



## Slovakia: Resource Efficient Economy

Friends of the Earth-CEPA position paper: Supporting the transition of Slovakia to a resource-efficient, renewables-based economy using EU funds in the programming period 2014-2020

### Introduction

The European Union has clearly manifested in its goals and policies the ambition to move its economy towards a resource-efficient, renewables-based, low-carbon one by 2050. Slovakia, which also shares these goals, must set all its strategies and policies to reach this aim. This also refers to the future Cohesion Policy, which is one of the main means to meet these goals.

The most important goals of the Europe 2020 strategy with respect to a resource-efficient, renewables-based low-carbon economy include the energy and climate sectors. In order to meet these goals, systemic transformation is required, particularly of the energy sector, but also of energy and resource management in Slovakia more generally.

The set-up of the new Cohesion Policy will greatly influence the ability of Slovakia to meet these goals.

The Policy needs to be set up so that all measures have a double impact. Measures must both decrease the carbon intensity of the supported activities and the economy as a whole and must create new potential for business and employment in low-carbon sectors.

If interventions are well set up, then both these roles intertwine and support each other.

In addition, measures that are to transform the economy are based on innovation and new knowledge, which is consistent with Slovakia's priority in the area of a knowledge-based economy. Resource-efficient, renewables-based solutions are a vital source of innovation and new knowledge. Hence, the knowledge-based economy and resource-efficient, renewables-based economy complement each other and cannot be viewed as separate priorities.

The most efficient transition to a resource-efficient, renewables-based economy can be achieved by decreasing carbon intensity as a horizontal goal for the whole policy (from the general strategy in the Partnership Agreement to individual projects) and by concentrating investment resources in sectors with the biggest potential for decreasing carbon emissions: energy sector, transport, housing (energy economy of residential buildings), industry, services, agriculture and forest industry.

This position looks at all the main economic sectors through a resource efficiency and sustainability lens and sets out basic principles for inclusion to allow for meaningful support of economic transition from structural and cohesion funds. In further positions we elaborate more deeply on the principles and place proposals in fields that we traditionally focus on, such as sustainable energy, evaluation methods and indicators or bike transport.

### Potential of a resource-efficient, renewables-based economy

The potential related to the move to an energy efficient, renewables-based economy is huge, particularly in the following areas: new job vacancies and business opportunities, energy and resource savings (including financial savings), reduction of the influence of human activities on climate change, decrease in expenditures related to adaptation, and innovation potential (such as technology development, introduction of alternative economic activities, new forms of cooperation).



Many studies have shown a clear direct contribution of investments into the reduction of carbon intensity and the so-called green sectors. According to a GHK study on green jobs, the EU has a potential for 162 300 green jobs per €1 billion invested.<sup>95</sup>

The European Commission in its communication about the potential for green jobs quotes an increase in the number of jobs by 300 000 in the period from 2005 to 2009 in the renewable energy sector alone.<sup>96</sup>

In the Czech Republic, two subsidy schemes for the support of energy efficiency in residential buildings have created tens of thousands of jobs. A programme called “Green for Savings” helped to create more than 19 000 positions. The second programme “Panel” was able to create 6553 full-time positions per year. After nine years, the total contribution to employment has been 58 980 jobs<sup>97</sup>. Demands for the “Green for Savings” programme resources was so big that the allocated funds were spent as early as two years before the official closing date.

Slovakia too has a huge potential for measures in the area of energy savings as well as in the development of renewable sources of energy. The National Action Plan for Energy from Renewable Sources calculated that there is potential for 13 per cent savings (836 ktoe) by 2020 when compared with the scenario without any changes in the sector of heat production<sup>98</sup>.

In 1999, the potential for new vacancies was estimated at 10 000 provided that 10 000 flats were renovated yearly (yearly labour productivity then was 16 600 EUR per citizen).<sup>99</sup> In spite of the increase in the productivity of labour in ten years, the potential is still relevant particularly against the number of residential units which require energy renovation.

