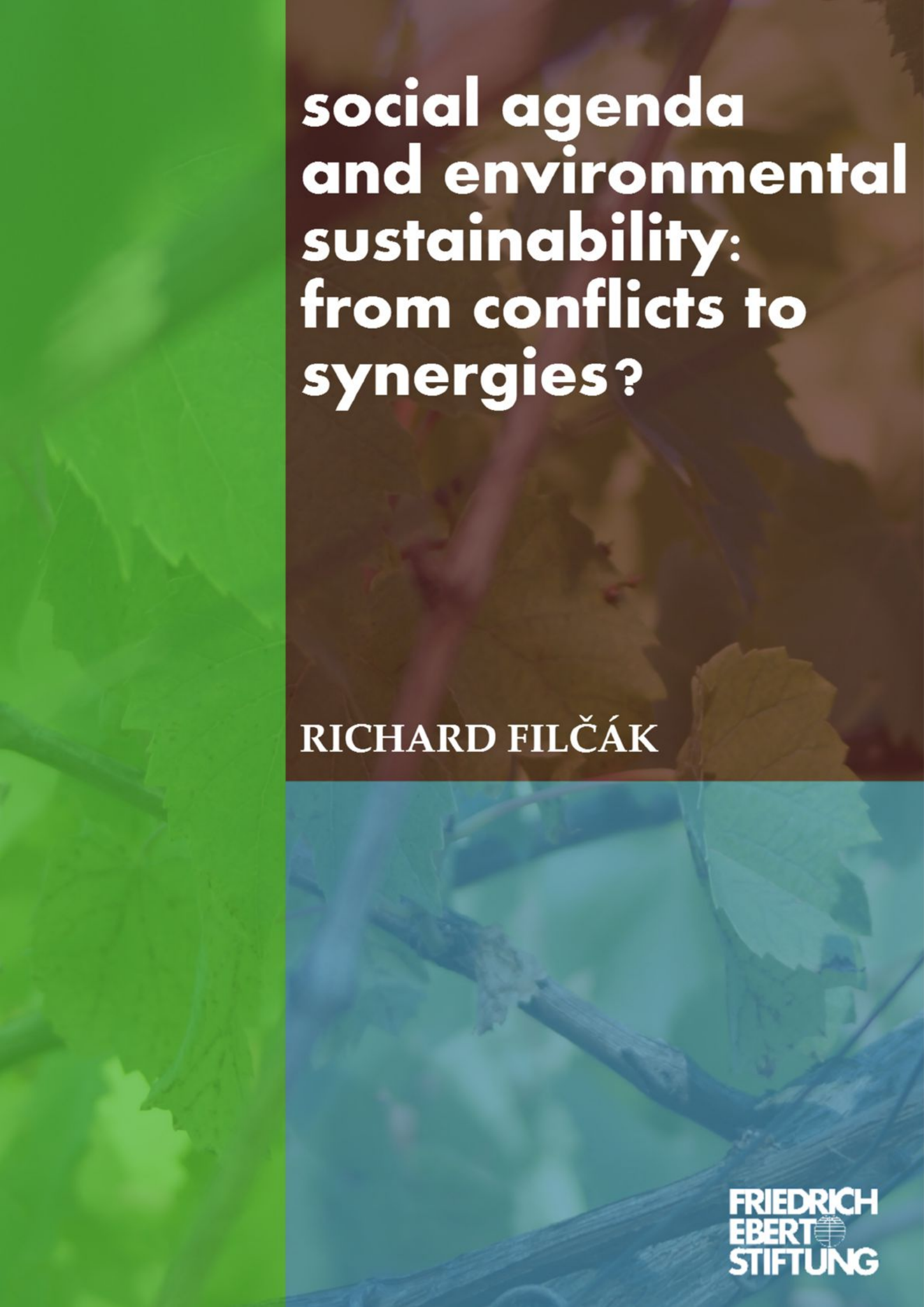




social agenda and environmental sustainability: from conflicts to synergies?

RICHARD FILČÁK

**SOCIAL AGENDA
AND ENVIRONMENTAL
SUSTAINABILITY:
FROM CONFLICTS
TO SYNERGIES?**



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SUMMARY

Social progress has been historically and traditionally understood as an outcome of economic growth. Such growth is based on the exploitation of fossil fuels, industrial production, intensive agriculture and consumerism, and encouraging the purchase of goods and services in ever-greater amounts. This model has proved to enhance social progress for many (although we may discuss its distribution both within the nation states, and globally), yet at the same time it has reached its ecological limits. We know with increasing certainty that we face irreversible losses of biodiversity and climate change that pose key challenges to future development. The question is posed as to whether such growth, based on expansion and unsustainable exploitation of natural resources, can still provide enough work, income and opportunities for the population.

The aim of this report is to analytically map and describe contradictions and synergies among social, economic and environmental trends, and discuss how they influence each other. This is particularly discussed from the perspective of on-going global environmental change and spatial and qualitative transformation of production and consumption patterns. The report firstly outlines relevant trends in the process of social and economic transformation. It further discusses their impacts from the Slovak and Central European perspective, and in the context of on-going outsourcing and technological changes. These and other trends directly and indirectly influence regional development, social and economic disparities, employment and, more generally, distribution of environmental and social gains and losses. Applying the theoretical framework of Alan Schnaiberg and the “treadmill” of production, the report describes trends in employment *vis-à-vis* consumption of natural resources.

In the second part of the report we outline and define the main areas where the environmental and social trends interact, overlap, influence each other, and create problems, but also provide very important challenges and opportunities. The focus here is on the relationship between social status, poverty and the environment (i.e., environmental justice, access to resources and energy poverty) and links between the environmental agenda and labour market (i.e., green jobs).

In the third part of the report is focus on policy and tools, which could (or perhaps should) create an enabling environment for the development and implementation of progressive measures. In the virtual absence of genuine visions and strategies, the main driving force for changes, nowadays, lies in the application of the Europe 2020 framework for a smart, sustainable and inclusive economy. We are currently approaching the next programming period for European cohesion and structural funds (2014-2020) and the pertinent question is whether the planned interventions will actually accelerate transformation towards a more sustainable and socially coherent society. If yes, then how? The report concludes with an outline discussion on the welfare state *vis-à-vis* environmental challenges and opportunities. The report cannot provide exhaustive answers to all questions related to interactions between the social agenda and environmental sustainability. This is a rather new, emerging and, to a great extent, unmapped area. The report is however meant as a contribution to the emerging discussion on how to define and implement solutions targeting social and economic cohesion, while at the same time protecting our endangered and fragile environment. Last but not least, discussion is in the context of our global commitments and accelerating climate change.

INTRODUCTION

Travelling around different regions of Slovakia, rapid changes in the landscape can be observed. Smoking chimneys, once a proud symbol of the industrialisation and progress for some, and a clear target of criticism by others, have been extinguished. Grass now covers many large industrial production workshops along the railways. Instead of large fields managed by cooperative farms, there are plenty of smaller pieces of land in different shapes, resembling stained glass windows of old churches. At the outskirts of Western Slovakian towns we see shining blocks of car assembly lines, which have recently risen and are expected to remain for an unclear period of time.

As the centrally planned regimes in Central Europe came to an end, environmental activism was one of the strongest islands of resistance. Not surprisingly, air pollution, drastic devastation of the landscape through mining, and insensitive building of water dams raised public resistance long before other topics took over. From an environmental perspective the first years of the economic transformation seemed to be a golden age. The old threats were disappearing and the new ones were not yet on the horizon. Strengthening of the legislative framework (later propelled by the prospect of European Union accession) and adoption of institutionalised environmental policies went in parallel with the rapid economic transformation. Yet, there were social impacts closely affiliated with these changes.

Many of the polluting workshops became bankrupt and many industrial plants were abandoned practically overnight. Privatisation, liberalisation and opening up to global competition meant rapid de-industrialisation of cities and whole regions. Unemployment in the former industrial cities such as Gelnica or Prakovce rose above 30%. Those surviving the changes mostly produce parts for multinational companies, providing job opportunities for only a fraction of the workforce. Just to illustrate the types and speed of the changes, a mine and metal processing company in Rudňany had more than 2,500 employees in 1990. Within just a few years this was reduced to practically zero. Similar trends are visible in agriculture; while in 1990 there were about 350,000 people working in the agricultural sector, some 20 years later it is barely 50,000.

The shock of transformation was reinforced by rapid development of mechanisation and information technologies. We are witnesses to dramatic changes in industry and services. Manufacturing and heavy industry (once flagships of development and modernisation) is shrinking, to be replaced by conveyor belt assembly lines reallocated to the region from western countries and increasingly from Asia.

Some twenty years after the political changes we find better air quality in Central and Eastern Europe (CEE), but at the same time more unemployment and social stratification. Environmental sustainability, initially presented as the cornerstone of the new emerging civil society, is surviving at the margins. The quality of the environment, once ranking among the top concerns of people, is now falling in the opinion polls. An increasing share of the population would vote for whatever ecologically problematic project was proposed, as long as it promises jobs. According to the Eurobarometer from 2009, as many as 58% Slovak responders

agree that economic growth must be the priority, even if there is a negative effect on the environment (39% disagreed, i.e., 9 percent points less than the year before).¹

The social agenda became an integral part of all theories and modules in environmental thinking dealing with development and sustainability. Yet, it is rather difficult to define what is, both sustainable and socially and economically coherent, and progressive. This question is made even more complicated by considering: (i) how it can be done in the divided world of severe tensions between developed and developing countries (e.g., over the culprits, costs and impacts); (ii) how it can be done in the context of economic crises and growing attacks on the welfare state (i.e., welfare state gradually shifted from the goal to the obstacle in the political agenda) and; (iii) how it can be done in a world of finite resources over time (i.e., climate change, and resources depletion).

The fundamental issue, going far beyond the goals and scope of the report, is whether we can change the current system using tools of ecological modernisation. In other words, whether better management of resources and technology fixes would lead to a sustainable low-carbon, closed-loop, or green economy; a vision called by some authors "green capitalism". There are opposing arguments based on the claim that, in this way, we will be building on sand, ignoring the fact that it would require much deeper and fundamental changes to the foundations. It is inevitably incompatible with our current production and consumption patterns.

¹ Euro barometer 72/2009: Public Opinion in the European Union – Slovak Republic National report, Autumn 2009 (*Verejná mienka v európskej únii - Národná správa Slovenská republika, Jeseň 2009*).

I. DEFINING THE ENVIRONMENT – SOCIAL NEXUS

I.1. The environmental paradox and treadmill of production

Looking at any environment-related report, from the United Nations' Global Ecosystems Assessment and Global Environmental Outlooks to the regional assessments of the European Environmental Agency, we see a very similar pattern of data and indicators on the deteriorating state of the environment (MEA 2005, UNEP 2013, EEA 2007, 2010). The environmental paradox of our times is that, despite the irreversible consumption of natural resources and rapid degradation of ecosystems, the quality of life is globally and, on average, improving. Yet as soon as we zoom into this picture, we see several key contradictions. Firstly, there is a rapidly growing gap between those who benefit from the present production and consumption patterns and those who face the consequences. In other words, it is a question of who bears the adverse environmental impacts and who is exposed to pollution and challenges of the deteriorating ecosystems. A vivid illustration of this decoupling is provided by the production of nickel in our region. The polluting and problematic nickel producing factory in Sereď, Slovakia is now bankrupt and closed. These days nickel is imported from Russia and New Caledonia, transferring the impacts from production elsewhere in the world.

