

CLIMATE'S ENFANTS TERRIBLES

HOW NEW MEMBER STATES' MISGUIDED
USE OF EU FUNDS IS HOLDING BACK
EUROPE'S CLEAN ENERGY TRANSITION

AN ASSESSMENT OF EUROPEAN REGIONAL
DEVELOPMENT AND COHESION FUNDS'
CONTRIBUTION TO CLIMATE ACTION IN CENTRAL
AND EASTERN EUROPE

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EXECUTIVE SUMMARY

Climate change is affecting our societies already today and unmitigated climate change will be irreversible, placing tremendous monetary and social costs on future generations, exposing them to unexplored risks and limiting their development perspectives. Combating climate change is one of the most urgent public policy challenges of our time. The European Union is committed to mitigating climate change in the short and long term¹, as evident by its commitment to the Paris Agreement² to keep global warming “well below 2°C”. Hence, Europe is facing an enormous investment challenge in meeting the EU’s targets for shifting to a fossil fuel-free, renewables-based and resource-efficient economy by 2050. As the European Commission’s 2050 Low-Carbon Roadmap³ communication warns, there is an urgent need to increase investments that replace ageing carbon-intensive infrastructure, or face the risk of much higher costs of such investments in the future if they are further postponed. The European Union’s Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (CF) [hereinafter ‘the EU Funds’]⁴ worth EUR 351 billion have to make a significant contribution to these investments, particularly in Central and Eastern Europe where funds from the EU make up the vast majority of public infrastructure investments.

Today’s decisions about energy infrastructure investments will have implications for decades. Analysing the spending plans and programmes of the EU funds in nine countries, this report argues that the potential of the EU funds to catalyse the clean energy transition in Central and Eastern Europe from 2014 to 2020 remains largely untapped. Current EU funds’ investment plans and programmes from Central and Eastern European

Member States will contribute only to a limited extent to making economies cleaner, leaner and lighter. Instead of catalysing a transition to a decarbonised, renewables-based and resource-saving economy that respects the planet’s boundaries, we see an investment approach that mostly maintains the fossil fuels-based, energy-intensive economy that threatens the long-term sustainability of European societies.

The Cohesion Policy’s strategic alignment with the Europe 2020 strategy does not fully encourage CEE countries to invest EU funds into the reduction of greenhouse gases (GHG) emissions. The ‘effort-sharing decision’⁵ allows all countries to increase their GHG emissions by 2020 compared to the 2005 level in the sectors not covered by the European Emissions Trading system such as transport, buildings, agriculture and waste. Whereas countries are on track to meet these targets, i.e., to limit their GHG increases, recent trends suggest further increases in GHG emissions and energy consumption in the future⁶. In most of the CEE countries, there are no GHG reduction plans beyond 2020 which could steer clean energy infrastructure investment planning. This lack of long-term GHG reduction goals collides with the nature of long-lasting infrastructure investments. Energy or transport infrastructure built today will determine production and consumption patterns, including GHG emissions, for decades to come. In consequence, CEE countries are largely denying public and private investors the certainty that they need in order to commit to renewable energy and associated storage and grid technologies, nor do they send the sort of clear signal that could kick-start the long-term transition to green energy systems.

1 <http://ec.europa.eu/environment/action-programme/>

2 <http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>

3 http://ec.europa.eu/clima/policies/strategies/2050/index_en.htm

4 The European Structural and Investment Funds (ESIF) 2014-2020 consist of five different funds: the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). Whereas the first three funds, ERDF, ESF and CF are the financing arm of the EU’s Regional Policy, the EAFRD is part of the EU’s agricultural policy, and the EMFF is the fund for the EU’s maritime and fisheries policies. The subjects of this report are the European Regional Development Fund (ERDF), the European Social Fund (ESF), and the Cohesion Fund (CF), abbreviated as ‘EU funds’.

5 http://ec.europa.eu/clima/policies/effort/index_en.htm

6 <http://www.eea.europa.eu/soer-2015/>

“
Changing existing patterns of high-carbon infrastructure investment is a major challenge and the later it is left the more difficult it becomes. We must focus attention on the scale, quality and urgency of investments required to accelerate the low-carbon transition.

” Professor Lord Nicholas Stern, 7 October 2015, Lima, Peru.

‘Climate mainstreaming’, a mechanism enshrined in the EU Funds’ legislation, requires the integration of climate change considerations into all investment areas, including those that do not specifically target climate change, energy, environment or other directly-related topics. We find that climate change mitigation is being included mainly at a rhetorical level in the strategic planning and programming documents [Partnership Agreements]. The operationalisation of ‘climate mainstreaming’ as a horizontal principle in EU Cohesion Policy spending plans and programmes [Operational Programmes], as required by the regulations, is taking place in normative terms only, and it is mostly not ensured via safeguard mechanisms during the actual investment phase [for example, via stringent project selection criteria] nor backed by adequate substantial investments. Where GHG emission reduction plans are non-existent, EU funds are a driver for climate change mitigation to a certain extent, though not going beyond the arguably weak EU 2020 energy and climate targets. Often, ‘climate mainstreaming’ as a principle of horizontal integration is reduced to allocating a certain amount of EU funds towards directly climate-relevant measures like energy and transport in the corresponding Operational Programmes, but the integration of climate change considerations into other investment areas is exceptional. Another environmental

safeguard mechanism, the Strategic Environmental Assessment [SEA], is of limited use as it is hardly ever undertaken under a long-term decarbonisation perspective. In cases where the SEA could have an impact on the climate performance of programmes, its recommendations are sometimes not transferred.

Overall, the share of sustainable energy infrastructure – energy efficiency, renewable energy sources and smart grids – has increased compared to the 2007–2013 period. However, these allocations represent a tiny share of all EU funding, a drop in the bucket given the overall investment needs [including from the public purse] for achieving the EU’s long-term decarbonisation agenda, thus undermining the Energy Union’s ambitions to put energy efficiency first and to become ‘world no. 1 in renewables’.

Repeating the 2007–2013 pattern, road infrastructure receives the highest share of EU funds in the transport sector with up to more than 50% of all transport funding, whereas sustainable transport modes beyond railways are marginalised. The impact on GHG emissions in regard to the EU’s 60% reduction target for transport by 2050⁷ is not considered and sustainable mobility concepts are absent from transport planning. This ‘close your eyes ... and drive’ approach is of particular concern as the trend of rising emissions from the transport sector continues [halted recently only due to the economic crisis in Europe].

Fossil fuel energy sources like coal boilers – justified by clean air or efficiency rationales – still receive EU subsidies. Gas infrastructure is promoted under the assumption that it provides ‘energy security’, another dimension of the Energy Union. While the dependency on fossil fuel imports, i.e., gas from Russia, is problematic for obvious reasons, the diversification of gas supply strategy which the Energy Union pursues is not breaking the vicious circle of fossil fuel extraction and import dependency. The costs of ‘carbon lock-in’, by constructing more fossil fuel infrastructure like liquid natural gas [LNG] terminals and pipelines, are not properly assessed against the benefits of investing into energy system transformation and the gains of reducing countries’ reliance on gas and other fossil fuels [and imports] and switching to renewable energy systems.

The EU funds follow an investment approach whose sustainable development and transition potential remains largely unfulfilled. Instead of utilising Cohesion Policy as a burden sharing instrument in the context of climate change, EU funds are still mainly employed to maintain a carbon-intensive energy mix, locking countries into fossil fuel dependency, with negative long-term implications for the climate and the countries’ economic and social development.

7 The European Commission’s White Paper on Transport for a reduction of CO₂ from transport of at least 60% by 2050 from 1990 levels.

POLAND



The low-carbon and climate-proof transformation of the Polish economy is far from being a key development priority underpinning all EU-funded investments. Rather, it is just one of the isolated elements of public intervention, mandated by EU requirements on thematic concentration and ring-fencing. Despite the sizeable allocations and a formal narrative on achieving climate targets, the goal of the European funds in Poland will be to sustain, and not to transform, the current coal-based economy. The prevailing investment and development model still favours high-emissions transport over low-carbon solutions, hard infrastructure over natural methods of climate adaptation, tourism over biodiversity protection and, finally, a traditional fossil fuel-based energy system over innovative, decentralised solutions where energy efficiency is always put first and citizens can actively participate in shaping the energy market.

ESTONIA



Estonia is still among the top three per capita and per GDP GHG emitters in Europe, mainly due to the carbon and energy-intensive oil shale-based energy production sector, rapid growth in road freight transport and car use, low energy efficiency of the new vehicle fleet and high-energy consumption of buildings. Estonia maintains its high carbon intensity by keeping oil shale as its major energy source. The country's shale oil dependency is not at all addressed by the EU funds and an existing long-term decarbonisation strategy has not been implemented. Transport funding dedicated to road construction omits emissions considerations, and climate change mitigation in project selection and as a horizontal principle is flawed.

LITHUANIA



Despite progress in the development of a national climate change policy, climate change mitigation efforts are driven by sectoral policies and are therefore fragmented, a pathway to the long-term decarbonisation objective is missing and funds from the EU are not aligned with long-term climate change mitigation strategies. Whereas EU 2020 targets are in reach, the EU funds do not address the GHG emissions increase from the transport and agriculture sectors. The EU funds' planning documents are weak on climate change considerations, not providing evidence how particular measures will contribute to climate change objectives or help to shift to the low-carbon economy; horizontal principles on sustainability as described in the Partnership Agreement are not considered enough at programming level. Many measures accounted for under the climate action earmarking have no or little relevance to climate change objectives. Investment in energy infrastructure basically targets energy efficiency in multi-apartment building blocks; support for renewables is limited to solid biomass-based heating plant installations. The importance of climate change mitigation is not well perceived by the stakeholders representing different economic sectors.

LATVIA



The EU Cohesion Policy investments will support Latvia's progress towards its national climate goals in 2020 and 2030 which are rather incoherent regarding climate change, sustainability and the transformation of the energy system. The National Development Plan for Latvia 2020 largely neglects climate change mitigation and most of the strategic priorities do not refer to impacts on the environment and climate change. Latvia's Sustainable Development Strategy 2030, though progressive in itself, remains an island, and has not been translated into long-term investment plans. Climate change mitigation as a horizontal principle is poorly implemented in both the Partnership Agreement and the Operational Programme and successive project selection criteria. Investment in the energy sector is mostly determined by political debate on gas import diversification, therefore not enabling energy sector transformation. With its focus on the further promotion of bio-mass [fuel-wood], development of sustainable renewables like wind power and solar power is left neglected. EU Cohesion Policy Funds' allocations for energy efficiency are not much more than a patch for the poor situation of energy inefficiency in residential buildings. EU Cohesion investment in the transport sector does not meet GHG reduction objectives even though it is declared as a strategic objective. In fact, significant investment in the transport sector has little impact on GHG reduction and Latvia's high share of emissions remains unabated.

SLOVAKIA



Slovakia has missed the opportunity to bind Cohesion spending to decarbonising its energy sector which is highly dependent on imported fossil fuels and is highly carbon intense. Any system change in the energy economy would require liberalisation and decentralisation which is in conflict with the interests of the largely monopolistic ownership structure of Slovakia's energy sector. The state administration also has a strong influence on other areas crucial for system change such as research and development, education, business support or regional development. In all of these sectors, barriers to liberalisation and decentralisation remain strong. That is why the Partnership Agreement – although formally acknowledging the low carbon agenda as a priority – does not create any space for changing the way Slovakia produces, distributes and consumes energy. To date, all Slovak strategies mention the low-carbon economy with reference to the term 'sustainable development'. The concept is described and its importance acknowledged, but when opportunities arise to translate this into spending strategy and setup of investment measures, it is obvious that it is either not understood or purposefully neglected. The climate action within the Slovak Cohesion Policy setup meets the minimum of energy and climate commitments which are not strong enough to divert Slovakia away from its business-as-usual trajectory.

HUNGARY



EU funds do pursue Hungary's national energy objectives, however, the full potential for energy efficiency and renewables is still not deployed. While ESI funds may contribute to the transformation towards a greener energy system to a small extent due to some progressive efforts and planned interventions, funding from other sources is likely to reverse this development and lock the country into unsustainable energy production and consumption patterns. Horizontal mainstreaming of climate considerations is insufficient and challenging due to its complexity, even though energy efficiency is one of the national priorities.

THE CZECH REPUBLIC



Despite the Partnership Agreement and Operational Programmes in the Czech Republic describing the shift to a low-carbon economy and offering record levels of energy efficiency, EU funding will not change the carbon-intensive pathway that the country is bound to. This is due to little coordination and inappropriate planning and monitoring. Support for fossil fuels, low levels of climate mainstreaming and negligible support for a limited number of renewables make the transition to the low-carbon economy from EU funds unattainable.

ROMANIA



Following a 'business-as-usual' scenario, Romania's energy-related strategies do include energy efficiency and the improvement of systems for supporting RES in line with EU 2020 targets. However, nuclear energy, natural gas as a 'transition fuel' and the completion of the internal energy market prevail; and alternative scenarios post-2020 aimed at completely phasing out fossil fuels and nuclear energy such as the 'green' and 'super-green' scenario are not considered within national strategies or ESIF investments. Romania's climate action is, in effect, mostly EU-led, climate mitigation objectives are driven by EU targets and funded by EU funds, the government does not envision additional or complementary policies to address climate change. Transport sector plans, one third of all EU funds, do not make any reference to climate considerations. Even though the potential for energy efficiency is operationalised by sector (most of the energy funds are allocated towards the renovation of public buildings to comply with EU legislation), the allocations do not always back up these findings. 90% of renewables funding goes to biomass. The coordination between climate mitigation objectives and other Thematic Objectives is scarce, with no climate relevance of programmes not directly related.

CROATIA



The current trend of decreasing energy consumption and GHG emissions reduction makes Croatia's 2020 energy targets obsolete, however, EU funds' spending plans are at least going beyond national ambitions. The National Action Plan for Renewables does not foresee new installations by 2020 for solar and wind, while planned fossil fuel installations block a clean energy development pathway. Planning documents fall short on horizontal integration of climate considerations, neglecting obligatory requirements. Funding for electricity transmission is not in line with the stated priorities to match the existing and future RES investment interest from the private or business sector.

RECOMMENDATIONS FOR PLANNING, MONITORING AND REPORTING

- EU funds' spending plans need to be embedded into longer-term GHG reduction strategies aiming at 80% to 95% GHG emissions reduction and the construction of low energy consuming, renewables-based energy systems.
- Introduce a climate performance evaluation ['carbon footprint' methodology] in order to assess and decrease the actual GHG emissions impact of EU-funded projects.
- This 'carbon footprint assessment' has to include direct as well as indirect, induced GHG emissions.
- The ex-ante assessment of the GHG emissions impact of all Operational Programmes should be obligatory [for example, 'CO2MPARE'].
- The annual ex-post evaluation should add together the carbon footprint of all EU-funded projects; the GHG balance of all Operational Programmes has to be negative.
- MSs to carry out comprehensive evaluation for all Operational Programmes and for the Partnership Agreement [i.e., all ESIFs] during the upcoming mid-term review, using Technical Assistance and JASPERS.
- Adjust result, output and outcome indicators according to 'carbon footprint'.
- Reduce the overall number of investment priorities to ensure better concentration.

RECOMMENDATIONS FOR IMPLEMENTATION

- Climate change mitigation could be better integrated into working procedures and processes to ensure maximum uptake, introducing binding sustainability and GHG reduction criteria for project selection equally applied across all regions, in particular for the support of biomass and transport projects.
- Adopt and apply horizontal guiding principles for the selection of projects and calls for proposals for all investment priorities and interventions; these should be universally valid and centrally published.
- Ensure that no investments are financed which would have an adverse impact on European GHG emissions reduction targets, halt all direct and indirect financing for all fossil fuels.
- Withdraw eligibility of unsustainable renewables and climate action measures which have a detrimental environmental impact.
- Prioritise energy efficiency investments over new energy generation and transmission projects, both on a national scale as well as locally.
- Concentrate and shift funding towards energy infrastructure which has long-term climate change mitigation impact such as new systems and modes of energy management, energy supply-demand matching, industrial symbioses, circular economy processes or smart energy distribution.
- Promote projects which have multiplication potential, require eco-innovation, that create capacity to manage energy, resources and processes and that result in behaviour change.
- The decentralisation of energy production should be enhanced by enabling small and emerging local energy producers.

INTRODUCTION

PURPOSE OF THIS STUDY AND METHODOLOGICAL APPROACH

'Mainstreaming climate action' into the EU's long-term budget spending is one of the European Commission's core mechanisms⁸ for combating climate change, and with its decision in February 2013 the European Council pledged that 20% of all EU spending for the programming period 2014-2020 should support climate objectives⁹. In addition, the European Regional Development Fund spending rules for 2014-2020 provide for a minimum allocation to the 'transition to low-carbon economies', namely 20% of the European Regional Development Fund (ERDF) in more developed regions, 15% in transition and in less developed regions (in this case including climate action allocations from the Cohesion Fund) mainly in the east and south of Europe. Apart from allocating the specific minimum amount dedicated to climate change mitigation and adaptation measures, the EU funds' regulations aim to establish sustainable development and climate protection as a so-called 'horizontal principle'¹⁰ with the objective of promoting climate protection in the preparation and implementation of Member States' EU fund investment strategies and spending plans, their Partnership Agreements and Operational Programmes.

The European Structural and Investment Funds are an important instrument for supporting climate policy-related investments, in particular in the countries of Central and Eastern Europe, the main beneficiaries of EU funds. This paper assesses the level of climate mainstreaming in European Regional Development and Cohesion Funds (EU Funds) for the 2014-2020 funding period in nine CEE countries: Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. First, we explore the governments'

commitment to fighting climate change through an analysis of key national strategy documents for European regional development policy in the shorter term (2020) and the mid- and longer-term (2030 and 2050). The ultimate goal of climate action in the longer-term perspective is the transformation to energy and resource efficient, sustainable, renewables-based societies living within the planet's boundaries. Referring to such energy system transformation scenarios, we assess the substantive commitments of CEE countries by mapping financial allocations from the EU funds related to climate change mitigation, especially in the energy infrastructure and transport sector. Parallel to this quantitative analysis, we deconstruct how climate protection is operationalised in the EU funds' planning and programming documents (Partnership Agreements and Operational Programmes) and analyse the concrete conditions (project selection criteria, calls for project proposals) through which climate protection will be realised when rolling out investment projects. The nature of a 'horizontal principle' and 'mainstreaming' is to embrace climate protection comprehensively throughout all sectors and areas of intervention, going beyond investments directly linked to climate change mitigation. In this regard, we discuss the application of the horizontal principle, assessing guiding principles for the selection of projects, and examine coherence and consistency of planned investments under the imperative to significantly reduce GHG emissions in all sectors.

Based on our findings, we develop recommendations for improvements to the climate change mitigation performance of EU funds during implementation, for the EU Budget Mid-Term Review 2016/2017 and for the future planning of the EU's Multi-Annual Financial Framework.

8 http://ec.europa.eu/clima/publications/docs/01-climate_mainstreaming_fact_sheet-esif_introduction_en.pdf

9 European Council, „7/8 February 2013 Conclusions Multi-Annual Financial Framework”, European Council, Bruxelles, 8th February 2013 [EUCO 37/13].

10 Article 8 of the 'Common Provisions Regulation', REGULATION [EU] No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006

FINANCING REQUIREMENTS FOR LOW-CARBON TRANSITION

To avoid most of the catastrophic consequences of climate change and to achieve the goal set by 195 nations in Paris in December 2015¹¹ of limiting global warming to “well below” 2°C above the pre-industrial level, global greenhouse gas emissions must be cut drastically. The Intergovernmental Panel on Climate Change¹² translates this target into a CO₂ concentration of less than 450 parts per million¹³. The European Union has, based on this, undertaken a commitment to reduce emissions by 80% to 95% by 2050. Achieving this goal will essentially require the total decarbonisation of European economies in the twenty-first century.

Significant investment into energy efficiency, renewable energy generation, electricity transmission and storage, clean energy and transport infrastructure, into buildings, industry and research and development are needed to catalyse this transition. Estimations about the costs of that transition vary significantly, depending on assumed energy scenarios and chosen technological pathways. What is sure is that a low-carbon and clean energy economy requires a completely different investment profile to the current, carbon intensive business-as-usual profile. The characteristics of the low-energy consuming, renewables-based energy system will be higher up-front costs because the investment costs for low-carbon technologies tend to be higher, while variable costs tend to be lower. According to the International Energy Agency¹⁴, USD 53 trillion in cumulative investment in energy supply and energy efficiency is required between 2014 and 2035 to get the world onto a 2°C emissions path. For Europe, the IEA estimates¹⁵ that cumulative investment of USD 2.2

“*Investing for the future. The production-consumption systems that meet basic social needs such as food, energy, housing and mobility rely on costly and long-lasting infrastructure, meaning that investment choices can have long-term implications. This makes it essential to avoid investments that lock society into existing technologies, and thereby limit innovation options or hinder investments in substitutes.*”

” European Environment Agency, *State of the Environment Report 2015*

trillion (second only to China) is needed to replace ageing infrastructure and meet decarbonisation goals. The European Commission calculates¹⁶ that in order to realise the transition in Europe, the EU would need to invest an additional EUR 270 billion (or on average 1.5% of its GDP annually) over the next four decades.

11 <http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>

12 IPCC 2014, https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf page 8

13 February 2015 was the first month in human history where carbon dioxide concentrations of 400 parts per million were measured. The pre-industrial concentration of CO₂ is estimated at 280 ppm.

14 IEA [2014], <https://www.iea.org/publications/freepublications/publication/WEIO2014.pdf>

15 https://www.iea.org/media/140603_WEOinvestment_Factsheets.pdf#page=1&zoom=auto,-82,848

16 http://ec.europa.eu/clima/policies/strategies/2050/index_en.htm

EU FUNDS IN CENTRAL AND EASTERN EUROPE

A LOST OPPORTUNITY FOR CLEAN ENERGY TRANSITION AND SUSTAINABLE DEVELOPMENT

The European Union has integrated the financing of climate change mitigation and adaptation measures into its Multi-Annual Financial Framework, the EU's EUR 960 billion budget for the 2014-2020 period¹⁷, stating that at least 20% of its budget for 2014-2020 – as much as EUR 180 billion – should be spent on climate change-related action. Financing of climate change mitigation and adaptation actions is supposed to be integrated into all major EU spending programmes, in particular EU regional policies and

regional development, social and cohesion funds, supporting energy, transport, research and innovation: these regional development funds are the EU's main tool to promote infrastructure investment all over Europe.

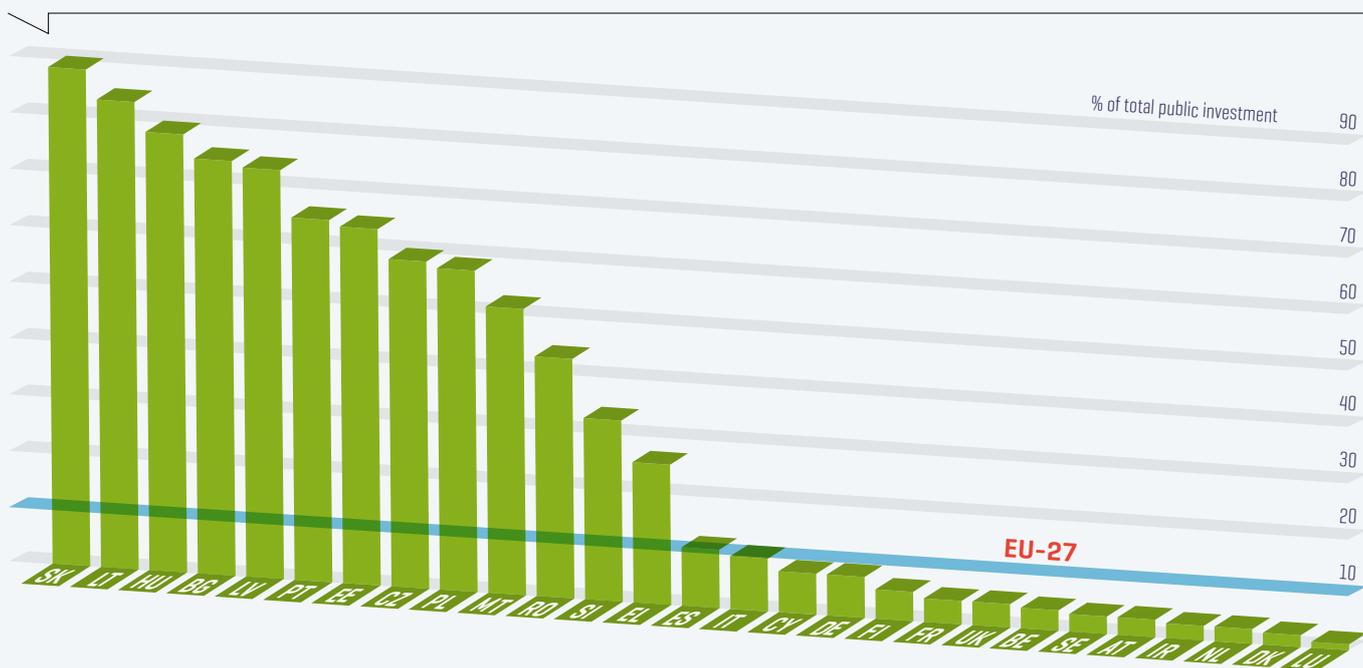
They make up around a third of the bloc's budget, around EUR 351 billion for seven years, and around two thirds of all Cohesion Policy funding goes to countries in Central and Eastern Europe [Graph 1].

GRAPH 1: European Regional Development, Social Fund and Cohesion Fund 2014 to 2020 per member state, billion EUR, 2014 prices; source DG Regional and Urban Development



17 http://ec.europa.eu/clima/policies/budget/index_en.htm

GRAPH 2: Share of European Regional Development, Social and Cohesion Funds and national co-financing in total public investment, average 2011-2013; source DG Regional and Urban Development



Central and Eastern Europe is where EU funds play a substantial role in financing public infrastructure investments [Graph 2].

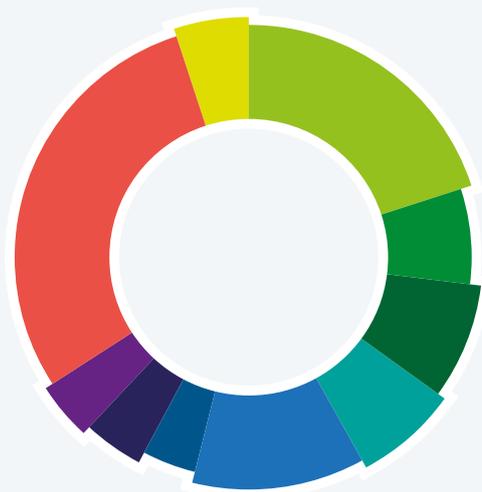
Between 40% [Romania] and 85% [Slovakia] of all public investment from 2011-2013 was carried out with contributions predominantly from EU funds, with a

national co-financing rate of between 15% and 50% of project costs. This trend is expected to continue in the 2014-2020 period. In other words, the way EU funds are invested in infrastructure in Central and Eastern Europe significantly shapes the countries' economic development paths.

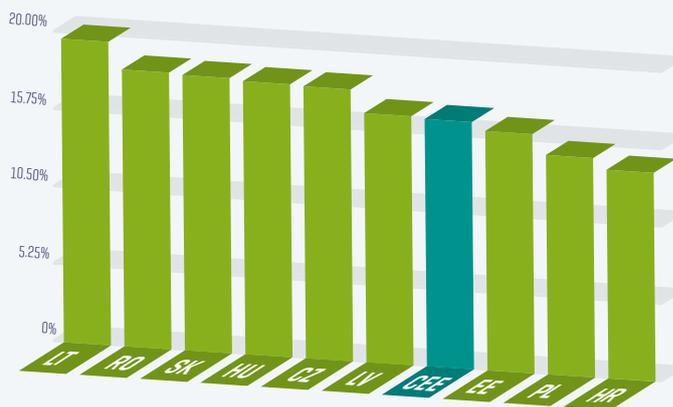
THE EU COHESION POLICY 2014-2020 PURSUES A BROAD RANGE OF OBJECTIVES¹⁸, PRACTICALLY SERVING ALL AREAS OF PUBLIC INVESTMENT:

- (1) Strengthening research, technological development and innovation.
- (2) Enhancing access to, and use and quality of, ICT.
- (3) Enhancing the competitiveness of SMEs.
- (4) Supporting the shift towards a low-carbon economy in all sectors.
- (5) Promoting climate change adaptation, risk prevention and management.
- (6) Preserving and protecting the environment and promoting resource efficiency.
- (7) Promoting sustainable transport and removing bottlenecks in key network infrastructures.
- (8) Promoting sustainable and quality employment and supporting labour mobility.
- (9) Promoting social inclusion, combating poverty and any discrimination.
- (10) Investing in education, training and vocational training for skills and lifelong learning.
- (11) Enhancing institutional capacity of public authorities and stakeholders and efficient public administration.

18 REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006



●	29%	transport
●	20%	production and consumption
●	12%	environment
●	8%	energy infrastructure
●	7%	education
●	7%	employment
●	5%	other
●	4%	information and communication technology
●	4%	social inclusion
●	4%	social infrastructure



Country	Share of climate objective on total ERDF and CF	Contribution to climate objective, euro
LT	20,95%	1,405,384,429
RO	19,10%	4,304,922,722
SK	19,00%	2,616,516,847
HU	18,85%	4,060,003,544
CZ	18,77%	3,971,167,872
LV	17,20%	754,885,165
CEE average	17,07%	30,539,653,526
EE	16,52%	567,800,532
PL	15,14%	11,640,483,161
HR	14,40%	1,218,489,254

GRAPH 3: Investment areas of total ERDF and CF and ESF; source: our own calculations based on approved Operational Programmes according to categories of intervention according to Commission Implementing Regulation (EU) No 215/2014 of 7 March 2014

To maximise the impact of Cohesion Policy, the more developed Member States receiving EU funds have to concentrate their EU fund interventions on a few objectives. New Member States, however, have the opportunity to spend their EU funds along all thematic objectives. Graph 3 demonstrates the distribution of the nine countries' EU funds according to investment area.

Whereas the proportions among the various intervention fields differ slightly country by country, the overarching tendency is that transport and general support for business and industry is a priority for the EU funds in CEE, receiving the largest share of EU funds. On the other hand, it becomes evident that serving multiple objectives rather leads to a piecemeal structure of EU funds' support. Given the high share of EU funds in public investments and the multiple purposes of EU funds in CEE, Cohesion Policy funding rather serves as a second government

GRAPH 4: Share of allocations dedicated to climate action of total Cohesion Policy funds. Source: our own calculations based on approved Operational Programmes according to categories of intervention and 'Rio Marker' values intervention according to Commission Implementing Regulation (EU) No 215/2014 of 7 March 2014

budget. This is in contradiction to the main principles of Cohesion Policy that EU funds have to be 'additional' to government interventions, not replace them.

Regarding the amount of investment for climate action for the 2014-2020 funding period, the rules of the European Regional Development Fund (ERDF) required Member States, for the first time, to allocate a mandatory minimum proportion of the available funding to finance the 'shift towards the low-carbon economy in all sectors'. It states that Member States should allocate:

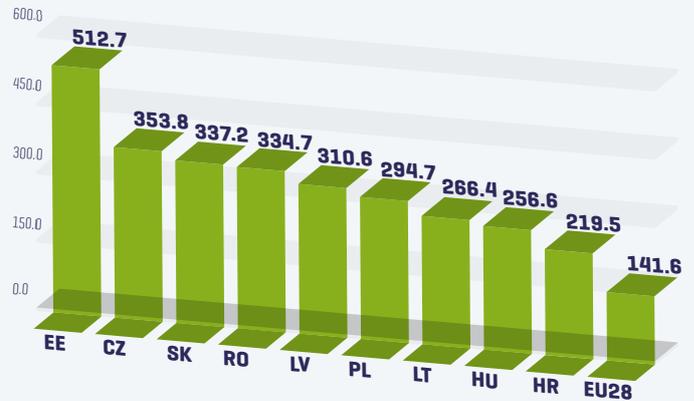
- 20% of national ERDF resources in more developed regions.
- 15% in transition regions.
- 12% in less developed regions, or 15% in case climate action contributions from the Cohesion Fund are included.

GRAPH 5: Share of clean energy infrastructure of total Cohesion Policy. Source: our own calculations based on approved Operational Programmes according to categories of intervention



Country	Share of energy efficiency, renewables and electricity distribution and storage on total ERDF, ESF, CF	clean energy investments, euro
LT	13,21%	886,085,548
CZ	10,57%	2,237,185,806
HU	9,45%	2,035,032,151
LV	8,25%	362,033,474
SK	6,30%	867,775,034
RO	6,27%	1,412,329,787
PL	5,49%	4,222,110,075
HR	5,16%	436,810,805
EE	4,78%	164,138,298

GRAPH 6: Energy intensity of the economy 2013 - Gross inland consumption of energy divided by GDP [kg of oil equivalent per 1 000 EUR], CEE and EU 28 average. Source Eurostat Code: tsdec360



In addition, for the first time, a ‘climate tracking’ methodology was introduced, attributing a coefficient for the calculation of support to climate change objectives to each of the categories of intervention¹⁹, thus allowing calculation of the total sum of EU funds dedicated to climate action. According to this tracking methodology, the nine CEE countries spend EUR 30.5 billion on climate action [Graph 4].

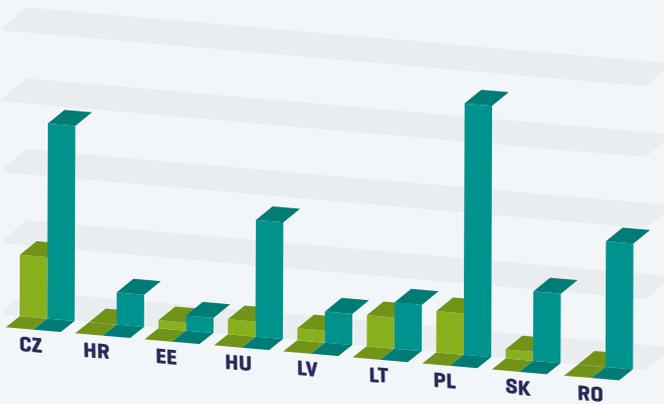
This share of funding allocated to ‘climate action’ includes among other things the financing of measures for climate change adaptation to limit the damage already done [or expected damage] by climate change, as well as other environmental protection measures and transport funding. Investments into clean energy infrastructures such as energy efficiency, renewable energy, smart distribution electricity grids and electricity storage will receive little more than one

third of all climate action funding [Graph 5], around EUR 12.6 billion or 7% of all Cohesion Policy funding.

Renewables and energy efficiency are key to both tackling climate change and eliminating fossil fuel dependency. Electricity interconnection and smart demand management is needed to incorporate the growing share of renewables. Given the significantly higher energy intensity in the countries of Central and Eastern Europe compared to the EU average [Graph 6] and the huge investment needed to replace the current carbon-intensive infrastructure, the planned allocations to energy efficiency, renewables and electricity distribution and storage appear rather unambitious. This is a lost opportunity, particularly in regard to the multiple benefits of investing into green energy transition: cut GHG emissions, improve public health, decrease costly energy

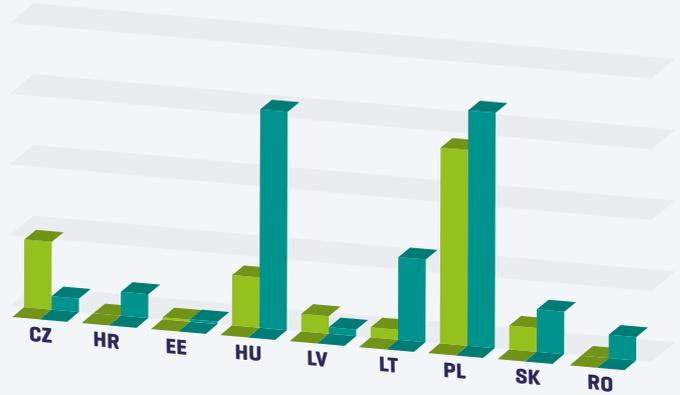
19 The so called ‘Rio Marker’ values of 0%, 40% or 100% climate relevance according to Commission Implementing Regulation [EU] No 215/2014 of 7 March 2014

GRAPH 7: Comparison of energy efficiency allocations for public building, housing, enterprises in 2007-2013 and 2014-2020, Euro, 2014 prices. Source: our own calculations based on approved Operational Programmes according to categories of intervention



Country	2007-2013	2014-2020
CZ	615,000,000	1,946,794,585
HR	n/a	321,810,805
EE	85,000,000	154,563,830
HU	155,000,000	1,159,078,519
LV	120,000,000	311,806,660
LT	315,000,000	465,942,000
PL	415,000,000	2,501,919,373
SK	90,000,000	698,775,034
RO	n/a	1,251,170,213

GRAPH 8: Comparison of allocations for renewable energy sources in 2007-2013 and 2014-2020, Euro, 2014 prices. Source: Own calculations based on approved Operational Programmes according to categories of intervention



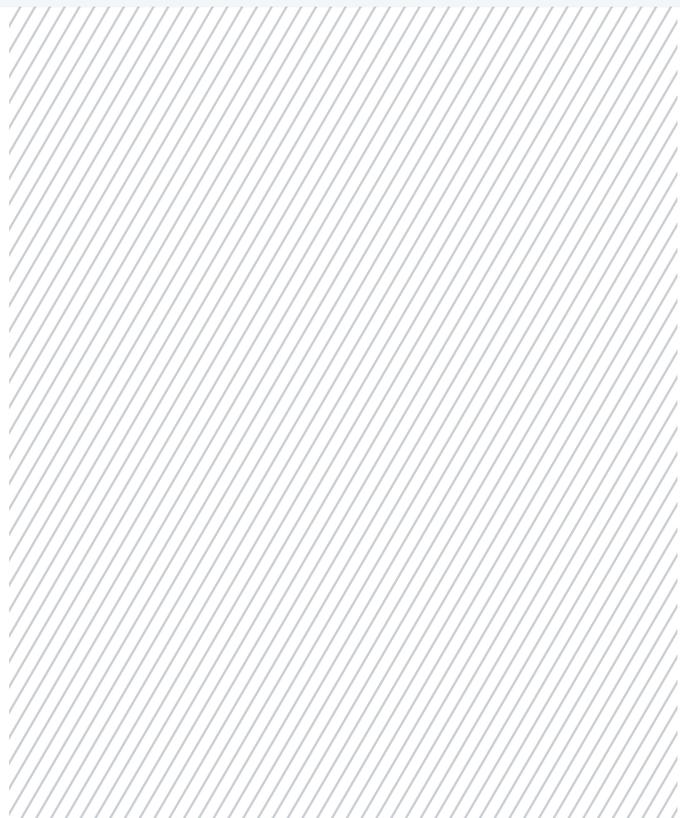
Country	2007-2013	2014-2020
CZ	270,000,000	53,439,383
HR	n/a	95,000,000
EE	8,000,000	9,574,468
HU	200,000,000	875,953,632
LV	70,000,000	26,597,247
LT	40,000,000	329,868,111
PL	780,000,000	938,928,986
SK	95,000,000	169,000,000
RO	n/a	94,787,234

imports and thus increase energy security, lower consumer and industrial energy bills, tackle energy poverty and create jobs.

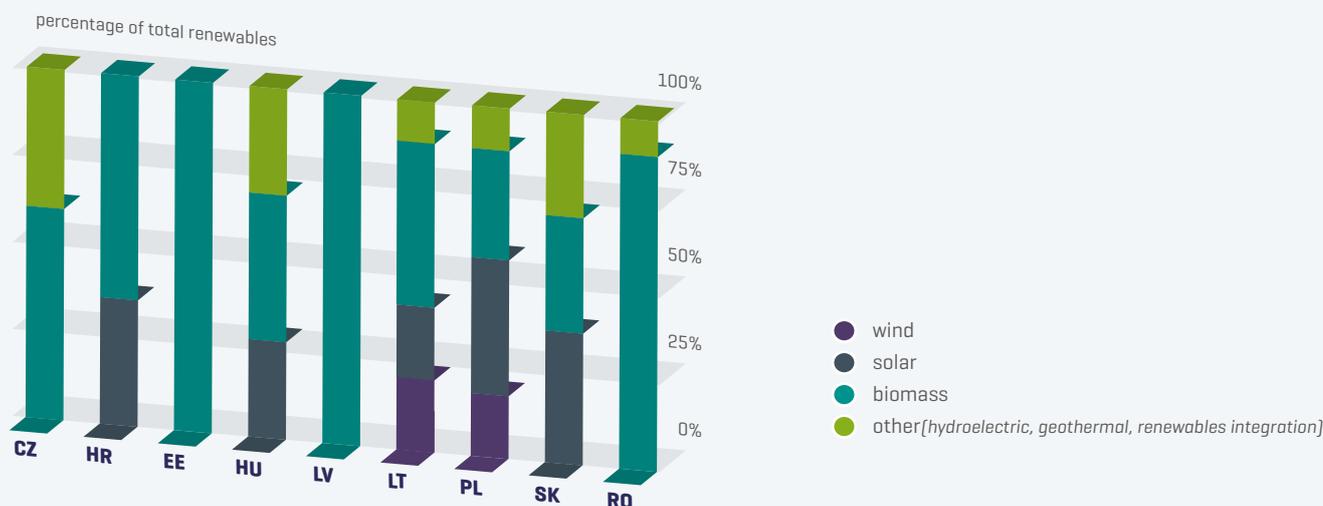
We welcome that a higher proportion of funds compared to the 2007-2013 period has been allocated for energy efficiency measures (Graph 7), and especially the introduction of the private housing sector as eligible recipients of EU funding, a necessary condition to tap the potential for energy savings.

However, our analysis also shows that in several countries allocations for renewable energy sources are stagnant or even in decline (Graph 8).

Of particular concern, is the fact that the majority of this support is planned for biomass (Graph 9).



GRAPH 9: Split of renewable energy sources. Source: our own calculations based on approved Operational Programmes according to categories of intervention



Amount in euro

	CZ	HR	EE	HU	LV	LT	PL	SK	RO
wind	0	0	0	0	0	1,158,480	173,796,628	0	0
solar	0	35,000,000	0	251,924,086	0	1,158,480	369,635,520	65,750,000	0
biomass	32,867,524	60,000,000	9,574,468	364,062,731	26,597,247	326,971,911	283,651,499	55,270,000	85,308,511
other <i>[hydroelectric, geothermal, renewables integration]</i>	20,571,859	0	0	259,966,814	0	579,240	111,845,339	47,980,000	9,478,723
Renewable Energy Sources total	53,439,383	95,000,000	9,574,468	875,953,632	26,597,247	329,868,111	938,928,986	169,000,000	94,787,234

In order to be considered genuinely renewable, biomass must be sourced locally and sustainably. However, stringent sustainability criteria for each planned biomass project have largely not been adopted by Member States in their EU funds' implementation framework, thus the sustainability of supported biomass projects is not guaranteed.

EU funds are also still being earmarked for fossil fuel industries (Graph 10):

Apart from allocations for the gas sector, countries plan to support combined heat and power plants (CHP, 'cogeneration') based on coal, for example by 'modernising' or upgrading the plant to add and co-fire biomass. For the modernisation of heating systems, it will be possible to get financing to exchange old coal boilers with coal-based ones that simply emit less CO₂ and other pollutants. Whereas the European Union calls for the elimination of Environmentally

Harmful Subsidies²⁰, including in the Cohesion Policy, this support for coal and gas through the back-door locks countries into fossil fuel dependency, and impedes, delays and obstructs the transition to clean sustainable energy systems.

It is business-as-usual in the transport sector - most of the countries spend around 50% of funds on roads, while rail receives generally less (Graph 11). Sustainable urban and regional transport is slated to receive little more than in the 2007-2013 period. Airport extensions (Croatia, Estonia) are still financed by EU funds.

Transport is still responsible for 25% of EU greenhouse gas emissions, and contributes significantly to air pollution, noise and habitat fragmentation. EU transport-related GHG emissions have all increased since 1990, currently 20.5%

GRAPH 10: Different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention

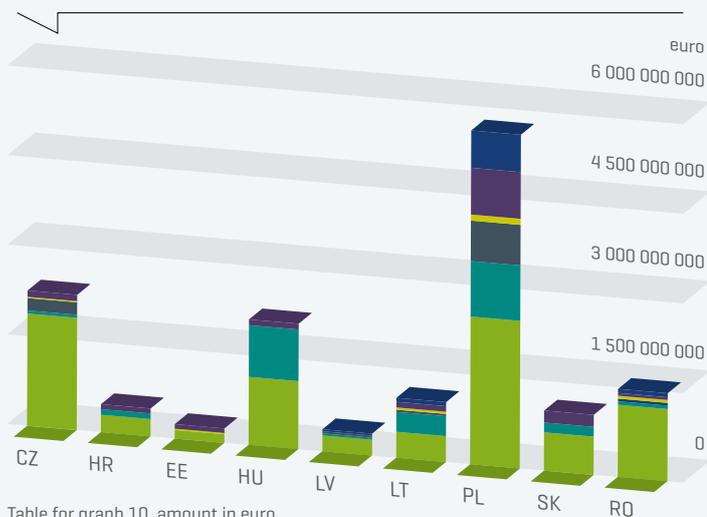


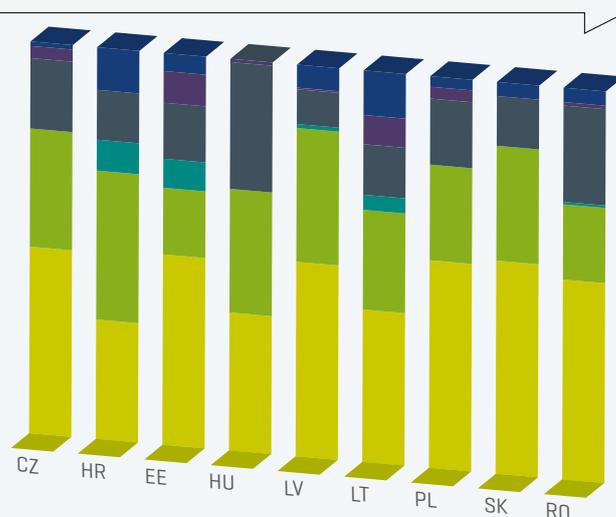
Table for graph 10, amount in euro

	CZ	HR	EE	HU	LV	LT	PL	SK	RO
● Energy Efficiency	1,946,794,585	321,810,805	154,563,830	1,159,078,519	311,806,660	465,942,000	2,501,919,373	698,775,034	1,251,170,213
● Renewable Energy Sources	53,439,383	95,000,000	9,574,468	875,953,632	26,597,247	329,868,111	938,928,986	169,000,000	94,787,234
● Electricity transmission, storage	199,833,699	0	0	0	23,629,567	69,508,804	679,217,382	0	21,276,595
● Smart Grid	37,118,139	20,000,000	0	0	0	20,766,632	102,044,334	0	45,095,745
● Co-generation, district heating	92,942,859	80,000,000	82,978,723	85,948,156	26,597,247	73,649,781	787,910,436	185,000,000	57,446,808
● Gas	0	0	0	0	17,727,893	84,195,304	620,000,000	0	46,750,000

Table for graph 11, amount in euro

	CZ	HR	EE	HU	LV	LT	PL	SK	RO
● Roads	2,765,516,420	400,000,000	255,319,148	1,326,916,204	654,511,223	427,407,377	14,623,901,307	1,906,312,042	3,984,241,894
● Railways	1,764,577,190	500,205,755	90,425,532	1,180,000,000	453,927,366	279,709,052	6,782,113,887	1,028,071,393	1,494,981,576
● Airports	0	100,000,000	37,234,043	0	11,484,765	40,546,803	36,896,782	0	42,568,374
● Clean urban/regional	1,036,913,616	170,000,000	75,531,915	1,233,103,473	115,609,367	144,520,389	4,676,602,012	455,350,000	1,902,811,915
● Multimodal	177,894,853	0	42,925,532	26,379,169	7,093,340	77,353,163	764,361,549	0	75,601,432
● Water ways, ports	60,844,269	140,000,000	23,404,255	0	74,112,625	124,666,937	732,863,467	116,450,000	271,244,894
● Transport total	5,805,746,348	1,310,205,755	524,840,425	3,766,398,846	1,316,738,686	1,094,203,720	27,616,739,005	3,506,183,435	7,771,450,085

GRAPH 11: Share of transport modes in total transport funding per country. Source: our own calculations based on approved Operational Programmes according to categories of intervention



above 1990 levels²¹. This is the only sector of the economy to have seen such a large increase in emissions in this period: GHG emissions peaked around the beginning of the economic crisis and have shown unstable trends since, EU-wide as well as in CEE countries.

Against this background, it is incomprehensible that CO₂ emissions considerations are absent in transport planning and project selection. Such an approach contradicts the Commission's target of a 60% reduction in greenhouse gas emissions from transport by 2050²². Meeting this target will require significant additional measures by CEE countries, and financing of sustainable mobility concepts should be prioritised above road construction. These measures include avoiding the use of transportation where possible, shifting necessary transport from environmentally-harmful modes to more environmentally-friendly modes and improving the efficiency of all modes of transport.



20 <http://data.consilium.europa.eu/doc/document/ST-12790-2015-INIT/en/pdf>
 21 <http://www.eea.europa.eu/soer-2015/europe/transport>
 22 http://ec.europa.eu/transport/themes/strategies/2011_white_paper_en.htm

CLIMATE MAINSTREAMING

THE HORIZONTAL INTEGRATION OF CLIMATE CHANGE MITIGATION INTO ALL INVESTMENT STRATEGIES, PLANS AND PROGRAMMES

In contrast to the last programming period, 2007-2013, the European Structural and Investment Funds for the period 2014-2020 are built on a new foundation. According to the European Commission, the results-oriented approach and strategic alignment towards European objectives should improve the quality and effectiveness of intervention by the EU funds. Strategic alignment with the Europe 2020 strategy, however, does not encourage CEE countries to invest EU funds into the reduction of GHG emissions. The 'effort sharing decision'²³ allows 'new Member States' to increase their GHG emissions by 2020 compared to 2005 levels in the sectors not covered by the European Emissions Trading system such as transport, buildings, agriculture and waste [Graph 12].

Whereas countries are on track to meet their GHG emissions targets, i.e., to limit their GHG emissions increases, recent trends suggest further increases in GHG emissions and energy consumption in the future. In most of the CEE countries, there are no GHG reduction plans beyond 2020 which could steer clean energy infrastructure investment planning. This lack

of long-term GHG reduction goals collides with the nature of long-lasting infrastructure investments. Energy or transport infrastructure built today will determine production and consumption patterns, including GHG emissions, for decades to come. In consequence, CEE countries are denying investors the certainty they need in order to commit to renewable energy and other low-carbon technologies, nor do they send the sort of signal that could kick-start the long-term transition to green energy systems.

Whereas on the strategic level [EU 2020 strategy and national development plans], climate mainstreaming already falls short, the EU legislative framework for Cohesion Policy sets out a mandate regarding sustainable development and preserving, protecting and improving the environment²⁴, including climate change mitigation requirements:

'The objectives of the ESI Funds shall be pursued in line with the principle of sustainable development and with the Union's promotion of the aim of preserving, protecting and improving

²³ http://ec.europa.eu/clima/policies/effort/index_en.htm

²⁴ Article 8 of REGULATION (EU) No 1303/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006; EN L 347/342 Official Journal of the European Union 20.12.2013

GRAPH 12: Member States' GHG emission limits according to 'effort sharing',
http://ec.europa.eu/clima/policies/effort/index_en.htm



Source: http://ec.europa.eu/clima/policies/effort/index_en.htm

the quality of the environment, as set out in Article 11 and Article 191(1) TFEU, taking into account the polluter pays principle. [...]

The Member States and the Commission shall ensure that environmental protection requirements, resource efficiency, climate change mitigation and adaptation, biodiversity, disaster resilience, and risk prevention and management are promoted in the preparation and implementation of Partnership Agreements and programmes.'

The operationalisation of the horizontal principles, i.e., concrete mechanisms and rules for how to translate and implement those principles and requirements, are not laid down in the Regulation. Instead of being prescriptive in its realisation, the Regulation only requires descriptions of its application, both for the Partnership Agreement (art. 15 (v), Common Provisions Regulations), as well as for each Operational Programme which 'shall include a description of how environmental protection requirements, resource efficiency, climate change mitigation and adaptation, disaster resilience and risk prevention and

management are taken into account' (art. 27 (5) CPR).

As a consequence, climate change mitigation is included at a rhetorical level into Partnership Agreements and Operational Programmes, which list a series of principles to be adhered to: energy and resource efficiency, the reduction of resource and energy use and land seal, GHG emissions reduction, the polluter pays principle, precautionary principle, life-cycle cost assessment, eco-innovation, preference for environmentally-sound development, protection of natural assets, green public procurement, etc. However, the horizontal principle is not put into effect and is not enforceable at the level of programming documents: according to Partnership Agreements and Operational Programmes, the concrete measures and actions for manifesting climate mainstreaming should rather be realised during the implementation of spending programmes. That way, Operational Programmes have delegated the realisation of the horizontal principles to the implementation framework at the national level, mainly via the design of measures ('calls for proposals') and the definition of project selection criteria.



In some countries, project selection criteria are still under development. However, in other countries, already adopted criteria are often fairly open and unspecific, preferring to satisfy the demands of managing authorities and monitoring committees for ‘relevance and proportionality’ for the selection of projects in a certain sector, rather than establishing a stringent project selection and assessment framework which comprehensively includes climate change mitigation aspects. Otherwise, project selection criteria generally include ‘sustainability’ or ‘environmental sustainability’ without

specifying how this relates to the aforementioned principles. As a result, for example, the replacement of old coal boilers with new coal boilers at the cost of energy efficiency and renewables, is promoted in some countries. There are generally few criteria introduced for transport projects (limited to the feasibility of the project), and induced emissions are not within the scope of project assessments.

The tables below demonstrate some good examples of how sustainability considerations can be operationalised:

TABLE 1: Requirements for energy efficiency interventions in Hungary - our own compilation based on approved Operational Programmes

Eligible actions energy efficiency	Selection criteria
<ul style="list-style-type: none"> • Buildings (housing stock, building stock of local governments, business infrastructure, railway stations, social infrastructure), energy assessment/ certified/ carried out. • Electricity-related refurbishment in homesteads/ farmsteads. • Social urban rehabilitation (incl. housing blocks and public spaces). • Productive tools, machinery (‘production processes’). • Energy quality assessments. • Modernisation of lighting, modernisation of boiler rooms, exchange of heaters. 	<ul style="list-style-type: none"> • Energy efficiency projects of local governments should be planned in combination with utilisation of the potential of internal, autonomous, regionally available energy, with special regard to renewable energy sources. • Refurbishment should be based on certified technologies. • Higher/the highest possible savings on energy/ fossils and/or GHG emissions at unit cost are prioritised/required (depending on the investment priority). • In the case of renovation of buildings, complex renovation has priority. • Small-scale infrastructure development in agriculture should contribute to Energy Efficiency.

TABLE 2: Criteria for renewable energy investments in Hungary - our own compilation based on approved Operational Programmes

Eligible renewable energy sources	Selection criteria
<ul style="list-style-type: none"> • The specific fields in which RTDI is supported include: sustainable environment and clean and renewable energy. • Production of machinery producing energy from RES. 	<ul style="list-style-type: none"> • The use of RES is to be considered in the case of all new construction. • Although RES investments are not linked to mandatory energy modernisation, only buildings with low heat transmission [heat loss] level [the same level as for any new construction] are eligible. • ‘EE and RES in SMEs and housing’ prioritises small and medium-sized production units using local resources and serving local needs, RES-based co-generation of heat and electricity, as well as investments combining energy efficiency and the use of RES.

TABLE 3: Criteria for transport funding in Hungary - our own compilation based on approved Operational Programmes

Transport
<ul style="list-style-type: none"> • Investment priority-specific selection principles for projects on the local accessibility of TEN-T prioritise the enhancement of the capacity of existing roads over new construction and require an existing or planned public bus service on the road. • For emissions reduction, there is an indicator for sustainable urban transport and suburban rail projects. • For infrastructure, mandatory protection of ecosystem services and native trees, minimising impact on waters, implementation through low-distance transport, low material and energy use, use of areas of lower ecological value, use of reused materials, etc. • Business infrastructure development within EDIOP claims to prefer ‘brownfield investments well accessible with low traffic needs and means of public transport’

TABLE 4: Criteria for the sustainable use of biomass in Hungary - our own compilation based on approved Operational Programmes

Biomass
<ul style="list-style-type: none"> • No more than 50% of the input materials for biogas can represent grain and plants containing starch and sugar. • If agricultural biomass is primarily used for the production of electricity, at least 25% of the produced heat surplus has to be used within the same/own farm. • Only heaters with at least 70% efficiency can be used for non-combined biomass-based heat generation. • In the gardening sector, the production of liquid bio-fuel is not supported. • Local, small-scale biomass-based community infrastructure development cannot increase the use of wood. • Local, innovative, high efficiency use of forestry or agricultural waste mainly for heating or co-generation is eligible when renovating encompasses the whole community. • The planting of fast-growing ‘energy woods’ is not eligible.

Another environmental safeguard mechanism, the Strategic Environmental Assessment (SEA), is of limited use as it is hardly ever undertaken under a long-term decarbonisation perspective. In cases where the SEA could have an impact on climate performance of programmes, its recommendations are not being transferred. Some SEA reports still find that Operational Programmes could do more to contribute to achieve Europe 2020 targets, in which case, it could be used by the European Commission during the negotiations for spending plans.

Despite some good examples where climate change mitigation is punctually integrated, generally neither planning

documents nor the implementation framework manage to establish a kind of 'environmental integration work programme'. Due to a biased interpretation of the concept of sustainability, environmental protection considerations are ignored or subordinated to economic and financial ones. Often 'climate mainstreaming' as a principle of horizontal integration is reduced to allocating a certain amount of EU funds towards directly climate relevant measures like energy and transport in the corresponding Operational Programmes and the integration of climate change considerations into other investment areas (for example, education, employment, business development, social infrastructure) is exceptional.

TABLE 5: Renewable energy: eligibility and selection criteria, Podlaskie Regional OP, implementation documents and call for proposals; Poland

Conditions for call for proposals
<ul style="list-style-type: none"> • Only small and medium-sized RES installations are eligible: <ul style="list-style-type: none"> • Hydro, wind, biomass energy – up to 5 MW. • Solar, geothermal – up to 2 MW. • Biogas – up to 1 MW. • Biogas plants only eligible if project provides for efficient use of waste heat, preferred utilisation of organic digestant. • Biomass installations only eligible if: <ul style="list-style-type: none"> • Energy resources used are produced in a manner which does not cause additional competition between energy and food production. • Not having negative impacts on biodiversity; agricultural monocultures non-eligible. • Local sourcing of biomass will be preferred. • Not using high-quality wood or grain [in accordance with the Renewable Energy Law]. • All installations must adhere to spatial and location limitations, including related to environmental protection and Natural 2000 sites; such limitations are generally non-applicable to micro-installations, which will be preferred. • Projects will receive preference according to their environmental effect (CO₂ and other pollutant emissions reduction) as well as their socio-economic effect on local development.
Project selection criteria
<ul style="list-style-type: none"> • Assessment of efficient use of [waste] heat [applies to all cogeneration installations]; if heat not utilised, project non-eligible. • Assessment of potential negative impact of the project, including: source of biomass used for energy production, including biofuels; project non-eligible if such impact is found. • Cost effectiveness of proposed projects assessed in separate technological categories (project competes only with comparable projects). • Higher scoring for projects which plan to utilise organic waste or are located in degraded sites (brownfield). • Visible preference for smaller and micro-installations – assessment of type and installed power of the installation; biogas up to 200 kW, PVs up to 40 kW – 10 points; wind, hydro, PVs (over 40 kW), solar panels combined with heat pumps, biogas 200-500 kW – 7 points; solar panels, heat pumps, biomass burning, biogas over 500 kW – 5 points; other – 0 points. • Location of project – preference to projects implemented in villages and countryside over town and city projects [related to density and state of power grids]. • Social and economic effects – assessment in project will cause the creation of local clusters or support local cooperation between, for example, local government, farmers, citizens, firms, etc. [20 points]. • Assessment of implemented, innovative, technological solutions [10 points].

PL

What EU money can't buy: the green energy transformation just out of reach

Climate action in EU Cohesion Policy
funding for Poland, 2014-2020

In the 2014-2020 budgetary period, Poland is the biggest beneficiary of the European Structural and Investment Funds (ESIF), set to receive approximately EUR 80 billion in total under the Cohesion Policy of the European Union. For another seven years, Poland will continue to benefit from its biggest net beneficiary status within the EU, with the expected transfers coming on top of the EUR 81 billion of ESIF financial support which Poland spent between 2004 and the end of 2013.²⁵

Cohesion Policy funds are one of the main sources of investment activity in the economy, amounting to more than 50% of public investment between 2009 and 2013²⁶. EU funds are also believed to be the key reason for Poland's continuous economic growth through the crisis years 2008-2010²⁷. With a high share of public sector investment in total investment expenditures in Poland in the past decade, it is difficult to overemphasise the importance and impact of EU funds on GDP growth and development of basic infrastructure.

However, while supporting the transition from a post-communist economy, the European policies and the money that supports them have not succeeded in putting sustainability and climate change concerns at the centre of Polish development. Nowhere is this failure more visible than in the attitude of Poland towards the climate and energy regulations of the EU. While benefiting from billions of euros in financial transfers, Poland has continued to openly oppose – or quietly ignore – the push for more ambitious climate action and the transformation of the energy system that must underpin it.

The Cohesion Policy funds 2014-2020 are set to be the most important source of financial support to achieve the decarbonisation, renewable energy and energy efficiency targets declared by Poland within the framework of the Europe 2020 strategy²⁸. However, despite the Union's effort to establish earmarking for a low-carbon economy, climate action reporting and other measures ensuring environmental

mainstreaming across the Cohesion Policy programming documents, the current setup of EU funds will not bring Poland significantly closer to a low-carbon transformation.

That is because just as money must always follow political decisions to make them reality, even billions of euros in investments will not be enough to bring about an energy system transformation without a strong foundation of political commitment to climate action. That commitment is still missing in Poland – and it seems to be one of the few things that EU money cannot buy.

THE FOSSIL OF EUROPE: THE POLISH ENERGY SYSTEM

Poland is not a European leader on climate change action. Despite the formal agreement to adopt European climate regulations, Polish energy policies and strategies continue to follow a path which centres almost entirely on sustaining the existing energy system, to the exclusion of social or environmental costs as well as the potential benefits of climate-friendly transformation.

This attitude is evident in Poland's history of non-transposition of relevant EU laws – according to a 2013 study by Client Earth, only one out of eleven climate and energy directives was transposed on time²⁹. The Polish renewable energy sources (RES) market had to wait almost five years after the final deadline for the adoption of a dedicated renewables law, which only happened in February 2015. A law transposing the energy efficiency directive from 2012 is missing to this day. Poland has also been the main member state actively opposing binding commitments to ambitious climate change action, including in the framework of the 2050 policy roadmap and the recent 2030 climate agreement of the EU.

Poland's reluctance to enact climate protection policies stems from the addiction of its economy to fossil fuels. The vast majority of Polish electricity is produced from coal, with indigenous hard and lignite coal accounting for 60% and

25 The Impact of Poland's EU Membership and of Cohesion Policy on National Development, Ministry of Infrastructure and Development of the Republic of Poland, Warsaw April 2014

26 Investment for Jobs and Growth. Promoting Development and Good Governance in EU Regions and Cities. Sixth Report on Economic, Social and Territorial Cohesion, European Commission, 2014

27 The Impact of Poland's EU Membership..., op. cit.

28 Europe 2020: A European Strategy for Smart, Sustainable and Inclusive Growth, European Commission, 2010

29 Black Paper: Implementation of EU Climate and Energy Law in Poland, ClientEarth, Warsaw 2013

25% of production respectively³⁰. 77% of heat energy comes from burning coal, with other fossil fuels such as gas and oil adding up to cover almost 90% of heat production³¹. The energy system is an oligopoly, with four out of five coal-mining companies fully or partially state-owned and the production market mostly shared between four companies where the state is a majority stakeholder. A workforce of 100,000 hard-coal miners, 240 trade unions with significant political power as well as many interconnections between the government and the energy sector play a key role in maintaining the status quo and impeding the transition to a low-carbon economy.

The energy sector generates huge environmental, social and direct financial costs. Public support of coal mining and coal-based energy production, including subsidies, debt cancellations, free emissions allowances and social benefits for miners amounts to approximately EUR 34 billion in the period 1990-2012³². Despite the government's efforts, due to falling prices and demand, hard-coal mining is increasingly unprofitable, with the entire sector constantly on the verge of insolvency. The fleet of coal-burning power plants consists mainly of obsolete and inefficient installations more than 30 years old that need significant investments to modernise to EU standards. Industrial air pollution caused by power and CHP plants is estimated to cause as many as 5,400 premature deaths annually³³. Air pollution with toxins and particulate matter, mainly originating from individual coal-burning heating systems, is one of the worst in the European Union, with more than 40,000 people dying prematurely each year due to low air quality³⁴.

Climate and energy targets

However, the urgent – and inevitable – need for transition towards a more economically and environmentally sustainable energy system is acknowledged by policy-makers almost exclusively in the context of fulfilling Polish commitments stemming from European agreements, most important of which is the Europe 2020 strategy.

