

Green Jobs

Working Conditions and Employment Potentials

Executive Summary to the Final Report

Study commissioned by the
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1 Summary and conclusions

1.1 Summary of the key results

Politicians, researchers and journalists agree that Green Jobs represent an important employment potential in the Austrian labour market. However, the question how big this labour market segment really is and which professions it includes is interpreted differently. This depends on the **definition** of the contribution jobs make in respect of environmental protection. ILO, UNEP and CEDEFOP define Green Jobs in accordance with activities, but with different assessment criteria. In its assessment of Green Jobs, the OECD takes occupation, industry and enterprise into account. EUROSTAT, by contrast, bases its evaluation on the corporate level, where a company's activity is assessed with regard to its contribution to environmental protection and where all employees of the company, independent of jobs and occupation, are in full or in part (to the extent of the environmental share of the object of the company) apportioned to Green Jobs. This concept is used to map the Environmental Goods and Services Sector (EGSS).

By defining Green Jobs based on the EGSS concept, their scope becomes measurable, making it possible to portray developments over time as well as the structure der Green Jobs.

- With almost 200,000 employees in the EGS Sector in 2009, **5 % of all employees are attributed to Green Jobs**. Compared to 2008, the number of Green Jobs has risen by 6,000 employees (3 %). Hence, the number of Green Jobs has even increased during the economic crisis. Because overall employment was slightly regressive, this cannot be interpreted as net job growth; instead, there has been a shift from traditional jobs to Green Jobs.
- **Four fifth of Green Jobs** count among **environmental services** (40 %) and **environmental goods** (39 %). In contrast, environmental technologies – both integrated/clean technologies and aftercare-oriented end-of-pipe technologies and related goods, which directly serve environmental protection, play a significantly smaller role in the employment segment. Experts, interviewed within the scope of the present study, associate future employment potentials with integrated technologies, which are less labour intensive than environmental goods and services.
- With regard to environmental areas, resource management activities employees include almost as many employees, occupied with environmental protection activities, such as soil protection, waste and wastewater treatment or climate protection. The increase of employees in resource management is mainly the result of **renewable energies**, which experts regard as the key segment for the **employment potential** of Green Jobs, whilst the area of heat and energy savings is more seen as a strongly subsidy-dependent and limited employment potential.

The concept of the EGS Sector allows clear assessments of the scope and development of environmental areas; however, by defining the environmental sector on the basis of the share of turnover in environmental production and services, **persons or jobs cannot be directly identified**. This makes it difficult to define concrete professions as Green Jobs. In contrast to IT jobs for example, a job and a similar occupation can be both a Green Job and a traditional job. In case of secretaries, shop assistance or service personnel in the catering and hotel industry, the distinguishing criteria is

not their concrete activity, but to what extent the goods offered are attributed to environmental goods. Of course, there are occupations in the environmental sector, whose contents and qualification requirements differ from the traditional sector (e.g. in case of heating engineers) resp. there are new occupational areas in the environmental sector (e.g. wind turbine engineers). Because the EGS assessment level is the undertaking, **Green Jobs cannot be differentiated in accordance with personality traits or qualification standards.**

Therefore, we accessed the **working conditions** analysis of Green Jobs **via economic sectors**. We selected economic sectors, which are regarded as key areas of Green jobs in EGSS data, in literature or by experts, to describe and compare working conditions in the industries on the basis of secondary statistics, available studies and expert perspectives.

The largest Green Job industry is **agriculture** – both measured by the absolute number of attributed Green Jobs as well as measured by their share in overall employment. 20 % of all Green Jobs are in agriculture; this accounts for circa 19 % of employees in the industry. Employment in agriculture and forestry is characterised by a high share of unqualified employees and a comparatively low share of employees with higher education. The occupation is characterised by high time flexibility requirements and high physical strain and probability of accidents. The industry is also characterised by people having a second job and a high share of income subsidies, which make it difficult to assess the income situation in comparison to other industries.

The second largest Green Job industry is the **building industry**, which accounts for circa 17 % of all Green Jobs (these are 14 % of all employees in the building industry). Here too, overall employment is slightly regressive, whilst at the same time the number of Green Jobs is rising. In respect of qualifications, vocational training in the industry is the dominating factor (60 %) and the share of compulsory school leavers is above average. The building industry is characterised by high physical strain, atypical and instable employment (only 45 % of employees are working the whole year round), high probability of accidents as well as a low level of income.