The second problem is how we actually measure quality of life. For instance, the single most significant parameter of ecosystem services that affects the measurement of quality of life is food production. If there is an increase in food production per capita, there is an increase in the measured quality of life, regardless of other ecosystem services provided and their future potential. Perhaps the most important factor to be taken into account is time; there is a time lag between the destruction of ecosystems and this is reflected in quality of life. A classic example is climate change, where the start of the significant increase in human-related carbon dioxide (CO₂) emissions dates back to the beginnings of the industrial revolution laying down the foundations of modern industrial societies. However, the accumulated impact will only be felt centuries after people started to burn massive amounts of fossil fuels.

The environmental trends described above need to be analysed in an economic and social context and its internal discrepancies. The first discrepancy is between labour cost and production. Economic capital has social and political power over the labour force, but it also creates an inherent tendency to trigger a crisis of overproduction. If the power of capital is used to decrease labour costs, profitability is increased, but the risk of overproduction also increases (Wallerstein 1997, 2003, O'Connor 1988, 1994). On the other hand, if there is not enough money within the population, there are not enough consumers. A partial answer to this problem (but with long term impacts) is a system of loans, leases and other marketing tools, which may keep the system going for some time.

The second discrepancy is between internal and external costs of production. The lower the external costs of production reflected in the price of the product (such as transport infrastructure, environmental impacts and social impacts), the greater the manufacturer's profits: a trend sometimes labelled as *privatisation of profits* and

socialisation of costs. Production needs to be cheap and increasing in quantity. Yet the more that is produced in this way, the bigger the environmental impacts.

Keeping the production costs low, while increasing the level of outputs leads to the most challenging and problematic discrepancy we find between environmental impact and employment. A process visible in every developed economy is automation, being a gradual decrease of workforce with a parallel increase in energy and material consumption. American sociologist Alan Schnaiberg (1980) named this process as the “Treadmill of production”. The logic of the market in industrialised countries leads to an increase of manufacturing automation at the expense of employment, while simultaneously increasing the consumption of materials and energy. This results in the gradual increase in energy prices and raw materials while reducing jobs. This happens initially for those with lower qualifications, and then gradually for other people higher in the social structures. The original analysis of these trends focused on the manufacturing sector, but it was later enlarged to encompass the services and administration sector (including the state administration). Here we see a similar transition to the more energy and technologically demanding systems employing less people.

The expansion of science and technology leads to the replacement of a large part of human labour by machinery and information technology (IT). At the same time it creates pressure to increase production, or (as in the case of services) decrease the cost of operations. The reason is that the introduction of machinery and information technologies, and the cost of the machines and IT itself, is cost-effective only if there is a substantial increase in production and/or decrease of the operating costs (Schnaiberg 1980, Gould *et al.* 2004). The ever-increasing production and consumption is accompanied by a loss of natural resources and an increasing amount of waste. In other words, technology and tools need much more energy and chemicals, and far fewer people compared to previous manufacturing and service processes based on intensive human labour.

Are the conclusions of Schnaiberg and his followers applicable in our context, and could we employ *Treadmill Theory* as a conceptual framework for analysing the situation in Slovakia? Due to the economic structure inherited from the past and the transfer of some production from other countries, Slovakia is currently one of the most industrialised countries of the European Union (EU). The proportion of GDP provided by industry reached 25.8% in the first half of 2013 (Slovak statistical Bureau 2013) and the proportion is only higher in Romania and the Czech Republic.

Looking at the industrial production data in Slovakia, we see that the country has been through similar stages to many other states and regions. The 1990s, i.e. the years of economic transformation opening to the global market and privatisation should be skipped. These years of turmoil could be described as times of rapid de-industrialisation and collapse in many branches of the economy. If we take the year 2000 as our point of departure, there are certain trends which support Schnaiberg’s observations.

In 2012 Slovak industry employed 495,185 people. Of this number, manufacturing employed 449,126 people (90.7%), and water supply, purification and sewerage, waste management and remediation activities another 20,450 (4.1%). Electricity, gas, steam and air conditioning supply amounted to 18,255 people (3.7%)

and mining and quarrying to 7,354 (1.5%). If we compare 2012 with the previous year, we see a decrease of 0.9%, and if we compare the figure to the average number of people employed in industry in 2000, we see a decrease of 10.1%. In 2000, the average registered number of people employed in industry in the national economy accounted for 27.9%, and this had dropped to 22.6% by 2011 (Slovak Environmental Agency 2013).

At the same time, industrial production grew between 2000 and 2012. This trend was interrupted by the economic crisis and there was a temporary decline in production of 14.1% between 2008 and 2009. The economic crisis caused production to slow down, but despite this, the industrial production index² rose from 103.6 in 2001, to 110.3 in 2012 with an increase of 10.3 % in 2012 alone. When we further analyse labour productivity *vis-à-vis* employment, trends support Schnaiberg's initial claims. We see an increasing productivity accompanied by a decreasing number of people employed (See Figure 1).

Figure 1. Slovak industry and trends in the years 2000–2012: development of labour productivity in industry (EUR) and the development of the registered number of employees in industry (people).

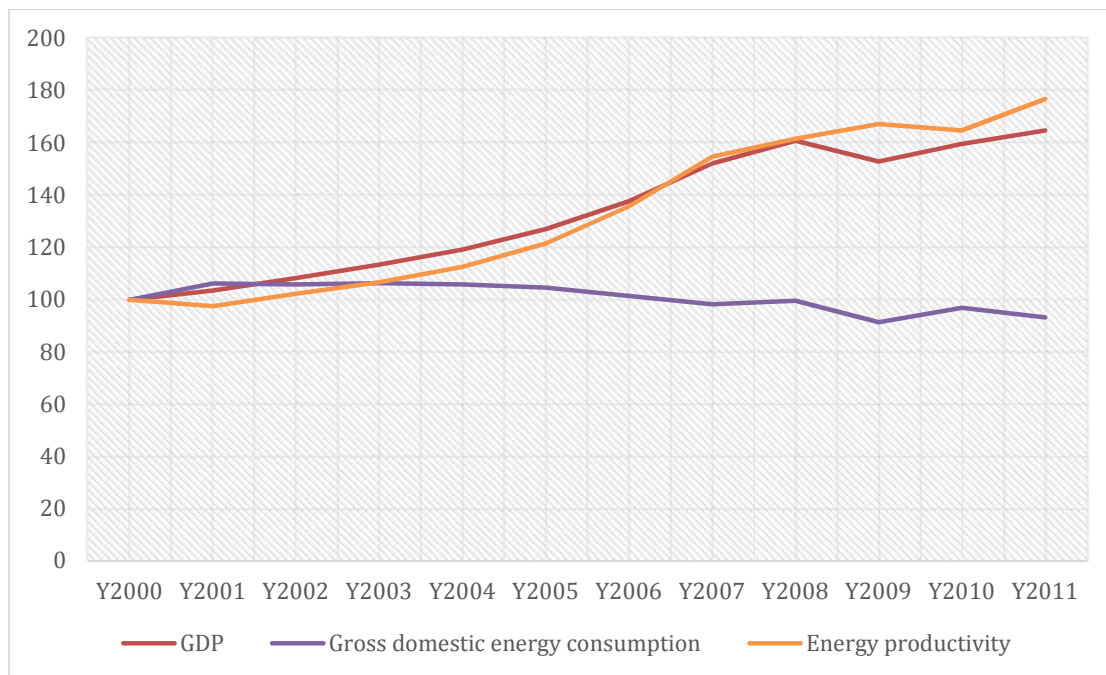


Source: Adopted from Slovak Statistical Bureau and Slovak Environmental Agency data, 2013.

According to Schnaiberg's theory, a decrease in employment should be accompanied by an increase in production and by an increase in energy and material consumption. In 2001, industry accounted for 35.8% of the final energy consumption of fuel, electricity and heat. By 2011 the industrial share in the overall consumption had decreased to 34.7%. In 2011, the ironmongery and steel sector accounted for 30.9% of the final energy consumption of fuel, electricity and heat in industry and cellulose, stationery and printing accounted for 15.5%. In 2011 compared with 2001, the final energy consumption of fuel, electricity and heat in the industry decreased by 14.7% (over the entire national economy, the decrease of final energy consumption of fuel, electricity and heat was 12.1%). In this sense, we see here an actual decoupling of energy consumption from economic growth (Figure 2).

² The level in 2000 is 100.

Figure 2. GDP, energy consumption and productivity between 2000 – 2011 (Index 2000=100).



Source: Adapted from Slovak Statistical Bureau and Slovak Environmental Agency data, 2013.

From this perspective, increase in production is for this time period (as we discussed in the previous paragraphs) accompanied by a decrease in employment, but there is no correlation with increasing energy consumption. This can possibly be explained by the starting position of the Slovak industry and its energy efficiency. The target in Slovakia is to save 12,405 Tera-Jouls of energy by 2016, and as much as 30% of this should be from savings in Slovak industry. According to *The Slovak Republic Action Plan for Energy Efficiency 2011-2013*, the overall energy consumption in Slovakia decreased between 2002 and 2008 by an astonishing 32% which was the biggest percentage change among all OECD countries. Even if we take into account the economic crisis, it is clear that the country had and still has an enormous potential for savings in energy. Slovak industry is still among the very energy demanding industries within the EU.

Assessment of trends in the employment *vis-à-vis* energy and materials consumption and waste generation points to several conclusions, which are in line with the *Treadmill* framework. Increasing productivity of industry leads to, together with global production and consumption patterns, a decreasing demand for labour. It is not a new trend and so far it has been counterbalanced by an increase of employment in services. Yet services are also going through a transition and are hardly able to absorb the unemployed workforce. In this context, the environmental question is increasingly not only a problem of protection of scarce resources, but also a problem of finding a balance between labour, resources and sustainability.

I.2. Social agenda

On the 2nd of July 2008, the European Commission (EC) announced its social agenda for the forthcoming years. Building on previous work and achievements, the renewed social agenda brings together a range of EU policies structured around three goals: (i) creating new opportunities in the employment market; (ii) facilitating access to education, social protection, health care and quality services for all; and (iii) developing solidarity at the heart of European society, in order to foster social inclusion and equal opportunities for all. Based on these three goals, actions in the following seven priority areas are to be supported³:

1. Children and youth
2. More and better jobs and the enhancement of skills
3. Mobility
4. Improving the quality of life and the inclusion of the elderly
5. The fight against poverty and social exclusion
6. The fight against discrimination
7. The promotion of social rights at worldwide level

In order to achieve defined objectives in these seven areas, the EC uses a mix of different policy tools ranging from the EU legislation for social dialogue, cooperation with member states and communication tools. An important aspect for cohesion countries, including Slovakia, is linking of this agenda to EU funding (i.e., the EU's Structural Funds, the European Globalisation Adjustment Fund and the PROGRESS Programme on employment and social solidarity). Practically all of the seven areas have a clear environmental dimension:

1. Children and youth and their future is an issue of environmental sustainability and future access to resources and clean environment.
2. More and better jobs and the enhancement of skills raises the question of the environmental impacts of jobs, and the environment as a source of labour opportunities.
3. Mobility is not only a social phenomenon and a technical issue, but also one of the key environmental concerns in Europe.
4. Improving the quality of life and the inclusion of the elderly go hand in hand with sustainability goals.
5. The fight against poverty and social exclusion has an environmental dimension through access to resources and exposure to environmental risks (based on class and ethnic factors).
6. The fight against discrimination should also encompass a fight against discrimination in the access to a clean and safe environment and equal exposure to the environmental threats.
7. The promotion of social rights at a worldwide level is an elementary condition for finding a future global deal on issues such as biodiversity protection and climate change.

³ More information at:
http://europa.eu/legislation_summaries/employment_and_social_policy/social_agenda/em0010_en.htm

Perhaps the biggest problem faced by social agenda in the current transformation of capitalism, accelerated by the crisis and increasing global competition, is the problem of finance. Here we find strong similarities with the environmental agenda. They are both attacked as costly and as detrimental to competitiveness by increasing production costs. A race to the bottom with lowering taxation in the nation states goes hand in hand with the opening of economies and reducing structural obstacles to tax evasions.