The Effort Sharing Decision³⁵, which sets Poland's emissions reduction target, caps its non-ETS GHG emissions at a non-ambitious 14% increase compared to the 2005 baseline. Since 2000, Polish overall greenhouse gas emissions have remained fairly constant, at around 85% levels compared to 1990³⁶, with the majority of the reduction requiring no extra effort and having taken place in the 1990s as a result of the transformation to a post-communist economy.

The energy efficiency target in Poland is expressed as the total level of primary energy consumption expected in 2020 and set at 96.4 Mtoe – which means that this level of consumption is what Poland will strive to achieve by the end of the decade. Contrary to what could be expected, this target does not measure the reduction in primary energy consumption – Poland was in fact allowed to consume more. Although the energy intensity of GDP has fallen slightly in recent years, the total primary energy consumption increased steadily between the years 2003 and 2013 from 91 Mtoe to almost 98 Mtoe³⁷.

The Europe 2020 renewables target obligates Poland to reach a 15% share of RES in gross final energy consumption, and with the current 11.3%, Poland seems well-set on reaching it. Except, in reality, almost 46% of Poland's so-called renewable energy produced in 2013-2014 was generated in the process of co-firing biomass and coal, with energy companies collecting between 2005 and 2012 almost half of the available RES subsidies³⁸ for supplementing coal with – often unsustainable – biomass in industrial boilers. The public subsidies for co-firing are a subject of an infringement procedure based on a complaint brought to the European Commission in 2014 by Polish NGOs³⁹.

A recent assessment of Poland's performance in the various dimensions of the budding Energy Union praises Poland for being on track to meet its energy-related Europe 2020 targets⁴⁰. However, given the low level of ambition or the misleading reporting on those targets, it is difficult to call

30 Sektor energetyczny w Polsce. Polska Agencja Informacji i Inwestycji Zagranicznych S.A., 2014

31 Energetyka ciepła w liczbach, Urząd Regulacji Energetyki, 2014

32 Hidden Cost of Coal, Greenpeace, April 2014

33 Coal Kills, Greenpeace Poland, June 2013

34 Air Quality in Europe - 2014 Report, European Environment Agency, November 2014

35 Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020

36 Environment 2014, GUS [Central Statistical Office], Warsaw 2014

37 Energy Efficiency in Poland in Years 2003-2013, Central Statistical Office, Warsaw 2015

38 Hidden Cost of Coal..., op. cit.

39 see e.g. <http://www.clientearth.org/pl/news/latest-news/polish-government-spent-billions-supporting-pseudo-green-energy-2610>

40 Assessment of Poland's Performance and Benefits of Energy Union, European Commission, October 2015

them transformational. Still, the Europe 2020 goals seem far-reaching when compared to those that Poland sets internally.

Case in point: the recently published draft Polish Energy Policy 2050 (PEP2050). The document is symptomatic of the broader Polish attitude towards EU environmental commitments in the way it refers to European energy and climate policies as a burden and uncomfortable obligation for an economy historically based on coal. It expresses at the same time the hope for less ambition in the future: '[...] we may expect that in the longer-term, with economic and social costs of radical [EU] climate action becoming more evident, voices calling for a deep restructuring of the European climate policies and their better balance with goals in the areas of competitiveness, industrial policies and energy security will become more prominent'⁴¹. The main scenario for the development of the energy system included in PEP2050 continues in the business-as-usual direction, with the energy mix based heavily on coal, while the alternative scenarios give more focus to other fossil fuels, nuclear energy or natural gas.

It must be noted, that none of the scenarios included in the PEP2050 presumes a share of renewable energy in the mix higher than 20%, with the main scenario inexplicably assuming that RES would only account for 15% of energy generation – the exact share they should have already by 2020. In the document, no external environmental and health costs of the business-as-usual scenario are mentioned or accounted for. The policy clearly reflects the well-entrenched political interests of the coal-run industries instead of a real consideration of trends and scenarios necessary to transform to a sustainable and green economy.

Another recently published Polish strategy, the National Programme for the Development of a Low-Emission Economy (NPLEE), although less obvious in its commitment to the high-carbon status quo, also follows the paradigm of putting economic growth ahead of the need to protect and restore the natural environment, particularly the stability of the climate and other planetary boundaries. Despite some welcome elements, such as a chapter on sustainability

of biomass use and references to self-consumption and development of community and cooperative energy, the programme mostly moves along the same rhetorical lines as PEP2050. For example, discussing the expected growth of renewables, it says that 'there are neither reasonable premises nor technical possibility to act against it'⁴².

The central scenario of the NPLEE assumes a GHG emission reduction path which aims at a 44% reduction until 2050 (compared to 1990 levels). Coupled with a 20% maximum share of renewables in the energy mix assumed by the PEP2050, those two figures illustrate the Polish considerations for climate change. They are particularly striking when contrasted with some alternative development scenarios: an analysis by a research institute proposing a feasible 88% GHG emission reduction by 2050 as compared to 2010⁴³; a final report of a broad research project on low-carbon modernisation of the Polish economy concluding that a 63% GHG reduction by 2050 is completely feasible even without the use of CCS technologies⁴⁴; an analysis commissioned by the government which states that in all considered scenarios, the potential for the development of renewable energy in Poland is greater than the forecasted consumption⁴⁵. The decarbonisation target set forward in NPLEE is a far cry from the European Union's target of 80% to 95% emissions cuts adopted in the Energy Roadmap 2050⁴⁶.

FAILED EXPECTATIONS: CLIMATE MAINSTREAMING IN EU FUNDS FOR POLAND

Against this backdrop of the Polish energy market and climate policies, it is no surprise that the European funds are missing crucial strategic direction and the programming documents resemble more of a business-as-usual shopping list based on the existing needs of a carbon-intensive economy, rather than any real effort to create a new reality with the billions of euros of EU money.

BAD DESIGN: THE SYSTEM OF IMPLEMENTATION

The Polish system of implementation of ESIF itself does not foster cohesion in plans to achieve a low-carbon transformation of the economy. Cohesion Policy funds

41 Draft Polish Energy Policy 2050, Ministry of the Economy, August 2015

42 Draft National Programme for the Development of Low-Emission Economy, Ministry of the Economy, August 2015

43 Energy [R]evolution for Poland, Institute for Renewable Energy, published by Greenpeace Poland, October 2013

44 Low-emission Poland 2050: Final report, Warsaw Institute for Economic Studies and Institute for Sustainable Development, Warsaw 2013

45 Analysis of the Boundaries of Development of Renewable Energy Sources in Poland in the Perspective of 2050, Kearney for Ministry of Economy of the Republic of Poland, 2014

46 Energy Roadmap 2050, European Commission, 2011

are implemented through six National-Level Operational Programmes (NOPs) as well as sixteen Regional Operational Programmes (ROPs), one for each voivodeship (highest-level administrative subdivision, corresponding to a province). The NOPs, implemented by central government bodies, will support primarily large-scale, nationwide projects; they are investment strategies focused on specific areas, such as human capital (OP Knowledge, Education and Development), innovation (OP Intelligent Growth) or connectivity and ICT (OP Digital Poland) and big infrastructure, including transport and energy (OP Infrastructure and Environment).

Such division of EU funds' programming documents in thematic siloes is not supportive of a horizontal approach to the question of sustainable development – but neither is the all-in-one structure of the Regional Operational Programmes. Given that Poland is a unitary state, and not a federation of regions, when it comes to investing European money, the regional autonomy is significant. Each Polish voivodeship has a separate development strategy and a financial plan to support it, and Operational Programmes are, in essence, regional budgets which follow an EU-mandated structure. But the devil is often in the detail, and in this case, in the Detailed Descriptions of Priority Axes (DDPAs), which are the key implementation documents and the true basis for the adoption of criteria for the selection of EU-supported projects. And while ROPs are official programming documents subject to the approval of the European Commission, the DDPAs are considered 'technical' or 'supporting' documents and as such are adopted outside any EC control – and often without any involvement of the civil society partners⁴⁷.

This decentralisation, while allowing the regional authorities the freedom to adapt the spending plans to best meet the region's development needs, has a side-effect of creating unequal conditions of accessing public money earmarked for the same purpose for beneficiaries across Poland. With each voivodeship independently adopting implementation documents to interpret the provisions of their Operational Programme, as well as coming up with their own project selection criteria, the conditions and requirements of a project's eligibility vary greatly across voivodeships. Effectively, in any given two regions, the project selection

criteria adopted to implement the same investment priority will differ, and their quality – particularly when considering the inclusion of climate and environmental concerns – will vary, creating an unequal investment environment. While private companies will be largely free to choose the region with the most advantageous conditions for granting public support in a given sector, other beneficiaries, such as local self-governments, small entrepreneurs or community organisations, will have to contend with different conditions of accessing support compared with their counterparts from a neighbouring region.

While recognising the right of Polish regions to plan and own their development, as shown in their freedom to adopt individual Operational Programmes, there is a clear need to change a system which openly promotes unequal distribution of public money. While the choice of investment priorities should remain with the regional authorities, the project selection criteria must be universal, elaborated and adopted at the central level with respect to the principles of partnership and sustainability. That way, all regions which select a certain investment priority would apply the same rules of eligibility. It would also be an important measure to ensure high quality of the project selection criteria – including the proper horizontal inclusion of environmental and climate mainstreaming. This is particularly important because almost 50% of all Cohesion Policy funds allocated to Thematic Objectives of the low-carbon economy, climate change adaptation and protection of biodiversity will be invested through Regional Operational Programmes.

As it is, no focused push for the low-carbon transition from the central government and the decentralised structure for the implementation of EU funds together threaten the significant potential of the Cohesion Policy money being allocated to climate action. The general declarations of support for mainstreaming of sustainable development are there in the programming documents, they follow the specific format and guidelines mandated by the European Commission. However, from the Partnership Agreement to calls for proposals, generally the more detailed the document, the more the commitment to climate action and environmental mainstreaming becomes diluted.

47 See letter to the Minister of Infrastructure and Development signed by 382 Polish NGOs calling for partnership in the implementation of EU funds and public consultation of Detailed Description of Priority Axes: <http://wiadomosci.ngo.pl/wiadomosci/1350933.html>

SHAKY FOUNDATION: THE PARTNERSHIP AGREEMENT

In accordance with EU guidelines, the Partnership Agreement (PA) between Poland and the European Commission includes a chapter detailing how the total sum of interventions implemented with the support of European Structural and Investment Funds will help steer the sustainable development of the economy, in line with the overarching objectives of the Europe 2020 strategy. The chapter is unexpectedly thorough in its approach to the complex task of mainstreaming environmental concerns throughout all stages and levels of programming and implementation of EU funds, and it clearly puts the responsibility for properly addressing climate concerns on each individual OP.

In an effort to provide a comprehensive catalogue of how the principle of sustainability should be employed in the process of planning and spending of European money, the PA lists many important elements, including a focus on an efficient and innovative approach to the management of resources such as water, waste and energy, minimising GHG emissions and pollution, ensuring the application of technical solutions which maximise the resilience of infrastructure and ecosystems to climate change, and finally the need to build the know-how and awareness of resource efficiency and environmental protection across all sectors of the Polish economy. It calls for all OPs and project selection criteria to systematically apply the principle of 'polluter pays' and promote resource efficiency in the whole life-cycle of a project. It also proposes a number of reasonable examples of how to include climate considerations in all project selection criteria.

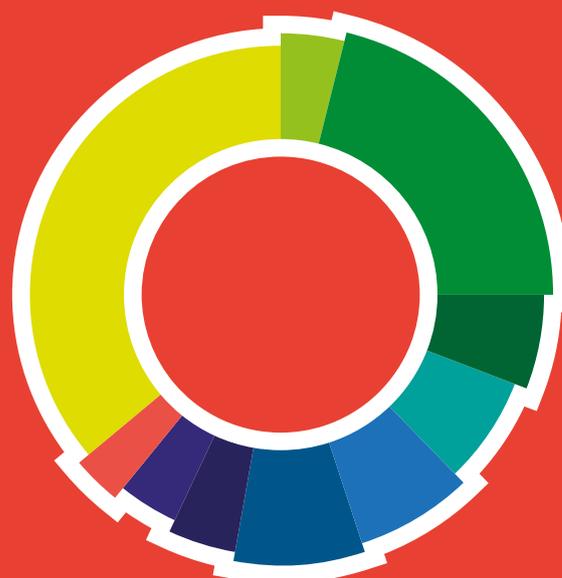
Specifically, the PA states that energy efficiency, as a key component of a low-carbon transformation, is an overarching concern and must be applied to all infrastructural investment financed from EU funds. It reads: '[...] it is not sufficient to plan priority axes or actions that serve improving energy efficiency; on top of that, energy efficiency should be treated as a horizontal issue that constitutes the practical dimension of applying the sustainable development principle and should be reflected by project selection criteria.'⁴⁸ Yet, the low-carbon transformation of all branches of the economy is far from being the overarching theme, and is mentioned mainly in reference to implementation of Thematic Objective 4 on

supporting the shift to a low-carbon economy.

CLIMATE CHANGE AND OTHER SPENDING

The Partnership Agreement, referencing the EC Implementing Regulation 215/2014, puts the indicative estimation of total Cohesion Policy climate spending at EUR 11.7 billion, barely above the obligatory 15% mandated by the Common Provisions Regulation 1303/2013. Together with allocations under the Rural Fund, Connecting Europe Facility and Fisheries and Maritime Fund, the amount of climate spending is said to reach EUR 22.7 billion and this constitutes a 20% share of the whole EU budget for Poland. The figures, however, lack a frame of reference and it is impossible to conclude from the PA whether the sizeable amount of money will be enough – not just to help reach the Europe 2020 targets, but also to help shift the Polish economy onto a track to carbon-neutral development.

GRAPH 13: Investment areas of EU Cohesion Policy funds in Poland; source: our own calculations based on approved Operational Programmes according to categories of intervention according to Commission Implementing Regulation (EU) No 215/2014 of 7 March 2014



		Euro
36%	transport	27,616,739,005
21%	production and consumption	16,111,387,896
8%	environment	5,927,267,371
7%	energy infrastructure	5,630,020,511
7%	employment	5,217,594,851

		Euro
6%	education	4,601,751,970
4%	information and communication technology	3,195,812,590
4%	social inclusion	2,704,653,961
4%	other	3,199,160,828
3%	social infrastructure	2,662,072,352

Given the many references to European funds being the key to achieving the Europe 2020 targets, particularly in the area of energy and climate, it is surprising that nowhere in the PA can be found an estimation of the total amount of investment which would be necessary to stimulate the shift to a low-carbon economy.

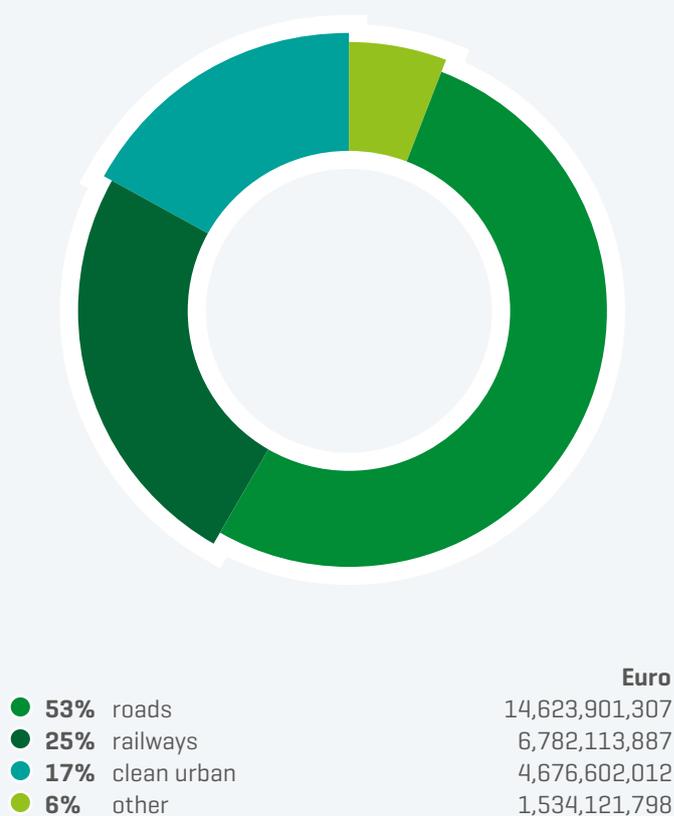
The conclusions of the ex-ante evaluation of the PA, particularly in the section ‘Assessment of adequacy of financial allocation under the Partnership Agreement’, do not do much to clarify. The assessment vaguely references ‘other public policies and the private sector’ as an explanation for the low level of planned financing for renewable energy. More specific investment needs are mentioned in discussing the allocation to T05 – adaptation to climate change. The evaluation states that the EUR 1.2 billion earmarked for climate change adaptation will cover around 35% of the total cost of investments needed in this area, however, it neglects to mention other sources of funding. Explaining this figure, the evaluation points to EU restrictions on directing ESIF to flood prevention measures, giving a good example of how Polish programming documents look at adaptation primarily through a filter of river regulation and costly hard infrastructure instead of focusing on natural solutions.

While adaptation to climate change involves significant financial effort, failing to implement the necessary measures will generate costs far exceeding those expenditures in the coming years. Estimates show that climate-related extreme weather events in the years 2001-2010 were the cause of financial losses of EUR 13 billion, and a failure to implement adaptation measures will result in estimated additional losses worth EUR 21 billion by 2020.⁴⁸

Meanwhile, transport and direct GDP growth – and not climate action – remain the main priorities for this EU budget in Poland, with the planned allocations totalling 57% of all available funds. While low-carbon solutions, such as clean urban transport and railways, are important areas of investment, it will once more be roads that consume the majority of public support.

Despite its clear identification of the problem of horizontally and vertically mainstreaming climate concerns, the Partnership Agreement falls short of following its own advice and ensuring coherence of all Thematic Objectives with the

GRAPH 14: Share of transport modes in total transport funding per country. Source: our own calculations based on approved Operational Programmes according to categories of intervention



principles of climate action or promoting low-carbon transition in all sectors. Even with many of the correct elements in place, the Partnership Agreement’s role in mainstreaming climate concerns lies more in providing a menu from which the OPs can pick and choose, and less in setting a clear, result-oriented vision of economic transformation.

DISTORTED FOCUS: OPERATIONAL PROGRAMMES

While discussing the Polish Operational Programmes, it is important to note that any observations or conclusions made here on how climate concerns are integrated across 22 spending plans are, by necessity, a generalisation.

⁴⁸ Partnership Agreement, English Version, Ministry of Infrastructure and Development of Poland, May 2014

⁴⁹ Ministry of Environment, Strategic Plan for the Adaptation of Sectors and Areas Subject to Climate Change by 2020, With the Prospect of the Year 2030, Warsaw 2013

Particularly in the case of the 16 regional OPs, the climate ambition can vary greatly, despite the fact that they all follow the same basic structure and include the same choice of thematic objectives. With that caveat, the conclusion can be made that low-carbon and climate-proof transformation of the Polish economy is not a key development priority, underpinning all EU funded investments. Rather, it is just one of the siloed directions of public intervention, mandated by the EU requirements on thematic concentration and ring-fencing. Despite the sizeable allocations and a formal narrative on achieving climate targets, the goal of the European funds in Poland will be to sustain, and not to transform.

A look at how the Operational Programmes, and especially their implementation documents, approach the issue of sustainable development in general and climate action in particular is a study of how the provisions of the Partnership Agreement become diluted or sidelined as the investment plans become more detailed and less declarative. In the Operational Programmes, a popular strategy is to copy the solutions proposed in the Partnership Agreement in a chapter on the horizontal inclusion of sustainable development, which is a required element of all programmes. For many OPs, this general chapter together with a table of indicative allocations to climate action constitute the entirety of their commitment to mainstreaming climate change. Mentions of low-carbon growth, resource efficiency, climate proofing, or 'polluter pays' rarely trickle down to the description of the priority axes or the guiding principles for the selection of projects. And if they do, they are generally limited only to those Thematic Objectives which focus directly on the environment and energy.

At the central level, low-carbon development is the main topic of the OP Infrastructure and Environment (OP IE) and the existence of one national-level programme focused – at least in name – on sustainable development, seems to excuse all remaining NOPs from including a serious consideration of climate impact of the planned interventions. For example, symptomatically for strategies which do not have a direct and obvious relation to the environment, the OP Digital Poland barely mentions climate change as one of the global trends and pays much more attention to the social dimension of sustainable development than to environmental concerns. Following the idea of mainstreaming the horizontal principle of sustainable development, the OP Digital Poland misses the chance, for example, to push for the climate-

proofing of all investments in ICT infrastructure, prioritising green public procurement procedures or ensuring high energy efficiency across all financed investments.

INFRASTRUCTURE VS ENVIRONMENT

The OP Infrastructure and Environment, thought to be the main vehicle to deliver the low-carbon transformation of the national economy, is the biggest Operational Programme in the EU with a budget of EUR 27.4 billion, more than the total ESIF allocations of the Czech Republic or Hungary, or more than all Cohesion Policy funds in Slovakia, Latvia and Croatia combined⁵⁰. But only around 21% of this money is allocated to climate action – which might be considered surprising for a programme set to deliver the 'sustainable development infrastructure which will significantly support the development of an economy which is more competitive and at the same time more sustainable in the economic, environmental and spatial sense'⁵¹.

Among all NOPs, OP IE is the most thorough in describing the plan to include environmental and climate concerns in all supported investments. The guiding principles of climate resilience and resource efficiency, although not mentioned expressly across the OP's different priority axes, are in fact included in the general project selection criteria common to all future projects. Applicable horizontally to all infrastructural investments, the criteria will serve to evaluate a project's compliance with environmental legislation, its impact on the principle of sustainable development as well as its climate resilience. In this comprehensive approach at the criteria level, OP IE stands out among other Operational Programmes.

Interestingly, a key result indicator obligates the programme to deliver a 7.6% greenhouse gas emissions reduction, bringing Polish GHG emissions to 79.4% compared to the 1990 base year. It is unclear whether this reduction is to be a direct result of the OP's interventions, and which sectors of the economy it covers. Output indicators in several Investment Priorities assume an estimated annual decrease of GHG emissions, which, in the entire OP, totals 875,000 tonnes of CO₂ equivalent yearly. In 2012, according to UN data⁵², Poland emitted 399 million tonnes of CO₂ equivalent (excluding emissions from land use change and forestry), which puts the planned yearly reduction indicated in the OP IE at a fraction (0.2%) of Poland's total emissions.

50 DG Regio: http://ec.europa.eu/regional_policy/en/funding/available-budget/

51 Actual quote, translated from Polish by the author; Operational Programme Infrastructure and Environment 2014-2020, Ministry of Infrastructure and Development of Poland, 2014

52 Greenhouse Gas Inventory Data, <http://unfccc.int/>

It is also worth noting, that all OP IE emissions reduction indicators can be found in investment priorities relating to energy. The programme does not provide more information about how the GHG reduction indicated in metric tonnes will translate into the ultimate goal of 76% total decrease of CO₂ emissions, and neither does it comment on the expected carbon impact of the less environmentally-friendly investments to be financed from Cohesion Policy funds, such as waste incinerators, big road infrastructure or gas transmission projects.

EUROPEAN BUSINESS-AS-USUAL FUND

The National OP Knowledge Education Development, financed from the European Social Fund, states that it has a neutral impact on the horizontal principle of sustainable development, without addressing the potential of education and training for climate action. In this, the OP KED shows well the lost potential of the European Social Fund, which in the Polish programming documents – both national and regional – fails to deliver any climate mainstreaming. Given the need for raising awareness and building know-how on climate change and energy efficiency, mentioned in the PA, as well as the mismatch between current education and vocational programmes in the country and the requirements of an innovative green market, the lack of appropriate measures to include green job training in the OPs seems like a lost opportunity to adapt the population to the transitioning economy.

The majority of the Regional Operational Programmes also fail to take advantage of the possibilities opened by the introduction of the cross-financing mechanism, which allows complementing investments in hard infrastructure with ESF-funded soft measures, such as training, education and awareness-raising. Knowledge and skills are a crucial element of a transformation to a low-carbon economy, particularly in the energy sector; business-as-usual will not be sufficient to bring about a fundamental change in people's knowledge and attitudes. Despite that, only one region decided to allocate funding to cross-financing within the Investment Priority on support for renewable energy. Cross-financing will also only be used by two voivodeships to ensure higher effectiveness of investments in energy efficiency in SMEs and in buildings.

Smart specialisations

The OP Intelligent Growth considers eco-innovations which support the development of a low-emission economy to be one of its key priorities, however, gives no further details on how climate change will be considered in the process of selecting projects, except to make reference to the national smart specialisation strategy (SSS). This document lists a number of areas where public investments in research and development will be concentrated. Together with the individual regional smart specialisation strategies, the national-level plan is the main blueprint for Cohesion Policy funds' investments in innovation and intelligent growth.

In the national strategy, under the heading of 'sustainable energy', Poland plans to support innovation in the area of the so-called clean coal technologies, cogeneration based on more efficient use of fossil fuels and other false solutions, instead of concentrating support on diverse clean renewable technologies. RES, particularly in the context of micro-installations and biofuels, is indeed another smart specialisation listed in the national plan⁵³. It is interesting to note that if Polish companies indeed become innovators in the area of renewable technologies, in the current political and legal environment, such innovations would mostly be developed to export⁵⁴.

At the regional level, once again, the quality and the climate change focus of smart specialisation strategies is varied across regions. Some, like Małopolskie voivodeship, plan to support innovation in the field of renewable energy and climate adaptation, giving a detailed recommendation to include such focus in the Regional Operational Programme⁵⁵. But many others, among them the SSS of Wielkopolskie, Zachodniopomorskie or Mazowieckie, mention climate change mainly in relation to profitable bio-food production or animal agriculture. Kujawsko-Pomorskie sees eco-innovation as a way to develop new and efficient ways of exploiting natural resources, capturing the predominant trend of seeing the environment mainly as a stepping stone to improved competitiveness.

Smart specialisation strategies being part of the broader effort to deliver the Europe 2020 targets, a clear focus on climate-friendly innovations would be a fair expectation,

53 National Smart Specialisation, Ministry of Economy of Poland, April 2014

54 Such situations already take place in Poland; see for example, Saule Technologies and the Polish innovation of using perovskites in the generation of electricity from solar energy: <http://sauletech.com/news/polish-perovskite-solar-cells-attract-japanese-investor.html>

55 Regionalna Strategia Innowacji Województwa Małopolskiego 2014-2020, Zarząd Województwa Małopolskiego, July 2015

considering the need for a deep transition of the Polish energy system. Instead, in a manner very characteristic of the entire system of implementation of European funds in Poland, the sustainability concerns are visible mostly on the surface. From the set-up of the Operational Programmes, it is difficult to tell how much of the funds allocated to support intelligent innovation will help finance the research and development for low-carbon transition – although the category of intervention 65 [Research and innovation processes, technology transfer and cooperation in enterprises focusing on the low-carbon economy and to resilience to climate change], which in the whole country accounts for EUR 444 million, gives an approximation. Climate and environmental sustainability are certainly a topic – but one generally treated as an isolated area of public intervention and not an unequivocal foundation for sustainable growth.

Regional Operational Programmes: the vanishing commitment

In the 16 Regional Operational Programmes, low-carbon solutions and mainstreaming of climate change are generally seen more as EU-imposed barriers to unrestrained exploitation of natural resources and as obstacles to growth, rather than a legitimate direction of development in regions. The Regional Operational Programmes are unified in invoking Europe 2020 sustainable development targets as goals to be achieved with the support of Cohesion Policy funds. However, those goals often overlook the environmental pillar of sustainable development, focusing instead on the social dimension and sustained (or ‘constant’) economic growth.

For example, the ROP of Pomorskie region defines sustainable development as a ‘durable improvement in the quality of life of the citizens’, and names life-long learning and better employment alongside green public procurement and climate resilience of vulnerable infrastructure among measures used to operationalise this horizontal principle in the programme. Lubelskie region neglects entirely to include environmental and climate concerns among horizontal challenges to be addressed by its OP, and the general investment direction under T04 serves mainly to help supply the energy services needed to power up the growing economy.

If any examples are given of how climate action will be mainstreamed across all operations financed from the ROP, they are most often limited to general declarations and Priority Axes which directly relate to the environment [T04, 5, 6]. Principles such as ‘beneficiaries will observe the rule of polluter pays’ or ‘beneficiaries will ensure resource and

energy efficiency of the built infrastructure’ are common, but often details about how this principle will indeed be reflected in the entirety of the programme are missing. Making a bridge between those declarations and the operational reality of the implementation documents and especially project selection criteria remains a challenge.

The issue of energy poverty can be used to illustrate this phenomenon. Energy poverty is a widespread problem, affecting approximately 20% of Polish citizens⁵⁶; its prevalence stems mostly from the very low energy standard of residential buildings. The Partnership Agreement lists the alleviation of energy poverty as one of the anticipated positive effects of the horizontal application of the principle of sustainable development. Following this logic, all Regional Operational Programmes mention combating energy poverty in the context of investments in energy efficiency in buildings, declaring that an investment’s impact on energy poverty will be one of the guiding principles for the selection of projects. But if those declarations are reflected in the implementation document at all, the Detailed Description of Priority Axes generally fails to provide any operationalisation of the concept. In the end, energy poverty concerns make their way to very few project selection criteria, and guidelines on how to measure and evaluate the issue are still missing.

Still, there are a few regions which show much more ambition and understanding of the opportunities of low-carbon development. Podlaskie, a region in North-Eastern Poland, stands out among other voivodeships with an exemplary approach to mainstreaming climate action. Podlaskie is the only region whose ROP dedicates a separate sub-chapter to horizontal integration of climate concerns, and it systematically includes climate performance and resource management among the guiding principles for the selection of infrastructure projects. In T01, the region directly promotes green businesses when implemented on Natura 2000 sites, and also plans to implement low-carbon solutions under the priorities on revitalisation and public infrastructure⁵⁷. Podlaskie also goes further than any other region in its call for an ‘energy revolution’ based on decentralised, renewable energy sources, clearly seeing green innovation and a resource-efficient economy as foundations for sustainable growth. Those declarations are operationalised via project selection criteria.

LOST OPPORTUNITY: LOW-CARBON TRANSFORMATION IN POLAND

The EU concept of horizontally integrating climate concerns across all interventions has clearly not been entirely successful in Poland. Still, the Operational Programme Infrastructure and Environment, as well as all 16 regional OPs include a

56 Efektywniej o efektywności – przewodnik po wdrożeniu Dyrektywy Parlamentu Europejskiego i Rady w sprawie efektywności energetycznej (EED), Climate Coalition and WWF Polska, Warsaw 2013

57 Analiza wdrażania funduszy UE w Regionalnym Programie Operacyjnym 2014-2020 i dokumentach uszczegóławiających pod kątem zrównoważonego rozwoju - woj. podlaskie, Polish Green Network and Bankwatch, June 2014

very specific – although mostly siloed – focus on supporting low-carbon transformation in all sectors of the economy. The scope of T04 is in fact not quite all-encompassing, because the planned interventions cover primarily the sectors of energy and clean transport. But with the 15% earmarking, more than EUR 9 billion in Cohesion Policy-supported investment will guide the development of the Polish low-carbon economy. At least, that is the official narrative – because in truth, many investments financed under the umbrella of low-carbon development will either have no impact at all or will directly put the transformation to an energy-efficient, sustainable, renewables-based society at risk.

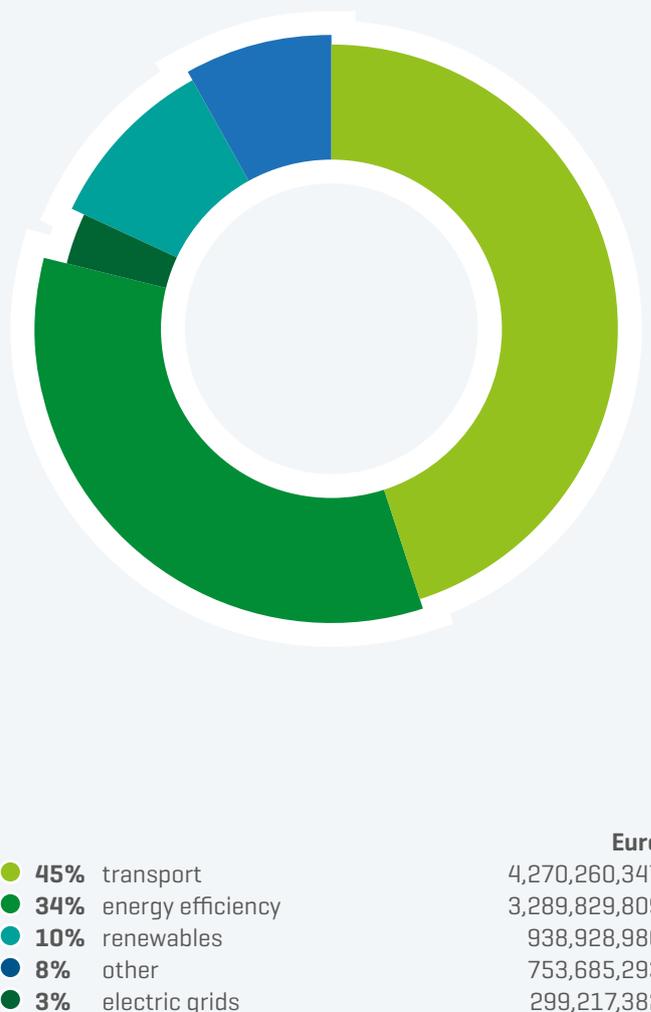
Allocations

The EUR 9.5 billion allocated across all Operational Programmes to Thematic Objective 4 on the low-carbon economy will support a broad range of investments: energy efficiency in public and residential buildings, improved energy efficiency of enterprises, renewable energy sources, modernisation and construction of power grids, high-efficiency combined heat and power [CHP] generation, central heating grids, improvement of air quality and, last but not least, clean urban transport infrastructure, including intelligent management systems and low-emission public transportation.

According to the ex-ante evaluation of the PA in the assessment of adequacy of financial allocation, the high overall sum of money allocated to Thematic Objective 4 on the low-carbon economy is a visible indication of a shift in funding priorities; the obligatory earmarking is, however, not mentioned in this section. The PA states clearly that a vast majority of this allocation will be supporting energy efficiency, with as much as 80% of funds programmed under T04 serving to improve the efficiency of energy production, distribution and consumption. Such a high concentration of funding is said to be the most appropriate solution given the high energy-intensity of the Polish economy and the potential benefits of energy efficiency across all sectors. Renewable energy is another priority, receiving, however, a much lower share of 12% of the overall allocation to the low-carbon economy.

Against this background, it is disappointing to see that contrary to declarations, the amounts are distributed very differently. Low-emission urban transport and not improvements in energy efficiency will benefit from the highest overall share of funds, receiving approximately 45% of all T04 allocations. Energy efficiency measures – in all branches of the economy, including housing, businesses and combined heat and power generation – account for little more than a third of the available funds, with renewables set to receive close to EUR 940 million of EU support, or approximately 10% of all funds for low-carbon development.

GRAPH 15: Allocations under Thematic Objective 4: ‘shift to the low-carbon economy’. Source: our own calculations based on approved Operational Programmes according to categories of intervention



Recognising the importance of clean public transportation to sustainable development in Poland, it is difficult to agree that such a division of funds is optimal to deliver the kind of leverage effect needed to stimulate a real shift to a low-carbon economy. Given the high-energy intensity of the Polish economy, in particular the substantial heat losses in the building sector, the Partnership Principle is right to stress the significance of energy efficiency measures and plan for sizeable investments in this field. And yet, more than EUR 4 billion slated to support clean urban transport falls under the 15% earmarking for T04 and effectively shifts focus from transformation of the energy system to the purchase of a low-emission fleet of buses or trams.

As a result, instead of prioritising energy efficiency, as indicated in the PA, as many as seven Regional Operational Programmes allocate more funds under T04 to clean transport than to improving energy efficiency in public and residential buildings⁵⁸, and clean transport receives more funding than renewable energy in all but two voivodeships. All transport-related spending, including low-carbon urban systems of public transportation, should be financed from a different budget line, allowing more funds to be allocated to energy efficiency and renewable energy sources under the EU-mandated earmarking.

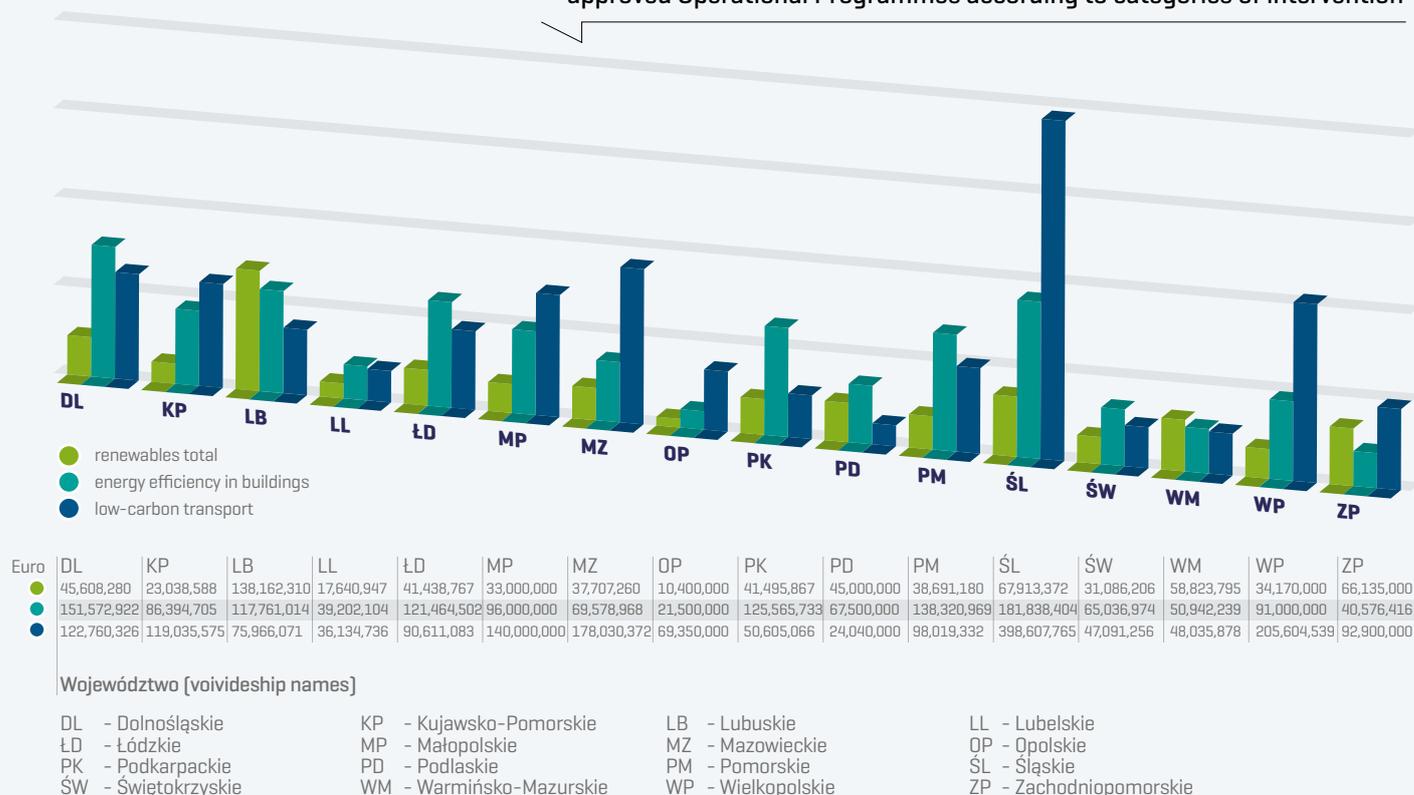
Energy efficiency

The Polish economy ranks among the most energy-intensive in the EU, with significant energy losses and potential for improved efficiency across all sectors of the economy. The building sector is the single most energy-consuming area of the economy, responsible for approximately 40% of final energy use⁵⁹. This high energy intensity is a consequence of the predominantly poor energy standard of Polish residential buildings, with average energy performance in housing of 215-230kWh/m² per year⁶⁰. Focused measures to improve energy

efficiency have the potential to significantly decrease Polish dependence on fossil fuels and the GHG emissions intensity of the economy, at the same time improving the quality of life of hundreds of thousands of energy-poor households.

The need for significant and effective investment in this area is a fact recognised in the EU Cohesion Policy funds' programming documents. The total allocation to energy efficiency in buildings, although much lower than outlined in the Partnership Agreement, at EUR 2.1 billion is sizeable and significantly higher than the EUR 500 million earmarked for this purpose in the previous period 2007-2013⁶¹. However, assessing the transformative potential of this money is difficult, because neither the PA nor the Operational Programmes give an estimation of investments needed to realise the potential of energy savings, and to reach the energy efficiency targets set by Poland. This is not unexpected, given that even the Polish National Action Plan of Energy Efficiency does not specify the amount of money needed to modernise the buildings sector. Expert studies on the subject propose different figures: from approximately EUR 100 billion in total⁶², between EUR 1.3 and 8.4 billion annually depending on how deep the retrofitting of buildings would be⁶³, to at least EUR

GRAPH 16: Thematic Objective 4 allocations, 'shift to the low-carbon economy' in sixteen Regional OPs. Source: our own calculations based on approved Operational Programmes according to categories of intervention



58 Comparison is based on categories of intervention 013 and 014 (energy efficiency in the public sector and in housing) and 043, 044 and 090 (clean urban transport infrastructure with management systems and cycling and footpaths) included under Thematic Objective 4 low-carbon economy

59 Energy Efficiency in Poland in the Years 2002-2012, Central Statistical Office, Warsaw 2014

60 Low-Emission Poland 2050, Institute for Sustainable Development, Institute for Structural Research, II Energy Efficiency, July 2013

61 Cost-effectiveness of Cohesion Policy Investments in Energy Efficiency, European Court of Auditors, 2012

62 Potencjał efektywności energetycznej i redukcji emisji w wybranych grupach użytkownika energii. Droga naprzód do realizacji pakietu klimatyczno-energetycznego, PKE, FEWE, Katowice 2009.

63 The Impact on the Job Market of the Programme of Deep Retrofitting of Buildings in Poland, European Climate Foundation, Warsaw 2012

110 billion in the optimal renovation scenario⁶⁴. The EUR 2.1 billion to be invested in Poland between 2015 and 2022, even accounting for the estimated EUR 9 to 12.5 of leveraged private funds for every euro of public subsidies⁶⁵, will likely be insufficient to make a significant difference.

Recognising that the role of Cohesion Policy is not to finance everything, it must be said that total allocations aside, the arguably biggest potential for energy savings will remain largely untapped. The Partnership Agreement points to housing, and particularly multi-family communal and social buildings – as the sector where the renovation gap is especially significant, reaching 70% of costs. Residential housing is the single most energy-consuming sector of the Polish economy, responsible for approximately 30% of all energy consumption in the country. In contrast, for public buildings this share is no higher than 10%⁶⁶. However, this proportion is not reflected in the amount of EU funds allocated to efficiency measures. Despite the potential to achieve significant savings and curb energy poverty, Poland allocates only approximately EUR 788 million to energy efficiency in housing, compared to EUR 1.3 billion for improving energy standards in state and municipality-

owned buildings. There are no funds allocated to retrofit Poland's five million single-family dwellings, which amount to approximately 80% of all residential buildings in Poland and house more than 40% of the population⁶⁷.

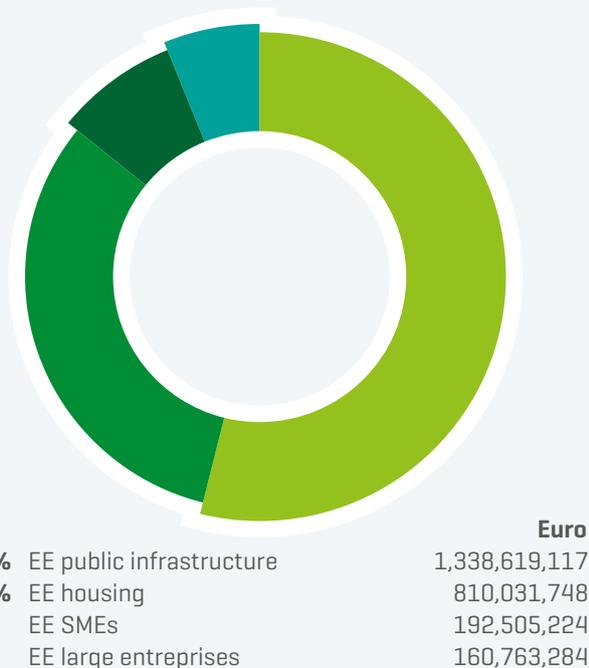
Buildings are not the only sector where EU funds will support energy efficiency measures. Small and medium enterprises will be able to access EUR 193 million of support through the Regional Operational Programmes, while OP Infrastructure and Environment allocates approximately EUR 160 million to improve the energy performance of big companies. Unlike in housing, where a majority of regional-level funding will be distributed via grants, many OPs plan to offer support to businesses through various financial instruments. It must be noted that at the regional level, only nine voivodeships include dedicated support for efficiency in SMEs in their spending plans. For example, Wielkopolskie excluded Investment Priority 4b from the ROP, despite considering this sector a priority in its regional development strategy⁶⁸.

Renewable energy sources

A lack of political will and an unstable investment environment (a consequence of many legal changes and an unpredictable support scheme) have caused the renewable energy sector in Poland to be significantly underinvested in. The Partnership Agreement, referencing the National Action Plan for renewable energy⁶⁹, estimates that in order for Poland to reach its Europe 2020 renewables target, approximately 6.2 GW of power must be installed in renewable electricity generation, in addition to the existing installations with total installed power of 6 GW. Again, a robust estimate of the total amount of investment needed to achieve this goal can be found neither in the PA nor in the individual OPs. Existing studies based on the prognoses of the conservative National Action Plan estimate the total investment expenditure needed between 2011 and 2020 at EUR 26.7 billion⁷⁰. 55% of this sum should be invested in green electricity production.

In 2011, the Polish Institute for Renewable Energy estimated that in order to provide 10% of investments necessary to deliver the country's RES targets in the years 2011-2020, the allocation to the development of renewables in Polish regions financed from EU funds should total EUR 2.3 billion⁷⁰. Even given the time lapse since that initial estimate, the EUR 928 million which will support development of renewables both at the regional and national level seems inadequate, and definitely does not go far beyond the baseline – and certainly not transformative – scenario of the National Action Plan.

GRAPH 17: Energy efficiency allocations according to type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



64 Strategy for the Modernisation of Buildings: a Road Map 2050, IEŚ, KAPE, NAPE, Kraków 2014

65 Alleviating Fuel Poverty in the EU. Investing in Home Renovation, a Sustainable and Inclusive Solution, Buildings Performance Institute Europe, May 2014

66 Low-Emission Poland 2050, op. cit.

67 Główny Urząd Statystyczny, census of 2011

68 Analiza wdrażania funduszy UE w Regionalnym Programie Operacyjnym 2014-2020 i dokumentach uszczegóławiających pod kątem zrównoważonego rozwoju - woj. wielkopolskie, Polish Green Network and Bankwatch, June 2014

69 National Action Plan for Renewable Energy, Ministry of Economy of Poland, 2010

70 Investment Potential in Renewable Energy until 2020, Grzegorz Wiśniewski - Institute for Renewable Energy, 2011

In reality, both the financial allocation as well as the result indicators show the lack of ambition of Polish programming documents when it comes to renewable energy. The best illustration is the combined figure corresponding with the Common Indicator CI30: Additional capacity of renewable energy production, according to which EU funds will support the installation of approximately 960 MW of power. Compared with the existing needs, and in light of the significant potential of development of renewables in Poland, this number is not just unambitious – it can very well be a big missed opportunity for the Polish regions.

This lack of foresight is not the only thing difficult to understand – another is the very different ratio between the indicative allocation to the support of renewables, and the installed power indicator adopted in the OP. It is unclear why the amount of EUR 41.5 million programmed to help finance RES will result in only 16 MW of additional production capacity in the region of Podkarpackie, while the almost exact same allocation in Łódzkie will be twice as efficient, with the indicator set at 32 MW of power, given that both regions plan the use of grants, not financial instruments. Raising the question of effectiveness of support, this also points to the need for better oversight over the quality and the values of indicators adopted in the Polish OPs.

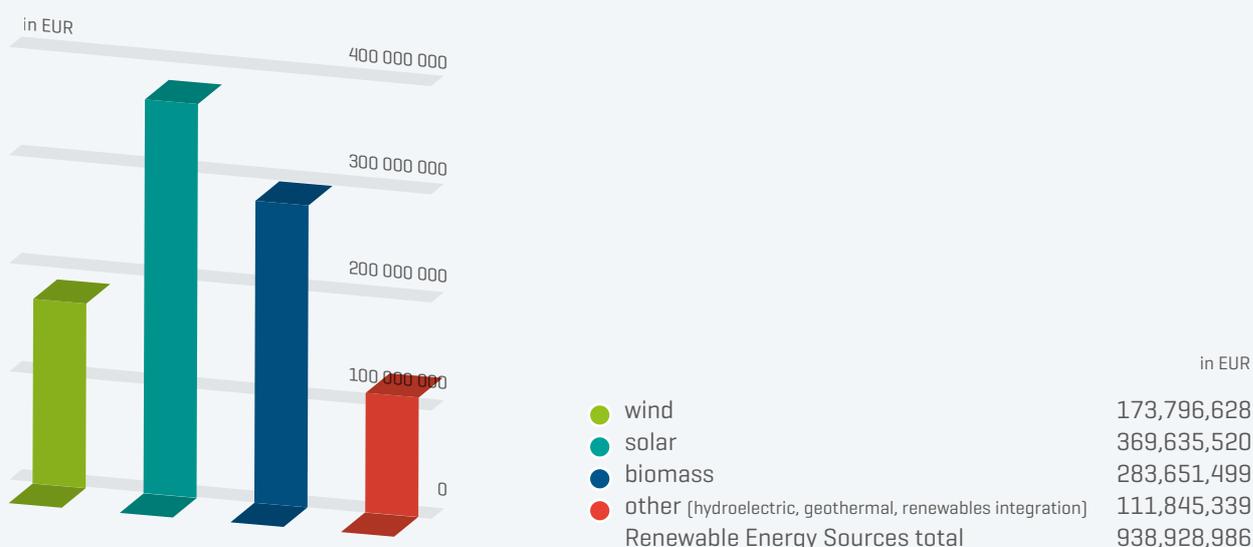
Other concerns arise as well in the analysis of the implementation documents of the Regional Operational Programmes and particularly the project selection criteria. Regions have allocated specific sums to finance the development of specific RES technologies, in accordance

with EU regulations, which give a separate category of intervention to solar, wind, biomass and other renewable energy, and the money is generally quite evenly distributed depending on a region's RES potential. Now the risk is that with cost-effectiveness as the main selection criterion, only the technologies which are already well developed, such as onshore wind, will be able to access EU support. Sustainability criteria for biomass projects are generally missing from the Detailed Descriptions of Priority Axes, although several regions do intend to evaluate the source of biomass or prioritise biogas installations which utilise organic waste to produce energy. At the regional level, the threat of big industrial biomass power plants posing risks to environmental sustainability or forest management is however mitigated by the demarcation line between ROPs and OP IE, which only allows for biomass installations of up to 5 MWth/MWe of power installed. In line with the Renewable Energy Act, energy produced from burning high quality wood or grain cannot be considered renewable, and provisions excluding such installations from obtaining EU support are quite common in the regional implementation documents.

There are also positive aspects to regional support for renewables. A majority of Polish voivodeships offer support to small-scale, decentralised RES installations, with a focus on technologies which best utilise the local potential and cause no additional pressure on the natural environment. Some few exceptions go a step further and plan dedicated financing paths for micro-installations and the generation of energy – both heat and electricity – primarily for the beneficiary's own needs. Once more, Podlaskie stands out as a region

GRAPH 19: Split of renewable energy sources by technology.

Source: our own calculations based on approved Operational Programmes according to categories of intervention



71 Defining the Energy Potential of Polish Regions in Terms of Renewable Energy Sources – Conclusions for Regional Operational Programmes for the Programming Period 2014-2020, Institute for Renewable Energy for the Ministry of Regional Development, December 2011

whose ROP clearly prioritises community and prosumer⁷² energy projects over those purely commercial. However, the corresponding project selection criteria unfortunately do not reflect this preference. Dolnośląskie and Kujawsko-Pomorskie both build on the provisions of their Regional OPs and include micro-generation as a separate type of project in their implementation documents.

Funding for fossil fuels

Cohesion Policy funds earmarked for supporting the low-carbon economy might finance energy efficiency and help develop renewables, but in some cases they will also serve to lock the Polish energy system into the high-carbon, fossil fuel-dependent business-as-usual status quo. Polish regions especially appear not to see the obvious contradiction between on the one hand following the traditional path of extracting and burning coal while on the other hand using European money to support investments in sustainable energy. The ROP of the Lubuskie region in one sentence mentions newly discovered lignite deposits and decentralisation of energy production as development opportunities, illustrating well the internal inconsistency of many regional energy strategies.

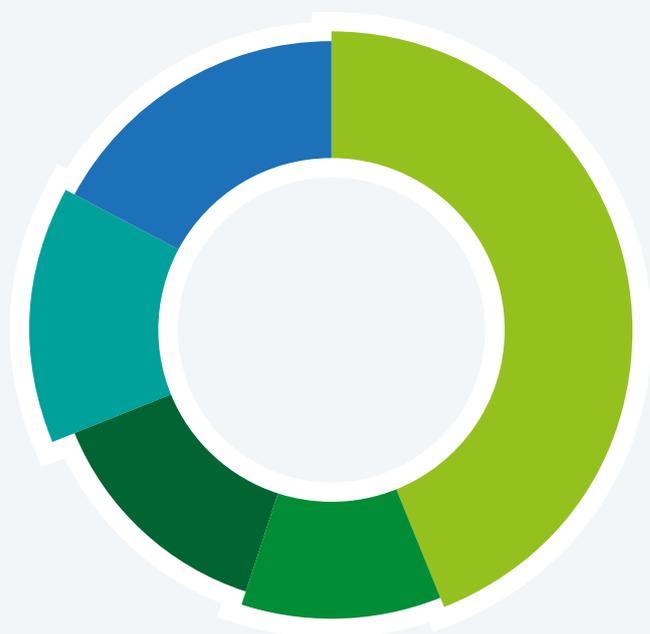
It is interesting to note how this is also reflected at a linguistic level. Across all official documents, the Polish translation and equivalent of ‘low-carbon’ is ‘low-emission’ – an intentional measure which seems to be indirectly legitimising the continued use of more efficient and less polluting fossil fuels, under the umbrella of sustainable energy solutions.

Co-firing

EU funds earmarked for the low-carbon economic shift in Poland will indeed help to support coal-burning – both indirectly and directly. First, despite a clear focus on moving away from high-carbon energy generation, the controversial issue of subsidising co-firing of biomass and coal as renewable energy remains a problem. A few regions, among them Śląskie, expressly exclude co-firing installations from receiving any EU-funded support. OP Infrastructure and Environment, in its implementation document, also includes a statement on not supporting co-firing – at least under the Investment Priority on renewables. Many regions, however, avoid addressing the issue directly, not just in the OPs, but also in the implementation documents.

In the process of public consultation of many regional DDPAs, submissions were made requesting that regions include in the implementation documents a provision which would state in a definite way that co-firing installations were ineligible to obtain funding. In response, Pomorskie region promised to include in the criteria for the selection of RES projects a preference to non-co-firing installations, indirectly allowing

GRAPH 20: Allocations to energy infrastructure. Source: our own calculations based on approved Operational Programmes according to categories of intervention



		Euro
● 44%	energy efficiency	2,501,919,373
● 17%	renewable energy	938,928,986
● 14%	CHP	787,910,436
● 14%	power grids	781,261,716
● 11%	gas infrastructure	620,000,000

for coal and biomass burning to be treated as renewable energy. Wielkopolskie and Zachodniopomorskie both did not provide a straight answer, noting that the European Commission agreed to support fossil fuel-run installations in ‘special cases’. Such provision is indeed included in most OPs, but in relation to gas-burning high-efficiency CHP installations, and certainly not in the context of financing co-firing as renewables.

Coal burning installations

Combined generation of heat and power is only one example of how European money will be used to perpetuate the use of fossil fuels in Poland. In the implementation document of the OP IE, according to the indicators connected to the Investment Priority on high-efficiency cogeneration, only 27 out of a total of 62 CHP installations to be funded will be producing renewable energy.

Gas boilers will be financed in nearly all OPs as one of the measures in projects aiming to improve energy efficiency

72 People who produce and consume their own electricity.

in buildings. Modernisation or replacing coal-burning heating systems is often not directly excluded from support in the Investment Priority on improving energy efficiency in enterprises, with regional authorities pointing to the obligatory energy audits as sources of information of which improvements should be financed.

Małopolskie and Podkarpackie regions will use their regional OPs to directly pay for coal, by offering financial support for replacing old individual coal-burning stoves with new, more efficient and less polluting coal-based installations. The rationale here is the urgent problem of air pollution in those regions. With low prices of fuel, coal-burning stoves are said to be the cheapest option of heating individual houses and, in the short term, a quick and relatively easy fix to the air quality problem.

With the European Commission opposing financing such measures with funds allocated directly to low-carbon development, the regions found an inventive way to get their way. In Małopolskie, although the description of the area of intervention – solid fuel-burning individual heating systems – is included as an element of the Priority Axis on the low-carbon economy, the source of money will really be the Investment Priority 6e on air protection measures. In this way, replacing old, polluting coal heating systems with biomass or gas boilers receives EU money for low-carbon development, while the corresponding activity

aiming at coal-burning stoves falls outside T04. Yet, even in this case, coal-based energy generation still counts as climate action, because the funds are allocated to the category of intervention 83, with its corresponding 40% Rio Marker⁷³ – meaning that 40% of the money spent on burning coal in individual stoves will fall under the climate action earmarking.

Power grids

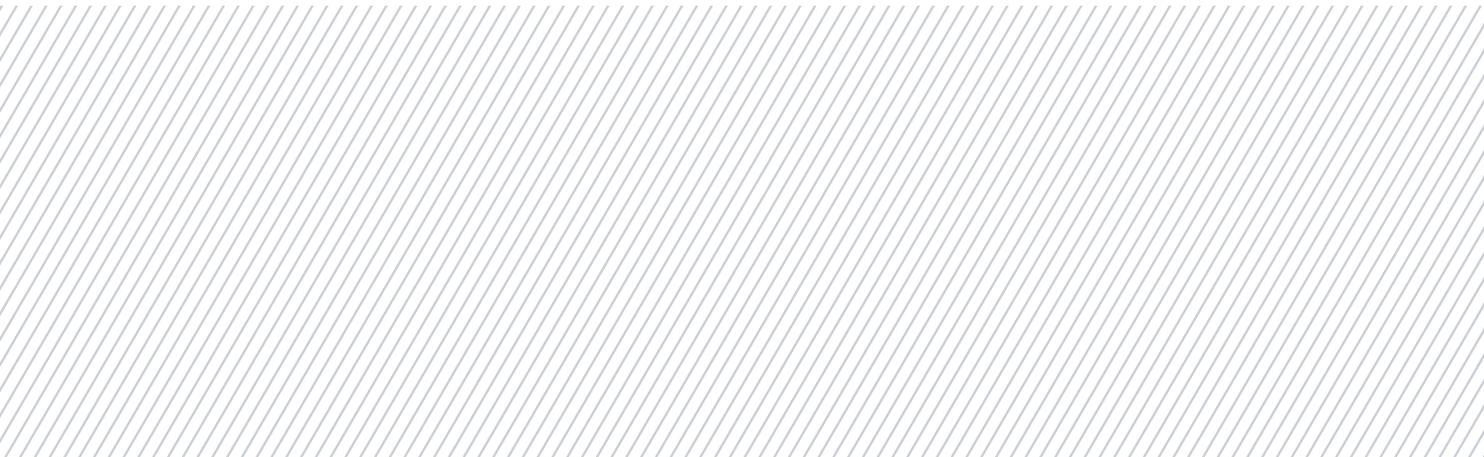
The generally bad condition of the network of power grids in Poland is mentioned routinely in the Operational Programmes as one of the threats to regional and national energy security – and as the key obstacle to the dynamic development of renewable energy sources. The grids are undoubtedly in need of modernisation. The OP Infrastructure and Environment mentions that as much as 50,000 km of medium-voltage grids and 150,000 km of low-voltage grids require urgent repairs⁷⁴. The OP also references an analysis done by the Polish Supreme Audit Office, according to which the grid network is decapitalised by 45-65% and as much as EUR 15 billion in investments is needed to bring the existing grids up to European standards, not accounting for further development.⁷⁵

Also in this sector, Cohesion Policy funds come to the rescue. In the 2014 to 2020 perspective, approximately EUR 780 million will support national and regional projects

73 Commission Implementing Regulation (EU) No 215/2014, March 2014

74 Operational Programme Infrastructure and Environment 2014–2020, op. cit.

75 Funkcjonowanie i bezpieczeństwo elektroenergetycznych sieci przesyłowych, Najwyższa Izba Kontroli [Supreme Audit Office], 2014



aimed at modernising and building new transmission, distribution and smart power grids. Only half of these funds – close to EUR 402 million – is expected to help the transition to a low-carbon economy by increasing the grids' capacity to integrate new renewable energy sources. The remaining EUR 380 million is allocated under T07 and set to improve Poland's energy security, which in part means building TEN-E infrastructure and cross-border connections. Only about 13% of the total allocation, or a little over EUR 100 million will support the development of modern smart grids, said to be crucial for the better integration of renewables and building a distributed energy system based on the expected growth in the number of prosumers.

Approximately 80% of the total allocation to power grids will be invested under the OP Infrastructure and Environment, with projects pre-selected and included in a project pipeline document⁷⁶ in a non-tender procedure. Many of the planned investments set to receive financing to provide more capacities for a better integration of renewables are listed as European Projects of Common Interest. Many of them also connect directly to existing or planned coal-burning power plants, raising justified doubts about their actual purpose.

It is interesting to note who will benefit from the sizeable funds allocated to the development of electricity grids. For

power transmission, it will be the Transmission System Operator, or Polish Electric Grids – a sole-shareholder company of the State Treasury. Energy distribution projects will be implemented by the five oligopolistic energy groups, or Distribution System Operators, where the state is a majority stakeholder in three companies, and holds one third of shares of another power group. Those capital groups are also the key players in the Polish coal-energy generation market, and bear much of the responsibility for the political and technological high-carbon lock-in of the Polish economy.

At the same time, as system operators, the power companies are legally obligated to maintain and modernise the power grids in their respective territories. Transmission and distribution fees set to provide funds for this very purpose account for close to half of average household energy bills. Supplemented by commercial loans readily available for big companies who have sufficient capital stock and a long-term financing horizon, those funds should be enough to cover the costs of the services provided. And yet, Poland plans to use substantial amounts of public EU money to subsidise its state-owned power companies, effectively allowing them to move investment capital from energy distribution to energy generation – which, in Poland, means burning coal. That way, the EU Cohesion Policy funds, instead of transforming, will indirectly help sustain the obsolete and polluting Polish energy system.

76 Project Pipeline for the Energy Sector, OP Infrastructure and Environment 2014 – 2020, Ministry of Economy of Poland, 2014

CONCLUSIONS AND RECOMMENDATIONS

The process of programming European funds in Poland has from the beginning suffered long delays, with some of the Operational Programmes for the 2014 to 2020 period adopted as late as March 2015, and many regions still working on finalising implementation documents and preparing project selection criteria in October 2015. Even before the disbursement of funds begins in earnest, Polish Managing Authorities must keep in mind the fast approaching mid-term review of 2017 and 2018. The review represents an opportunity to revise and improve the overall system for the implementation of EU funds – and it will be up to the European Commission to ensure the best possible climate performance of Polish OPs.

Cohesion Policy 2014-2020, in many ways a flagship initiative aiming to deliver the green goals of the EU, has the potential to help shift Poland onto a more sustainable development path and contribute to broad action to curb climate change. But without an underlying vision, even a lot of money is not enough to bring about real system change.

Despite promising signs, a lot of the transformative potential of EU funds will be lost in Poland. Looking at the big picture, when it comes to planned investments, the prevailing model

still favours high-emissions transport over low-carbon solutions, hard infrastructure over natural methods of climate adaptation, tourism over biodiversity protection and, finally, traditional energy systems over innovative, decentralised solutions where energy efficiency is always put first and citizens can actively participate in shaping the energy market.

