SLOVAKIA AND THE LANDSCAPE OF CLIMATE CHANGE POLICIES: DRIVERS, BARRIERS AND STAKEHOLDER ANALYSIS.

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Executive Summary: *Climate change is not a salient policy issue in the Slovak Republic. This is for at least three main reasons. Firstly, the country has been going through rather turbulent economic times. The collapse of most of the heavy industry in 1990s radically decreased environmental pressures. The adoption of progressive policies and laws (to a great extend affiliated with the European Union membership) further improved environmental standards. The country fulfils international obligations relatively easy and with substantial margin. Secondly, public awareness about scope and implications of climate change is rather low. Thirdly, a professional public debate and pressure from the "bottom" and from involved stakeholders is weak. At first sight the country situation looks plausible. There have been strong increases in energy efficiency (both for households and industry), and renewable energy installations in the past decade. The prediction is that the Slovak 2020 target in CO_2 emissions will be overachieved. But problems are on the horizon. The so-called "low-hanging fruit" in emission reductions are already harvested and the EU 2030 package will impose challenging targets on Slovakia. The country is also increasingly exposed to climate change adaptation problems. Meeting these challenges would require stronger commitment of the government and more political support from the stakeholders and public. To provide better insight on these tendencies and outcomes, the article provides evaluation of the climate change policies and progress, while it centres on the stakeholders' analysis. The article is divided into 3 sections. The first section gives a brief overview of Slovakia's current climate policy framework and progress towards declared goals. The second part provides an analysis of the main players shaping the policy landscape and public debate on climate change. The third part, combining the outcomes of the two analyses, discusses future climate policy challenges and gives recommendations for policy dialogue*.

Key words: Climate change, Mitigation, Slovak Republic.

Introduction

Problem of challenges introduced by climate change in Slovakia will range from droughts in the south, to increasing dangers of floods in the central part and significant changes foreseen in the agriculture (IPPC 2014, MoE SR 2014). Slovak climate policy is determined by the European Union framework and mutually agreed targets. Two interlinked, but separately dealt challenges are *mitigation* (or decreasing emissions of greenhouse gases) and *adaptation* (or preparing for and adjusting to climate impacts). The strategic framework for mitigation is guided by the framework directives and targets in the EU's 2020 climate and energy package. The adaptation strategy, on the other hand, is developed and approved by the national Ministry of Environment (MoE SR 2014). Closely linked to the mitigation and adaptation priorities is the Partnership Agreement 2014-2020 between Slovakia and the EU.

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[2] This study is outcome of the survey commissioned by Third Generation Environmentalism and it partly builds on results from the project Methodology and Impact Assessment of the EU Cohesion Policies on Marginalized Roma Communities: Outputs Analyses and Forecasting (Vega 2/0089/15).

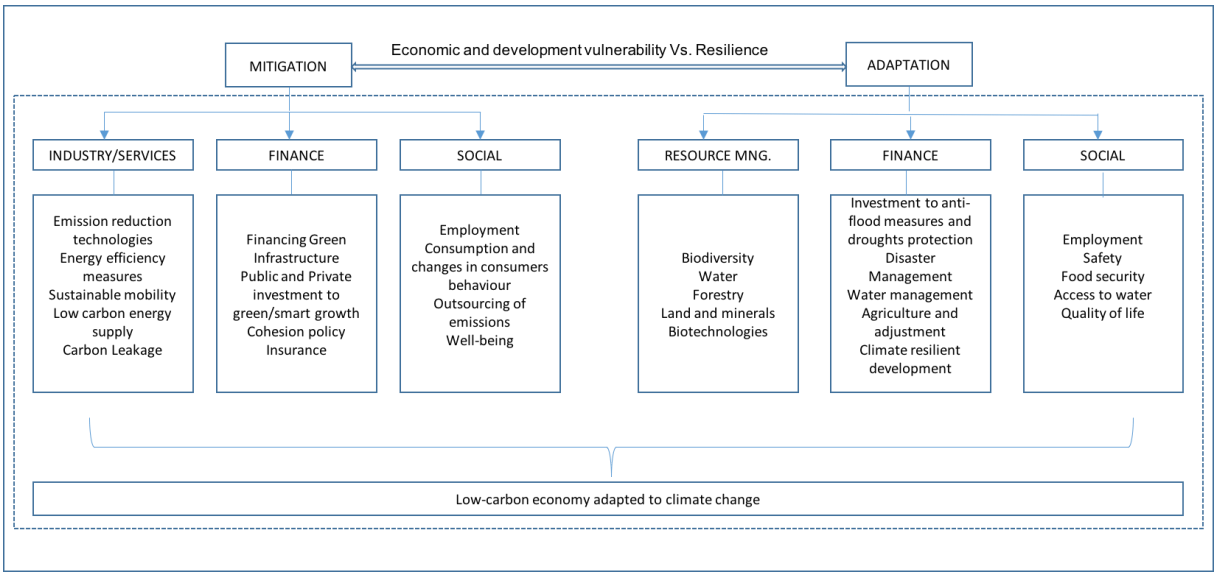
It is the guiding document for the implementation of the cohesion policy and financing of infrastructure.

Slovakia is on track to achieve all its targets under the EU 2020 framework. This is partly due to policy implementation and investments supported by cohesion policy and corresponding financial resources (Baláž *et al* 2015). It is also partly due to the fact that the country negotiated targets that were relatively easily achievable.

The upcoming negotiations about the EU climate and energy "Winter Package", as well as 2030 and 2050 targets, pose new challenges, however. The Paris Agreement ratified by the European Union in October 2016 has reinforced pressure on the 2030 targets implementation - question is, if it is enough and what would it mean in terms of national commitments. I.e., how much this would affect Slovakia. The negotiations are only in the initial stages, but proposed targets and access to new flexibilities[3] do not indicate bigger ambitions and targets on the side of the Slovak Republic. The 2030 target (baseline 2005) is currently at the level of not impressive -12%[4]. For comparison, Scandinavian countries are aiming for a 39 to 40% reduction in greenhouse gas emissions until 2030 and other EU countries such as Germany, France or the Netherlands have emissions reduction targets of 35% or more.

Climate change is understood as a development challenge and framework for an economic transformation. The goal of such transformation is essentially low-carbon economy decreasing emissions (mitigation), while adapting the country or a region to changes affiliated with climate change (Figure 1).

Figure 1. Low-carbon economy adapted to climate change: Economic and development factors in vulnerability and resilience.



Source: The author.

In order to better understand who, how and to what direction shapes current policies in climate change, we develop *stakeholders' analysis*. It is in its simple definition process of identifying the individuals or groups that are (directly or indirectly) likely to affect or be

[3] Press Release, EC, Luxembourg, 17 October 2016.

[4] These figures are estimates and the limit is expressed in absolute million tonnes over 10 years in the proposal.