Environmentalists sometimes criticise the social state with the argument that a redistribution of income gives rise to an increasing level of consumption. While we may agree that the social transfer has a certain role in consumption patterns, we claim that it is not the fault of the social state as such, but more a problem of setting the taxes and prices right. In other words, it was not a primary goal of the welfare state to stimulate consumption, but to allow access of the people to basic services. There are tools for addressing the problem of consumption within social states while in the same time stimulate access to promoted services. For instance, external costs of transportation can be internalised into cars and petrol costs, while taxes on social or health services are decreased.

Before we return to the discussion on the overall economic and social framework, we investigate, in detail, three main themes, where the cross-roads, links and synergies between the environmental question and the social agenda are strong, and suggest many possible courses of action. For the purpose of the report these are environmental justice, energy poverty and green jobs.

I.3. Social inequalities, access to resources and environmental justice

Negative impacts of industrial production and development do not affect everyone in society evenly. Environmental risks and the distribution of adverse effects of development have a tendency to be imposed more on those who do not possess adequate resources for their own protection or are discriminated against because of their origin. As Ulrich Beck (1999:7) claims: "the first law of environmental risk is: pollution follows the poor." For the poor who are discriminated against because of their social situation, the environment might represent yet another form of discrimination. This exclusion is sometimes reinforced by the ethnic affiliation of those who already experience social exclusion from society. Discrimination in access to resources and in the exposure to environmental risks is analysed using the term environmental justice (or injustice).

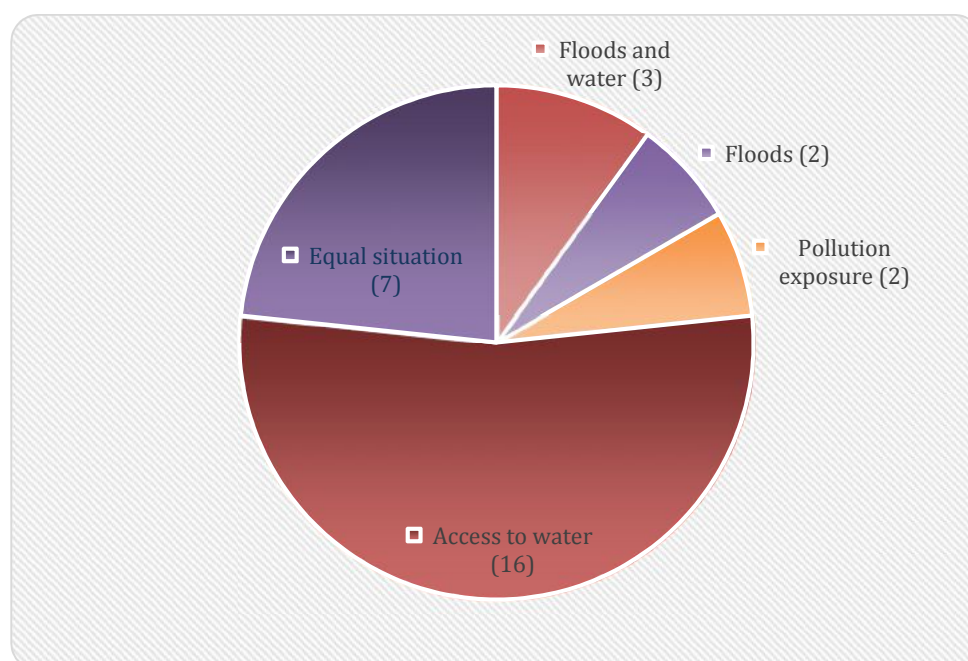
The problem regarding the distribution of environmental benefits and harms is a rather new topic in Central and Eastern Europe and in Slovakia. The environmental and social or economic discourses generally run in parallel here, and there is little by way of existing literature or projects trying to connect the problems of poverty or ethnic discrimination, with access to environmental benefits or exposure to environmental harms. One exception is the problem of housing, where activists and nongovernmental organisations include access to water and sanitation in their public advocacy for equal treatment. They do it, however, more from a social rather than an environmental perspective.

Problems of marginalised groups often also encompass the environment, but the concepts of environmental discrimination or environmental justice are still virtually unknown in the region, and environmental problems are only unsystematically listed among the other problems the communities face. There is little existing literature on environmental justice in the region yet there is more effort needed to approach the complicated nexus of poverty-discrimination-environment (Antypas, Filčák, and Steger 2008; Steger *et al.* 2007, Filčák 2012,). Many uncertainties remain, along with a substantial gap between research and practice.

At the practical level, there are so far just a few research outcomes from the study of Roma marginalised groups. It is not because the Roma are the only people exposed to this phenomenon, but it is relatively easy to study the access to resources and exposure to harms among people living in segregated areas i.e., places, where we may map and analyse differences among different social and ethnic groups.

Results of the studies conducted confirm the occurrence of discriminatory patterns in access to potable water, exposure to floods, waste management practices and exposure to impacts from industrial production. A qualitative study of 30 randomly selected Roma settlements confirm the higher risk of exposure to pollution and floods and worse access to resources by Roma settlements compared to their non-Roma neighbourhood (Figure 3).⁴

Figure 3. Comparative evaluation - higher exposure to risk or worse access to environmental resources in the Roma settlements in Slovakia compared to their non-Roma neighbourhood (30 appraised settlements).



Source: The author.

Discrimination in the access to environmental benefits (i.e., clean water and safe environment) needs to be put into the context of the overall economic and social situation of the marginalised groups and individuals. There is a need for more comprehensive, detailed, and systematic data on the role of discrimination (i.e., role

⁴ See Filčák 2012 for more information on this study.

of class and race) in the distribution of environmental harms and benefits. Facilitated by applying an environmental justice framework, it should start with the documentation of discriminatory practices in multiple environmental arenas (e.g., pollution exposure, flooding, access to water). The problem is made more complex, because further environmental degradation is created by violating sound environmental practices in the marginalised areas, where the “normal” or “usual” rules of operation already do not apply. It leads to a “beyond the pale” syndrome, locating environmentally problematic facilities in an area where problems already exist.

I.4. Housing, energy efficiency and energy poverty

Energy production and consumption are the main environmental problems and they are the key issues of importance in addressing problems of climate change. Energy, however, is also increasingly a social problem. From an environmental perspective the best energy is that which is saved rather than spent. Alternative energy production and decentralisation of energy sources is the most important aspect in the stimulation of green jobs. Firstly, however, in this section we discuss energy as a social issue.

The impacts of social inequalities and risk-of-poverty on access to energy as a resource are important for life, and participation in modern societies is an increasingly important topic. The key problem for individuals and households in the risk-of-poverty category is that the proportion of total household expenditure spent on electricity and other fuels and the ability/inability to pay for these services. Energy costs have been steadily increasing in absolute terms. The share of a household budget spent on energy costs has also increased, especially among low-income households. Such householders often live in old houses and do not have enough resources to invest in energy efficiency. Therefore, paradoxically, they sometimes pay more for energy than the better-off households. The outcome of these trends is a phenomenon called fuel or energy poverty.

The extent to which energy represents a burden for the household budget is indicated by the ratio of a household's expenditure on energy to its total expenditure. In Slovakia, there is a significant variation among households. According to the Household Budget Survey data, old-age pensioners' households incur the highest proportion of energy expenditure. In 2011, households with an old-age pensioner at its head paid approximately 19% of total net expenditure (expressed per capita) on electricity, gas and other fuels. This was disproportionally higher than the average of 13% across the total population. It was also eight percentage points higher than the share of expenditure on energy in households where the head was an employee or self-employed (Gerbery and Filčák in press). It is a relatively high percentage.

In the UK, which is a country closely monitoring access to energy, a household is said to be in fuel poverty if their required fuel costs are above average (the national median level), or, if they were to spend the required amount, they would be left with a residual income below the official poverty line. A household is fuel-poor if it needs to spend more than 10% of its income on fuel to maintain a satisfactory heating regime (usually 21 degrees for the main living area, and 18 degrees for other occupied rooms). The key drivers behind fuel poverty are:

- ❖ The energy efficiency of the property (and therefore, the energy required to heat and power the home)
- ❖ The cost of energy
- ❖ Household income⁵

The cost of energy and household income are the key factors that determine access to energy. The price is predominantly influenced by global and local prices of fuels, alternative renewable energy sources, cost of production and distribution. Regulation or deregulation of the market has an effect, as do different subsidy policies, and taxes or internalisation of external costs of energy production. Disposable income of households *vis-à-vis* end user energy price is an important indicator of energy affordability.

Energy efficiency is a factor that influences the energy consumption of households and plays a very important role in energy poverty (Boardman 1998, Green *et al.* 2000). By efficiency we mean the use of less energy to accomplish the same task, such as heating or lighting a building of certain size. This lowers costs and reduces emissions of CO₂. The energy efficiency of a household is determined by design and quality of the dwelling, efficiency of the heating and lighting systems, and, last but not least, the individual behaviour of the householders.

The first problem is that energy efficiency requires investments which may prove to be a barrier for low-income households with low energy-efficient dwellings. These could be older houses and flats, sometimes built from poor quality materials. Most of them have low energy efficiency due to the materials used, old windows, or thin walls. The efficiency of the heating system is also problematic and losses are high. Payments represent a burden for the households (in the context of total income) and this may lead to regular or *ad hoc* problems with maintaining adequate indoor temperature.

Lower income and/or poverty is usually reflected in a lower level of social capital, or in reduced access to information. This hinders decision-making, and prevents householders taking up different supporting schemes that may exist (e.g., grants or low-interest loans for energy insulation and alternative energy sources, or various social support programmes for low income households). Such households often do not possess enough resources to invest in energy efficiency measures, do not have access to bank loans or guarantees, and do not have the social skills necessary for accessing support schemes.

Nature and the environment are important dimensions of energy poverty. The environment may both exacerbate the situation, and provide some solutions.

Social pressures that stem from energy poverty may also impact nature. Two examples include: (i) indoor and outdoor air quality; and (ii) illegal logging and timber trade which are discussed further below.

Lack of financial resources leads to a situation when low-income households are likely to seek alternative sources of energy. This could be low quality coal or, in extreme cases, various types of waste. Indoor air quality was identified as one of the

⁵ See UK Department and of Energy and Climate Change website:
<https://www.gov.uk/government/organisations/department-of-energy-climate-change/series/fuel-poverty-statistics>

main causes of mortality in developing countries (Barnes and Toman 2006). Smoke from ovens and heaters may contain harmful particles and carcinogens. In the CEE context, this happens in marginalised households and extreme poverty (e.g. Roma rural shantytowns, and urban ghettos). Burning of low quality fuels seriously impacts indoor air quality and is a problematic non-point source of outdoor emissions.

Fuel prices are in a causal relationship with the illegal logging and timber trade, which is a specific problem in rural areas with high concentrations of poverty. Forests are becoming an important source of fuel for low-income households, helping to overcome problems with affordability of energy. There may however, be the danger of repercussions from forest owners and managers against any illegal logging. An example is in the Spiš region in eastern Slovakia, where illegal logging may cause a problem in the buffering and core zones of the National Park Slovak Paradise (Slovenský raj). Originally this illegal logging was limited to the park's northern part, where there is a high concentration of rural poverty and marginalised Roma settlements. Recently, however, the southern part, where no such marginalised settlements exist, has also been affected.

Addressing energy poverty may have multiple effects. It may help to increase life quality through affordable energy, decrease pressure on forests, and influence indoor and outdoor air quality. Importantly, in combination with support schemes, it may also provide job opportunities in energy efficiency.