At estimated 24,000 to 27,000 Employees in **wastewater and waste disposal** (public and private sector), at least an eighth of all environmental employees are working in this industry. According to information from the private sector, the qualification structure is dominated by vocational training and the share of compulsory school leavers is above average. Atypical employment is also above average. In contrast, atypical organisation of working time plays a comparatively minor role. Work is characterised by high physical strain. With regard to job security or payment, experts consider working conditions in the public sector to be better than in the private sector; because of the work required, physical strains remains the same.

The fourth largest Green-Job industry is made up by **trade**, which accounts for about 11 % of all Green Jobs. Here too, overall employment is in decline, whilst the number of Green Jobs is slightly rising. The industry is characterised by an above-average share of women and thereby an above-average part time work quote. Here too the dominating form of qualification is vocational training. Employment in this industry is also characterised by high flexibility requirements, a low level of income and a below-average period of employment. There is hardly any information on health burdens and workplace accidents; however, here too one can assume high burdens (long periods of standing, lifting).

Ranking in fifth position of Green Job industries is **energy supply**, which accounts for slightly more than 6 % of all Green Jobs. Within the industry, every second employee is attributed to Green Jobs. Here too, the number of Green Jobs rises during stable overall employment. Compared to the industries mentioned above, energy supply is characterised by a higher standard of qualifications, fewer atypical employment and organisation of working time. The level of income is higher and health burdens resp. workplace accidents are playing a smaller role.

Architecture also accounts for 6 % of all Green Jobs, every fifth employees in the industry to be precise. Overall, architecture shows a constant employee structure and an increase of Green Jobs. The standard of qualifications in architecture is the highest compared to other industries; this also applies to the share of self-employed people. The profession is characterised by high flexibility requirements and a low level of income for an academic occupational category. There is no information on health burdens and workplace accidents. In the discussion on employment potentials of Green Jobs, **tourism** plays a key role (BMLFUW 2010). However, there are currently no noteworthy shares of Green Jobs in the industry to report: fewer than 1 % of all Green Jobs and less than 1 % of overall employment account for the industry. Working conditions are characterised by high flexibility requirements, an above-average number of atypical forms of employment, instable employment conditions and a low level of income.

The **production sector** accounts for 21 % of all Green Jobs. However, this is a very heterogenic sector, where it is impossible to identify a clear Green Job focus. Insofar, statements on the overall production sector only have little significance. This is added by the fact that hardly any current reviews on working conditions in production jobs were carried out resp. that present studies focus on selected aspects.

In summary, even though the number of Green Jobs is on the increase, it is not clear, how high net job growth is. The rise in the number of **Green Jobs** is probably **mainly the result of redeployment** within industries, i.e. traditional employment is “changed” into Green Jobs.

The description of the situation in the selected industries from available secondary statistical data shows that **Green Jobs are significantly more heterogenic than perceived in the public discussion**. Working conditions in the classic environmental sector are often characterised by hard physical work, health burdens and precarious employment. However, the image portrayed in the discussion (see for example the homepage of the Federal Ministry of Agriculture, Forestry, Environment and Water Management¹) is strongly characterised by the image of **technical professionals** with (additional) environmental qualifications, whose working conditions are not regarded as precarious. This image comes closest to energy supply industry, which, at a share of **6 % of all Green Jobs** only plays a limited role in quantitative terms.

The form of presentation, based on the data situation is insofar problematic as it focusses on **average values** for the industry. Hence, not only environmental jobs in a narrower sense but also management, administration and other occupations are included. **Contortions** are also created by giving to little consideration to the heterogeneity of companies within an industry. These restrictions should be removed by including issue-specific studies.

¹ <http://www.lebensministerium.at/umwelt/green-jobs.html> [access 15.12.2011].

The limitations of the significance of available materials for working conditions in general and for those specific to Green Jobs, shows a **need for research** at various levels. In general, with regard to the analysis of working conditions, there has been a tendency over the last years towards focussed case studies, which, however, hardly allow a comparison with other industries or a representative sample of employees. Frequently, the focus is on a reduced set of relevant dimensions to describe working conditions, i.e. comprehensively formulated concepts of “good work” (chapter 3) shown empirically. The last comprehensive analysis on working conditions based on field research was carried out in the nineties (Fasching 1999).