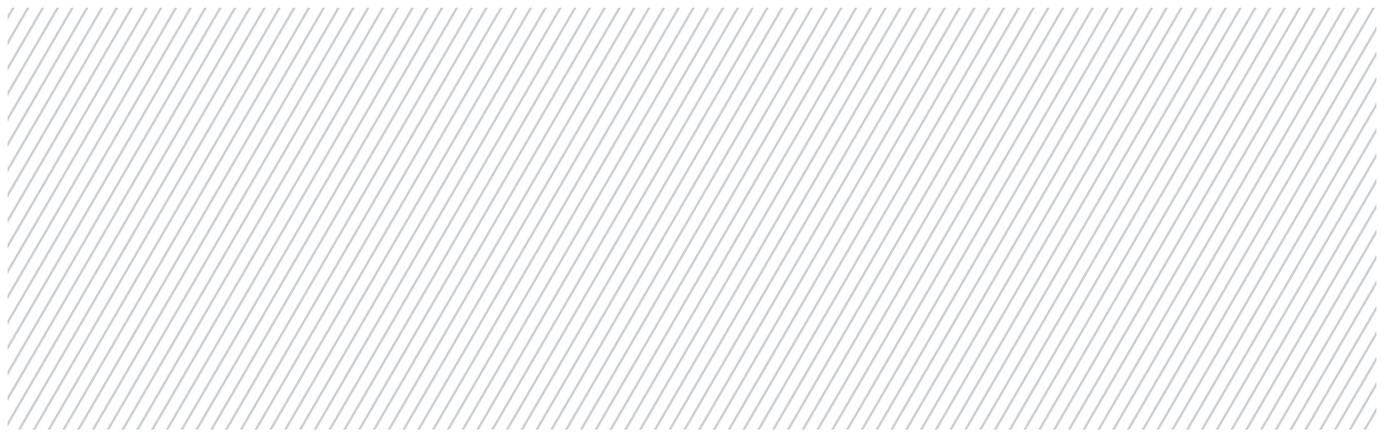
Will European money help build the right infrastructure, develop renewables and improve energy efficiency in Poland? Yes. But it will not transform the economy. For that, Poland needs a better understanding of what climate change is and long-term commitments and focused strategies to fight it. EU funds have been sustaining Poland for more than a decade and will continue to do so for at least another seven years. They are regarded by decision-makers as a resource to use to respond to current needs, and not as fuel for innovation and transformation. Without better guidance and closer oversight, Poland will continue to use EU money to realise its vision of development. And this future that Polish decision-makers envision is not carbon-neutral and climate friendly, but one where GDP growth continues to be axiomatic and external costs – both local and global – are mostly ignored.

TO DELIVER BETTER CLIMATE MAINSTREAMING ACROSS ALL EU FUNDS IN POLAND, WE RECOMMEND:

- Ensure that no investments are financed which would have an adverse impact on European GHG emissions reduction targets and strengthen the monitoring of climate performance of all projects.
- Ensure that energy efficiency is always prioritised over new energy generation and transmission projects, both on the national scale as well as locally.
- Reform the implementation system, so that all project selection criteria are adopted centrally and applied across all regions, in order to create a more equal investment environment.
- Stop directly and indirectly financing all fossil fuels and ensure the sustainability of energy use of biomass.
- Channel more investment into energy efficiency and renewables and away from non-transformational infrastructure which would result in a high-carbon lock-in of the Polish economy for decades to come.
- Insist on better progress indicators – energy saved or generated from renewables is a better illustration of low-carbon transformation than the length of constructed cycle and footpaths.
- Move allocations for low-carbon public transport outside the obligatory 15% earmarking for low-carbon transformation.
- Finally, insist on high quality partnerships, including adequate financial and technical support for civil society partners involved in the monitoring and implementation of EU funds.

The long and rocky path away from shale oil towards green energy

Climate action in EU Cohesion Policy
funding for Estonia, 2014-2020



Estonia is still among the top three per capita and per GDP GHG emitters in Europe, mainly due to the carbon and energy-intensive oil-shale-based energy sector, rapid growth in road freight transport and car use, low energy efficiency of the new vehicle fleet and high-energy consumption of buildings. Estonia maintains its high carbon intensity by keeping oil shale as a major energy source and the country's shale oil dependency is not at all addressed by EU funds, in spite of the existence of a long-term decarbonisation strategy. Transport funding dedicated to road construction omitting emissions considerations, climate change mitigation in projects selection and horizontal principles are flawed.

In Estonia, the national Europe 2020 targets for energy and climate change are represented by the National Reform Programme (NRP, Eesti 2020) of 2011, updated in 2012⁷⁷. Estonia will allow non-ETS emissions to grow by a maximum of 11% by 2020 compared to 2005 levels, aim for a 25% share of renewable sources in final energy consumption and stabilise final energy consumption at 2010 levels by 2020 (2,818 ktoe).

Energy generation in Estonia is mainly based on domestic fuels, particularly on oil shale, while transport fuels are entirely imported. The volume of oil shale production has not changed over the last decade – 18.7 million tonnes was produced in both 2011 and 2012. The majority of oil shale is consumed in power plants and as raw material for shale oil production. In 2008, 91% of electricity was produced from oil shale, whereas this share dropped to 85% in 2011 and to 81% in 2012. At the same time, consumption of oil shale in the oil industry increased, together with growth in shale oil production. The continued demand for shale oil in Estonia and in external markets increased the production of shale oil by about 7% compared to 2011. Nearly 80% of the shale oil is blended with naphtha fuels and exported.

The oil shale sector provides 4% of Estonia's GDP, but at the same time it is the biggest environmental polluter. Despite oil-shale users meeting the strict environmental norms of industrial emissions of the EU, this sector is responsible for 78% of total annual CO₂ emissions, up to

98% of other emissions to ambient air and 83% of total annual waste generation. CO₂ emissions in 2011 for oil-shale based electricity in Estonia were 1225 tCO₂/GWh. Oil shale mining also has severe impacts on the landscape through opencast strip mining and pollution of ground water due to underground mining. For each tonne of oil shale extracted, about 14 – 18 m³ of water is pumped out and wasted, and ground water is contaminated with phenols and oil residuals over an area of 436 km² of shale mining areas in the north-east of Estonia.

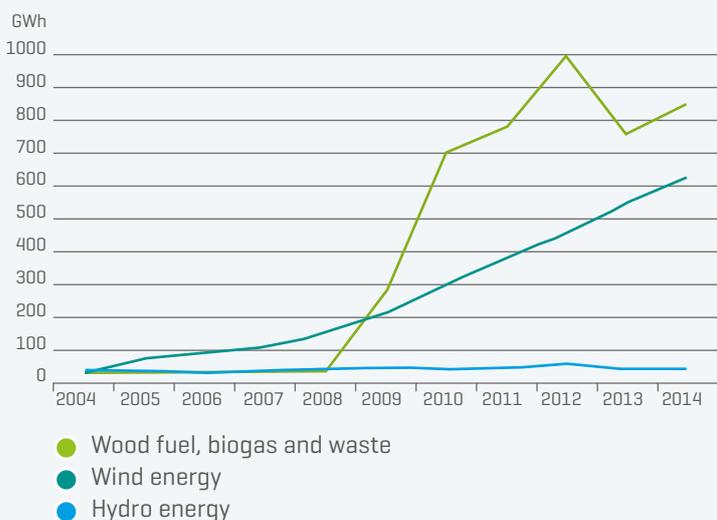
Low efficiency in primary energy use in power generation from oil shale is the main reason for the fact that the energy intensity and CO₂ emissions of the Estonian economy are among the highest in the EU. In 2013, 0.51 tonnes of energy in oil equivalents (toe) was used in Estonia for the production of EUR 1,000 of GDP. The average of the EU was three times smaller (0.14 tonnes) [See Graph 6: 'Energy intensity of the economy 2013'].

In the last decade, production of electricity from renewable sources has increased significantly. In 2008 the share of electricity generated from renewable sources was only 2.1% of total electricity consumption, whereas its share was 12.7% in 2011 and 15.2% in 2012. New wood-fuel-based combined heat and power (CHP) plants have been put into operation, which has increased the share of electricity produced from biomass to two thirds of total renewable electricity production. The production of wind and hydropower energy has also increased year by year. In 2012, the production of both wind and hydro energy increased about 20% compared to 2011. In 2013, the share of renewable energy in final energy consumption was 25.6%, exceeding the national target for 2020. The introduction of renewable sources has slightly reduced the importance of waste-intensive oil shale in electricity production.

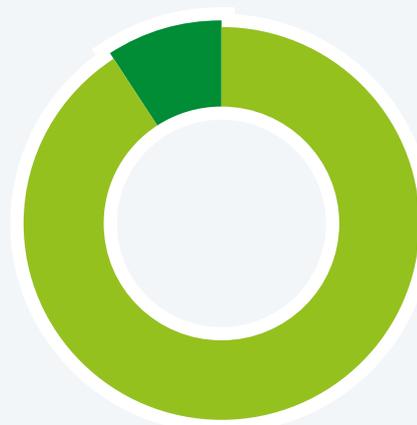
Despite the significant increase in the share of renewables in electricity production, Estonia is far from achieving the goal defined in its national energy strategy to reduce the share of oil shale in power production below 50% of the country's total power production mix by 2020.

77 http://ec.europa.eu/europe2020/pdf/nrp/nrp_estonia_et.pdf

GRAPH 21: Production of electricity from renewable energy sources in Estonia 2002-2012, GWh.



GRAPH 22: Share of fossil fuels in 2013 electricity production.



● 9% Renewable fuels and sources
● 91% Fossil fuels

Source: Estonian Statistics Board electronic database http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=KE033&ti=ELEKTRIJAAAMADES+ENERGIA+TOOTMISEKS+TARBITUD+K%DCTUS&path=../Database/Majandus/02Energeetika/02Energia_tarbimine_ja_tootmine/01Aastastatistika/&lang=2

The decarbonisation of electricity production thus plays a key role for achieving a low-carbon economy.

By 2014, non-ETS emissions had decreased by 5%, and Estonia is on track to meet its non-ambitious climate target for 2020. By 2013, Estonia had met its 2020 renewable target of 25%⁷⁸.

The energy efficiency target for the transport sector is set in the Estonian Transport Development Plan 2014 to 2020, which commits to stabilising the transport sector's energy consumption by 2020 at the level of 2012 (33 million TJ) and to create a basis for reducing energy consumption after 2020.

TABLE 6: Estonia's electricity production by source in 2012 and 2013 (GWh).

SOURCE (FUEL)	2012	SHARE OF TOTAL (FUEL)	2013	SHARE OF TOTAL (FUEL)
Total renewables	1 477	12.34%	1 201	9.11%
Incl. Wood	953	7.96%	621	4.71%
Incl. Wind	434	3.63%	529	4.01%
Incl. Hydro	42	0.35%	26	0.20%
Incl. other renewable	48	0.40%	25	0.19%
Total Fossil	10 489	87.66%	11 981	90.89%
Incl. Oil shale	9 699	80.80%	11 388	86.39%
Incl. Oil shale retort gas	511	4.27%	299	2.27%
Incl. Oil shale oil	58	0.48%	134	1.02%
Incl. Natural gas	123	1.03%	89	0.68%
Incl. Peat	98	0.82%	71	0.54%
Incl. Heavy fuel oil	0	0%	0	0%
TOTAL	11 966	100%	13 182	100%

Source: Estonian Statistics Board electronic database

78 http://ec.europa.eu/priorities/energy-union/state-energy-union/docs/estonia-national-factsheet_en.pdf

The national target for final energy consumption is 2,818 ktoe by 2020, but it is likely to be missed if current trends continue: the European Environment Agency⁷⁹ in its latest evaluation states that Estonia is one of two Member States whose primary energy consumption increased between 2005 and 2013. Furthermore, these increases in primary energy consumption were too large to remain below the linear trajectories of 2005 levels to achieve the energy saving 2020 targets. Estonia is still among the top three per capita and per GDP greenhouse gas producers in Europe – mainly due to the carbon and energy-intensive oil shale based energy production sector, rapid growth in road freight transport and car use, low energy efficiency of the new vehicle fleet and high-energy consumption of buildings. The average carbon footprint of Estonian electricity (based on 2010–2012 electricity production data) is 0.92 kgCO₂ per kWh. In total, 19.2 million CO₂ equivalent tonnes of greenhouse gases (carbon dioxide, methane and dinitrogen oxide) were emitted into the atmosphere in 2012 and per capita GHG emission in Estonia was 16.5 tons in 2013⁸⁰. Hence, EU funds should be used to address those inefficient and carbon intensive sectors.

The main policy priorities pointed out in the National Reform Programme 2020 regarding energy include:

- The expansion of co-generation of electricity and heat.
- Reconstruction of oil-shale-fired power plants.
- Increasing the share of renewable energy.
- Establishment of sufficient energy interconnections.
- Conservation of energy in private households.
- Reducing the need for transport.
- Increasing use of public transport.
- Increasing the fuel efficiency of vehicles.
- Development of an intelligent power grid.
- Development of energy and resource efficiency of companies outside the ETS.
- Support for R&D in resource efficiency and eco-innovation investments.
- Reduction of waste generation and increasing recycling.
- Enhancing the value of biomass in Estonia, including developing the production of bio-methane for transport fuel.

Whereas this list of measures reads well from a sustainability point of view, the main policy measures of the National Reform Programme 2020 do not coherently prioritise tackling the inefficiency and dependency of the power sector on oil shale.

Apart from EU and national budgets, many of the above measures are funded through Green Investment Schemes – for example, the refurbishment of public buildings and private houses, the electro-mobility programme and renewal of the public transport fleet are eligible under EU funds, but also have additional financing sources.

Estonia is currently working on updating several national strategies and action plans of climate relevance: The National Transport Strategy 2014–2020 was approved in 2014; the National Energy Strategy 2015–2030 is waiting for approval by Parliament at the time of writing; the Bio Economy Action Plan 2014–2030 and the National Oil-shale use plan 2015–2030 are also soon to be approved by Parliament. The National Energy Strategy includes scenario analyses up to 2050, but still none of the new strategy documents foresee sufficient action to achieve decarbonisation goals in the long-term. Estonia has transposed most of the relevant EU Directives and Decisions through a number of legal acts, and the country is currently updating the necessary plans and measures for different sectors like energy efficiency, renewable energy, transport, climate risk prevention, nature conservation, bio energy, rural development, and forestry and fisheries development. However, there are no valid national or sector-specific strategies and action plans on climate change mitigation and adaptation⁸¹. The Estonian Ministry of Environment has carried out a background study on Opportunities for a Low-Carbon Economy (Estonian Low Carbon Road Map 2050) comparing different development scenarios. Also, a National Climate Change Adaptation Strategy 2016–2100 is under development and preparation of the National Climate Policy until 2050 has been started - both long-term policy documents due to be adopted in 2016.

79 EEA: Trends and projections in Europe 2015 — tracking progress towards Europe's climate and energy targets, <http://www.eea.europa.eu/>

80 http://ec.europa.eu/priorities/energy-union/state-energy-union/docs/estonia-national-factsheet_en.pdf

81 Climate issues are incorporated mainly in the Estonian Environmental Strategy 2030, National Reform Programme 2020, National Development Plan for Energy Sector until 2020, National Renewable Energy Action Plan 2020, National Waste Management Plan, Water Management Plans, Forestry Development Plan until 2020, Nature Conservation Development Plan 2020 and National Transport Development Plan 2014 to 2020





CLIMATE ACTION: THE CASE FOR EU FUNDS?

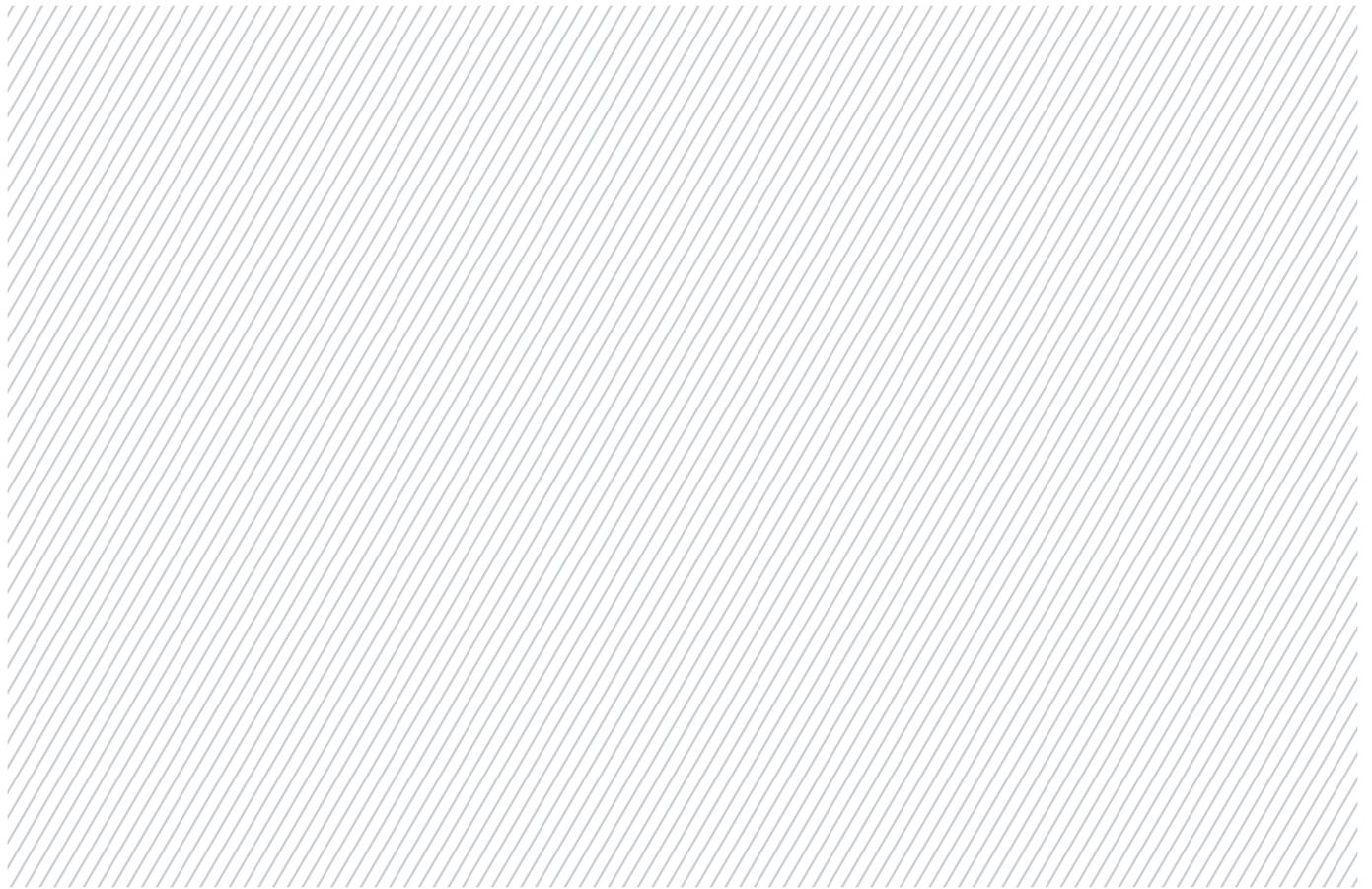
The GHG emissions reduction potential of the Estonian energy sector is high due to the considerable share of oil shale in today's energy mix. By implementing appropriate policy measures and following the development path as described in the Estonian Low-Carbon Roadmap 2050, Estonia's energy sector emissions could be reduced by 90% by 2050 compared to the 1990 level. Unfortunately, none of the targets in the valid national sector strategies is aiming to follow that goal, nor do the strategies propose relevant tangible action.

In order to achieve low-carbon electricity production, the Government has to phase out subsidies and preferential treatment of oil shale users. EU funds should be used to catalyse the transition by supporting the replacement of fossil fuels in existing power plants with renewable energy, by supporting electricity and heat cogeneration in small cities and in industry as well distributed and micro generation by individual consumers.

In that context, private investments into renewable generation capacities could be promoted via EU funds by supporting the foundation of energy cooperatives for small-scale power

production. Solar panels have to become standard as part of building construction as well as the construction of solar parks in rural areas with government support - all potentially eligible actions for EU funds. In order to facilitate large-scale replacement of oil-shale in the national power mix and concentrated (and thus inefficient and vulnerable) generation with distributed generation, investment into grid development allowing wider uptake of domestic renewable resources (for example, wind power on the west coast and islands) and interconnections are necessary. Together with enhanced development of renewables-based distributed generation, support for renovation of buildings in both public and private sectors has to be doubled from the current support level, in order to achieve a significant shift of the energy performance of buildings. However, the currently proposed renovation rate falls short by half on this particular target. Energy audits and ESCO services have to be mainstreamed together with strengthening regulation of the energy performance of buildings, machinery and appliances. All these above measures outlined in the Estonian Low-Carbon Roadmap 2050 are perfectly eligible under the Cohesion Policy 2014-2020, and their long-term investment perspective is undisputed. But is this translated into action?





WEAK CLIMATE GOALS IN THE PARTNERSHIP AGREEMENT AND OPERATIONAL PROGRAMMES FOR 2014-2020

One of the five national objectives for the funding period 2014-2020 carries the headline 'A clean and diverse natural environment and efficient use of natural resources'. In terms of investment areas, it lists renewable energy use (sustainable use of biomass and wind), high-efficiency combined heat and power generation and sustainable transport policies (rail, public transport, non-motorised transport, ports) both at urban and regional level; and investments in smart grids are stated as of the highest importance to European Regional Development Fund (ERDF) and Cohesion Fund (CF) planning. The focus of EU funds spending is stated by the authorities to be on priorities like research and innovation (R&I), support to small and medium-sized enterprises (SMEs), quality education and training, inclusive labour markets fostering quality employment and social cohesion, delivering the highest productivity gains, and last but not least, mainstreaming of climate change objectives and shifting to a resource-efficient low-carbon economy.

THE ESTONIAN PARTNERSHIP AGREEMENT: TURNING A BLIND EYE TO ENERGY TRANSITION

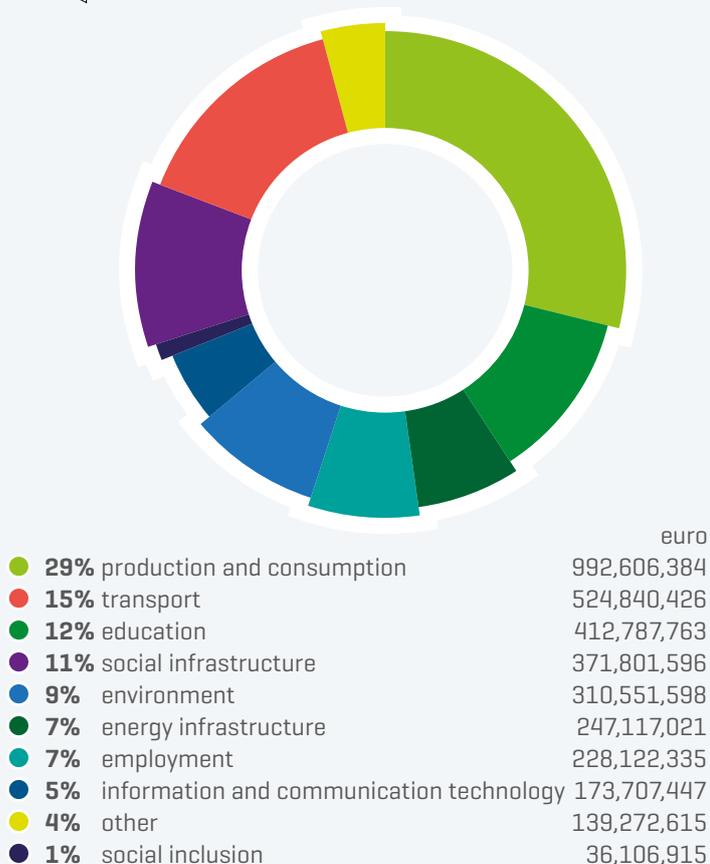
Whereas climate mainstreaming requires the integration of climate change considerations horizontally throughout

all spending areas, the Partnership Agreement addresses climate change mitigation issues in three priority axes out of eight: 'Knowledge intensive and internationally competitive economy', 'Clean and diverse environment and efficient use of natural resources' and 'Sustainable connections and mobility which satisfies needs of inhabitants and supports the economy'. GHG emissions should be reduced by supporting actions aimed at energy and resource efficiency, shift of technologies and innovation, increasing the share of public transport, and reducing the need for mobility by better planning of urban territories.

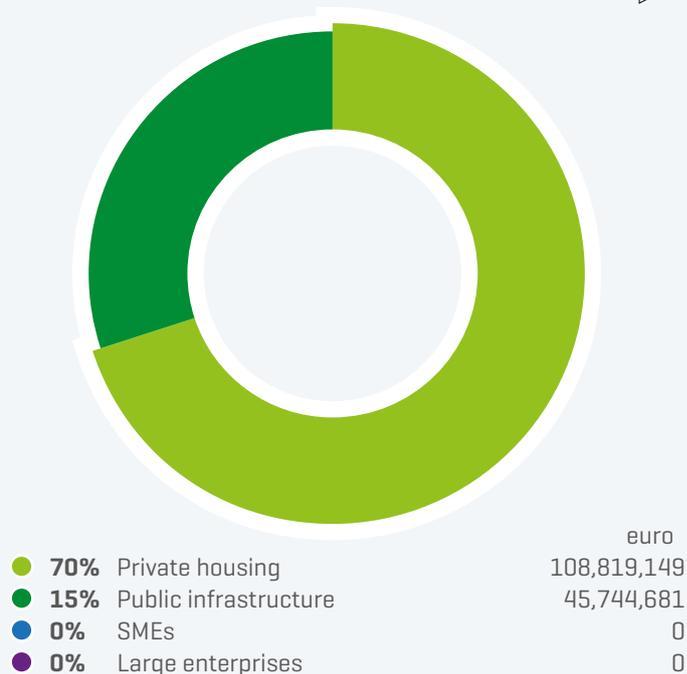
So far, so good. But the national priorities for EU funding as elaborated in the Partnership Agreement do not address sufficiently the main issues of the Estonian energy sector when it comes to fighting climate change – namely the high dependency on fossil fuels in the energy and transport sectors and inefficient power production.

The Partnership Agreement declares that Estonia strives to combine economic growth with the improvement of the environment. For each of the EU funds there is a specific focus on sustainability. The European Regional Development Fund focuses on resource efficiency, innovation and the

GRAPH 23: Investment areas of Cohesion Policy funds in Estonia. Source: our own calculations based on approved Operational Programmes according to categories of intervention



GRAPH 24: Energy efficiency allocations according to type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



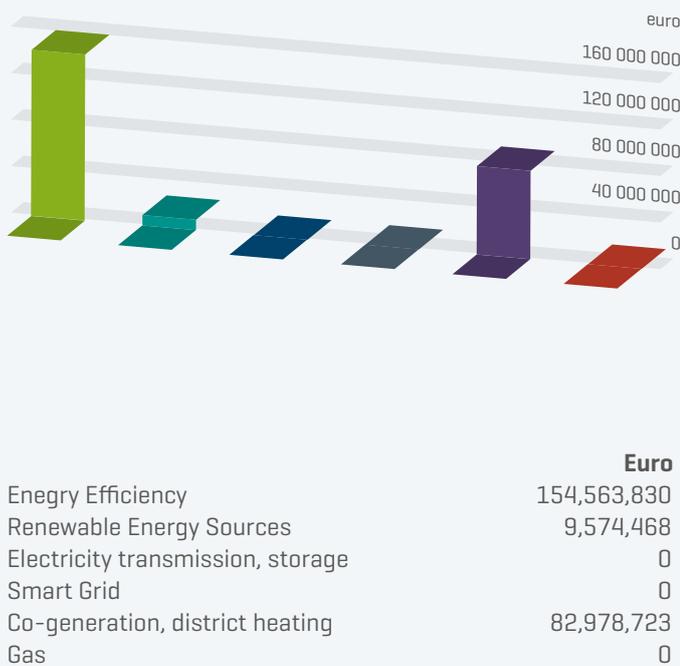
transformation to a low carbon economy. The European Social Fund has the least focus on sustainability, though, with quite a potential for the creation of ‘green jobs’ aiming at education for improved energy saving and protection of the environment.

When it comes to describing the objectives and priorities, as well as the important horizontal themes that should be taken into account when developing interventions, the Estonian Partnership Agreement states that ‘Climate related issues are considered as cross-cutting through all sectors’; and that ‘Environment protection and climate are determined as horizontal issues for planning of ESIF according to the Government decision from 21.06.2013’. Further on, however, the description of the implementation and monitoring measures leaves open how the above objectives will be met.

The estimated expenditure for climate-related actions of all the European Structural and Investment Funds (ESIF) for Estonia, i.e., the three Cohesion Policy funds plus rural development and fisheries amounts to 18.7% of the total indicative ESIF budget, EUR 815,010,532. Climate action in Cohesion Policy amounts to EUR 548,226,064, 16.01% for the ‘low-carbon objectives’, and investments into energy efficiency, renewables and electricity distribution and storage add up to only EUR 164,138,298 or 4.78% of all Cohesion Policy funding, a rather modest share compared to other countries in the region (see Graph 5). In addition to Estonia’s total climate action, some EUR 76,522,973 (out of a total EUR 193,382,433) from the Connecting Europe Facility (CEF) are counted towards the overall EU budget climate goal of 20%, co-financing the construction of a new high-speed railway connection ‘Rail Baltic’, the Baltic Connector gas pipeline and new transmission lines to Latvia.

CLEAN ENERGY FINANCING UNDER THE 'INVESTMENT FOR GROWTH AND JOBS' GOAL: TOO LITTLE TO MAKE A DIFFERENCE

GRAPH 25: Different types of energy infrastructure investments; source: our own calculations based on approved Operational Programmes according to categories of intervention



There are three national operational programmes (OP) in Estonia to cover all European Structural and Investment Funds for the period 2014-2020 and one OP for cross-border cooperation between Estonia and Latvia. The Estonian OP under the 'investment for growth and jobs' goal lays down the conditions for the European Regional Development Fund Cohesion Fund and European Social Fund.

Climate change mitigation objectives are addressed in six out of thirteen non-technical Priority Axes: Priority Axes 6 (Energy Efficiency) and 10 (Sustainable Transport) directly address mitigation and Priority Axes 4 (Growth Capable Entrepreneurship), 7 (Water Protection), 8 (Green Infrastructure and Improved Preparedness for Emergencies) and 9 (Sustainable Urban Development) do so indirectly. The measures proposed include energy efficiency in public buildings and street lighting for using LED technologies, renovation of the housing stock of housing cooperatives in houses built before 1993 and renovation of district heating pipes.

The interventions (Graph 24) are supposed to result in 1,700,000 m² of housing stock renovated, 22,000 street lights replaced with LED lamps, 40,000 households with improved energy efficiency classification and thus a decrease of 40,000 tonnes of CO₂ emissions annually. Project selection for housing renovation support requires energy audits. Given the high-energy intensity of the Estonian economy, it is striking that there is no support foreseen for energy efficiency measures in SMEs, for example, via preferential loans or other financial instruments which could boost SMEs' energy and resource efficiency for the long-term. However the expected 1.7 million m² of housing stock renovation rather equals a 'business-as-usual' refurbishment rate. This support needs to be doubled: about 70% of the housing stock of 40.5 million m² in Estonia (of which the majority is privately owned) was built prior to 1991 and needs renovation. These planned measures are in the right direction, but are not sufficient to initiate energy conversion and phase out oil shale use.

In addition, the proposed measures under climate action do not necessarily deliver long-term GHG emissions reductions due to the nature of the planned investments.

While energy efficiency gains are supported by the Structural and Cohesion Funds, there is not likely to be a successful shift towards sustainable public transport or a major shift in energy generation towards renewables and away from oil shale by the end of the current programming period. The development of wind and solar energy, which



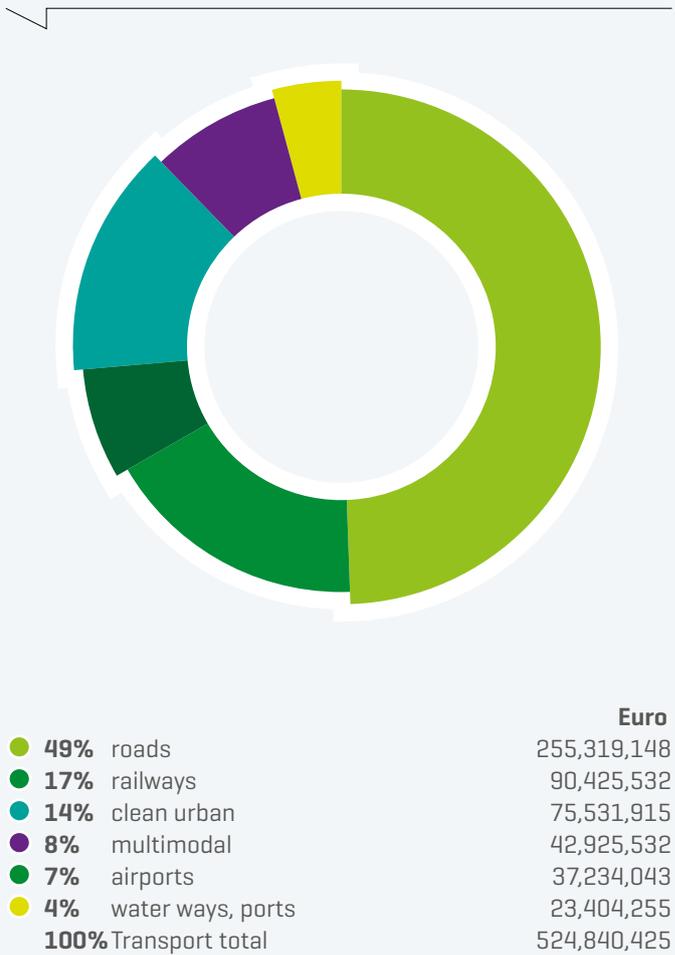
could play a major role in replacing oil-shale, is not supported. Biomass is the only supported renewable energy source [Graph 25] in the form of bio-methane production and distribution systems for vehicle fuels, aiming at 4 ktoe production. Sustainability criteria for biomass use are not prominent in the Operational Programme. The Programme contributes to the Estonian energy sector’s ultimate development need to reduce oil shale in the country’s power mix only to a tiny extent. Allocation of only 4.78% of all EU funds to clean energy will not make a serious contribution to the transition towards a more sustainable and decarbonised energy system. Although the priority axis dedicated to Sustainable Transport includes rail transport within the TEN-T network, the list of proposed projects reveals that the actions will promote unsustainable transport to a great extent. The expected results – ‘improved rail connections and increased number of rail users, better travel planning opportunities, integration of travel modes and reduction of travel time, reduction of GHG emissions of transport’ is not underpinned either by appropriate allocations towards sustainable modes [Graph 26], nor by appropriate measures: as the total length of reconstructed or upgraded railway line within TEN-T will be 110 km, the positive impact of the railway investments compared to the rest of the transport sector is marginal.

It is hard to imagine how the claimed transport goals, i.e., an increase by 7% [from current 43% to 50%] of pedestrians and public transport users or the doubling of train passengers from 4.2 million to 8.4 million per year by 2020, can be achieved while massive investment flows into unsustainable fossil fuel transport infrastructure – roads and airports⁸².

HORIZONTAL DIS-INTEGRATION OF CLIMATE CHANGE

The horizontal principles are not thematised in the Estonian OPs and reference is made to the Partnership Agreement only, meaning that the Operational Programmes do not reflect how horizontal principles like environment protection or climate concerns are applied within sectors. Thus the Operational Programme fails to apply the horizontal climate principle to the

GRAPH 26: Share of transport modes in total transport funding in Estonia. Source: our own calculations based on approved Operational Programmes according to categories of intervention



eligibility for support: projects do not have to demonstrate a positive impact on climate change mitigation and/or adaptation objectives, and there is no preference given to projects with a higher GHG reduction value. The Estonian authorities, on the other hand, claim that environmental goals and directions are important, and that they are horizontal themes, which are taken into account in designing all activities.

⁸² The support allocated to airports – EUR 37,234,043 – is allocated to the extension of Tallinn Airport runway and a parking area for planes. In order to extend the tarmac covered area, a drainage system and rain water collection system are to be built. Therefore the project is claimed to be ‘contributing to environmental protection’.

RECOMMENDATIONS FOR IMPROVING CLIMATE ACTION FUNDING IN ESTONIA

A significantly larger share of EU support should be allocated or reallocated for the low-carbon energy transition and phasing out of oil shale use during the mid-term review. Only a small amount is planned to be invested in sustainable transport and sustainable urban development in Estonia. The majority of investments from the Cohesion Fund are allocated to TEN-T network roads and an airport extension. Allocating the majority of infrastructure investment support to road infrastructure and airport renovation does not ensure that mitigation goals are achieved, and potentially increases the country's GHG emissions. It is necessary to reallocate allocations from the Cohesion Fund budget only to those projects which deliver energy savings, GHG reduction and promote sustainable public transport.

Climate mitigation issues like increased efficiency of energy use, reduction of GHG emissions, etc., should be integrated horizontally into all priorities and measures of EU funds' implementation principles and regulations and not only those national priority development areas addressing specific gaps in the energy and transport sectors. In order to make European Union support more effective in achieving the EU's clean energy and climate goals, it has to be ensured that financing priorities and guiding principles for project selection include requirements for measurable energy efficiency and GHG reduction gains. Mainstreaming climate change mitigation into other horizontal themes like 'information society, regional development and governance' would secure the coherence of planned measures with climate goals.

The missing pathway to long-term decarbonisation objectives

Climate action in EU Cohesion Policy
funding for Lithuania, 2014-2020

intensity has decreased over the last two decades, but it is still significantly above the EU average [Graph 27]. Based on these developments, the Europe 2020 energy and climate targets are within reach: a limited increase in GHG emissions of 15% from the non-ETC sectors, an increase of renewable energy sources up to 23% and an increase in energy efficiency of 17%.

Considering the above achievements, it is commonly accepted at the political level that Lithuania has implemented all international treaties and obligations regarding climate change and is on track to reach the Europe 2020 targets on time. Such a conviction, to some extent, determines why only 20.95% of the total Cohesion Policy funds are committed to securing climate change mainstreaming. This is presumed to be sufficient support for a further shift towards a low carbon economy in all sectors as these goals have been achieved without any specific measures to address climate change mitigation objectives. However, the missing implementation pathway for the clean energy transformation makes it difficult to evaluate current developments and actions in relation to the outlined long-term goals. Even with regard to Europe 2020 goals, the situation remains challenging. Energy efficiency still has to be improved, and Lithuania has not yet transposed the requirements of the Energy Efficiency Directive into national law. In view of its overall CO₂ emissions reduction, it is usually forgotten that

Lithuania currently is exceeding its established GHG emissions limit⁸⁶ [Table 7] in the transport sector and agriculture. This indicates that present achievements are not sufficient to implement EU CO₂ emissions reduction obligations and additional measures should be taken.

A comparison of projections of 2003 and 2020 shows [see table 7] that expected emissions reductions are mainly due to improvements in the waste sector [expected significant reduction in solid waste disposal]. Projections of emissions from other sectors remain stable. In this context, EU funds' support in particular in the transport sector is not considered to be a driver for CO₂ reduction.

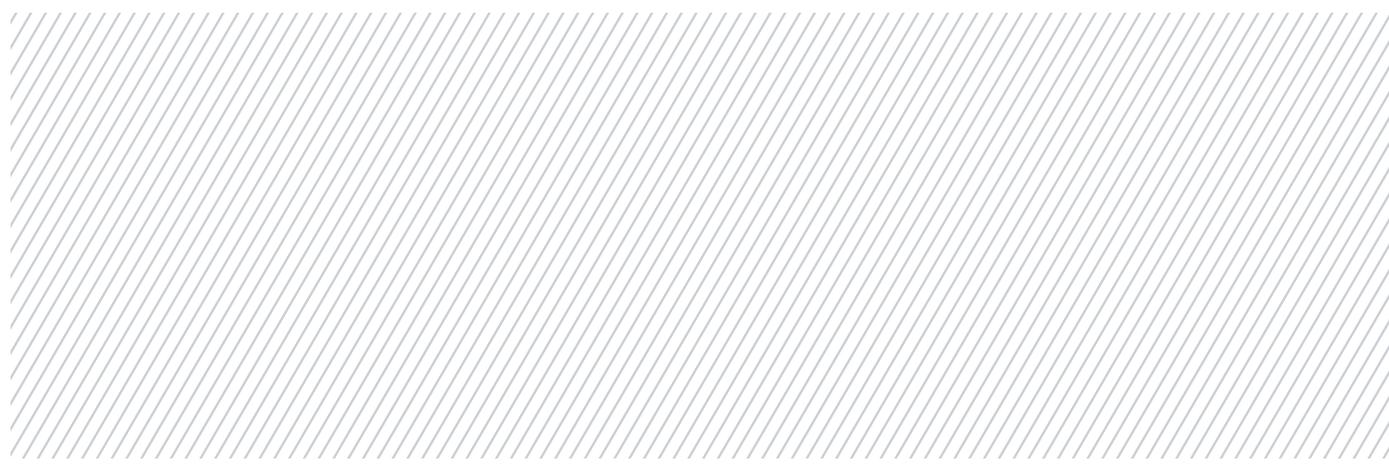
Moreover, if real emissions follow the forecasted trend, then there is no evidence that such significant CO₂ reduction, as set in the Strategy for National Climate Change Management Policy [the SNCCMP], will be achieved beyond 2020 at all. Accordingly, the current Lithuanian government climate change policy might be described as very conservative and insufficient to cope with long term climate change challenges.

Concerning long term climate change mitigation objectives, the SNCCMP refers to the National Sustainable Development Strategy [the NSDS], the first version of which was approved in 2003. The NSDS has been updated several times, but the long

TABLE 7: CO₂ emissions targets and projections in sectors which do not take part in the emissions trading scheme. Source: The Ministry of the Environment of Lithuania

	YEAR	2013	2014	2015	2016	2017	2018	2019	2020
Transport	target	3,925	4,044	4,138	4,260	4,351	4,473	4,595	4,707
	estimate	5,013	5,010	4,980	5,015	5,021	5,025	5,031	4,985
Agriculture	target	4,115	4,239	4,337	4,465	4,561	4,689	4,816	4,934
	estimate	5,396	5,487	5,248	5,255	5,267	5,279	5,178	5,109
Industry	target	1,976	2,036	2,083	2,145	2,191	2,251	2,313	2,370
	estimate	1,059	1,140	1,615	1,614	1,613	1,613	1,612	1,612
Waste	target	1,272	1,311	1,341	1,810	1,411	1,450	1,489	1,526
	estimate	943	899	590	580	570	558	543	344
Others	target	1,612	1,661	1,699	1,749	1,787	1,837	1,887	1,934
	estimate	1,437	1,435	1,433	1,431	1,430	1,428	1,427	1,425
Total	target	12,936	13,297	13,658	14,019	14,380	14,741	15,102	15,463
	estimate	13,849	13,973	13,868	13,897	13,903	13,905	13,792	13,477

86 According to the Shared Member States' Efforts to Reduce GHG emissions Decision of 2009, Lithuania must follow established annual emissions allocations calculated in relation to emissions in 2005.



term climate change policy principle has remained unchanged and requires only that GHG emissions growth is kept two times slower than economic growth. But this 'relative decoupling principle' (i.e., the increase of GHG emissions, has to be relatively lower than the increase of economic output) cannot be accepted as a sustainable principle considering climate change mitigation challenges. Such relative decoupling-based targets can be viable only in theory, for example, in 2010 when the Lithuanian economy started to show signs of recovery, GHG emissions grew by 17.7%, although GDP grew by only 3.5%⁸⁷. During the economic recession, GDP and greenhouse gas emissions dropped in parallel.

Despite conservative Lithuanian climate change policy and pessimistic emissions projections which are based on economic growth forecasts, there are a number of opportunities to shift to green energy systems. Progress first of all is dependent on renewables development, which is expected to be much faster than is forecasted in strategic documents (see for example renewables forecasts for 2010-2020⁸⁸), and even a slightly higher target of 31% for renewables in 2030 may significantly reduce GHG emissions projections⁸⁹. Independent assessments of GHG trends in 2014⁹⁰ indicated that a 30% target for renewables in 2030 might be achieved without any supplementary measures. This would lead to a further decrease of GHG emissions by 20% from 2011. A general finding was that EU energy and climate change policy objectives for 2030 (27% from renewables and 40% reduction of GHG emissions) might be achieved without any incentives at all. These facts suggest that climate change mitigation policy in Lithuania only follows market processes and is not intended to play an important part in driving the process.

Measures to reach the goals and objectives of the SNCCMP are listed in the Interinstitutional Action Plan (IAP). Though the strategic planning methodology allows preparation of such

plans for longer periods than three years, the IAP has been prepared only for 2013-2016, although it is updated annually. The recently prepared IAP amendments⁹¹ also do not cover the complete 2014-2020 financial period and contain measures only for the years 2016-2018.

Such a very short term strategic approach indicates the absence of a climate change investment policy framework even until 2020. This is in contradiction with the multi-annual financial planning of EU funds, and a long-term and predictable investment environment is needed to attract investment into particular renewables and sustainable mobility measures. Moreover, it appears that the IAP, the blueprint for sectoral investment strategies, is to a great extent only a compilation of sectoral measures to be implemented under Operational Programmes. It means that climate change mitigation goals are not considered to be an important factor determining and influencing the choice of sectoral measures.

In addition to lack of a long-term approach towards climate action, the IAP contains some controversial measures whose contribution to climate change mitigation goals is questionable. For example the proposed GHG reduction measures to change the road cover from gravel to asphalt does not contribute much to climate change mitigation - the price for reduction of one tonne of CO₂ by this method is too high compared with other measures. Accordingly, such a measure is not linked with climate mitigation objectives under the Operational Programme. Furthermore, some included measures like control of GMO releases or different types of monitoring and research activities or establishment of fences for animals do not have a direct link with climate change adaptation at all, even though they are claimed to have in the Operational Programme. These examples indicate that Lithuanian climate change mitigation policy lacks a clear and targeted implementation framework which could lead to

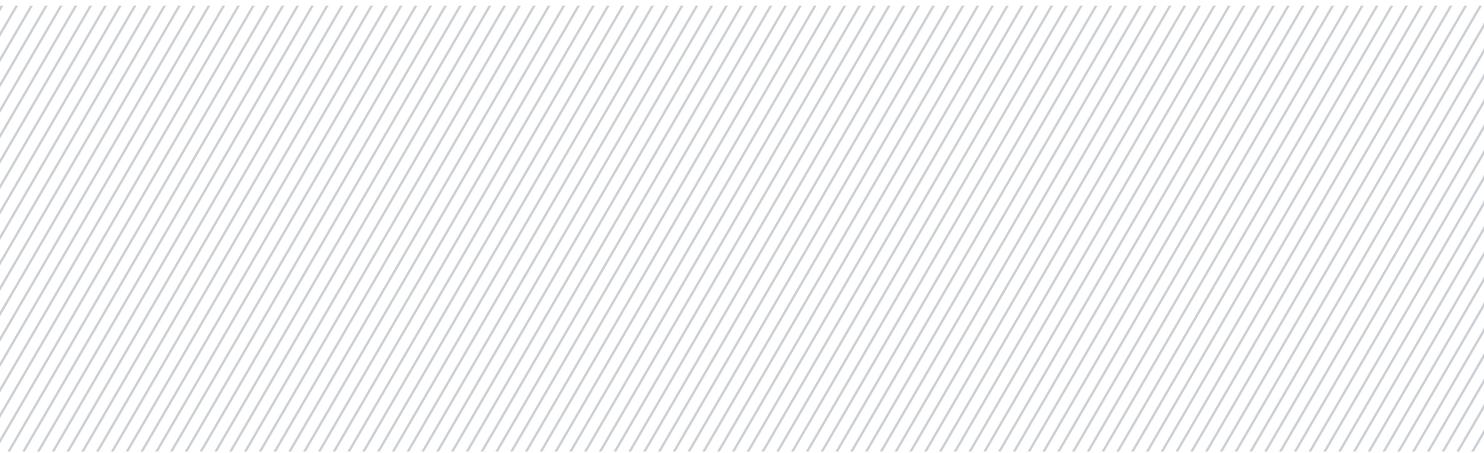
87 Republic of Lithuania. Partnership Agreement, 2014, p.48

88 Use of renewable energy resources in 2010-2020 forecast, 2009, Ministry of Energy

89 Regulation (EU) No 525/2013 of the European Parliament and Council on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change

90 M. Nagevičius, Lietuvos šiltnamio efektą sukeliančių dujų prognoze energetikos sektoriuje, 2014

91 A draft version of the IAP amendments was available during the preparation of this report.



achieving policy objectives. Such inadequacies not only lead to overestimation of the budget dedicated to combat climate change, but also send the wrong message to society and distort understanding of the problem. These deficiencies are embedded in the main policy documents and are mirrored in the Partnership Agreement and corresponding Operational Programmes.

PARTNERSHIP AGREEMENT: CLIMATE CHANGE MITIGATION SIDELINED

An analysis of programming documents from the previous 2007–2013 programming period showed that climate change issues were fairly covered⁹². In the 2014–2020 programming documents, even if climate change is higher on the agenda, there is a shortage of information on how climate considerations are integrated in tackling economic, social and environmental challenges under the different Thematic Objectives.

Lithuania already suffers from climate change impacts. Hurricanes have become more frequent. Heavy rains cause flood risks and shore erosion. Reduced snow over several years is diminishing groundwater resources and this has had a significant effect on ecosystem viability and yields during dry summer periods. All these and many other consequences have had an impact on the economy too. There is a need for a targeted investment strategy addressing these challenges. However, in most cases the Partnership Agreement lacks information on how Thematic Objectives within different priorities will contribute to climate change mitigation and/or adaptation. Scattered information about specific actions with reference to climate change do not give a comprehensive picture about government efforts to cope with climate change nor do they indicate particular ambitions to achieve any progress in this area.

Since different development goals are covered by the Partnership Agreement, which are not mutually integrated and enforcing, there is a risk that achievements in the economy might have significant negative consequences on the environment and therefore some environmental gains from investments could be reversed. The Partnership Agreement does not contain information on how identified negative environmental consequences should be tackled and possible trade-offs are not discussed. The Partnership Agreement only refers to the overall strategic objective of the National Sustainable Development Strategy: to reach EU-15 average level in terms of economic, social and natural resources efficiency indicators, while environmental pollution remains below the allowed EU standards. With regard to GHG, the goal is to keep economic growth decoupled from GHG emissions. Referring to provisions of Article 8 of the Common Provisions Regulation, the Partnership Agreement defines that sustainability (including climate change) principles should be considered at the programming level.

Some information on potential impacts and effects can be found in the ex-ante strategic environmental impact assessment report. Several issues were pointed out regarding impacts on soil, water and air quality and biodiversity. It was stated that investments in the transport sector might have some negative effects on climate change mitigation efforts. However, the general Strategic Environmental Impact Assessment conclusions are quite positive regarding the impact of investment on climate change.

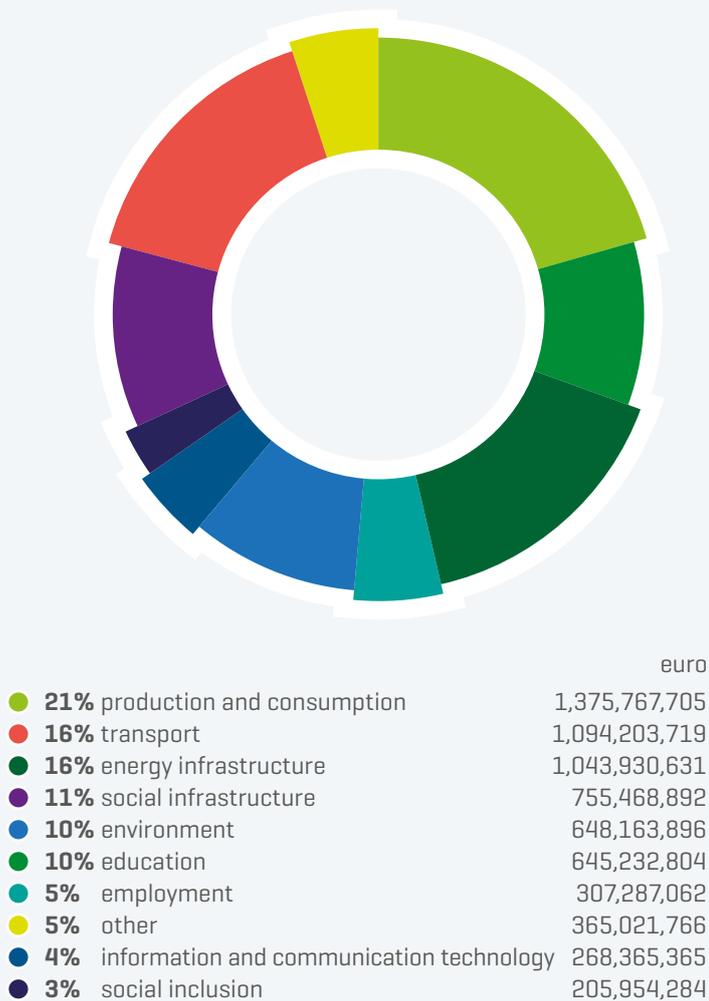
Possible impacts on sustainability have not been assessed (this is not required by national and EU law⁹³, although Sustainability Impact Assessment is recommended by the OECD as a useful tool to explore the combined economic, social and environmental impacts of the proposed policies, strategies and action plans⁹⁴). Also, there has been no attempt

92 IEEP. Methodologies for Climate Proofing Investments and Measures under Cohesion and Regional Policy and the Common Agricultural Policy, 2012

93 http://trade.ec.europa.eu/doclib/docs/2006/march/tradoc_127974.pdf

94 <http://www.oecd.org/greengrowth/46530443.pdf>

GRAPH 28: Investment areas of Cohesion Policy funds in Lithuania. Source: our own calculations based on approved Operational Programmes according to categories of intervention



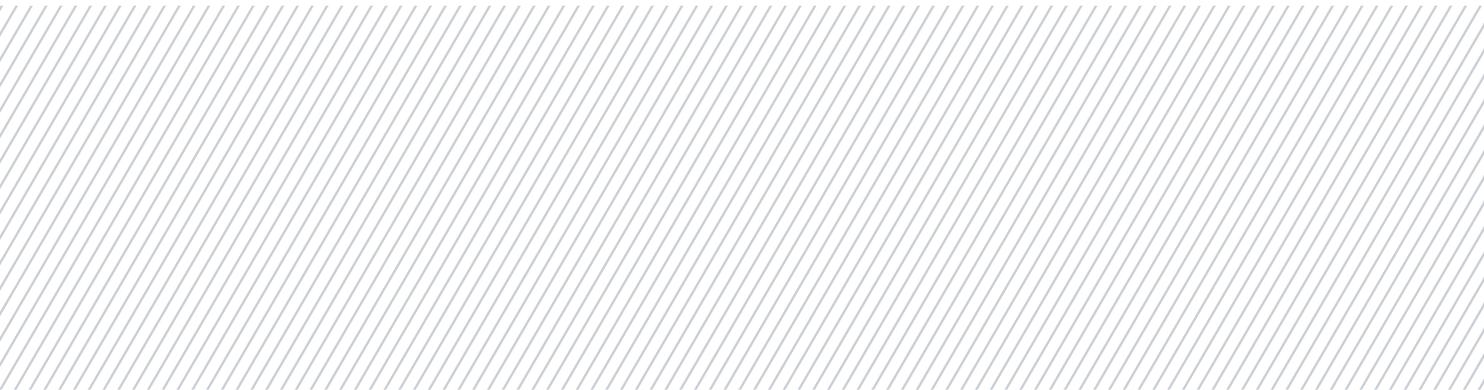
to apply the 'carbon neutrality' principle which was introduced during the 2007-2013 period by several countries as a tool to monitor whether investments in energy efficiency and other measures to reduce GHG emissions are offset by increases of emissions in other supported sectors.

The lack of coherence within the climate change policy itself is another important factor which requires more emphasis to be put on the realisation of climate change mitigation policies. But, despite the Partnership Agreement noting that 'the investments planned in this area will hence contribute to a consistent shaping of the climate change adaptation policy as well as the implementation of climate change mitigation measures and prevention of climate change-related risks'⁹⁵, there are no measures identified which would operationalise this claim. Whereas the Lithuanian Government undertook some efforts to overcome this isolation by adopting the Interinstitutional Action Plan, the national sectoral policies still remain fragmented.

The Partnership Agreement identifies synergies with financing instruments at the national and international level [ETC, HORIZON 2020, LIFE+, etc.] without providing details. The cross-border INTERREG does not seem very relevant from a climate point of view as relevant thematic priorities were not chosen for any cross-border co-operation programme.

The importance of co-ordination between the ESI funds and the European Union Strategy for the Baltic Sea Region [EUSBSR] is also recognised. The EUSBSR provides an integrated framework and is a relevant instrument for cooperation of member states in the region for establishment of electricity interconnections ensuring energy security as well as mitigation of and adaptation to climate

95 Republic of Lithuania. Partnership Agreement, 2014, p.78



change. Nevertheless, no specific cross-border cooperation possibilities regarding the climate change issue have been described in the document. Setting a priority criterion for projects contributing to the EUSBSR was an important decision. Some of the projects linked with the 'Save the Sea' EUSBSR objective might have some relevance to climate change.

Annex 3 to the Partnership Agreement provides information on how different EU funds are balanced and how activities are divided between them. It is dedicated to drawing a demarcation between similar activities financed from different funds in order to avoid double financing, but synergies are not described. The coordination is left for the Monitoring Committees. However, members of the Monitoring Committees usually do not have an overall picture of the Operational Programme and hundreds of project selection criteria are approved case-by-case in the long run. Thus, it is rather difficult for Monitoring Committee members to secure synergies, especially if there is no information provided on links between intervention fields and planned projects. It is strongly recommended that climate change issues are included in the mid-term evaluation which has to be carried out to monitor the progress of programme priorities or implementation of particular objectives.

Integrated territorial development is a very important and strong tool to address complex issues simultaneously in the same area, and climate change and environmental objectives are going to be considered under integrated territorial development programmes. Three types of areas corresponding to three different types of EU funds are going to be established [some of them have already been chosen]: urban, rural and fisheries. The latter two types of areas only indirectly address climate change. Investments into energy efficiency

and renewables, environment protection, sustainable use of natural resources and adaptation to climate change as well as into sustainable transport and the main network makes up more than 50% of the total 'Integrated Territorial Investments' (ITI) in the case of urban areas. Nevertheless, exact figures of investments relevant to climate change and their impact may be overestimated since measures of sustainability are not listed separately and are merged with other measures under the same budget line [for example, investments into sustainable transport and main networks].

In addition, objectives of different measures can compete, leading to incoherencies and in the end not achieving the initially planned results: for example, 'the Vilnius City Integrated Territorial Development Programme' contains several measures addressing mobility issues. Some of them are intended for street reconstruction, renovation and increase of traffic capacity. Others address sustainable mobility and creation of sustainable and environmentally-friendly mobility infrastructure which integrates public transportation, cycle tracks, park&ride systems and footpaths. It is important to avoid competition between these measures as improved conditions for use of private cars [for example, increased car parking space] might reduce incentives to switch to more sustainable means of transportation [for example, use of public transport]. Thus investments to sustainable mobility infrastructures might not pay off and goals to reduce use of private cars in cities and meeting of air quality objectives might not be achieved. In order to avoid such a situation, sustainable mobility plans should be in place before investments are approved. However, sustainable mobility plans were developed after the investments were mapped out and, correspondingly, they have to adapt to some extent to what was planned beforehand, not necessarily considering sustainability issues.

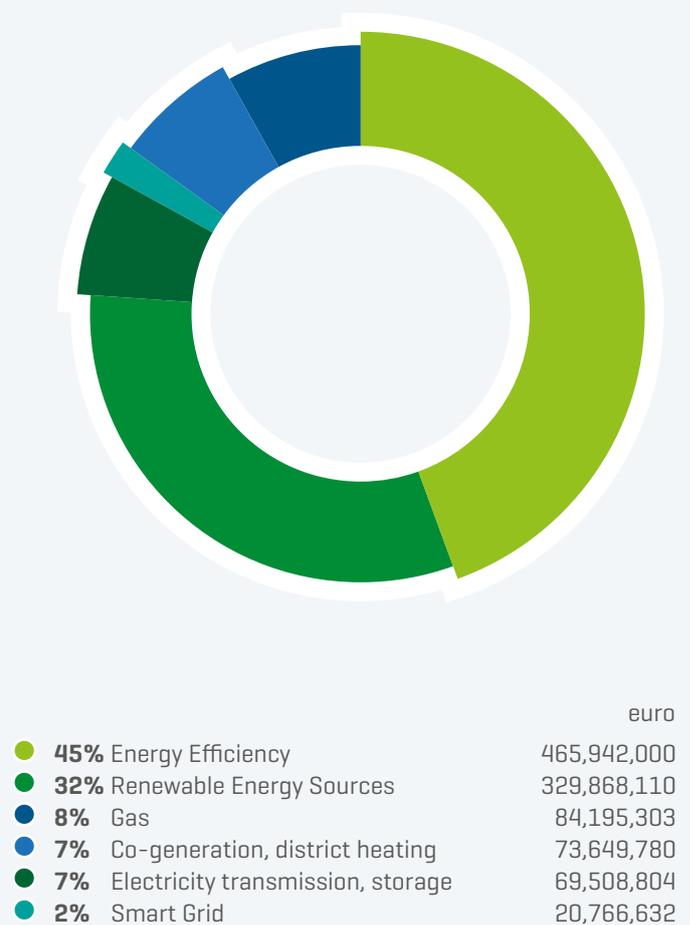
Among several issues listed in the Partnership Agreement where administrative capacities need to be strengthened, climate change issues are not covered specifically. This might be explained by the low priority of climate change mainstreaming between others, like reduction of corruption risk, professional ethics, or project cycle management. Even the climate change topic itself is not perceived and understood adequately by staff of sectoral ministries; therefore efforts to improve existing horizontal integration are necessary. If well-targeted, this might be a very important measure to shape the current policy perspective, to address climate change issues properly and to secure climate mainstreaming in sectoral policies.

OPERATIONAL PROGRAMMES: RENEWABLES POTENTIAL UNTAPPED

Lithuania has three operational programmes: one for European Structural and Cohesion Funds, one for EAFRD and one for EMFF. All of them address climate change mitigation objectives. Thematic Objective 4 addresses the low-carbon economy, increased energy efficiency and renewables. Thematic Objective 5 addresses adaptation, resilience, capacity strengthening to assess and analyse climate change impacts, better public awareness, climate change risk minimisation (flood risk minimisation, coastal zone management) and strengthening the capacity of rescue services. An increase of energy and resource use efficiency [technologies] as well as introducing renewables [infrastructure] in companies will be supported from Thematic Objective 3.

The total European Structural and Cohesion Funds' contribution to climate change goals amounts to 20.94% according to the EU 'Rio Marker' methodology. The share of clean energy investments, i.e., energy efficiency, renewables and smart electricity distribution is 13.21%.

GRAPH 29: Different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention



Considering the fact that renewables are supported to a relatively small extent and just at the enterprise level, the largest share of ERDF allocations goes to energy efficiency projects (45% of allocations for energy infrastructure), namely renovation of public infrastructure and housing stock. This shows that energy efficiency is perceived as one of the most important issues from an economic, social and environmental point of view [see Graph 29]. Despite the Operational Programme pointing out that further renewables development will help to solve not only climate change problems, but also increase Lithuanian energy independence, dedicated support for renewables is limited to support for solid biomass-burning power plants, which would significantly reduce heating prices for citizens. Lithuania has already reached its Europe 2020 target for renewables and more rapid wind and solar power plants development is not promoted by the Lithuanian government. The Law on Renewable Energy Resources establishes installed capacity caps for all types of renewables. Wind energy is the most promising source of renewables. But there are no free licences left: all licences for onshore wind power plants were distributed several years ago. Tariffs for solar energy were decreased by 40% in 2013. Thus, incentives to develop this source of renewables are suppressed now. This is explained by the impact on energy prices for consumers as renewable energy buying tariffs were incorporated into the final energy consumption price. Lithuania has not put in enough effort to motivate, involve and create attractive business models for local communities to become wind energy producers, even though this could be a very strong factor promoting rural development. Citizen ownership is also considered to be the one of the key elements of the Energy Union Communication of 2015 from the European Commission⁹⁶. So far, almost all installed capacity is owned by private companies where local communities act as shareholders only in exceptional cases. Even state-owned options or private-public partnerships are excluded as an ownership model.

As wind and solar energy development is suspended, a high share of planned investments goes to biomass-based energy production. Looking at all allocations for energy infrastructure (see Graph 29), it is interesting to note that investments into natural gas distribution systems are almost equal to allocations into electricity distribution systems. Large investments have been made into LNG terminal development in the last few years. This now requires development of supplementary systems, competing to some extent with investments for other types of energy. However, gas consumption is tending to decrease due to support for conversion from gas-based heat generation to solid biomass-based heat generation and investments into renewables exceed investments into gas up to four times due to allocations for biomass. The development of smart grids would be an important step towards increasing energy efficiency and reducing energy consumption, however, the measures planned in this area are not accompanied by information on how and which planned measures will contribute to reaching climate change mitigation objectives. As presented in Graph 29, the share of investments into intelligent energy distribution systems is an insignificant 2% of the total allocation for energy infrastructure. The main goal of these investments is to increase energy supply stability and management efficiency of the electricity grid by introducing remote control systems and other measures. The chosen main result indicator – System Average Interruption Duration Index [SAIDI] – is related to electricity supply stability rather than efficiency.