I.5. Environmental modernisation and jobs

The main goal of the social agenda is to increase labour opportunities. This is traditionally viewed as conflicting with the aims of environmental protection where it impacts human activities. Industrial production and the accompanying consumerism have been traditionally seen as the main cause and propeller of growing adverse environmental impacts. Environmental modernisation concepts (such as green growth, low-carbon economy, and sustainable development) have long tried to reconcile tensions between development and its environmental and social costs. The future economy is seen as being one of zero waste, closed loop production, and low energy intensity. We will put aside the question of how this is actually possible in the longer run and on a global scale and instead focus on the relationship between the economy, environment and jobs.

Approaches are based on the focus of environmental modernisation on a gradual shift from traditional energy intensive and waste producing industrial models, towards an economy based on renewable energy, resource efficiency and zero waste strategies. Consumption is seen in this perspective as a problem that can be addressed by green design, reuse, recycling and sharing.

One of the arguments in favour of the changes is that they may simultaneously decrease environmental impacts whilst providing new labour opportunities to replace those disappearing in the traditional branches of industry. These jobs are then labelled as green. In other words, promotion of these new approaches is not viewed as job damaging and eliminating, but rather as an option for creating new and lasting job opportunities for both high and low skilled employees. The basic problems with green jobs relate to their definition,

quantifying/estimating the number, stimulating their creation and determining how to make them last.

The UN Environment Agency defines green jobs as jobs in agriculture, manufacturing, research and development, administration, and services that contribute substantially to preserving or restoring environmental quality (UNEP 2009: 3). Specifically (but not exclusively) we talk here about jobs in the protection of ecosystems and biodiversity, production of renewable energy, energy efficiency, dematerialisation of consumption, water consumption through high efficiency strategies, reducing economic dependence on carbon fuels and minimising their generation, and a gradual phasing out of all forms of waste and pollution (see Annex 2).

The EU commissioned a study from 2007 (GHK 2007) which estimates that around 6% of jobs in the EU-27 can be classified as green jobs and the sector is rapidly growing. The EC target of achieving 20% of energy production from renewable sources by 2020 should alone create 2.8 million new jobs (EC 2010). German renewable energy industry in 2010 employed approximately 370,000 people and replaced the import of energy valued at 5 billion euros. The benefit from the manufacture of biomass boilers in the Czech Republic is to be more than 2,700 jobs (as a conservative estimate). This is likely to grow depending on the number of installed boilers and supply of "market" fuel (Zámečník and Hlaváč 2010: 7). Vladimír Špidla (2013) estimates, that if the Czech Republic reaches the German stage of sector development, there would be a potential for 100,000 new jobs in the renewable energy sector.

The German example is an important one for the CEE countries. If we compare the figure of 370,000 people in Germany employed in the renewable energy sector to the size of the population, it equals roughly 1 job per 217 inhabitants in Germany, compared to 1 job per 1800 inhabitants in Slovakia. While Germany set targets for renewable energy well above the EU requirements of 20%,⁶ Slovakia reaches only the minimal level required. From this perspective, it seems that the number of jobs in the renewable energy sector is growing fast in Germany and the gap will increase even if Slovakia actually reaches its target of 14 % of total energy consumption from renewable sources by 2020.

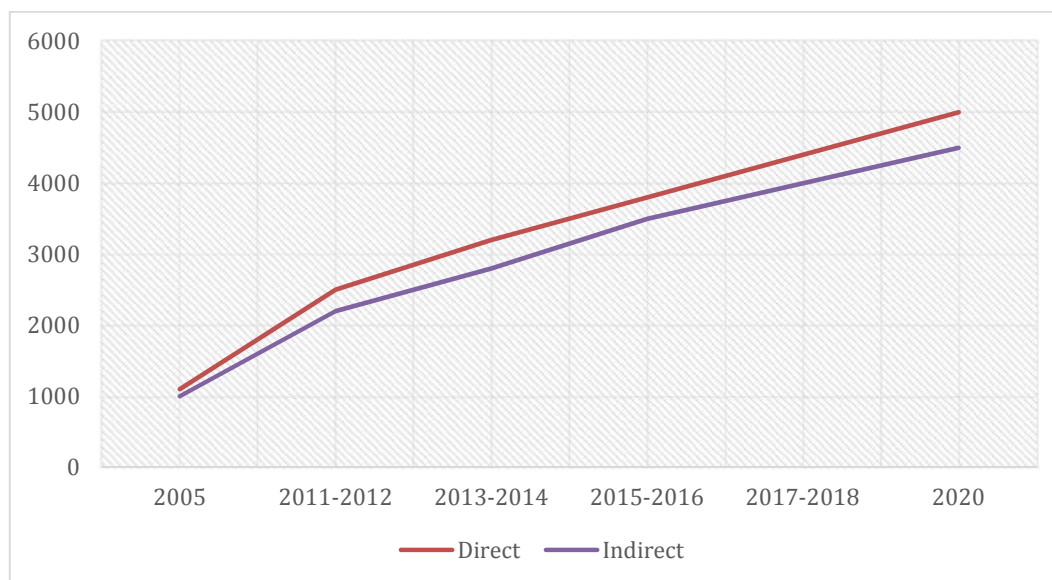
So far, the most comprehensive and detailed analyses of the green jobs situation and potential in Slovakia, has been carried out by Pavol Bellan (2010). According to his work, any calculation concerning the range of green jobs in Slovakia is complicated. One method is to base estimates on international studies of eco-industry using the classification of Environment Goods and Services Sector (EGSS). Building on this approach, Bellan estimated direct employment in the EGSS in Slovakia between years 1999 and 2000 as 24,000 to 25,000 FTEs⁷. However studies differ in determining the structure of employment as well as the volume of indirect employment (4,000 to 14,000 FTE). As he points out, conclusions from later studies conducted in the years 2006 and 2009 on employment in EGSS are not consistently comparable with these numbers. His estimates for Slovakia (according to the most optimistic scenario) are that the number of direct and indirect jobs in the renewable energy sector up to 2020 could reach almost 10,000 work places (Figure 4). This is far beyond expectations for this sector suggested by the German example,

⁶ Germany plans 35% of renewable electricity and 18% of renewable energy by 2020.

⁷ Full Time equivalent (FTE)

although we must take into account that Slovakia has had limited investment in development and manufacturing of renewable energy technologies so far and most of the jobs are in construction, operation and maintenance.

Figure 4. Estimated numbers of new jobs according to the ACT scenario (direct and indirect) in the renewable energy sector 2005-2020.



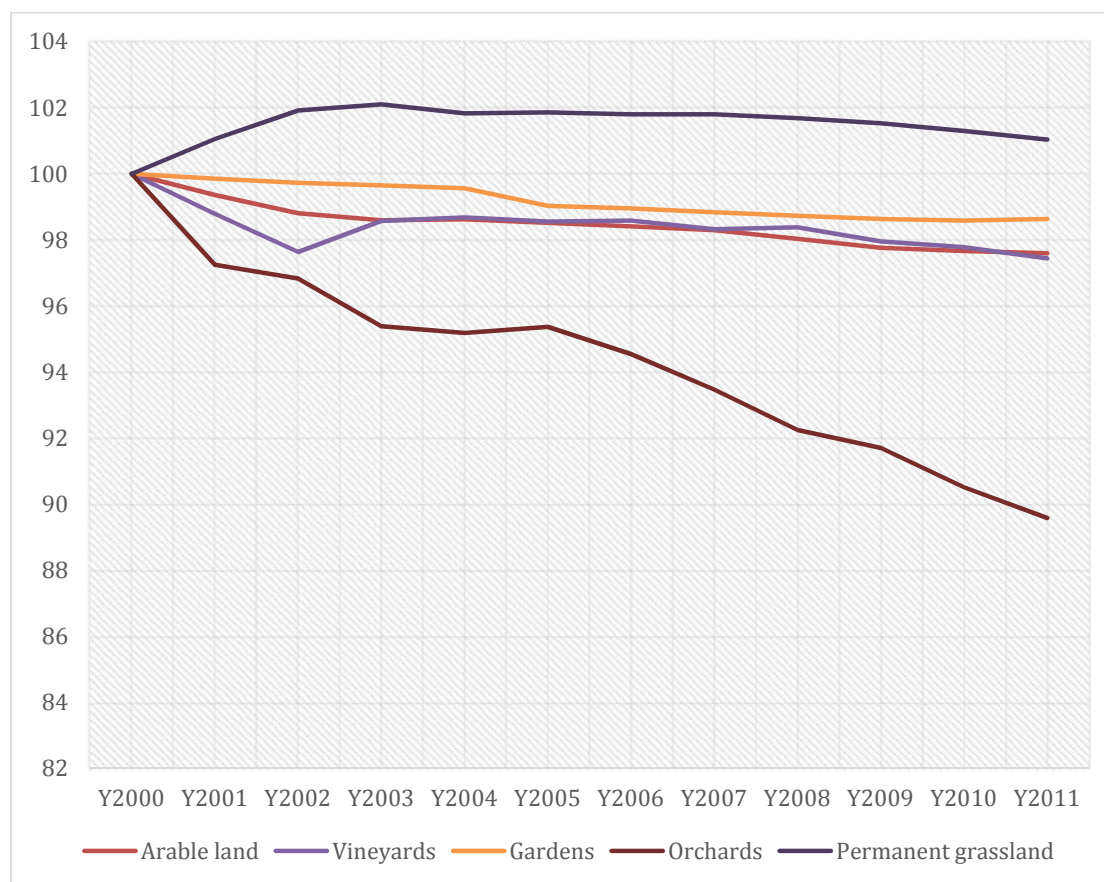
Source: Adapted from Bellan 2010.

The agricultural sector is an important generator of green jobs especially in rural areas and for low skilled labour. Here we see several adverse trends and barriers to the development of the organic and alternative agriculture sector as a source of green jobs.

Former cooperative farms mostly collapsed years ago and ownership of the land is fragmented due to historical reasons; there has been equal division between heirs under Hungarian law compared, for instance, to the Czech Republic, where the Austrian law of the oldest son becoming the landowner applied during the Austro-Hungarian Empire.

The area of arable land, vineyards, gardens and orchards has been decreasing since the 1990s. This trend, although less marked, continues after 2000 (see Figure 5.). Between 2000 and 2011 there was a decrease in arable land by 2.4% (-34,838 ha) while areas of permanent grassland increased by 1.04% (+9,002 ha).

Figure 5. Changes in the agricultural land structure (year 2000 = Index 100).



Source: Adapted from Slovak Statistical Bureau and Slovak Environmental Agency data, 2013.

The recent trend is a gradual concentration of ownership by bigger industrial enterprises built on extensive agricultural practice, mechanisation and IT. Land grabbing, a phenomenon recognised more in the developing countries, is becoming widespread in the CEE, endangering longer-term prospects of sustainable agricultural practices.

Renewable energy production, energy efficiency and agriculture are the sectors with the biggest potential for the generation of green jobs. Information about other services and sectors is scattered and trends predominantly depend on the speed of environmental modernisation (e.g., new technologies and better waste management practice).

The lesson learned from many countries which are serious in supporting green jobs suggests that prudent and informed policy decisions, based on internalisation of the external costs, and careful planning of supporting policies and economic incentives are required to stimulate this segment of the economy. To illustrate this point, let's have a look at a few examples. The United States in 2007 passed a new law on green jobs (The Green Jobs Act of 2007)⁸. This tool provides 125 million USD annually to train workers and create jobs in the clean energy sector. At

⁸ See Green Jobs Act website: <http://www.greenjobsact.com/>.

least 15 million USD of this amount must be used to create jobs for adults living below the poverty line. It is expected that the bill will help to create around 35,000 new jobs annually. Another example is *Going for green growth: A green jobs strategy for Scotland*. This is a policy to promote job creation in the management of natural resources, renewable energy, waste management and industry.