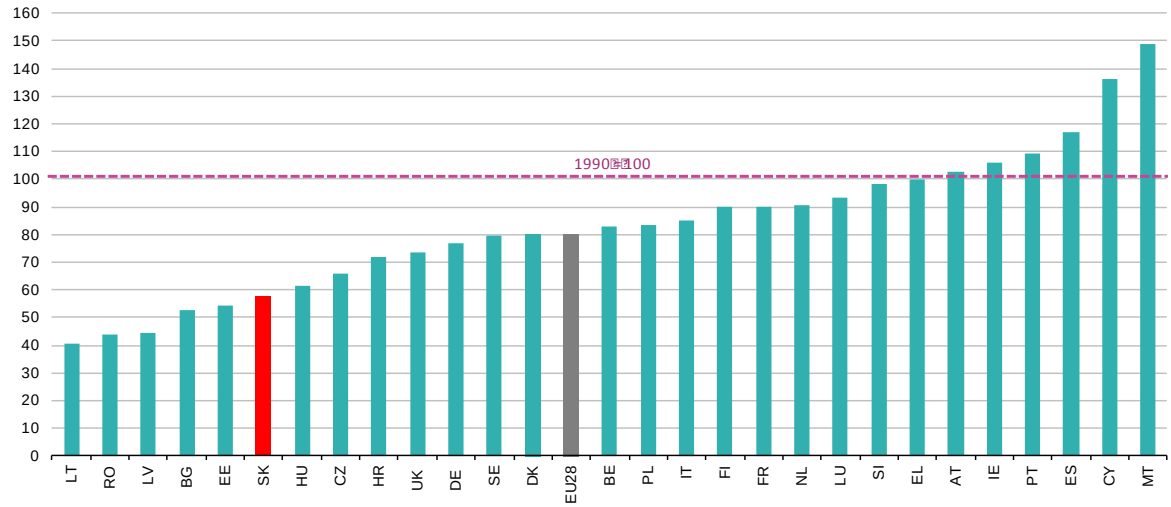
affected by a proposed action. The aim is to evaluate their relative strength and weakness and sort them out according to their real or potential impact on the subject we study and the impact the action will have on them (Mendelow 1991, Hemati et al 2002, Fletcher et al 2003). Based on the identification of key stakeholders, roles and motivations we may identify key determinants for future progress and development.

Climate change and progress

EUROSTAT data show, that across EU Member States in 2014, greenhouse gas emissions were the highest in Germany (21.9 % of the EU-28 total or 969.1 million tonnes of CO2-equivalents), followed by the United Kingdom and France. As illustrated on Figure 2, the biggest decreases compared to 1990 were reported for Lithuania (– 59.3 %), Romania (– 56.3 %) and Latvia (– 55.7 %). On the other side of the spectrum, the biggest increases compared to 1990 were reported for Malta (+ 48.7 %), Cyprus (+ 36.4 %) and Spain (+ 16.9 %).

Meeting climate targets has so far not been very difficult for the Slovak Republic. The cost and effort required to stay on track will need to increase progressively, however. The emissions reductions realised via the deindustrialisation that followed the collapse of the Soviet Union is over. The so called “low-hanging fruits” in energy efficiency, housing insulations and technologies improvements that Slovakia can still reap will not be sufficient. Far from affecting only the energy and industry sectors, the EU 2030 targets will also require changes in non-ETS sectors such as transport and agriculture. In non-ETS sectors, emissions need to be cut by 30% compared to 2005. More progressive countries are approaching the low-carbon transition with long- term vision. They realise the benefits of low-carbon development and orient their strategies towards a 80-95% emissions reduction in 2050.

Figure 2. Total greenhouse gas emissions by country (including international aviation, indirect CO_2 and excluding LULUCF), 2014, (Index 1990 = 100)



Source: Eurostat, 2016.

As illustrated on Figure 2, Slovakia with its – 45,5 % decrease between 1990 and 2014 is among the leading countries in the EU. Between years 2005 (reference year for the 2020 target) and 2014 (latest available data from EUROSTAT) emissions decreased by 20,9%. Yet the country 2020 climate objective under the EU framework actually allows the country to increase its emissions by up to 13% (the overall target). The current estimations are, that emissions will by 2020 decrease by roughly 24% compared to 2005 (EC 2015, Baláž *et al* 2015). Barring unexpected developments, Slovakia will therefore easily achieve its climate target.

There are several reasons for this progress. Firstly, the 2020 targets were set unrealistically high. The country emphasised its "right to develop" during negotiations on the 2020 package, insisting on being allowed an emissions increase. Driven by industry demands and lack of realistic official prognoses, the government also pushed for a significant over-allocation of ETS certificates to the country's industrial facilities. The over-allocation most probably slowed down climate progress in industry, although it is difficult to estimate how much, as the progress in other areas (e.g., energy consumption) leveraged the overall results.

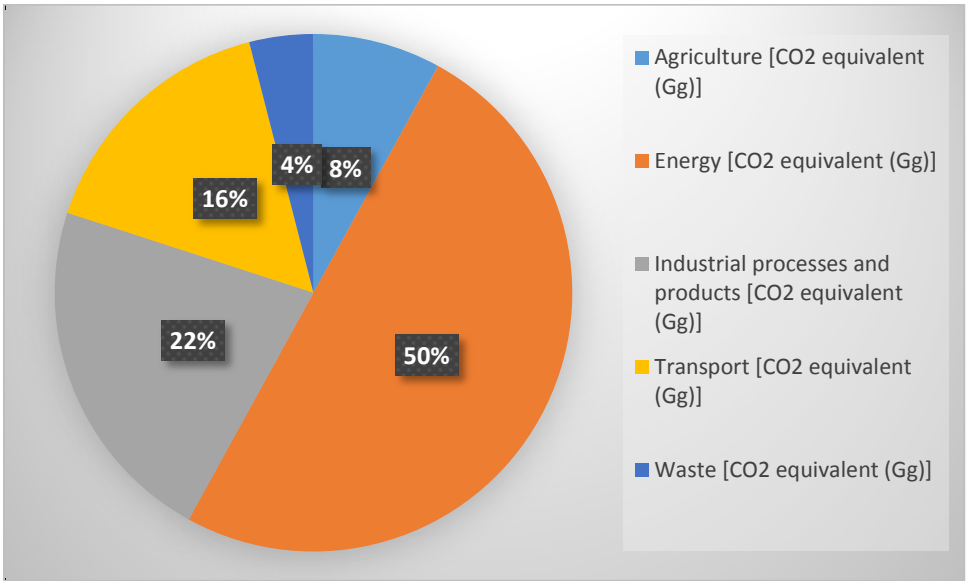
Secondly, there was substantial public and private investment in energy efficiency and renewable energy. Public spending was promoted vie the EU's structural and cohesion funds, where investments focused on reducing energy consumption (insulation of buildings), support of technological changes in industry and changes in economic structure. We may discuss if the progress is fast enough, and if the glass is half empty or half full, but there is evident progress in many aspects[5].