What one can say overall, is that the discussion on employment potentials of Green Jobs is not only carried out by excluding working conditions, but that there is also surprisingly little evidence. Apart from a study carried out by the Institute on Economy and Environment of the Chamber of Labour Vienna (AK 2001), which deals with direct and indirect employment effects of environmental protection measures, there is only one study concerning Austria, which assesses the employment effects of different suggested strategies to promote renewable energies and building refurbishment (Balabanov et al. 2010). The discussion on employment potentials or working conditions of Green Jobs often uses arguments, which, however, are hardly backed by empirical evidence. In view of the further discussion on working conditions in Green Jobs, there is a need for research in two respects:

On the one hand, it would be necessary to carry out a comparative analysis of traditional jobs and Green Jobs in concrete occupational areas to find out to which extent Green Jobs are actually combined with better working conditions. The assumption that specific environmental qualifications, regarded as additional qualifications, provide a competitive advantage, which is reflected in working conditions, should be examined. On the other hand, it would be interesting to compare traditional companies with environmental enterprises to be able to clarify to which extent the focus on environmental products or services is accompanied by better working conditions for employees resp. whether it results in a competitive advantage for the company. In particular in the environmental sector, being dependent on subsidies may also bring with it uncertainty and precarious working conditions.

The present analysis provides a number of **starting points for the further discussion** on the employment potential of Green Jobs and its realisation:

- It seems to be necessary to link the discussion on the potential of Green Jobs systematically to working conditions and not just concentrate on additional jobs, but also on “good” jobs. One option would be to create a quality seal (see chapter 3.2).
- The current image of Green Jobs in the public discussion strongly focusses on the technical sector and qualified environmental services, thereby addressing only a certain segment. Considering the entire spectrum in the discussion, would also put emphasis on the issue of working conditions.
- An evidence-based discussion on working conditions in Green Jobs resp. in Green Jobs compared to traditional employment sectors requires the closure of the research gaps mentioned. In doing so, one should put more emphasis on the identification of activities and enterprises in the environmental sector in future.
- Furthermore, both research and political discussion should focus on a comprehensive concept of working conditions resp. “good work”. Here too, data gaps resp. a need for research are

evident as so far only individual dimensions of “good work” can be depicted on the basis of available data.

- The literature analyse has also shown that the employment potential of Green Jobs is very dependent on subsidies resp. legal requirements. It is important to include such control options of the public sector in the discussion and to take the consequences for working conditions, associated with these, into account.
- However, all of these can only be the first steps towards a discussion on sustainable work in a comprehensive sense, as it is touched on in the following outlook.

1.2 Outlook: sustainable working society and Green Jobs

For about ten years now, the discussion on ecological, economic and socially sustainable development includes a strand, which focusses on the consequences of sustainable orientation for current wage labour societies. Two tendencies are emerging - on the one hand studies, which follow a kind of ecological imperative and demand an adjustment of social issues to what is ecologically necessary. These include for example both studies on the Sustainable Development in Germany from 1996 and 2008 (BUND, Misereor 1996; BUND et al. 2008) and studies, which allow the social aspect its own value and logic and discuss sustainable changes, in particular in respect of social cohesion. A certain prominence has been achieved by the concept of mixed work of the interconnection project “Work and Environment” (HBS 2000): “the concept of mixed work takes up basic transformation processes in our existing working society and demands a normative (= focusing on sustainability) but at the same time realistic (= attainable by means of socio-ecological reforms) extension of the predominant definition of gainful employment. Besides gainful employment, mixed work should also include unpaid work, care work, and community work, and it should replace the existing - and already rather 'eroded' - standard employment relationships (cf. HBS, 200 I, p.30).

Hence, this concept assumes an extended definition of the concept of work, which, apart from gainful employment also considers other socially acceptable forms of work and employment, such as care, community and unpaid work. At the same time, “mixed work” is used to analyse current trends of social working conditions (in particular increasing flexibilisation and subjectification of work and the continuous erosion of the so-called standard employment relationship and to determine criteria of social sustainability within the meaning of a normative concept.