According to Angelov and Johansson (2011), the newly created jobs are strongly polarised; they are either in hi - tech industries, or are opportunities for low-skilled labour. Green jobs could, in our context of Central Europe, provide a much needed opportunity for structurally unemployable people and for those in marginalised regions. In other words, they would provide employment opportunities for people with lower education, who need it the most, such as those in rural areas with high levels of poverty, high unemployment and low labour mobility. Susan George (2010) talks in this sense about *re - localisation*, or simply a return of economic activities back to local people. The problem is that our economic model builds on centralised production and automation. Solving this contradiction would require certain stimulation and protection of green jobs, which might be achieved for example, through a tax system favouring smaller enterprises in marginalised regions.

The conceptual question is how the green jobs are defined in the context of economic development. In today's prevailing terms and simplified understanding they are seen as a sort of appendage to the labour market. Yet instead of talking narrowly about the green jobs we should analyse the possibility of a green economy built on social grounds. The question of labour is crucial to any discussion about a sustainable system. Work is not just a contract between the employee and the employer, nor solely a simple activity required to obtain a livelihood. For most people it is a way of self-realisation, a way to obtain respect and confidence. The challenge is how to direct this creative human power into activities that meet human needs while being environmentally sustainable.

II. POINT OF DEPARTURE: JUSTICE, ACCESS AND OPPORTUNITIES

In the previous sections we discussed framework conditions, structural challenges, policies and practical opportunities in addressing the intersections between the social and environmental agendas. In this part, we discuss policy options in the three selected areas. These are environmental justice, energy poverty and green jobs. It is by no means an exhaustive list of opportunities. What all the three areas have in common however, is the problem of social inequalities and its importance for targeted measures.

Mapping and evaluation of different impacts of transformation on different social groups, while understanding the role of the general framework of economic, social, and environmental policies, is crucial for the creation of conditions for linking social and environmental agendas. The well-designed policy framework that reflects micro-level conditions might address the vulnerability of different social and ethnic groups in the distribution of environmental benefits and harm, facilitate access to energy and generate work opportunities for those who need them most.

Any long-term policy focusing on the social-environment nexus would therefore inevitably need to take into account the following areas: (i) reconsider the basic principles of the economic and social policies toward a system of redistribution and support of social inclusion rather than exclusion; (ii) support soft measures such as education, capacity development, and skills building, instead of focusing solely on infrastructure development; (iii) use the EU concept of economic and social cohesion and leverage for development of best practices and approaches, and (iv) analyse and build connections between environmental, social, and economic objectives.

At the same time it is important to build on a cross-sectoral approach and work towards a common policy framework for environmental and social measures and instruments and to improve coordination between actors (e.g., government council, committees and/or coordinating body). Where possible, organisational arrangements should enhance common goals. This can occur, for instance, by managing forests as a comprehensive resource included under environmental jurisdiction, instead of keeping it as an economic item. Similarly in climate change mitigation and adaptation there are opportunities to integrate energy and climate change agendas under one office (e.g., in the UK and Scandinavia). This improves the potential for cooperation and structural changes in energy production and consumption.

Last but not least, improving the dissemination of information and awareness is crucial for the promotion of social and environmental agendas and development. In this respect, there is a substantial need for capacity building and generating public support for long-term solutions.

II.1. Call for environmental justice

Key policy messages

- ❖ Only scattered information on the access to natural resources and exposure to harm in relation to social situations is available. Environmental monitoring of settlements needs to be developed, e.g. using governmental agencies and identify those that are (from an environmental perspective) problematically located, or particularly exposed to environmental threats.
- ❖ Map, monitor and gradually rehabilitate the old environmental liabilities. These have a tendency to concentrate near low-income settlements.
- ❖ Systematically evaluate the location of new houses, especially social houses, from the environmental perspective (e.g., whether they are in the regularly flooded areas).
- ❖ Provide assistance for the people from settlements exposed to toxic substances and/or floods.
- ❖ Prevent construction of environmentally problematic facilities (e.g., for waste management) in the proximity of socially or otherwise marginalised people.
- ❖ Begin or accelerate construction of new water supply and sewage infrastructure focusing specifically on settlements with poor water quality or limited access to potable water.
- ❖ Pay special attention to marginalised Roma community, rural poor and their access to basic resources, such as potable water.
- ❖ Continue and accelerate construction of public housing while focusing on integration and taking into consideration the social status of the inhabitants (e.g., looking for alternative housing projects involving energy-efficient, environmentally friendly technologies for construction and heating).

Social inequalities in access to resources and exposure to threats may lead to an unequal burden imposed on people of different social classes and/or ethnicity. This situation is defined in literature as environmental justice. Participants of the first workshop on “Improving Environmental Justice in Central and Eastern Europe” developed the following definition of environmental justice relevant for the CEE region in December 2004:⁹ “A condition of environmental justice exists when environmental risks and hazards and investments and benefits are equally distributed without direct or indirect discrimination at all jurisdictional levels and when access to environmental investments, benefits, and natural resources are equally distributed; and when access to information, participation in decision making, and access to justice in environment-related matters are enjoyed by all.”

Taken together, these understandings of environmental justice encompass both distributive and procedural aspects and their universal validity. People who are poor and/or of different ethnic origin to the surrounding population usually have a worse chance of effectively protecting themselves and it is important to see this problem as a structural issue and an inevitable part of the development policies. Approaches to addressing the roots of environmental justice can vary from social

⁹ Organised by the Centre for Environmental Policy and Law, Central European University, Budapest, Hungary, www.cepl.ceu.hu.

integration of the marginalised groups to their empowerment at the local level. The focus is on natural resource utilisation and environmental management as the opportunities to meet social goals. This can be modelled around nine recommended shifts in approach:

1. From general reforms of the economic framework and social assistance to targeted measures and approaches and a stronger state for local empowering action;
2. From homeless strangers to stakeholders;
3. From “marginalised people as part of the problem” to “marginalised people as part of the solution”;
4. From the environment as a source of *ad hoc* income to the environment as a generator of income and employment;
5. From “planning for the people” to “planning with the people”;
6. From competition to collaboration and reinforcement of the majority and minority ties;
7. From *ad hoc* projects to systematic and state-backed approaches to the marginalised communities;
8. From separate tracks of poverty alleviation and environmental protection to addressing poverty through environmental management and addressing environmental injustice through poverty alleviation;
9. From addressing symptoms of environmental injustice to addressing the roots of unequal treatment.

II.2. Alleviation of energy poverty

Key policy messages
❖ Start up regular monitoring and evaluation on the number of people unable to pay for heating and electricity, or those where these expenditures impose a significant burden on household budgets (i.e., social groups such as pensioners, single mothers etc.) ❖ Develop criteria and a system that will be able to define energy poverty and help to target assistance at the social groups most exposed to energy poverty. ❖ Tailor energy efficiency programs and subsidies to people in energy poverty, i.e., those who are not usually able to reach for these schemes and support. ❖ Include energy poverty as a concept in the evaluation criteria for distribution of the 2014-2020 EU funds (i.e., energy efficiency measures and projects).

We may look at the problem of energy poverty (and similarly at the problem of poverty as such) from two different perspectives that would subsequently define (but also limit) suggested approaches. If we build on the traditional approach based on *laissez-faire* individualism and economic liberalism, poverty is the failure of

individual men. This approach may gradually lead to a tendency to blame the victims, justified by concepts such as, for instance, “culture of poverty” (Lewis 1975, Zurcher 1973). An alternative approach is based on the principles of basic needs and development theories (*developmentarism*) that interpret poverty as an inevitable outcome of structural conditions rooted in the very core of the system that disadvantage certain groups and individuals. This approach leads to the development of modern welfare states, a concept that arose especially after the World War II in developed countries.

The first approach prefers market-based solutions based on economic policies connected to what is remaining from social policies focused on the psychological rehabilitation of the poor (Hardiman and Midgley 1989). Understanding poverty as a structural problem supports solutions based on state interventions, a promotion of affirmative actions focused on changing starting conditions for people. This is done through redistribution of incomes within society. In our case it is through the mechanisms of the welfare state that have proven themselves highly effective in reducing relative as well as absolute poverty in all analysed high-income OECD countries (Kenworthy 1999, Bradley *et al.* 2003). Connecting households to electricity was, in most developed countries, a government project (e.g., electrification of the US South as a part of the New Deal, broad electrification program in European countries after World War II).

We may look at the problem of energy-poor households as a problem of individual people who are unable to allocate enough resources to energy, or we may look at it as the structural problem of growing inequalities and its impacts. Addressing environmental impacts of energy poverty requires targeted programs and approaches to the people in the risk-of-poverty category. Some of the policy options explored and being used by countries can be summarised as follows:

- ❖ *Special (social) tariffs for energy*: low-income households may ask for a discounted energy price (e.g., in Belgium, a special tariff that focuses on low-income households has been in place since 2005 in France);
- ❖ *State-supported social program for energy efficiency*: these programs are helping to overcome the problem of initial investment into energy efficiency and are specifically designed for low-income households (e.g., Warm Front in the UK);
- ❖ *Solidarity Funds*: in France, special funds aim to provide support to people who are in debt to their energy suppliers. The Energy Fund in Walloon Region/Belgium has a similar goal;
- ❖ *Advisory services*: advice and assistance to people in need (e.g., Walloon Union of Municipalities in Belgium have coordinated centres advising people on how to reduce their energy bills);
- ❖ *Supporting non-state actors*: support to non-governmental organisations assisting people with a high energy burden (e.g., Low-Income Home Energy Assistance Program in the USA). Private charity and social organisations (in countries where there is limited state support or program) directly support the poor.

Different assistance programs may have their pros and cons. As described in the previous section of the report, energy efficiency is key to addressing energy poverty. It is also key to minimising environmental impacts that accompany energy production and consumption.

The elementary questions arising from the different approaches to energy poverty policies can be discussed from at least three perspectives. Firstly, how should the state address the problem of poverty as such? According to Wolff (2009) social transfers are most effective in the Nordic countries, Hungary, the Netherlands, Austria, France, the Czech Republic and Slovenia where they reduce poverty by 50% or more. These are the countries with the lowest risk-of-poverty rates. The USA and the UK have comparatively lower levels of social transfers and traditionally focus more on a type of community assistance.

Secondly, what are the concrete approaches to helping people in energy poverty? Is it better to subsidise energy directly through price regulation and social tariffs, or rather provide assistance directly to households? Subsidised energy may have a short-term effect on households, but does not solve the question of energy consumption; it may be better to assist households with energy efficiency (e.g., insulation). Thirdly, how should assistance be provided? Is it better to set up a system of governmental or municipal agencies, or rely on non-governmental organisations, or even charities?

Different policy options may lead to different results. The problem is how to evaluate effectiveness and outcomes of policies and programs addressing energy poverty. In spite of systematic monitoring of the problem, and a broad supporting program, the number of households in fuel poverty is increasing in the UK. In fluctuating economic cycles (exacerbated recently by the global economic crisis) it is difficult to estimate the benefits of energy poverty policies. We may, however, argue that without these policies the trend may be worse.

Energy poverty is only a fraction of the overall problems poor people have to face. It cannot therefore be addressed as a separate and limited problem, but should be a part of a complex approach to poverty. Meaningful and effective solutions to social exclusion and marginalisation are necessary preconditions to decreasing energy poverty. In addition to looking at approaches to energy poverty as a part of overall strategies and policies addressing poverty, concentrated effort on energy efficiency is needed. Solutions to energy poverty involving energy efficiency improvements do not just mean expenditures, but also benefits. By benefits we do not mean only immediate access to energy, but also social impacts such as employment (e.g., employment opportunities in technologies and construction), decreased dependence on energy imports, or positive impacts on the environment.

