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## Slovakia: Energy Efficiency and Renewable Sources

Position paper of Friends of the Earth-CEPA: Supporting sustainable energy in EU Cohesion Policy in 2014 – 2020

Given the economic, climate and energy crisis impacts in Slovakia, it is necessary to set the Cohesion Policy so as to support a systematic transition of the EU's energy system towards sustainable energy. Thus, the Cohesion Policy cannot support neither energy from non-renewable sources of energy like fossil fuels nor the decommissioning of nuclear power stations. Besides, any support for combination of non-renewable and renewable sources of energy such as co-burning of biomass cannot be justified as it would perpetuate the lock-in of our economy in fossil fuels dependency.

### Meeting commitments: Investment needs for energy efficiency and renewable energy sources

Slovakia has officially recognized the challenges connected to climate change and is looking at how to transform its energy economy to increase its sustainability and decrease its impacts on climate, environment and society. These actions are not only driven by the dire need to reduce our impact on climate and the environment, but also by clearly distinguishable potential connected to investments into sustainable energy.

Overall potential for energy savings in buildings was estimated to be 19,792,764MWh, with public buildings taking the share of 3,806,946MWh.<sup>112</sup> The potential for cost savings are also significant. For example in healthcare buildings 7% of overall costs are associated with energy.

From the budgetary point of view, each million of Euros invested into refurbishment of buildings results in a net positive fiscal effect of 530,050 EUR achieved through 399,948 EUR increase in income and 130,102 EUR decrease in expenditures.

Impacts on employment are also interesting. According to a study from GFK on green jobs<sup>113</sup> each EUR billion of investment can create 25,900 stable long term jobs in energy efficiency measures and 52,700 jobs in the renewables industry.

Several official documents published by the Slovak government and its institutions make clear commitments in line with EU-wide goals and key strategic documents such as the Europe 2020, Low-carbon roadmap 2050, current Unions' energy legislation as well as with Slovak national strategic goals within national energy-related strategic documents.<sup>114</sup>

Involved state institutions have made calculations and estimations which come to clear conclusions on investment needs associated with these goals and commitments. A report on the state and need of financial resources for refurbishment of housing stock 2007-2013 calculated a need of EUR14.25bn for refurbishment of panel block flats constructed between 1946 and 2003 (80.16% of the overall apartment buildings stock) until 2024.<sup>115</sup>

112 Midterm evaluation of carrying out the concept of energy efficiency of buildings until 2010 with view until 2020 (2011)

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

114 These include National Energy Strategy, National Energy Security Strategy, National Strategy for Renewable Energy Sources, National Action Plan for Energy Efficiency, etc.

115 Report on the state and need of financial resources for refurbishment of housing stock 2007-2013



The Ministry of Economy made estimates on the total investment costs for private enterprises associated with achieving the 14 percent share of RES in final energy consumption (as committed under Europe 2020 strategy objectives) at 3.3bn to 4.3bn Euros over the period of 10 years.<sup>116</sup>

Taking this into account requires focusing on systematic programming of EU funds necessary for efficient investments. We propose to base the EU funds spending after 2013 on the following key principles.

## Key principles for sustainable energy investments within Cohesion Policy

Investments in Cohesion Policy within the energy sector must be based on a hierarchy of three main targets:

- Energy savings as a horizontal principle

If the Cohesion Policy seeks to achieve the target of the Europe 2020 strategy of reducing energy consumption by 20 per cent by 2020, then it must support projects, which lead to an absolute decrease in energy consumption. Investments financed by EU funds should be part of the effort to achieve the reduction of total energy consumption and as a horizontal principle, should implement energy efficiency measures. In every case where the applicant can reach savings in energy in the area to be supported by the EU funds, the project must include measures to maximize energy savings.

- Investments into an increase in energy efficiency in the area of energy consumption, distribution and production

Investments into the efficiency of energy systems (in sites of consumption, especially in buildings, existing distribution networks and existing energy production) must have priority over investing into new energy production. Furthermore, any investments into new production facilities must follow strict efficiency criteria to prevent wasteful spending and wasting of energy and resources.

- Substituting fossil and non-renewable sources of energy by low-carbon and renewable sources

In accordance with this target, the financial means from the Cohesion Policy cannot be used to finance facilities which produce energy from non-renewable sources of energy including the decommissioning of nuclear power plants. Any additional installed production capacity supported by the EU funds must come from renewable sources of energy and keep the binding principles of their sustainable use.

Despite differing importance these targets form a complex system. Focusing on only one of them and supporting isolated projects and disregarding other elements of the energy transformation will decrease the effects of EU funds investments significantly.

## Strategic approach for regional development

The Cohesion Policy should support integrated regional energy planning and stimulate local plans and projects in the area of sustainable energy into common schemes and regional partnerships composed of important players in regional development. This would help forestall preparation of inefficient isolated projects in cases where a joint approach would be beneficial with respect to logistics, economy, and regional development.

This approach is the only way to transform the energy sector efficiently. Fulfilling the Europe 2020 goals in energy and climate is not an automatic guarantee that the energy system will be efficient and sustainable as these targets are quantitative and have no explaining power on the structure and quality of the system.

