations, while society as a whole would benefit from reduced emissions and other externalities associated with transport (Gössling et al. 2019).

The second measure, a subsidized *climate ticket*, would allow unemployed people to use regional public transport for free. They could use the ticket when looking for a job, participating in training programs, and for everyday private activities, thus promoting social inclusion and participation. Beneficiaries would be able to renew their ticket every month for as long as they remain unemployed. This measure would not only reduce emissions and support the unemployed by providing a basic public service, but it would also encourage the adoption of new habits in times of personal life changes. Similar initiatives have been implemented in Spain (Huffpost 2023) and the city of Athens (OASA 2024), where public transport is completely free for the unemployed, while in London they receive a 50% discount (GLA 2024).

### Working time distribution

To promote a more equal distribution of paid and unpaid work, as well as to facilitate the shift from unsustainable to eco-social occupations, we propose two measures. One of them is a job-sharing model, which is based on the already existing "Solidarity Premium Model" in Austria. This internationally unique model grants employees who decide to reduce their working time a partial compensation from the AMS for two years – under the condition that a formerly unemployed person is hired. The current model has existed since 1998 and supports on average 1,000 persons per year. Our proposal for an *eco-social solidarity premium model* would require an extended budget to enable a higher number of participants. The model should be limited to eco-social jobs, as working time reductions in unsustainable jobs must be combined with a reduction in staff. Ideally, three full-time employees would reduce their working hours to 75%, while an additional formerly unemployed person would be hired at 75%. However, the model could also allow for reductions in the range of 20–50%. The PES would cover part of the income loss, staggered according to income levels (Figerl, Tamesberger, and Theurl 2021). The proposed measure would contribute to lowering the full-time norm and redistributing paid working time. As the model requires the hiring of previously unemployed people, it means that employment rather than unemployment is subsidized. The partial compensation of wage losses ensures that working time reductions are not only available to high-income earners.

Another proposal aims to balance paid and unpaid work more evenly in households with children. A *part-time family allowance* would grant employees a bonus if both partners reduced or increased their working hours to between 25 and 33 hours. The amount of the bonus would be linked to the net income loss. A wage loss of up to €300 would be fully compensated, while higher wage losses would be compensated at a rate of 80–90%, with a maximum compensation of €500. This measure aims to tackle the unequal distribution of paid and unpaid work (and thus income and pension rights) between women and men (Gershuny 2018), and to normalize shorter (full-time) working hours. In addition, positive ecological effects would be expected to result from the fact that men tend to work disproportionately in carbon-intensive jobs in the production sector, while women tend to be overrepresented in the service and care sectors (Krisch et al. 2020). If men reduced their full-time hours and women increased their hours, this would support the necessary structural shift from unsustainable to climate-friendly and socially indispensable sectors and occupations (Hardt et al. 2020).

### Livelihood provisioning

Three measures with different emphases are proposed to decouple livelihoods from employment. The first one uses changes in employment status to promote more sustainable lifestyles by providing PES benefit recipients with *climate-lifestyle vouchers*. Our proposal is similar to the already existing "Mobile Pass" in Vienna, which offers people on low or no income discounts on admissions to cultural institutions and public transport (Stadt Wien 2021). Climate-lifestyle vouchers could include, among others, free local public transport, repair vouchers, energy vouchers for a certain amount of green electricity per month, access to certain sports facilities, and public library use. The proposed measure would ensure quality of life in times of unemployment by providing benefits in kind. In particular, it would help to prevent energy and mobility poverty and encourage sustainable lifestyles in social groups that are otherwise difficult to reach, while reducing the administrative burden by bundling a number of offers. However, the vouchers should not replace social assistance or be used as a market-based and stigmatizing solution to providing basic services, as in the case of the highly criticized welfare-voucher system in the United States (Caplan and Ricciardelli 2016).

Another measure, the *eco-social job guarantee*, would enable all people to have socially meaningful and sustainable work with a decent income (Bohnenberger 2022; Ding and Hirvilammi 2024; Hickel et al. 2022). The program should only include occupations that are socially and environmentally beneficial, such as building insulation, public

transport, or care. While the overarching goals could be set at the national level, regions and municipalities should be involved in deciding which jobs best serve the local community and environment. Importantly, participation in a job-guarantee scheme should be voluntary but open to all. The measure could build on a recent pilot program launched in Austria in 2020, offering long-term unemployed people in the municipality of Gramatneusiedl jobs in social or nonprofit projects and enterprises, fully funded by the AMS (Kasy and Lehner 2023). An eco-social job guarantee is expected to reduce long-term unemployment (Tcherneva 2020) and cushion redundancies resulting from the phasing out of carbon-intensive industries. For workers in unsustainable occupations, it would lower the barrier to leaving their jobs. By offering favorable working conditions (e.g., short full-time work) and decent incomes, the program would also put pressure on the job market to raise labor standards.