Perhaps one of the most promising investment priorities in the transport sector under the 'low-carbon' objective is the implementation of strategies to reduce CO₂ emissions in cities and promotion of sustainable mobility. The introduction of integrated transportation systems [Park&Ride, Bike&Ride] together with the renewal of existing public transportation vehicle fleets, the introduction of smart traffic management schemes and corresponding changes in spatial planning documents could catalyse the shift towards a more sustainable life in the cities and, together, would reduce climate change

96 Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee, The Committee Of The Regions And The European Investment Bank A Framework Strategy For A Resilient Energy Union With A Forward-Looking Climate Change Policy /* Com/2015/080 Final */

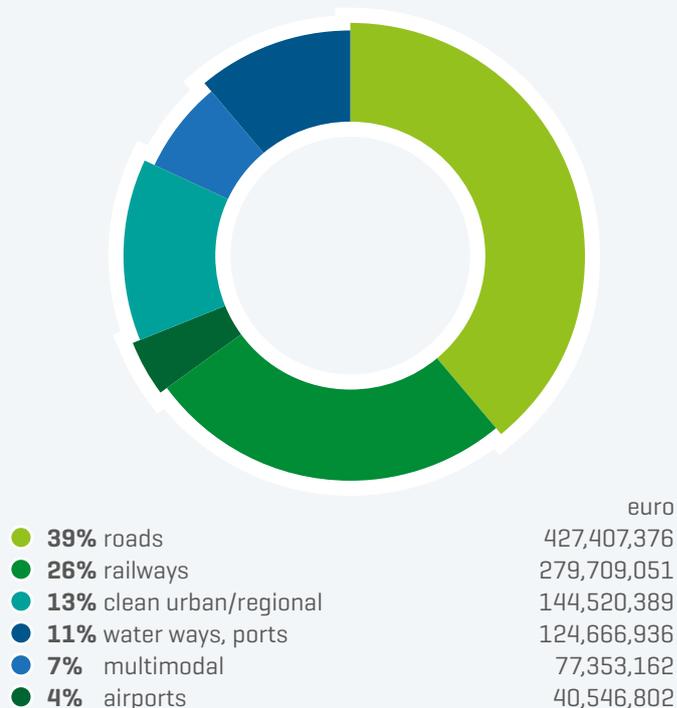
impacts. However, the currently prevailing trend in Lithuanian politics rather aims to improve the conditions for using personal cars in cities while neglecting public and environmentally-friendly transportation development needs. This bias is also reflected in the allocations for the transport sector.

The investments in the transport sector correspond to the current situation in this sector. The highest share goes to roads and is followed by investments in railways. Allocations for sustainable transport are in third place.

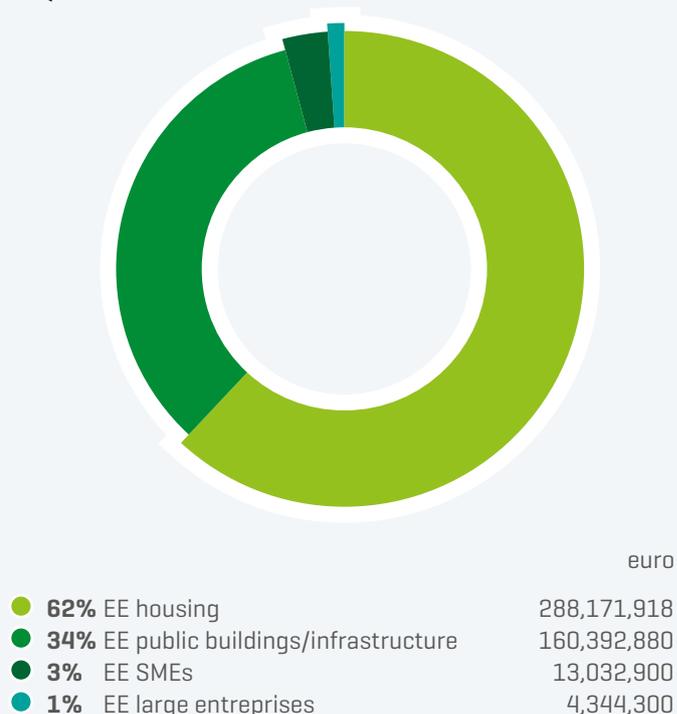
The renovation of multi-apartment buildings and state and local authority-owned buildings is one of the most effective measures to increase energy efficiency and support climate change mitigation goals simultaneously. Clear goals for energy efficiency [at least C class] and amortisation periods [up to 25 years] are established. Other measures foreseen under this objective, like renovation of heat distribution systems or modernisation of urban street lighting, are also very important and relevant to climate change mitigation objectives. Some doubts might rise regarding the efficiency of the measures to replace inefficient biomass-powered boilers in households which are not connected to district heating systems, since a more detailed description of this measure [scope, indicators, etc.] was not available during the preparation of this report⁹⁷. A cost-benefit-efficiency analysis might be necessary to ensure efficient results from such an investment.

Integrated territorial development measures under the 'low-carbon objective' could contribute to climate change mitigation objectives as well. The conversion of abandoned land within cities might help to better use existing infrastructure, reducing costs and therefore decreasing impact on suburban areas. The real effects of such measures on climate change objectives will be very dependent on specific projects and their selection criteria as well as interlinkages with other integrated territorial development goals. Nevertheless, the scale of some planned objects, like the Multifunctional Health, Education, Culture and Employment Incentive Centre under the Vilnius Integrated Territorial Development Programme, raise reasonable concerns about the sustainability of such projects, and

GRAPH 30: Share of transport modes in total transport funding in Lithuania. Source: our own calculations based on approved Operational Programmes according to categories of intervention



GRAPH 31: Energy efficiency allocations according to type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



⁹⁷ This measure is also included in the investment strategies of several other CEE countries.

requires a more comprehensive assessment of impacts and determination of corresponding safeguards.

Thematic Objective 5 comprises measures mainly managed by the Ministry of the Environment. Most of them have no or little relevance to climate change mitigation objectives. Some of them are dedicated to biodiversity protection and therefore can be ascribed to measures that increase resilience to climate change. Others, like measures for strengthening laboratory and monitoring capacities or addressing air quality issues, are relevant to other environmental objectives. 40% of investments under Thematic Objective 5 should be dedicated to climate change mainstreaming. But the real share of climate change-relevant investment cannot be estimated at this stage without additional research since the managing authority does not indicate project relevance to climate change objectives.

HORIZONTAL INTEGRATION OF CLIMATE CHANGE MITIGATION: PROJECT SELECTION CRITERIA TOO VAGUE TO STEER INVESTMENTS

Referring to the provisions of Article 8 of the Common Provisions Regulation, the Partnership Agreement defines that sustainability (including climate change) principles should be considered at programming level, including:

- Support for innovations using less resources.
- Entire lifecycle costs consideration, where appropriate, when assessing economic efficiency of the projects.
- Wider introduction of green procurement.
- Obligation for the applicants to justify contribution or no-impact on sustainability.
- Assessment of projects in terms of their compliance with climate change mitigation and adaptation as well as resource efficiency and other issues important from a sustainability point of view.

Horizontal integration at the programming level and via the impact assessment of individual projects is reasonable in most cases, but with regard to climate change mitigation it is not suitable as it does not allow cumulative effects induced

by all projects to be addressed, and therefore the accumulated impact of investments regarding climate change objectives remains unclear.

Project selection criteria usually follow closely the objectives listed in the Operational Programme. However, there are at least two sensitive points: the description of climate change or sustainability-relevant criteria and interpretation of these criteria by project applicants and proposal evaluators. The weight given to criteria depends on the particular project and managing authority. To some extent, criteria might be negotiated in the Monitoring Committee, but examples from practice show that proposals to add a specific criterion for sustainability or climate change impact measurement are challenged by the authorities: a proposal to add a specific criterion on CO₂ reduction for selection of projects applied for intelligent energy distribution system investments [measure 04.4.1-LVPA-K-106] was not supported and was rejected from the voting. The argument against the proposal was that existing criteria like 'grid modernisation', 'increased supply stability', 'larger number of installed smart grid units' embed climate change objectives and there is no need for additional criteria on that. Arguments that projects are going to be selected on a tender basis, therefore the GHG reduction potential of the project has to be considered during the project selection process, were not accepted. This example shows that the sustainability principles as described in the Partnership Agreement are not considered to be important factors determining project selection in practice and are rather seen as an obstacle which creates additional problems and hinders smooth utilisation and uptake of financial support.

The responsibility to assess whether sustainability is perceived 'correctly' in the project selection is up to the evaluator, but the evaluation process is very formalised and based on a standard evaluation matrix which is developed and currently used for any type of project evaluation, largely based on 'box-ticking' without deeper content analysis. Thus, interpretation of sustainability is left to applicants themselves. Therefore more precise references to sustainability are required for both project applicants and evaluators.

RECOMMENDATIONS FOR IMPROVEMENT OF CLIMATE CHANGE MAINSTREAMING ACROSS EU FUNDS IN LITHUANIA

European funds are an opportunity for every country to strengthen their sustainable development pathways especially in the spheres where further development is restricted without substantial investment. However, to gain maximum benefit from such investment, it is important to secure cohesion between different goals and objectives and to look for synergies. A long-term decarbonisation goal requires focused and highly integrated sectoral strategies, but national economic development strategies are still lacking a proper sustainability dimension. To secure better integration of environmental concerns relevant to climate change issues into investment strategies and implementation processes, Lithuania should:

- Rethink what kind of policies should be in place in order to achieve long-term decarbonisation strategy goals and choose appropriate indicators to measure progress.
- Elaborate a roadmap towards decarbonisation goals.
- Make the Interinstitutional Action Plan (IAP) a real implementation framework which contains climate change-relevant measures and could lead to the decarbonisation goals listed in the Strategy for National Climate Change Management Policy. The IAP should cover the complete financial period and be harmonised with Operational Programmes.
- Ensure that there will be no investments with adverse impacts on ecosystems and GHG reduction targets; start introducing the carbon neutrality principle for large investment programmes.
- Ensure that comprehensive assessment of impacts is performed prior to implementation of complex projects, e.g., establishment of multifunctional centres or realisation of sustainable urban mobility plans.
- Include climate change issues into the mid-term evaluation of EU funds' utilisation in Lithuania.
- Prepare attractive support and motivation schemes for citizens to become co-owners of renewable energy production.
- Prepare corresponding guidelines for project applicants where sustainability issues are required to be included in the project scope.
- Closely follow the principles of sustainability as described in the Partnership Agreement referring to the provisions of Article 8 of the Common Provisions Regulation; promote inclusion of GHG reduction criteria in the project selection schemes.
- Increase administrative capacity with regard to climate change issues in sectoral ministries.

LV

A 'green' veneer, but at what cost?

Climate action in EU Cohesion Policy
funding for Latvia, 2014-2020

The EU Cohesion Policy investments 2014-2020 will support Latvia's continuous and steady progress towards its national climate goals for 2020 and 2030. However, the investments will support the rather incoherent existing policies and strategies and will not have a significant impact on improving the overall strategic approach to reach sustainability and transform the energy system.

- The National Development Plan for Latvia 2020 largely neglects climate change mitigation and most of the strategic priorities do not refer to impact on environment and climate change.
- The Sustainable Development Strategy of Latvia 2030 remains an island, not a blueprint for long-term investment plans.
- Climate change mitigation as a horizontal principle is poorly implemented in the Partnership Agreement, the Operational Programme 'Growth and Employment' and the project selection criteria.
- EU Cohesion Policy investments in the energy sector are mostly determined by political debates on gas import diversification considerations and the investments do not support the transformation of the energy sector.
- EU Cohesion Policy investments do not support the use of sustainable renewable resources and diversification of renewables. The investments are focused on the development of use of biomass (fuel wood) only and development of wind power and solar power is neglected.
- EU Cohesion Policy Funds' allocations for energy efficiency are insufficient compared to the poor situation regarding energy efficiency in residential buildings. A more comprehensive and strategic policy focusing on attracting private investments and development of a competitive market for ESCOs is needed.
- EU Cohesion Policy investments in the transport sector do not meet GHG reduction objectives although this is declared as a strategic objective. The majority of the investments in the transport sector have little impact on GHG reduction and a high share of emissions remains unaddressed.

Introduction

The structure of Latvia's economy has changed drastically since 1991 – the year of regaining independence – from a high energy consuming industrialised economy to one dominated by trade and services⁹⁸. The transition has no doubt had a positive impact on decreasing the GHG emissions level and today Latvia has the lowest per capita GHG emissions in the EU. It is very likely that Latvia will achieve its national 2020 GHG emissions target by 2020 – and will not increase non-ETS sector emissions by more than 17% compared to 2005.

Although GHG emissions have decreased drastically in the energy sector (a third of the 1990 level), this sector remains the largest polluter among all sectors, i.e., transport, agriculture, industrial processes, waste management. Even though the transition to a lower energy consuming economy after the collapse of the Soviet Union opened potential development paths towards reducing GHG emissions, reducing GHG emissions is rather on the political table thanks to the EU climate change policy framework. Latvia's official commitment to treat the transition to a low-carbon economy as a priority does not lead to comprehensive actions or tap the full potential that Latvia has to transit to a truly sustainable clean energy economy. Public discussions on terminating dependency on Russian gas have been dominated by discussions on diversification of natural gas supplies which has pushed aside discussions on investments in locally available renewable energy sources (RES). In addition, over-reliance on widely available, but unsustainable, biomass (fuel wood) as an energy source, indicates that the Latvian government is not so far thinking with a long term perspective. The lack of ambition to use Latvia's full potential of renewables is also reflected in the national allocations of the European Structural and Investment Funds for the 2014-2020 programming period. According to the Partnership Agreement (PA) for the European Union Investment Funds Programming 2014-2020 between Latvia and the European Commission, the EU will provide EUR 4.51 billion worth of investment. All Cohesion Policy investment funds (European Regional Development Fund, the European Social Fund, the Cohesion Fund) are compiled under one operational programme – 'Growth and Employment' (OP) approved by the EC on November 13, 2014. EUR 755 million is earmarked for investments to support climate change objectives which accounts for 17.20% of total Cohesion Policy investment in Latvia. A major question is, however, how much this 17.20% contributes to the mitigation of climate change.

98 http://innovation.lv/wp-content/uploads/2015/02/Zinojums_par_LV_tautasaimniecibas_attistibu_2014_dec_lv.pdf

NATIONAL GHG EMISSIONS

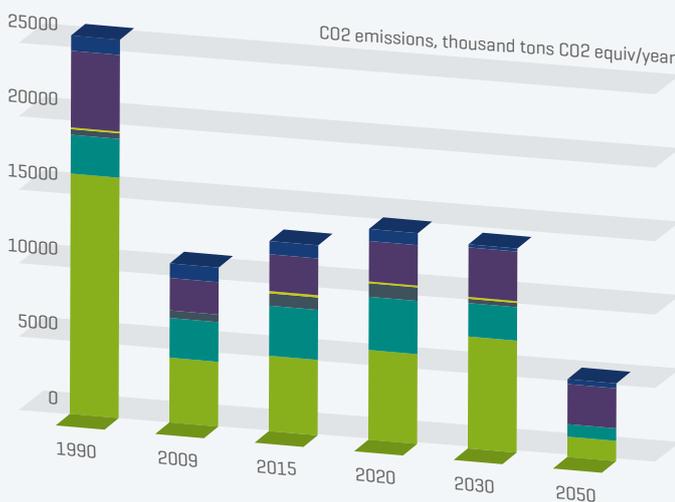
The transition to a trade and services dominated economy resulted in a GHG emissions decrease of 58% between 1990 and 2013, reaching the lowest point in 2000 and slowly increasing year by year since then⁹⁹. Lower GHG emissions in 2020 and 2050 are expected due to the transition of the energy sector to energy-efficient end-use and use of RES. In the period up to 2050, a gradual decrease in the use of fossil fuels will allow Latvia to reduce GHG levels in the energy sector to 20% of the 1990 level. [Graph 32].

The transport sector is the most significant source of GHG emissions with 30% of the total emissions in 2012, while agriculture makes up 26% and the energy industries 20% [Graph 33].

GHG emissions have fluctuated in recent years mainly according to economic trends, the energy supply structure

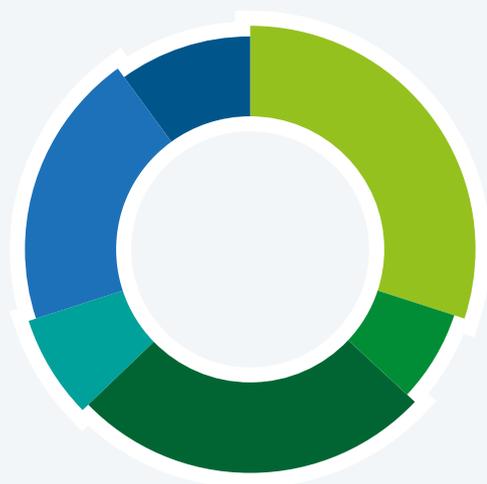
and climatic conditions. As the 'Green Energy Strategy 2050 for Latvia: a Pathway towards a Low Carbon Society, 2014' suggests, in a 2050 scenario, major GHG reductions would come from the energy and transport sector, i.e., those sectors which receive EU funds today. In order to catalyse this 2050 transition, EU funds should already now invest into structural changes of both the energy and transport sectors. Latvia will likely achieve its national GHG emissions target for 2020 as it requires no reductions, but limits non-ETS emissions to no more than 17% above the 2005 level.¹⁰¹ Between 2005 and 2013 the level of non-ETS emissions increased by approximately 1%. However, Latvia's successful progress in meeting its GHG emissions goals is not the result of a comprehensive and wise energy and environment policy. It is determined by a shift from a manufacturing-dominated to a trade-and-services-dominated economy and, most of

GRAPH 32: Historical GHG emissions pattern and GHG emissions forecast (including transport), source - Green Energy Strategy 2050 for Latvia: a Pathway towards a Low Carbon Society, 2014



- Waste management
- Agriculture
- Solvent and other product handling
- Industrial processes
- Transport
- Energy sector

GRAPH 33: GHG emissions shares by sectors, 2012, Source - Eurostat



- 30% Transport
- 26% Agriculture
- 20% Energy industries
- 10% Manufacturing industries and construction
- 7% Industrial processes
- 7% Waste

99 http://www.meteo.lv/fs/CKFinderJava/userfiles/files/Vide/Klimats/Zin_starpt_org/Draft_LV_NIR_30_06_2015.pdf

100 <http://www.aidic.it/cet/14/39/252.pdf>

all, by the most widely available renewable resource in Latvia - biomass, or fuel-wood [see the Energy sector section].

NATIONAL STRATEGIES AND POLICIES

Sustainable development and climate action can be found as horizontal priorities in Latvia's national strategies and policy plans, although in some sectors efficient action towards sustainability loses out to actions aiming towards economic growth. The Sustainable Development Strategy of Latvia 2030, adopted in 2010 by the Parliament of Latvia, is a framework-setting programming document for all strategies and policies in Latvia. Latvia 2030 applies a sustainability model and has been developed in alignment with European and international laws and policies: It should bring to life global sustainable development goals at the national level. The document clearly explains that '...the idea of sustainable development invites to satisfy the needs of the present generation, balancing public welfare and environmental and economic development interests and concurrently ensuring the observation of the environmental requirements and the preservation of natural diversity in order to avoid the reduction of possibilities to satisfy the needs of future generations.' One of the three overall goals of the Sustainable Development Strategy of Latvia until 2030 explicitly refers to sustainability.¹⁰² The question is to what extent these sustainable development claims are translated into EU funds' planning documents, namely the Partnership Agreement and Operational Programme?

The National Development Plan of Latvia for 2014-2020 [NDP 2020] is the main mid-term programming document in Latvia which sets the framework for national development policies. According to the Partnership Agreement, EU Cohesion Policy investments should comply with Europe 2020 and national level development priorities defined in the NDP 2020 and other programming documents. Basically, all investments planned in the Operational Programme support strategic priorities set in NDP 2020, however, unfortunately, the NDP 2020 fails to include the sustainability goals set out in Latvia 2030. Within the NDP 2020, sustainability and climate action is not so visible and well incorporated in every sector and the document implies development and growth as core targets, neglecting to interweave sustainability through all priorities and sectors. There are three priority areas in the NDP 2020 - 1) Growth of National Economy, 2) Human Security (a form of resilience) and 3) Growth of Regions. Only one strategic objective of the plan refers to environmental sustainability - Sustainable Management of Natural and Cultural Capital with goal 1 'Maintain the natural capital as the basis for sustainable economic growth and promote its sustainable uses while minimising

natural and human risks to the quality of the environment.' Some strategic objectives partly consider sustainability, for example, 'Highly Productive Manufacturing and Internationally Competitive Services with Export Potential and Energy Efficiency and Energy Production'.¹⁰³ However, in other strategic objectives, sustainability criteria are not visible and the objectives are driven by competitiveness, productivity and commercialisation of knowledge. The NDP 2020 states 'that the use of the natural capital of Latvia is associated with sustainable uses of land, forests, waters and natural resources, an increased volume of ecosystem services, the diversification of production and the raising of productivity, while developing to an equal extent both intense production and 'green' production - as well as 'green' consumption. It also seeks to preserve the natural capital and prevent its depletion, creating and maintaining the image of Latvia as a 'green' country'. However, this seems to be paying lip service rather than taking a realistic approach to sustainability since it is not interwoven in all priority areas of the NDP 2020.

Since the Partnership Agreement and Operational Programme have been developed in alignment with the NDP 2020, it is not surprising that all the NDP's flaws in implementing sustainable development are transferred to EU funds' planning. The EUR 4.51 billion investments allocated from the EU Cohesion Policy 2014-2020 will support Latvia's continuous and steady progress towards its national climate goals for 2020 and 2030, but the investments will also support the rather incoherent NDP 2020 strategic goals and will not have a significant impact on the transformation of the system towards sustainability.

ENERGY SECTOR

Latvia is well known for its rich natural capital, although the territory of the country is small - 64,589 km². When it comes to the energy sector, the only locally-available energy sources for primary energy production are renewable energy sources. The Latvian Renewable Energy Federation has estimated that locally-available energy resources - biomass, bio-gas, wind, solar and hydro have the potential to fully meet the energy demand in Latvia. But the historically and geopolitically-determined current situation in the energy sector has sidelined discussions on increasing the country's energy security by using only locally-available resources. Energy transformation is shared between RES [29%] and natural gas [70%]. [see Graph 34].

Natural gas imports to meet local energy demand are the main reason why the energy sector in Latvia is one of the most politicised sectors of the economy. In the current situation, Latvia is dependent on the Latvian Gas supply

101 http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_indicators_-_climate_change_and_energy

102 http://www.pkc.gov.lv/images/LV2030/LIAS_2030_en.pdf

103 http://www.pkc.gov.lv/images/NAP2020%20dokumenti/NDP2020_English_Final_.pdf

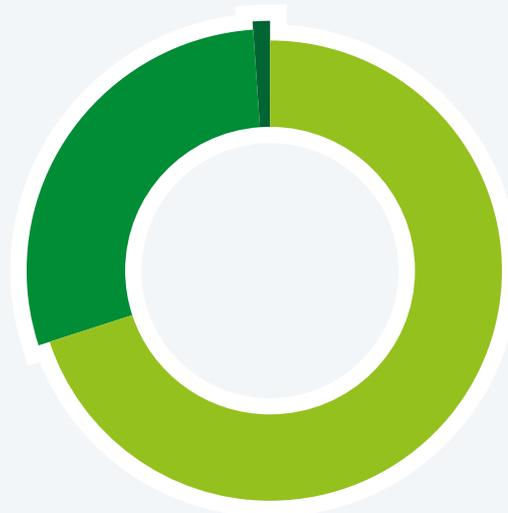
monopoly [which imports Russia's gas, and is owned by Germany's E.on – 47%, Gazprom – 34%, and Iteria Latvia – 16%], over which the government has little control. Experts say Putin's Russia has become increasingly confident in using its energy corporations such as Rosneft, Gazprom, and others, to further its political and economic goals¹⁰⁴ towards those 'near abroad' and it is obvious in Latvia as well. In 2013, gas provided 70% of Latvia's electricity and heat. Therefore the energy security discussion is mostly reduced to discussion between Latvian Gas and those who are in favour of liberalisation of the Latvian gas market and development of interconnections to access EU gas networks. This is one of the main reasons why a strategically wise approach to energy sector development has been lacking and the role of renewables and reduction of energy consumption in achieving 'energy security' in Latvia is neglected – even though Latvia has great potential to develop energy infrastructure and safe energy to become self-sufficient.¹⁰⁵

Current progress in increasing the share of RES indicates that Latvia will reach its 2020 target of 40% renewables [37% in 2013] and this puts Latvia in second place in the EU [after Sweden] [see Graph 35].

TRANSPORT SECTOR

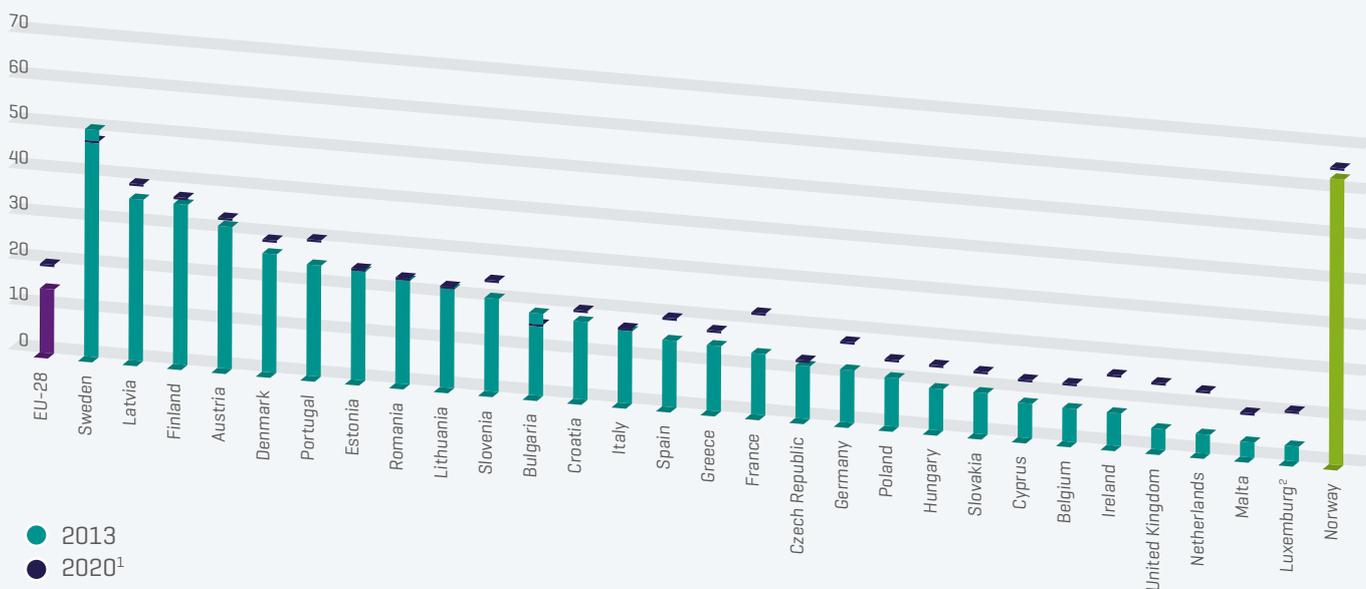
Latvia's transport sector is one of the most important sectors in the country's economy due to the country's geographical

GRAPH 34: Latvian energy mix 2013. Source – Eurostat



- 70% Natural Gas
- 29% Total renewables
- 1% Solid fuels

GRAPH 35: Share of renewables in gross final energy consumption, 2013 and 2020 [%], source – Eurostat



¹ Legally binding targets for 2020

² 2013: estimate

104 http://iia.lv/site/docs/Energy_Brief_2014_web_1.pdf

105 http://www.atjaunojam.lv/attachments/article/114/AE_LocalE_1806_2015.pdf

position. Latvia is a border country of the EU and, as a transit country, it plays an important role in trade between the EU, Russia and other countries of the Commonwealth of Independent States (CIS) [as the shortest route between the EU and CIS]. The cargo traffic is divided almost equally between water transport, road and rail. As vitally important export and transit-transshipment points for Latvia itself and for several neighbouring countries, the three largest Latvian ice-free ports provide access 365 days a year. The total length of Latvia's road network is 72,441 km. Latvia possesses a relatively dense railroad network connecting the country to destinations as far as the Russian Far East.¹⁰⁶ The intensity of cargo traffic is increasing year by year. [see Graph 36].

Intensity of passenger traffic and turnover is also increasing year by year – from 254.7 million passengers in 2010 to 260.4 million in 2014, and so is the number of passenger cars – from 636,664 in 2010 to 657,799 in 2014.¹⁰⁷ Although the level of GHG emissions in transport is slowly decreasing year by year, the sector still remains the most significant source of GHGs in the country. The Latvian State Roads company reports that passenger car traffic intensity in 2014 has increased by 4% compared to 2013 which may change the trend of GHG emissions.¹⁰⁸

The Transport Development Strategy 2014-2020 adopted by the Government in 2013 clearly defines the main policy goal in the transport sector, ...'transport policy goal is competitive, sustainable, co-modal transport system, which provides high quality of mobility by effective consumption of resources, including EU funds. The vision of the sustainable transport system is infrastructure integrated in TEN-T network, high traffic safety level, transport and logistics services, new workplaces, increased export service volume and accessible public transport'.¹⁰⁹ The strategy, more than programming documents in other sectors, emphasises environmental aspects and continuous reduction of GHG emissions in the sector and this is reflected in two [out of four] priorities listed in the 2020 Strategy – Priority 2, electrification of the railroad [outcome of the action: electrified railroads extended by 20%, CO₂ emissions reduction in cargo railroads by 60% compared to 2012] and Priority 3, improvement of the public transport system [outcome of the action: opportunities to reach destinations such as educational facilities, healthcare facilities, work location, state and municipal facilities in office hours are provided for everyone]. The balance of environmental and economic factors is mentioned as one of

the aspects of sustainability – to enhance transport solutions and choice of means of transport which reduces CO₂ emissions, improves the quality of air and mitigates the negative noise impact on the population.

The transport sector has been one of the priorities of Latvia's development, which is also reflected in the amount of public investments in transport compared to other sectors. EU Cohesion Policy investments in the transport sector accounted for 30% [almost EUR 1.4 billion]¹¹⁰ of all investments in the previous programming period 2007-2013. The priorities of the Transport Development Strategy 2014-2020 have been adopted in the OP as well and EU Cohesion Policy funds support most of the actions and priorities under the Strategy by continuing with significant investments [26% of all Cohesion Policy investments, total EUR 1.3 billion].

INVESTMENTS IN SECTORS AND SUPPORT FOR CLIMATE CHANGE OBJECTIVES

According to the Partnership Agreement, EU Cohesion Policy will contribute EUR 4.5 billion to the development of Latvia. Breaking down Cohesion Policy investments by area [see Graph 37], transport receives the largest share [30% or EUR 1.3 billion] followed by the environment [EUR 546 million]. Energy infrastructure receives 9% of all EU funding. Thus, the transport sector remains the most supported EU Cohesion Policy investment sector.

EU Cohesion Policy investments for supporting climate change objectives amount to a total of EUR 754.9 million or 17.20% of total Cohesion Policy investments in Latvia. Investments into renewable energy sources, energy efficiency and smart electricity distribution, though, make up only for 8.25% or EUR 362 million, with energy efficiency receiving the largest amount.

SUSTAINABLE DEVELOPMENT HORIZONTAL PRINCIPLE

The Partnership Agreement is based on the Latvia 2030 strategy and most of the relevant sustainable development criteria are included:

- Reduction of emissions of pollutants into the environment.
- Reduction of GHG emissions.

106 <http://www.liaa.gov.lv/invest-latvia/investor-business-guide/business-infrastructure>

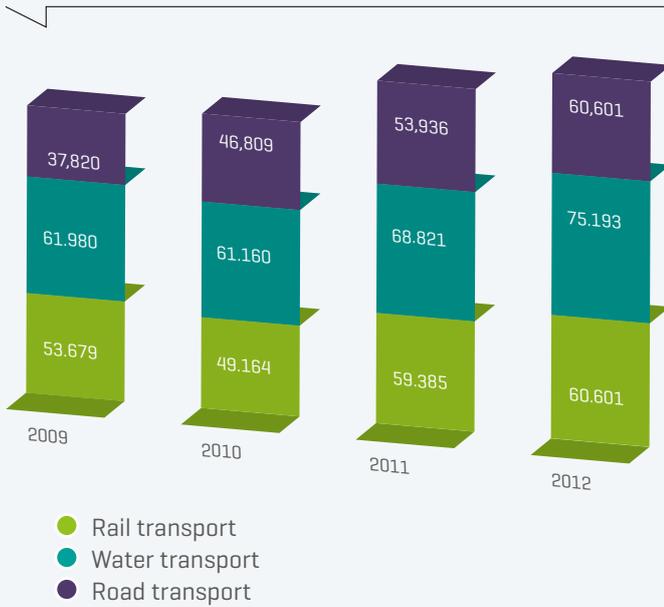
107 http://www.csb.gov.lv/sites/default/files/nr_29_transports_latvija_2015_15_00_lv_en.pdf

108 <http://www.irlv.lv/2015/10/27/latvijas-sabiedriskā-transporta-sistema-izveles-prieksa>

109 <http://polsis.mk.gov.lv/view.do?id=4607>

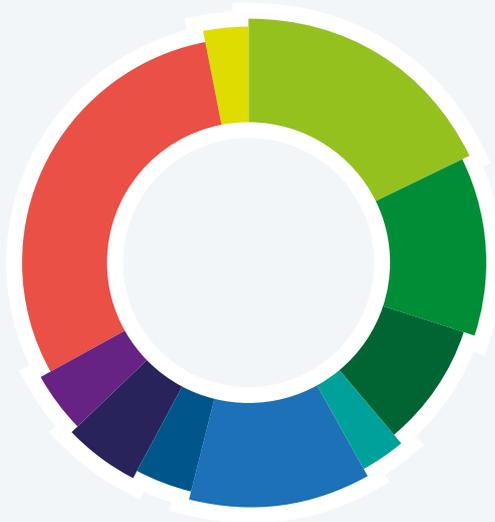
110 <http://www.esfondi.lv/finansējuma-sadalījums>

GRAPH 36: Cargo traffic by mode of transport in thousand tonnes, source - Central Statistical Bureau of Latvia



- Waste water management.
- Protection and management of groundwater and surface water.
- Biodiversity conservation and protection of landscapes.
- Efficient use and management of natural and energy resources.
- Waste management and prevention.
- Decrease of noise and vibration.
- Research and education devoted to environmental protection.
- Mitigation, prevention of environmental and climate risks.

GRAPH 37: Shares of EU Structural Funds 2014-2020 allocations by investment area. Source: our own calculations based on approved Operational Programmes according to categories of intervention



Investment Area	Share (%)	Amount (euro)
transport	30%	1316,738,686
production and consumption	18%	773,867,357
education	12%	515,961,279
environment	12%	546,461,680
energy infrastructure	9%	406,358,614
social inclusion	5%	225,160,750
social infrastructure	4%	193,377,447
information and communication technology	4%	172,783,829
employment	3%	135,410,788
other	3%	103,102,145

At first glance, these dimensions of environmental protection seem to establish a strong sustainability framework for Cohesion Policy in Latvia. However, the Partnership Agreement does not go beyond this list of topics. When it comes to translating this into mechanisms for implementing sustainable development, to set up a horizontal framework of specific objectives and indicative activities, the Operational Programme falls short. The programming documents in general fail to implement Sustainable Development as a horizontal principle and in most of the specific objectives the impact on sustainable development is poorly explained and limited to proclamations like 'direct positive impact'. Relevant indicators or mechanisms for horizontal integration, ensuring quality and compliance, are left to regulations to be decided on by the Cabinet of Ministers.

The implementation of horizontal principles needs to be ensured by applying quality or compliance criteria and by including activities in these regulations on the implementation of specific objectives. But neither the project selection criteria, the methodology for implementation of the project selection criteria approved by EU Structural Funds Monitoring Committee nor the draft regulations of the Cabinet of Ministers for the specific objectives have a single reference to any of the sustainable development criteria set in the Partnership Agreement, so the extent of the impact of these investments is unclear. A partial exception is that the project selection criteria for some strategic objectives on transport networks promote Green Public Procurement.

For example, the Partnership Agreement explains that the 'application of the principle of sustainable and balanced

development will promote efficient use of the existing resources, while use of new resources will be in line with the EC Roadmap to a Resource Efficient Europe and Europe 2020, for instance... use of renewable energy in industrial, public and dwelling houses'. But there is no more explicit explanation on what renewables will be supported, what are the national priorities in renewables use and the development of energy infrastructure, how this will affect sustainability and whether it will have a positive impact on the mitigation of climate change. In addition, the Operational Programme does not address the sustainable use of renewables. This is a particular omission given the high share of biomass in the Latvian energy mix and the fact that biomass is the sole RES which will receive EU funding [see Graph 38]

Both the Partnership Agreement and Operational Programme avoid broaching the issue regarding the sustainability of biomass sourcing, because the planned increased use of renewable energy in industrial, public and residential houses in fact means more use of biomass, namely fuel-wood. This unconditioned growth of biomass use in itself is a risk to sustainable development as there are natural limits to the sustainability of biomass.

INVESTMENTS IN THE ENERGY SECTOR

EU funds' investments in energy infrastructure amount to almost EUR 406 million. Investments into renewable energy

sources, energy efficiency and smart electricity distribution, though, make up only 8,25% or EUR 362 million, with energy efficiency receiving the largest chunk [see Graph 39]:

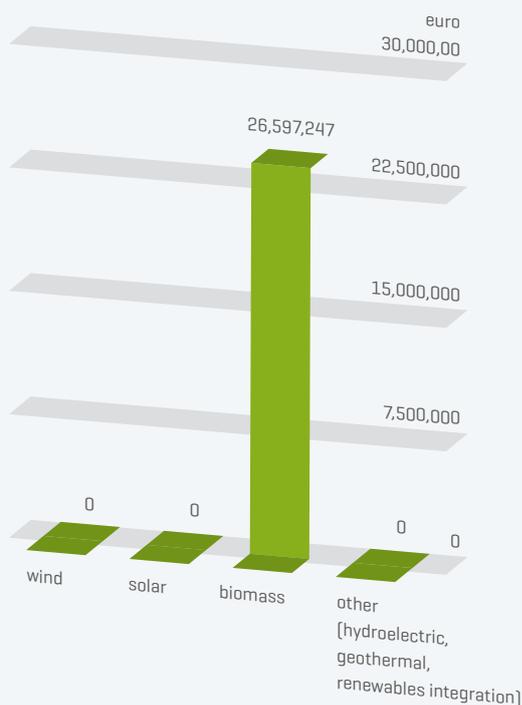
Latvia will invest in the following intervention fields supporting climate change objectives – renewable energy: biomass [EUR 26.5 million], energy efficient renovation of public infrastructure, demonstration projects and supporting measures [EUR 129 million], energy efficient renovation of existing housing stock, demonstration projects and supporting measures [EUR 150 million], and high efficiency co-generation and district heating [EUR 26.5 million][see graphs 38, 39].

According to the new Energy Development Strategy 2014-2020 [not yet adopted by the Government at the time of writing]¹¹¹, the main goal of energy policy in Latvia is a competitive economy with two specific goals – sustainable energy and increase in energy supply security. Under the sustainable energy goal, specific activities are planned to increase RES in Latvia's energy mix. Energy efficiency aligns with the energy supply security goal. However the strategy is, like the OP, missing the sustainable solutions outlined in the 'Latvia 2030'.

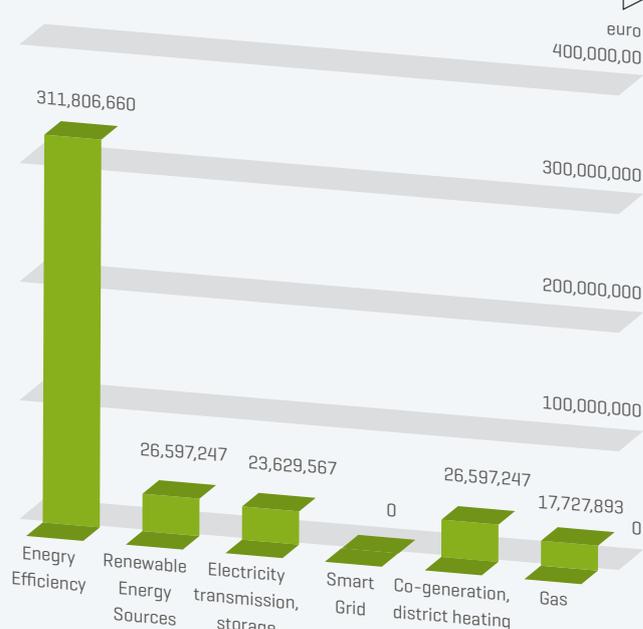
RENEWABLE ENERGY SOURCES: THE SINGLE CHOICE

Although 52% of Latvia's territory is covered by forest [as of 2014] and the intensity of afforestation is, so far, greater

GRAPH 38: Split of renewable energy sources by technology.
Source: our own calculations based on approved Operational Programmes according to categories of intervention



GRAPH 39: Different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention



111 https://www.em.gov.lv/files/energetika/EM_21102014_Pamatnost.docx

than that of deforestation, some experts raise concerns regarding the negative impact of biomass on biodiversity in the forests. Yet, neither the impact of agro-forestry on biodiversity nor the long-term carbon footprint of increased wood use is taken into account in EU funds. In addition, the continuous focus on fuel-wood as widely available biomass has left neglected the potential for diversification of RES and development of wind power and solar power infrastructure. In 2013, the share of biomass (98% of which is wood) in RES production was 82%¹¹² and it is slowly increasing year by year. The advantage of this, as well as a drop in consumption of natural gas [by 7.4% since 2010], is that energy import dependence decreased from 43% in 2010 to 37% in 2014.¹¹³

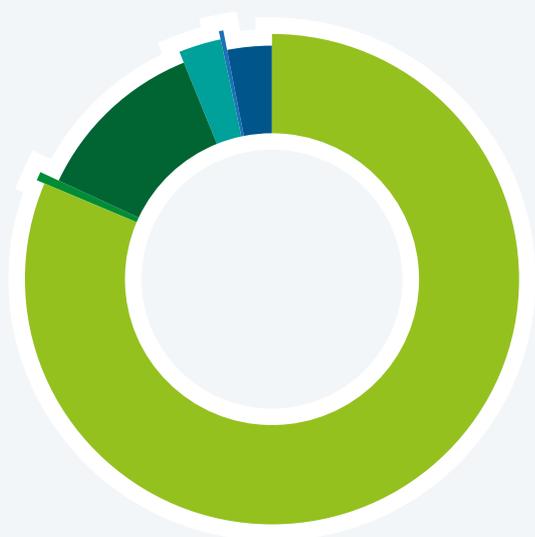
The Ministry of Agriculture claims that in terms of carbon stock and GHG balance, Latvia is one of the few countries in the world where the forest absorbs more CO₂ than is emitted. According to figures provided by the Ministry of Agriculture, it is estimated that the carbon stock [mostly forest] absorbed twice as much carbon as was emitted in Latvia in 2009.¹¹⁴ The GHG balance is, so far, still positive year by year. However, experts in the Silava Latvian State Forest Research Institute

explain that there are other issues to consider behind these declaratory claims about a positive GHG emissions balance and fuel-wood as sustainable energy. There is a risk that development of any infrastructure is at the expense of the forest. Emissions from deforestation can be compensated for only by afforestation. At the moment, deforestation emits 50 times more CO₂ than absorption by planting new trees. The forest area in Latvia is not shrinking and forest resources continue to expand, although the growth rate is decreasing and, at some point in the future, it may result in a negative carbon stock balance. But experts emphasise that a steep decrease in deforestation will result in the collapse of the timber industry and energy industry in Latvia.¹¹⁵ This year's Strategic Environmental Impact Assessment of the Energy Development Strategy 2014-2020 also points out that an increase in the consumption of renewable energy may intensify logging and have a negative impact on sustainable development of the forest sector and bio-diversity¹¹⁶.

Focusing on easily available fuel-wood has sidelined development of other RES infrastructure such as wind, solar and bio-gas. This is reflected in the allocations for the sector, with biomass being the only area receiving EU funds, ignoring other opportunities: The Latvian Renewable Energy Federation estimates that wind power potential is 1,000 MW on the Kurzeme coastline – more than a third of the existing national electrical power plant capacity. At the moment, capacity of wind power plants is 62 MW – only a small proportion of the potential. This is even more striking as other Baltic states are ahead in using their wind power potential – Lithuania had 279 MW at the end of 2014 while Estonia had 302 MW.¹¹⁷ It is estimated that investments to promote the use of local RES will result in increasing the renewable energy share in district heating systems from 18.8% [2012] to 20.7% in 2023 and such investments will provide a crucial contribution to the achievement of 40% share of RES in 2020. The background given above shows two major sustainability risks in the EU Cohesion Policy investments in RES in Latvia – negative impact on the development of a sustainable forestry sector and on biodiversity and one-sided support for biomass and lack of strategic development of other RES like wind and solar.

One of the 2020 goals set in the new Energy Development Strategy 2014-2020 [not yet adopted by the Government at the time of writing], is elimination of energy dependency by decreasing imports of energy and energy sources [natural gas, oil, coal and coke, electricity] from non-EU suppliers by 44.1% compared to 2011. The strategy emphasises the importance of importing natural gas from a variety of suppliers. From the perspective of the strategic goal to meet 40% RES by 2020, the strategy sees an important role

GRAPH 40: Renewable energy share in primary production, 2013 [source – Eurostat]



- 82% Solid biomass
- 12% Hydro power
- 3% Biodiesel
- 3% Biogas [all]
- 0.5% Wind power
- 0.08% Bio gasoline

112 <http://www.csb.gov.lv/en/notikumi/consumption-renewable-energy-sources-increases-12-over-last-ten-years-41875.html>

113 <http://www.csb.gov.lv/en/notikumi/share-fuelwood-gross-consumption-energy-resources-increased-73-41873.html>

114 https://www.zm.gov.lv/public/ck/files/ZM/mezhi/buklets/Latvian_Forest_Sector_in_Facts_and_Figures2014.pdf

115 <http://www.lvportals.lv/visi/likumi-prakse/269387-emisiju-tirdznieciba-cik-gaisa-radas-nakotne/>

116 http://www.l4.lv/upload_file/vide/Pamatnostadnes/Pamatnostadnes_vides_parskats.pdf

117 <http://www.ewea.org/fileadmin/files/library/publications/statistics/EWEA-Annual-Statistics-2014.pdf>

for RES in the reduction of energy import dependency by increasing the RES share of energy production, and therefore by decreasing the share of imported natural gas. However, since the strategy does not develop a sustainable approach to utilise the unused potential of other RES like wind and solar energy, apart from biomass, natural gas will still have the lion's share of heat and electricity production in 2020. According to the OP, strategic objective No.4.3.1. 'to promote energy efficiency and use of local RES in district heat supply' has a direct positive impact on the horizontal principle, Sustainable Development. Implementation of the horizontal principle is to be ensured by applying quality or compliance criteria and by including activities in the regulations of the Cabinet of Ministers on the implementation of the specific objective. The Ministry of Economics has not yet presented the project selection criteria and regulations on implementation of strategic objective 4.3.1. Adoption of the project selection criteria has been scheduled for December 2015, but had not taken place at the time of writing.

ENERGY EFFICIENCY IN BUILDINGS

Another potential way to increase Latvia's energy independence is energy savings through energy efficiency measures in all sectors. The highest energy losses are caused by poor energy performance in residential buildings with nearly twice as much energy consumed compared to the average household elsewhere in Europe.¹¹⁸ Government efforts to improve energy performance in the housing stock of Latvia are insufficient and Latvia fails to ensure adequate progress in renovation and insulation of residential buildings as there is weak support for self-financing schemes for increasing energy performance in buildings.

Housing stock accounts for almost half of all energy losses in Latvia.¹¹⁹ More than 60% of the housing stock across the country was built in the Soviet era and has very low energy efficiency performance. The Buildings Performance Institute Europe estimated that 43% of homes in Latvia are dwellings with leakages and damp walls and that 35% of households cannot afford adequate heating.¹²⁰ Until 2009, renovation and insulation projects were piloted. Most of them were financed by residents with support from other governments (mostly Germany) and resulted in renovation of 1-2% of the housing stock.

Since 2009, the ERDF programme 'Heating Efficiency Measures in Multi-Residential Buildings' has provided EUR 89 million and the 'Heating Efficiency Measures at Social Residential Buildings' has allocated EUR 6.9 million. The ERDF provided co-financing of 50-60% of all project costs. The remaining 40-50% had to be provided by owners of residential buildings (mostly through bank loans). Since then, there have been significant increases in funding for these activities, along with improvements in the conditions of the programme. As figures provided by the Ministry of Economics show, more than 900 projects have been implemented accounting for 2.5% of the building stock of Latvia.¹²¹

In the new EU Cohesion Policy programming period 2014-2020, the Ministry of Economics plans to invest EUR 150 million in promotion of energy efficiency in residential buildings. According to the OP, the strategic objective has a direct positive impact on the sustainable development horizontal principle. Implementation of the horizontal principle will be ensured by applying quality or compliance criteria and by including activities in the Regulations of Cabinet of Ministers on the implementation of specific objectives.

The Ministry of Economics estimates that 1,800 residential buildings will be renovated and insulated as a result of the EU CP investments, which makes up just 4.7% of the entire residential buildings stock (38,000). EU Cohesion Policy co-financing for renovation and insulation projects in residential buildings is considered by ESCOs as insufficient compared to the poor situation with energy efficiency in residential buildings. Many ESCOs are calling for a more comprehensive and strategic energy efficiency policy focusing on attracting private investments and development of a self-sufficient competitive market for ESCOs and other self-financing schemes to finance renovation of residential buildings.

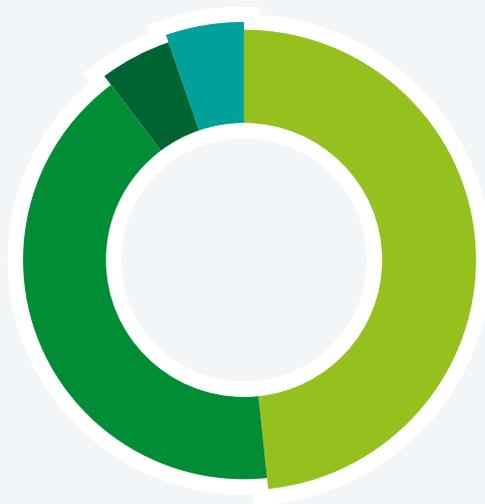
Another problem is that the current energy efficiency policy does not address the accessibility of such measures for those who are considered energy poor and cannot afford proper heating. Ongoing efforts to increase energy efficiency in residential buildings have so far brought little to no benefit for Latvia's energy poor. Neither does the Energy Union strategy in its current form promise to address energy

118 <http://zalie.lv/wp-content/uploads/2014/12/dzivojamo-eku-ee-atbalsta-pasakumi.pdf>

119 https://www.em.gov.lv/files/energetika/ies_2013.pdf

120 http://bpie.eu/uploads/lib/document/attachment/60/BPIE_Fuel_Poverty_May2014.pdf

GRAPH 41: Energy efficiency allocations by type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
● 48% EE housing	150,000,000
● 41% EE public buildings	129,251,630
● 5% EE SMEs	16,277,515
● 5% EE large enterprises	16,277,515

poverty as a structural issue in a way that could shield vulnerable citizens through social policies.

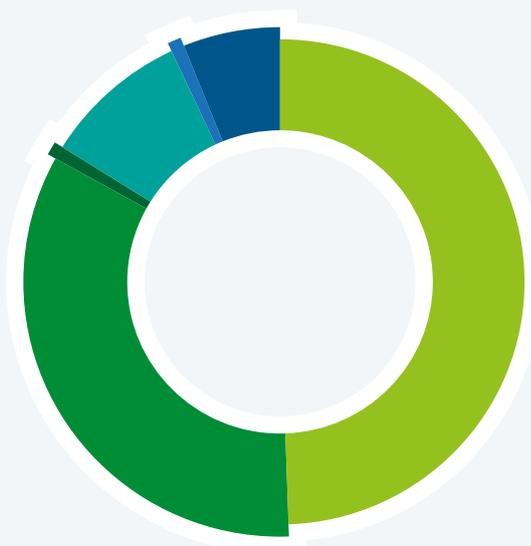
INVESTMENTS IN THE TRANSPORT SECTOR

Total direct EU Cohesion Policy investments in the transport sector make up EUR 1.3 billion, which accounts for 30% of all funds. More than half of transport investments will be invested in reconstruction and building roads (intervention fields TEN-T Reconstructed or improved road and Other reconstructed or improved road) – EUR 654.5 million. Investments in these two intervention fields do not support climate change mitigation.

The second biggest investment support is allocated to railways - EUR 453 million [see Graph 42].

The existing infrastructure will be upgraded (electrified) and new infrastructure will be created, including traffic management systems and optimisation of control equipment, depending on the level of European Train Control System (ETCS) implementation. The passenger infrastructure will be upgraded, and the alarm system will be upgraded. Electrification of main railway lines is aimed at reducing total costs of railway corridors, increasing competitiveness, attracting additional cargo, decreasing external costs and environmental load, and ensuring compatibility with EU transportation policy and long term objectives. The action is to have a direct positive influence on climate change mitigation objectives: The halving of CO₂ emissions in railway transportation is indicated as one of the specific result indicators – from 164,821 t of CO₂ in 2012 to 82,141 t in 2023,¹²² which seems very ambitious.

GRAPH 42: Share of transport modes in total transport funding in Lithuania. Source: our own calculations based on approved Operational Programmes according to categories of intervention

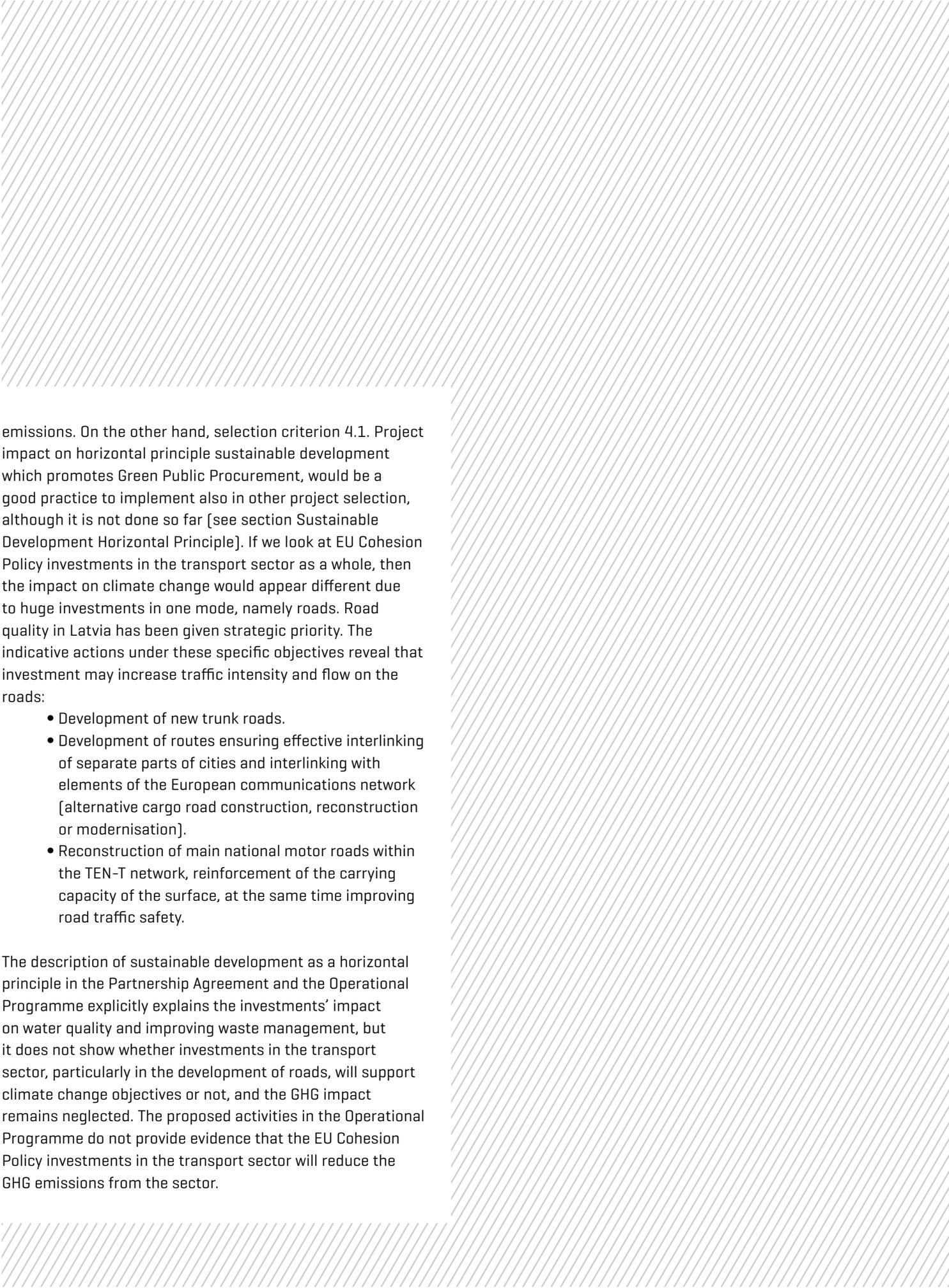


	euro
● 50% Roads	654,511,223
● 34% Railways	453,927,366
● 9% Clean urban	115,609,367
● 6% water ways, ports	74,112,625
● 1% airports	11,484,765
● 1% multimodal	7,093,340

On 25.09.2015, the EU Funds' Monitoring Subcommittee for priority 6 'Sustainable transportation system' approved project selection criteria for strategic objective 6.2.1. 'To ensure a competitive and environmentally friendly TEN-T network promoting its safety, quality and capacity'. Criterion 2.4. refers to reduction of GHG emissions – implementation of activities contributing to the reduction of GHG emissions. Neither the project selection criteria, nor the methodology of implementation of selection criteria approved by the Subcommittee explain what activities would reduce GHG

121 www.ekubirojs.lv/download.php?f=2_zgalinska_em.pdf

122 http://www.esfondi.lv/upload/Planosana/FMProg_270115_OP_ENG_2.pdf



emissions. On the other hand, selection criterion 4.1. Project impact on horizontal principle sustainable development which promotes Green Public Procurement, would be a good practice to implement also in other project selection, although it is not done so far [see section Sustainable Development Horizontal Principle]. If we look at EU Cohesion Policy investments in the transport sector as a whole, then the impact on climate change would appear different due to huge investments in one mode, namely roads. Road quality in Latvia has been given strategic priority. The indicative actions under these specific objectives reveal that investment may increase traffic intensity and flow on the roads:

- Development of new trunk roads.
- Development of routes ensuring effective interlinking of separate parts of cities and interlinking with elements of the European communications network [alternative cargo road construction, reconstruction or modernisation].
- Reconstruction of main national motor roads within the TEN-T network, reinforcement of the carrying capacity of the surface, at the same time improving road traffic safety.

The description of sustainable development as a horizontal principle in the Partnership Agreement and the Operational Programme explicitly explains the investments' impact on water quality and improving waste management, but it does not show whether investments in the transport sector, particularly in the development of roads, will support climate change objectives or not, and the GHG impact remains neglected. The proposed activities in the Operational Programme do not provide evidence that the EU Cohesion Policy investments in the transport sector will reduce the GHG emissions from the sector.

CZ

Bring on the money, don't ask for results

**Climate action in EU Cohesion Policy
funding for the Czech Republic, 2014-2020**

Despite the Partnership Agreement and Operational Programmes in the Czech Republic describing the shift to a low-carbon economy and offering record levels of energy efficiency, EU funding will not change the carbon-intensive pathway that the country is bound to. This is due to little coordination and inappropriate planning and monitoring. Support for fossil fuels, low levels of climate mainstreaming and negligible support for a limited number of renewables make the transition to the low-carbon economy from EU funds unattainable.

KEY FINDINGS

- Energy consumption is planned to stagnate and the rate of renewables installations will drop, according to the National Energy Policy.
- The Partnership Agreement deals with climate change mitigation, but it is missing a coordinated strategy for low-carbon development, especially in the sectors of renewable energy and smart grids.
- Fossil fuel use is widespread, whether coal in the case of boilers in individual households or natural gas boilers in energy efficiency projects.
- Boiler exchanges replacing old coal boilers with newer coal boilers are allowed in all areas with increased air pollution in the country, which in practice means almost the entire country.
- The potential of the EU funds to catalyse a large-scale shift from the use of coal boilers in the country is underutilised.
- The Czech Republic will spend an unprecedented amount of money on energy efficiency, still its compliance with the EU energy savings target is at risk.
- Few and incomparable indicators and weak targets show a lack of accountability regarding the performance of EU funds in the low-carbon area.
- Allocation of funds to renewable energy is negligible and very selective in its support for renewables.
- At the same time, the ban on combining investment with operational support makes the renewable energy business model impossible.
- The biggest of the Operational Programmes, Transport, lacks any climate or energy related targets.
- Some measures have a potential to contribute to transport sector decarbonisation, but the Partnership Agreement and the Transport Operational Programme fail to address the mitigation potential and to identify necessary steps to include climate considerations in transport funding.
- Compliance with sustainable development is a condition in infrastructure projects, but criteria are vague and do not distinguish between good and bad projects.
- Innovations are not focused on low-carbon development.

INTRODUCTION

Despite privatisation, liberalisation and the reforms brought by European legislation, energy generation and distribution are still strongly centralised in the Czech Republic, and the interests of the biggest players have a strong influence over policy making in these areas.

The trends spearheaded in Western countries and supported by EU energy policy have not yet quite made it to the Czech Republic. With binding climate and energy targets from the EU mandatory, the country has at least tried to soften the impacts on its powerful, export-oriented energy sector. These attempts brought in derogations from EU ETS auctioning, providing electricity generators with free allowances, implementing the Energy Efficiency Directive only through 'alternative' schemes or liberalising the distribution system which left the grid in 11 out of 14 regions in the hands of the major state-owned electricity generator ČEZ.

It is therefore no surprise that despite some wording about the importance of climate change mitigation in the Partnership Agreement, and in spite of high allocations for energy efficiency and the overall importance of EU funds among public investments in the country, funding from the European Structural and Investment Funds in the programming period 2014-2020 will do little to alter the high carbon pathway in the Czech Republic.

The most striking example is the recent government decision to open new areas of Northern Bohemia to lignite mining. This unprecedented step overturns the protection of the region from further devastation which was agreed shortly after the end of the communist regime in Czechoslovakia, where environmental protests against air pollution from mining and industry were one of the strong sources of dissent that led to the 1989 Velvet Revolution. The main reason for this decision was an alleged lack of lignite for district heating systems, despite all the investments in the energy efficiency of buildings, heat sources and distribution.

HIGH INTENSITY, DIRTY MIX

About 50% of primary energy production is covered by domestic sources, primarily coal, which serves as a fuel for more than 60% of electricity generated. It also provides most of the heat both in district and individual heating. Nuclear sources cover about 33% of electricity generation.¹²³

Natural gas is important in heating, covering 27% of households using individual heating and 10% of district heating systems. Consumption of gas has declined by 20% in the last ten years despite 800,000 new connections to the grid, and this is due to improved energy efficiency, the reduction of gas consumption in industrial production and the increasing gas price.

In 2013, renewable energy provided 12.4% of final energy consumption, close to the country's 2020 target of 13%. After the rapid development of solar sources in recent years, the current rate of renewable installations is low in the country.

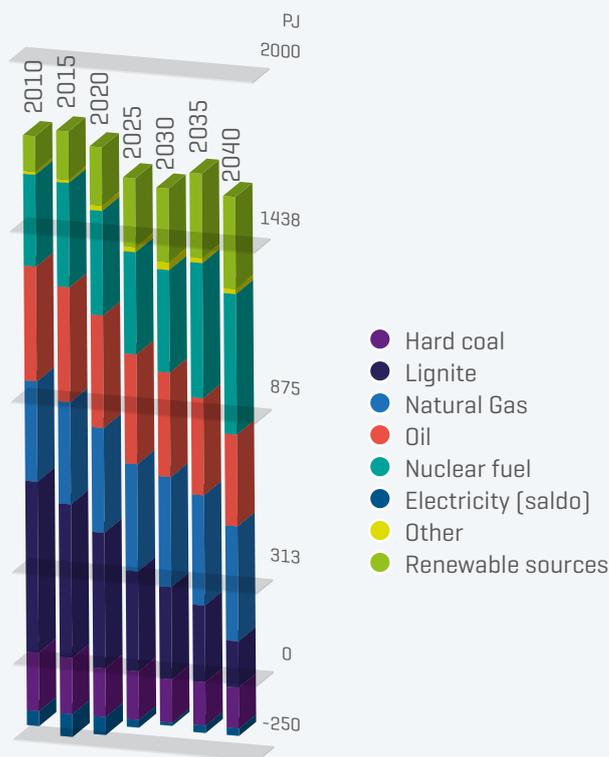
The transmission grid is strongly interconnected with those of neighbouring countries, the ratio of transmission capacity to maximum load is 35% for exports and 30% for imports.

The economy of the Czech Republic is very energy intensive: at 0.354 toe/1,000 Euro GDP¹²⁴, it is the third most energy intensive country in the EU according to 2013 Eurostat data [see Graph 6 Energy intensity of the economy].

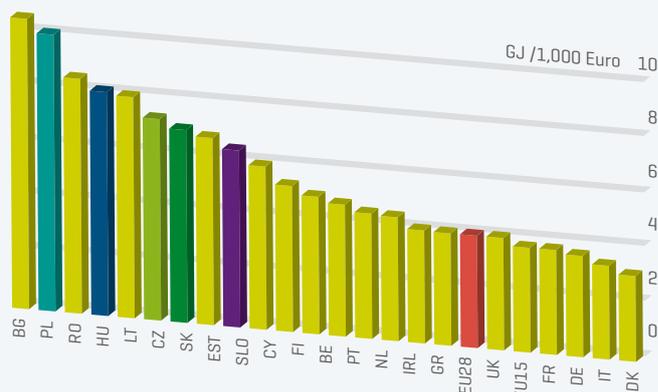
In terms of greenhouse gas emissions, the situation is similarly bleak: at 10.6 tCO₂ per capita annually, the country is again the third worst in the EU.