II.3. Support for green jobs

Key policy messages

- ❖ Environmental and environment-energy policies have been positively affecting labour market.
- ❖ There is substantial potential for the creation of green jobs, but the current numbers are below the potential.
- ❖ More evaluations and studies are needed for targeted policy measures.
- ❖ Subsidy policies need to be evaluated and directed towards greening the economy and stimulating green jobs.
- ❖ The government, and governance through policy interventions and backup, is crucial for the development of green jobs and their sustainability.

Environmental protection measures tend to benefit employment. New projects bring jobs into communities, and provide a forum for participation in society. There are also secondary effects: a better environment boosts development of the tourist industry; fulfilment of stricter water directives gradually enables some of the marginalised communities to have access to potable water and sanitation. In this way, environmental policies provide an important macro-level factor for addressing some of the social problems of marginalised communities and could be a positive factor in their development.

The EU policy framework, supported by cohesion and structural funds, provides a strong stimulus to merge environmental and social goals, but the next step should be the development of a country's own policy measures, building on the European framework, and linking these measures with pro-jobs creation policies. Decentralised and low-profile green employment opportunities could provide an important stimulus for the development of marginalised communities. The adopted EU legislation in pollution prevention or waste management could speed up the process of creating these opportunities in Slovakia. However, there must be a balance between the creation of green jobs and environmental sustainability. For instance, biomass projects for energy production from wood chips and various wood waste from the timber industry could be beneficial if implemented in a sustainable way and do not lead to overexploitation of the natural resources.¹⁰

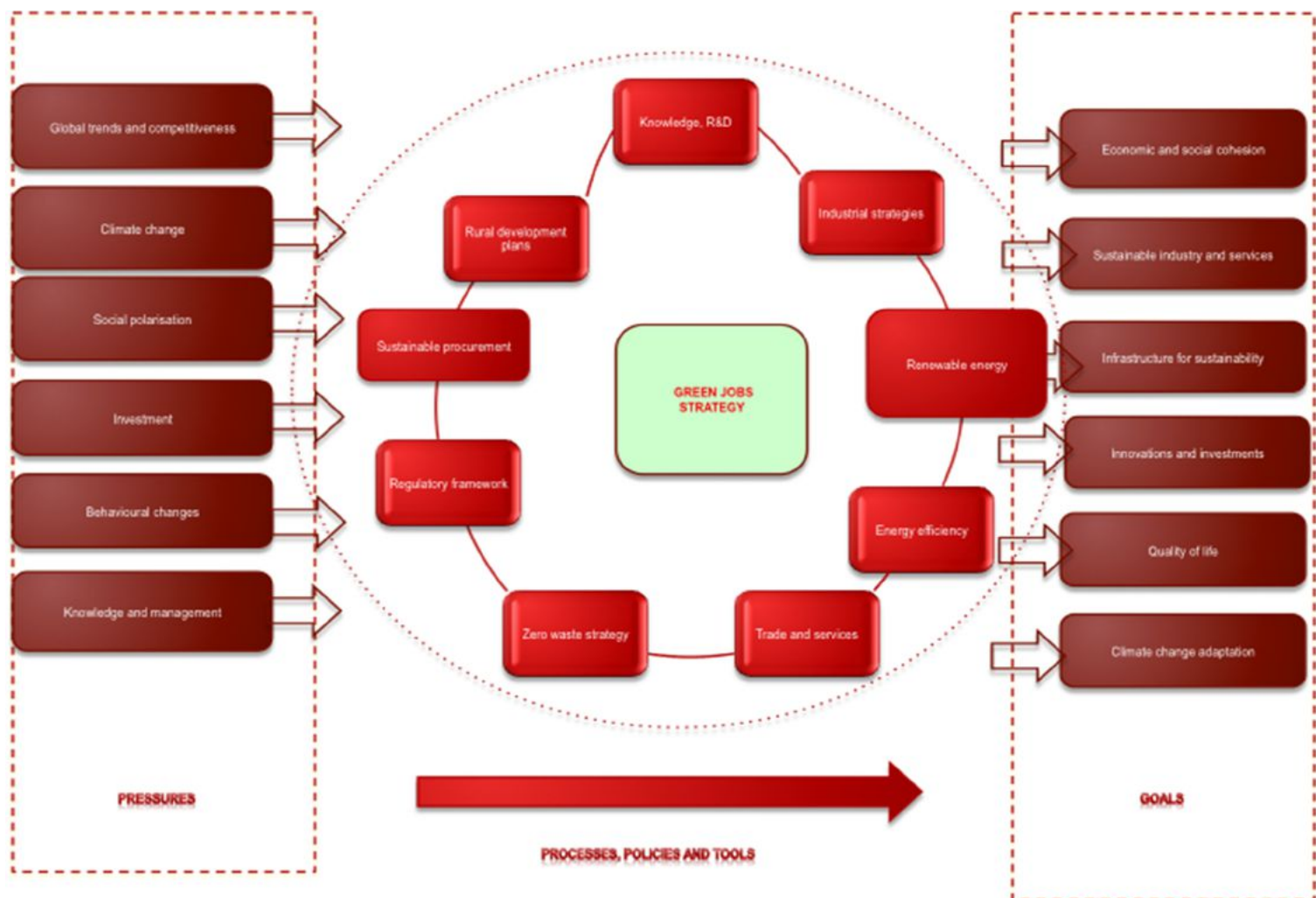
Another important issue is the quality of the jobs; there is a wide variety of green jobs. As Angelov and Johansson (2011: 252) point out, such jobs tend to occupy either the high-tech spectrum or the low-skills spectrum of the job market. From the perspective of addressing social groups facing long-term unemployment, the most important segment is that of low-skilled workers. Experience shows that waste management could be an especially important area. However, there are two aspects to be considered with this: the occupation is stigmatised and may reinforce prejudices against the poor; and the waste management and recycling business is increasingly dominated by multinational companies. Last but not least, we see here

¹⁰ Approximately 20% of timber mass stay in the forests after logging. It is a question of how much should stay in place to allow for the gradual recovery of the fauna and flora and how much could be collected for biomass energy projects.

the pattern of *Treadmill* modernisation and automation with a lowering of the demand for labour.

The role of the state is crucial. Green jobs should be defined as one of the governmental priorities and implemented in collaboration with counties and municipalities at the regional and local level in multi-stakeholder approaches. The government has to develop strategic guidelines, take the lead in their implementation, and integrate a green employment perspective into sectoral plans and policies. Development of a long-term strategy for green jobs could be the first step. Several constituent elements for such a strategy are outlined in Figure 6.

Figure 6. Possible elements of a green jobs strategy.



Source: The author.

The first step is the mapping of drivers and barriers to the green jobs. A strategy should bring together those who can create innovative new products and services, based on changes and savings in the use of natural resources, with those who understand how best to market them and turn them into business opportunities. It should support development from the simple assembly of imported technologies, to comprehensive approaches to local development based on local

knowledge and development of local production and manufacturing (e.g., biomass heaters or solar panels).

Thermal insulation could serve as another example of a comprehensive approach, where the whole chain from the production of insulation materials, to the training of the unemployed and support of small enterprises (especially in marginalised regions) should be supported. This goes hand in hand with support for local ownership and the involvement of local people. Besides this vision, the strategy could have practical implications for other sectoral policies and guide reform of the agricultural policy or support development of a new energy bill that would be more favourable for the promotion of energy from renewable resources.

Strategies and policies supported by financial instruments from the domestic budget and structural funds of the EU could create an enabling environment and prompt actions on different levels. It could lead to a better integration of synergies between the environment and employment, into decision-making. Such policy integration is needed from the top level of government. It includes subsidies for organic farmers with labour intensive but environmentally friendly production, to practical decisions on housing construction (for instance in the case of social housing) employing energy efficient constructions and biomass heating.

Investment in new economic activities and affiliated new employment opportunities will have little impact on people who need them, unless formal and informal institutions are in place to ensure their ability to engage in these opportunities. Otherwise we may face a situation where development projects (e.g., green employment) will not reach those who need them most.

A very specific case in Slovakia is the Roma, who are unlikely to reach for these opportunities simply because they cannot penetrate the wall of social exclusion and racial prejudices. Affirmative action and the establishment of a quota for Roma employment in forest management, protected areas and natural parks protection, or landscape management, could be both a big challenge and a big opportunity to enable the Roma to utilise these opportunities as a step towards integration into society. Tax incentives, guaranteed loans, or grants could be provided on condition of employing a certain percentage of marginalised people. A new modified activation policy mechanism might be developed and implemented. There are many alternative ways to do this as long as there is consensus and political will.

The creation of small and medium enterprises or cooperatives combined with economic incentives to employ people could facilitate the development of local economies. In the end, this would contribute to a more equal distribution of environmental benefits and hazards.

There are many ideas on how to generate employment, while protecting nature. Some are relatively simple, and some are more difficult to implement. It requires a general policy framework and enabling environment, sometimes willingness to pay and sell, minimal transaction costs, defined property rights and, most of all, stakeholders who are involved and energy to set it up. Given the fact that many villages in Slovakia are located in upstream watershed areas, often on the border of natural parks and protected areas, with potential for biomass and other renewable energy production, there is substantial opportunity for the generation of green jobs.

III. TOWARDS SYNERGIES IN THE ENVIRONMENTAL AND SOCIAL AGENDA

III.1. Adaptation to climate change

As highlighted by the European Environmental Agency (EEA 2013), Europe is increasingly exposed to the impacts of climate change and adaptation action is needed to protect people, buildings, infrastructure, businesses and ecosystems. Due to the varying severity and nature of climate impacts among different regions of Europe, most adaptation initiatives will be taken at national, regional or local level. Likewise, the ability to cope and adapt also differs across the population, economic sectors and regions within Europe. The European strategy puts strong emphasis on adaptation options that are low-cost, being good for the economy as well as the climate, and which make sense for a variety of reasons (EC 2013b). These are options that will promote sustainable development, stimulate climate-resilient investment, and create new jobs, particularly in sectors such as construction, water management, insurance, agricultural technologies and ecosystem management.

Flood protection measures using local approaches and small-scale construction could be an opportunity for empowering and providing jobs especially to the long-term unemployed in rural areas. There are various possible approaches. The current approach is to address the problem of people exposed to floods through a construction of concrete walls, deepening the riverbed, and constructing expensive anti-flood measures. An alternative approach could be based on involvement of the population in managing the river. It would emphasize landscape management with labour-intensive anti-flood measures based on increasing the land's natural retention capacity. Other opportunities, such as retrofitting existing road infrastructure to cater for increased precipitation are envisaged, e.g. improving the drainage system (EC 2013). These measures have the potential to be effective in flood prevention and are labour intensive. They could provide additional benefits to communities in the form of employment, capacity building, and empowerment.

Adaptation to climate change will require investment. This investment, if guided by good policies, could provide new approaches to landscape management and promote tourism infrastructure with alternative transportation. The key issue is to develop a system of support, which enables *re-localisation* (George 2010), or a return of economic activities back to local people instead of supporting large scale interventions based on work from outside.