Thus, to stimulate systematic investment in sustainable energy it is important to base spending on region-specific energy needs and resources and ensure the active participation of all relevant stakeholders. Community led local development approach as proposed by EC could be suitable to boost systematic energy investments closer in the regions.

In accordance with the Cohesion Policy target of reducing regional differences within EU, financial means for creating new production capacities of energy should be directed to disadvantaged or developing regions to support an increase in energy self-sufficiency and the local economy. It is important to support primarily small, decentralised power supplies, which cover local energy demands and use local renewable sources of energy.

116 Ministerstvo hospodárstva SR: Dokument s prognózou odhadovaného množstva energie z obnoviteľných zdrojov energie, 2009  
(Prognosis of estimated amount of energy from renewable energy sources in Slovakia)



In economically developed regions and cities, EU funds should primarily support measures, which bring savings in distribution and energy consumption, with the exception of small renewable energy sources installed on buildings in line with the Energy Performance of Buildings II Directive.

## Cohesion Policy priorities in the energy sector

Considering the importance of energy transformation to achieve the targets of the Europe 2020 strategy in Slovakia and the importance of energy for sustainable development of regions, it is necessary to create a separate priority axis within one of the national operational programmes, which would concentrate on supporting energy efficiency and renewable energy production in accordance with the above-mentioned targets and hierarchy.

We propose that the investment priorities of individual thematic goals include the following activities:

### Energy efficiency:

- Investments into energy retrofits of public and residential buildings to minimise consumption of heat and power
- Investments into energy efficiency in heat distribution systems together with efficiency measures in the heated buildings and installations of individual metering;
- Investments into street lighting under the condition of a reduction of total energy consumption by introducing progressive lighting systems (street lighting audits, photovoltaic lamps, lighting management systems etc.). Projects that cover energy consumption through RES should be prioritized with costs to introduce new installed capacity eligible within the project.
- Supporting schemes of various forms of sharing systems and common use of equipment and infrastructure including schemes of industrial symbiosis and common production chain in micro- and small enterprises;
- Supporting technical solutions to reduce consumption in offices and plants such as the use of software systems regulating lighting, heating and cooling, smart systems of street lighting;
- Educational and awareness raising projects and educational campaigns concentrated on the reduction of energy consumption by households, enterprises and municipalities;
- Modernization or the 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 decentralized sources in order to strengthen the energy and economic self-sufficiency of regions with an emphasis on the use of local resources should be a priority.
- Support should make use of mechanisms of decentralized EU funds management (such as Community-Led Local Development) so that the financial resources are managed so as to get as close to the final recipient as possible.
- Various forms of cooperatives and local partnerships should be eligible for funding in order to be able to carry out small local projects and satisfy their own energy needs.
- In urban areas, funds should primarily support measures which bring savings in distribution and energy consumption, with the exception of small renewable energy sources on buildings in line with the Energy Performance of Buildings II Directive.

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

- Research and development of technologies in the energy sector in compliance with the hierarchy of priorities for sustainable energy;
- Decentralisation of energy systems and an increase in energy self-sufficiency;
- Support measures, which help improve the energy absorption from renewable sources of energy by distribution networks (smart grids);
- Unify the system of collection and processing of data on the use of biomass to be able to determine its sustainable use. The data should include summary information about projects financed by EU funds, reports focused on how targets and defined indicators are being met and should be the basis for distribution of financial support to sustainable biomass projects only.
- Support a coordinated approach to planning and joint energy economy in regions like the establishment of associations of villages, cooperatives, which aim to produce and distribute energy, while prioritising principles of sustainability and energy self-sufficiency;



## Sustainable use of EU funds

In order to use EU funds in a sustainable way, it is necessary to define binding principles of sustainability for the use of renewable sources of energy which would take into account the whole production cycle. Biomass, especially, should be meticulously regulated.

Principles for the sustainable use of biomass should follow a position paper, addendum Nr. 6, written by Friends of the Earth-CEPA "Purposeful and efficient use of biomass".

[http://priateliazeme.sk/cepa/images/collector/collection/publikacie/pozicny\\_dokument\\_biomasa.pdf](http://priateliazeme.sk/cepa/images/collector/collection/publikacie/pozicny_dokument_biomasa.pdf)

In order to include the sustainable use of biomass in an efficient way, it is necessary to create a framework of conditions and requirements on member states which would be as binding as possible; this can be created in two ways:

- by approving a binding regulation at EU level as is the case with liquid biofuels;
- by introducing ex-ante conditionality in a form of obligation to prepare national strategy for the sustainable use of biomass which would aim to define basic rules and criteria for any investment related to energy use of biomass considering the whole production cycle.

In order to ensure sustainable use of biomass specifically in Slovak energy installations, it is also necessary to set up following limits:

- Maximum installed power capacity of installations
- Allow financing only to installations reaching the best available technologies efficiency thresholds, i.e. highly efficient combined heat and power with secured heat uptake
- Optimal national and regional limits for the production and felling of biomass (refers mainly to wood) in energy use which respect the above-mentioned principles and environmental criteria to provide for a sustainable production including defining regions and areas, in which biomass cannot be used for energy purposes, etc. This would help respect the acceptable capacity of the region, energy and other needs of the local population and minimize GHG emissions from harvesting, processing, transporting and storing of biomass. The European Commission should cooperate with partners and create a basic methodology to prepare the strategy and its content.