One can argue that the high share of industry in the sectoral division of Czech GDP (the highest in the EU) is the reason, but even when this sectoral division is normalised over the EU-28, the Czech Republic scores the sixth worst.

GRAPH 43: Energy mix of the Czech Republic. Source: National Energy Policy



GRAPH 44: Energy intensity of EU-28 with constant sectoral division in 2011. GJ /1,000 Euro. ¹²⁵



Note: Sectoral division is not available in all countries, therefore they are not included in the graph

¹²³ National Energy Policy 2015. <http://download.mpo.cz/get/52841/60959/636207/priloha006.pdf>

¹²⁴ Source: Eurostat. <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&plugin=1&language=en&pcode=tsdec360>

¹²⁵ The Government office, 2014: Energy Efficiency Measures and their Impacts on the Czech Economy. http://www.vlada.cz/assets/evropske-zalezitosti/analyzy-EU/SEZUV-2014-3_Opatreni_na_zyseni_energeticke_ucinnosti_a_jejich_dopady_na_ceskou_ekonomiku.pdf

ENERGY SECTOR DEVELOPMENT: FREE RIDING THE LOW-CARBON WAVE

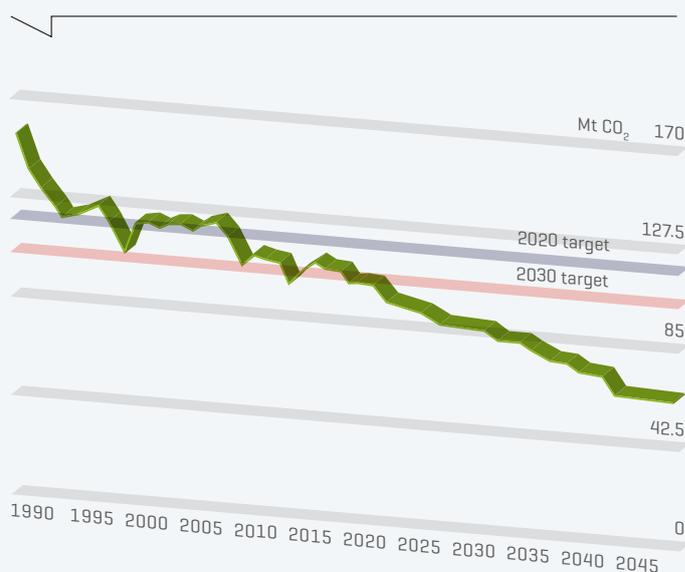
Initiated in 2009, the National Energy Policy (NEP) was finally approved in 2015, setting the direction of the sector until 2040. The policy fails to properly address energy efficiency and renewable potentials and is heavily skewed by the fact that stakeholders from these sectors have been left out of the preparation process. The policy strays far from what would correspond to the Czech fair share of greenhouse gas emissions reductions, taking into account GDP and high historical and current emissions of the country. In 2040, CO₂ emissions should only decrease by 35% compared to 2015, or 51% compared to 1990.

Although the policy names several instruments to increase energy efficiency and save energy in various sectors and despite planned investments into energy efficiency, final energy consumption will be mostly stable from 2015 to 2040. Surprisingly, this is good news and something new to energy planning in the country – so far, similar strategies have always been based on increases in energy consumption.

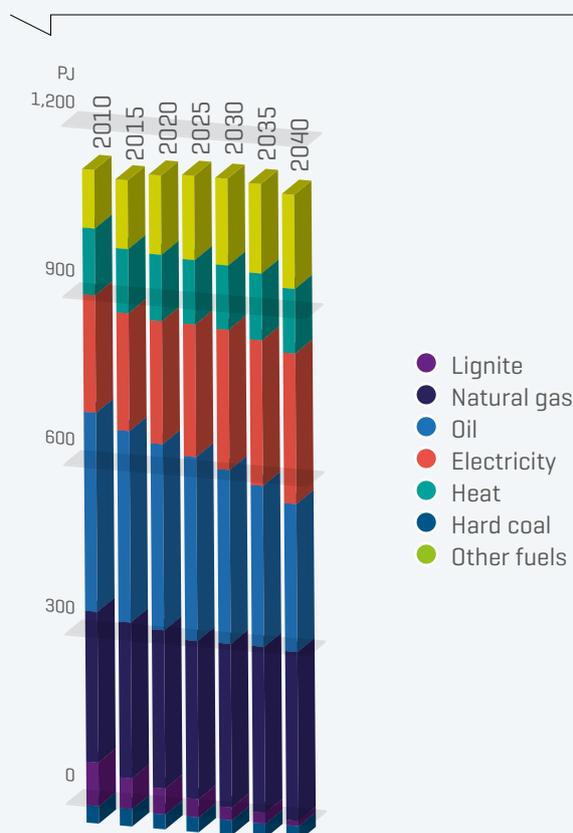
While the share of lignite in primary energy production will decrease (still 8.5% of the energy mix in 2040), the role of nuclear fuel will sharply increase. Gas will be more important as well. Renewables and secondary fuel (mostly waste) will account for 17% of the energy mix in 2040. Biomass (including biodegradable waste burned in waste incinerators) will make up for 67% of renewable energy sources. The installed capacity of electricity generation will slightly increase with nuclear, renewables and gas replacing lignite and hard coal. According to the policy, the country will continue to export electricity and increase its installed power. Energy efficiency, despite important gains, will be undercut by increases in energy consumption in the transport and production sectors. Centralised sources, especially nuclear energy, remain the main electricity generation capacities in the country.

The main driving forces in the energy sector – electricity and gas prices, the unpredictability of policy developments, a lack of feed-in tariffs for most renewables, new nuclear capacities, decisions about the volumes of coal to be mined and land use for biomass and agrofuels are outside the area of influence of the ESIF.

GRAPH 45: Projected CO₂ emissions from combustion sources. Source: National Energy Policy.



GRAPH 46: Development and structure of energy end use. Source: National Energy Policy.



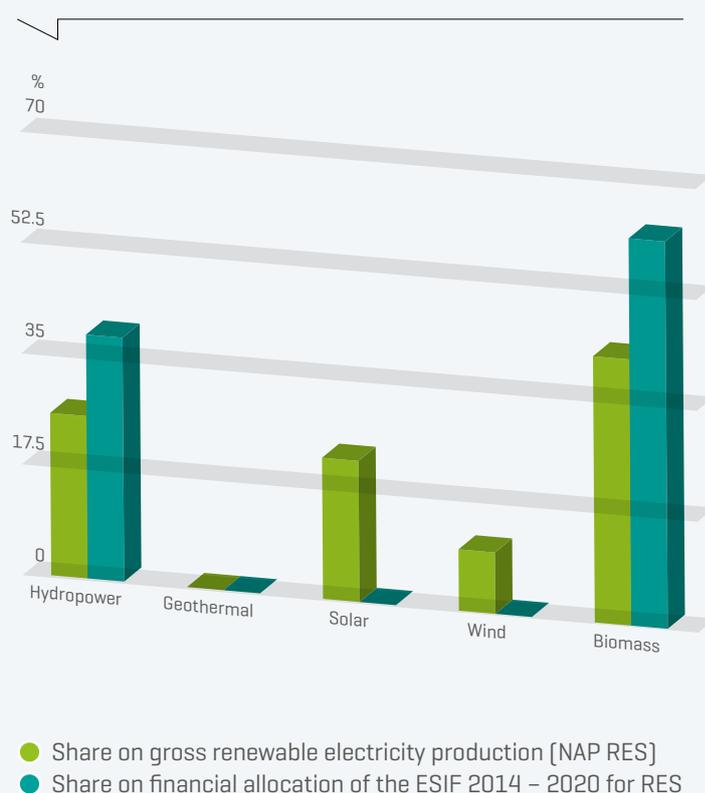
Regarding the Europe 2020 emissions reduction target in the non-ETS sector, which is mostly the focus of the EU funds, the Czech Republic is allowed to increase emissions in sectors not covered by the ETS by 9% by 2020 compared to 2005 levels. However, between 2005 and 2012, emissions were reduced by almost 1%,¹²⁶ and the target will most probably be reached without additional measures. While compliance with this target could be achieved without particular targeted emissions reduction efforts, the country continues to oppose EU climate policies.

RENEWABLE ENERGY TARGET: SO FAR AND SO CLOSE

The renewable target for 2020 is 13% of final energy consumption, which is likely to be fulfilled. The rates of installation of new renewables, however, show strong irregularities. Until 2011, feed-in tariffs were generally used to provide support for all kinds of renewable sources. However, the drop in price of photovoltaic technology was not countered with an appropriate feed-in tariff modification, leading to the situation known as a ‘solar boom,’ where guaranteed support had a big impact on the public budget. To appease critics, the government opted for a strong counter-reaction which not only stopped the feed-in tariff for solar but resulted in the cancelling of or severe limitations on almost all forms of support for renewables.

The National Renewable Energy Action Plan¹²⁷ includes an estimation of installed capacity expected from each renewable energy technology in the Czech Republic to meet the binding 2020 target. According to this estimation, installed capacity of wind energy, for example, should steadily increase from 493 MW in 2015 to 743 MW in 2020. In reality, only 278.1 MW¹²⁸ was installed in 2014, and low operating support, no investments planned from the ESIF and administrative barriers suggest that the country will stay very far from the planned values. Values for solar photovoltaics have already been exceeded by far, with planned 1,695 MW of installed capacity in 2020, while in reality 2,068 MW has already been online in 2014. The sharp

GRAPH 47: Share of renewables in the 2020 target versus the share of financial allocations for renewables



increase in capacities was led by massive fields of solar panels often installed on greenfield sites: in 2013, there were 610 photovoltaic plants with installed power of 1 MWp¹²⁹ or more, providing 72% of total installed capacity for photovoltaics.

The potential of small installations on rooftops remains underutilised. After years when support was not available, the situation is starting to change. In 2015, the new Green for Savings programme opened its first call for projects where photovoltaics on rooftops of family houses will be supported. Three operational programmes will enable energy efficiency in buildings to be accompanied by photovoltaic installations.

¹²⁶ Eurostat: Europe 2020 Headline indicators. <http://ec.europa.eu/eurostat/web/europe-2020-indicators/europe-2020-strategy/headline-indicators-scoreboard>

¹²⁷ Ministry of Industry and Trade: National Renewable Energy Action Plan. 2012. https://ec.europa.eu/energy/sites/ener/files/documents/dir_2009_0028_action_plan_czechrepublic.zip

¹²⁸ Energy Regulation Authority: Annual Report on the Electricity System of the Czech Republic. 2014. http://www.eru.cz/documents/10540/462820/Rocni_zprava_provoz_ES_2014.pdf/933fc41a-ad79-4282-8d0f-01eb25a63812

¹²⁹ Photovoltaic plant with 1 MWp capacity occupies roughly 1 hectare of land

Biomass and hydropower already have the highest share (Graph 48) of renewable electricity production. Their further exploitation has limits: in the case of hydropower, the vast majority of its potential has already been used and, in the case of biomass, natural limits of sustainable sourcing of biomass need to be taken into consideration. Though these are the renewable sources that do receive EU funds' support, this puts the sustainability of the overall RES development strategy into question.

ENERGY EFFICIENCY TARGET: A LOT IS NOT ENOUGH

Indicative national energy efficiency target amounts to 47.78 PJ of total new savings on final energy consumption to 2020. With this target in mind, energy saving measures are intended to bring new savings amounting to 6.83 PJ each year, bringing cumulated new savings of 191.10 PJ at the end. The Czech Republic opted for the so called 'alternative measures' within the framework of the Energy Efficiency Directive to comply with this target, consisting above all of financial support for energy efficiency measures through the Operational Programmes of the ESIF and through the New Green for Savings program financed by EU ETS revenues.

Despite the unprecedented allocation of EU funds towards energy efficiency in buildings and industry, the slow adoption of the Operational Programmes and late disbursement of funds has led to a situation where the target will not be

reached. Graph 50 from a recent presentation of the Ministry of Industry shows the development towards the target.

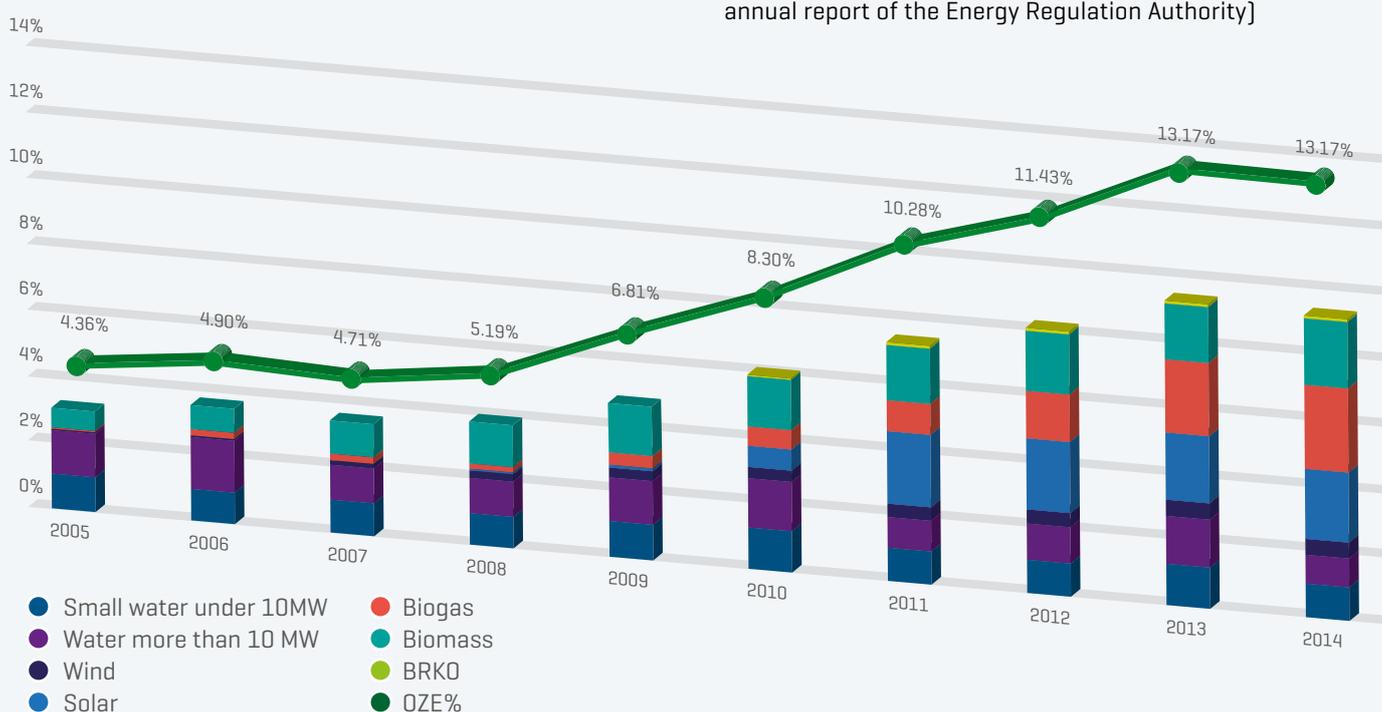
2030 TARGETS: PATHWAY LOST

With the legislative changes in the Czech Republic related to the EU's 2030 climate and energy package unclear, it is impossible to judge what will be the country's contribution to meet them. However, expected developments can compare with the ambition in the 2030 framework.

The only binding target that will be distributed among the Member States is the 40% cut in greenhouse gas emissions compared to 1990 levels. Regardless of the division of efforts among Member States, the Czech Republic once again will not face problems, given the chosen baseline year and the history of economic transformation. Comparing the efforts needed for compliance with the target, it can be concluded that for the Czech Republic, the target is not ambitious and no special effort will be needed to reach it. The emissions reduction potential thus remains underutilised.

The European Council set an EU-wide target of 27% share of renewable energy consumed by 2030. The Czech National Energy Policy outlines that renewable sources will comprise only 14% of primary energy sources in 2030. In 2020, the 13% target of final energy covered by renewables corresponds to an 11% share of renewables in primary energy sources. While the EU wants to increase

GRAPH 48: Development of gross electricity generation from renewables and share on total brutto consumption.



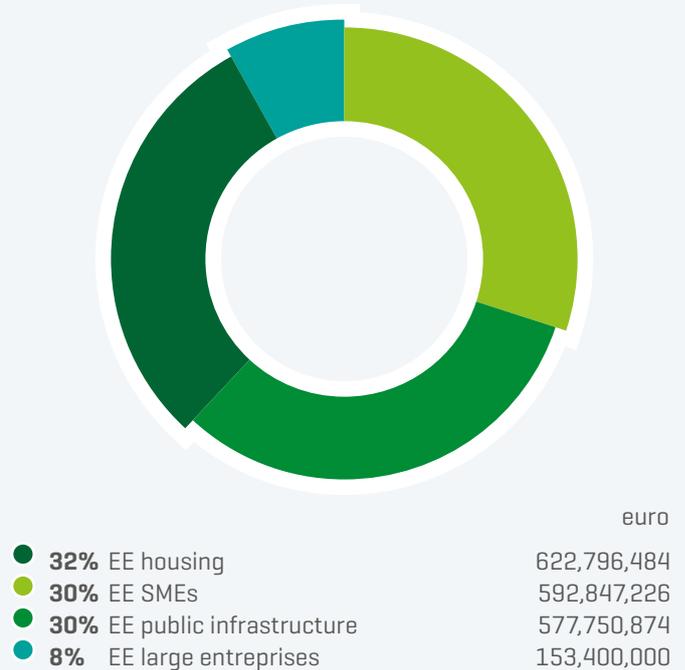
[Legend 1st line: small hydro up to 10 MW, hydro above 10 MW, wind, photovoltaics. 2nd line: biogas + waste gas, biomass, biologically degradable waste, share of RES (%). Source: 2014 annual report of the Energy Regulation Authority]

the renewables share to 35%, the Czech Republic will only increase to 18%.

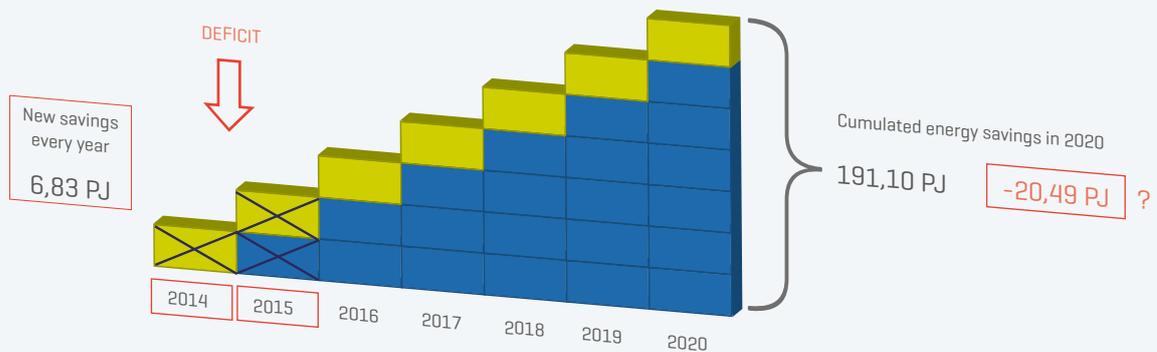
What is more striking is the curve of development of new renewables towards 2030: even though between 2010 and 2015, renewable energy production increased by 42.3 PJ, this amount gradually decreases and between 2025 and 2030, renewable production should increase only by 24.3 PJ. The policy supposes that the rate of installation of new renewable capacities will decrease over time. For a sector going through sharp technology development and price decreases, this is a surprising assumption.

The 2030 climate and energy framework also sets a target of 27% for improving energy efficiency compared to a business-as-usual scenario. Again, in the Czech National Energy Policy, this is an ambitious figure. The policy counts a final energy consumption increase of 1.5% between 2015 and 2030, despite the energy efficiency measures included in it. Looking further ahead, the Commission's Energy Roadmap 2050 provides guidance on how the EU should fulfill its commitment to keeping the global temperature rise below 2° C. Emissions reductions of 80% below 1990 levels will be necessary for this in 2050, with a 2040 milestone of 60% reduction. In the Czech Republic, this reduction will be about 54% in 2040. The National Energy Policy does not cover 2050, but looking at the projected CO₂ emissions from combustion sources [Graph 45], the country will not be able to take a

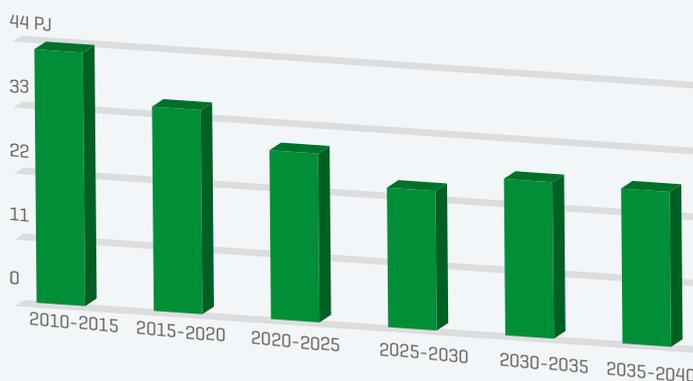
GRAPH 49: Energy efficiency allocations by type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



GRAPH 50: Calculation of annual savings contributing to the overall target and the deficit of savings due to late start of the OPs. Source: Ministry of Industry and Trade. 2015



GRAPH 51: Increase of primary energy production from renewables over five-year interval [in PJ].



sharp turn and cut its emissions by another 43%¹³⁰ in just 10 years.

ALTERNATIVE ENERGY SCENARIOS ARE POSSIBLE

We can also compare the level of the low-carbon ambition of the National Energy Policy with other energy scenarios. In 2012, the Wuppertal Institute elaborated a realistic scenario for the decarbonisation of the economy based on well-documented estimations of efficiency and renewables potentials. The resulting study, called Smart Energy, concludes: in the Smart and Consistent scenario, renewable energy sources would provide 455 PJ of energy annually in 2050, covering 68% of final energy consumption. CO₂ emissions would be cut by 80% already in 2040, while in 2050, they would represent only 9% of 1990 emissions. Most importantly, final energy consumption would decrease in 2020 by 12% from current levels, by 27% in 2030, by 47% in 2040 and by 71% in 2050. This sharp decrease in energy

consumption is a precondition for the other two, the share of renewables and greenhouse gases reduction.

FUNDING EMISSIONS AS USUAL: CLIMATE MAINSTREAMING IN EU FUNDS IN THE CZECH REPUBLIC

The outline of the energy sector in the previous chapter highlights an energy-intensive economy with centralised generating installations, a slow uptake of modern technologies and a low use of efficiency and renewables potentials.

Despite the role that EU funds have in the Czech economy, representing 55% of total public investments, the presumed focus on the low-carbon economy and even record levels of funding for energy efficiency, the results of the 2014–2020 funding period will do little to improve the Czech energy trajectory. The reason for this stems from a lack

TABLES 8, 9, 10: Comparison of the National Energy Policy scenarios with the Smart Energy scenarios

CO ₂ emissions in MtCO ₂	Baseline 1990	2020	2030	2040	2050
EU target applied to the CZ baseline	160	128	96	64	32
National Energy Policy	160	108	97	74	
Smart Energy [CO ₂ emissions only]		76.9	52.5	31.4	14.6

Renewable energy primary production in PJ	2020	2030	2040	2050
National Energy Policy	195.6	247.5	299.8	
Smart Energy	256	329	389	455

Final energy consumption in PJ	2020	2030	2040	2050
National Energy Policy	1,043.1	1,050.9	299.8	1,033.3
Smart Energy	1,018.2	904.1	779.8	668.8

130 Value calculated as emissions reduction from 2040 values planned by NEP and 80% reduction from 1990 levels.

of commitment of public authorities to renewables and efficiency. This lack of commitment is clearly demonstrated in the National Energy Policy and is copied in the Partnership Agreement as well. The most important consequence is the lack of a clear strategy in the Partnership Agreement and a systematic approach to transforming the energy sector.

PARTNERSHIP AGREEMENT

The Partnership Agreement¹³¹ approved by the European Commission on 26th August 2014 is based on national development priorities¹³² determined by the government as a base for the entire programming process for 2014–2020 and shows clearly where the interests of the government lie. There is no mention of a low-carbon economy, nor any single reference to anything vaguely related to the environment, the use of materials and natural resources or energy efficiency.

National development priorities

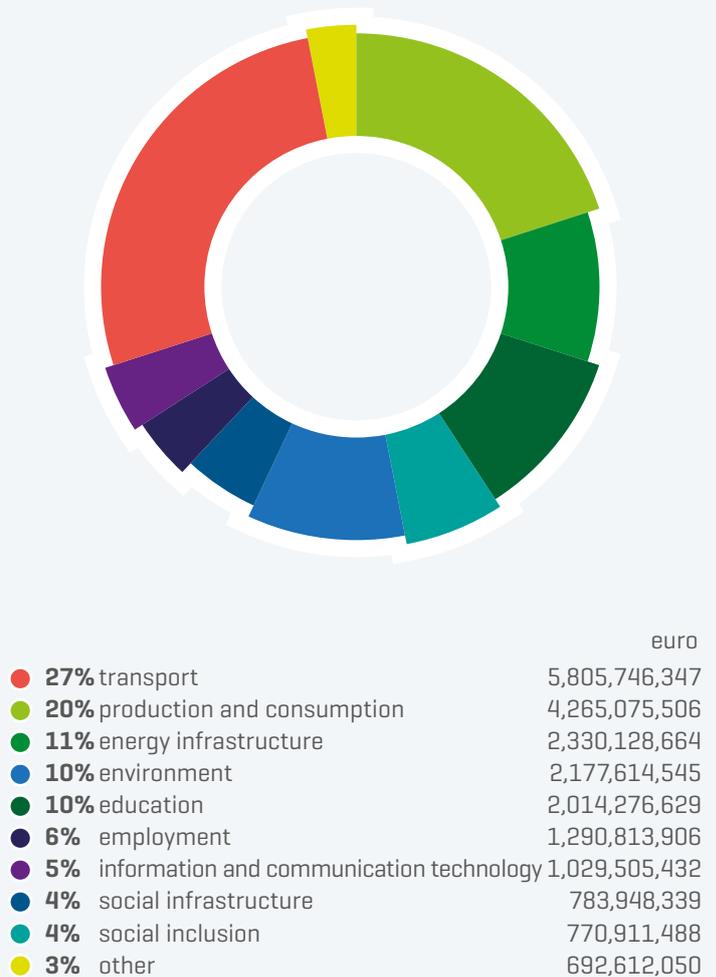
- Increasing the competitiveness of the economy [development of business, labour market, education, innovation, research and development].
- Development of core infrastructure.
- Improving the quality and efficiency of public administration.
- Promoting social inclusion, the fight against poverty and the healthcare system.
- Integrated territorial development.

CLIMATE RELATED PARTS OF THE PARTNERSHIP AGREEMENT

The Partnership Agreement mentions climate change mitigation, energy efficiency and renewable sources in several places. Despite the prominent position mitigation measures play in the document, in reality, several shortcomings in the Partnership Agreement itself and between the agreement and other documents clearly show the lack of strategic approach, which later appear in the Operational Programmes and their calls for projects. The development needs analysis of the Partnership Agreement claims 'Mitigation measures can be achieved mainly by energy savings and by using renewable energy sources.'

The agreement references the Europe 2020 climate and energy objectives, but fails to identify the facts that were already well known at the time of its adoption: the fulfilment of the emissions reduction target and the near fulfilment of the renewable one. On the other hand, it focuses on the high energy intensity of the economy: 'the partial aim of the Czech Republic is thus getting closer to the EU average [energy intensity] in 2005, which was 10.5 t CO₂ eq., while in the Czech Republic it was 12.7 t CO₂ eq. in 2011. The strategy fails to set a pathway

GRAPH 52: Investment areas of Cohesion Policy funds in the Czech Republic. Source: our own calculations based on approved Operational Programmes according to categories of intervention



for energy efficiency improvements that would be sufficient to overcome this gap. It also fails to identify measures that would use the full renewable and mitigation potentials even beyond the 2020 targets.

The paradox of increasing electricity consumption despite energy efficiency measures repeats itself in the Partnership Agreement. Here, it serves to legitimise investments in distribution and transmission grids: 'A slow gradual increase in power consumption is visible in the entire Czech Republic [...] This results in the increased need for transformation output of the transmission/ distribution systems.' There is a single state-owned transmission operator [ČEPS] and just three distribution grid operators, which are monopolies in their respective regions [ČEZ, RWE and PRE]. Rather than transforming the grid to connect new renewables and save energy, EU funds are used to support further increases in capacities for these monopolies.

131 Ministry of Regional Development: Partnership Agreement for the Programming Period 2014–2020, Czech Republic <http://www.strukturalni-fondy.cz/getmedia/92b600c0-fa29-4467-a758-9696268dcefb/CZ-PA-adopted-by-EC-20140826.pdf?ext=.pdf>

132 National development priorities were set by Government Resolution No 650/2011.

In terms of energy production, the agreement identifies the high dependency on non-renewables and seeks solutions to the increase of share of renewables, but only for selected ones: biomass, biogas and bioethanol and small hydro. For others such as wind or solar, the PA looks for excuses and repeats the mantra of ‘low exploitable potential of renewable energy sources’. It lacks mention of solar energy potential and comparisons with countries that have sharply increased installed power in solar photovoltaics in similar geographic areas like Germany.

Despite identifying renewable energy as a solution for reducing greenhouse gases emissions, the Partnership Agreement does not integrate energy infrastructure plans with climate change mitigation requirements and, on top of it, shows discrepancies even with some of the domestic strategies.

In comparison with the National Energy Policy, which praises the country for its grid interconnections (the country is the seventh major electricity exporter in the world), the Partnership Agreement claims that ‘the interlinking of the Czech energy networks with those of neighbouring countries [mainly in the north-south direction] is not sufficient.’¹³³

Moreover the climate change mitigation part does not include a list of development needs in all other sectors. Instead, it reads: ‘Mitigation measures are addressed in detail in the problem areas: competitive businesses, transport infrastructure and accessibility/mobility, energy infrastructure and environmental protection.’

Indeed, the competitive businesses or infrastructure parts deal with energy efficiency, renewables and smart grids, but as described above, these measures follow their own logic, not necessarily that of climate change mitigation. The lack of a strategic approach towards mitigation is here clearly illustrated.

LACK OF CLIMATE CHANGE MAINSTREAMING INTO OTHER PRIORITIES

The Partnership Agreement as a whole pays little attention to coherence of the strategy and its different parts.

Although the Competitive Businesses priority analysis reads ‘The Czech economy is currently at the threshold of transferring to competitiveness based on innovations’ and ‘It

is also essential to decrease energy and material intensity’¹³⁴, strategic guidance on how to best use the innovations to improve energy efficiency is missing. This section identifies the need to develop sectoral innovation centres that offer specialised technical services, but again, it fails to identify that the Czech Republic, with its highly-developed manufacturing and energy sectors, is ideally positioned to be a leader in energy innovation. The main reason why businesses should become more efficient in energy use, according to this part of the agreement, is not the competitive advantage in quality and innovation, but simply the burden of a high electricity price, which is, however, driven high by state regulation, not by power price.

In the Infrastructure section, the unfinished backbone of the transport network is the number one priority. Both TEN-T railway and motorway connections will be supported. While the agreement acknowledges that most of the TEN-T railway corridors have already been modernised to the target speed of 160 km/h, it fails to draw conclusions about what this means for the construction of more motorways. For example, the Prague-České Budějovice link is almost finished, but at the same time, planning of two parallel motorways [D3, R4] is ongoing, despite strong public protest.

Although some of the measures, such as rail infrastructure, urban intelligent transport systems and cycling infrastructure, have the potential to contribute to transport sector decarbonisation, the Partnership Agreement completely fails to address the mitigation potential and to identify necessary steps. In this regard, it is in line with the National Energy Policy that, for the next ten years, counts on continuous increases in energy consumption in the transport sector. Similarly, the transport infrastructure part fails to address the issue of air pollution from transport.

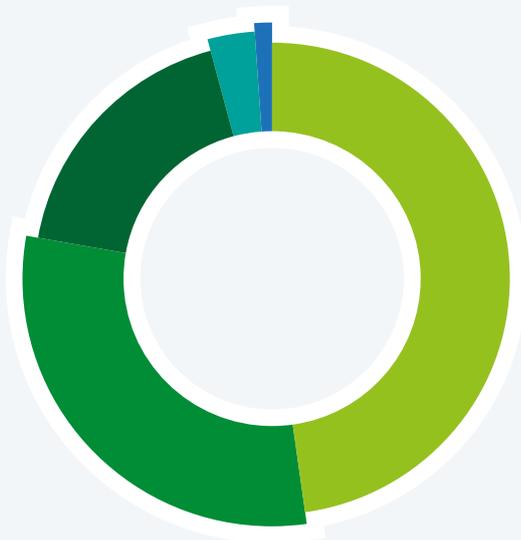
The result of these omissions is clearly visible if we look at the division of the allocations for transport in the Czech Republic in the following graph. Road transport, the most carbon intensive of all supported modes, receives almost half of the allocation.

It is also interesting to see that the Partnership Agreement mentions the development of cycling infrastructure, but we can find no financing allocated. In the Operational Programmes, cycling infrastructure will have to compete for the same finance in the urban low-carbon development with

133 Partnership Agreement, pg. 62

134 Partnership Agreement, p. 40

GRAPH 53: Share of transport modes in total transport funding in the Czech Republic. Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
● 48% roads	2,765,516,420
● 30% railways	1,764,577,190
● 18% clean urban/regional	1,036,913,615
● 3% multimodal	177,894,853
● 1% water ways, ports	60,844,269
● 0% airports	0

CNG buses or intelligent traffic lights. Pedestrian transport and its role in urban development are not mentioned at all in the Partnership Agreement.

HORIZONTAL PRINCIPLES FLOATING IN SHALLOW WATERS OF IMPLEMENTATION

Implementation of sustainable development includes climate protection as one of its principles. Yet, in the context of the Czech Republic, this principle does not bring any real change to the priorities and the ways in which EU funds will be spent. The Partnership Agreement by 'links climate to other actions: 'it will be effective to prioritise synergistic actions that simultaneously reduce the emissions of substances risky to health.'

This provision is, however, weakly implemented in the Operational Programmes. Air pollution measures such as boiler exchanges, for example, enable the financing of coal boilers. This prioritisation of synergies between air pollution and climate actions is only provided by a subsidy bonus of 10 percentage points in favour of biomass boilers, which is insufficient and does not motivate consumers to switch

from coal after decades of using it. Other synergies, such as coordination between biomass production and its use for energy purposes in order to improve the sustainability of biomass and shorten transport distances are not in place.

The section on climate protection also mentions the CO2MPARE tool for the assessment of effectiveness of interventions in terms of greenhouse gas emissions. This instrument was only added to the agreement after NGO pressure and its effect is minimised as it is only left for mid-term and ex-post evaluations. The opportunity to use it for strategic decision-making on climate protection measures was left unused, despite the fact that the data for the Czech Republic was available.

Spatial planning is another principle of sustainable development, however, it fails to mention the role of clean energy transition strategies and plans in territorial development.

Environmental aspects of public procurement should strengthen the sustainability of EU funds implementation. But the text of this principle is basically just a list of references to EU and national regulation on public procurement without any requirements for conditions that would lead to greening of public procurements.

LACK OF STRATEGIC APPROACH TO CLIMATE CHANGE MITIGATION

The failure to include properly identified and reasoned development needs under the mitigation chapter is a good illustration of the lack of a strategic approach.

Energy efficiency measures are spread across four different Operational Programmes: Enterprise and Innovation for Competitiveness, Environment, Integrated Regional and Prague - Pole of Growth. This breakdown makes coordination between the various programmes difficult.

Energy efficiency criteria and indicators differ in each of the programmes. Coordination of these measures is difficult due to strict sectoral divisions that the managing authorities maintain. Only recently, after the risk of potential non-compliance with the energy end-use savings target under the Energy Efficiency Directive, a new energy efficiency coordination body was established at the Ministry of Industry and Trade. This coordination is, however, only starting now, so its influence on the most important part of programming and implementation of the programmes will be absent.

Similarly, renewable energy support is scattered around the programmes. While there is a dedicated specific target under Enterprise and Innovation for Competitiveness, renewables will be part of the efficiency measures mentioned above. The lack of expertise on renewable energy among managing authorities which normally do not deal with this issue, leads to a situation when selection criteria in programmes combining energy efficiency and renewables are not optimised.

SETTING THE TARGETS, MONITORING THE IMPACTS

In order to be able to monitor EU funding for climate change mitigation, the Operational Programmes include a set of output and outcome indicators. Outcome indicators show the progress of the whole country, but do not track how much of that was actually achieved by EU funds. Surprisingly, output indicators that show real change delivered by EU funds are often missing. The problems the Czech Republic are currently facing with the energy savings target is caused by the improper measurement and accounting of energy savings.

Below, we list the climate-related output indicators of the four most relevant programmes. It is surprising how few they are and how incompatible and incomparable they are. Some of them (like the number of households with improved energy classification) do not provide any idea of the volume of savings, despite the fact that this data could be easily retrieved from the energy labels of the buildings. Note also that the biggest of all programmes, Transport, lacks any climate or energy-related targets. Therefore we only include a list of selected indicators at least vaguely related to climate change.

Through a lack of indicators, unambitious targets and cumbersome reporting, it is impossible to properly identify the effects that the vast allocation of money to energy efficiency will deliver.

In the previous programming period, the Court of Auditors in its reporting on energy efficiency subsidies pointed to low standards and low overall performance in three countries, the Czech Republic among them. We see these issues being repeated in the current period as well.

TABLE 11: Greenhouse gas emissions reduction output indicators and targets in programmes

OP	Indicator	Target	Unit
PRAGUE - POLE OF GROWTH	Annual GHG emission reduction	900	tCO2
ENTERPRISE AND INNOVATION FOR COMPETITIVNESS	Annual GHG emission reduction	480000	tCO2
ENVIRONMENT	Annual GHG emission reduction	620000	tCO2
INTEGRATED REGIONAL	Annual GHG emission reduction	205221	tCO2

TABLE 12: Renewable energy output indicators and targets in programmes

OP	Indicator	Target	Unit
PRAGUE - POLE OF GROWTH			
ENTERPRISE AND INNOVATION FOR COMPETITIVNESS	New renewable energy installed capacity	70	MW
ENVIRONMENT	New renewable energy installed capacity	30	MW
	Heat production from renewables	150000	GJ/year
INTEGRATED REGIONAL			

TABLE 13: Energy savings output indicators and targets in programmes

OP	Indicator	Target	Unit
PRAGUE - POLE OF GROWTH	Reduction of end-use energy consumption	0,32	PJ / year
ENTERPRISE AND INNOVATION FOR COMPETITIVNESS			
ENVIRONMENT	Reduction of end-use energy consumption	2	PJ / year
INTEGRATED REGIONAL	Number of households with improved energy class	75338	pcs.
	Number of households without improved energy class	25000	pcs.

TABLE 14: Selected Operational Programme Transport indicators and targets related to climate change

OP	Indicator	Target	Unit
TRANSPORT	Reconstructed / modernised railway TEN-T	95	Km
	Reconstructed / modernised railway non TEN-T	45	Km
	New / reconstructed motorways TEN-T	143	Km
	New / reconstructed roads non TEN-T	143	Km
	New or reconstructed metro/tram lines	7,9	Km
	New rail vehicles	125	pcs.
	New infrastructure for ecological vehicles [including CNG]	1000	pcs.

ENERGY EFFICIENCY

Public funding from EU sources or policies, whether the ESIF, ETS revenues, EIB financial instruments or intermediated loans, is the most important driver for energy efficiency in the Czech Republic. This is also reflected in the prominent position these instruments play in the National Energy Efficiency Action Plan.¹³⁵

The ESIF promotes energy efficiency in multi-apartment houses, public buildings and industry, in households through support for efficient boilers, in transport through the purchase of new vehicles and generally and indirectly in many other areas.

The Czech Republic has been a pioneer in public finance programmes for energy efficiency, at least in the CEE region. Currently, it is the first country in the region to use the ETS auction revenues for similar purposes, in a continuous call for projects to be sustained over several years.

The country did not opt for the Energy Savings Obligations in order to comply with the Energy Efficiency Directive, using rather the alternative measures, including EU funding.

It uses significant amounts of its ESIF allocation, almost 9% or EUR 1.9 billion, for direct energy efficiency measures. Of

this, over EUR 622 million will be invested in energy efficiency renovations of existing multi-apartment residential buildings [typically panel blocks of flats] and another EUR 603 million on public buildings. In the corporate sector, SMEs will be able to use over EUR 447 million and large enterprises almost EUR 300 million for energy efficiency of their buildings as well as technological processes.

Selection criteria in calls for projects with energy efficiency components have been set to favour stronger efficiency effects under the Environment Operational Programme for public buildings and especially under the Integrated Regional Programme for multi-apartment houses. After pressure from Bankwatch and other NGOs, three levels of financial support have been established according to the level of savings achieved. The first one is aimed at buildings, which have already been partially thermally-insulated or where only partial renovation is possible. It is not required for these measures to achieve a result in terms of energy class of the building, but on the other hand, each of the elements used for the renovation must have a very high efficiency standard, not only above the minimum legal level but even above recommended efficiency levels. The other two levels aim at complete renovation, and the principle of more savings, more subsidies is applied.

TABLE 15: Levels of support favouring deeper energy renovation in IROP

Measure	Energy savings minimum	Energy class minimum	Energy efficiency of each construction element	Share of support on eligible costs
Partial energy renovation	20%	-	Very efficient	25.5%
Shallow renovation	30%	C	-	25.5%
Deep renovation	40%	B	-	32.3%

In the Enterprise and Innovation for Competitiveness Operational Programme, one of the most important selection criteria the project scores on is the emissions reduction as well as price for emissions reduction [CZK/tCO₂]. However, the call for proposals is not built in a competitive manner and requires the applicants simply to reach a certain score (60 out of 100) to be eligible for the subsidy. There is enormous demand exceeding the allocation for this call. It is therefore questionable why the calls for energy efficiency projects should not be competitive when the selection criteria would clearly give preference to projects with higher CO₂ emissions savings and a lower price for the CO₂ reduction.

Despite the high allocation and selection criteria which favour energy savings, the late start of the programmes may lead to a situation when the Czech Republic will not be able to comply with the energy end-use savings target [see above].

NEGLECTIBLE SUPPORT FOR RENEWABLES

Energy efficiency and renewable allocations could not be further away. The only Operational Programme that supports renewable installations aimed at electricity generation for distribution is Enterprise and Innovation for Competitiveness.

Renewable energy will, in the years between 2014 and 2020, receive just EUR 53 million, 0.24% of the total allocation. Wind, solar and geothermal energy have no support allocated, as most of this amount will be invested into biomass and small hydro sources as well as to heat output from existing biogas stations.

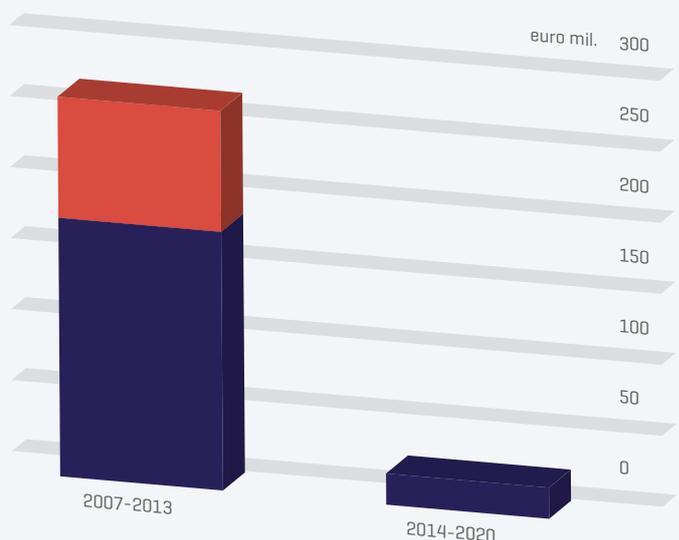
EUR 175 million (0.79% of the total) for waste management under the Environment Operational Programme will be dedicated to waste treating biogas plants. However, mechanical-biological treatment and costly waste incinerators, once permitted, will be financed from this same amount, meaning that financing for renewables will be minimal.

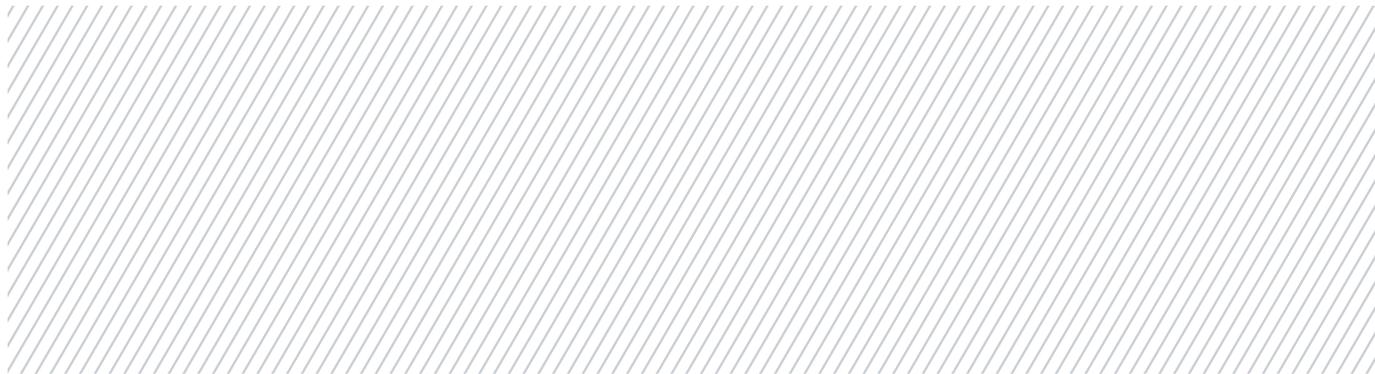
RENEWABLES UNECONOMIC, ABSORPTION IN RISK

In the current set-up, at least hydropower and biomass will receive operating support from a feed-in tariff and investment support from Enterprise and Innovation for Competitiveness. But the programming document does not allow any combination of operating and investment support: investors have to choose. According to the Chamber of Renewable Sources, it is unprofitable to run such an installation without

GRAPH 54: Renewable energy allocation 2014 - 2020 compared to 2007 - 2013. Source: Own calculation based on categories of intervention for 2014 - 2020 Quarterly Monitoring report IV.Q 2014 for 2007 - 2013

- Public beneficiaries [municipalities, academia, state]
- Private beneficiaries [SMEs]





any operating support, even with an investment subsidy. As the operating support is under heavy political pressure, and plans have surfaced for abolishing it completely for new installations, small hydro plants and even combined heat and power from biogas and biomass may not apply for the support from the Enterprise and Innovation OP for Competitiveness.

SUPPORT FOR RENEWABLES AS PART OF EFFICIENCY MEASURES: FINALLY A WAY TO GO

Despite the bleak situation with direct subsidies, renewables will enjoy a certain level of support as part of energy efficiency and air pollution preventing measures. All the Operational Programmes that deal with energy efficiency measures – Enterprise, Environment, Integrated Regional and Prague will allow costs associated with renewable projects – whether biomass boilers, solar collectors, solar photovoltaics or heat pumps – to be eligible. This is a turning point in the history of support schemes in the country.

The selection criteria under the Operational Programmes allow beneficiaries to choose between the renewable or efficiency measures that are more economic. Overall CO₂ emission reductions will be evaluated in the criteria.

Within the selection criteria for biomass installations, especially mid-sized boilers for public buildings and industry, sustainability criteria for biomass have been introduced as well. Both Environment and Enterprise Operational Programmes rely on the sustainability criteria included in the Commission's report on the state of play of the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU. On top of this, both programmes encourage local origins of biomass. In the case of the Environment Operational Programme, local means a 50 kilometre radius and projects score extra points for it. In the case of the Enterprise Operational Programme, the radius is 100 kilometres, but all projects must comply with this criteria.

EU FUNDS SUBSIDISING FOSSIL FUELS

After a long debate between the Commission and several Member States, conditions for exchanging small combustion heat sources – boilers – were set in spring 2015. Despite the stress on synergy effects, conditions for these air pollution prevention measures at the end allow financial subsidies for coal boilers. The potential of the EU funds to catalyse a large-scale move in the small boilers sector in the country [the target is to exchange 80,000 boilers] into a low-carbon one was thus left underutilised.

Boiler exchange selection criteria and support

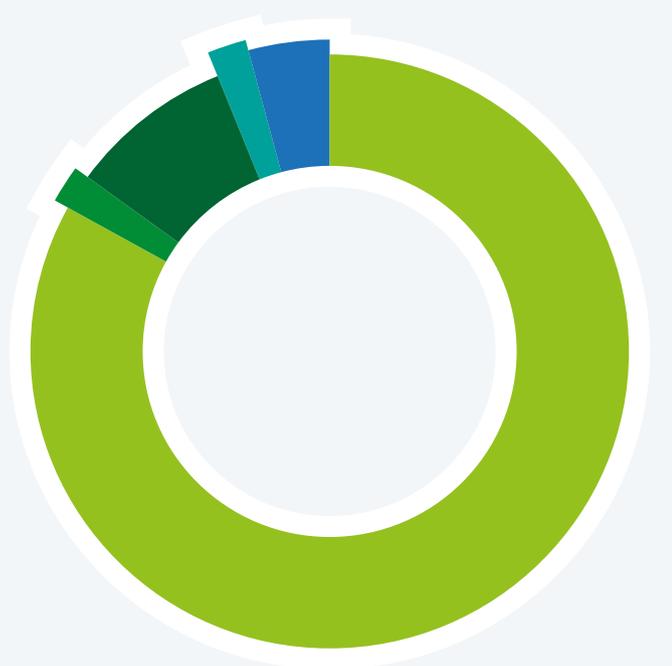
- Boiler efficiency eco-design class 5.
- Boiler fuel: coal and/or biomass (wood, pellets).
- Renewable sources (biomass, heat pumps, solar thermal): 80% support.
- Coal boilers: 70% support.
- Efficiency criteria: class C or efficiency measures.
- Area with air pollution exceeding limits (covers most of the population).
- No difference in support for different income classes and no targeting of poor areas.

So, despite the fact that support for coal boilers is slightly lower than for biomass and heat pumps, the difference is not big enough to motivate households that have used coal for dozens of years to change to renewables.

In the discussions during the programming phase of the Environment Operational Programme, the argument that coal is cheaper than biomass and therefore needs support to avoid energy poverty was often used. But coal is not the cheapest fuel for the supported class 5 boilers; wood is. The measures supported for exchanging boilers fail to address energy poverty, as there are no criteria to favour low-income households.

Yet another fossil fuel is systematically supported throughout several Operational Programmes and their axis: natural gas. Though condensing boilers are required, as well as high efficiency parameters in the case of co-generation, these technologies are widely available on the market and

GRAPH 55: The different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention



do not represent significant innovation. While new boilers do bring energy savings, more attention should be given to the assessment of how much a subsidy is necessary for gas heating and how much should be left to financial instruments or Energy Performance Contracting.

NOT SO SMART GRIDS

Both investment into renewables as well as the allocation for smart grids and transmission are rather low: investments into intelligent energy distribution systems at medium and low voltage levels will total over EUR 37 million, with the total amount of renewable sources up to EUR 53 million [See graph 55]. Counter-intuitively, and contradicting the Partnership Agreement, these investments are not aimed at decarbonisation and the integration of renewables. The result indicators chosen for this part of the Enterprise and Innovation for Competitiveness Operational Programme are the SAIDI and SAIFI – the annual average number and time of interruptions in power supply per consumer. Reaching these targets, the grid will definitely be of a better quality and the monopolistic operators able to finance maintenance and innovation that they would need to do anyway. In terms of renewables, connectivity may or may not be a side-effect of the measures.

An allocation of almost EUR 200 million for electricity transmission grid modernisation that should increase energy security, stability of supply and contribute to the completion of the EU single power market is also questionable. This allocation was originally reported under Thematic Objective 4, but as its contribution to the shift to a low-carbon economy could not be proved, it had to be moved to Objective 7. The state-owned ČEPS plans to limit cross-border spillovers from wind power in Germany and to provide new connections for coal power plants in the north and for the non-existent new reactors at the Temelin plant. This finance would just serve as a financial injection for the grid operator and would bring no added value nor improve Czech competitiveness.

HORIZONTAL CLIMATE MAINSTREAMING ACROSS THE OPs

For a successful transition to a low-carbon economy, it is necessary to implement climate protection across all the measures that are funded from the ESIF.

This mainstreaming has taken place to a certain extent in some of the Operational Programmes, while in others it is missing.

Examples of successful mainstreaming

- Ex-ante conditionality is set on energy use of waste. National and regional waste management plans must show incineration is necessary even though the region complies with recycling targets.
- Sustainability criteria are in place for large biomass installations.
- Visitor centres in national parks must be passive buildings.

Operational programmes working against climate mainstreaming

- Horizontal sustainability criteria are vague, a simple writing exercise for most applicants.
- No criteria are set for emissions reduction of transport investments in the Transport Operational Programme.
- Selection criteria for urban clean transport projects in the Integrated Regional Operational Programme do not guarantee that projects will not result in higher attractiveness of individual car transport.
- Minimisation, reuse and recycling are only granted 27% of total household waste management allocation, while the rest, 73%, will be used for mechanical-biological treatment, biogas generation or straightforward incineration, despite the fact that reduce-reuse-recycle generates fewer emissions.
- The reuse of brownfield sites and reconstruction of unsuitable buildings under the Enterprise and Innovation for Competitiveness Operational Programmes is not geared to energy efficient structures.
- No energy efficiency and just a single renewable energy research centre is planned among large research infrastructure centres from the Science, Research, Education Operational Programme, compared to five centres linked to nuclear research.

RECOMMENDATIONS

- The analysis and selection of priorities and activities under climate change mitigation – especially in areas linked to EU policies like the 2020 strategy and climate and energy legislation – must be based on sound strategies in the Partnership Agreement, programming documents and those required by ex-ante conditionalities. The selection of activities, allocations, the formulation of rules and selection criteria need to be based on these strategies.
- Programming documents need to include clear guidance on how horizontal climate mainstreaming shall be implemented in all programmes, selection criteria and rules for beneficiaries. The selection criteria need to be based on specific, measurable indicators and set in a way that clearly favours projects with better climate mainstreaming. It is especially necessary to ensure that horizontal mainstreaming is not undertaken pro forma nor are rules for beneficiaries fulfilled through a simple narrative.
- A set of standardised indicators for energy savings needs to be established throughout the Operational Programmes to ensure that the impacts of energy efficiency are properly measured and reported, as well as to ensure comparability of results among the Operational Programmes.
- The impacts of energy efficiency for EU-funded measures need to be accounted for in the National Energy Efficiency Action Plan and other national energy strategies.
- Conditions for financing renewable energy sources need to take into account the economic reality of the sector and allow for a combination of investment and operational support.
- The range of renewable energy sources supported by the EU funds needs to cover all those that are part of the National Renewable Energy Action Plan.
- Any investment allocated under Thematic Objective 4 needs to directly lead to greenhouse gas emissions reduction. For example, each smart grid investment needs to be justified by its emissions reduction effect vis a vis increased connectivity for renewable sources or energy efficiency.

SK

Finance for the energy transition – where's it at?

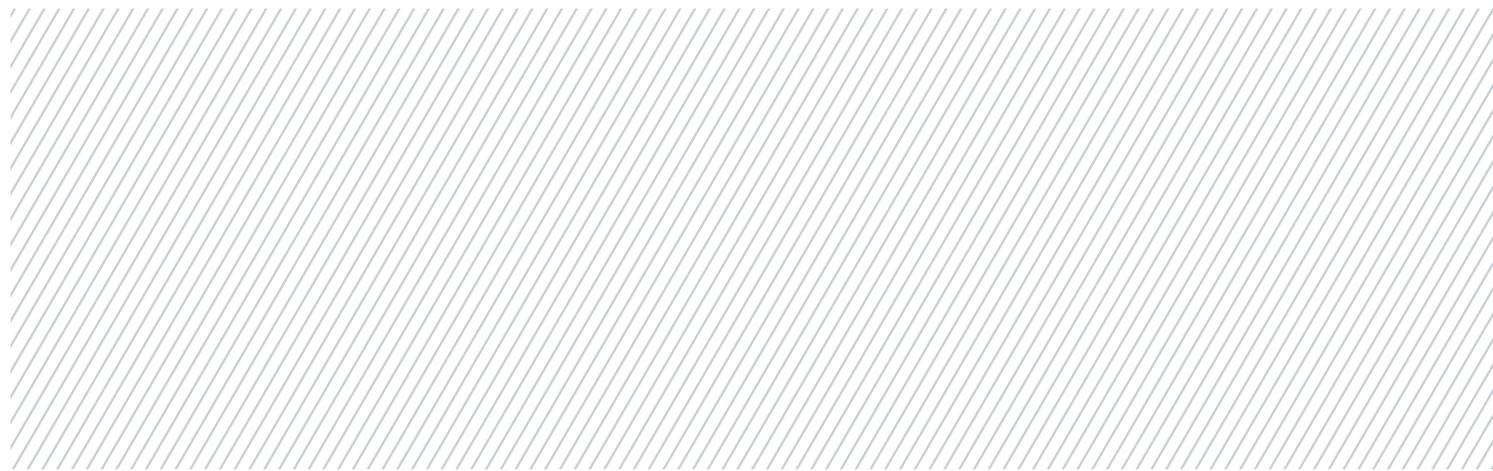
Climate action in EU Cohesion Policy
funding for Slovakia, 2014-2020





Slovakia has so far missed the opportunity to bind Cohesion spending with decarbonising its energy sector, which is marked by high dependence on imported fossil fuels and high carbon intensity. Any systemic change in the energy economy would require liberalisation and decentralisation which contrasts with the interests of the largely monopolistic ownership structure of Slovakia's energy sector. The state administration also has a strong influence on other areas crucial for system change such as research and development, education, business support or regional development. In all of these sectors, barriers to liberalisation and decentralisation remain strong. That is why the Partnership Agreement – although formally acknowledging the low-carbon agenda as a priority – does not create any space for changing the way Slovakia produces, distributes and consumes energy. In all the Slovak strategies, the low-carbon economy is mentioned similarly to the use of the term 'sustainable development'

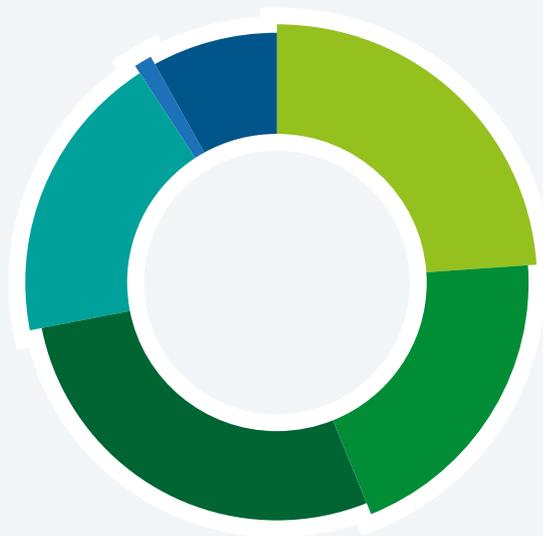
in the past – the concept is described and its importance acknowledged, but when it is time to translate it into a spending strategy and setup of investment measures, it is obvious that it is either not understood or purposefully neglected. The Partnership Agreement covers climate action as a priority but fails to mainstream it into other priorities. Statements from the Partnership Agreement do not translate into concrete actions within Operational Programmes nor to the project selection criteria. Slovakia is again focusing on too many priorities, spreading the funds thin and leaving investment gaps large. Energy is a good example, where energy efficiency and renewables get EUR 1.35 billion while the calculated investment needs reach EUR 17.5 billion. The climate action within the Slovak Cohesion Policy setup follows the bottom line of energy and climate commitments which are not strong enough to push Slovakia up from the business as usual trajectory.



ENERGY SECTOR OF SLOVAKIA: STEADY WATERS

The energy sector of Slovakia has for decades been based on nuclear power – with 64.9%¹³⁶ of all electricity produced – and fossil fuels – mostly gas and coal. Fossil fuels cover 71.7% of gross inland energy consumption and Slovakia is almost 90% dependent on their import.¹³⁷

GRAPH 56: Energy mix of Slovakia in 2013. Percent of total.
Source: our own calculation based on Eurostat code tsdcc320



- 28% Natural Gas
- 24% Nuclear
- 20% Coal
- 19% Oil
- 8% RES
- 1% Waste

Source: Eurostat, at: <http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tsdcc320&language=en>

In the renewables sector, large hydro installations have the highest share and cover 14.8% of Slovakia's electricity consumption¹³⁸. Biomass heat covers 93.8% of all RES heat consumed in Slovakia.¹³⁹ The sustainability of utilising these sources is intensively questioned in Slovakia on the grounds of biodiversity, ecosystem stability and climate change adaptation abilities.

More than 30% of heat consumed goes through centralised district heating systems. Gas and solid fuels cover most of the production. Medium-sized heating plants (3–20 MW) account for a third of heat consumed.¹⁴⁰ Increasing energy prices and decreasing energy consumption have, however, led to a decrease in connections to district heating systems, which has resulted in the government protecting the heat providers with a law discouraging consumers from disconnecting through strict conditions on emissions and performance efficiency of appliances they would wish to switch to.¹⁴¹

Slovakia is the fourth most energy-intensive country in the EU with 0.337 toe per 1,000 EUR of GDP.¹⁴² The overall energy consumption of industry fell rapidly between 1990 and 1995, but then remained stable until 2013.¹⁴³ In 2011, the Danish Energy Agency calculated a 70% energy efficiency potential in Slovak industry based on best practices in industrial sectors within the EU27.¹⁴⁴

Official estimations of energy savings potential in buildings¹⁴⁵ reach up to 30–50% of current energy needs of the sector. More detailed assessments in some regions show potentials of more than 70%¹⁴⁶.

The law on energy efficiency No. 321/2014 sets a good framework as is required by the Energy Efficiency Directive and the Energy Performance of Buildings Directive, but the political will to invest is missing. Single family houses still get no support, although good examples on how to support energy savings exist in the Czech Republic where the state is investing EUR 1 billion within the New Green Savings initiative.

136 Energy, transport and environment indicators. Eurostat, 2014. Source: <http://ec.europa.eu/eurostat/documents/3930297/6613266/KS-DK-14-001-EN-N.pdf/4ec0677e-8fec-4dac-a058-5f2ebd0085e4>

137 Data for 2013. Source: <http://ec.europa.eu/eurostat/web/energy/data/database>

138 Data for 2013. Source: <http://www.amve.sk/>

139 Data for 2012. Source: <https://www.enviroportal.sk/indicator/detail?id=625>

140 Energy Policy of Slovakia, 2014. Source: <http://www.rokovania.sk/Rokovanie.aspx/BodRokovaniaDetail?idMaterial=23993>

141 Law no. 657/2004 Z. z. On heat energy

142 Data for 2013. Eurostat: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdec360&plugin=1>

143 Source data: Eurostat: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&plugin=1&language=en&pcode=tsdpc320http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tin00150&plugin=1>

144 Analysis of Energy Saving Potentials in Selected EU Countries Based on a Sectoral Best-practice Approach. DEA, 2011. Source: http://www.danishenergyassociation.com/~/_media/DE_MJE/Analyser/Analyse14-AnalysisEnergySavingEU.ashx

145 Vyhodnotenie plnenia opatrení koncepcie energetickej hospodárnosti budov do roku 2010 s výhľadom do 2020, <http://www.rokovania.sk/File.aspx/Index/Mater-Dokum-130568>

146 Source: Calculations for Local Energy Strategies in Microregions of District Banksá Bystrica, Central Slovakia. Friends of the Earth–CEPA, 2014. See for example: http://www.priateliazeme.sk/cepa/images/collector/collection/publikacie/regenko_severpodp2014_web.pdf, page 9.

The climate performance of energy consumption has not changed at all with the greenhouse gas intensity of energy consumption reaching 96.9% of the reference year 2000 in 2013.¹⁴⁷ This means that Slovakia consumes energy with the same climate impact as thirteen years ago. Slovakia would have to bring in strong policy and regulation to shift this trend. But the current Energy Policy and Energy Efficiency Action Plan show no signs of such ambition: The Energy Policy is heavily fixated on 'energy security', interpreted as an undisturbed energy supply based on nuclear energy and gas imports. Renewables are seen as complementary. Decentralised local energy production and consumption or energy self-sufficiency have no place in the picture.

Distribution network development is focused on high capacity interconnections, especially with Hungary. Smart grids are mentioned strictly descriptively in the energy policy with a vague task to develop them. No specific measures or plans are visible. Smart metering is set to meeting the minimum required by the Energy Efficiency Directive. The only place where consumer demand management is tackled is within awareness-raising projects implemented by the Slovak Innovation Energy Agency.

Top priority within the Energy Union debates in Slovakia is given to gas and oil distribution. During the visit of European Commission Vice-President, Mr Katainen, the Slovak prime minister announced a dedication to the Easting gas pipeline connecting CEE countries to the planned South Stream pipeline. Another project promoted by the Slovak government is to safeguard the existence of its key oil distribution infrastructure – the Družba oil pipeline operated by the recently re-nationalised company, Transpetrol, which is losing revenues. The respective Bratislava – Schwechat pipeline could salvage the situation by connecting Družba to the OMV refinery in Schwechat.