In addition, significant private investment flowed into renewable energy generation, where a feed-in tariff boosted investment especially in solar energy and biomass. Finally, insulation of public buildings was accompanied by residential savings programmes and individual investment in energy efficiency supported thought the cohesion policy. Increasing energy prices, together with raised public awareness has changed public attitudes, while banks and investment companies also supported building efficiency investments.

Despite this progress, the energy sector is still very carbon-intensive. Energy production accounts for half of greenhouse gas emissions, followed by industry, transport, agriculture and waste management (Figure 3). When analysing trends, there has been a major increase in transport sector emissions. While pollutant emissions (except particulates) have been decreased across the board in the transport sector since 1990, greenhouse gas emissions have grown by 30.9% between 1990 and 2012 as car ownership increased.

[5] Compare for instance Baláž *et al* 2015 versus Bankwatch 2015.

Figure 3. Share of economy sectors on the greenhouse emissions (2014)



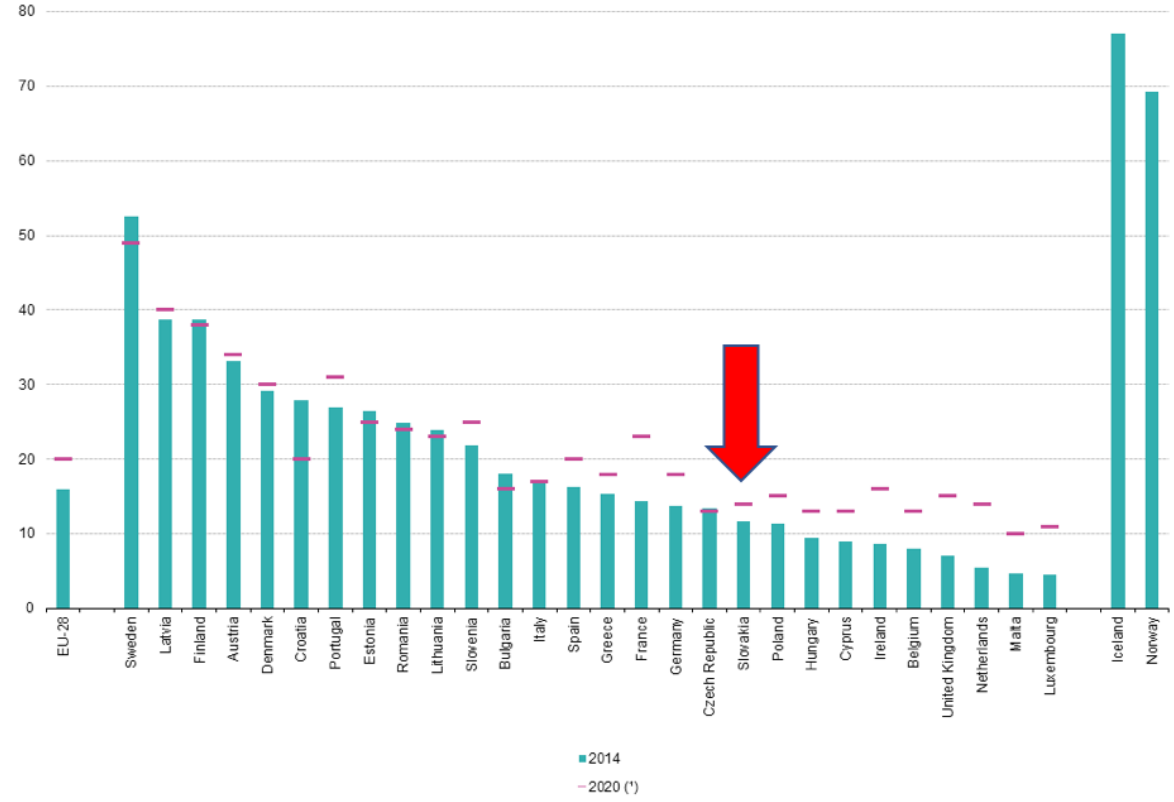
Source: Slovak hydro-meteorological institute (SHMU).

The main objective of the Slovak Republic EU 2020 commitment is to achieve a 14% renewable energy share in final energy consumption by 2020. According to projections, the objective should be met but it will not happen automatically and there are risks resulting especially from changes in the business environment.[6] Cohesion policy has had a strong impact mainly promoting biomass. In other sectors of renewables (photovoltaics, wind energy, hydropower and geothermal energy) the increasing share resulted mainly from guaranteed prices and private investments.

The country also has a 2020 target to a share of 10% renewables in all transport modes. The outcome will depend on prices and availability of fuels and the ability to produce biofuels of the second generation. It is not clear whether this commitment will be fulfilled. The renewables share (i.e., biofuels) in transport was 10.4% in 2012, but in 2013 it decreased slightly to 9.8%.

[6] Here we refer especially to problems with connection to grid, reported by small RES producers and uncertainties with the level of feed-in tariff among producers and investors.

Figure 4. Share of renewables in gross final energy consumption, 2014 and 2020 (%)



Source: EUROSTAT, 2016.

According to a recent evaluation by the European Commission,[7] the Slovak Republic has recorded gradual growth in the area of renewables, but also some fluctuations (see Figure 3). The share of renewables in final energy consumption reached 10.4% in 2012. In 2013, this percentage decreased slightly to 9.8%. Development of renewables in 2013/2014 shows a 8.9% increase year-on-year, which is a positive trend. According to the Commission's evaluation and various official development scenarios, Slovakia should meet or even exceed the planned objective. The fluctuation of the renewables share between 2012 and 2013 in network shows however that this objective will not be achieved automatically and that there are some risks. Outcomes of field research among energy producers indicates support of the feed in tariff legislation, but also points to the growing problems with getting new renewable energy connections to the grid.[8]

Flagship initiative of the EU is Emission Trading System (ETS). There are presently 214 Slovak companies (or rather industrial sites located in Slovakia) registered in the Emission Trading System (ETS). The price incentive of the ETS has been consistently weak due to over-allocations of permits, resulting from pressure of national governments, and generally

[7] REPORT FROM THE COMMISSION: Renewable energy progress report, July 2015. {SWD(2015) 117 final}.