## Indicators for evaluation of performance of funding

Currently used indicators do not take into account the production cycle of energy production, distribution and consumption. This is why it is not possible to thoroughly evaluate the impact of energy investments on climate and to assess the quality of projects, ruling out isolated unsystematic investments and promoting systematic solutions that tackle the whole energy economy in the location of project implementation.

Any part of future OPs that is dedicated to energy investments should therefore be monitored based on overall climate performance, sustainability and investment efficiency. Suitable indicators for project level include Carbon intensity of project life cycle (tCO<sub>2</sub>e/MJ) and Energy Returned on Energy Invested (EROEI). For further indicators see the table below.

Furthermore, a system of indicators must take into account the horizontal character of achieving energy savings and replacing non-renewable sources of energy by renewables. Therefore, indicators monitoring energy savings must be incorporated into every OP in which there are investments into infrastructure, buildings, and equipment.

There must also be a connection between project indicators and indicators both on the level of OP and Development and Investment Partnership Contract so that it is possible to prove the contribution of Cohesion Policy to binding targets, such as the Europe 2020 strategy targets. Therefore, clear methodology must be created and a potential applicant must have the possibility to receive free consultancy paid from Technical Assistance so as to be able to follow it and comply with evaluation requirements.



## Proposed indicators for energy investments

Area	Level	Indicator	Unit
Climate impact	Partnership agreement (PA)	Change in GHG emissions	% compared to base year
	PA	Change in GHG emissions per sector	1000t CO <sub>2</sub> e
	OP	Change in GHG emissions achieved through energy priority/measure implementation	tCO <sub>2</sub> e, %
	Project	Change in GHG emissions achieved through implementation of energy related projects	tCO <sub>2</sub> e/yr
Energy consumption	PA	Absolute energy consumption reduction	1000 toe
	PA/	Energy intensity of the economy	kgoe per 1000EUR GDP
	PA/OP	Change in final energy consumption in households	kWh/p.c./yr
	PA	Primary energy consumption in buildings	kWh/m <sup>2</sup> /year
	OP	Overall energy savings achieved within the priority/measure	kWh/yr
	OP	Energy savings achieved through refurbishment of buildings	kWh/yr
	Horizontal/Project	Overall energy savings achieved within a project	kWh/yr
	Context	Share of buildings with zero energy consumption	%
Renewable energy sources	PA	Share of RES on gross domestic energy consumption	%
	OP/project	Installed capacity of new RES production facilities	MW
	Horizontal/Project	Carbon intensity of the production cycle	tCO <sub>2</sub> e/MJ
	Project	EROEI (Energy return on energy invested) of the whole production cycle	value
	OP/Context	Share of buildings with installed equipment utilising RES	%

## Setting ambitious targets

### Reaching the Europe 2020 energy and climate targets

The overall investment costs of achieving the Europe 2020 target in promoting renewable energy sources were estimated officially to reach 3.8bn EUR.<sup>117</sup> If public funds are to cover at least one third of these costs Slovakia will have to allocate at least 1.3bn EUR for the next programming period solely on renewables. As the current allocation in all relevant OPs for all renewable energy sources reaches roughlyly 130 mil. EUR this would mean a ten-fold increase.

During the 2007-2013 period the demand for EU funds for renewable energy and energy efficiency has been on average 4 times higher than the allocation within the relevant OPs.<sup>118</sup>

Combined with the low level of contracting in these measures, reaching on average 51.6% of allocation, this shows a wide discrepancy in what is needed on the energy market and what is being provided.

Taking into account the commitments of Slovakia, the supply gap and low efficiency in contracting we recommend allocating 1.3 bn EUR for renewable energy sources development in line with the binding sustainability criteria for renewable energy sources utilisation.

117 Prognosis of estimated amount of energy from renewable energy sources in Slovakia. Variable at Ministry of Economy of Slovakia, online.

118 Total amount of EUR applied for in area of Renewables and energy efficiency within OPs Competitiveness and Growth and OP Environment. In: Annex 7 to Report on implementation and drawing of structural and Cohesion funds within the NSRF, 2011.



### **Energy efficiency target**

To meet commitments resulting from current energy efficiency legislation and to be well on track in achieving the long term strategic goal of de-carbonization of the economy we propose to: construct all public buildings and at least 10% of newly constructed residential buildings to near zero energy standard from 2014 on.

Speed up the energy refurbishment of residential buildings to 5% of housing stock annually with low-energy or higher standards.

Decrease the average overall energy consumption in public buildings to 20kWh/m<sup>3</sup>.year until 2020.

### **Meeting the trend – invest into decentralized energy**

At least 5 micro-regions will implement a local energy decentralization strategy with the focus on sustainable use of local renewable energy sources, including investments into smart-grid pilot systems with the ability to function in autonomous mode.

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