According to the energy policy of the Slovak Republic, the usable potential of renewable sources for the production of heat and electricity is 139 200 TJ per year. The Strategy for Higher Use of Renewable Sources of Energy of the Slovak Republic anticipates the potential to be as large as 202 900 TJ per year.<sup>100</sup>

The potential for saving public financial resources, particularly now with their acute shortage, is also important. This is one of the greatest benefits when investing into increasing savings, energy efficiency and production of energy from local sources. By investing EUR 1 million into renovating a building, the state’s income will increase by EUR 399 948 and its costs will decrease by EUR 130 102, so the total effect is plus EUR 530 050.<sup>101</sup>

Official documents from the European Commission state that by carrying out energy saving measures households can save an average of EUR 1000 per year a household.<sup>102</sup> The average monthly income in Slovakia is less than 800 Euro, so this is a vital part of the household budget, particularly relevant to the poorest regions and families/people with low wages.

In order to make use of this potential, both the criterion for minimising energy consumption and the condition of investing into the most cost-saving and efficient technologies and solutions must be incorporated into all priorities and measures of new operational programmes.

Officially calculated costs for carrying out this potential show the need to allocate as many resources as possible from the new Cohesion Policy into these areas. According to the Report on the State and Need for Financial Resources to Renovate the Housing Stock in 2007 -2013, EUR 14.25 billion is required in order to reconstruct all high-rise blocks in Slovakia built in the period from 1946 to 2003 (788 300 flats).<sup>103</sup>

95 GHK: Evaluating the Potential for Green Jobs in the next Multi-annual Financial Framework. London: 2011. Available online: [http://www.birdlife.org/eu/pdfs/Green\\_Jobs.pdf](http://www.birdlife.org/eu/pdfs/Green_Jobs.pdf)

96 Commission Staff Working Document: Exploiting the employment potential of green growth. Strasbourg: 2012.

97 Zámečník, Hlaváč: Reasons for insulating a house: ten thousand vacancies in Czech Republic (Důvody pro zateplování domu: desetitisíce pracovních míst v Česku). Praha: 2011. Available online: [http://hnutiduha.cz/uploads/media/zateplovani\\_zamecnik\\_studie.pdf](http://hnutiduha.cz/uploads/media/zateplovani_zamecnik_studie.pdf)

98 National action plan for energy from renewable sources (Národný akčný plán pre energiu z obnoviteľných zdrojov). Ministry of Economy of the Slovak Republic, 2010

99 Concept for the renovation of building with emphasis on renovating housing stock. Passed by government resolution Nr. 1088 as of 8 December 1999

100 Strategy for higher use of renewable sources of energy in Slovak Republic. Ministry of Economy of the Slovak Republic, 2007

101 Conception for the renovation of buildings with emphasis on renovating housing stock. Passed by government resolution Nr. 1088 as of 8 December 1999

102 Communication from the Commission: Energy efficiency: delivering the 20% target. Brussels: 2008. Available online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0772:FIN:EN:PDF>

103 Report on the state and need for financial resources to renovate the housing stock in 2007-2013.



A document with a forecast on the amount of renewable sources of energy has estimated that in order to achieve a 14 per cent share of renewables in total energy consumption, the costs in Slovakia will amount to EUR 4.3 billion.<sup>104</sup> EU Funds should significantly contribute to financing projects, which aim to achieve the targets of the Europe 2020 strategy while simultaneously taking into account the above-mentioned principles.

### Resource-efficient, renewables-based horizontal principle for the new Cohesion Policy

Future Cohesion Policy must respect the target to decrease carbon intensity at all levels and in all areas of support. Therefore, these targets must be reflected in the whole strategy of the Partnership Agreement and in strategies of individual operational programmes so that every approved project contributes to these targets. In order to achieve this goal, concrete indicators measuring their contribution to this goal must be incorporated into the evaluation system of the Cohesion Policy itself and into its Operational Programmes.