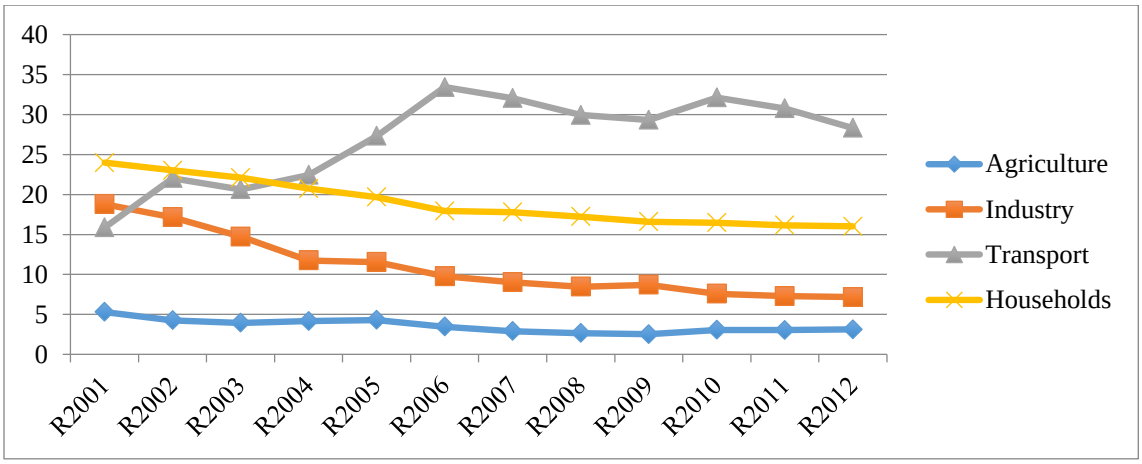
[8] Baláž *et al* 2015.

low EUA prices. The 2010 legislative proposal from the Ministry of Finance[9] to tax over-allocation of emissions permits at a rate of 80% created strong opposition from the industry. The Ministry of Finance in its proposal argued that the first two years of the trading period have showed that Slovak companies are top beneficiaries of trade in the EU and may, in may, in a 5-year period, earn as much as €666 million[10]. The situation has improved since then, and an increasing share of auctioned certificates while increase the emissions reduction incentive under the ETS.

Renewable energy and energy efficiency as the key tools

In the area of the energy efficiency the objective of Slovakia is to reduce the final energy consumption by 11 % by 2020, when compared to the 2001 - 2005 average. Cumulative objective of energy effectiveness of Slovakia by 2020 is to achieve energy saving on the level of 26,565 GWh (95,634 TJ) which corresponds to roughly 2.29 Mtoe. A large part of investments from the EU funds was focused on this area and the planned targets are being met. As illustrated on Figure 5, the main negative trend is in the transport, where we see increase of the energy consumption. In household, agriculture and industry is trend of gradual decrease of energy intensity.

Figure 5. Energy intensity in particular sectors of economy*



**Data for agriculture, industry and transport are presented in TJ/EUR mil., data for households in TJ/thous. Persons.*
Source: Statistic Office of the Slovak Republic

Energy efficiency in industry has been growing particularly strongly without affecting growth, demonstrating a successful decoupling of economic growth and energy consumption. Multi-apartments blocks of flats, family houses and public buildings have been and are being insulated with the support of various subsidy schemes[11]. *The Energy Efficiency Action Plan*

[9] Adopted as Law N. 548/2010, from December 21, 2010.

[10] See counter arguments of the Club 500 (organisation presenting 500 biggest companies in the country) at: http://archiv.klub500.sk/klub500/home.nsf/page/2BD62D3A503613BFC12577EB0042A355?OpenDocument

[11] It is difficult to estimate total investments in public houses, as many projects in energy efficiency has been part of broader reconstruction and/or additional activities (e.g., insulation of schools was part of reconstruction, enlargement and equipment of older schools). Ministry of Economy reports 6,7 billion of EUR invested in the period 2011 – 2013, while 4 139 515 went to buildings (private and public). See *Energy Efficiency Action Plan for 2014-2016 with outlook until 2020*.

for 2014-2016 with outlook until 2020[12] estimates that EUR 8.7 billion in funding will be needed to achieve planned energy savings in 2014-2016. This is a significant increase compared to the previous period 2011-2013 when EUR 6.9 billion was invested. It is expected that EU funds will finance a large part of these energy savings measures.

There is still a large untapped potential for energy savings in households, however. In the new programming period, the government will support these through a number of initiatives, partly funded by European Structural and Investment Funds. Support in this area should be more concentrated on low-income households, though. These are often unable to get access to various support schemes, perpetuating the paradox of energy poverty that low-income households pay more for energy than rich ones.

Drives and barriers in progress of mitigation

Progressive trends and approaches in climate change mitigation face various barriers. Energy sector dominated by tradition producers and distributors is reluctant to open more towards the renewable energy sources. They argue with stability of network and cost of renewable energy sources (RES). As pointed out by Timmons at al (2014), development of new technology reduce cost but may not make renewable energy cost competitive with market prices of fossil fuels in the near future unless fossil-fuel externalities are considered. While there are more and more studies on the economic aspects and feasibility to transition to RES, the speed of the transition to renewable energy will be highly influenced by policy choices (Owen 2006, Badcock and Lenzen 2010, Jacobson and. Delucchi 2011).

Specific Slovak problem is low-quality coal production and consumption. Coal production and consumption in Slovakia is a lasting problem which would require a courageous approach, instead of prolonging the status quo. The Novaky power plant alone was responsible for over 2 million tonnes of CO_2 emissions in 2015 (approximately 5 % of country emissions) The power plant is burning indigenous lignite from the Hornonitriansky region and has registered a 3.16% emissions increase last year. This was caused by the reactivation of two old coal units while two more efficient units were undergoing modernisation. Key question remains around mining and the future of low-quality coal use. In September 2015, the Economy Minister decided that subsidised electricity from domestic coal will be produced for an additional 14 years. The rationale behind this decision were concerns that the transmission system does not have enough regulatory power and the energy is important for producing energy in peak demands. As a result, from January 2017 until 2030, overall electricity production of domestic coal is estimated at a level of 1,584 GWh annually.[13] Coal power generated electic energy accounted for 7,5% of total electricity generation of the country in 2015[14].

At the same time, the number of lignite miners has fallen to 4,464 in 2012. Lignite production is heavily subsided through electricity surcharges, which are paid by energy consumers. There are also direct subsidies for coal extraction and processing. A 2011 report from the Institute of Financial Policy (IFP) commissioned by the Finance Ministry, shows the extent of lignite subsidisation. Lignite miners are subsidised with EUR 1,793 per month on average,

[12] Available at: https://ec.europa.eu/energy/sites/ener/files/documents/2014_neeap_sk_slovakia.pdf

[13] Part of the energy is not delivered to the grid.

[14] In 2015, Slovenské elektrárne generated 19,707 GWh of electricity and the electricity deliveries of Slovenské elektrárne in 2015 totalled at 17,892 GWh.

which is EUR 700 higher than the mean salary. In 2010, total subsidies amounted to EUR 96 million.[15]

Besides losing jobs and social decline of affected areas, opponents of progressive climate policies pointed out to the problem of carbon leakage. Carbon leakage has been an issue mainly regarding the Košice ironworks owned by US Steel, as there is possibility, that the company will be bought by investors from non-ETS country and production imported. The company is struggling because of import competition with low-cost steel and tinny semi-products for car manufacturing from Asia. Higher ETS prices or more ambitious climate policy would likely impose additional costs. On the one hand, the company is among the top twenty European polluters, having emitted 8.6 million tons of CO_2 in 2015,[16] and its collapse would significantly drop overall country emissions. On the other hand, this would mean social disaster in the already struggling region of Eastern Slovakia, where the company is located and where it is with approximately 15 000 employees the single biggest employer.