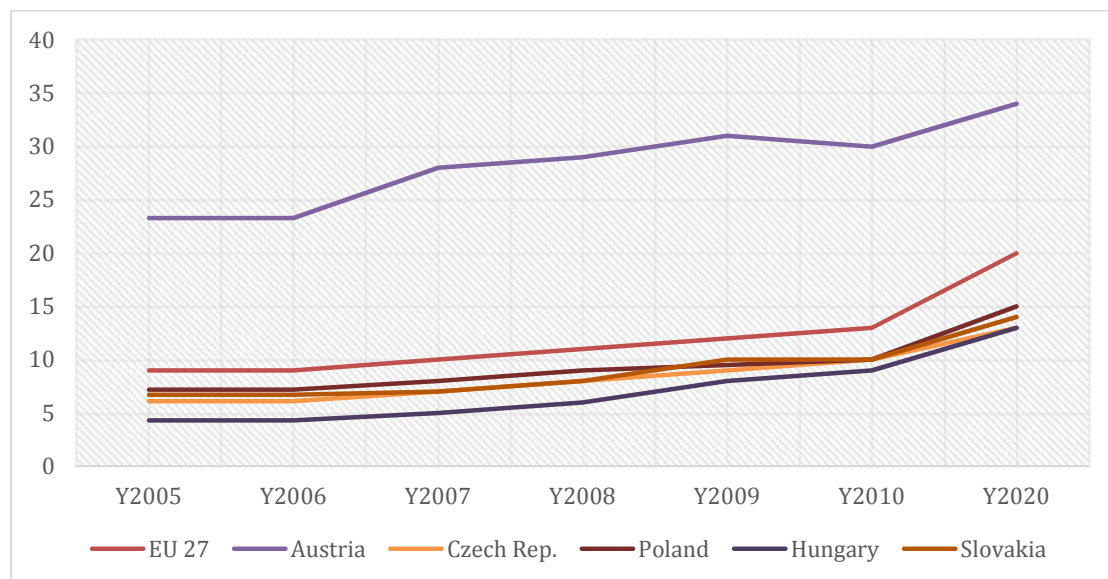
A very broad and important area of potential interventions and opportunities lies in agricultural production. In the proposed regulations for the 2014-2020 Common Agricultural Policy, adaptation has gained greater prominence, with the sustainable use of natural resources and climate action' being one of the three core objectives. The EU calls to promote resource efficiency and support the shift towards a low carbon and climate resilient economy in the agriculture, food and forestry sectors (EC 2013a). There are opportunities, particularly in labour-intensive alternative forms of bio products, where Slovakia may benefit from labour power in rural areas, its natural resources and proximity to the European markets.

III.2. Green energy transformation

Energy production and consumption are perhaps currently the key environmental challenges, but they are also economic and social challenges. Energy is also the single most important area for climate change mitigation measures. There has been a radical transformation in energy production and consumption over the past decade. This may indicate a much broader process than simple development of renewable energy sources and promotion of energy savings; it is the whole concept of energy production and consumption that is changing. The key process is decentralisation of production enabled by new production technologies and IT development. Production monopolies are under pressure and there is shift from consumers to producers. The main drivers of the changes are renewable resources.

The EU set the goal for the share of renewable energy (RE) in the total energy mix as an average of 20% by 2020. The position is different across the EU countries with challenging goals of 49% in Sweden compared to a small target of 10% in Cyprus. CEE countries have only just started to achieve their potential. For instance, in renewable energy production and usage there is significant gap between Austria and the Czech Republic or Slovakia, despite similar geographic conditions (Figure 7).

Figure 7. Share of renewable energy in gross domestic energy consumption: Situation and declared goals till 2020.



Source: EUROSTAT and European Commission.

Critics of the changes point to the many weak points in the replacement of fossil fuels with renewable resources, such as instability, unreliability and the need for basic loads. This is undoubtedly true and these problems are gradually being addressed. There is a rapid development towards smart grids and economies of scale (i.e., the more RE production, the lower the cost of equipment). Despite the relatively bad image recently associated with green energy through feed-in tariffs set up to benefit a narrow group of entrepreneurs, there is a clear trend towards their proliferation.

Decentralisation of energy production is a strong alternative in the building of communities, involvement of people and breaking the power of energy producers. It is also an area in which communities and individuals can be assisted in accessing affordable energy. Redistribution of subsidies and support from fossil fuel industries (dominated by multinational companies or national semi-monopolies) to small and medium producers could enhance social solidarity and welfare state approaches. Local production of energy and energy efficiency may provide local jobs (in construction, maintenance and operation), boost local economy and stimulate re-localisation of economic activities.

Besides redistribution of subsidies and a well-developed system of support there is the very important, and often ignored, question of ownership.

III.3. Promotion of alternative forms of ownership and management

Treadmill theory of automation, and structural changes towards high energy and intensive material production associated with a diminishing demand for labour also applies to work places with the potential to generate green jobs. That is why we need to see green employment opportunities not purely as an outcome of market logic, but also as an idea which needs policy support and measures.

Management and ownership are very important aspects of the scope of economic and social effects of investment into renewable resources or green infrastructure, which are often not taken into consideration. A photovoltaic power plant located in a marginalised rural area, but owned by a company in one of the tax heavens, is unlikely to lead to profit staying in the region in which it is earned. Ownership is equally important for generating local support. Local ownership and local "embeddedness" is a very important factor in economic and social gains affiliated with green investments.

Promoting alternative forms of ownership thus may become an opportunity for the communities and regions lagging behind. When we look at the situation in Germany, we see that as many as 51% of the renewable energy generators are privately owned and 11% are owned by farmers. There were 66 energy cooperatives in 2001, which had grown to 586 in 2011. Güssing in Burgenland, Austria, was the first city in the EU to reach total self-sufficiency in energy, while a Friends of the Earth project in the Poľana region, Slovakia, brings together villages for common production of energy from biomass.

These and other examples indicate that collective ownership or municipally owned and/or managed enterprises can become an additional source of income and prosperity for the local economy. To do this, wider access to supporting schemes and grants to municipalities need to be provided. Support in the form of technical assistance and capacity development programs need to be given to cooperatives, to help build their capacities in the development and management of this type of activity.

III.4. Procurement: Green and social

Government and municipalities are usually among the biggest purchasers of goods and services. In Europe, they spend approximately 2 trillion euros annually, equivalent to some 17% of the EU's gross domestic product. The question is, how can this significant purchasing power stimulate socially and environmentally progressive sectors of the economy and producers? Environmental and social procurement based on clear criteria and long-term vision may be a step in this direction.

Government and municipalities may, by sending clear signals, provide an incentive for producers and reduce the environmental impact from production and consumption. The EC defines Green Public Procurement as a process “whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured”¹¹. There are currently two regulations in this area applying in the EU: 2004/18/EC¹² and 2004/17/EC¹³ on contracts for public services and procurement in the field of water policy, energy, transport and services.

Besides green procurement, there is a growing debate regarding the inclusion of social criteria in the process of procurement. Factors considered are: (i) how to account for labour intensity behind the products; (ii) regional aspects of production; and (iii) social impact of purchases in the decision-making. Social procurement may involve organisations and individuals choosing to purchase based on the social outcome of buying a good or service. Social procurement provides greater support and development of social enterprises by recognising and placing value on the benefits that it provides. In so doing it increases the amount of work available to social enterprises.

Combined environmental and social procurement could benefit from both concepts, sending a strong signal to the market, while also working as a supportive measure to other policies and projects, for example by supporting green jobs through consumption of its outputs.

III.5. Funding the change

As Gabor Steingart (2008: 307) remarks, people do not just want to buy cheap shirts, or electronics, but they also want to keep their jobs. Similarly, we could question whether people would prefer lower taxes and higher disposable income to better access to high quality health care, free education and a strong safety net in the case of an emergency. In other words, how should we define and promote alternatives. Can we limit access to inexpensive and disposable consumer goods intensive in natural resources, but provide a better opportunity for personal advancement and reduce social and environmental risks?

¹¹ For more information see: COM (2008) 400 - *Public procurement for a better environment*.

¹² For more information see: <http://www.procurement.ie/publications/directive-200418ec>

¹³ For more information see: http://europa.eu/legislation_summaries/energy/internal_energy_market/l22010_en.htm

Whatever is environmentally and socially beneficial (such as health care, education, culture) should be cheap and available. In contrast, what is environmentally problematic (e.g., motorised forms of private transport and fossil fuels) should be expensive. It is not just a question of individual measures, but of the overall objectives of production and consumption. Any reform should start with the tax system, sometimes labelled as environmental tax reform (ETR). European Environmental Agency defines it as reform of the national tax system where there is a shift of the burden of taxes, for example from labour to environmentally damaging activities, such as unsustainable resource use or pollution.¹⁴

According to the European Environmental Agency (EEA 2011), ETR can produce (at least) four different types of impacts, each of which may be distributed unequally across society: (i) direct consequences of increasing taxes (e.g. higher prices for certain goods); (ii) consequences of recycling (e.g. direct transfers or alleviation of taxes); (iii) broader economic impacts (e.g. job creation or inflation); (iv) environmental effects (e.g. a cleaner environment).

The reform is built on the assumption that the current tax system is obsolete and we need to shift the burden of taxation from labour and other positive activities to the consumption of socially and environmentally problematic activities. The aim is revenue neutrality. Decrease of revenues in one area would be offset by an increase in another.

There are two other tax mechanisms that are strongly promoted by the environmental movement, but also by some academics and politicians. The first is the so-called Tobin tax on financial operations. A small charge on the business could bring in sufficient revenues to support many (if not the majority) of the progressive measures discussed in this report.

Another alternative is carbon tax. I.e., a tax levied on the carbon content of fuels. Carbon tax it remains an open question. It could help to substantially decrease the amount of carbon dioxide released in the atmosphere, but on the other hand, if it is not introduced sensitively, it may harm low-income households.

There are many other opportunities for progressive policies and measures, which are budget neutral. Changes in energy taxation, social/environmental procurement, or climate change mitigation measures require strategic thinking and political will. Appropriate policy framework is essential in providing an enabling environment for enterprises, municipalities, or cooperatives.

There are other areas where changes in finance may lead to desired outcomes. These include subsidy policies which are often built on the past and historical circumstances. The start of the process is with better internalisation of externalities, i.e. assessment of all inputs in the production and mapping of all outputs from consumption. Longer term planning based on the evaluation of trends should lead to the fundamental question of what to subsidise and why. For instance, state support for one miner in the lignite mining sector in Slovakia is as much as 1,793 euros a month, or almost 700 euros more than the actual labour costs. In 2010, the total coal mining subsidy was 96 million euros (IFP, 2011). Long-term goals need to be compared to short term benefits. In this case it could be more effective to use

¹⁴ For more information see: <http://www.eea.europa.eu/highlights/environmental-tax-reform-increasing-individual>

the subsidy to support the construction of renewable energy sources with a long-term perspective, rather than support the short-term goal of keeping a private company alive in an unprosperous business area.

The concept of payment for environmental services (PES) is an innovative way to provide incentives for better management of natural resources, improve livelihoods for the rural poor, and set up a framework for the sustainable finance of protected areas and landscape management. The basic principle is that those who provide environmental services should be compensated or paid for doing so. This is achieved through a variety of arrangements that transfer rewards from the beneficiaries to those who conserve, restore, and manage the natural ecosystems that provide the service. PES may have a variety of forms and include different agencies (e.g., business, NGOs, governments), but the principal idea is to create a scheme whereby local communities, farmers, or land use managers are paid for the services they deliver to a broader community of people. The essential definitions for the establishment of a PES program are: (i) who to pay, (ii) what to pay for and, (iii) the magnitude of the payments. There are many examples of working schemes from China, the United States, Australia, Brazil, and Colombia. Some examples include:

- ❖ *Carbon sequestration*: carbon polluting companies pay for tree planting and forest conservation in the home country or abroad;
- ❖ *Watershed management*: lower watershed users pay communities upstream for good land use management practices, supplying them with a sufficient amount of fresh water, or protecting them from the floods (communities or industry downstream can be involved);
- ❖ *Conservation of biodiversity*: companies, governments, NGOs, or consumers pay directly for conservation activities or production of goods in a way that does not damage biodiversity.