### Evaluation of Cohesion Policy

In order to prove the contribution of Cohesion Policy to obligatory goals such as the Europe 2020 Strategy, project indicators must be interconnected with indicators on the level of Operational Programmes and Partnership Agreements. To achieve this, a clear methodology must be approved. In addition, potential applicants must have access to free consultancy paid for through Technical Assistance.

### Energy

Indicator	Level	Unit	Source
Decrease in primary energy consumption	Partnership agreement	toe	<a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_335a&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_ind_335a&amp;lang=en</a>
GHG emission reduction	Partnership agreement	% in comparison with referential year	<a href="http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;language=en&amp;pcode=t2020_30">http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&amp;init=1&amp;plugin=1&amp;language=en&amp;pcode=t2020_30</a>
GHG emission reduction reached within measures/priority axes in the area of energy production	Operational programme	tCO <sub>2</sub> e/year	Indicator of the Europe 2020 Strategy
Reduction of GHG emissions reached within the project in energy area	Project	tCO <sub>2</sub> e/year	Indicator of the Europe 2020 Strategy

### Transport

Reduction of CO <sub>2</sub> emissions from transport (in tCO <sub>2</sub> e/year)	%		The primary target of Cohesion Policy in Slovakia must be to meet the commitment to decrease GHG emissions from transport in compliance with the White Paper on Transport and the Roadmap for Moving to a Low-Carbon Economy in 2050
Modal split in passenger transport	Passenger kilometre	<a href="http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&amp;plugin=1&amp;pcode=">http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&amp;plugin=1&amp;pcode=</a>	Modal split is the key outcome indicator in transport. A decrease in the use of passenger cars and increase in the use of public transport is desirable.
Modal split in freight transport	Tonne-kilometre	<a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_frmod&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_frmod&amp;lang=en</a>	Modal split is the key outcome indicator in transport. An increase in the use of rail in proportion to freight transport is desirable.

<sup>104</sup> Document with a prognosis on the amount of renewable sources of energy - Ministerstvo hospodárstva SR: Dokument s prognózou odhadovaného množstva energie z obnoviteľných zdrojov energie, 2009 [http://www.economy.gov.sk/index/open\\_file.php?ext\\_dok=132393](http://www.economy.gov.sk/index/open_file.php?ext_dok=132393)



Contribution of new, re-constructed or modernized railway to a decrease in GHG emissions	tonnes CO <sub>2</sub>	We suggest replacing indicators, which measure the length of constructed or reconstructed infrastructure by evaluating the direct effect of the support on a decrease in GHG emissions. Length of infrastructure is normally construed in a positive way. However, such an indicator does not inform us about its effects.
Contribution of new, re-constructed or modernized roads to a decrease in GHG emissions	tonnes CO <sub>2</sub>	In transport, an indicator should be available, which would confirm the positive contribution of the investment from the perspective of emissions. One of the main targets of the Europe 2020 Strategy is to reduce greenhouse gas emissions by 20%. Transport and energy are the keys to the achievement of this target. While indicators in energy relate to the consumption of fossil fuels and greenhouse gas emissions, such an indicator is missing in transport. It is not enough to solve the problem in public and domestic water transport only; it must also be solved as a complex. For example in rail transport, detailed and exact data about the number of cars/tonnes/kilometres and consumption are available. Information about the emissions effects after the project has finished can be derived from these data. Regarding roads, similar data is available from electronic toll collection systems or regular research carried out by state authorities. There are also other methodologies to assess the emissions influence of transport projects, see for example Exploration of a methodology for including climate impacts in project appraisal Delft, CE Delft, October 2011.
Increase in the number of passengers per journey by public transport	Number of passengers per journey	Data based on transport surveys. Surveys should be eligible for support from EU funds as well to stimulate a systematic approach to the planning of transport measures.
Increase in the number of journeys made by bicycles	Number of trips	Monitoring of changes in the number of journeys should be part of evaluation of each project before and after implementation. Surveys should be eligible for EU funds within the projects.