Stakeholder analysis

In the previous part (commitment s and progress) we have illustrated the rather complex situation Slovak energy and climate policy. In this section, we look at the main actors, or stakeholders in the policy development and implementation. The analysis should help in better understanding of current policies in climate change, and in evaluation of strength and weakness stemming from varying interests and objectives (Hemati *et al* 2002, Fletcher *et al* 2003). The interests and objectives may be positive as well as negative vis-à-vis goals and objectives of climate change policies as defined by international consensus and agreements[17].

Mitchelll et al. (1997) came with classification of stakeholders based on power to influence. Based on the identification of key stakeholders, roles and motivations we may usually identify four main groups of varying combination of power and stake. These are: (i) ***High Power – High Stake***: Primary target group with power and interests affected (positively or negatively). Their interests are already dominant and influences outcomes; (ii) ***High Power – Low Stake***: Important, but also source of significant risk. As they do not have some significant stakes, they may support as well as block progressive measures.; (iii) ***Low Power – High Stake***: Engaged and potential agents of change. See their interests strongly affected by climate policy but lack political influence; and (iv) ***Low Power – Low Stake***: Stakeholders with neither power nor significant interests, later may be some extend outcome of insufficient data/information.

In the approach to stakeholders' analyses the article builds on three steps process. Firstly, group of key stakeholders was identified based on the mapping and analyses of the climate change landscape described in the first part of the text. In the second step, using meta-analysis of all relevant programs, studies, policies and reports produced by each individual stakeholder was evaluated and scored on the scale 0 1 for level of stakes and 0 to 1 for power. This scoring provided relative position on the Figure 6. In the third and final step, each of the stakeholders was affiliated with ambivalent, prevailingly positive, or prevailingly

[15] Institute for Financial Policy (IFP), A commentary no 2011/9 of 3.March 2011: Support to a miner equals double of his gross wage. Available at:

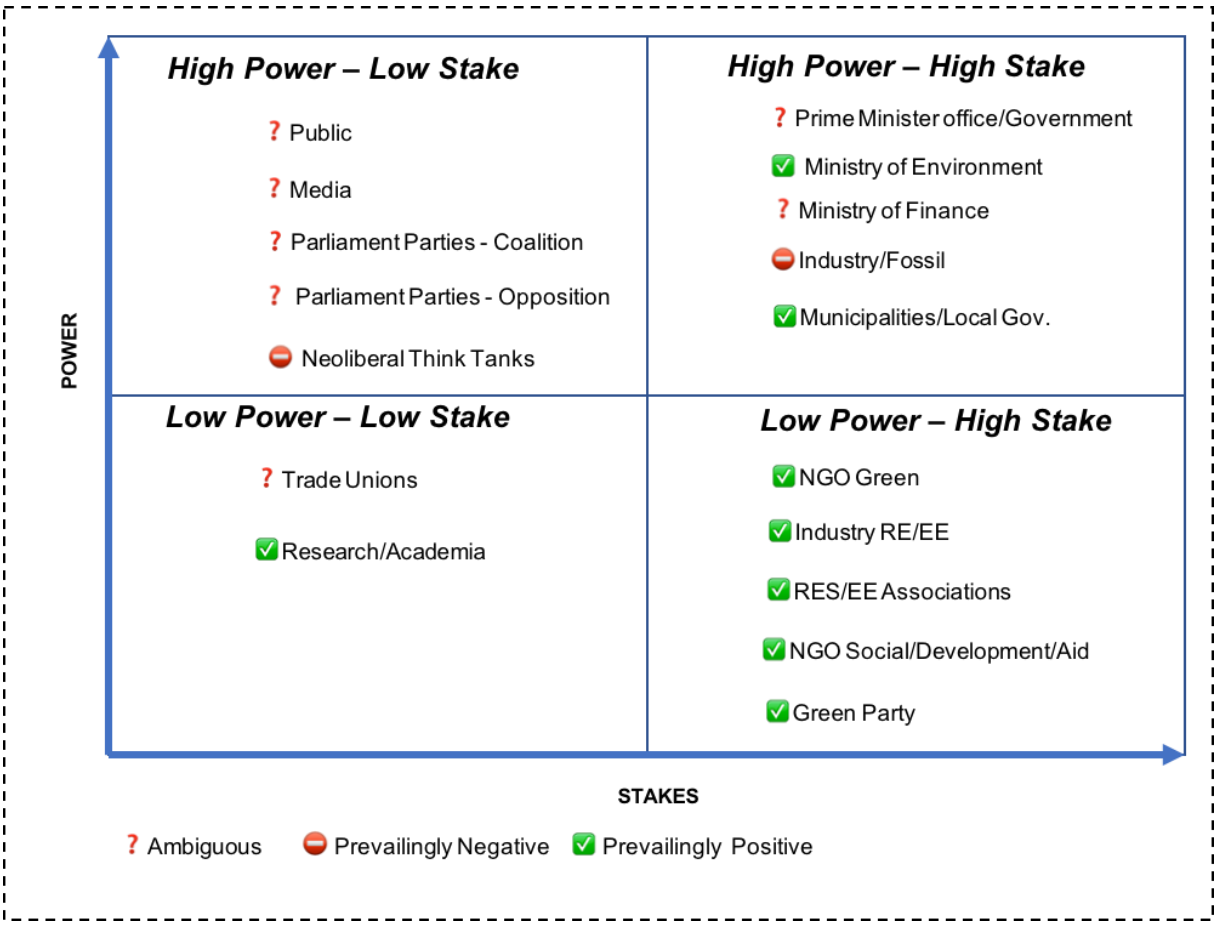
http://www.finance.gov.sk/Components/CategoryDocuments/s_LoadDocument.aspx?categoryId=7881&documentId=5824 (25.6.2015).

[16] 320,000 tons less than the previous year

[17] Her we refer to Paris Agreement, Kyoto Protocol or International Panel on Climate Change outcomes.

negative position vis-à-vis goals and objectives of climate change policies. Outcomes of the analysis are summarised on the Figure 6.

Figure 6. Power, stakes and relative position of key stakeholders in climate change policy.



Source: The author.

Among the stakeholders with High Power – High Stakes the article lists Prime Minister office and Government, Ministry of Finance and Ministry of the Environment, as well as Ministry of Environment (lead by political party Bridge/ Most/Hid). Last but not least, there is fossil fuels based industry listed as an influencia stakeholder. The government and its position is ambiguous. It has been firm supporter of the coal mining industry in the country, it is very active in supporting industrial development and is open to industrial interests[18]. The country previously negotiated very favourable conditions for its companies in Emission Trading System and EU 2020 targets.