A *community-service leave* would give employees the opportunity to work in social-ecological fields for a certain period without terminating their prior employment. Employees would receive leave benefits from the PES in exchange for loss of pay. The service ought to be at least eight hours a week and would be limited to a maximum of six months over a four-year period. We propose to offer two options for taking this leave: (1) a blocked leave or (2) a continuous leave spread over a longer period. As an example of the second option, a person could dedicate one day a week for one year to social-ecological tasks, including child and elderly care, volunteering in refugee centers, participating in renaturation projects, or supporting local cultural events. The proposed model is based on the educational leave scheme in Austria, which allows employees to take advantage of educational opportunities while remaining employed. A community-service leave would promote the common good by encouraging employees to engage with social-ecological organizations. It would also strengthen community cohesion, foster a sense of belonging, and provide access to such activities for employees who may lack the time and resources to volunteer.

### Ecological eligibility criteria for unemployment benefits

Finally, we propose to adjust the eligibility criteria for unemployment benefits according to ecological criteria. Employees are usually sanctioned if they do not accept an available job offer. In Austria, valid reasons for refusing a job include, among others, inadequate physical abilities, health risks, or unreasonable travel time (AMS 2020). We propose to add *ecological reasons for refusing jobs*, specifically that a job is considered unsuitable if a company engages in ecologically harmful activities. In Belgium, "philosophical and ecological objections" (Langenbucher 2015, 45) are already acknowledged as a reason to justify the refusal of a job. In Estonia, workers in the highly unsustainable oil-shale industry have automatic access to all qualification measures of the PES (Ainsaar, Roots, and Trumm 2019).

Similarly, workers should not be penalized for voluntarily leaving unsustainable jobs. In Austria, workers who quit their jobs do not receive unemployment benefits for the first four weeks. Exceptions include health and family reasons or bullying at work. In several other OECD countries, such as Germany, Australia, and Turkey, voluntary resignations are not sanctioned if they are for ethical or moral reasons (Langenbucher 2015). These countries could serve as a model for integrating environmental considerations as a reason to leave one's current job without facing sanctions.

To reduce transport-related emissions, we also suggest that commuting requirements be adjusted according to ecological criteria. In Austria, jobseekers are expected to accept daily commuting times of up to two hours for a full-time job and up to 90 minutes for a part-time job. *Ecological commuting requirements* should limit these times (for ecological and social reasons, such as sharing unpaid care work), and jobs could be considered unsuitable if they are only accessible by car. A similar regulation already exists in Cyprus where jobseekers "can refuse a job that is away from his/her area of residence and there is no convenient way to get to the proposed job by public transport" (Langenbucher 2015, 42). Some countries define commuting requirements in terms of maximum distance not in terms of time but rather with respect to distance – for instance, Greece sets a threshold of 30 kilometers (Immervoll and Knotz 2018).

We acknowledge that the measures proposed in this section could be currently outside of the competence of some PES, requiring legislative changes for implementation. Nevertheless, PES could advocate for legislative changes, collaborate with relevant authorities, and engage in partnerships with other stakeholders to drive the necessary reforms and expand their scope of competence in this field.

## Discussion and conclusion

Multiple crises threaten to undermine future well-being, challenge the current organization of the economy and society, and therefore put at risk the

basis of welfare states. Given the strong interlinkages between environmental destruction, economic growth, and employment (Antal 2014; Gerold, Hoffmann, and Aigner 2023; Kreinin and Aigner 2021), the area of work emerges as a critical factor in the transformation of welfare states. To date, labor-market policies in Europe have been largely misaligned when it comes to environmental considerations, with discussions around "green jobs" and "green skills" focusing on ensuring employment and economic growth, rather than addressing the need for a social-ecological transformation.

Against this background, the present study has developed a set of innovative labor-market policies aimed at achieving eco-social objectives. The set of 15 measures in six thematic areas covers a broad field of labor-market policies and illustrates how PES – an important public actor for transformation – could actively contribute to a social-ecological transformation. Although developed in the Austrian context, the measures can be implemented in other European countries with context-specific adjustments.