There are many ideas on how to generate employment, while protecting nature. Some are relatively simple, while some are more difficult to implement. They require a general policy framework and enabling environment, sometimes a willingness to pay and sell, minimal transaction costs, defined property rights and, most of all, involved stakeholders and enthusiasm for their implementation. Given the fact that many villages in Central Europe are located in upstream watershed areas, often on the border of natural parks and protected areas, with potential for biomass and other renewable energy production, there is a substantial space for green jobs generation.

The European cohesion and structural funds could play the role of a catalyst for the changes. Many of the areas and opportunities described here are in line with the EU 2020 strategy to become a smart, sustainable and inclusive economy and so could be supported through these funds. The programming period for the EU funds planned for 2014–2020 starts next year (2014) and there are several crucial areas to be targeted:

- ❖ *Prioritisation and synergy*: a powerful integrated approach for mobilising synergies. There is a need to develop a set of criteria and a system that will enable the initiation and support of projects simultaneously targeting social problems and environmental goals.

- ❖ *Sustainability*: supported measures should lead to long-term effects. Embedding projects in the local economy is one of the benefits of local ownership.
- ❖ *Renewable Energy (RE) and Energy Efficiency (EE)*: comprehensive approaches aimed at creating jobs in research, development, production and maintenance of renewable energy sources, and in energy efficiency measures.
- ❖ *Science research and innovation*: support of local research and development in RE, EE and agriculture, eco-innovations in industry and intelligent transport.
- ❖ *Employment*: strengthening the emphasis on increasing employment as a crosscutting approach to environmental projects.
- ❖ *Efficient use of natural resources*: building on synergies between environmental protection and the saving of resources, and stimulating job creation in environmental protection, management and pollution prevention.
- ❖ *Regional Development*: strengthening the regional dimension of development projects and regional sustainable schemes.

The structural and cohesion funds are impetus for other sources of financing and should have a mobilising effect. One of the weaknesses in the use of funds so far is the rather “top-down” approach, as local municipalities and inhabitants are often the recipients of external funds. It would be useful to strengthen local capacities through targeted programs and help to develop “bottom-up” initiatives, bringing together local stakeholders and alternative forms of ownership.

The LIFE III and LIFE+ programmes that are designed to complement other EU funding programmes targeting investment in the environment may have an important supporting role in this respect.¹⁵ The LIFE scheme (55-75% co-funded by the EU) may support the development of strategies and policies or pilot projects for testing green infrastructure alternatives, and are linked to adaptation to climate change (e.g., anti-flood measures).

Funds do not provide more than a temporary support and so it is crucial that the state budget takes over policies and projects that work, and supports their sustainability. This requires professional, scientific and evidence-based policies, as well as strategic policy decisions. These may be unpopular in the short-term but beneficial in the longer run.

¹⁵ For more information on LIFE grants visit:
<http://ec.europa.eu/environment/life/funding/otherfunding.htm>

IV. FROM WELFARE STATE TO ECO-STATE?

In the previous section of the report we described recent development and trends in several areas where environmental challenges collide, or link with the social agenda. The report has attempted to outline the most important areas with a potential to promote social goals that go hand in hand with the goals of environmental sustainability. To a great extent we have focused on the problem of poverty, unemployment and access to resources. Yet the environment-social agenda nexus cannot be limited to those social groups and any attempts to progress in the sustainable direction requires the involvement of the middle class and majority population. Here we may find many analogies with the welfare state, whose original success is to a large extent due to its ability to involve these sections of society.

The greening of the social agenda would also require focus on the high-end green jobs in research and development, and investment into energy sources that would benefit all in society through accessible and sustainable prices. Support for small and medium entrepreneurs, and linking of research and business through green technologies are other practical steps in this direction.

There are several trends which support and/or hinder a move towards better integration of the environmental and social agendas. Firstly, it is by changing the economic and social framework where we may see problems of (i) decommissioning of the welfare state, (ii) the declining rate of employment, (iii) the growing scope of long term unemployment *vis-à-vis* globalising production and, (iv) consumption patterns with increasing impacts on countries in Europe. Secondly, the most pressing trend is climate change and its impacts, which can be seen in Slovakia. As the key issue to reverse these adverse trends, we discuss here the importance of the welfare state as a framework concept for enabling energy revolution. We also provide resource efficiency drivers using the potential role of the EU economic and social cohesion policies supported by EU funds.

Social and economic trends, exacerbated by the recent economic crisis and enhanced by the latent environmental crisis, impact upon several fundamental questions of future development: is economic growth, as seen in the past decades, still possible in the global production and consumption chain and in the case of limited natural boundaries? What is the ultimate objective of the economy? Is it to increase production and consumption or improve the well-being of the people? The popular approaches to tackle the economic crisis, as championed by European governments, are austerity measures and the decommissioning of the welfare state.

The idea of state withdrawal and diminishing social redistribution may be dangerous for the country in the long run and not only from economic and social perspectives. Neo-liberal views of the redistribution of the benefits from growth, based on the premise that redistribution only creates assistance dependence, might prove to be false. The welfare state was relatively successful in poverty alleviation and income equality promotion while maintaining economic development. Based on his extensive studies of OECD economies, Lindert (2004) concluded that there is no evidence that transferring a larger share of GDP from taxpayers to transfer recipients has a negative correlation with either the level or the rate of growth of GDP per person. According to his work, the average correlation is essentially zero or

even positive. These and other studies point to the need for the active role of the state in leveraging reverse trends. Inequalities and the withdrawal of the state may lead to deepening of social problems, which will also affect some of the environmental dimensions we have discussed in the report. Examples of such problems include access of the people to natural resources (environmental justice) or to energy (energy poverty). Without the active role of the state it is also very difficult to see any significant progress in simultaneously pursuing social and environmental goals. Yet the state would need public support and financing.

There are some alternatives on the table. Resources released by changing taxation or subsidy policies may support the transition to more environmentally sustainable and a more socially coherent society. There are increasingly well defined policy options, but they need to be backed by a strong economic narrative and in-depth changes enabling the transformation.

Apart from the energy sector, there are manifold opportunities for using resource efficiency as a catalyst for development in areas such as agriculture, transport, raw material extraction and water saving. A very important area is waste management, where we need to transfer from the current open-loop system to a closed-loop of reuse and recycling. In contrast to raw material extraction, closed-loop systems offer many opportunities for job creation while targeting environmental goals. Local schemes of collection and waste separation connected to the recycling industry may prove vital in boosting local economies. The recent flagship initiative, *A resource-efficient Europe – Flagship initiative of the Europe 2020 Strategy* is the key EU approach to support the shift towards a resource-efficient, low-carbon economy and achieve sustainable growth. Increasing efficiency of resources used is seen as the approach to increase competitiveness and protect resources, while creating jobs and improving economic development.

These and many other approaches and tools currently resemble typical end-of-the pipe solutions. They address impacts, but not causes. Without fundamental changes in understanding of the social structures of the economy, and without public support built on a vision of a socially coherent and just society, they can hardly provide for more than superficial amendments.

The key challenge and issue in linking the social and environmental agenda lies in finding a new balance between capital, people and the environment. A balance between people and capital is the concept of the welfare state, where, through redistribution of resources, decades of growth contributed to an increasing wellbeing of its inhabitants. If we also add the environment to the equation, the balance looks rather difficult, but not impossible, to achieve. It is outside of scope of the report to discuss approaches to the social state in its current crisis. What we do here is to list several environmental aspects which should be addressed in the discussion on the future of the social (or eco) state.

We must consider whether there is any sense in discussing environmental challenges to the welfare state where we see it being decommissioned all around Europe. The starting point could be that there are many advantages of the social state, which we need to protect, while trying to “green” it. A vision of such a state should be in addition to reducing the impact of economic policies on the environment, built on idea that the level of social protection and quality of life may not be dependent on the generation of environmentally problematic production

and/or mass consumption. There are a number of assumptions based on historical experience and empirical data that support arguments for searching the links and balance between social goals and environmental protection:

- ❖ Reducing social inequalities has a positive impact on environmental policy-making. People who are confident about their future and feel socially secure are more likely to support environmentally progressive policies and measures.
- ❖ The degree of social protection and quality of life need not be directly related to the generation of environmentally problematic externalities and mass consumption.
- ❖ Combining environmental visions with their social alternatives has proven potential for bringing in broader support.
- ❖ Linking the environmental agenda with the benefits of the welfare state may have a synergistic effect on life quality.

Authors like James Meadowcroft talk in this sense about the concept of eco-state, which would build on the welfare state approaches while adding the environmental dimension. This would happen not as an appendix, but as a cornerstone and basic principle of its functioning. It would explore alternative perspectives of growth, de-growth and measurement of progress. Such a state would necessarily build on the authority of law, while providing an alternative to market solutions. It would constantly adapt its policies to economic, social and environmental development (Meadowcroft 2005: 11). At the same time, such an eco-state could build on the experience of the welfare state in terms of generating support. The green welfare state must necessarily re-establish the authority of the state, provide an alternative to market solutions and constantly adapt its policies to economic, social and environmental development.

The welfare state used to have (and to some extent still has) mass support because its objectives were clearly understood and threats perceived by many. Environmental problems however, are unable to generate wider social consensus and support. When they do, then it is only for specific and “tangible” threats. Moreover, the threats are seen as an individual system failure, not as a systemic problem. Therefore, it seems to be necessary to start by raising public awareness of environmental risks and come up with the concept of an economic system, which provides a tangible return. For now we only have the option to exchange the remainder of the welfare system for more social insecurity advertised as an inevitable condition for growth and income. The modern and green welfare state needs to provide an alternative which may require some sacrifices, but these should be balanced by prospects of social coherence and environmental sustainability.

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APPENDIX: GREEN JOBS CLASSIFICATION

A. POLLUTION MANAGEMENT group Production of equipment and specific materials for: 1. Air pollution control. 2. Wastewater management. 3. Solid waste management: 3.1. Hazardous waste collection, treatment and disposal; 3.2. Waste collection, treatment and disposal; 3.3. Waste recovery and recycling (excludes manufacture of new materials or products from waste and scrap). 4. Remediation and clean-up of soil, surface water and groundwater. 5. Noise and vibration abatement. 6. Environmental monitoring, analysis and assessment. 7. Other. Provision of services for: 8. Air pollution control. 9. Wastewater management. 10. Solid waste management: 10.1. Hazardous waste collection, treatment and disposal; 10.2. Waste collection, treatment and disposal; 10.3. Waste recovery and recycling (excludes manufacture of new materials or products from waste and scrap). 11. Remediation and clean-up of soil, surface water and groundwater. 12. Noise and vibration abatement. 13. Environmental R&D. 14. Environmental contracting and engineering. 15. Analytical services, data collection, analysis and assessment. 16. Education, training, information. 17. Other.	B. CLEANER TECHNOLOGIES AND PRODUCTS group <i>Production of equipment, technology, specific materials or services for:</i> 1. Cleaner/resource-efficient technologies and processes. 2. Cleaner/resource-efficient products. C. RESOURCE MANAGEMENT group <i>Note: For this group, activities aimed at the production of environmental goods and services and related construction are grouped together for convenience. However, it is suggested that, wherever possible, information on these items be separately collected and presented.</i> Production of equipment, technology and specific materials, provision of services, and construction and installation for: 1. Indoor air pollution control. 2. Water supply. 3. Recycled materials (manufacture of new materials or products from waste or scrap, separately identified as recycled). 4. Renewable energy plant. 5. Heat/energy saving and management. 6. Sustainable agriculture and fisheries. 7. Sustainable forestry. 8. Natural risk management. 9. Eco-tourism. 10. Other (e.g. nature conservation, habitats and biodiversity).
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Source: Adopted from SERIEE (1994)

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