Yet, the government-approved program for 2016 – 2020 contains a clear commitment to promote the reduction of greenhouse gas emissions. The Government will pay attention to meeting the 20% climate target vy 2020 (compared to 2005) and will continue measures to ensure fulfilment of obligations under the Paris Agreement. It has also committed to develop a Low-Carbon Strategy 2050, invest in low-carbon technologies, support the ETS and support practical adaptation measures in agriculture and forestry. The government played

[18] See for instance its recent crucial role in negotiating Land Rover - Jaguar investment, and history of the attitudes of governments lead by SMER – Socal Democracy towards biggest $C0_2$ emitter US Steel Company, or ENEL.

rather positive role in 2016 negotiating of Paris agreement ratification by the European Union (part of the Slovak EU presidency).

As fulfilment of the EU 2020 targets is proving to be rather easy for the country, there is no strong opposition to climate change policies from the industry. The nuclear industry is also increasingly playing the climate card. The government is therefore not under pressure to water down climate policy. The testing ground will be negotiation of the implementation of EU 2030 targets.

The Finance Ministry is instrumental in backing and financing the government's official program for 2016 – 2020. It also promotes investment in research and development in the energy and climate sector though reform initiatives. Most of the measures in climate projects, renewable and energy efficiency are financed through EU cohesion policy, and stronger commitment of domestic resources would be desirable (Baláž *at al* 2015). The influential Institute of Economic Policy has recently been promoting the programme "value for money". As a positive step, there are studies on subsidies and attempts to open discussion on coal mining economics. On the other hand, the institute is also technocratic in perspectives, and there a space for better integration of positive environmental and social externalities into the calculations[19].

The Ministry of Environment has been playing key role in the climate change policy development and implementation. Besides its central responsibilities in the international negotiation, it is instrumental in national implementation. The MoE is managing one of the biggest operational programs of EU funding, which is instrumental in supporting climate change mitigations measures. Adaptation is also a focus of the ministry, with specific emphasis on anti-flood measures. The MoE official program for 2016 – 2020 is clearly aimed at addressing climate change. The party Bridge/ Most/Hid holds the Ministry of Environment. Program priorities of the party for the last elections in 2016 include renewable energy, organic agriculture and waste management. Stronghold of the electorate is in the Southern rural areas, which will be affected by climate change, i.e., droughts and changes in agricultural production.

There are three main industrial sectors that see their interests affected by climate policy. Firstly, emissions-intensive industry typically seeks advantages though policy negotiations. Especially the influence of big emitters is well documented in various analyses. The coal Industry has been very successful recently, with the governmental commitment to prolong coal mining subsidies until 2030. Secondly, nuclear energy companies are increasingly promoting nuclear energy as the only viable option to meet climate targets. Finally, companies in energy efficiency and renewable are growing, but so far they are not very visible in the public debate.

Municipalities and local governments are increasingly interested in climate change adaptation measures and their financing. There is an influential Association of Slovak Towns and Villages, which may be attracted to deeper involvement in climate change policies and practice. With more visible effects of climate change (e.g. droughts, floods) we may see increasing pressure for adaptation measures.

Among High Power – Low Stakes stakeholders we identified political parties in Parliament. Both in the power or in the opposition. With the exemption of the coalition party Bridge/Most/Hid there is only limited interest in climate change. The strongest political party *SMER – Social Democracy* (28.28% of votes in the last elections) has been recently

[19] See for instance recently published arguments for closing regional railways as not economically feasible at http://goo.gl/DUxBzQ (Available in Slovak Language only).

reinforcing its attention to industrial workers as the key electorate and it lacking clear positions on climate change policies.

The party leads the government coalition and is thus responsible for the government program 2016-2020, but its program priorities and public statements do not generally touch on climate-related topics. Program of the party and priorities for the last elections in 2016 list only energy security, with no explicit reference to environment or climate change. Yet the party is leader of the governmental coalition is responsible for the proclamation of the government program 2016-2020, including climate change policies. On the positive side, the ratification of the Paris Agreement by the EU in October 2016 has been by Slovak PM presented as one of the biggest successes of the Slovak EU presidency[20].

Slovak National Party (8,64% of votes in the last elections) is second member of the governmental collation. Program priorities for the last elections in 2016 do not explicitly mention climate change, but do address anti-flood measures, waste management, as well as nature and water protection. The party is more focused on communal level action and rural areas, which provides some opportunities in discussing adaptation strategies and measures.

There is group of 4 opposition parties in the parliament, where the interests in climate change is ether not existing or may clash with the overal conceptual framework. Primary example of the later is *Freedom and Solidarity* (12,1% in the last elections). Program priorities for the last elections in 2016 mention removal of subsidies and climate adaptation as key issues. The party is strongly neo-liberal and focuses on diminishing the role of the state and promoting market solutions in all aspects of governance. This approach may be positive in discussion about the future of coal subsidies, but the party is generally opposing all proactive measures in green growth and its emphasis on the “invisible hand of the market” makes its position on climate change problematic.

Common People (Parliamentary Party inn opposition with 11,03% of votes) displays only general priorities. There are several proclamations about fighting corruption, but the party lacks any elaborated set of measures and goals on climate change. The party has four members, while MPs possess the status of “affiliated” personalities. This makes the party a rather eclectic group of often contradictory interests and options. At its best, the party may unite on issues related to corruption that are somehow linked to mitigation or adaptation investments.

Kotleba – People's Party Our Slovakia is a special case of opposition parliamentary party (8,04% of votes). Program priorities for the last elections in 2016 are mixture of xenophobic proclamations and calls for protection of the nation, including the environment. The nature itself is mentioned in the context of the party declared involvement in protests against cyanide mining and shale gas projects. It is not possible to find any proof or reference to this involvement in independent sources. The party is isolated and does not provide evidence of any meaningful activities, besides proclamations against refugees or the Roma ethnic minority.

We are Family is another parliamentary party in opposition (6,63% of votes), where program priorities for the last elections in 2016 do not include any reference to the environment, climate change or energy. The party is cantered around its leader and limited number of people from show business, while there are no documents about any coherent agenda. Topics pick up by the party are eclectic, ranging from anti-corruption to immigrants and

[20] See for instance: http://www.webnoviny.sk/slovensko/clanok/1108731-fico-ratifikacia-parizskej-dohody-eu-je-uspechom-slovenska/

Roma ethnic minority. The latest campaign focused to presenting NGOs and civil society organisations as paid agents of the government and private interests.

What is real and what is only assumed power of media and who controls their agenda is a matter of complicated debate in the country. With the exemption of professional services (euobserver.sk and energy focused media), there is only very limited regular coverage of climate change in the mainstream newspapers and TV stations – mostly only in case of catastrophic events and scandals (e.g., 2014 scandal with cost of emission permits sold by the Slovak Government and MoE). On the other hand, mainstream newspapers publish ad-hoc articles on climate-change-related topics and there is potential for development of the media interest by linking climate change with economic and social themes.