Independent of the fact of whether this argumentation primarily follows ecological necessity (shortage of resources and limits of environmental absorption capacity) or rather a social and labour policy perspective within the scope of a discourse on sustainable development, the perpetuation of the prevalent primary orientation on a full-employment society with rising economic growth is basically available (e.g. Jackson 2009a and b; Spangenberg 2011). This has been justified above all by explaining that so far a separation of economic growth and the consumption of resources and energy has not been successful, that the dominant use of fossil fuels accelerates climate change and that technical solutions on remedying the environmental crisis phenomena in a global perspective alone are inadequate (Schor 2005). Hence, the consequence is a demand for significantly reduced economic growth, the reduction of working time, an extension of the concept of work and an orientation towards sufficiency of consumption (Littig, Spitzer 2011). Against the background of the current multiple crisis (Brand 2009) – in the areas of the financial market, the economy, the environment as well as care – there is a demand for a fundamental transformation of non-sustainable working societies, because traditional crisis recipes (have to) fail. Because: “the growth

policy, heralded as a solution is not only not successful economically, it is also neither environmentally nor socially sustainable. By focussing on deregulation, privatisation and state cutbacks it undermines the political ability to act, weakens labour and environmental protection and signs common properties over to private pursuit of profit (...) At the same time, the allegedly insufficient growth of labour productivity is criticised as an obstacle to growth. Behind this is the experience of the industrial society that increasing standardisation and automation can permanently and significantly increase productivity" (Spangenberg 2011: 18)

In the context of this argumentation, so-called Green Jobs are at best a small building block in a necessary larger and social-ecological transition (Fischer-Kowalski, Haberl 2007). Even if they have the potential to create new quality jobs to a limited extent, in particular in knowledge-intensive industries, they are still far from being able to solve the multiple crises. However, if a rise in unemployment is to be expected as a consequence of the multiple crises, one needs a fundamental new orientation of labour policy, which does not only fulfil ecological and social criteria, but also gender-political demands. Starting points are provided by a study by Hans Holzinger (2010) on behalf of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, who outlined the future of sustainable work in three scenarios:

1. Creating new jobs
2. Redistribution of work
3. Working differently

According to Holzinger (2010: 78), the potential for the creation of new jobs exists primarily in the area of industry-related and above all person-related service. New jobs can also be expected by the ecological structural change in the energy sector and in agriculture and forestry, in parts temporary in case of thermal renovation for example. This scenario creates the largest number of Green Jobs.

The redistribution of work could be achieved by reducing working hours with or without compensatory wage increases, partly by more flexible working time solutions (working lifetime, time-out periods, part time etc.; compare Littig, Spitzer 2011: 38ff). Funding ultimately depends on concrete models and would have to be negotiated by the social partners. As already mentioned, the reduction of working hours plays an important role in the discourse on sustainable development and is often linked to an extended definition of the concept of work. This is also the case with Holzinger, who sees a close link between scenario two and three.

Holzinger defines "Working differently" – comparable to the concept of mixed work – as a revaluation of socially necessary work outside gainful employment, i.e. care and individual work and community work as well as a fair distribution of work between genders. However, the transformation towards a fair gender working society requires government transfer payments or fiscal control and is based on a mixed income, which comes from different sources. Here too, there are parallels to the concept of mixed work, which Holzinger calls "plural labour" (Holzinger 2010: 81).

Littig und Spitzer (2011) have presented a comprehensive review and analysis with concepts of an extended definition of the concept of work. This clearly demonstrates that the discourse on extending the definition of the concept of work, which is currently combined and updated in the discussion on sustainability, feeds from various sources. Apart from industrial and industry sociological work to transform the (post)-Fordist working society, a special mention has to be given in particular to the more recent research on gender and women's issues. Apart from that,

considerations from alternative movements and those critical of globalisation are significant on a conceptual level. Even if the concepts and projects of a solidarity-based economy, common good economy, precautionary principle economy, of transition towns or the post-growth society among other may appear unrealistic or even utopian, they can, in particular in times of crises, become suppliers of innovative ideas and reflective experiences from social experiments.

After all, not only the subject of Green Jobs is experiencing a certain degree of political and media attention within the framework of the advised Green Economy², but also the rather more scientific discussion on new extended concepts of work. Witnesses to this are recent policy-relevant congresses such as the DGB Congresses on Capitalism 2009 und 2010³, the congresses of Denkwerk Zukunft⁴ - Foundation for Cultural Renewal, the Forum Alpbach 2010⁵ or the identically named conference (2010) of the Austrian Initiative "Growth in Transition"⁶.

² <http://www.unep.org/greeneconomy/> [Access 15.12.2011]

³ <http://kapitalismuskongress.dgb.de/materialien> [Access 15.12.2011]

⁴ <http://www.denkwerkzukunft.de> [Access 15.12.2011]

⁵ <http://alpbach.org/index.php?id=1006> [Access 15.12.2011]

⁶ <http://www.wachstumimwandel.at/engagement/konferenz/> [Access 15.12.2011]