First, we propose several measures on how PES could adapt its *information and consultancy* activities to social-ecological objectives. These measures would provide both companies and workers with valuable information on how labor markets might change because of the adjustments needed to address the climate crisis. To actively promote the transition out of climate-damaging sectors, we propose several *eco-social retraining and qualification* measures. Actions in this area are particularly targeted at job seekers and workers in sectors that are expected to shrink or be phased out, but also at workers who voluntarily leave unsustainable jobs. In turn, such programs would address skills shortages in sectors that need to expand to meet social-ecological goals. As work-related mobility is a major source of emissions, we propose measures to promote *sustainable mobility* as part of labor-market policy. The measures in the area of *working time distribution* are designed to contribute to a number of objectives: to reduce the full-time norm and enable more resource-friendly lifestyles, to redistribute working time from the employed to the unemployed, to reduce unequal distributions of paid and unpaid work, and to shift employment from climate-damaging to more sustainable and socially useful sectors. Moreover, as the proposed measures include at least a partial wage compensation, this would allow people who could not otherwise afford to reduce their working hours to do so. The area of *livelihood provisioning* is oriented toward decoupling employment from livelihood security. This proposed intervention includes the provision of sustainable benefits in kind for the unemployed as well as enabling employees to pursue climate-friendly and meaningful activities outside the job market. This would extend activation policy to non-commodified activities and reduce the pressure to remain in environmentally destructive jobs. The latter would also be supported by the introduction of *ecological eligibility criteria for unemployment benefits*. Adjusting the criteria according to which workers are sanctioned by PES for not accepting certain job offers, or leaving unsustainable jobs, would have a signaling effect on firms and could contribute to an occupational shift toward climate-friendly sectors. It is predicted that employment in unsustainable industries will decline under sustainability scenarios (Hardt et al. 2020), therefore these measures would prevent precarious employment situations for workers.

Many of the proposed actions require a coherent definition of eco-social labor. For the purposes of this article, we have recommended that it must facilitate self-determined sustainable lifestyles, enable individuals to engage in needs-oriented and environmentally friendly activities, recognize and integrate unpaid work, and promote the redistribution of paid and unpaid work, especially between genders.

A social-ecological transformation requires more far-reaching changes in the current organization of work and production than the mandate of PES in most European Union member states allows. While PES can provide important incentives for a shift toward more climate-friendly occupations and counteract some job losses by providing eco-social employment opportunities, it cannot overcome the growth dependency of labor markets, namely the job losses that result from absent or negative economic growth. Similarly, decoupling livelihoods from wage labor requires more far-reaching changes than the impetus that PES alone can provide. For example, Hickel et al. (2022) suggest combining an eco-social or "green" job guarantee with a universal income policy. The introduction of universal basic services is another important strategy often discussed in this context (Coote and Percy 2020; Coote 2021; Dukelow and Murphy 2022; Gerold, Hoffmann, and Aigner 2023).

While PES action that directly challenges the growth imperative currently runs into the "glass ceiling of the environmental state" (Hausknost 2020), many of the suggested measures and policies could act as transition levers toward sustainability, or steps toward an emancipated horizon (Brand 2016) within the existing paradigm. Nevertheless, more research is needed on the application of the suggested policies in specific countries and cultural contexts to avoid adverse social and environmental impacts or

feedback, as well as to consider issues related to acceptability, feasibility, and case-specific framing for implementation. Indeed, it is at the political level that many excellent policy measures have failed. We recognize that policy outcomes and the possibilities for implementation are extremely sensitive to context, application, and political framing. While a comprehensive analysis of the replicability of the proposed measures in other European countries is beyond the scope of this article, one pathway for facilitating this cross-border transfer could be through the "Network of the European Public Employment Services." This network provides a platform for sharing best practices, insights, and lessons learned from different national contexts. Through such collaborative efforts, the measures can be refined and adapted to address the unique challenges and opportunities in various European countries.

Although PES alone cannot overhaul a growth-oriented economic system focused on commodified labor and production, they hold a pivotal role, specifically by ensuring material welfare for workers outside of paid work. The latter is a fundamental prerequisite for any wider transformation to be politically acceptable and democratically feasible (Eder, Kreinin, and Wukovitsch 2023; Kreinin 2021). The strategies developed in our toolbox illustrate concrete measures on how PES could play an active role toward the required necessary changes.

## Notes

1. See https://www.derstandard.at/story/3000000177795/ams-chef-kopf-nennt-arbeitsmarkt-als-schluessel-zur-klimawende.
2. The selected countries are Belgium, Denmark, Estonia, Finland, France, Germany, Italy, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The selection was based on availability and accessibility of online databases for PES policies at the time of this study in 2020 which is a limitation of the research. Neoliberal reforms and rather small budgets for labor-market policies in new accession states are an explanation for this lack of inclusion (Barr 2005; Pula 2020). Estonia as an example of a new European Union accession state that allows for some comparison with long-term member states, providing an example of sustainability-oriented labor-market policies in the exnovation sector of oil-shale mining in a post-Soviet context (Ainsaar, Roots, and Trumm 2019). Many of the policies discussed in this section are also considered in the recent report on "Greening of the Labour Markets" by the European Commission (2021).
3. See https://tyomarkkinatori.fi/en/personal-customers/unemployment-security/unemployment-security-for-volunteers-or-other-unpaid-workers.
4. See https://www.berlin.de/sen/arbeit/beschaeftigung/solidarisches-grundeinkommen.

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