Position and strength of the public is difficult to generalise. According to a 2014 Euorobarometer survey, only 38% of Slovaks believe scientists when it comes to the information about the environment, only 34 % would trust NGOs and only 40% trust the television.[21] It indicates, that public awareness projects and initiatives face substantial barriers. Especially, when it comes to policies and measures, where it is difficult to explain long term tangible effects. There is potential for public involvement, however, as it was seen in cases of mining projects or the Trebišov controversial power plant. The problem is how to frame climate change to get higher public support and how to link climate change with social and economic concerns.

Among stakeholders with Low Power – High Stakes we may list non-parliamentary Green Party, Green and social and development NGOs or neoliberal think tanks. Slovak Green Party got only 0,67% of votes in the last elections, and in spite of its accent on climate change and nature protection, the entity struggles on the outskirts of public interest and in the public debates it is practically invisible.

The most articulated NGOs targeting climate change and using the arguments in their work and approaches are currently Greenpeace Slovakia and Friends of the Earth. There are references to climate change in the work and projects of other green NGOs and there is increase in climate-related messaging among biodiversity and landscape-protection NGOs. Slovakia has a relatively well-developed sector of NGOs and charities focused on foreign aid and development. They are increasingly using climate change arguments to call for a larger Slovak presence in foreign aid and development projects addressing impacts of climate change in developing countries.[22]

Among other stakeholders in this group we may list associations for supporting and promotion of RES and energy efficiency (EE). There are professional or semi - professional bodies like *Slovak Association of Photovoltaic and Renewable Energy Industry* (SAPI), the *Association for Utilising Renewable and Alternative Resources*, Slovak Entrepreneurs Participate in *European Biogas Association* and in many others. The power of these groups is so far not comparable to the traditional industrial branches, but is growing and has potential for development.

In the group of low-power and low-stakes is difficult to find clear candidates. However, in the general evaluation Research/Academia in the country has been so far unable to generate stronger influence on public policy. There are individual researches dealing with primary sources of data, and there has been coordinated development of the National Adaptation Strategy. There is *National Reference Center for Forward Looking and Service*s at the

[21] Special Eurobarometer 416 ATTITUDES OF EUROPEAN CITIZENS TOWARDS THE ENVIRONMENT (2014)

[22] See for instance specialised conference on this topic organised by SKCH / Caritas Slovakia. Confrence materials available at: http://www.prohuman.sk/files/Zbornik_Konferencia_Zmena_klimy_2012.pdf

Slovak Academy of Sciences. Various academics are interested in the topic but impact on the public policy has been, for the time being, limited.

Trade unions have shown very limited involvement so far, providing only very weak signals of interests in the climate change policies and programs. Their power was undermined by declining membership and pressures from the employers. Unclear position of the unions may be due to the problem of industrial jobs and limited information/studies on the climate change and impacts on the Slovak labour market.

Climate change as a policy and public issue: Outlook and trends

Mapping the current situation and trends in the climate change and related public policies, vis-à-vis stakeholders' analysis point out to the two main conclusions. There is, and increasingly there will be more pressure (internal and external) to accelerate progress in public policies for both mitigation and adaptation. There is significant potential for generating more support and creating enabling environment for progressive policies and measures among the key stakeholder.

Comparing the drivers, barriers and stakeholders involvement provided data and information on the SWOT analyses of the political landscape (Figure 7). SWOT analysis is an analysis enabling to systematically analyse strengths and weaknesses of an approach and also opportunities and potential threats.

Figure 7. SWOT analysis of the political landscape

		SWOT analysis	
		S: strengths	**W**: Weaknesses
	Internal	-Experience from the 2016 Slovak Presidency of the EU may increase capacities of the state administration and awareness level; - Growing number of published studies and outputs allows building research and public policy on international and national expertise; - Sufficient quantitative data help to analyse the situation with regard to technical fulfilment of the targets and objectives; – growing number of RES producers and EE projects illustrate feasibility of the energy transformation; - Increasing competency of the public administration in monitoring progress and address problems improves implementation of policies; - Pressure on cost effective and efficient approaches: Increasing targets for CO_2 emissions and lack of "low hanging fruits" will force for more advanced solutions; - Growing number of stakeholders interested in the problem (i.e., producers of RES, trade unions, charities). Improving knowledge on interlinkages between CC measures, employment and well-being reinforce their involvement. - Increasing amount of data/information: MoE works on estimating and evaluating emissions and affiliated costs for Slovakia, there are monitoring studies on cohesion policy effects on CC, and data on improving RES proliferation - Commitment of the government to develop and approve Low-Carbon Strategy until 2050;	-Generally weak public awareness of climate change as a problem, reflected also in low interest of political parties and politicians and lower interest of media; - Generally bad image of the EU policies and lack of awareness on long term benefits, – Perception of RES as expensive and/or not sufficient to provide enough energy and/or base load; -Carbon leakage may affect part of the heavy industry; -Lower effect of RES and EE measures on employment (most materials/technologies are imported); -Recent problem with big biomass-burning power plants lead to NGOs criticism, but there is still tendency to support bigger and sustainable projects - Coal subsidies approved till 2030; - Weak public understanding of links between the CC and adaptation needs; - Continuing investment in traditional transport infrastructure projects and unlimited sub-urbanisation will increase, rather than decrease level of car traffic dependence; - Short term decisions based on weak internalisation of external costs may affect future development plans (e.g., destroying network of regional railways); - Growing social disparities leading to energy poverty and non-point pollution (utilisation of cheap fuel); - Decreasing public interest in elections, falling level of public debate, and increase of radicalism and opportunism may dysfunction future Slovak governments and endanger professional functioning of the state;
		O: Opportunities	**T**: Threats
	External	- Paris Agreement and clearly defined EU target of at least 40% cuts in greenhouse gas emissions by 2030 and vision of 2050 goals push the country to act; - Policy and law framework worked out in the EU strategic documents and objectives provides clearly defined guidance; – Substantial assistance provided by the Partnership Agreement 2014-2020 and allocated resources enable funding; - Growing number, knowledge and popularity of local economy strategies, including also RES/EE components; - Improving knowledge and awareness on external environmental and social costs affiliated with fossil fuels production and use; - Economy of scale and decreasing price of RES and isolation materials and techniques	-Pressure of fossil fuels industry to prolong or even develop new CC problematic projects/investments; - Carbon Leakage and impact on public policies - Image of RES as expensive, non-reliable and increasing prices for households and industry; - Disintegration of the European Union and fragmentation leading to trade wars and race to the bottom in environmental standards; - Isolationist positions in trade may lead to increased costs of RES

Source: The author.