Nothing in current official documents on energy suggests that Slovakia is planning to abandon its energy-intensive development path. Policy is fixed on meeting the needs of large energy providers and consumers. During the 2030 targets debate, Slovakia has strictly insisted on non-binding targets, only allowing for emissions reductions where the country is exempt from reductions until 2021. Nuclear energy is considered key for achieving the 2050 objective.¹⁴⁸

EU FUNDS: A SECOND STATE BUDGET

According to the 6th Cohesion report¹⁴⁹, almost 90% of all public investments over the 2011–2013 period in Slovakia

were mainly financed by European cohesion and structural funds, which was the highest share in the EU. This made the National Strategic Reference Framework 2007–2013, the basic strategic planning document for the spending of EU funds, the most important investment strategy of the country.

However, looking at the final setup of the Partnership Agreement and of the Operational Programmes, it is hard to identify any traces of energy transformation in its setting. The Cohesion Policy setup in Slovakia resembles only one thing: a second state budget.

The Partnership Agreement covers all sectors of public spending from healthcare, to business support, education, infrastructure, environment, research and development. This is all in order. It, however, does not set the spending in these sectors into a single, identifiable development path that would suggest any intention to transform the Slovak economy.

The results of ex-ante evaluation acknowledge this by stating that the '[PA] misses a better interconnection of [the] sustainable growth topic as a cross-cutting issue which does not relate solely to environmental protection but also to R&D, eco-innovation, transport, low-carbon economy, consumption and prevention aspect in the labour market [e.g. green jobs]. During implementation it will be important to stress the role of sustainable growth as a competitive advantage in the long run.'¹⁵⁰

EU FUNDS NOT SUPPORTING THE TRANSITION TO LOW-CARBON ECONOMY?

In all Slovak strategies, the low-carbon economy is mentioned similarly to the use of the term 'sustainable development' in the past: The concept is described and its importance acknowledged, but when it is time to translate it into the spending strategy and set-up of investment measures, it is obvious that it is either not understood or purposefully neglected.

The 2014 National Reform Programme [NRP] dedicates a chapter to climate action. The NRP states that to achieve the 2030 targets Slovakia will not be able to stay on the business as usual trajectory and will have to 'carry out significant emissions reductions in non-ETS sectors, including transport, buildings and agriculture'¹⁵¹. Slovakia was supposed to have elaborated a low-carbon development

147 Source: Eurostat: <http://ec.europa.eu/eurostat/web/energy/data/main-tables>

148 Source: Energy Policy of the Slovak Republic, 2014.

149 Investment for Jobs and Growth. EC, 2014. Source: http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion6/6cr_en.pdf

150 Partnership Agreement, page 77.

151 Source: National Reform Programme, 2014. Page 63. <http://www.finance.gov.sk/Default.aspx?CatID=5197>

strategy until 2030, in 2012, but the strategy is still not ready. One of the priorities within the low-carbon economy debate is to push for inclusion of nuclear energy as a low-carbon technology.

Although the NRP is mentioned as a base document for the elaboration of the Partnership Agreement, it is very general in setting the framework for Cohesion Policy spending, not connecting the problems identified in the analytical chapters to the investment opportunities in the Cohesion Policy.

The Partnership Agreement itself has similar features. It mentions all obligatory strategies and commitments, sets a bottom line strategy and lists activities to be financed with no prioritisation. There is, however, no reference to non-binding strategies such as the Low-Carbon Roadmap 2050 which could have provided a more robust direction for its investment strategy.

In its Sustainable Development chapter, the Partnership Agreement names several instruments and mechanisms through which it means to mainstream resource efficiency

SLOVAK PARTNERSHIP AGREEMENT AND ITS OPERATIONAL PROGRAMMES

For the 2014-2020 period, the Partnership Agreement will invest roughly EUR 15 billion through nine Operational Programmes. Six are bound to Thematic Objectives defined in the Article 9 of the Common Provisions Regulations (EU No 1303/2013):

[OPII] OP Integrated Infrastructure (Transport infrastructure, IT): EUR 3.96 billion

[OPQE] OP Quality of Environment (biodiversity, environmental infrastructure, energy, adaptation to climate change, resource management): EUR 3.13 billion

[OPRI] OP Research and Innovation (R&D, innovation): EUR 2.26 billion

[IROP] Integrated Regional OP (regional development): EUR 1.75 billion

[OPEPA] OP Efficient Public Administration: EUR 278 million

[OPHR] OP Human Resources (social inclusion, poverty, education, healthcare, marginalised communities, social services...): EUR 2.2 billion

Then there is the OP Technical Assistance with EUR 159 million

The last two programmes are funded within the Common Agricultural Policy but are within the strategy of the Partnership Agreement:

[RDP] Rural Development Programme: EUR 1.54 billion

[OPF] Fisheries programme: EUR 15.7 million

Source: Partnership Agreement: www.partnerskadohoda.gov.sk

Another source document for the Agreement – the Strategy of Regional Development¹⁵², states basic information on Europe 2020, Cohesion Policy Thematic Objectives and commitments within the CAP reform.

In the chapter on Environment, the strategy names key problems and proposes green growth and a green economy as one of the solutions. Reference is also made to shifting the fuel base (to gas and renewables) and decrease in fossil fuel and energy consumption in line with the Europe 2020 objectives. More specific connection to regional strategies is, however, missing and only adaptation is covered on a general level.

and climate performance into the implementation,¹⁵³ for example green public procurement or the climate performance evaluation through CO2MPARE. Although green public procurement (GPP) is by law included in national procurement procedures, no clear methodology and capacity exists to effectively implement it in practice. Also, GPP does not make it beyond the Partnership Agreement. No OP mentions it as a principle which it means to follow.

No climate mainstreaming performance evaluation is planned so far in the evaluation plan of the Partnership Agreement. So it is hard to find any trace of substance

152 Source: <http://www.build.gov.sk/mvrrsr/source/news/files/003994a.pdf>

153 Partnership Agreement, page 112-114

behind the stated EUR 2.36 billion assigned to climate action.¹⁵⁴

THE ROLE OF INNOVATION, RESEARCH AND DEVELOPMENT: STUCK IN THE PAST

Investments under the Partnership Agreement in research and development are based on the current Strategy for Intelligent Specialisation which sets priorities according to the existing dominant industry sectors: automotive, electronics and steel processing.¹⁵⁵ In addition, the PA sets efficient use of resources, eco-innovation and emissions reduction as 'key societal priorities' and adds sustainable energy, environmental infrastructure and agriculture to the list, creating a basic hook for green innovation.¹⁵⁶ This is roughly translated into the list of supported measures, where eco-innovation, resource efficiency and environmentally-oriented activities are mentioned.¹⁵⁷

Potential is there. Slovakia allocates EUR 150 million to energy efficiency and environmentally-friendly technologies in SMEs. For some reason, however, all allocations originally planned for low-carbon business support (almost EUR 75 million) were shifted elsewhere in the final programme versions. This may show a lack of confidence in the low-carbon economy concept.

Overall SME development support amounts to EUR 143 billion¹⁵⁸ which is a bit over 10% of the overall allocation. As SMEs are usually drivers of economic change, the focused support for SME development in low-carbon and 'green' sectors of the economy could have made a difference. Most of the allocated funding is, however, general SME support without being connected to the energy or resource efficiency mainstream and the only allocations for low-carbon technologies and processes in SMEs were deleted. This change diminishes the horizontal integration of low-carbon technologies and shows that Slovakia does not want to prioritise them.

No thematic orientation is visible in the OP on Research and Innovation (OPRai) either. The OP dedicates a meagre EUR 8.3 million to low-carbon processes and innovation

and climate resilience. The rest is unspecified R&D support and the OP gives no preference to 'green innovation' in its evaluation framework. The only hook remains the general setup of the Partnership Agreement. Whether this is enough will be visible when the first calls are launched and more precise rules will be set.

ENERGY FOR THE LOW-CARBON ECONOMY: UNDERFUNDED AND MISGUIDED

Energy savings, energy efficiency and renewables utilisation receive EUR 1.35 billion (9.8% of the overall EU support within the Investment for Growth and Jobs objective) including controversial energy efficiency measures in large enterprises and cogeneration in fossil-fuelled installations. Energy efficiency processes in industry generate additional income through energy consumption saved per unit of production. This way, the companies gain public support for economically feasible modernisation of their operation. In cogeneration the OPQE will support highly efficient gas installations which can improve energy efficiency and decrease air pollution but will not have a sufficiently positive climate impact and will not decrease import dependency, so should not be considered under the climate action element of the programme.

In 2012, CEE Bankwatch Network published officially estimated investment needs connected to achieving the EU 2020 targets in energy and covering the refurbishment needs of Slovak residential building stock, totalling EUR 17.5 billion.¹⁵⁹ The huge investment gap again shows that not everything can be funded properly when too many priorities are supported.

SMALL RES FOR HOUSEHOLDS AND MUNICIPALITIES A SMALL STEP FORWARD

Renewable energy gets a thin EUR 169 million, with EUR 65.7 million supporting micro PV installations in households and to some degree on public buildings. The rest is made up of EUR 55.2 million for biomass installations up to 20 MW and around EUR 47 million for other RES mostly going to thermal heatpumps in households.

154 See page 18 on 'Climate mainstreaming'

155 Strategy for Intelligent Specialisation of Slovakia. Source: Ministry of Economy, 2013. <http://www.economy.gov.sk/strategia-vyskumu-a-inovacii-pre-intelligentnu-specializaciu-sr/142232s>

156 Partnership Agreement, page 12.

157 Partnership Agreement, page 80.

158 Calculated as the sum of relevant categories of interventions extracted from final OP versions.

159 No Half Measures. CEE Bankwatch Network, 2012. Source: <http://bankwatch.org/publications/no-half-measures-investment-needs-energy-efficiency-and-renewables-cee-countries>

This support is very welcome as it stimulates households to plan more complex energy refurbishment projects and start thinking about their own energy production capacities. The allocations, however, are rather meagre. Households (both in single family houses as well as apartment houses) will get

GRAPH 57: Split of renewable energy sources by technology.
Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
39% Solar	65,750,000
33% Biomass	55,270,000
28% Other renewable energy	47,980,000
0% Wind	0

around EUR 112 million for RES installations through financial instruments. Energy efficiency in the housing sector is limited to apartment blocks, leaving out half of Slovak households living in single family houses, even though only about 15% of these are to some extent renovated. The Integrated Regional OP dedicates EUR 111.3 million to energy efficiency in the housing sector which will be distributed through financial instruments within the Slovak Investment Holding. When we compare it to the EUR 1 billion allocated for the New Green Savings Scheme in the Czech Republic, the enthusiasm rather seeps away. This, however, goes beyond Cohesion Policy and would require a look at how the Emissions Trading System and investing of its revenues are working in Slovakia.

Financial instruments are currently under preparation with the purpose to support small scale renewables on buildings Slovakia. The Slovak Innovation and Energy Agency is starting its first EU-funded support for individual households [single family houses]. So far, it is hard to predict the impact of this support as this kind of support has not been tried before.

FEEDING THE OLD HEATING SECTOR

Existing heat producers have tapped into EU funds quite effectively. They claim support from two measures within the 'Quality of Environment' Operational Programme. One is biomass support and the other is cogeneration and district heating systems.

The positive contribution of biomass support is questionable as existing fossil fuel-powered installations up to 20 MW will be reconstructed to co-fire biomass. Supporting this type of installation will create a lock-in effect as a complete phase out of fossil fuels is not required. By adding biomass to existing fossil fuel installations, compliance with EU legislation on emissions and air pollution should be achieved, however, at the same time, fossil fuel production capacity is maintained for the long term, although there is much space for reduction of energy consumption and switching to renewables. In addition, support for biomass use is problematic. Slovakia has been exceeding its sustainable forest harvest levels for over a decade¹⁶⁰. Existing support for heat producers and insufficient legislation on sustainability of biomass energy use have led to disastrous practices such as clearcutting river banks, clearing of forest floors or

160 Efficient and Purposeful Utilisation of Biomass. Friends of the Earth-CEPA, 2011. Source: <http://www.priateliazeme.sk/cepa/sk/publikacie/125-uelne-a-efektivne-vyuivanie-biomasy-poziny-dokument>



clearcutting so-called white areas which are not regulated like forests are. Slovakia will have to introduce strong sustainability criteria for support of biomass projects if it wants to prevent further damage to its ecosystems.

Apart from RES support, the OPQE supports the rehabilitation of centralised heating systems and high-efficiency co-generation with EUR 185 million. The setup excludes coal-powered installations, but not fossil fuels in general so, in this case, gas powered installations will receive support.

Keeping the existing heating supply systems running has two aspects. On the one hand, bigger systems are more efficient and it is easier to ensure compliance with air pollution standards. On the other hand, the heating market is changing rapidly with energy consumption decreasing and new small-scale technologies such as heat pumps or solar heating emerging. So, large-scale public support to an outdated gas-based heating system will further Slovakia's import dependency and may prove to be an inefficient burden that acts as a barrier to Slovakia adopting new technologies within the next few years.

The heating sector support clearly shows the business-as-usual approach in energy investments. Priority is given to existing heat providers who need to modernise their equipment and improve their energy mix to fit in with EU requirements. Currently, they still mostly run on lignite, anthracite, heating oil or natural gas. The dirtiest installations are now trying to introduce biomass combustion to improve their climate performance and decrease pollution. These are, however, the traditional medium or large producers and supporting the introduction of cogeneration or combustion of biomass would have limited effects on energy system transformation. It will create lock-in effects for gas and perpetuate unsustainable exploitation of biomass.

What is needed is support for new smartly-designed production capacities tailored to available local renewable resources and local energy needs trying to maximise energy self-sufficiency of regions.

The OP Quality of Environment [OPQE] supports local, low-

carbon strategies. However, if these strategies transform to quality projects, the managing authority should ensure that regions trying to implement the strategy will have effective access to funds and are preferred to other beneficiaries. It will also be vital to ensure that private investors trying to produce energy in these regions have to fit within the low-carbon strategies. Furthermore synergy and coordination with other programmes such as OP Research and Development, Integrated Regional OP, Rural Development Programme or the programmes of European territorial cooperation. Conditioning energy-related investments in regions with compliance with local low-carbon strategies would be a first step towards systematic energy transition.

GRIDS: NOT SO SMART

In its Energy Policy, Slovakia states descriptively the importance of smart grids for better inclusion of RES into the distribution network.¹⁶¹ The same thought appears in the Energy Union fiche.¹⁶² The fact that zero funding is allocated to this action shows the place intelligent energy management really plays in the overall energy economy picture.

The smart grid development support provides the best signal of whether the country really means to transform its energy economy or not. Even small support for pilot projects and testing would have been a sign that Slovakia has started thinking about transformation. Lack of support reveals the emptiness of statements in Slovak Energy Policy. It would need to start serious testing of virtual powerhouses, supply-demand management systems and intelligent energy distribution and storage solutions. The savings potential for households could reach 10 to 15% and, in the case of tailored energy management for buildings, the savings could reach up to 25%,¹⁶³ which, combined with the energy savings potential achievable through refurbishment, creates a huge space for energy consumption reduction.

BUSINESS SUPPORT: A MISSED OPPORTUNITY

Mainstreamed business support amounts to EUR 189 million and contains support for energy efficiency and for

161 Slovak Energy policy, Page 70.

162 Towards an Energy Union – Slovak Republic. Source: http://ec.europa.eu/priorities/energy-union/docs/slovakia-benefits_of_the_energy_union_en.pdf

163 Data from Siemens and ČEZ published at <http://www.asb.sk/tzb/energie/inteligentna-elektrina-virtualne-elektrarne-inteligentne-siete>

environmentally-friendly production both for SMEs and large companies. This represents only 10.7% of total business support designated from all OPs. Most of the allocation [56%] goes to generic support within which low-carbon activities can be supported, but will not be preferred unless the contribution of EU funds' support for businesses is subject to a climate performance evaluation. The same applies to R&D support which gets 31.9% of the overall EU funds allocation.

Large companies should receive EUR 34.3 million, and the rest goes to SMEs. In business support, it is vital to have both synergy and innovation as key conditions. An example of synergy is support for Energy Saving Companies [ESCOs] that can, in the end, produce more energy savings than support of individual companies. Energy savings should result from innovative processes, going beyond the usual replacement of written-off production facilities. Support for commercially viable projects needs to be excluded as well as those

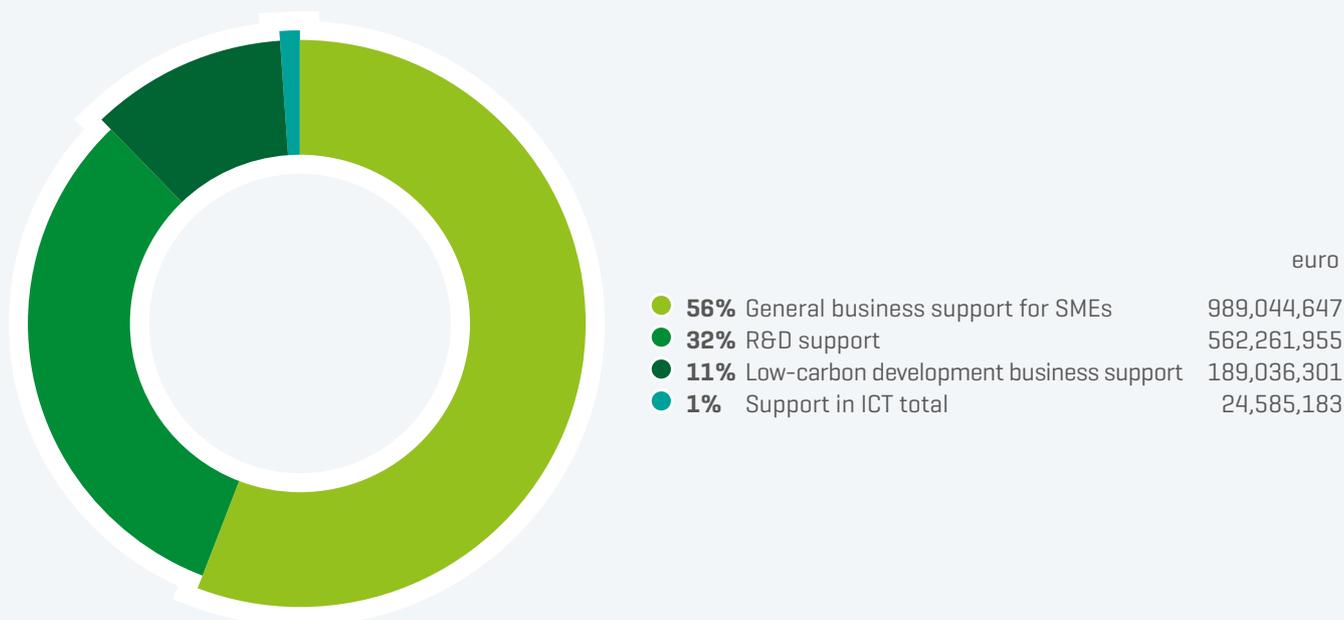
businesses which have capital available for investments into energy efficiency.

HOUSEHOLDS: THE BIGGEST POTENTIAL IS HARD TO REACH

Almost half of the Slovak population lives in single family houses, out of which only 15% have undergone some form of refurbishment¹⁶⁴. No public support scheme has been set up so far to tackle this and EU funds ignore this segment as well. Fear of slow implementation rates and of possible complications arising from communication with large numbers of small beneficiaries is high. Inspiration could be drawn from the small RES installation support managed by the Slovak Innovation and Energy Agency. To make an impact, the size of the scheme would have to be significantly higher and conditions more simple. So, for now, this potential will remain untackled.

GRAPH 58: Business support planned from Cohesion Policy funding.

Source: our own calculations based on approved Operational Programmes according to categories of intervention



164 Buildings for the Future Platform, 2014.

TRANSPORT: MORE SPACE FOR SUSTAINABLE MODES

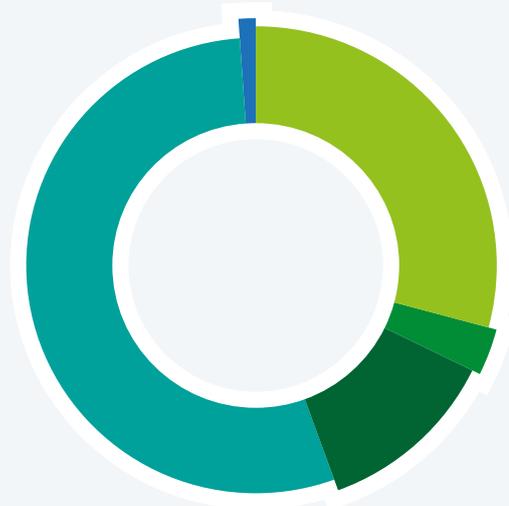
While road transport still retains a slight majority [54.4%] of the total allocation swallowing EUR 1.9 billion, significantly bigger space for investment into sustainable transport opens for this programming period. Clean urban transport gets roughly EUR 455 million to invest in all eight regional capitals and for the first time the investments will be bound to regional and urban transport plans. This allocation is probably hitting the limit of what the local beneficiaries are able to absorb when it comes to preparation and implementing of bigger transport projects.

There is, however, one loser - cycling. Only EUR 24 million was allocated within the new Integrated Regional OP, although the investment need for cycling infrastructure projects that are ready for implementation reaches EUR 61 million and they are just the beginning of what would be possible if the money was on the table. Reaching the over-ambitious target to increase modal share of bikers from the current 1.5% to 10% in seven years would be a miracle.

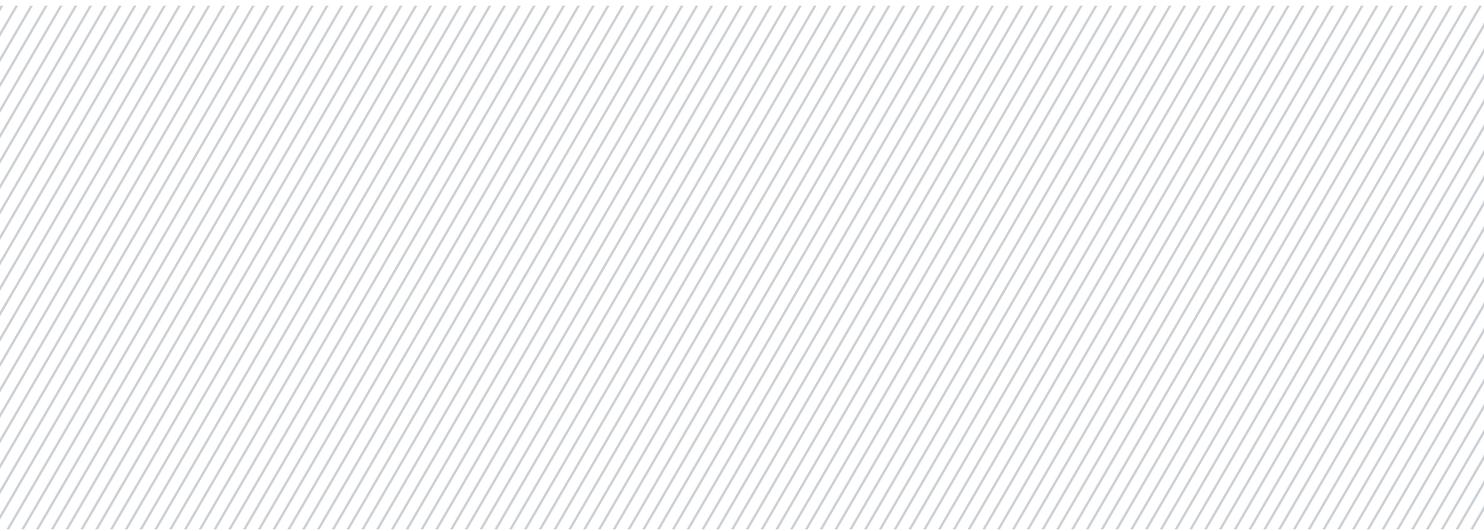
IMPACT AND CLIMATE PERFORMANCE EVALUATION: LEARNING FROM THE PAST

The Ministry of Transport Construction and Regional Development has been one of the authorities most heavily hit by scandals and issues around compliance with environmental legislation and problems around public

GRAPH 59: Share of transport modes [%] in total transport funding in Slovakia. Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
● 54% Roads	1,906,312,042
● 29% Railways (including rolling stock)	1,028,071,393
● 12% Urban and Intelligent transport	431,350,000
● 3% Inland waterways and ports (TEN-T)	116,450,000
● 1% Cycle tracks and footpaths	24,000,000



participation in assessment procedures.

In order to avoid mistakes from the past, the Ministry of Transport Construction and Regional Development invested a significant amount into becoming as bullet proof as possible so as not to get into trouble with constructing huge transport infrastructure links. An example for their increased scrutiny is their evaluation of compliance with the Water Framework Directive. Whereas the responsible Ministry of the Environment did not mind addressing legal and methodological deficiencies in compliance with this Directive, the Ministry of Transport did when planning transport funding for the 2014-2020 period.

The same applies to climate performance evaluation. Although no specific guidelines came from the Ministry of Environment, the Ministry of Transport did their share to prove that their investments would have positive impacts on air pollution and green house gas emissions. The ministry uses the COPERT IV model methodology of the EU models EMEP/CORINAIR and calculated 622,915.8 tonnes of CO₂ equivalent emissions savings until 2023 excluding public transport projects.

Although the approach seems sound, there are two issues that heavily influence the accuracy and explanatory value of this figure: first is the issue of traffic induction which occurs everytime the transport infrastructure is improved and its

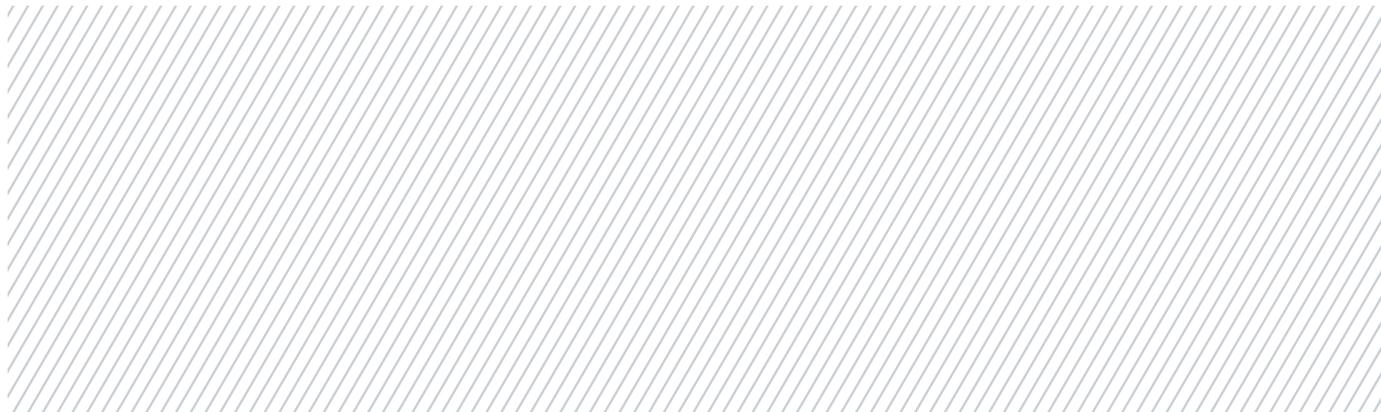
capacity increased. This improvement strengthens the share of the mode of transport. This is exactly the point behind strategy inconsistency when all modes get relatively equal shares of support.

The second issue is about the quality and reliability of statistical data on expected changes in transport intensity, speed and fuel consumption. Proving expectations and estimations will require real time monitoring of transport behaviour change after the infrastructure is in place.

It will be crucial to evaluate the contribution of the allocations both for clean urban transport and railway modernisation as well as to road transport. As the strategy sets equally large amounts of investments for both low-carbon and road transport next to each other, it is possible that they will cancel each other out in the end.

A strategy behind the investment is necessary and Slovakia has been working hard on the transport masterplan to meet the ex-ante conditionality set by the European Commission. Yet, it is covering everything and nothing, and failing to draw a transformation path to lead to a decarbonised transport system.

The investments from EU funds in this sense can be seen as a continuation of general infrastructure development resulting from accessible funding rather than a strategy moving the



Slovak transport sector to better carbon performance.

CLIMATE MAINSTREAMING: MONITORING REQUIRED

Climate mainstreaming is formally embedded into all Cohesion Policy documents. Slovakia visibly defines indicative allocations for climate related objectives in the Partnership Agreement and in all relevant OPs.

Slovakia meets its designated mainstreaming target and declares which priorities will contribute to climate action of the EU. Slovakia declares EUR 2.63 billion as being for climate related action.¹⁶⁵ But if we take into account only those categories of intervention that have a possible direct impact on climate mitigation, we get to EUR 1.78 billion. Leaving out adaptation, biodiversity, resource management and environmental infrastructure is useful in order to have a better picture, as the impact of these interventions is indirect and hard to evaluate without a rigorous methodology.

The evaluation method of performance of these funds is also yet to be seen. The Partnership Agreement mentions the CO2MPARE tool in the chapter on the sustainable development horizontal principle.¹⁶⁶ Individual OPs, however, do not include any description of the evaluation process.

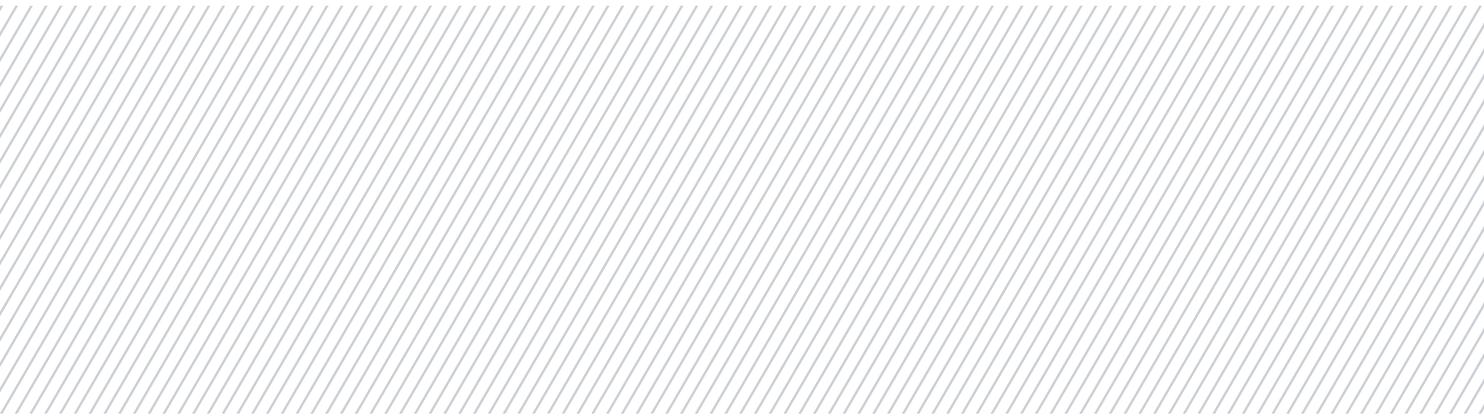
The Integrated Infrastructure OP does not include CO₂ emissions reduction in its evaluation system at all, although it declares almost 15% of its budget for climate action. The only place where the Quality of Environment OP plans CO₂ emissions savings is in Priority Axis 4. The rest of its mainstreaming effort is in adaptation. The other three OPs declare contributions as well and set target values for the savings.

The OP RaI [see box on page 97] sets an emissions reduction target of 4,900 tCO₂ equivalent while allocating EUR 41.4 million to climate action. This would make each tonne of CO₂ equivalent reduction cost EUR 8,400, more than three times more than in the Quality of Environment OP. Without a serious set of benchmarks, it is hard to say whether this is adequate. This is another reason why there is a need for an evaluation.

Without this, it is very difficult to say what the actions will look like, what the selection process between projects will be and whether the target values for CO₂ emissions reduction are adequate for the allocation declared. An evaluation and monitoring system has yet to be set up to allow for a climate performance assessment of individual projects. Especially in transport, it will be very interesting to observe as the only climate contribution presented in the 2007-2013 period has been the paradigm of highways decreasing CO₂ emissions through decreased congestion.

165 Partnership Agreement, page 105.

166 Partnership Agreement, page 114.



The Integrated Infrastructure OP sets decrease of CO₂ emissions as a desired outcome for most of its priority axes including highway construction.¹⁶⁷ However, when it comes to evaluation criteria, none of them is focused on thematic issues or horizontal principles. The only evaluated issues are technology, administration and cost-effectiveness.

The only place where climate performance is quantified is the project application, where applicants have to state how many emissions they plan to save through project implementation. However, it is not clear how this statement will be verified. The Ministry of Transport Construction and Regional Development will have to present a methodology.

The Quality of Environment OP, as the primary climate-related OP, more thoroughly includes CO₂ emissions monitoring. The gap, though, is in the evaluation of contributions of projects in renewables and energy efficiency where a connection to CO₂ emissions savings is not visible.¹⁶⁸ In energy savings, the connection would enable the prioritisation of projects leading to overall energy consumption reduction.

It is crucial to consider what parts of the production chain will be included in the evaluation. For biomass utilisation, the whole production chain should be considered including forest management, processing and transport. In cogeneration support, the preference should be given only to projects that

decrease total CO₂ emissions, not only relative. So, again, the methodology will be decisive.

When it comes to the feasibility and level of ambition of local and regional sustainable energy and climate action plans, much will depend on the methodology for calculation of energy savings potential and usable potential of energy sources. Monitoring of performance in the later stage when the plans are put into practice will also be important. The overall impact of strategies on carbon impact reduction will also depend on what access to funding the municipalities and local stakeholders have.

The Slovak Innovation and Energy Agency (SIEA) will play a crucial role in filling the methodology gap. It will get support for development and implementation of a wide variety of monitoring tools, capacity building schemes, instruments and methodologies as well as for general awareness-raising in the area of climate protection and the low-carbon economy. As experiences with this institution have been positive so far, the confidence and resources placed in its hands could prove vital for climate action in the future.

It is now up to the European Commission to require exact evaluation and up to the Slovak authorities to respond properly and move from declaratory mainstreaming to solid climate action.

167 Evaluation criteria for the selection of projects for OP Integrated Infrastructure as approved by the members of monitoring committee.

168 Source: project selection criteria, page. 45. <http://www.op-kzp.sk/wp-content/uploads/2015/05/Kriteria-na-vyber-projektov-OP-KZP1.pdf>

RECOMMENDATIONS

INVESTMENT STRATEGY

1. Support transformation

Support transformation through allocating funding to testing of new systems and modes of operation such as intelligent energy management, energy supply demand matching, industrial symbiosis, circular economy processes or smart energy distribution. Prioritise projects which have multiplication potential, require innovation, promote projects that create capacity to manage energy, resources and processes and projects that result in behavioural change.

2. Ensure the highest possible climate performance

During implementation, require all projects to contribute as much as possible to climate action objectives. Insist on clear emissions reduction statements from all projects during project selection and evaluation. Set climate performance evaluation in all OPs by making climate mainstreaming implementation part of the evaluation of individual OPs and of the Partnership Agreement.

IMPLEMENTATION

1. Strengthen climate performance evaluation

A strong binding methodology for climate performance needs to be in place for those actions that are declaring a contribution to climate action. Existing methodologies produced by the European Commission and tools such as CO2MPARE should be utilised.

Clear methodologies for evaluation of climate performance in all projects are necessary. The results should feed a nationwide climate performance evaluation.

Benchmarks for cost-efficiency of climate action should become part of the evaluation to judge the ambition of climate allocations and CO₂ reduction targets in individual OPs.

The Office of Government as a Central Coordination Authority needs to play a strong role in the process with active assistance from the EC.

The European Commission must require transparent climate mainstreaming reporting from all the OPs and, within the mid-term evaluation, should judge the adequacy of both the invested resources and of target values.

2. Ensure sustainability of biomass support

All support for biomass energy projects under the Partnership Agreement needs to be subject to binding sustainability criteria. The criteria have to ensure the efficiency of energy production, efficiency of consumption of the energy produced, and sustainability of the resource base. The criteria need to be applicable without an excessive administrative burden and monitored based on currently collected data and field inspections and bound to existing technical norms and regulatory conditions. Beneficiaries have to be accountable for the whole supply chain.

3. Provide technical assistance to small and new energy producers

In addition to the existing stated preference for small installations, the authorities should ensure that small and emerging local energy producers have at least the minimum capacities to be able to produce and submit their project application and to manage the project properly.

4. Create leverage to compensate the RES/EE investment gap

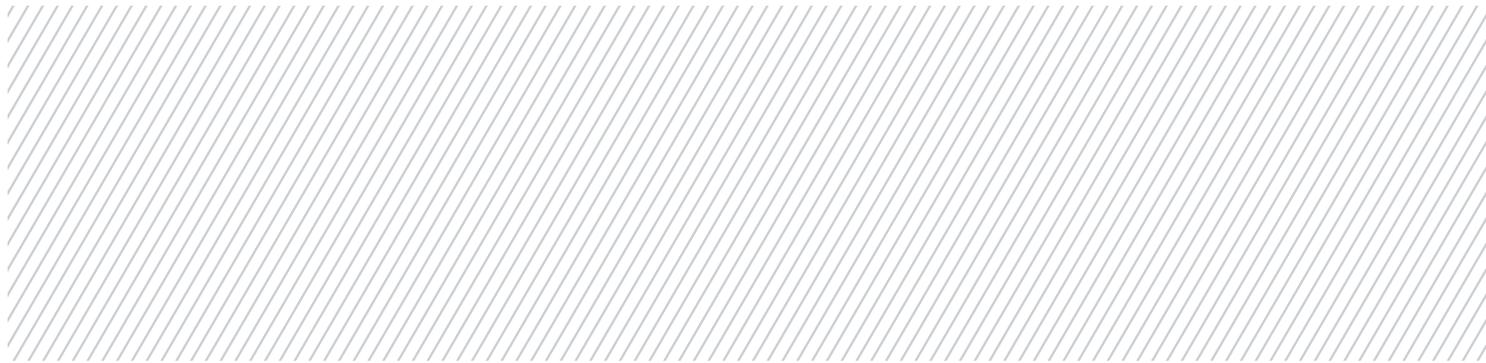
Maximize support for energy projects through utilisation of financial instruments. Ensure that their setup is suitable for all types of beneficiaries regarding level of income, capacity to apply and fulfil administrative requirements.

HU

THE DARK SIDE IS IN THE DETAILS

**Climate action in EU Cohesion Policy
funding for Hungary, 2014-2020**





EU funds contribute to the objectives of national energy scenarios only to an extent; the full potential of energy efficiency and renewables is not realised.

While EU funds may contribute to some transformation of the energy system, funding from other sources is likely to continue unsustainable energy production and consumption patterns.

Although energy efficiency remains a national priority, horizontal mainstreaming of climate considerations is insufficient.

Some progressive efforts and planned interventions of EU funds ensure that unsustainable development paths would not prevail entirely.

The Hungarian energy system (Graph 60) is characterised by low per capita energy consumption and a relatively high energy intensity. While forecasts for 2010 to 2020 expect overall energy consumption to increase by around 1.6% annually and electricity consumption by 2.2% annually, in reality domestic energy consumption has decreased by 1.3% per year for the last ten years on average. Alternative energy mix scenarios prepared by both NGOs and a working group at ELTE University for 2050 confirm the renewables potentials identified in the National Energy Strategy and the Hungarian Academy of Sciences, the growing potential of which depends on economic and technical conditions.

The EU's 2020 targets are insufficient to keep emissions below the limit necessary to ensure global warming does not exceed 2°C. Consequently, Hungary's 2020 targets are also unacceptably weak, even allowing for an increase in greenhouse gas emissions. Specifically:

- Greenhouse gas emissions: to increase by not more than 10% (base year 2005) by 2020 (versus the European target of 20%).
- Renewables: 14.65% of total energy consumption (while the EU target is 20% by 2020).
- EE: total energy savings 18% (while the EU target is 20%)

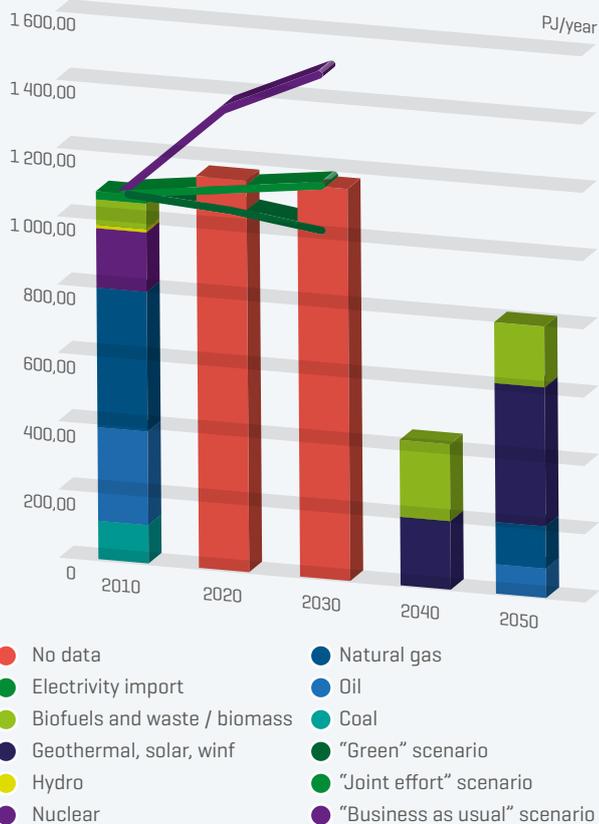
The National Energy Strategy claims to promote the transformation of the energy system with modestly progressive objectives. As evident in the chart below (Graph 60), not even the 'green' scenario utilises the full potential of renewables, and the National Energy Strategy opts for the 'joint effort' scenario. In addition:

- In terms of electricity production, the National Energy Strategy prefers the 'nuclear – coal – green' scenario, the first two elements of which will be financed from sources other than EU funds, but put Hungary's energy system on an unsustainable track for a long time.
- Despite the constant decrease of overall energy consumption, this scenario was recently adjusted with renewed national forecasts, which also curbed the 'green' part of the scenario. Both changes were mainly made to justify the viability of the construction of the Paks-2 nuclear power plant.
- The last aim of the National Energy Strategy, i.e., strengthening the role of the state, is contradictory to the country-specific recommendations of the Commission (gradually abolish regulated energy prices, ensure the independence of the national regulator), and the government has no intention of changing its position on this issue, despite Vice-President Šefčovič's recommendations¹⁶⁹. Consequently, EU funds are a drop in the ocean of 'green energy reform' and will be spent in an economic environment that is in contradiction to Commission requirements.

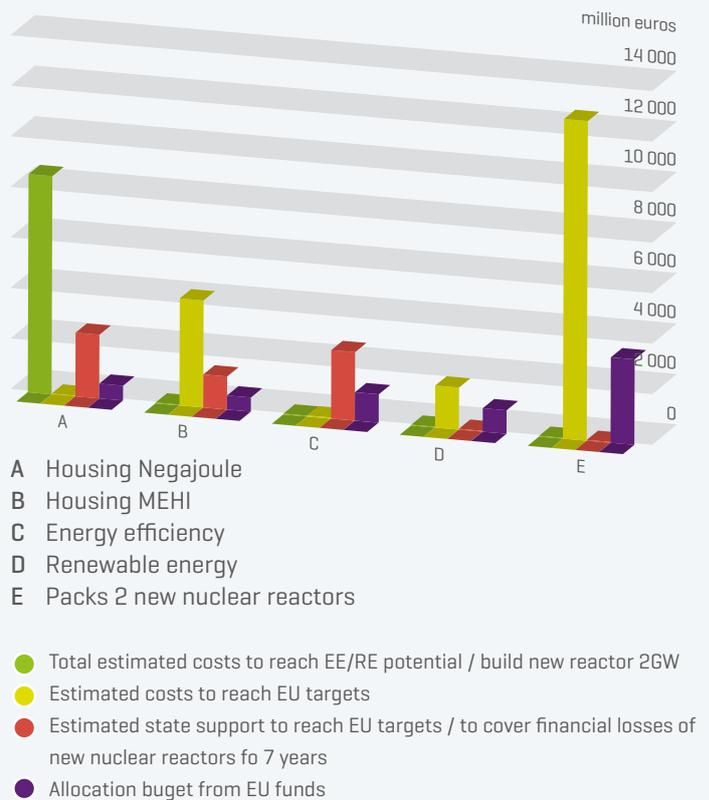
The government's approach to energy transition is also highlighted in the Smart Specialisation Strategy (RIS3): its priority of 'clean and renewable energies', instead of promoting a real energy system transition, maintains unsustainable energy production patterns (fossil fuels and nuclear) with only small upgrades ('window-dressing' such as clean coal technologies, innovative nuclear technologies, energy storage and distribution and the utilisation of 'waste energy'). More forward-facing is the priority 'ICT' which includes 'smart city' in the energy domain.

169 https://ec.europa.eu/commission/2014-2019/sefcovic/announcements/hungary-and-energy-union_en

GRAPH 60: Climate targets, scenarios and the role of EU in Hungary's investment policies



GRAPH 61: Energy financing – needs and allocations



KICKING OFF THE FINANCING

A - Housing NegaJoule: NegaJoule 2020 is a study by the Hungarian NGO Energy Club. It proposes that the potential energy savings in Hungarian residential buildings is 117 PJ annually. Total support (30%) for seven years would cost about EUR 2 billion.

B - Housing MEHI: This study by the Hungarian Energy Efficiency Institute (MEHI) and its partners (Hazai Hatékonyaság Program, www.hazaihatekonyasag.hu) proposes financing for energy efficiency during the 2014-2020 period at approximately EUR 600 million annually, or EUR 4.2 billion for the period 2014-2020.

C - Energy Efficiency: The estimated need for state support is approximately EUR 2.72 billion in order to reach the EU target (44.6 PJ/year savings during the 2014-2020 period, own calculation based on the National Energy Efficiency Action Plan II). Direct support of energy efficiency is approx.

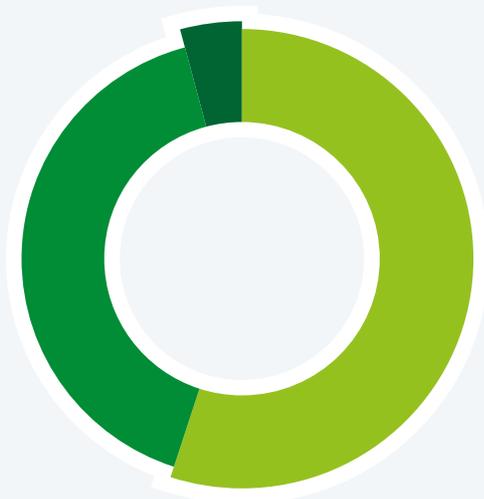
EUR 1.16 billion, according to allocations in the Operational Programmes.

D - Renewable energy: Estimated costs to reach the EU target (14.65% renewables by 2020) are EUR 1.4 billion (own calculation based on data from a background study to the National Renewables Action Plan by the Hungarian Energy Office and Pylon Kft.). Direct support from renewables in ESIF is approximately EUR 876 million according to allocations in the Operational Programmes.

E - Paks 2 new nuclear reactors: The estimated costs of the new 2 gigawatt nuclear reactors at Paks is over EUR 12 billion, and a study by Energy Club states that in the case of the most likely future energy price (25% higher by 2026), the state would cover the financial losses of the state-owned power plants by approx. EUR 3 billion over the first seven years of operation.

Since there was no ex-ante assessment of the Partnership

GRAPH 62: The different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
55% Energy Efficiency	1,159,078,519
41% Renewable Energy Sources	875,953,631
4% Co-generation, district heating	85,948,155
0% Electricity transmission, storage	0
0% Smart Grid	0
0% Gas	0

GRAPH 63: Energy efficiency allocations by type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
43% EE housing	501,500,629
39% EE public infrastructure	451,249,094
18% EE SMEs	206,328,795
0% EE large enterprises	0

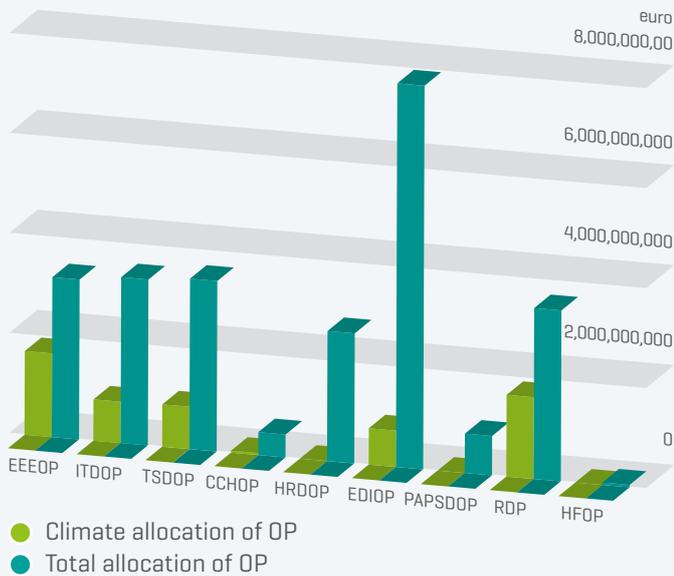
Agreement and the climate allocations are spread among various Operational Programmes, no ex-ante assessment detected whether the financial allocations for the climate objectives would be sufficient. According to official figures in the Partnership Agreement (20.31%), Hungary does meet the EU-level political target of allocating at least 20% of EU spending to the climate action objective.

EU funds should not be expected to be the only source of funding for energy efficiency and renewables investments. It is a question though whether and where public support from other sources will be available for such purposes. Given this and the figures above, the Partnership Agreement's total projected allocations for energy efficiency (EUR 1,159.08 million) is helpful but still insufficient (42.58% of the needs at best), and unfortunately may include the upgrade of fossil fuel plants. Approximately EUR 2,954.17 million is allocated for climate action in other sectors (including low-carbon transport, air quality, nature protection and risk management). The PA-level allocations for direct investments in renewables (EUR 875.9 million, or 62.14% of the needs at best) are also far from sufficient.

The fact that the Hungarian government's latest energy investment plans effectively bolster its bilateral relations with Moscow (Russia is providing a loan for the Paks-2 nuclear power plant and also the Gazprom-led South Stream gas pipeline is still on the table) does not address the need to reduce dependency on one external supplier, which at present provides 80% of Hungary's gas and 100% of its nuclear fuel. These plans underline the weakness of the Europe 2020 targets, ensure funding for dirty energy from other sources and undermine the transformation of the energy sector to which EU funds' investments must contribute.

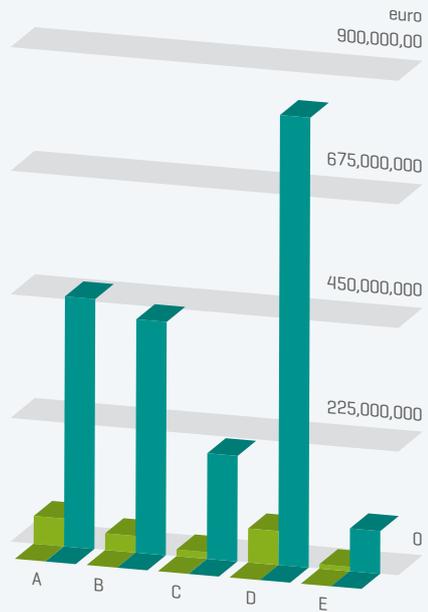
If Hungary is to meet its energy efficiency targets, the government needs to ensure that most of the auction revenues from the Emissions Trading Scheme (ETS) serve targeted investments into energy savings as well as energy efficiency in buildings and in transport. Unfortunately, the ETS allowances modernisation fund mentioned in Vice-President Šefčovič's speech in Budapest runs the risk of being used, for instance, to finance carbon capture and

GRAPH 64: Total climate allocations per Operational Programmes



- CCHOP** Competitive Central Hungary OP
- EDIOP** Economic Development and Innovation OP
- EEEEOP** Environment and Energy Efficiency OP
- EFSI** European Fund for Strategic Investments
- HFOP** Hungarian Fisheries OP
- HRDOP** Human Resource Development OP
- ITDOP** Integrated Transport Development OP
- PAPSODP** Public Administration and Public Service Development OP
- RDP** Rural Development Programme
- TSDOP** Territorial and Settlement Development OP

GRAPH 65: Energy efficiency measures by type of region: EEEOP, EDIOP, TSDOP, CCHOP

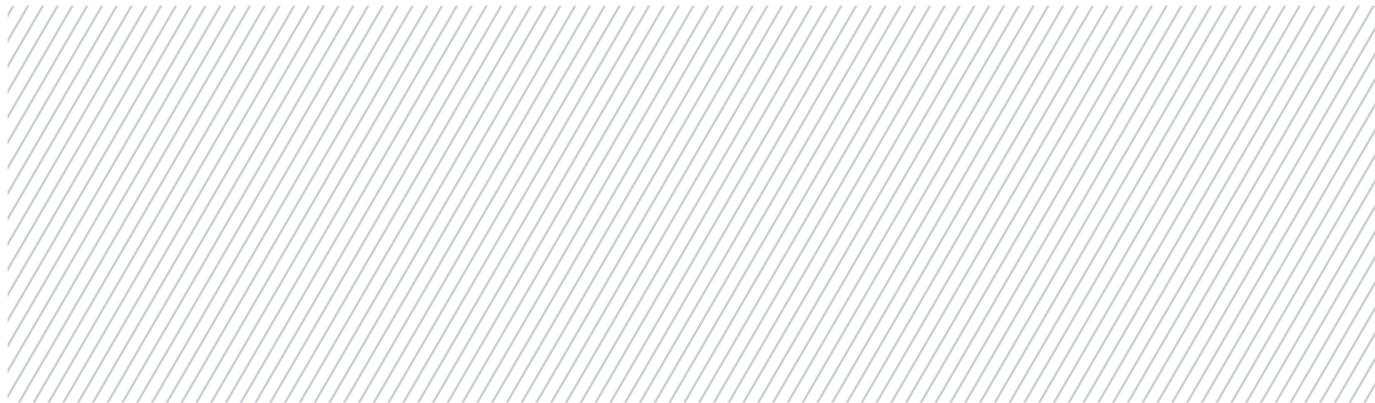


- developed regions [Central HU]
- less developed regions
- A** EE housing
- B** EE public
- C** EE business
- D** energy infrastructure: RES
- E** energy infrastructure: co-generation, district heating

storage facilities which would only deepen the countries fossil fuel dependency and block the transition towards clean energy systems. Government intervention to keep energy prices artificially low through state-controlled prices, 'decrease of overhead costs of households', also discourages investments in energy efficiency.

While the alternative energy scenarios for 2050 quoted above devote a big role to biomass, just like in the Partnership Agreement-level allocations, these should be reconsidered and at least conditioned on sustainability criteria if not phased out entirely, due to the large land and ecological footprint of biomass-based energy production. Unfortunately, solar and 'other renewable sources' (including wind) are generally discouraged due to a generally insecure environment for investments, characterised by limited EU funding for citizen and community renewable energy projects, unfavourable feed-in tariffs and a recently-introduced solar panel tax. The extent to which current allocations address these problems is insufficient.





Experts undertaking the obligatory ex-ante evaluation of the programmes also pointed out a conflict between the limited budget and the high number of planned interventions in several programmes (especially Competitive Central Hungary, Environment and Energy Efficiency and Human Resource Development) and noted that this is likely to result in the fragmentation of resources. This is worrisome, as most funds for climate action are allocated in one of the programmes most affected by the potential fragmentation of funds. This may, in turn, negatively influence the effectiveness of funding allocations for climate action.

Several Operational Programmes are complementary in terms of energy financing (energy efficiency and renewables) for various sectors and beneficiaries. As regards the territorial division of funds for energy financing, approximately ten times more goes to each type of energy-related investment in the less developed regions than in central Hungary, while approximately 30% of the population lives in central Hungary and business activity is concentrated in this region. However, this logic to prioritise energy efficiency in less-developed regions is justified

by the difference in the lower level of development and may in fact contribute to the decrease of centralisation.

It is encouraging to see Vice-President Šefčovič¹⁷⁰ calling for citizens 'to take ownership of the energy transition.' This needs to be achieved by enabling citizens and communities to provide the energy that Hungary needs, and the EU funds should be used in support of this. The Rural Development Programme is the only one that provides some opportunities for local communities to access local resources for energy production [see chapter on biomass].

While the Economic Development and Innovation Operational Programme has the largest budget, it allocates the fifth lowest amount to climate action among the programmes. The priority which it could contribute most to climate action (Priority 4 – energy) has the lowest allocation (2.48%). However, this is amended by Priority 8 (Financial instruments), a fair share of which goes to energy-related investments (energy efficiency and renewables in enterprises and housing).

FINANCIAL INSTRUMENTS

Financial instruments are available to fund energy efficiency and renewables measures in the enterprise and housing sectors, in line with a gap analysis, for individuals and combined with non-refundable support in the form of preferential loans, guarantees and interest rate support. These measures are Priority 8 of the Economic Development and Innovation Programme. Financial instruments are good tools to trigger investments in the field of energy since the investments pay-off in the long run. Regarding the allocation of refundable and non-refundable sources to Thematic Objective 4b (energy efficiency and renewables in enterprises), the Operational Programme notes that these funds are 'insufficient to combat the degraded infrastructure heritage but enough to generate a sufficient number of competitive enterprises.' For Thematic Objective 4c (energy refurbishment of the housing sector), the Economic Development and Innovation Programme allocates refundable sources exclusively; these are meant to match the funds under Priority 5 of the Environment and Energy Programme. "It would be inevitable to provide non-refundable support for energy refurbishments to the housing sector.

170 <http://cor.europa.eu/en/news/Pages/interview-maros-sefcovic.aspx>

Expected complementary financing mostly seems to have positive climate impacts

The European Investment Bank (EIB) is expected to assist with the implementation of projects from the Integrated transport development programme, the Environment and Energy Efficiency Programme and the Connecting Europe Facility through a EUR 1 billion loan, thus also contributing to energy-related developments. Other relevant projects in the EIB project pipeline include urban development (with sustainable urban transport, renewables and energy efficiency), business RDI for the sake of lower energy consumption, and several multi-objective 'global' loans for SMEs, without specific environmental criteria.

The project pipeline accompanying the Juncker investment plan from November 2014 includes several cross-border transmission corridors and interconnections which, even if based on fossil fuels, are necessary to ensure safe energy supply, including the utilisation of renewables and gas stored in reservoirs. The establishment of heat cooperation in southern Budapest seems to be a good example of energy efficiency developments. Several other projects in resources and environment in the field of climate change adaptation also seem to be progressive.

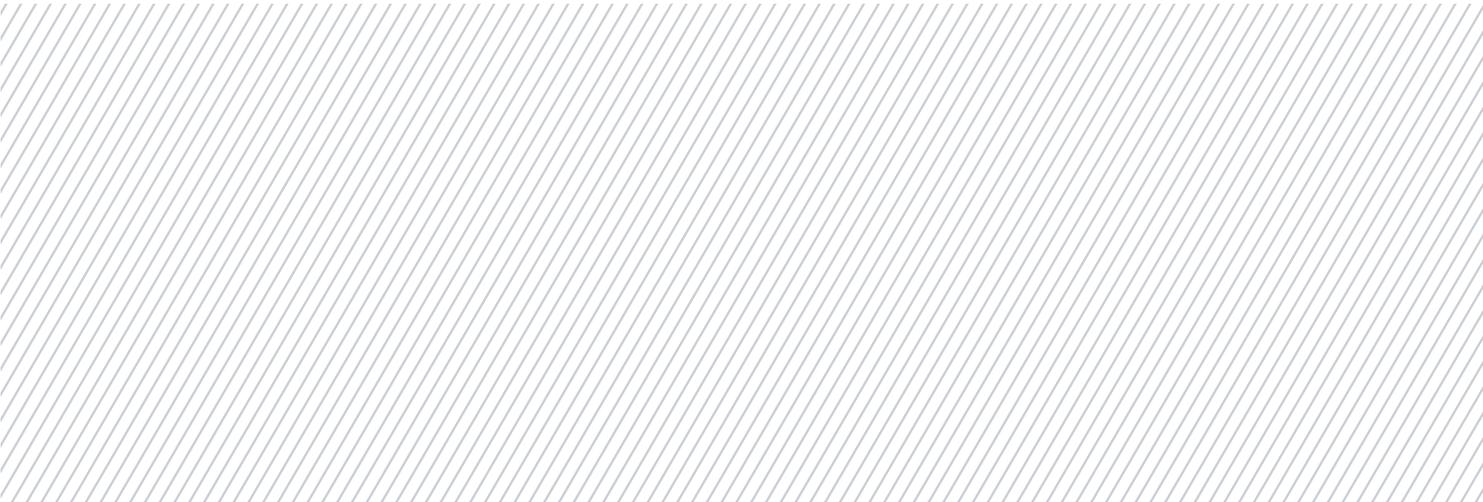
The Horizon 2020 via renewables and energy efficiency innovation, and the European Territorial Cooperation may also be beneficial for climate action, while LIFE specifically includes climate policy projects.

National sources, however, do not add to the climate actions foreseen in EU funds as mentioned above. The construction of a new nuclear power plant and subsidies for existing

utilities prevent budgetary sources from being devoted to matching EU Funds in the efforts of transforming the energy system.

CLEAN ENERGY IN A STRATEGIC CONTEXT

The weakness of the Europe 2020 national targets means that meeting them does not require additional efforts. Still the Partnership Agreement does not even mention 2030 targets and is overwhelmingly focused on competitiveness and growth. Moreover, not even the Europe 2020 climate targets take an overall guiding role in the document. The Strategic Environmental Assessment (SEA) report finds that the Operational Programmes contribute to the Europe 2020 targets sufficiently. The Partnership Agreement recognises the aims, needs, potential and challenges identified by the National Energy Strategy and contributes to most of its objectives, in particular on energy savings. Even if the transformation of the energy system as such is not set as a goal, the Partnership Agreement acknowledges energy efficiency as one of the five national priorities of the National Development Concept. Unfortunately, the Partnership Agreement does not ensure the full coherence of funding priorities with the needs for climate action though, as climate change considerations are not integrated into all thematic objectives and some priorities (for example high-carbon road construction) even undermine climate benefits. The priorities the Partnership Agreement and the Operational Programmes set for renewables are in line with the above assessment of renewables potentials, but utilise them to a lower than sufficient extent.



The Partnership Agreement contributes to the following objectives of the National Energy Strategy:

- a) Energy saving – reducing consumption through energy savings and energy efficiency; reduction of the heat needs of the building stock by 30%.
- b) Renewables and low-carbon energy production: share of renewables within primary energy use to rise [from 7%] above 20% by 2030 and to 14.65% by 2020.
- c) Modernisation of community district heating and individual heat production, increasing the technical quality of service [decentralised, interlinkable district heat island, low-temperature district heating] and the inclusion of RES. Share of RES within heat production to rise from 10% to 25% by 2030.
- d) Increase of EE and decrease of CO₂ intensity of transport: share of electric [road and rail]. Increase the role of rail in freight and passenger transport, modern traction technologies.
- e) Green industry: low-carbon lifecycle technologies, biomass and waste as energy sources and raw materials, organic agriculture, geothermal greenhouses, local utilisation of agricultural waste.
- f) Strengthening the role of the state: governmental/national/state regulation, reliable/stable investment environment, streamlined bureaucracy, EU-level infrastructure platform, high-level education in energy.

Given this list of objectives, the coherence and cross-reference between Thematic Objectives is often missing: for example, while the document recognises the contribution of energy efficiency measures to competitiveness [T03] and research potentials [T01], the description of respective Thematic Objectives TOs 1 and 3 does not mention this potential.

The Partnership Agreement also includes some extra progressive approaches [like sustainable urban transport, ensuring environmental and social benefits, for example, the increased exposure of the ageing and segregated population to climate change, the need for reconsidered settlement planning, climate change mitigation as a health issue, climatic impacts concentrating in urban areas, social urban rehabilitation]. The problem is that these are not integrated in all the programmes and objectives, for example, energy poverty is not addressed explicitly.

The Partnership Agreement also assesses the lessons learned from earlier funding periods and draws conclusions regarding new directions for intervention [a higher share of financial instruments, emphasis on reforestation and smaller-scale investments in agriculture instead of large-scale bioethanol plants to name a few].

RECOMMENDATIONS FOR THE MID-TERM REVIEW

Recommendations regarding financing needs to promote decarbonisation and decrease the economy's higher-than-EU-average energy and carbon intensity:

- More funds should be allocated to Thematic Objective 4, European Regional Development Funds for Energy Efficiency (Operational Programme Territorial and Settlement Development) and to Thematic Objective 4 Cohesion Funds for Energy Efficiency in the Housing Sector (Operational Programme Environment and Energy Efficiency).
- More funds should be allocated to Thematic Objective 5 Cohesion Funds for Awareness-Raising (Operational Programme Environment and Energy Efficiency) and a stronger emphasis on awareness-raising under Thematic Objective 4 and 6.
- More funds should be allocated to Thematic Objective 6 Cohesion Funds for Nature Protection (Operational Programme Environment and Energy Efficiency).

Recommendations regarding the content of programmes:

- Apply horizontal guiding principles to all investment priorities and interventions to the extent possible. Collect all relevant horizontal criteria and principles in one place for each and every call for proposal once it is published.
- Regarding financing tools, introduce clear selection criteria, instruments and indicators to ensure that only projects serving sustainability receive funding from the European Fund for Strategic Investment and the EIB.