### Evaluation and selection criteria for projects.

In order to measure the minimization of a project’s influence on climate in an efficient way, it is necessary to include carbon intensity tracking of the whole project cycle into the evaluation and selection criteria in all sectors. If investments go into energy production, then it is also necessary to monitor energy return on energy invested (EROEI), which allows us to monitor the energy return of a project.<sup>105</sup>

### Green public procurement

Technical assistance for every OP must meet the requirements of energy and resource efficiency and these must be incorporated into the principles of public procurement. Rules on green public procurement as recommended by the EC have to be applied horizontally throughout the whole Cohesion Policy.

[http://ec.europa.eu/environment/gpp/index\\_en.htm](http://ec.europa.eu/environment/gpp/index_en.htm)

### Proposals for measures in individual sectors

#### Energy<sup>107</sup>

Cohesion Policy investments in the energy sector must be based on the hierarchy of three main priorities in the following order.

#### 1. Energy savings (maximum possible decrease in the total energy consumption)

Cohesion Policy must support projects leading to an overall decrease in energy consumption

#### 2. Investments into an increase in energy efficiency in production, transport and energy consumption

Investments into an increase in the efficiency of the energy system (existing distribution networks and consumption sites) must be given priority over investments into energy production. Investment in new equipment for energy production can only be made if the system as such is efficient.

#### 3. Replacing fossil and non-renewable sources with energy efficient, renewable sources of energy

In compliance with this priority, Cohesion Policy resources cannot be used to finance equipment which produces energy from non-renewable sources and fossil fuels, including the decommissioning of nuclear plants.<sup>107</sup> All additional installed production capacity supported by EU funds must come from renewable sources of energy and adhere to binding sustainability criteria.

<sup>105</sup> For more information see: <http://www.priateliazeme.sk/cepa/sk/publikacie/125-uelne-a-efektivne-vyuivanie-biomasy-pozinydokument>

<sup>106</sup> For more information see the position paper of Friends of the Earth-CEPA “Supporting energy in Cohesion Policy in EU 2014 – 2020 “

<sup>107</sup> Decommissioning of nuclear plants should not be eligible due to the high amount of state subsidies and private ownership and because it does not lead to energy sector transformation per se, being an end of pipe operation connected to production of energy from non-renewable energy sources.



Investments from EU funds in the energy sector must meet the principle of an integrated approach – concurrent measures for consumption decrease, improving efficiency of energy consumption, and change of fuel from non-renewable fossil fuels to renewable sources of energy.

Key for support from EU funds is complexity of project activities. It is important to support projects that deal with the whole energy system and not isolated projects. The setup must motivate applicants to first implement energy efficiency measures and only then invest into new production capacities to prevent investments into redundant capacity.

Indicators on the level of projects must be adjusted to this approach. In the current system, the indicator measuring the sustainability of project results in an energy project monitors the amount of energy produced from renewable sources of energy. In reality, this has often hampered increases in energy efficiency and decreases in total energy consumption.

The following activities should be included into the investment priorities of individual thematic goals:

### **Transformation of the energy sector (horizontal/systemic measures)**

- Decentralizing the energy system and increasing the energy self-sufficiency of regions
- Supporting measures to improve energy absorption from renewable sources of energy through the distribution network (smart grids)
- Collection and elaboration of data related to the use of biomass including thorough inventories of biomass consumption for energy purposes and of energy biomass-based sources in Slovakia as well as summary information about the projects financed from EU funds. These data must be available to the public.
- Supporting a coordinated approach to planning a common energy economy in regions: establishing associations of villages and municipal enterprises with the aim of producing and distributing energy while respecting the principle of sustainable development and energy self-sufficiency of regions
- Research and development of technologies in the energy sector in compliance with the hierarchy of priorities for the sustainable power industry mentioned above.