The recent (October 2016) adoption of Paris Agreement by the European Union was done during the Slovak presidency of the EU. The Paris Agreement, and in particular the ratchet mechanism, will further increase pressure on member states to take climate action. While Slovakia will achieve the EU 2020 targets relatively easily, the 2030 and potentially 2050 targets will pose challenges to public administration, business and other stakeholders.

In the coming months, we will see concrete negotiations on proposals for an effort-sharing regulation and a regulation on land use, land use change and forestry (LULUCF regulation). This legislation - together with the revision of the emission trading system (ETS) is intended to deliver on the EU's climate commitments. The negotiations only started and although initial position of the Slovak Republic is minimalistic (The 2030 target compared to 2005 is currently stated at -12%,[23] which is relatively low compared with most EU countries. The process provides opportunities for progressive stakeholders in the county to demand more ambitious commitments, faster development of the low-carbon economy and progress on adaptation to climate change.

If we attempt to evaluate situation and trends in Slovakia for the upcoming years, we may describe it as “progress within limits”. On the one hand, there is clear commitment of the government to the Paris Agreement and the EU 2030 and 2050 targets. There is substantial part of the cohesion policy allocated to support concrete measures and projects. There has been development of law and policies in renewable energy and energy efficiency. On the other hand, progress especially in renewable energy sources is slow and well behind potential of the country. Feed-in tariff was step in good direction, but there are structural barriers on the market disadvantaging small RES producers. There is missing clear policy with goals and targets for phasing out coal.

The upcoming period will be crucial for climate change policies development. With a high degree of confidence, we may anticipate strong negotiating position to keep the Slovak 2030 target at a minimal level and predominantly rely, in their fulfilment, on the use of cohesion policy instruments and external funding. We may expect further tensions between objectives of fossil fuel, nuclear industry and energy distributors at one hand, and pressures to open the market to proliferation of the RES on the other hand. Nevertheless, there are also upcoming opportunities to intensify public debate and practice on the Slovak climate change policies and targets. There are several windows of opportunity influence the public debate and push for climate policy progress:

- **Low-Carbon Strategy:** The government has committed to develop a *Low-Carbon Strategy until 2050.* Civil society and stakeholders should insist that the strategy is developed in a transparent and participatory way and is backed by credible data. The strategy should clearly show how Slovakia will reach ambitious 2050 targets set up by the EU and what measures are to be implemented.
- **Phasing out coal:** Phasing out coal mining and power generation should be a clear priority. The government’s decision to keep subsidising electricity from domestic coal until 2030 is unlikely to be reversed. However, pressure should be exerted towards a gradual coal phase-out and mine closures after 2030.
- **Strong and sustainable framework for renewable energy:** It is important to evaluate progress in RES and provide strong framework for development of economically feasible and environmentally and socially sustainable energy production. Promoting renewable sources through the construction of centralized heating plants proves to be problematic. It is leading to increase cost of biomass on the market and unsustainable utilisation of the resource. Small water power plants may lead to biodiversity decrease and unsustainable water management. There is

[23] Press Release, EC, Luxembourg, 17 October 2016.

space to provide support to community and/or cooperative forms of the RES ownership as a way how to keep all benefits from the RES at the local level.

- **Financing and cohesion policy:** The Partnership Agreement 2014-2020 provides a major opportunity for decreasing CO_2 emissions through new funding. Experience from the previous programming period indicates a high impact especially in energy savings. Both households and industry have benefited from grants and subsidies. The mid-term evaluation of the programming period should focus on measures to increase the impact of cohesion policy spending and open low-carbon projects to the maximum number of beneficiaries. Besides the EU funded projects, the state should take a more active role in funding the transition towards a low-carbon economy and promote and support private investments towards that end.

The key challenge in the upcoming period is make climate change a mainstream policy issue in the public debate in Slovakia. This is not an easy task and it would better involvement of stakeholders and support from the state, municipalities and various donors. Meeting the EU 2030 objectives and preparing for 2050 targets should represent transformation to low-carbon circular economy, bringing along broader economic and social benefits for the country competitiveness, as well as for wellbeing of the population. The main challenge for domestic implementation is to translate these goals as a positive development agenda, not as top-down EU demands. Meeting the EU 2030 objectives and making plans for 2030 and 2050 should be seen as a transformation to a low-carbon circular economy, which will bring broader benefits for the country's competitiveness and the wellbeing of its population. Broader involvement of some of the identified stakeholders could focus on presenting climate change mitigation measures as tools to improve economic competitiveness of the economy, as well as to explore links between quality of life and pollution. Important issues is the future of the labour market and what climate change mitigation and adaptation measures do, will do, or may do in this respect.

References

Baláž, V., Filčák, R., Jeck, T., Škobla, D. and Polo, M. 2015. *A Pilot Project - Contribution to the EU2020 - Climate Change and Energy Sustainability: Evaluation Report 2015*. Bratislava: Office of the Government.

Bankwatch. 2015. *Climate's Enfants Terribles: How New Member States' Misguided Use Of EU Funds Is Holding Back Europe's Clean Energy Transition*. Available at: http://bankwatch.org/sites/default/files/enfants-terribles.pdf

Badcock, J., and Lenzen, M. 2010. Subsidies for Electricity-Generating Technologies: A Review, *Energy Policy* 38: 5038-5047.

Fletcher, A., Guthrie. J. and Steane, P. 2003. Mapping stakeholder perceptions for a third sector organization, *Journal of Intellectual Capital* 4(4): 505 – 527.

Hemmati, M., Dodds F., Enayti, J.,McHarry J. 2002. *Multistakeholder Procesess on Governance and Sustainability.* London: Earthscan.

Intergovernmental Panel on Climate Change (IPCC). 2014. *Climate Change 2014: Mitigation of Climate Change, Summary for Policymakers*. Geneva: Intergovernmental Panel on Climate Change.

Jacobson, M. Z. and Delucchi, M. 2011. Providing all global energy with wind, water,and solar power, part I: technologies, energy resources, quantities and areas of infrastructure, and materials, *Energy Policy* 39: 1154-1169.

Mendelow, A. 1991. Stakeholder Mapping. In: *Proceedings of the 2nd International Conference on Information Systems*, Cambridge.

Mitchell, R. K., Agle, B., and Wood, D.J. 1997. Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What really Counts, *Academy of Management Review* 22(4): 853 - 888.

Ministry of environment of the Slovak Republic (MoE SR). 2013. *Stratégia adaptácie SR na nepriaznivé dôsledky zmeny klímy* [Adaptation Strategy to adverse Impacts of the Climate Change in the Slovak Republic]. Bratislava: MoE SR.

Owen, A. D. 2006. Renewable energy: externality costs as market barriers, *Energy Policy* 34: 632-642.

Timmons, D., Harris, J.M., and Roach, B. 2014. *The Economics of Renewable Energy*. Tufts University: Global Development and Environment Institute.