For renewables and energy efficiency:

- Sustainability criteria for renewables investments in any field (urban rehabilitation, community-led local development, social infrastructure and so on): priority for wind, solar and geothermal; biomass conditioned on the protection of ecological services, soil nutrient households and biodiversity.
- Solar panel parks should only be eligible as brownfield investments (for example, on roofs) in order to prevent the use of valuable land or ground for this purpose.
- Sustainability criteria for any investment in energy efficiency: use of environmentally-sound, natural materials, local resources, alternative technologies and nature-friendly solutions to be prioritised.
- Research, Technological Development and Innovation Interventions should specifically aim at the development of resource and energy savings

technologies and prioritise RTDI activities in energy efficiency, renewables and climate adaptation.

- Resource and energy efficient production and life-cycle assessments should be mandatory, project selection criteria on resource efficiency should be introduced.
- For social and health infrastructure investments, environmental awareness, the use of environmentally-friendly materials and renewable energy sources should be required; further, energy efficiency and energy saving (resulting in lower operating costs) should be prioritised.
- Under community-led local development/LEADER, the use of local energy potential should prioritise energy savings (low energy use).
- The acquisition of tools or machines should be conditioned on environmental good performance (material, energy, water saving).

For climate adaptation:

- Urban development should require the enhancement of green areas and explicitly include the enhancement of biodiversity, forestation of urban areas, development of protected areas and ecological services.
- The strengthening of the local economy should be a dominant priority of economic development.
- Include climate and environment-related knowledge in each education activity in the relevant context and prioritise education specifically focused on these fields.
- Introduce climate adaptation criteria for small-scale water management infrastructure.

For transport projects:

- The focus should be on support for better spatial planning and for railway development instead of the current tendency favouring unnecessary highways that are environmentally and socially harmful.
- Best available ecological technologies to ensure permeability and environmentally-sound implementation (e.g. noise protection walls, decrease of air pollution, energy efficiency) should be cross-cutting.
- Mandatory awareness-raising elements (like the reduction of transport needs, car-sharing and ecodriving), planting native tree lines, use of secondary raw materials (inert waste), assessing the possibility for using renewables (for traffic lights or passenger info) should be required.

THE ENFORCEMENT OF HORIZONTAL MAINSTREAMING OF CLIMATE CONSIDERATIONS REMAINS CHALLENGING DUE TO ITS COMPLEXITY

The general approach of requiring the integration of horizontal considerations into the projects instead of having project owners make horizontal commitments for extra scores during project selection is a positive one. However, the overall integration of horizontal aspects is not strong enough, as it is not enforceable and the positive elements of the Partnership Agreements could not be operationalised via the Operational Programmes and project selection criteria sufficiently, while the institutional system has the discretion of selecting applicable horizontal criteria according to the sector's needs.

Horizontal criteria are scattered across the programming documents: the basic principles are listed in the Partnership Agreements, and the Operational Programmes include a chapter on 'horizontal guiding principles' and some horizontal aspects among the 'investment priority-specific principles' on a case-by-case basis. The project selection criteria in the implementation documents may also include horizontal criteria where planners find it relevant. It is therefore hard to keep all of these in mind and take all of them into account both for the project developer and the evaluators.

On a positive note, climate change mitigation and adaptation is one of the horizontal principles set by Hungary. The Partnership Agreement lists a series of principles (including energy and resource efficiency, reduction of resource and energy use and land seal, greenhouse gas emissions reduction, the polluter pays principle, precautionary/prevention principle, life-cycle cost assessment, eco-innovation, preference for environmentally-sound development, protection of natural assets and green public procurement) to be applied across the programmes' implementation, the design of measures and project selection. The horizontal guiding principles for the selection of operations include a similar list reflecting the above principles.

Still, the Partnership Agreement does not manage to establish a kind of 'environmental integration work programme' because it is up to the managing authorities and monitoring committees to decide which of these principles they find 'relevant and proportionate' to introduce as

horizontal requirements or selection criteria for projects in a certain sector. Otherwise, project selection criteria generally include 'sustainability' or 'environmental sustainability' only, without making clear how this relates to the aforementioned detailed principles and aspects listed in the Partnership Agreement and the programmes.

In line with the potential contribution to climate action of territorial cohesion as a horizontal objective, the Partnership Agreement expects decentralised spatial development to recover local economic systems and local employment. However, wherever programmes discuss the territorial dimension, the justification of actions and allocations (not even those of community-led local development) never takes climate considerations into account. The selection criteria for urban community-led local development only includes environmental considerations under 'sustainability' as an option. The Rural Development Programme includes that local LEADER strategies should meet environmental and climate policy aims.

Regarding the enforcement of 'environmental sustainability' across the institutional system, the following measures are foreseen: programme-level monitoring of horizontal objectives: e-administration, accessibility of workplace by sound means of transport, rational car use, atypical employment, energetic refurbishment of ministries, green public procurement, training and project selection. It remains to be seen whether the institutional system has sufficient capacity to ensure and monitor the contribution to climate action. The establishment of a Partnership Agreement Monitoring Committee with the mandate to ensure the coherence of Operational Programmes and the implementation of the horizontal principles, with the involvement of 'the relevant partners', gives grounds for some hope.

One positive sign is that it seems that the Prime Minister, as the office responsible for horizontal integration, will screen the draft call for proposals and require the inclusion of some meaningful elements for the integration of specific environmental aspects. The problem is that this process is not transparent, so it is very hard to measure the results of the process.

NOTWITHSTANDING A FEW EXCEPTIONS, THE INTEGRATION OF CLIMATE CONSIDERATIONS INTO PROGRAMMES IS WEAK

Sidelining the need for horizontal mainstreaming, ex-ante experts approved the planners' commitment to devoting the majority (about 60%) of EU funds for economic development, even if they criticised the subordination of energy efficiency, environmental and social objectives in other instances. The Strategic Environmental Assessment notes that, without EU funding, unsustainable development paths will prevail in the long run. While the general emphasis on energy efficiency and renewables in the Operational Programmes is fine, the problem lies with the allocations to these objectives and to other climate action, as well as the lack or low-levels of mainstreaming of climate considerations into non-climate-focused interventions (like education, employment, business development and social infrastructure). Unfortunately, energy use and savings potentials are predominantly discussed in the context of economic competitiveness. Regarding the Environment and Energy Efficiency Operational Programme, the most positive impacts are expected in the field of climate change i.e., natural impacts on humans and natural resources. However, since the content of the Environment and Energy Efficiency Operational Programme is largely determined by tasks arising from non-compliance with EU legislation, the programme leaves some environmental problems unaddressed.

Within the Economic Development and Innovation Operational Programme, energy is the only priority that reflects relevant climate policy targets. Unfortunately, project selection criteria listed in the implementation documents are poor or even lack 'sustainability'. There are some specific criteria (but few and poor) for the priorities, with the most relevant link to environmental and climate issues. Due to a biased interpretation of sustainability, environmental protection considerations are ignored or subordinated to economic and financial ones.

Project selection criteria of the Territorial and Settlement Development Operational Programme require that 'the planned development should increase greenhouse gas emissions to the smallest possible extent or rather decrease them possibly.' A climate-friendly transformation of the economy would require much stricter criteria but, unfortunately, this formulation is also in line with the weak national Europe 2020 targets. Since some measures or interventions will be implemented through county or municipal-level selection processes, these geographical entities also use specific selection criteria. Only six of nineteen counties and eight of twenty-two cities with municipal rights selected some environment or sustainability-related criterion (resilience or sustainability, protection of the environment and landscape, contribution to a low-carbon economy).

MISSED OPPORTUNITIES

- **The programmes do not allocate any funds to intelligent energy distribution systems.**
- **The potential for linking investments in other sectors with the low-carbon economy is missing, i.e., no funds were allocated to intervention fields 3 (productive investment in large enterprises), 65 (RTDI), 70 (large enterprises), 71 (services of enterprises contributing to the low-carbon economy).**
- **Some other environmental measures aimed at reducing or avoiding greenhouse gas emissions (including treatment and storage of methane gas and composting) (intervention field 23) also lack allocations.**
- **Air quality problems (PM10), pharmaceutical residues and others are not addressed by any programme.**
- **The use of climate adaptation potential in education and social integration programmes (awareness-raising) is not promoted explicitly.**

a) Energy efficiency

Eligible actions	Criteria
<ul style="list-style-type: none"> • Buildings (housing stock, building stock of local governments, business infrastructure, railway stations, social infrastructure). • Electricity-related refurbishments in homesteads or farmsteads. • Social urban rehabilitation (including housing blocks and public spaces) • Productive tools, machinery (production processes). • Energy quality assessments. • Modernisation of lighting. • Modernisation of boiler rooms, exchange of heaters. 	<ul style="list-style-type: none"> • Partnership Agreement proposal for all programmes: investments should be prioritised if they decrease greenhouse gases or pollutant emissions measurably, contribute to climate change adaptation, enhance resilience and adaptation and/or are implemented with low energy use. • Energy efficiency projects of local governments should be based on the internal, autonomous utilisation of regional energy potential, with special regard to renewables. • Refurbishment should be based on energy assessments, certified or carried out with certified technologies. • Higher or the highest possible savings on energy or fossils or greenhouse gas emissions at unit cost are prioritised or required (depending on the investment priority). • In the case of renovating buildings, complex renovation has priority. • Small-scale infrastructure development in agriculture should contribute to energy efficiency.

A non-favourable direction is that the government plans to change the Environment and Energy Efficiency OP and reallocate funding from energy efficiency in public housing to energy efficiency in governmental buildings. This direction jeopardises the fulfilment of the National Energy Efficiency Action Plan and can have negative social impacts.

b) Fossil fuels

Even though the modernisation of boiler rooms, heaters and cogeneration facilities (Operational Economic Development and Innovation and Territorial and Settlement Development Programmes) may represent a hidden subsidy to fossils and thus be harmful to the environment, the description of the action in Territorial and Settlement Development at least specifies the aim of the priority by 'supporting any initiative aiming at changing energy sources and thereby decreasing the dependence of local governments on fossil energy sources.'

c) Biomass

Unfortunately, the Partnership Agreement fails to recognise the ecologically-harmful impacts of extracting nutrients from the soil and the wide-scale use of biomass for energy production (like in district heating). This may be supported under several programmes (Environment and Energy Efficiency, Competitive Central Hungary, Rural Development Programme). In the Territorial and Settlement Development Operational Programme, the burning of biomass has been reformulated, but the allocations still suggest the promotion of biomass incineration. The criterion in Competitive Central Hungary for these projects to preserve natural assets looks good at first sight but, in essence, is not stringent enough to fully ensure sustainability of biomass. The Rural Development Programme promotes the use of biomass as an energy source in several ways through several interventions and aims to limit the consequent environmental pressure through several criteria (on quantities and species used, see Annex), with limited capacity to ensure the ecological sustainability of the



Eligible actions	Criteria
<ul style="list-style-type: none">• In the case of energy-related investments of enterprises, renewables are eligible in and of themselves, without investments in energy efficiency, i.e., may not contribute to the decrease of energy use.• The specific fields in which RTDI is supported include: sustainable environment and clean and renewable energy.• Production of machinery producing energy from renewable.• The fact that among locally-available renewables, solar panel parks are also eligible raises concerns in relation to surface cover.	<ul style="list-style-type: none">• The use of renewables is to be considered in the case of all new construction.• Although renewables investments are not linked to mandatory energy modernisation, only buildings with low heat-transmission [heat loss] levels [the same level as for any new construction] are eligible.• ‘Energy Efficiency and Renewables in SMEs and Housing’ [Competitive Central Hungary Programme] prioritises SME production units using local resources and serving local needs, renewables-based co-generation of heat and electricity, as well as investments combining energy efficiency and the use of renewables.• For the gardening sector [RDP]: the amount of renewables produced and marketed should not exceed the annual total energy need of the farm.

action, though. The best measures are: ‘local, small-scale biomass-based community infrastructure development cannot increase the use of wood; the planting of fast-growing ‘energy woods’ is not eligible’. The Environment and Energy Efficiency Programme declares that biomass energy production will be funded only if it meets sustainability criteria.

d) Renewable energy sources

The PA claims the exploitation potential in solar and wind to be strictly linked to technological and market developments.

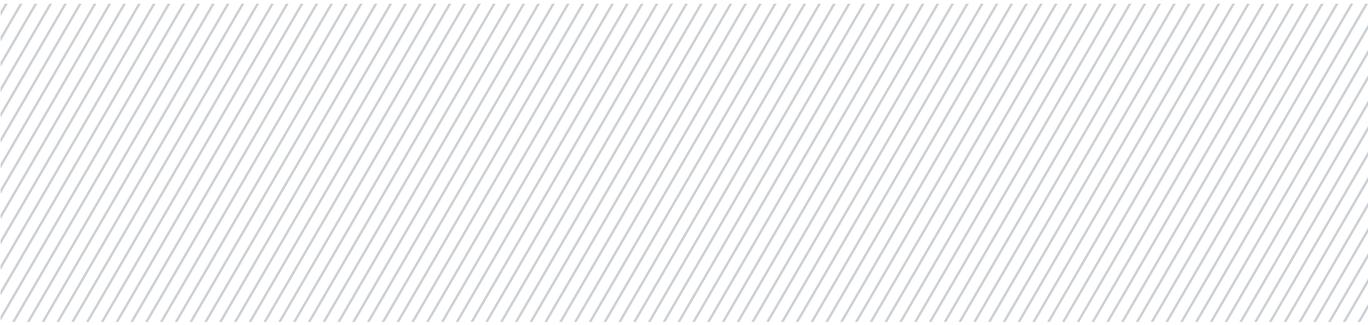
e) Incineration

Even though the Strategic Environmental Assessments recommend avoiding incineration, especially in areas with high concentrations of dust, three programmes and the RDP support it in various ways. The Territorial and Settlement Development and Economic Development and Innovation programmes support the incineration of waste [RDF thermic utilisation plants]. The Competitive Central Hungary Programme only introduces some emissions standards for biomass combustion. Criteria are not able to prevent projects with adverse impacts on the climate and

the nutrient household of land. The Environment and Energy Efficiency Programme includes a major project for treating Budapest sewage, which may include municipal solid waste co-incineration.

f) Adaptation Eligible actions in TSDOP are: climate-resilient rehabilitation of urban brownfield areas and urban public spaces [reference to slow cities]; increase or qualitative improvement of urban green areas in line with climate adaptability; environmentally conscious development of urban business areas; The development of the regional economic environment to enhance employment sets the increase of rehabilitated land as one of the indicators which has indirect climate relevance. EEEOP allocates significant funding for climate adaptation, mainly for flood prevention. The nature conservation and rural development considerations not treated strongly in planning flood prevention measures, the early participation of environmental authorities and NGOs in planning of flood prevention is not ensured. EEEOP includes some interesting measures for climate adaptation local and regional planning and stakeholder co-operation, which is possible a best practice.





TRANSPORT DEVELOPMENT NOT DECREASING CO₂ INTENSITY

Transport is another sector supported by several programmes; certain branches (like bicycle infrastructure) are covered by programmes other than the Integrated Transport Development programme, but none of the programmes contains solely beneficial development from a climate change perspective.

The programme Integrated Transport Development does not identify climate change needs, but approaches the need for energy efficiency as an externally-imposed necessity, as the sustainable transformation of the transport sector does not seem to be of economic interest to the country until the external costs are not internalised. Therefore, as the SEA report notes, without the contribution of EU funds, clean urban transport development and much of the rail development would not be realised and an even heavier increase in road traffic would take place. However, as noted by the SEA report, the Operational Programme also has a limited scope of flexibility due to the project pipeline and other determinations. It is therefore questionable to what extent the programme addresses the problem of decoupling the energy intensity of transport from GDP growth and whether it will be able to change the balance between transport modes.

Still, priorities of the TEN-T rail and waterways and sustainable urban transport, suburban railways (with possible solutions like smart cities, slow cities, change of buses, bicycle infrastructure, and those in Competitive Central Hungary and Territorial and Settlement Development) claim to serve sustainable development and set climate and environment as explicit aims.

Some investment priorities on the other hand (TEN-T road development and the regional accessibility of TEN-T including bypass roads) as well as the improvement of the accessibility of work places through the renovation or construction of roads (Territorial and Settlement Development), will result

in higher speeds and an increase of traffic, consequently generating an increase in emissions and jeopardising the ability to meet climate objectives. This comes in an environment where the transport sector is the only one where emissions grew between 1990 and 2010, by a whopping 45%. This will certainly not be in line with the Commission's transport sector roadmap which recommends that 'sustainable mobility concepts' lead to a 60% reduction by 2050 in greenhouse emissions across the sector.

Moreover, the enhancement of regional accessibility of TEN-T is problematic for several reasons: a) it limits regional accessibility to roads and b) the general problem of poor accessibility of settlements among each other (and the worsening quality of local roads) has not been addressed neither in the 2007-2013 period nor in the 2014-2020 period. The programme attributes this to the Commission's requirements, which limit the development of local roads to those accessing TEN-T. Therefore, these investments in roads should also be considered international ones.

The development of tourism (Territorial and Settlement Development and Economic Development and Innovation Operational Programmes) aims to increase the access to and profitability of natural and cultural heritage within the carrying capacity of the area. The increase of tourism is very likely to result in a significant increase in induced emissions depending on the means of transport the tourists use to access the region (even if the local access of natural assets is achieved via environmentally-sound means of transport.)

The Integrated Transport Development Programme ignores the impact of transport development on territorial cohesion and areas with natural and demographic disadvantages, thereby contradicting the philosophy behind the notion of 'cohesion fund'. The EU funds do not contribute to the use of

renewables in transport, as this task is said to be tackled by mixing biofuels with regular fuel.

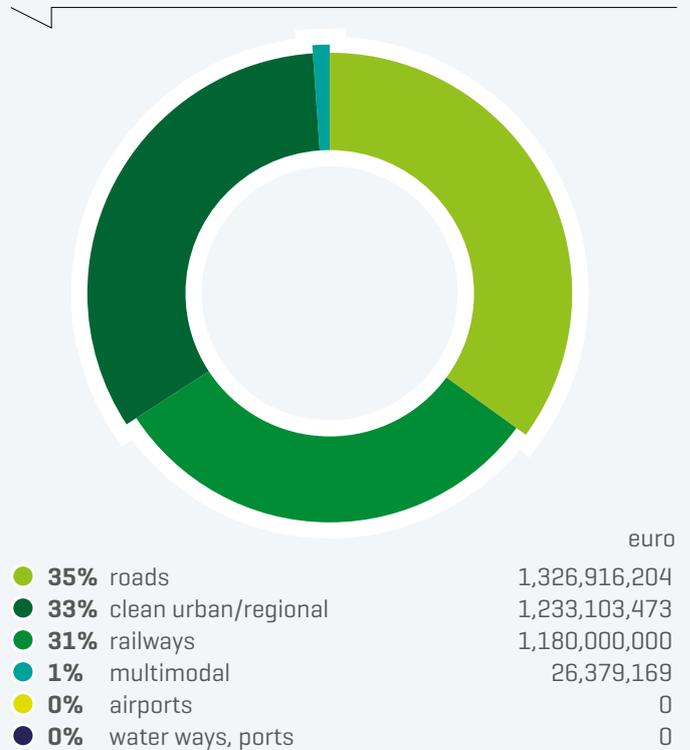
The Connecting Europe Facility project list includes some motorway projects, rail refurbishments and investments in the European Train Control System, a new rail bridge over the Danube and the planning and implementation of TEN-T waterway and ports (mixed impacts; see box).

Despite few positive examples (see Annex) there are generally few and insufficient criteria introduced for transport projects.

Financing transport

The Integrated Transport Development Operational Programme claims to contribute to the climate objective in 25% of its allocations. This is the third highest contribution among the programmes, but far from enough since it fails to go even beyond the Europe 2020 climate targets, with road transport enjoying 35% of transport infrastructure allocations. On the positive side, the allocation of 33% of transport funding to clean urban transport is worth mentioning. The lack of allocations on waterway infrastructure and airport development is only explained by the fact that related projects are expected to be covered from the Connecting Europe Facility and other sources (Danube – see box; Budapest airport rail connection – CEF).

GRAPH 66: Share of transport modes in total transport funding in Hungary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



IMPROVING NAVIGABILITY OF THE DANUBE

The Danube is a TEN-T corridor which is considered to be climate-friendly, however, there are problems with it. The Integrated Transport Development Programme includes soft measures (like signposting, IT, smart traffic systems) with minimal or no harmful environmental impacts. However, the improvement of navigability of the Danube will also be a major project under the Connecting Europe Facility (the specific content of which is unclear: 'this should be prepared by taking flood management, nature protection, water management and navigation aspects into account') and may be implemented even if only mitigating harmful impacts.

Herein lies the conflict. Hungary opposes infrastructure development that interferes with ecosystems like dams, but the Commission and the European Danube Commission push the improvement of the navigability of the Danube through all means and hope to raise other funds for this. It is questionable how more than fifty bottlenecks can be removed from the Hungarian section to ensure year-round navigability, at a width of 120-180 metres and a depth of 2.5 metres, without considerably harming the ecosystem.

ANNEXES

Annex I – Good examples

Transport

Investment priority-specific selection principles for projects on the local accessibility of TEN-T prioritise the enhancement of capacity for existing roads over new construction and require existing or planned public bus services on the road.

For emissions reduction, there is an indicator for sustainable urban transport and suburban rail projects.

For linear infrastructure mandatory: native trees, protection of ecosystem services, minimising impact on waters, implementation through low-distance transport, low material and energy use, use of areas of lower ecological value, use of reused materials and so on.

Business infrastructure development within the Economic Development and Innovation Operational Programme claims to prefer 'brownfield investments well accessible with low traffic needs and means of public transport'.

Biomass (RDP)

- No more than 50% of the input materials for biogas can represent grain and plants containing starch and sugar.
- If agricultural biomass is primarily used for the production of electricity, at least 25% of the produced heat surplus has to be used within the same/own farm.
- Only heaters with at least 70% efficiency can be used for non-combined biomass-based heat generation.
- In the gardening sector, the production of liquid bio-fuel is not supported.
- Local, small-scale, biomass-based, community infrastructure development cannot increase the use of wood.
- Local, innovative, high efficiency use of forestry or agricultural waste mainly for heating or cogeneration is eligible under the renovation of villages.
- In the case of investments in forestry technologies and the processing, mobilisation and marketing of forestry products, and alleviating barriers on the use of local forestry biomass as a renewable source of energy for biofarming purposes is eligible.
- The planting of fast-growing 'energy woods' is not eligible.

Annex II – Complementary financing

For energy projects

EIB

The EIB is expected to assist with the implementation of the 2014-2020 programmes with a EUR 1 billion loan, the first tranche of which was signed with the government in June 2015 and which can be used within three years. The loan supports two programmes (Integrated Transport Development and Environment and Energy Efficiency), as well as projects under the Connecting Europe Facility, thus also contributing (potentially) to energy efficiency developments.

The EIB project pipeline includes:

- Miskolc urban development, which will finance investments defined in the Integrated Urban Development Strategy of the city and will provide financing to schemes, mainly of small and medium size, in the following fields: urban renewal and regeneration, sustainable urban transport, renewable energy and energy efficiency, environmental protection and climate change action, SME support and RDI, knowledge economy and social infrastructure investments at EUR 25 million (total costs of EUR 200 million). The project has been under appraisal since June 2015, and it is not clear if this project is a part of any programme.
- Several multi-objective loans for SMEs via intermediary commercial banks without specific environmental criteria.
- RDI at Electrolux to support research into improved performance, user-friendliness, lower energy consumption and lower use of resources (such as water) for a range of household goods at EUR 200 million (of EUR 400 million). Signed on 11 May 2015.

The preliminary project pipeline for the European Fund for Strategic Investments (EFSI) includes:

- In the field of energy, several cross-border transmission corridors or interconnections, even if based on fossil fuels. These are necessary to ensure safe energy supplies, including the utilisation of renewables and gas stored in gas reservoirs.
- The establishment of heat cooperation Csepel-Kispest-Kelenföld (south Budapest) seems to be progressive and a good example of energy efficiency.
- Several other projects on resources and environment in the field of climate change adaptation seem to be progressive.

Other programmes:

- The EU Strategy for the Danube Region (EUSDR) includes explicit and implicit climate considerations. Three of its priorities (sustainable energy, water quality, environmental risks) are coordinated by Hungary. In order to ensure coordination among development initiatives and funding sources, the EUSDR state secretary participated in programme planning and an EUSDR cross-ministry working group is also operational. The Danube Transnational Cooperation Programme, adopted by the Commission on 20th August, 2015, will support transnational cooperation projects in line with the priorities of the EUSDR and will be financed from ERDF and IPA [i.e., Hungarian programmes contribute to it rather than the other way around].
- Horizon 2020 is potentially beneficial regarding renewables and energy efficiency innovation.
- LIFE specifically includes climate policy projects, but nothing specific is mentioned about these. European Territorial Cooperation could also contribute to reaching the (climate-related) aims of the Partnership Agreements.





For transport projects

EIB

The EIB project pipeline includes:

- Several rail and road projects which were part of the Transport Operational Programme 2007–2013.
 - Road network modernisation at EUR 500 million [of EUR 1 billion]. Under appraisal as of 30th July, 2015, this represents additional funding for unsustainable road transport.
 - Road 62 at EUR 19 million [of EUR 71 million]. Under appraisal since 11th May, 2015. Even though it is a road project, its necessity is well-justified because it decreases the centralisation of Hungary and eases the east-west permeability of the country.
 - Modernisation at GySEV railways, EUR 40 million of EUR 100 million. Approved July 2014.
 - Budapest – Esztergom railway reconstruction at EUR 28 million of EUR 185 million. Under appraisal since March 2013, though the investment has already been carried out.
 - Záhony rail infrastructure, approved March 2013.
 - Budapest urban transport including different investment schemes in the city of Budapest within its Integrated Urban Development Strategy, mainly in the field of public transport and on the road network at EUR 350 million [of EUR 1.100 billion]. Approved in September 2015, it is not clear if this project is a part of any OP.
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The project pipeline for the EFSI includes:

- Several proposed transport projects included in the Integrated Transport Development programme and others are also in line with the programme's aims and priorities. The project that seems most problematic is 'main road between Pápa and M1 bypassing settlements and upgrading [2x1]' as this again attracts resources from the region without serving the accessibility of settlements among each other
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RO

Going 'super-green', but not right now

Climate action in EU Cohesion Policy
funding for Romania, 2014-2020



- While the 2020 targets are kept in focus as a main objective for how the Romanian energy policy is envisioned and implemented, a profound transformation of the entire energy system towards a cleaner one is clearly not yet a strategic objective of Romania.
- Energy-related strategies, while still being heavily reliant on coal, include: energy efficiency, improved systems for supporting RES, incentives for R&D, nuclear energy, hydrogen energy, natural gas as a 'transition fuel', complete integration in the internal energy market.
- The 'business-as-usual' scenario regarding climate change actions includes the 2020 targets. Some 'green' and 'super-green' scenarios are approached in an incremental manner, post-2020, but no major steps towards such scenarios are considered within national strategies or ESIF investments.
- Alternative scenarios based on completely phasing out fossil fuels and nuclear energy are not considered in the main energy strategies.
- Romania's strategy for climate mitigation is, in effect, mostly EU-led, in the sense that climate mitigation objectives are driven by EU targets and funded by EU funds, and the government does not envision additional or complementary policies to address climate change.
- Approximately 19.1 % of Romania's total EU Regional Development and Cohesion Funds are allocated towards climate objectives, one third of it - 6.27% - goes to clean energy.

PARTNERSHIP AGREEMENT (PA)

- Challenges and investment needs regarding the transport sector make no reference whatsoever to climate considerations. Greenhouse gas emissions are not evaluated as a challenge that needs to be addressed.
- Even though the potential for energy efficiency is operationalised by sector in the PA, the allocations do not always back up these findings.
- It is likely that the optimistic view that Romania is already on track to meeting its 2020 climate mitigation targets has led to a low priority for clean energy allocations.
- The coordination between climate mitigation objectives and other thematic objectives is very scarcely described in the Partnership Agreement.

Based on the sections concerning horizontal principles in both the PA and the OPs, sustainable development is barely mainstreamed throughout the programmes. Two relevant programmes [POIM and POR] stick to specific allocations in certain axes, while in the other programmes there are some small allocations of funds, but it is not clear on what types of projects they will be spent and what contribution they are expected to make towards climate change objectives.

LARGE INFRASTRUCTURE OPERATIONAL PROGRAMME (POIM)

- Almost half of the money in the Large Infrastructure Programme goes to Transport Infrastructure [48.2%], almost one third to Environmental Infrastructure [30.7%] and the rest is divided between Environment [9.9%], Sustainable Transport [5.8%] and Energy Infrastructure [5.5%].
- The allocations for the 'shift towards the low-carbon economy' are only 4.7%.
- Out of transport's largest slice of money, more than half [52%], is allocated to roads infrastructure, compared to 29% for railways and 11% for clean urban transport.
- The approach to investments in infrastructure is focused on improving the existing transport networks, not on financing the most sustainable alternatives.
- Most of the energy funds are allocated towards the renovation of public buildings to improve energy efficiency and to comply with EU legislation. EUR 94.8 million is allocated for renewable energy infrastructure, of which 90% for biomass and 10% for hydro and other renewables. There are no allocations for wind and solar energy production.

REGIONAL OPERATIONAL PROGRAMME (POR)

- The part of Thematic Objective 4 financed through POR focuses on two selected priorities: 1) energy efficiency [with a focus on buildings and public lighting] and 2) reduction of CO₂ emissions [with a focus on urban public transport]
- While almost 27% of the funds for regional development are dedicated to climate mitigation measures [energy efficiency and transportation], the OP only allocates the funding in specific priority axes that act towards a low-carbon economy, without integrating such measure throughout the other priority investments.
- The Regional OP includes three priority axes dedicated to climate change, but other priorities could include, within the project selection criteria, climate change mitigation conditions. For example, tourism development, health and educational infrastructure development, competitiveness in agriculture, fishery and aquaculture, all could contribute to energy efficiency and low-carbon economy if the implementation guides would mainstream climate change action.
- The other OPs have little impact on climate change action, as they do not directly contribute to the 'shift towards the low-carbon economy'.

GRAPH 67: Energy mix 2013 – Gross inland energy consumption by fuel type. Source: http://ec.europa.eu/priorities/energy-union/state-energy-union/docs/romania-national-factsheet_en.pdf

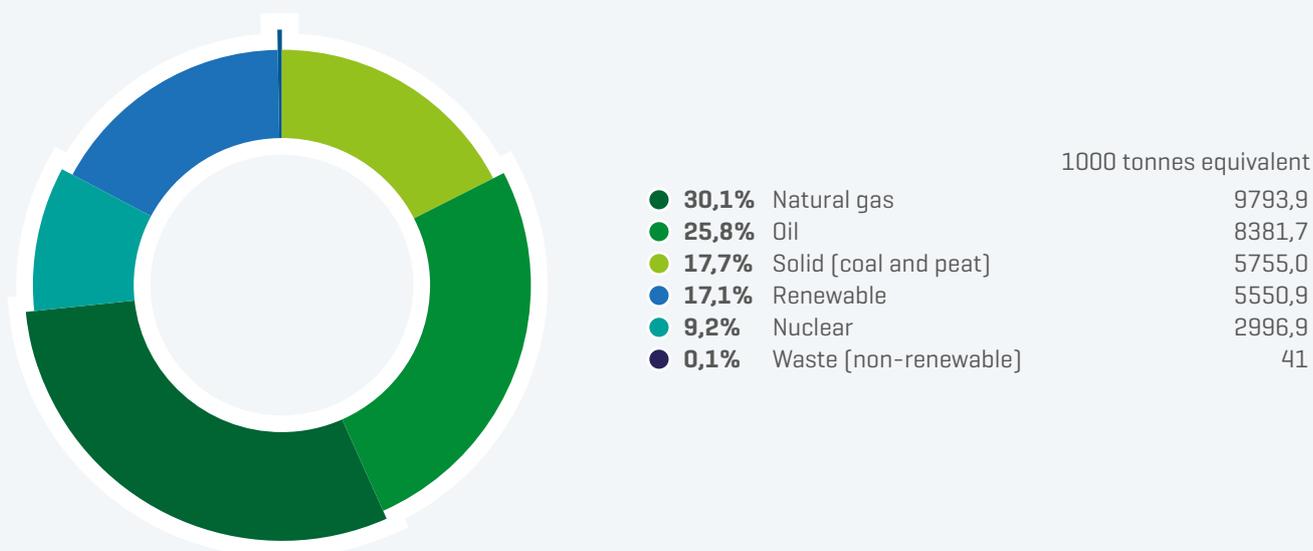


TABLE 16: EU targets for 2020, 2030 and progress towards 2020 objectives: higher ambitions possible

OP	Europe 2020	Romania 2020 targets	Romania's progress as of 2012
Reduction of greenhouse gas emissions	-20%	+19% [non-ETS]	-5.5%
Reduction of energy consumption through increased energy efficiency	-20%	-19%	-16.6%
Energy needs met from renewable energy	20%	24%	23.9%

EU TARGETS FOR 2020, 2030 AND PROGRESS TOWARDS 2020 OBJECTIVES: HIGHER AMBITIONS POSSIBLE¹⁷²

Romania is on course to meet its three EU 2020 energy targets. While GHG reductions are mostly a reflection of major economic shocks that occurred in the post-communist transition period since the baseline year 1990, as well as of the economic downturn since 2008, energy consumption maintains its declining trend¹⁷³.

RELATED COUNTRY DEVELOPMENT STRATEGIES AND NATIONAL REFORM PROGRAMMES: GOING FOR 'SUPER-GREEN', BUT NOT RIGHT NOW

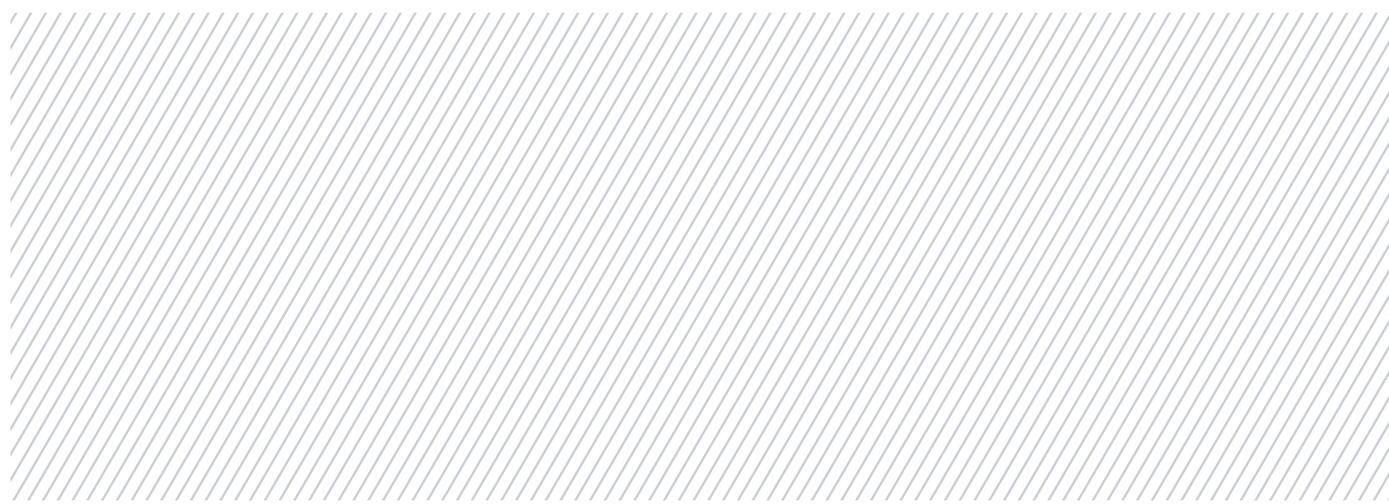
In September 2015, the Romanian Ministry of Environment published for debate the National Strategy regarding Climate Change and Low Carbon Growth [CRESC Strategy]. It is worth

mentioning that the strategy was developed in the same period as the Operational Programmes for 2014-2020, thus it covers similar actions and policies in terms of energy efficiency and CO₂ emissions. The strategy's three main pillars : 1) reaching the national targets in line with European energy and climate policy, 2) an integrated intersectoral approach towards climate change and 3) maximizing economic and social benefits from the measures regarding climate change, are targeting the year 2030. The main scenarios were developed within a World Bank Report on climate change action to be included in the OPs for 2014-2020 in Romania. Thus, there are three potential scenarios on which the strategy is based: the status quo scenario, the 'green' scenario and the 'super-green' scenario.

¹⁷¹ http://ec.europa.eu/priorities/energy-union/state-energy-union/docs/romania-national-factsheet_en.pdf

¹⁷² http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_indicators_-_climate_change_and_energy

¹⁷³ https://ec.europa.eu/energy/sites/ener/files/documents/RO_Annual%20Report%202015_ro.pdf



The status quo scenario is the one in which the current targets are maintained (the 20-20-20 targets) and the trading emissions system is maintained. The green scenario doubles at least one target, the EU level GHG emissions target to 40% less than the 1990 level and includes climate mitigation actions. The super-green scenario aims at 80% reduction of GHGs at EU level and it envisions 'aggressive' green policies.

In terms of measures and potential actions, they are not clearly defined. For example, the energy sector is only defined by general objectives (renewable energy, energy efficiency of buildings, access to energy for vulnerable groups) but with no measures or actions mentioned,¹⁷⁴ while the transport sector has more clearly defined interventions.¹⁷⁵ Thus, while the strategy reinforces the Europe 2020 targets to be achieved by Romania, it does not provide clear indications on how 2030 targets on GHG emissions and high shares of energy efficiency and renewable energy sources will be achieved.

Regarding the financial aspect, the strategy states that in order to achieve the 2020 targets, there is need of investment of EUR 28 billion in 2015-2020, in order to reach the green scenario, EUR 40 billion, and for the super-green scenario EUR 64 billion. A great share of these sums is supposed to come from the EU structural funds. The

allocations from all EU funds including rural development and fisheries funding in 2014-2020 regarding climate change action are almost EUR 8.5 billion.¹⁷⁶

The National Action Plan on Energy Efficiency for 2014-2016, approved by the Romanian Government in 2014, is the implementation tool for the National Strategy regarding Climate Change and Low Carbon Growth. Most of the proposed actions overlap with the ones included in the OPs and a big share of the allocations for these actions comes from ESIF.

The national strategies follow the 2020 targets for Romania and some measures are planned in order to reduce the CO₂ emissions and improve energy efficiency. The main national strategies in respect to energy efficiency are based on scenarios in which the demand for energy increases. Romania does not plan to reduce the consumption from nuclear and fossil fuels in the near future, as the government still plans to invest in coal energy, hydro and nuclear energy, although without using European money for such investments.¹⁷⁷ Therefore, while the 2020 targets are kept in focus as a main objective for the way the Romanian energy policy is envisioned and implemented, a profound transformation of the entire energy system towards a cleaner one is clearly not yet a strategic objective of Romania.

174 National Strategy Regarding Climate Change and Low Carbon Growth [CRESC Strategy], p.44

175 National Strategy Regarding Climate Change and Low Carbon Growth [CRESC Strategy], Table 5, p. 49-50

176 National Strategy Regarding Climate Change and Low Carbon Growth [CRESC Strategy], p. 71

177 <http://gov.ro/ro/obiective/teme-majore/independenta-energetica>

OVERVIEW OF EUROPEAN STRUCTURAL AND INVESTMENT FUNDS IN ROMANIA

Analysis of disparities, development needs and potentials with reference to climate change mitigation and how it is addressed via Thematic Objectives

The Partnership Agreement addresses the analysis of disparities and development needs through five key challenges: the competitiveness and local development challenge, the people and society challenge, the infrastructure challenge, the resources challenge and the administration and government challenge. In the overview section, the PA is rather referring to other strategies and policies when it comes to climate change mitigation. The section acknowledges the advantage of Romania's limited dependence on imported energy and the energy mix, including renewable sources. The efficiency in energy use is reduced, due to poor insulation of both public and private buildings and poor transmission and distribution infrastructure. Natural and man-made environmental risks are considered from the perspective of the response capacity of state institutions. Water and wastewater infrastructure is considered one of the main priorities, being far from European standards in terms of re-use, recycling and energy recovery. Non-compliant landfills are to be phased out by 2017. Biodiversity and environmental quality remain key issues to be tackled. The need to move towards more sustainable practices in agriculture, construction industry and business in general is recognised.

CLIMATE RELATED ALLOCATIONS ACROSS ALL EU FUNDS IN ROMANIA

Romania's approximately EUR 30.6 billion EU funds, comprising the European Regional Development Fund, the Cohesion Fund as well as Rural Development and Fisheries Fund, will be allocated via nine Operational Programmes (OP):

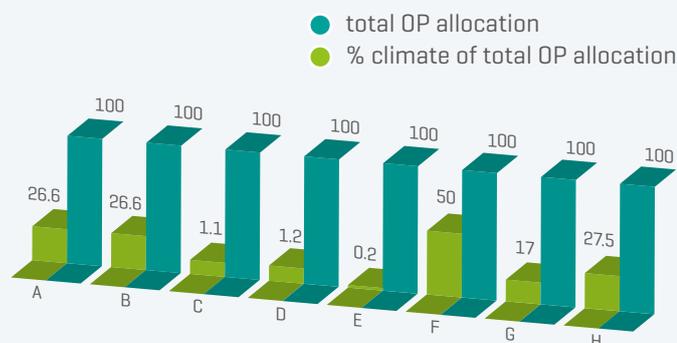
1. Large Infrastructure OP (ERDF & CF) - energy, transport, water, waste management, etc.
2. Regional OP (ERDF) - urban/local transport, energy efficiency, etc.
3. Human Capital OP (ESF & YEI)
4. Competitiveness OP (ERDF)
5. Administrative Capacity OP (ESF)
6. Technical Assistance OP (ERDF)
7. National Rural Development Programme (EAFRD)
8. Fisheries and Maritime Affairs OP (EMFF)
9. Territorial Cooperation (ERDF)

A European Council Decision in February 2013 decided that 20% of all EU budget spending for the programming period 2014-2020 should go to climate objectives.¹⁷⁸ In addition, the ERDF spending rules for 2014-2020 state that the minimum allocation for Thematic Objective 4 should be 20% in more developed regions, 15% in transition regions and 12% allocation for 'Shift Towards the Low-Carbon Economy' in less developed regions, respectively 15% if allocations from the Cohesion Fund are included. Most of Romania's regions (seven out of eight) are in the 'less developed' category¹⁷⁹ and one region (Bucuresti-Ilfov) is in the 'more developed' category. However, Romania is expected to reach 19.1% climate-related allocations in Cohesion Policy funds according to the climate tracking based on intervention categories.

¹⁷⁸ European Council, '7/8 February 2013 Conclusions (Multiannual Financial Framework', European Council, Bruxelles, 8th February 2013 [EUCO 37/13].

¹⁷⁹ COMMISSION IMPLEMENTING DECISION of 18 February 2014 setting out the list of regions eligible for funding from the European Regional Development Fund and the European Social Fund and of Member States eligible for funding from the Cohesion Fund for the period 2014-2020 (notified under document C(2014) 974) [2014/99/EU]

GRAPH 68: Allocations for climate change objectives in the Operational Programmes in Romania (Per cent)



- A Large Infrastructure OP (POIM)
- B Regional OP (POR)
- C Competitiveness OP (POC)
- D Human Capital OP (POCU)
- E Administrative Capacity OP (POCA)
- F National Rural Development Programme (PNDR)
- G Fisheries and Maritime Affairs OP (POPAM)
- H Total allocation for Romania

The most important Operational Programmes relevant to climate change mitigation are the Large Infrastructure Operational Programme and the Regional Operational Programme.

SUMMARY OF EX-ANTE EVALUATIONS REGARDING CLIMATE ACTION

The summary of the evaluation included in the Partnership Agreement offers very little substantial information about the findings that concern climate change targets. In fact, there is indication that the evaluation resulted in a decreased allocation for climate objectives. The assessment of the overall contribution of programmes to the Europe 2020 targets indicated that the allocations for T01, T02 and T010 needed to be increased. As a result, EUR 50 million from the ERDF was reallocated from 'Shift Towards the Low-Carbon Economy' to T01, thus decreasing the overall allocation for climate objectives. It is likely that the optimistic view that Romania is already on track to meeting its 2020

climate mitigation targets has led to T04 allocations being deprioritised.

SELECTED THEMATIC OBJECTIVES AND MAIN EXPECTED RESULT

The integration of climate mitigation objectives and other Thematic Objectives is very scarcely described in the Partnership Agreement.

The PA does not correlate the objectives under the 'competitiveness and local development' challenge with 'Shift Towards the Low-Carbon Economy' or T05. T03, 'Enhancing the competitiveness of small and medium-sized enterprises, the agricultural sector and the fisheries and aquaculture sector' is correlated with T04 through actions concerning agriculture, fishery, forestry and the blue economy. T05 is synchronized through specific measures concerning irrigation systems.

There is some correlation between the actions foreseen under T09 - promoting social inclusion, combating poverty and any discrimination and those planned under T04 in rehabilitation of health infrastructure will also aim to improve the energy efficiency of the refurbished infrastructure.¹⁸¹

The document also states that there will be correlation between the interventions prioritised under T010 - investing in education, training and vocational training for skills and lifelong learning and T04, T05 and T06, but it is not specified how this correlation will be achieved.¹⁸²

The proposed interventions under T07 - promoting sustainable transport, are directly linked to the Europe 2020 climate mitigation target of reducing GHG emissions. The investment priorities (development of all modes of transport - road, rail, inter-modal, maritime, air, as well as safety improvements and customs modernisations) are expected to result in reduced travel time, a more sustainable transport mix with more passengers transported on rail and water, and improved governance of the sector. The expectation that passengers will migrate from roads to rail and water transport is, however, in disconnect with the financial allocations that favour road development and modernisation over investments in the rail and water sectors.

Under the T0 4 'Supporting the shift towards a low-carbon economy in all sectors', there are 14 proposed priorities for funding. They are based on the main development needs described above and they aim at energy efficiency actions (improved distribution, high efficiency low power

180 National Strategy Concerning Climate Change and Low-Carbon Economic Growth, Ministry for the Environment, Water and Forestry, September 2015 (draft under consultation)

181 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 168.

182 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 172.

cogeneration systems, monitoring systems, building insulations, etc.), transport efficiency and sustainable mobility, increased usage of RES (in general and more specific in agriculture), reducing GHGs in agriculture.¹⁸³ The PA states that energy efficiency objectives will be encouraged through the horizontal criteria as well. In terms of expected results, they are a little more specific than the priorities. The main results are split by fund in the PA, namely ERDF will contribute majorly to: urban public transport, reduced GHG emissions, increased energy efficiency in buildings and industry, increased access to smart grid services, increased share of energy from renewable sources in total energy consumption (due to investments aimed at increasing installed power in RES producers), increased energy efficiency in the district heating system in selected cities [except Bucharest]¹⁸⁴. The heating system in Bucharest will be covered by CF¹⁸⁵.

T07, 'promoting sustainable transport and removing bottlenecks in key network infrastructures', addresses the energy transportation infrastructure and aims at the development of smart electricity transmissions systems that can use RES; the development of a smart gas transmission system and urban transportation in the Bucharest-Ilfov region¹⁸⁶.

OVERVIEW OF THE LARGE INFRASTRUCTURE OP AND THE REGIONAL DEVELOPMENT OP

The Large Infrastructure Operational Programme (POIM)

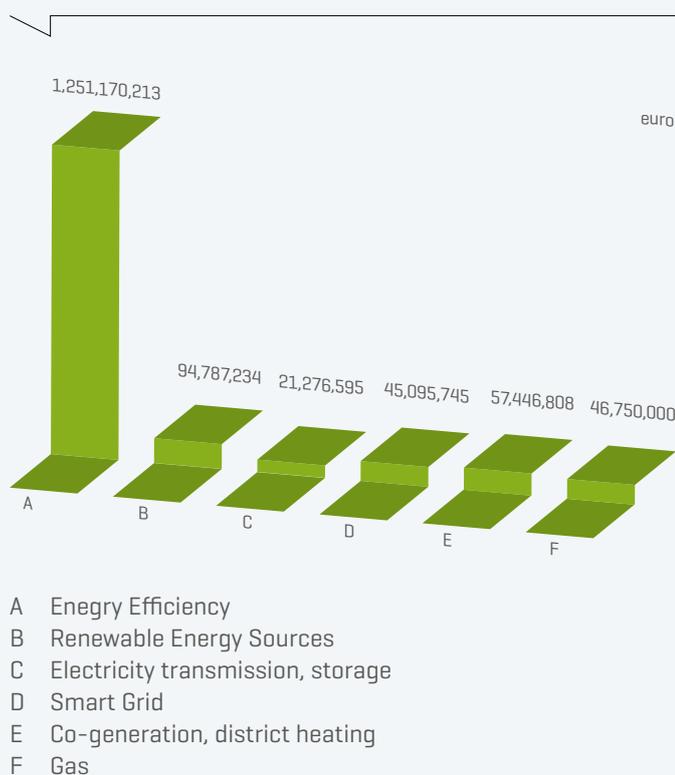
The Infrastructure OP addresses four development needs: transport infrastructure, environmental protection, climate change mitigation and adaptation, and energy efficiency.

The approximately EUR 9.5 billion in funding is divided between four Thematic Objectives and can be traced by the intervention field codes in five categories of intervention: Energy Infrastructure, Transport, Sustainable Transport, Environment and Environment Infrastructure.

Almost half of the money goes to Transport Infrastructure (48.2%), almost one third to Environmental Infrastructure (30.7 %) and the rest is divided between Environment (9.9%), Sustainable Transport (5.8%) and Energy Infrastructure (5.5%).

The argument put forward in the OP for such a high allocation to transport infrastructure is that the 'HEROM' modelling concerning different development scenarios for the period 2014-2020, applied at the level of the Partnership Agreement, suggested that a larger allocation for transport infrastructure would lead to a more significant increase in the GDP. The model estimated the impact on GDP, employment and labour productivity of four different allocation scenarios, and concluded that the scenario with the best impact on these indicators is the scenario that favours allocations towards infrastructure, while maintaining ESF funding at a lower level. However, the model is not oriented towards climate and environmental indicators such as GHG emissions, nor does it estimate impacts for the horizons 2030 and 2050. The fact that this model was used as one of the prevalent arguments in allocating EU funds is a clear indication that climate objectives were only a secondary concern and not thoroughly mainstreamed in the EU funds' planning process.

GRAPH 69: Different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention



183 Partnership Agreement, Romania, 2014R016M8PA001.1.2, pp. 178-179;

184 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 180

185 *ibid.*

186 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 185

187 POR, p. 29-30

The Regional Operational Programme (POR)

The part of T04 financed through POR will focus on two selected priorities: 1) energy efficiency [with a focus on buildings and public lighting] and 2) reduction of CO₂ emissions [with a focus on urban public transportation]¹⁸⁷. T04 is the Thematic Objective with the highest allocation from POR, with 44.19% of the programme funds going towards Priority Axis 3 – support for the transition towards a low-carbon economy.

Other priority axes do not specifically mention energy efficiency measures or low-carbon consumption within their goals. While all of these investment priorities could have included energy efficiency horizontal measures [for example all infrastructure built or modernised with these funds should be made energy efficient or all equipment should be eco-labelled, etc.], the OP does not actually integrate climate mitigation horizontal measures.

In conclusion, while a big share of the funds for regional development are dedicated to climate mitigation measures [energy efficiency and transportation], the OP only allocates the funding in specific priority axes that act towards a low-carbon economy, without integrating such measures throughout the other priority investments.

CONTRIBUTIONS OF EU FUNDS TO CLIMATE OBJECTIVES

More ambitious scenarios

According to the National Strategy regarding climate change and low carbon growth, compared to the status-quo scenarios [2020 targets], the green scenario increases the GHG emissions target to 40% at EU level below the 1990 level. The super-green scenario aims at 80% reduction of GHGs at EU level and it envisions 'aggressive' green policies.

The strategy approaches GHG emissions sectorally, through specific objectives on each sector [energy, transport, industry, agriculture and rural development, urban development, waste management, water, forestry]. In terms of measures and potential actions, they are not clearly defined. Apart from EU funded investments, the strategy mentions interventions for the reduction of GHG emissions such as taxation on gas, electric buses, taxation of air transportation, etc.

However, the EU funds allocations for 2014-2020 do not exactly pave the way for the green and super-green visions, with the majority of infrastructure funds allocated to roads development and modernisation and modest GHG emissions reduction measures.

The infrastructure challenge according to the PA

This section of the Partnership Agreement analyses the disparities and challenges in ICT infrastructure and, more relevant for climate change mitigation, transport infrastructure, but the analysis is not based on a climate change mitigation perspective. General problems identified for the transport sector include the poor connectivity of transport modes, bottlenecks in the network, long travel times and unequal accessibility, as well as high development costs for new infrastructure because of natural barriers [the Carpathian mountains and the Danube river and delta]. The PA acknowledges that the sector has been characterised by a lack of a strategic approach with regards to the development of infrastructure, and that the absorption of EU funds for transport between 2007-2013 was very low due to incoherent policy and administrative deficiencies.

It is striking that the analysis of disparities, challenges and investment needs regarding the transport sector makes no reference whatsoever to climate considerations. Greenhouse gas emissions are not evaluated as a challenge that needs to be addressed. This is in spite of the fact that, according to the Ministry of the Environment and Climate Change, in the absence of specific measures to reduce them, GHG emissions are estimated to increase by over 28% by 2023 compared to 2012¹⁹⁰.

Roads

The analysis highlights the main problems of the roads infrastructure, from the perspective of improving roads – not reducing their impact on climate change. Road transport has increased more than five-fold since the baseline year, from about 1 million vehicles in 1990 to 5.42 million in 2010¹⁹¹, with serious consequences for human life as well as the environment. The poor quality of roads generates a very high incidence of accidents leading to fatalities and injuries. While the number of fatalities is currently decreasing at a rate of 1.5% every year, this is happening at a much slower rate than the EU average of 5% annual decrease in road accident fatalities. Moreover, the road infrastructure was not designed to bypass inhabited areas, and the lack of ring roads around most cities and villages leads to increased travel times, very high fuel consumption, high

188 POR, p. 38

189 National Strategy Regarding Climate Change and Low-Carbon Growth (CRESC Strategy), Table 5, p. 49-50

190 Regional Operational Programme, p. 83.

191 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 96

pollution levels and poor air quality in larger cities. The analysis suggests that modernising existing roads and building new ring roads would have a positive environmental impact by means of reducing travel times and indirectly reducing fuel consumption per distance, but it does not evaluate the potential effects of road construction in terms of increasing individual and freight transport on roads. In fact, throughout the analysis of the roads infrastructure challenge, the general focus is on transport efficiency rather than sustainability.

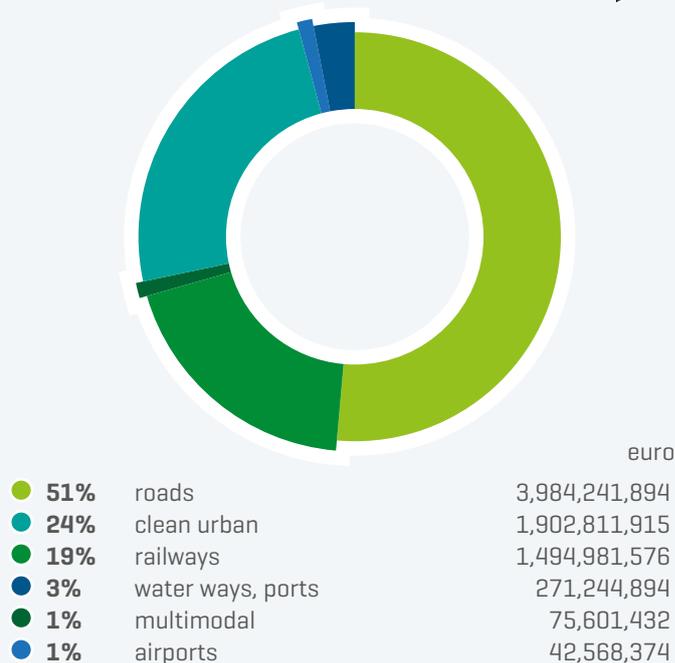
Railways

The PA acknowledges the fact that the lack of strategic investment in the rail network has rendered rail transport unreliable, uncompetitive and thus unable to provide a sustainable alternative to road transport. Almost 40% of the current railway network is assessed as operating beyond its lifetime and about 70% of rolling stock is outdated¹⁹². Just between 2007 and 2012, rail traffic reduced by 11% mainly due to low quality of services (poor consumer experience, speed restrictions, increased travel times). If the trend continues, the passenger traffic will have dropped by 97% compared to 1990¹⁹³. The railway network will be reduced as per the Stand-by Agreement with the IMF and EC (2011) to a dimension that can be managed and maintained with the available financial resources, so as to increase the quality of services. While railway development is clearly understood as an investment in sustainable transport, again this section highlights the need to make the railway system more efficient and economically viable in itself, not necessarily as an alternative to road transport. What is missing in the analysis is a strategy as to how to move passengers from fossil-intensive modes of transport to cleaner modes – for instance by developing the railway network in parallel to the most congested roads, to act like a valve and absorb passenger traffic from the roads.

Transport infrastructure funds from POIM

Transport infrastructure has the biggest share of funds in the Large Infrastructure OP, of a little more than EUR 5 billion. In spite of the fact that road transport has already increased more than 500% since 1990 and, as the analysis of disparities in the PA acknowledges, this increase has had serious consequences for both human life and the environment, and in spite of the fact that road transport alone accounts for 93% of the GHG emissions from transport, roads take up roughly 52% of the ESIF funds for transport infrastructure, approximately EUR 2.6 billion. The other 48% is divided between railways (29%), clean urban transport (11%), waterways and ports (5%), multimodal transport (2%) and airports (1%). There are no funds allocated for cycle tracks or footpaths.

GRAPH 70: Share of transport modes in total transport funding in Romania. Source: our own calculations based on approved Operational Programmes according to categories of intervention



In the strategy section of the OP, the arguments presented in support of the high allocation for roads are that large amounts are necessary just to finalise the projects that were started in the period until 2013, and that even these new allocations are not sufficient to finalise the TEN-T network. A second argument is that additional funding for railways is available through the CEF, which would balance the cumulative allocations (ESIF plus CEF) to 44% for roads and 40% for railways¹⁹⁴.

Transport infrastructure and clean urban transport funds from POR

When it comes to transportation, the OP states that if no measures are taken in regard to GHG emissions, they are estimated to increase by 28% by 2023. Thus, the indicators used refer to the number of passengers using public transportation and the reduction of GHG emissions coming from transportation in urban areas¹⁹⁵.

The Priority Axis 4 – support for sustainable urban development, includes an investment priority regarding the reduction of CO₂ emissions¹⁹⁶, focused on urban transportation, that finances the same measures as the transportation priority under Priority Axis 3: investments in public transportation at urban level, investments

¹⁹² Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 94.

¹⁹³ Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 95.

¹⁹⁴ POIM, p. 33.

¹⁹⁵ POR, p. 82-83.

¹⁹⁶ POR, p.

¹⁹⁷ POR, p. 98 [for AP4] and p. 85 [for AP3, transport priority]

¹⁹⁸ POP, p. 137

GRAPH 71: Share of energy from renewable sources (in % of gross final energy consumption)

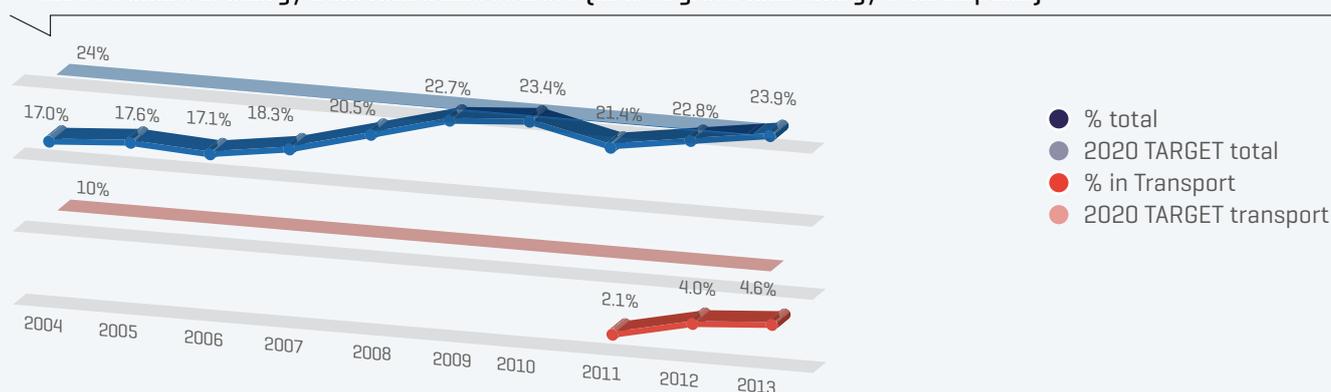


TABLE 17: Estimates of Romania's theoretical renewable energy potential, according to Romania's Regulatory Authority for Energy

Source	Annual potential	To be used for
Solar	60 PJ/year	Heat
	1.2 TWh	Electricity
Wind	23 TWh	Electricity
Hydro of which under 10 MW	36 TWh	Electricity
	3.6 TWh	
Biomass and biogas	318 PJ	Heat and Electricity
Geothermal	7 PJ	Heat

in unmotorised and electric transportation and other investments meant for reducing CO₂ emissions in urban areas¹⁹⁷.

Priority Axis 6, dedicated to regional level road infrastructure, mostly finances the building and repairing of country level roads, with the stated goal of increased speed of transportation. There is no reference to climate change or CO₂ emission as such, however, secondary actions include cycling infrastructure and shelterbelts¹⁹⁸.

RENEWABLE ENERGY

Status quo and 2020 targets

While the share of energy from renewable sources in the gross final energy consumption is already very close to the 2020 target, the share of renewable energy in the transport sector is lagging far behind its target.¹⁹⁹

It is significant that, in evaluating the potential sources for renewable energy, the largest share is attributed to biomass and biogas. Biomass energy production also receives the greatest share of the allocations for renewable energy production in the Large Infrastructure Operational Programme, due to the fact that this source of energy is currently the least exploited in comparison with its estimated potential. However, the sustainability of biomass sources for renewable energy is not carefully considered. Furthermore, 10% of the potential for hydro energy is

attributed to small plants (under 10 MW), but it is well worth mentioning that a multitude of projects for micro-hydro-plants has been undertaken in Romania in recent years with devastating impacts for the ecosystems in which they were built²⁰¹. However, due in part to efforts from civil society organisations that have been watching and documenting the impact of micro-hydro-plants on mountain rivers, and who were part of the ESIF programming as NGO partners, such projects will not be eligible to receive EU funds because of their highly detrimental impact on ecosystems.

More ambitious scenarios

In the National Strategy Regarding Climate Change and Low-Carbon Growth, the energy sector is only defined by general objectives (renewable energy, energy efficiency of buildings, access to energy for vulnerable groups) but with no measures or actions mentioned²⁰².

The National Action Plan on Energy Efficiency for 2014-2016, approved by the Romanian Government in 2014, is again in

199 Source: Eurostat, <http://ec.europa.eu/eurostat/documents/2995521/6734513/8-10032015-AP-EN.pdf/3a8c018d-3d9f-4f1d-95ad-832ed3a20a6b>

200 Presentation by Vice-President of Romanian Energy Regulatory Authority, April 2012, <http://www.econet-romania.com/files/documents/27April12/Vortrag%20ANRE.pdf>

201 WWF Romania, Legislative Analysis Report on the Process of Planning and Emitting Regulations Concerning the Building and Functioning of Micro-Hydro-Power-Plants in Romania, October 2013, http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_raport_legal_mhc_1.pdf

202 National Strategy Regarding Climate Change and Low Carbon Growth (CRESC Strategy), p.44

line with the Europe 2020 targets and it is the implementation tool for the National Strategy Regarding Climate Change and Low-Carbon Growth, providing a detailed plan for both investments and policy/capacity actions for each sector with each objective stated in the National Strategy Regarding Climate Change and Low-Carbon Growth. Most of the proposed actions overlap with the ones included in the OPs. Moreover, a big share of the allocations for these actions comes from ESIF. The rest is funded from the state budget and private funding, but in instances in which the OPs do not cover the action, the estimated value of the action is not specified. For example, the National Action Plan states that, for measures regarding the promotion of renewable energy sources within 2016-2023, the investments will be based on EU funds (EUR 57.45 million from the Large Infrastructure OP – money allocated to high-efficiency cogeneration) and state budget (EUR 94.7 million)²⁰³. However, for other measures, the allocations between state funding, private funding and EU funds are not clearly stated.

Energy infrastructure – funds for renewable energy from POIM

As most of the funds for energy infrastructure go to renovation of public infrastructure, approximately 18.4% of the category's EUR 2.9 billion is allocated to measures supporting renewable energy (biomass and hydro), with some additional 11.16% going to high-efficiency cogeneration. There is no allocation for wind and solar renewable energy, only for biomass (16.6%) and other renewables including hydro and geothermal (1.84%).