### **Energy efficiency**

- Measures leading to a reduction of the total final consumption of energy
- Investments into an increase in the energy efficiency of heat and electricity distribution systems
- Investments into increases in the efficiency of street lighting, giving priority to projects which lead to a reduction of the final consumption of energy by introducing progressive systems of lighting (such as street lighting audits, photovoltaic lamps, and regulation of lighting). If projects increase the consumption of energy, then this energy must be covered from renewable sources of energy (while adhering to sustainability criteria for these sources). Costs for covering any additional energy consumption should be considered eligible within the project
- Support schemes for various forms of sharing systems and common use of equipment and infrastructure including schemes for industrial symbiosis and common production chains in micro- and small enterprises
- Support for technical solutions to reduce consumption in offices and plants such as the use of software systems regulating lighting, heating and cooling, or smart systems of street lighting
- Modernisation or introduction of new production processes in micro- and small enterprises with an emphasis on maximizing energy savings during their economic activities under the condition that the total energy consumption does not increase after the end of the project
- Supporting the accessibility of smart energy meters and energy consumption optimization systems for households and enterprises.

### **Renewable sources of energy**

- Supporting small sources in economically disadvantaged regions in order to strengthen energy and economy self-sufficiency of the regions with an emphasis on the use of local resources. The support should make use of mechanisms of decentralized EU funds management (such as Community-Led Local Development) so that the sources are managed as close to the final recipient as possible. Various forms of cooperatives and local partnerships should also be eligible in order to be able to carry out small projects and satisfy their own energy needs. In developed regions and cities, funds should not be used to finance new capacities, but only measures leading to decreases in energy consumption, where there is the biggest potential to reduce GHG emissions.

### **Transport**

Transport in a resource efficient and renewables-based economy must focus on establishing efficient local and regional integrated systems contributing to development of strong regional and local economies. In this way the needs of the



population in the regions can be more efficiently met by local providers using local resources. This system is more stable and sustainable and suitable for any type of region.

Investments into such a transport system must adhere to the following rules: local and regional transport is given priority over long-distance and transit transportation

- public transport is given priority over individual transport
- non-motorized and rail transport is given priority over automotive transport

Following these rules is the only way to efficiently move the transport sector to a resource-efficient and renewables-based system and minimize its influence on climate change in compliance with EU targets by 2050.<sup>108</sup>

Transport modes with the lowest total CO<sub>2</sub> emissions per passenger-kilometre or per tonne-kilometre must be preferred.

Modernization of rail roads, and not just in Trans-European Transport corridors, must be given priority. The aim should be to create a system of regional transport based on railways.

The railway network must be integrated into other forms of transport in the region and in residential areas to create an efficient system of public transport.

Such a system must be managed in a smart way so as to increase safety and capacity of transport connections. Public transport must be given priority in traffic over individual transport and wherever possible should be separated by special lanes.

In residential areas, investments must contribute to the minimization of automotive transport by supporting non-motorized passenger transport (cycling or walking) and by integrating this type of transport into public transport. Everyday transport must be given priority to recreational routes by marking or constructing cycle tracks from residential areas to schools and offices.<sup>109</sup>

Long-distance transit transportation must be supported with lowest priority. Allocated sources must not limit the support of more important priorities. As for transit transportation, construction and development of services in multi-modal terminals should be the highest priority so that the biggest possible share of transport moves from road to rail.

Support for air transport is not acceptable as air transport is the most carbon-intensive transport mode and the aviation sector is already subject to heavy subsidies.

## Buildings

There is a huge potential for energy efficiency measures to reduce GHG emissions and to reduce costs for households and the public sector. We recommend that these measures become an important topic across the new Cohesion Policy.

It is necessary to concentrate on decreasing the energy demand of buildings and to prioritise projects with the most significant decrease in energy consumption in comparison to their starting status;

Another support area is the modernization of public buildings with the aim of minimizing energy consumption (machines and equipment, appliances, lighting management systems);

It is also necessary to support research and development, mainly the use of technologies for passive or zero-emission buildings and natural building and insulation materials with minimal inbuilt energy as a way to prepare the Slovak construction industry to meet the requirements of the Directive on Energy Efficiency of Buildings.

Requirements for minimal or zero energy consumption must be included as a condition for eligibility of expenses related to the construction of buildings financed by EU funds.

## Industry

In industry, support must focus on small entrepreneurs and particularly on innovative solutions and processes, on the formation of new skills and on production innovation which leads to efficient use of energy and resources and minimization of energy demands by production and pollution.

<sup>108</sup> Effects on biodiversity are a separate topic not discussed in this position paper.

<sup>109</sup> For more detailed information see "Development of cycling in Slovakia in 2014 - 2020, position paper of Slovak cycle movement, April 2012", available on request at Friends of the Earth-CEPA.



It is necessary to avoid supporting activities creating a so-called lock-in effect, which prevents the move to a resource-efficient, renewables-based economy by investing into processes and technologies dependent on fossil fuels. Projects must be prioritized which reduce the carbon intensity of the whole production cycle in enterprises, that is from the type of used inputs (material efficiency, zero or minimum tolerable toxicity), processing method (energy efficiency) through product parameters (energy efficiency, recyclability) to disposal of the production waste and product.

From the perspective of energy, material, logistic and waste management, priority must be given to supporting industrial symbiosis, other forms of joint resource use, and use of common equipment, mutual processes and systems. Energy and resource intensity in individual sectors or groups of related sectors can be minimised in this way and can lead to general efficiency in industry.

### Services

The service sector produces GHG emissions mostly through its offices and through the services it provides (e.g. logistics, computer servers and IT operation, etc). Investments into increasing energy efficiency in energy savings of buildings and offices should be eligible. Help must solely focus on the public sector and small entrepreneurs. Apart from buildings and facilities, investments must be channelled into service processes to achieve the least possible influence on climate and environment. Green public procurement and the application of environmental standards can be included here.

Apart from investments into GHG emissions reduction in the services sector, it is necessary to invest in services which concentrate on reducing influence on the environment and climate such as environmental audits and consultancy, and some forms of tourism.

### Agriculture and forestry

Emissions in agriculture are mostly produced by soil cultivation (machinery, production of fertilizers and agrochemicals), processing, transport, and storage (refrigeration). These emissions can be significantly reduced by moving to sustainable ecological agriculture and forestry and by making agricultural and forest production and consumption local.

Investments must be directed towards innovative solutions in ecological economy and sustainable forestry including research and development, testing of new methods, supporting localisation and diversification of agricultural production with the aim of increasing the self-sufficiency of regions and supporting entrepreneurship and employment in rural regions. Support must be targeted to move from industrial agriculture dependent on fossil fuels (heavy mechanisation, use of agrochemicals) towards diversified, localised agriculture, and towards supporting the formation of local markets and cooperation with the aim of supporting local production and significantly cutting down on long-distance transport of products.

Agricultural independence and stability must be the focus. Investments should not support the dependence of farmers on subsidies from the European budget, but create efficient and self-sufficient low-carbon economies tightly connected to regional demands.

In this respect, supporting diversification of agricultural enterprises towards energy production from their own waste and towards agri-tourism are still of great importance.

Self-sufficiency is the ability to satisfy one's own needs connected to production, provide for the necessary inputs either from one's own resources or from resources available in the region. Therefore, it is necessary to support investments which help decrease the costs related to energy consumption mainly by decreasing overall consumption, by localising production and consumption, improving logistics, and by replacing imported fossil and non-fossil fuels by local non-fossil renewable fuels<sup>110</sup> etc.

The only way to increase self-sufficiency in agriculture systematically and over a long time is to create mechanisms which help develop local markets, cooperation and joint management of soil use and of crops produced.

Production of energy from waste biomass is another vital area to be supported by public funds. However, it must be regulated by clear and binding sustainability criteria, which must guarantee that fertile soil is not used for growing energy crops and that waste biomass is not imported from longer distances than is acceptable with respect to climate and the energy return on energy invested. In addition, such energy sources must be conditioned by respecting the energy hierarchy, i.e. renewable sources of energy must be invested in only in facilities with minimum energy consumption and maximum energy efficiency.

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110 The same is valid for water, seed corns, fertilizers, labour and machinery, fuels etc.

111 Effects on face of the landscape and biodiversity are another important area, which is beyond this position paper