Biomass and other RES such as geothermal and, to a lesser extent, hydro are being prioritised because they are perceived as lagging far behind their potential. According to the strategic analysis in the OP, RE sources such as wind and solar are on track or even beyond their 2020 targets of installed power, mostly as a result of the ETS. Biomass (electric and heat), micro-hydro and geothermal, on the other hand, are lagging behind their 2020 targets, while the governmental facilities using ETS have been reduced. This is why the largest share of investment in RES from the POIM has been allocated to biomass. Neither the PA nor the OP makes any provisions concerning the sustainability of renewable energy from biomass, but only that such projects would have to abide by environmental regulations. According to the implementing guide for this measure²⁰⁴, individual project applicants who wish to initiate biomass energy generation projects would have to include among the application documents a written assessment (study) of the potential of the renewable resource.

Such a document would only evaluate the sustainability of using biomass in individual projects, in terms of whether the business is viable longer term, or likely to run out of resources, but it would make no indication as to the impact of using biomass on a large scale.

As far as the funding for micro-hydro projects is concerned, the Infrastructure OP clearly states that 'because micro-hydro projects have a negative impact on the environment, such projects will not be supported through POIM.'²⁰⁵

High-efficiency cogeneration is also being supported with over EUR 57 million, primarily because it is believed that it will generate more energy efficiency for large enterprises and keep them economically competitive in the context of the upcoming liberalisation of energy prices assumed by Romania by 2020. On the other hand, approximately half of the installed power in cogeneration installations in 2012 was in units that burn fossil fuels.

Developing more cogeneration units that depend on fossil fuels is not a sustainable solution and, while it can contribute to achieving GHG emissions reductions in the short term, in the longer run it would hinder the transition to a low-carbon economy, creating jobs and other types of dependencies on fossil fuels. The implementing guide does limit the use of fossil fuels in installations that use biomass for cogeneration, in that fossil fuels may only be used for shut-down²⁰⁶.

ENERGY EFFICIENCY

The national strategies follow the 2020 targets for Romania and some measures are planned in order to reduce the CO₂ emissions and improve energy efficiency. However, Romania does not plan to reduce the consumption from nuclear and fossil fuels in the near future, as the government still plans to invest in coal energy, hydro and nuclear energy, although without using European money for such investments.²⁰⁷

Romania's Energy Strategy for 2015-2035²⁰⁸ states the same national targets and the fact that the 2030 indicators will be based on reaching the 20-20-20 targets. For 2035, the strategy takes into account the EU energy policy, but the national strategy is based on: energy efficiency, improved systems for supporting RES, incentives for R&D, nuclear energy, hydrogen energy, natural gas as a 'transition fuel', complete integration in the internal energy market²⁰⁹.

203 The National Action Plan on Energy Efficiency for 2014-2016, p. 12

204 Applicants Guide, Priority Axis 6, Specific Objective 6.1. Increasing the Production of Energy from Less Exploited Renewable Sources, p. 12.

205 POIM, p. 17.

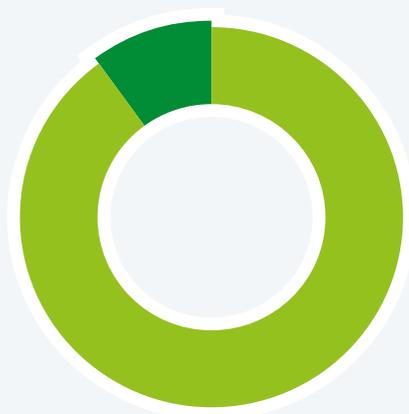
206 Applicant's Guide for Axis 6, OS6.1_RES, POIM, published for consultation until October 2015, p. 12.

207 <http://gov.ro/ro/obiective/teme-majore/independenta-energetica>

208 The draft for public debate available at <http://energie.gov.ro/anunturi>

209 Romania's Energy Strategy 2015-2035, draft, p. 95

GRAPH 72: Split of renewable energy sources by technology.
 Source: our own calculations based on approved Operational Programmes according to categories of intervention



● 90%	biomass	85,308,511
● 10%	other (hydroelectric, geothermal, renewables integration)	9,478,723
● 0%	solar	0
● 0%	wind	0

GRAPH 73: Energy efficiency allocations by type of beneficiary. Source: our own calculations based on approved Operational Programmes according to categories of intervention



● 55%	EE public buildings	688,370,706
● 45%	EE housing	562,799,507
● 0%	EE SMEs	0
● 0%	EE large enterprises	0

Public intervention is needed for upgrading the electricity transmission in order to reduce loss and ensure supply security, the infrastructure being mostly built in the 1970s. However, the allocations under the Large Infrastructure OP for energy infrastructure are rather small compared to other areas – being 5.5% of the OP, out of which only 4% goes towards electricity storage and transmission and almost 9% for Intelligent Energy Distribution Systems (including smart grids).

Even though the potential for energy efficiency is operationalised by sector in the PA, the allocations do not always back up these findings. For example, if we look at the category allocations related to climate change, there is zero allocation for ‘energy efficiency and demonstration projects in SMEs and supporting measures’, ‘support to environmentally-friendly production processes and resource efficiency in SMEs’ or ‘promotion of energy efficiency in large enterprises’ although there is likely to be some energy saving potential.

The main development solution in order to achieve the targets is seen as financial instruments targeted to specific sectors that can ensure energy efficiency investments.

The Natural Gas Transmission system is outdated, according to the PA and for some of the ongoing projects on interconnectivity to the transmission systems of gas of the neighboring countries [Hungary, Bulgaria, Moldova]. It is stated that ESI support is needed for pipeline upgrades, new pipelines and new compression stations²¹⁰. There is an allocation in the Large Infrastructure OP to develop or modernise the National System for the Transport of Natural Gas by building new pipelines, as well as to improve interconnections with the systems of neighboring countries.

Energy efficiency funds from POR

One of the development needs addressed by the Regional Operation Programme is the unsustainable use of energy and the high potential for energy savings when it comes to both public and private buildings²¹¹. The programme also addresses public lighting as a source of energy savings. The centralised production and distribution systems for thermic energy [mostly based on gas] are unsustainable, the loss in 2012, for example, being equal with the quantity of energy produced for three development regions²¹². A great share of the CO₂ emissions is attributed to urban transportation²¹³.

In terms of specific indicators, they are defined in the report to the 2012 values and the target values is 2023: the usage of final energy in public buildings, the usage of final energy in the

210 PA, p. 107
 211 POR, p. 10
 212 ibid.
 213 POR, p. 11

residential sector and the usage of final energy in public lighting. into account.

Energy infrastructure funds from POIM

About half of the money in this category will be spent on energy efficiency renovation of public infrastructure, demonstration projects and supporting measures. This decision appears to be in line with the argument made in the first section of the PA that the efficiency in energy use is reduced, due to poor insulation of both public and private buildings and poor transmission and distribution infrastructure. However, the allocation in POIM only refers to the renovation of public infrastructure, and does not include the existing housing stock, which is covered by the Regional Operational Programme (POR).

There is one other measure in the entire OP aiming to increase energy efficiency in the industrial sector by introducing an electricity consumption monitoring system for industrial consumers. Its expected result is that industrial users would be more aware of their energy consumption and will be encouraged to reduce it. It is estimated that monitoring alone may reduce electricity consumption by 3-5%.

CONTRIBUTIONS OF OTHER OPERATIONAL PROGRAMMES TO CLIMATE OBJECTIVES

Competitiveness and local development

The competitiveness and local development challenge according to the PA

The development needs set out in this section are economic growth needs, considering challenging market conditions, low business density, low value-adding economic activities, FDI, exports, ITC sector, etc. Climate change is mentioned only in regard to agriculture, and insurance and risk management instruments are given as potential solutions for the way climate change impacts agriculture.

With regard to fishing and aquaculture, the needs assessment refers to needs in terms of infrastructure. While the PA states that Romania needs to comply with Common Fisheries Policy rules, the key point in the document is that other Black Sea countries do not have to comply with the same rules, thus affecting Romania's competitiveness.

One of the sectors in which energy, environment and climate change are set out as priorities is the R&D sector, but the only mention regarding targets in respect to low-carbon energy technologies is the SET Plan, which should be taken

The Competitiveness Operational Programme (POC)

The Competitiveness Operational Programme (POC) does not directly finance climate actions. However, when it comes to research and development measures, environment and climate change is one of the financed research areas; there is also support for research organisations to take part in the Horizon 2020 programme (which includes funding of research on environment, climate change, energy efficiency, etc.); the support for ITC solutions in public services and cloud computing contributes to the reduction of CO₂ emissions²¹⁴.

PEOPLE, SOCIETY AND ADMINISTRATION

The people and society challenge according to the PA

This section deals with the needs for development concerning employment and labour mobility, poverty, social inclusion and education. The main challenge identified is the very low level of demand on the labour market, which generates a low domestic employment rate, low wages, a highly selective labour market and international migration.

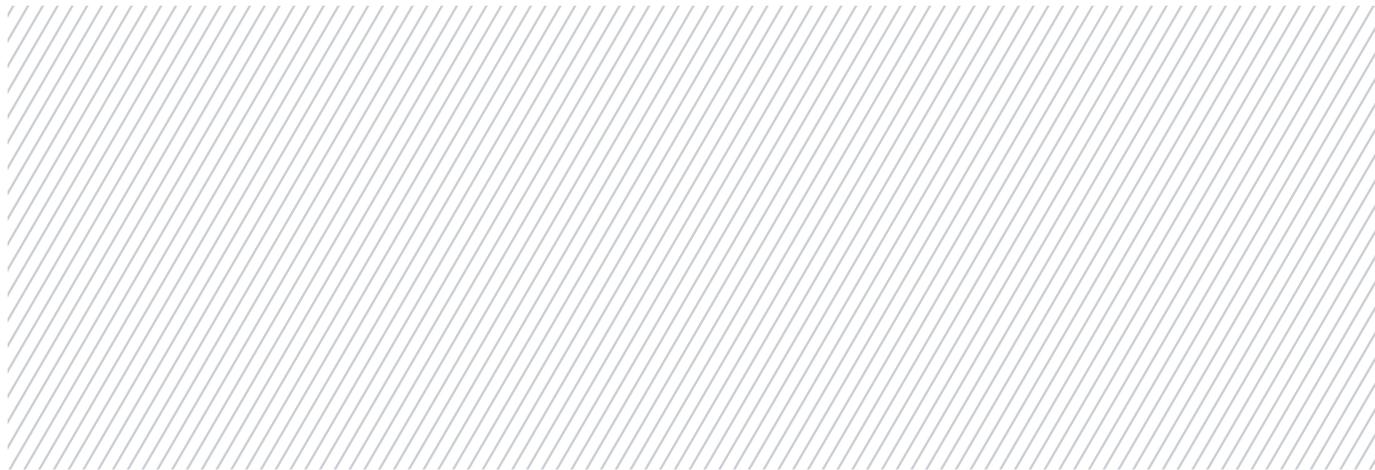
While this section deals mostly with human resources and social issues, there is potential for climate mainstreaming that remains mostly untapped in at least two areas:

Firstly, the priorities for investment towards employment, labour mobility and education could be targeted at helping the labour force transition from an energy-intensive way of doing business to a low-carbon economy, to anticipate the decreasing number of jobs in the fossil-fuel industry and increasing number of jobs in the RE sector. The PA mentions that investments in education and vocational training will be focused on 'those areas with growth potential that contribute to the increasing of the employability of higher education graduates in the competitive sectors and/or traditional sectors'²¹⁵, but there is no clear reference to training that would support the shift towards a low-carbon economy (for example, academic and skills training and other professional conversion mechanisms for people who currently work in the mining industry or fossil-fuel installations, and in general for moving the labour force currently in high-energy industries towards low-carbon industries).

Secondly, climate change could also be considered when it comes to investments in the physical infrastructure for education, healthcare, social assistance and other services. The PA takes this into account when discussing the healthcare infrastructure. One measure is to reduce

²¹⁴ POC, p. 154

²¹⁵ Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 88



administrative costs, including through energy efficiency measures where feasible²¹⁶, because the analysis reveals that 'most county level hospitals do not meet the EU standards and are energy inefficient, incurring high costs for providing heating'²¹⁷. However, the analysis of the needs for investments in education infrastructure does not refer to improving the energy efficiency of educational buildings.

Within the administration and government challenge, there is little reference to climate change.

Human Capital Operational Programme (POCU)

The Human Capital OP funds projects under T08, T09 and T010, with funding from the ESF and YEI. Climate action as such will not be funded in any of the POCU axes, but according to the programme documents, there is an indicative allocation in support of climate change objectives according to Dimension 6 of EUR 52.9 million, representing 1.22% of total programme allocation. Based on the description of priority investments, it is possible that in certain projects that aim to improve the infrastructure for social services and healthcare, buildings could be rehabilitated to be more efficient with regards to energy consumption. However, in these cases, the hard intervention on infrastructures would be funded in complementarity with the POCU projects from ERDF through the Regional Operational Programme [POR] in urban areas or from EAFRD through the National Rural Development Programme in rural areas.

The only other mention of climate objectives is that POCU will support initiatives for skills training for competitive economic sectors, which might include, among others, specialisations related to energy, environmental management and climate change.

In the section evaluating the application of horizontal principles, the document also refers to supporting the transition towards

'green jobs' with specific skills training in the fields of energy efficiency, renewable resources, recycling and using low carbon technologies, as well as training for green procurement. However, such skills training is only mentioned in the horizontal principles section of the OP, it is not set as a specific objective in any of the programme's axes and there is no specific allocation of funds. As a matter of consequence, it can be understood that such initiatives would be supported but not actively encouraged, and that they may or may not occur based on the interests of the funding beneficiaries.

Administrative Capacity Operational Programme (POCA)

The OP on Administrative Capacity does not directly refer to T04 or T05. According to the OP, the only contributions in regard to climate change actions are awareness-raising actions on energy efficiency with general outreach²¹⁸. The indicative support for climate change objectives according to Dimension 6 – is EUR 1.2 million out of Axis 1, representing 0.22% of total programme funds.

THE APPLICATION OF HORIZONTAL PRINCIPLES AND POLICY OBJECTIVES FOR THE IMPLEMENTATION OF THE ESI FUNDS

The section of the Partnership Agreement describing the mainstreaming of sustainable development in the process of preparation and implementation of the EU funds 2014-2020 brings little information, for the most part repeating some compulsory steps of the process and stating that sustainable development principles will be duly considered in all programmes. No concrete measures to ensure the application of the horizontal principle of sustainable development are put forward, other than stating that EU environmental rules and regulations will be respected, nor do other horizontal policy measures address climate change mitigation. The PA thus opens up the expectation that the individual OPs will be more consistent in operationalising the implementation of horizontal principles.

216 Partnership Agreement, Romania, 2014R016M8PA001.1.2, , p. 63

217 Partnership Agreement, Romania, 2014R016M8PA001.1.2, , p. 66

218 POCA, p. 93

In the preparation phase, the mainstreaming of sustainable development consists of:

- Ex-ante evaluations, assessing the degree to which the planned measures in each programme promote sustainable development and avoid or mitigate significant environmental impacts.
- Strategic Environmental Assessment (SEA) for the OPs.
- The PA mentions that the priorities within T06 on biodiversity and Natura 2000 will be linked to priorities on climate change adaptation from T05 and priorities within T01 and T03, but not specifically what those links might be and what they are supposed to achieve.
- Respecting EU environmental acquis and requirements in general concerning biodiversity [for example, in the planning of measures for inland water transport development].
- Tracking climate-related investments through the codes of intervention fields.

The provisions concerning the implementation phase are also, basically, a set of minimum requirements that any project should abide by:

- Unspecified tools should ensure that the projects funded are in line with the principles of sustainable development²¹⁹ [i.e., that projects use resources efficiently, preferably renewable ones, that waste is minimised and properly managed, that they use green procurements beyond what the legislation imposes²²⁰, that they are not harmful to the environment, supporting actions to mitigate any remaining impacts, promoting a proactive approach to risk management].
- The PA also states that in the selection process, 'all projects will be assessed from an environmental perspective to determine if the impact of the

operation is limited or insignificant. For the operations where the environmental impact is expected to be significant the Environmental Impact Assessment (EIA) will be performed. For the major investment projects a CBA and risk assessment will be performed²²¹.

- Additionally, the Management Authorities are supposed to raise awareness and 'provide support to beneficiaries to deal with the environmental issues in all phases of their projects', and to include sustainable development and green procurement as topics for training programmes for the beneficiaries.

However, there is no indication as to how much any of these criteria will weigh in the selection process, and whether the more climate-conscious projects will truly possess an advantage. Such tools, requirements and encouragements were also present in the implementing period 2007-2013. If the previous experience is any indication, the effective application of this horizontal principle is certainly not a priority for most projects, but mostly just ticking a box in the application form for a few extra points in the selection process, with a weight of as little as 4%.

Furthermore, the Operational Programmes are, in general, no more specific as to how the horizontal principles will be implemented. Based on the sections concerning horizontal principles in both the AP and the OPs, sustainable development is barely mainstreamed throughout the programmes, rather the two relevant programmes (POIM and POR) stick to specific allocations in certain axes, while in the other programmes there are some small allocations of funds, but it is not clear on what types of projects they will be spent and what contribution they are expected to make towards climate change objectives.

219 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 201.

220 Government Ordinance 40/2011 Promotion of Non-polluting and Energy Efficient Transport Vehicles

221 Partnership Agreement, Romania, 2014R016M8PA001.1.2, p. 201.

CONCLUSIONS AND RECOMMENDATIONS

Both Romania's energy strategies and the EU funds' planning regarding climate change action are closely related to Europe 2020 targets. The strategy for climate change mitigation is in effect mostly EU-led, in the sense that climate mitigation objectives are driven by EU targets and funded by EU funds, and the government does not envision additional or complementary policies to address climate change. Moreover, the national strategies and the EU funds' allocation show an approach that aims at reaching 2020 targets, but without significant structural change and investment in a transition towards a new energy system that would eventually exclude the use of nuclear energy or fossil fuels.

Looking at the EU funds allocation, climate change mitigation is not effectively mainstreamed across operational programmes and Thematic Objectives. With the exception of the OPs that have allocations for directly climate-related objectives, the other OPs barely discuss the topic, and if they do mention climate change, it is either to describe complementarity with other funds or to discuss the application of the horizontal principle of sustainable development. If the previous programming period is any indication, the implementation of the principle of sustainable development in non-specific projects is mostly a formality fulfilled by applicants to obtain an [otherwise very small] number of points in the selection process.

The EU funds allocated for Romania for 2014-2020 contribute to financing the 'business-as-usual scenario' with reaching the 2020 targets, but they do not contribute or aim to contribute to financing greener scenarios, which would actually require mainstreaming of climate actions and measures. That is not to say that EU funds will not impact the energy efficiency overall or investments in energy infrastructure. However, such impact will be rather limited and will not necessarily lead to further transformation of the energy system.

- Bearing in mind the experience with the 2007-2013 EU funds, which Romania had difficulty spending, it is understandable why the authorities are very much concerned to attain as high as possible absorption rates as well as a well-needed effort to improve funds management. However, the previous experience has also been tainted by many examples of projects lacking in quality that spent millions of the allocations without producing the desired results and with no longer-term impact. The spending of the 2014-2020 funds should be much more results-oriented, and the focus should not be absorption rates, but more importantly the quality of implementation, real impact and sustainability.
- Mainstreaming: each EU funded investment should contribute to decreasing GHG emissions, regardless

- of the Thematic Objective or programme.
- The project selection criteria should involve, with infrastructure related projects, energy efficiency measures and emissions monitoring.
 - If the goal is to eventually head towards a 'super-green' scenario, the investments in fossil fuels infrastructure should be stopped.
 - A better coordination between national funding and EU funding in relation to climate change action.

Transport infrastructure

- Throughout the analysis of the roads infrastructure challenge, the general focus is on transport efficiency rather than sustainability. The general purpose of investments in the transport system should not be simply to make the existing networks more effective, but such investments should seek to identify the most sustainable options and prioritise them. For instance, investments in the railway network should aim not only to make the system more efficient and viable from an economic standpoint, but also to position rail and other clean modes as alternatives to an already upward trending road transport system.

Horizontal principles

- Sustainable development as a horizontal principle

is not effectively mainstreamed across the Operational Programmes. While the documents state that EU environmental rules and regulations will be respected, no policy measures are put forward to address climate change mitigation, other than in the programmes with direct allocations to TO4 and TO5.

- The projects to be funded by all OPs should respect the horizontal principles, but in order to make this effective, sustainable development indicators should be included in all implementing guides [i.e., concerning green procurement, use of resources, prioritisation of clean transport, etc.] and be given a significant weight in the project selection process.

Energy

- In the evaluation of projects for biomass energy generation, the relevant authorities should aim to obtain a general perspective concerning the availability and sustainability of the biomass resource, not purely on a project-by-project basis, using a set of comprehensive sustainability criteria.
- Investments in public buildings should include RES, thus creating demand for RES on the market.
- Building insulation investments should aim at sustainability and potentially be able to transit towards RES, setting standards in regard to building insulation projects.

HR

Land of unfulfilled clean energy potential

**Climate action in EU Cohesion Policy
funding for Croatia, 2014-2020**

SUMMARY

- The National Renewable Energy Action Plan does not foresee new installations by 2020 for solar and wind RES, though financing opportunities would enable new installations if there were free quotas available.
- Croatia's 2020 energy targets contradict the current trend of a decrease in energy consumption and GHG emissions, while its planned fossil fuel installations block the decarbonisation pathway.
- The Partnership Agreement falls short on horizontal integration of climate considerations, neglecting legal requirements.
- Funding for transmission and road transport is not in line with the stated priorities.
- The EU funds' spending plans, however, do go beyond national ambitions. Efforts should be made in order to increase investments in transmission and distribution

lines for new RES sources and a more integrated strategic approach in order to match the existing and future RES investment interest from the private or business sector.

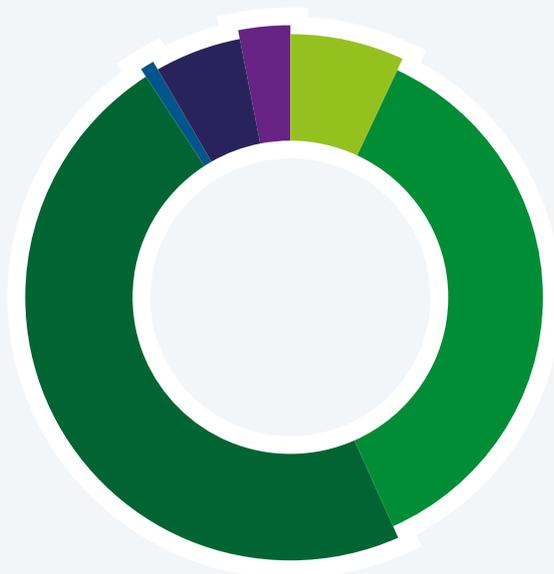
- There is a need for the development of a new national energy strategy which will take into account new RES market demand and lower energy consumption. The new strategy should also have a stronger vision towards 2030 and 2050, creating an energy efficient, renewable energy-based economy in Croatia.

BACK TO THE FUTURE: REALITY FAR MORE POSITIVE THAN 2009 PLANS, BUT CROATIA STILL LACKING AMBITIONS FOR SUSTAINABLE ENERGY

Energy production, consumption and transmission in Croatia (energy mix): leaking and unsustainable

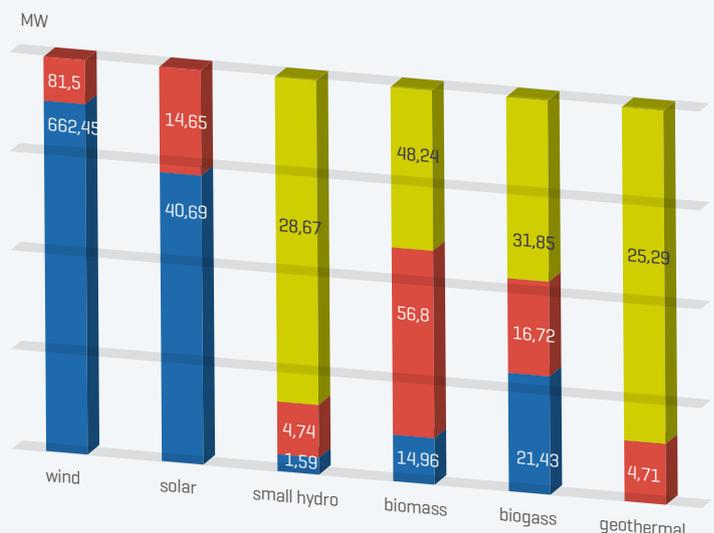
Regarding energy production from renewable sources, the Republic of Croatia is, according to the Partnership Agreement,

GRAPH 74: Electricity generation mix 2013 in Croatia. Source: Ministry of Economy (2014), Annual Energy Report, 'Energy in Croatia 2013'



- 47% Large hydro
- 36% Thermal power plant
- 7% Nuclear
- 5% Wind
- 3% Industrial plants
- 1% Biomass-biogass
- 0% Solar
- 0% Small hydro

GRAPH 75: Renewable energy capacities: Installed, contracted and free RES quotas in Croatia, MW, September 2015. Source: Current Agreements for REAS with HROTE - (Croatian Energy Market Operator – status 4th September 2015'



- signed projects under construction
- producers in the RES incentive system - plants signed or already in operation [MW]
- free capacities [MW]

above the EU average (total share of 16.8% in final energy consumption compared with 14.1% EU-28 average). In terms of the sectors from Directive 2009/28/EC (the so called 'non-ETS sectors' like transport and housing), in 2011, more than 34% of gross electric energy consumption was produced from renewable sources, while the share of RES in cooling/heating systems and transport was much lower (12.8% and 14%). However, the majority of renewable energy is from large hydropower plants (94%), and the other sources (small hydro, wind, solar, biomass, etc.) contribute only 6%.

The Croatian electrical energy distribution network was built between 1960 and 1970 and it is insufficient, unreliable and with energy losses up to 9.2% of total consumption, and there is an urgent need to improve the overall regulatory system and its management, as well as the introduction of smart grids.

Most electricity generation capacity is in the ownership of the Croatian Electrical Utility, HEP Group (of 4,205.7 MW installed, 2,186 MW is hydro [50% of installed capacity, which requires reserve capacity during the summer period when the water level is low²²²], 1,671 MW thermal power plants and 348 MW in the Croatian part of the Krško nuclear power plant). Besides this, there are 150 MW installed in industrial power plants and 302.6 MW installed in private ownership, namely wind (254.3MW), biomass and biogas (24.7MW), solar powerplants (19.50 MW) and small hydro (4.1 MW).²²³

RENEWABLE ENERGY STATUS: POTENTIAL UNFULFILLED

The Croatian national energy strategy²²⁴ in 2009 set goals for energy production from RES which were included in the National Action Plan for Renewable Energy Sources to 2020²²⁵ prepared by the Croatian Ministry of the Economy in October 2013. The overview of goals set in the strategy is displayed in graph 75:

Once all the contracted sources are entered in the energy grid (total of 920.24 MW operational and/or already contracted), Croatia will have already achieved its initial plan for 2020 (688 MW) and overachieved it by 232.24 MW or 33%. The new action plan from September 2015 (or rather, addition to the existing plan) sets an additional 434 MW of quotas for geothermal, wind, biomass and biogas, while cutting 70 MW for hydro, which increases the NAP by a total of 364 MW compared to the Action Plan from 2010. However, these numbers reveal that no new wind-power or solar energy can be connected until 2020 as already, today, even the extended wind quota is fulfilled, while new capacities are

given to biomass, biogas and geothermal energy sources (perhaps due to their ability to provide constant energy).

The new summary of quotas for renewable energy could also provide scope for EU funding in Croatia – apart from solar and wind – by investments in free capacities, however this study reveals big disparities on the strategic level between national plans and EU funds' plans. In spite of Croatia progressing faster than its targets, there are still obstacles to additional installed capacities identified in the National Action Plan:

- Permits for small projects are the same as for large projects and should be awarded based on energy potential.
- Too low quotas for solar (photovoltaic) RES.
- Incorrect alignment of goals set in the legislative framework for RES and the National Energy Strategy.
- Technical limitation of the energy system for connection of new RES due to shortage of regulatory energy in conditions of intermittent functioning.
- Administrative barriers for usage of known and available quantities of biomass for constant operations of biomass powerplants.

EU funds could provide assistance in solving problems of technical limitation while technical assistance funds could provide support for easing the administrative barriers to the future development of the energy sector in Croatia.

NATIONAL FUNDING SUPPORT IN RES AND EE MEASURES

The National Fund for Environment Protection and Energy Efficiency has already for several years been taking an active approach in funding small-scale household programmes for energy efficiency and RES. Types of projects financed by the fund are: co-financing of energy audits, house insulation (including windows replacement), RES application (PV, solar water heating panels, biomass, etc.) and, from the beginning of 2015, also the purchase of new energy-efficient home appliances.

The latest measure of cofinancing of energy-efficient home appliances (A+++) has been funded with EUR 2 million and, in just eight days on two occasions, 20,000 home appliances were replaced, with an estimated impact of 938,189 kWh of saved electric energy and 219,535 tonnes of CO₂ emissions prevented. In 2014, the fund invested EUR 22.5 million into a total of 1,902 single projects.²²⁷ With a 7-year perspective (compared to the EU budget period), these funds could be summed up at EUR 157.5 million which is almost a third

222 Pašičko, R., Stanić, Z., Debrecin, N., [2010.] 'Modelling Sustainable Development Scenarios of Croatian Power System' Journal of Electrical Engineering, VOL. 61, NO. 3, 2010, 157–163

223 Ministry of Economy (2014) Annual Energy Report, „Energy in Croatia 2013,”

224 Croatian National Energy Strategy 2009

225 National Action Plan for RES until 2015

226 Current Agreements for REAS with HROTE - [Croatian Energy Market Operator – status 4th September 2015

227 http://fzoeu.hr/docs/izvjesce_o_ostvarenju_programa_rada_fonda_za_2014_v2.pdf

of total RES and EE funds allocated in the Operational Programme for Competitiveness and Cohesion.

ISSUES AROUND TARGETS: FAILED PREDICTIONS AND LACK OF VISION

The 2020 targets set by the Republic of Croatia are extremely unambitious:

- Increase of greenhouse gas emissions by 16.88% by 2020 (vs. European target: -20%)
- Increase of energy usage (primary and final).

consumption in the period 2005-2010 (18.41 TWh) shows 1.51 TWh reduction in absolute terms, while the Croatian National Energy Strategy estimated linear growth of 3.5% per year reaching an almost incredible 28 TWh by 2020 (in which the 2015 milestone of 23.7 TWh looks set to be missed by around 29% or 6.8 TWh).

implementation predicted in the period 2011-2015 was an additional 977.5 MW of installed power in hydro and additional 2830 MW of fossil fuel-powered plants²²⁹, which shows a real lack of strategic decarbonisation of the Croatian energy system.

TABLE 18: GHG emissions by sectors for the period 1990-2012 (kg CO₂-eq)²³⁰

GHG source and sink categories	Emissions and removals 1990-2012 (GgCO ₂ -eq)								
	1990	1995	2000	2005	2008	2009	2010	2011	2012
Energy	22,797,11	17,264,19	19,482,23	22,675,67	22,902,11	21,649,26	21,039,69	20,749,87	18,923,16
Industrial Processes	3,769,49	2,008,26	2,849,02	3,295,62	3,590,93	2,979,76	3,204,93	3,004,19	2,850,61
Solvent and Other Product Use	116,98	108,34	109,22	193,61	238,17	151,76	151,32	143,05	155,57
Agriculture	4,682,71	3,496,04	3,478,00	3,699,53	3,646,52	3,552,98	3,446,17	3,563,15	3,394,67
Waste	610,76	667,44	759,83	861,15	1,054,53	1,095,75	1,087,98	1,118,42	1,125,61
Total emission (excluding net CO ₂ from LULUCF)	31,977,05	23,544,28	26,678,30	30,725,58	31,432,27	29,429,51	28,930,09	28,578,67	26,449,62
LULUCF	-7,181,12	+9,832,95	-7,722,03	-8,630,06	-8,080,60	-8,304,30	-8,069,52	-6,996,35	-6,544,44
Total emission (including LULUCF)	24,795,93	13,711,33	18,956,28	22,095,52	23,351,67	21,125,21	20,860,57	21,582,32	19,905,18

- Increase of renewable energy (increased share from 16.8 to 20% of total).

Although such goals for GHG emissions might be partially justified with the slow development and sudden loss of productive industries during the 1990s, it is hard to understand the lack of commitment for more significant results of RES in the 2014-2020 period.

In terms of energy consumption, the total consumption in 2014 was 16.9 TWh, that represents 2.6% less energy compared to 2013 and the continuation of a five year decreasing trend²²⁸ (17.9 TWh in 2010 -5.5% reduction 2010 - 2014). Comparing the current consumption with average

Instead of putting energy efficiency and RES at the centre of the strategy, the national government put the focus on projects such as the coal-fired powerplants Plomin C (500 MW) and TE Ploče (1,600 MW), and the Zagreb, Sisak and Slavonia gas fired powerplants, showing no real vision for the future, but just shifting energy imports from electricity to imported coal or gas.

The Europe 2020 national energy targets for Croatia are likely to be achieved, mainly due to the lack of ambition of the targets. As already stated above, the energy consumption has been in constant decline since the adoption of the targets in 2009 (an increase was expected), GHG emissions are lower since the adoption of the targets, and the share of RES has been increased above the strategically-set goals.

²²⁸ Yearly Report of the Croatian National Energy Regulation Agency <https://vlada.gov.hr/UserDocsImages//Sjednice/2015/243%20sjednica%20Vlade//243%20-%204.4..pdf>

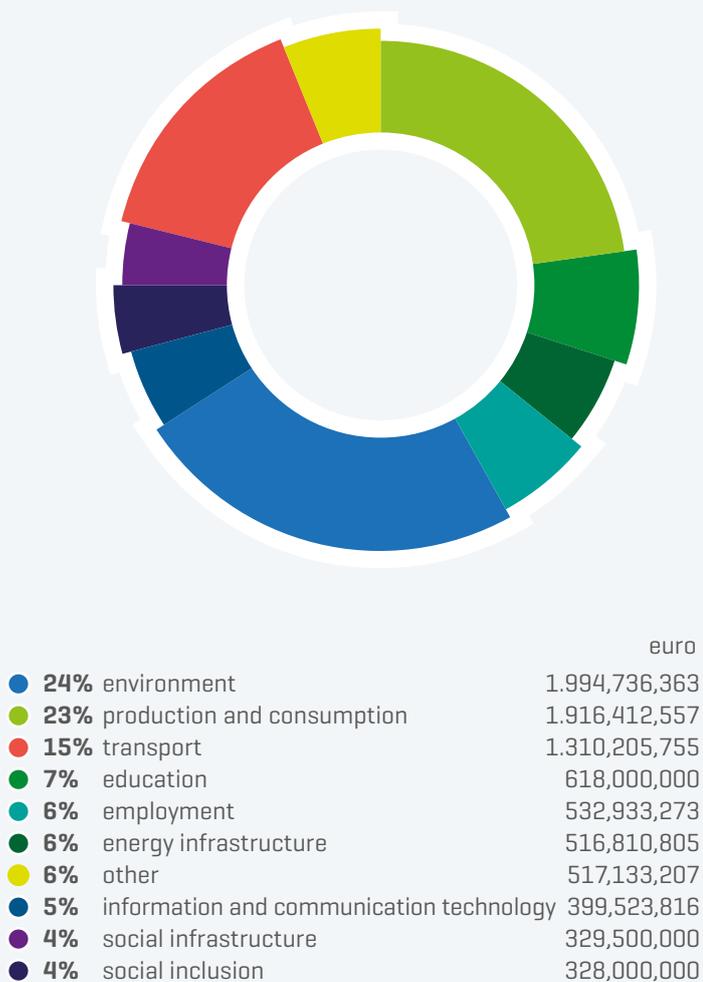
²²⁹ Boromisa, A., [2012.], 'prema progresivnoj energetskej politici i sustavima u hrvatskoj' Friedrich Ebert Stiftung, Zagreb

²³⁰ Croatian Greenhouse Gas Inventory For The Period 1990-2012, Croatian Environmental Agency, January 2015

Although these developments are positive for the climate, they show a lack of vision for Croatia's sustainable future and an unfortunately bad economic period.

The conclusion of this short analysis of Croatia's 2020 objectives and the progress towards their achievement

GRAPH 76: Investment areas of Cohesion Policy funds in Croatia. Source: our own calculations based on approved Operational Programmes according to categories of intervention



points to a need for the development of a new energy strategy, which will take into account new RES market demand developments and lower energy consumption. The new strategy should also have a stronger vision towards 2030 and 2050 creating an energy efficient, renewables-based economy in Croatia.

ALTERNATIVE SCENARIOS, TARGETS

According to the study 'Towards Progressive Energy Policy and Systems in Croatia' (Boromisa, 2012) Croatia should

invest EUR 477 million in transmission lines and including additional capacities of wind turbines, these costs could additionally rise. For an additional 1,200 MW of wind power, an additional EUR 24 million investment in transmission should be planned. This investment is significantly lower than investment in productive capacities [for example the Plomin C investment is estimated at around EUR 820 million²³¹].

However, none of the alternative scenarios took into account that consumption would fall five years in a row, currently stagnating under the 2005 baseline. This consumption trend indicates in fact that RES could gradually be easily replacing fossil-fuelled energy sources by 2050, especially in the current liberal energy market position and development of smart energy storage technology.

As stated above, reality has seriously undermined the National Energy Strategy as none of the indicators were planned properly: RESs have increased and final consumption has fallen. Considering that yearly quotas for small RES plants are set at 12 MW per year and, by 9th January, 2014 (only eight days after the opening of the tender), 2,079 single bids were submitted with a total of 87,991.36 kW proposed capacities,²³² it is obvious that there is much higher demand. It has to be reported that even with the constant fall of subsidies for RES the market demand has not decreased, and such facts, in a country which is striving for investment and new job openings, should open everyone's eyes regarding the direction in which the Croatian energy system should be developed. Instead of learning from the experiences in 2014, the Croatian government decided not to contract new RES in 2015 which is disappointing and shows no understanding of current trends in the energy sector.

EU FUNDS IN CROATIA

The purpose of this study in brief is to analyse whether the usage of EU funds is fully in line with the EU concept of horizontally integrating climate concerns across all interventions under the Cohesion Policy. In the financial period 2014–2020, the Republic of Croatia has at its disposal a total of EUR 10,676 billion. Of that amount, EUR 8,397 billion is planned for activities covered by the Cohesion Policy (EFRD, CF and ESF), EUR 2,026 billion for rural development and EUR 253 million for fisheries.

Integration of climate considerations of the Europe 2020 strategy and the Partnership Agreement, and their operationalisation

The Regional Development, European Social and Cohesion funds in Croatia for the budget period 2014 – 2020, besides regular Thematic Objectives, can be clustered according to the subject of investment. The most significant cluster is

²³¹ <https://vlada.gov.hr/UserDocsImages/sjednice/Arhiva/999156%20-%204.pdf>

²³² <http://www.obnovljivi.com/aktualno/2575-hrote-kvote-i-suncane-elektrane>

Environment [24%] followed by Production and Consumption [23%] and Transport [15%].

The application of horizontal principles in the Partnership Agreement was made according to business as usual in terms of fulfilling the basic requirements from the Common Provisions Regulations and going very little beyond the year 2020. The focus of the sustainable development horizontal principle was very much focused on justification of green jobs and the green economy [focus on 'sustainable growth' in terms of sustained GDP growth instead of environmental pillar development]. As already briefly mentioned above, integration of climate considerations in the horizontal principles in the Partnership Agreement [reference to Article 8 of the CPR] was prepared with a certain misunderstanding of Article 8 of the Cohesion Policy Regulation and more weighted references to climate change objectives and climate change adaptation and mitigation measures should have been given.

The Partnership Agreement between the EC and the Republic of Croatia does not even mention the 2030 targets or beyond, while even the 2020 targets are only mentioned in the context of thematic objectives related to energy, climate change and forestry in terms of available biomass. Such an approach in mainstreaming one of the five Europe 2020 strategy targets is not progressive because, by the time the Partnership Agreement was adopted, the National Energy Strategy was already proved to be outdated and the goals were miscalculated. Under Thematic Objective 4 – supporting the shift towards a low carbon economy in all sectors, the list of strategic objectives is presented:

- Promotion of energy efficiency and energy consumption savings in the buildings and industrial sectors.
- Reduction of traffic congestion in urban areas coupled with a corresponding decrease in the energy consumption and GHG emissions of the transport sector.
- Promoting the use of locally-available resources and technologies in order to increase the share of RES in final energy consumption.
- Stimulating local economies and employment in relation to energy renovation and localised generation of energy from RES.
- Reduction of GHG emissions and increasing the level of security of energy supply.
- Reduction of final energy consumption by 22.76 PJ in 2020.

This list indicates strategic objectives within Thematic Objective 4, however, the OPs still show a lack of strategic thinking in achieving the 2020 targets and creating the preconditions for achieving 2030 or 2050 targets already agreed at the EU level. At the general level, the allocations in the Operational Programmes do lead to the achievement of the strategic objectives, but due to lack of measurable indicators, it is hard to estimate how much.

In order to comply with the EU 2020 headline targets, the National RES Action Plan for 2013-2020 sets the goals of RES share in electricity as 35%, transport as 10% and in heating/cooling as 20%. The National Energy Efficiency Programme states that the overall energy saving target should be contributed 34% by households, 19% by services, 17% by industries [excluding ETS] and 30% by transport. As for the reduction of GHGs, the headline target of the Europe 2020 Strategy, the investments in the EE and RES will allow for a reduction of GHG emissions, since the energy sector is the biggest contributor to the overall GHG emissions level. The indicated allocations in the PA are likely to reach the national objectives, but mostly not due to the progressiveness of the planned documents, but due to the fact that the indicators were already distorted by lower energy consumption and higher share of RES due to the economic crisis and market activities.

Chapter 1.5.3. [Sustainable Development] mentions the 'polluter pays principle' and 'SEA' and 'EIA' as main principles. These principles, set by the PA, and which will be respected horizontally, have very little in common with climate change objectives. The additional points which are mentioned in the chapter are energy saving targets and a focus on minimising consumption of primary energy sources and contribution to the mitigation of climate change in the transport sector.

Integration of climate considerations of the Europe 2020 strategy and the Operational Programmes and their operationalisation

Integration of climate considerations of the Europe 2020 strategy and the Operational Programmes and their operationalisation

The Operational Programme for Competitiveness and Cohesion [OPCC] does link the Europe 2020 strategy climate change goals with Thematic Objective 4, justifying the investment priorities as: increasing the share of RES in total consumption, improvements of district heating systems, but also uses arguments such as energy security. At the same time, there is little evidence that a serious approach towards describing horizontal principles

was taken when developing the Operational Programme which name-drops resource efficiency, climate change mitigation and adaptation, disaster resilience and risk prevention and management in the selection of operations, but does not explain them or apply them.

The sustainable development principle will be horizontally integrated into the management documentation for the OPCC. To ensure that sustainable development principles are taken into account at all levels of implementation, the following procedures will be adopted:

‘Selection: Sustainable development principles will be reflected in the selection procedures. Applicants will be expected to prove that their project will not have a harmful environmental impact, to certify that it is environmentally neutral and/or to present how the project will make a positive contribution to sustainable development.’

Such an approach would be welcomed if the right principles were taken into account such as: lifecycle analyses, measurable decrease of GHGs and/or air pollutant emissions, assessment of climate change adaptation, improved resilience and adaptability. Just not having a harmful impact (easy to claim) does not mean that the project is beneficial towards climate change adaptation or mitigation, thus this will fail to mainstream the climate change objectives.

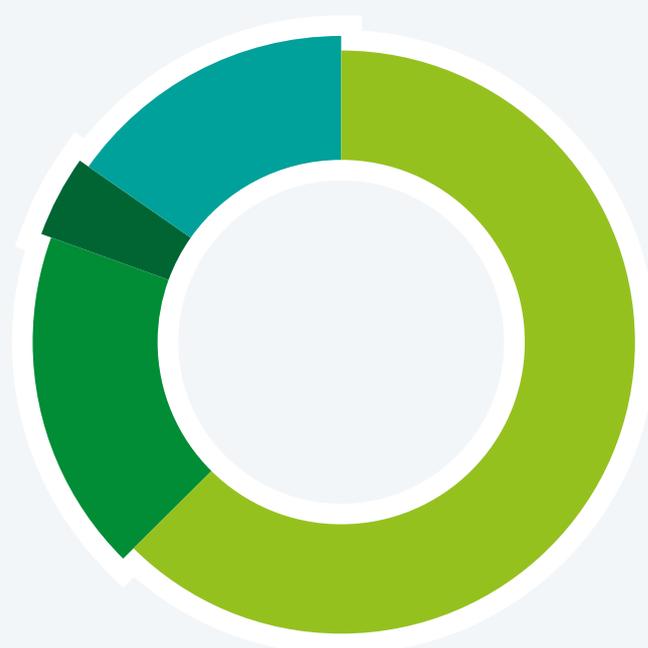
Thematic Objective 6 mostly emphasises references to the Resource Efficiency Flagship policy, while the only reference to climate considerations is a description of the lack of capacities and knowledge for climate change adaptation investments. The other Thematic Objectives have very little or no climate-related EU2020 references.

The only serious consideration at the operational level is that ‘a detailed analysis in the form of project level environmental impact assessment will be required in order to specify all types of potential influences and list measures for their avoidance’. This principle, along with the polluter-pays principle, does not mainstream climate change but only ensures the legality of the projects (which is an obligation whether those are or are not financed by ESI funds).

INDICATIVE AMOUNT OF SUPPORT FOR THE CLIMATE CHANGE OBJECTIVE

An analysis of climate-related allocations in the Operational Programme Competitiveness and Cohesion 2014-2020

GRAPH 77: The different types of energy infrastructure investments. Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
62% Energy Efficiency	321,810,805
18% Renewable Energy Sources	95,000,000
15% Co-generation, district heating	80,000,000
4% Smart Grid	20,000,000
0% Electricity transmission, storage	0
0% Gas	0

reveals that Croatia plans to spend approximately EUR 1.23 billion on climate-related activities which represents 17.88% of the Operational Programme for Competitiveness and Cohesion funds available for the budget period.

The calculation made on the basis of the climate tracking methodology shows that EUR 1.21 billion is to be invested in climate change-related activities from a total of EUR 8.463 billion, which represents 14.40% of total Cohesion Funds (including the European Social Funds allocations).

ASSESSMENT OF MAJOR THEMATIC OBJECTIVES

Integration of climate considerations in energy infrastructure development

Under Priority Axis 4, 12.3% of total financing from the ERDF will be allocated to investment priorities 4b, 4c and 4d and this complies with the allocation requirement for allocating at least 12% of funds to Thematic Objective 4 (for less developed regions) with a total allocation of EUR 531.8 million.

The structure of financing divided per investment characteristics is:

In terms of creating preconditions for implementation of these investments, Croatia should firstly meet the conditionalities identified in the OPCC (ex-ante conditionalities) which are:

- Support for cogeneration is based on useful heat demand and primary energy savings.
- Member States or their competent bodies have evaluated the existing legislative and regulatory framework with regard to authorisation procedures

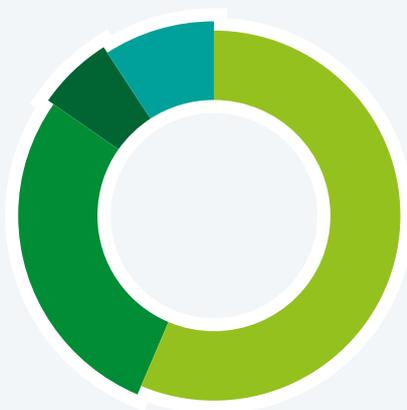
or other procedures in order to: a) encourage the design of cogeneration units to match economically justifiable demands for useful heat output and avoid production of more heat than useful heat; and b) reduce the regulatory and non-regulatory barriers to an increase in cogeneration.

The latter ex-ante conditionality is especially interesting in terms of the Croatian National Energy strategy as two major planned thermal power plant projects (Plomin C and Ploče thermal power plants²³³) account for an additional 2,100 MW of installed capacities on the seashore where the cogeneration is not possible and high amounts of thermal energy would be lost. Although Plomin C and the Ploče power plants are not directly financed by EU funds, in cases where there is a failure to fulfil an applicable ex-ante conditionality within the deadline laid down, the Commission has the power to suspend interim payments to the relevant priorities of the programme under precisely defined conditions. In conclusion, the Croatian energy strategy and its energy infrastructure projects are not aligned with the conditionalities set out in the Common Provisions Regulation.

Investment priority 4b Promoting energy efficiency and renewable energy use in enterprises consists of activities increasing energy efficiency and use of RES in manufacturing industries (4b1) and in the private sector (4b2). There are no major projects predicted and both measures include the development of infrastructure for renewable energy sources in manufacturing industries and the service sector (tourism and trade) including switching from conventional to alternative (RES) energy such as: installation of solar collectors, heat pumps and highly efficient cogeneration. The threat under this priority is unsustainable usage of biomass originating from natural forests as there are currently no

GRAPH 78: Energy efficiency allocations by type of beneficiary.

Source: our own calculations based on approved Operational Programmes according to categories of intervention



	euro
56% EE public infrastructure	181,810,805
28% EE in housing	90,000,000
9% EE large enterprises	30,000,000
6% EE SMEs	20,000,000

²³³ It is, however, questionable whether either will go ahead – Ploče power plant was dealt a massive blow in a January 2015 referendum after which politicians claimed they would not impose the project against the will of the local population, while Plomin C has suffered from multiple issues including legal challenges, and strong local opposition and is, at the time of writing, awaiting an EC decision on the legality of a planned long-term power purchase agreement.

significant biomass growing fields. Project selection criteria have not been adopted yet.

Investment priority 4c Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector consists of the following activities:

Reduction of energy consumption of public sector buildings [4c1], residential buildings [multi-apartment buildings and family houses] [4c2] and improvement of the efficiency of the district heating system [4c3] and public lighting system [4c4]. No major projects are predicted under this priority either, and the list of eligible projects comprises energy refits of public and residential buildings, reconstruction of heating/cooling systems, introduction of heat pumps, biomass systems for heating and also activities connected with energy management, education and communication. The project selection criteria for 4c1 are defined as contribution to reduction of energy consumption [63%], contribution to RES usage [13%], contribution to entrepreneurship development [8%] and balanced regional development [5%]. The rest of the selection criteria have not been adopted at this point.

Investment priority 4d Developing and implementing smart distribution systems that operate at low and medium voltage levels should contribute to increased security of supply, but also to the more efficient management of [energy] resources and thereby reduced costs and GHG emissions, thus contributing to the objectives set up under the Resource Efficient Europe flagship. The activities under this IP are designed as pilot projects which will be implemented in larger cities [for example, Zagreb and Split] and medium-sized cities [for example, Varaždin

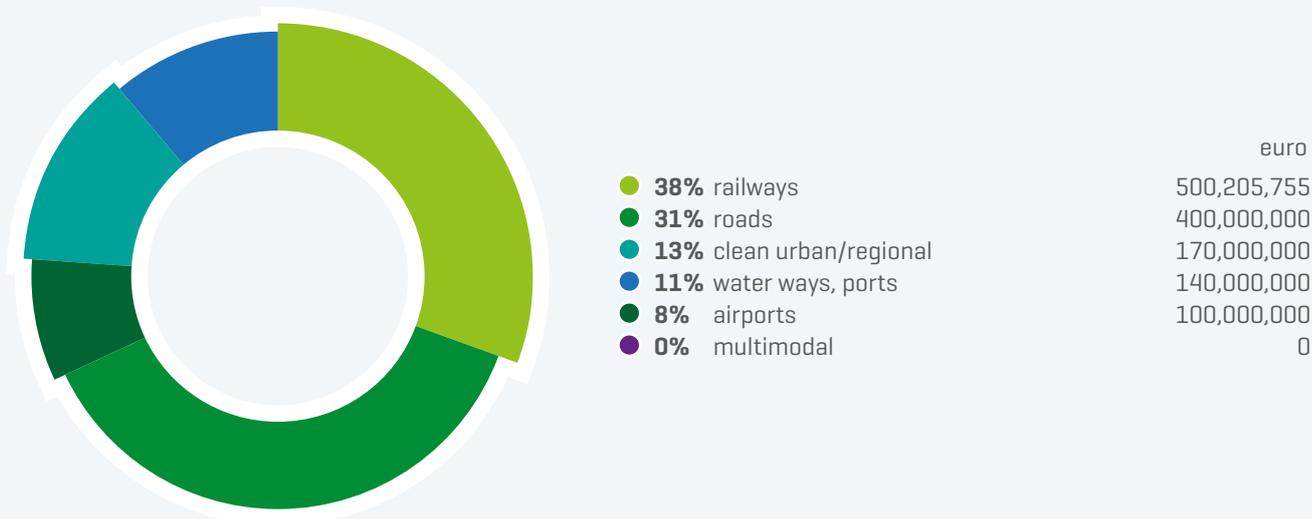
and Dubrovnik]. The investments into these measures are highly underfunded, as reported in the initial analysis of the current Croatian energy system. The Croatian market demand for new RES requires investments in distribution and transmission upgrade in order that the new capacities could be connected to the grid.

The indicators under this thematic objective shows that energy efficiency measures will contribute with savings of 55,100 MWh/year in the public sector [which is equivalent to 6,887 MW of installed and operating power generation] and 167,000 MWh/year in the private sector [which is equivalent to 20,875 MW of installed and operating power generation]. The energy efficiency measures represent 1.3% of total electric energy consumption in Croatia. We can conclude that the descriptions and allocations for Priority Axes 4 and 5 are directly and unquestionably contributing to the fulfilment of the Europe 2020 strategy objectives, however, very little long term investment perspective is presented. The OPCC failed to include any perspective for establishing and monitoring the progress towards 2030 targets or structuring the financing priorities towards the 2050 goals of 80-95% GHG reduction and the OP shows a lack of long-term investment security in achieving these important goals.

As there are no large infrastructure projects mentioned, the only possible 'false solutions' can be identified in investment code 011. RES – biomass with EUR 60 million and 016. High efficiency cogeneration and district heating [EUR 80 million]. However, at this point, definite conclusions are not possible as both the identified allocations could also be beneficial [for example using farm manure for production of biogas or expansion of district heating networks]. Additionally, based on the analysis of the current energy system in Croatia, it is questionable how to finance additional solar RES as the

GRAPH 79: Share of transport modes in total transport funding in Croatia.

Source: our own calculations based on approved Operational Programmes according to categories of intervention



quotas until 2020 are already used, while for biomass, there is only 43 MW available for new projects.

After analysing the planned investments through the European Structural Investment Funds and comparing them with the obstacles for additional installed capacities identified by the National Action Plan, it can be stated that low quotas for solar RES are still an obstacle even though only EUR 35 million is allocated for financing.

The legislative framework for RES and the National Energy Strategy should be revised according to new developments and market demand.

EUR 80 million for CHP is too little to solve the technical limitations of the energy system for connection of new RES due to a shortage of balancing energy sources in conditions of intermittent functioning, but it is too much for adjustments to existing heating systems.

Assessment of Priority Axis 7 (Integration of climate considerations in transport infrastructure development)

References to the Europe 2020 strategy in the transport sector description state that the financial distribution reflects the priority of decreasing greenhouse gas emissions in line with Europe 2020 and the Commission's recommendations. The majority of financial resources under this Thematic Objective will be allocated to a priority action called 'investments in railways, clean public and urban transport and roads' which includes everything and is not at all contributing to the priority of decreasing GHGs, although the official name implies the sustainability of the allocation.

Under Priority Axis 7 Connectivity and Mobility EUR 1.3 billion is allocated out of which only EUR 333 million (just above a quarter) is related to climate change measures.

The positive projects under this investment category are the investments in railways, seaports and intelligent transport systems which directly contribute to reductions in GHGs. The Operational Programme Cohesion and Competitiveness states in the justification section "The White Paper on Transport" and its recommendations that Cohesion

Policy support should be focused on sustainable forms of transport with a reduction of 60% of greenhouse gases by 2050 required by the transport sector (this is also the only 2050 climate reference in the entire document). However, as expected, this was ignored: Croatia will finance new highways as part of TEN-T corridors and reconstruction and improvement of existing roads, and its contribution to GHG reductions cannot be proved.

Investment Priority 7a Supporting a multimodal Single European Transport Area by investing in the TEN-T is based on new road construction. The selection criteria mention 'must include climate change resilience features, where relevant' which is rather vague and easy to manipulate. The justifications for selection of road investments (TEN-T) are mostly vaguely mentioned as improving regional accessibility by improving road safety, but are still supporting a business as usual scenario by funding a GHG intensive sector. EUR 400 million is allocated to road projects, mainly for new construction of the core network (EUR 330 million).

Investment Priority 7b, worth EUR 35 million, is Enhancing regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes, and consists of projects such as: crossroads reconstruction, reconstruction of critical points of road sections and bypassing black spots. It also encourages inclusion and enhancement of pedestrian and bicycle lanes/ passes, improving signalling, road markings and visibility, introduction of physical measures for slowing down traffic and preparation of project documentation. Climate change selection criteria is included in the official documents, however, it is not currently possible to assess whether those would give any priority to pedestrian/bicycle projects compared to other additional road projects hidden under reconstruction of critical road sections.

The next investment priority has the indicative name '7ii Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multi-modal links and airport infrastructure, in order to promote sustainable regional and local mobility'. Eligible projects can be identified through performance indicators and those include: purchase of new vessels, construction of ports, upgrading of existing

ports [EUR 140 million], new and improved tram lines, new and upgraded bicycle lanes, electric vehicle charging stations [EUR 170 million] and reconstruction of the Dubrovnik Airport runway and sewage connection for Dubrovnik Airport. The last two [with an allocation of EUR 100 million] cannot be labelled as environmentally-friendly or low-carbon projects and this is the major objection to this investment priority. The OP managed to label the airport infrastructure as improving environmentally-friendly [including low-noise] and low-carbon transport systems, which is utterly unacceptable. The EUR 100 million investment in airports [namely the airport in Dubrovnik] is the opposite of climate change mainstreaming [investment in the sewerage system is allowed while investments in upgrading and extension of runways should not be a part of the Operational Programme, as this does not mitigate or reduce its negative environmental impact].

The final investment priority in the transport section includes 'Development and rehabilitation of comprehensive, high quality and interoperable railway systems, and promotion of noise reduction measures with activities to increase use and relevance of the rail network'. This investment priority is progressive compared to the other priorities in the OP and the elaborated selection criteria have included a series of requirements such as CO₂ emissions when purchasing equipment. The total allocation for the railway sector is EUR 500.2 million out of which EUR 400 million is for the TEN-T network, EUR 50 million for other lines and EUR 50.2 million for mobile rail assets.

The transport section [T07] therefore includes a total investment of EUR 1.31 billion, out of which only EUR 333 million [just above a quarter] is related to climate change measures due to the heavy investments in the road sector and Dubrovnik Airport. The projects which really are positive show a certain vision for improvement, however, the overall assessment is that significant opportunities for more efficient transition towards decarbonisation have been missed.

CONCLUSION

The Partnership Agreement and Operational Programme for Competitiveness and Cohesion have both presented different total indicative amounts of EU support for climate change objectives [EUR]. In absolute terms, according to the Partnership

Agreement, the EAFRD funds will increase allocations for climate change objectives by an additional EUR 1 billion.

Although the national energy efficiency fund is already doing significant work on energy efficiency and RES on the local level by investing more than EUR 20 million per year in energy efficiency and RES, its direct impact on overall results is rather unknown to the general public. When adding those funds and efforts to the already allocated funds through investments planned through the Operational Programme for Competitiveness and Cohesion, we can conclude that Croatia is indeed seriously working on strengthening its position towards Croatia's Europe 2020 energy targets fulfilment at an operational level. However, as stated in the analyses, this change has not been strategically driven as the higher RES share is a result of market interest, reduction of GHG and energy consumption due to the economic crisis and other market-related investments.

However, the national strategies and developments of major fossil fuel projects on the ground somewhat stomp on these efforts by showing inconsistencies towards the ever-growing energy efficiency and RES potentials and plans for 2030 or 2050 GHG reduction and clean energy requirements. Already today, all the overall goals from the national energy strategy have been achieved, even after increasing the quotas in 2015. The current quotas show that no new solar and wind capacities are legally capable of being connected to the system and insertion of new quotas is needed along with investments in the energy network in order to increase the RES connectivity capacity. This market-driven demand also supports the need for developing a new energy strategy which has proven to be inaccurate.

In the Croatian case, we can also conclude that EU funds' allocations and other local activities are far more progressive than national energy policy and efforts should be made to increase the transmission and distribution lines for new RES sources and take a more integrated strategic approach in order to match the existing and future RES investment demands from the private or business sector.

This, however, does not mean that the allocations are perfect, but shows a lack of vision originating from the obsolete and unambitious energy strategy and this is replicated to other strategic documents.

CONCLUSIONS AND RECOMMENDATIONS

Economic prosperity and sustainability are not mutually exclusive objectives. Indeed, the green energy transition represents a remarkable opportunity for European businesses and society. Moreover, scientific studies²³⁴ provide clear evidence that the long-term financial efforts for pursuing the transition to a green economy are clearly lower than the long-term costs caused by carbon pollution.

In this regard, CEE countries have to change their investment priorities. This includes the accelerated uptake of renewable energy and energy efficiency measures and the immediate provision of adequate clean infrastructure. The transition to a low-carbon economy also requires significant investment in research and development in order to stimulate innovation in much-needed green technologies.

The alarming conclusions that we draw from the EU funds' spending plans paint a clear picture: Climate action in Central and Eastern Europe is scant, sketchy and short-sighted; the path to development outlined by Member States in Central and Eastern Europe is business-as-usual, maintaining a dirty and expensive energy mix. Investments focus on big infrastructure projects, like in the transport sector, with countries allocating millions to roads, all the while ignoring the environmental risks and challenges associated with these types of projects. Alongside the welcomed and relatively-higher allocations for energy efficiency, fossil fuels will continue to receive EU support in a number of ways, both directly and indirectly.

It is clear that the countries of Central and Eastern Europe may lose much of the transformative potential of the substantial

amount of EU funds that should, at the end of the day, foster a decentralised, decarbonised model of a circular economy. In spite of some positive developments, it is difficult to imagine how the planned investments will provide the sort of certainty and leverage that investors need to commit to renewables and other clean energy solutions.

The operationalisation of climate change mitigation as a horizontal principle requires that all actors are encouraged to take actions that contribute to climate objectives, even if this falls out of their core mandate or if climate change is not directly linked to these objectives. To enable this, incentives, implementing rules and procedures must be in place that make these actors take climate into account. It requires awareness-raising and capacity-building among key actors.

With EU funds often the main source of public infrastructure development funding, the countries in this analysis are missing out on the opportunity to catalyse the shift to a renewable-based, resource-efficient economy that will allow them to meet Europe's long term clean energy targets, thus undermining joint European efforts to promote prosperity and halt climate change.

In light of our analysis, Bankwatch and Friends of the Earth Europe are asking the European Commission and Member States to change course during the MFF mid-term review at the latest, changing those spending plans that undermine a future-oriented, forward-looking EU investment and development policy.

234. Since the 2006 Stern review's assessment of the 'Costs of Inaction' (<http://siteresources.worldbank.org/INTINDONESIA/Resources/226271-1170911056314/3428109-1174614780539/SternReviewEng.pdf>) a large number of scientific publications attest to these calculations, see e.g. <http://www.skepticalscience.com/graphics.php?g=11>, http://switchboard.nrdc.org/blogs/ljohnson/the_high_cost_of_climate_chang.html, <http://www.economistinsights.com/sites/default/files/The%20cost%20of%20inaction.pdf>

RECOMMENDATIONS FOR PLANNING, MONITORING AND REPORTING

- EU funds' spending plans need to be embedded into longer-term GHG reduction strategies aiming at 80-95% GHG emissions reduction and the construction of low-energy-consuming, renewables-based energy systems.
- Introduce a climate performance evaluation ('carbon footprint' methodology) in order to assess and decrease the actual GHG emissions impact of EU-funded projects:
 - This 'carbon footprint assessment' has to include direct as well as indirect, induced GHG emissions.
 - The ex-ante assessment of the GHG emissions impact of all Operational Programmes should be obligatory (for example, 'CO2MPARE').
 - The annual ex-post evaluation should add together the carbon footprint of all EU-funded projects; the GHG balance of all Operational Programmes has to be negative.
 - MSs to carry out comprehensive evaluations for all Operational Programmes and for the Partnership Agreement (i.e., all ESIFs) during the upcoming mid-term review, using Technical Assistance and JASPERS.
- Reduce the overall number of investment priorities to ensure better concentration.

RECOMMENDATIONS FOR IMPLEMENTATION

- Climate change mitigation could be better integrated into working procedures and processes to ensure maximum uptake, introducing binding sustainability and GHG reduction criteria for project selection equally applied across all regions, in particular for the support of biomass and transport projects.
- Adopt and apply horizontal guiding principles for the selection of projects and calls for proposals for all the investment priorities and interventions; those should be universally valid and centrally published.
- Ensure that no investments are financed which would have an adverse impact on the European GHG emissions reduction targets, halt direct and indirect financing for all fossil fuels.
- Withdraw eligibility of unsustainable renewables and climate action measures which have detrimental environmental impact.
- Prioritise energy efficiency investments over new energy generation and transmission projects, both on the national scale as well as locally.
- Concentrate and shift funding towards energy infrastructure with long-term climate change mitigation impact such as new systems and modes of energy management, energy supply-demand matching, industrial symbioses, circular economy processes or smart energy distribution.
- Promote projects which have multiplication potential, require eco-innovation, that create capacity to manage energy, resources and processes and that result in behaviour change.
- The decentralisation of energy production should be enhanced by enabling small and emerging local energy producers.

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