



The energy policy of Montenegro: Drawing on the lessons to shape a sustainable future

Final Report

(December 2012)

Prepared by

Angela Klauschen

M. Sc. Environmental Management

Jelena Marojevic

Biologist

Darko Pajović

Member of IUCN commission for social, economic and environmental policy

Nataša Kovačević

Legal officer

In the framework of the project

“Analysis of the Energy Strategy implementation – Case Study of participatory process related to the Morača river hydropower dams”

undertaken by

Green Home, Montenegro

and funded by the

European Fund for the Balkans

TABLE OF CONTENTS

ABBREVIATIONS & ACRONYMS	3
PREAMBLE	5
INTRODUCTION	6
I. SITUATION OVERVIEW	7
1.1. The Western Balkans: a snapshot	7
1.2. The energy sector	8
1.2.1. Croatia	9
1.2.2 FYR Macedonia	10
1.2.3. Montenegro	11
1.2.4. Serbia	13
II. THE WIDER POLITICAL CONTEXT	15
2.1. Regional cooperation	15
2.1.1. EU accession	15
2.1.2. The Energy Community	16
2.1.3. The Regional Cooperation Council	18
2.2. The international legal and institutional framework	19
2.2.1. The Aarhus Convention	19
2.2.2. The Espoo Convention and Kiev Protocol	19
2.2.3. The Bern Convention and Emerald Network	20
2.2.4. The Ramsar Convention	20
III. TRENDS AND CHALLENGES IN THE NEAR FUTURE	22
3.1. Energy security and political stability	22
3.2. Peak oil and rising energy prices	23
3.3. The implications of climate change	24
IV. ANALYSIS OF THE NEDS, ITS ACTION PLAN AND MAIN ISSUES	26
4.1. Brief analysis of the strategic commitments under the NEDS	28
4.2. Status of implementation of the NEDS and related issues	28
4.3. Process for the adoption of the Action Plan	29
4.4. Weaknesses of the Action Plan	30
4.5. Brief analysis of the Action Plan's status of implementation	30
V. THE CASE OF THE MORACA HYDROPOWER SCHEME	33
5.1. Background and legal framework	33
5.2. Public consultation process for Detailed Spatial Plan (DSP) and Strategy Environmental Impact Assessment (SEA) for DSP	35
5.3. Participation and contribution of NGOs to the documents quality and public hearing processes	38
VI. RECOMMENDATIONS	41
6.1. On the overall policy orientations to be reflected in the revised NEDS	41
6.2. On the improvement of the Action Plan	41
6.3. On energy efficiency	42
6.3.1. In industry	42
6.3.2. In buildings	43
6.3.3. In transmission and distribution networks	43
6.4. On renewable energy sources	43
6.4.1. On large hydropower	44

6.4.2. On small hydropower	44
6.4.3. Solar, wind & geothermal energy	44
6.4.4. On bioenergy	45
6.5. On conventional energy sources	45
6.6. On effective governance in energy policy related decision-making	45
6.6.1. On the application of the existing international and EU legal framework on public participation	
6.6.2. On the conduction of public hearings	
6.6.3. On good governance and transparency in the water and energy sector	
CONCLUSIONS	41
REFERENCES	42

ABBREVIATIONS & ACRONYMS

BATs	Best Available Techniques
BEPs	Best Environmental Performances
BOT	Build – Operate – Transfer model
CSO	Civil Society Organization
CO ₂	Carbon Dioxide
DSP	Detailed Spatial Plan
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECSEE	Energy Community of South East Europe
ECT (S)	Energy Community Treaty (Secretariat)
EE	Energy Efficiency
EEA	European Environmental Agency
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EPCG	Elektroprivreda Crne Gora (Montenegrin State Electricity Company)
EPS	Elektroprivreda Srbije (Serbian State Electricity Company)
EU	European Union
FYROM	Former Yugoslav Republic of Macedonia (also FYR Macedonia)
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoM	Government of Montenegro
GW(h)	Giga Watt (hours)
HPP	Hydropower Plant
IEA	International Energy Agency
IFC	International Finance Corporation (World Bank Group)
IFI	International Financial Institution
IPA	Instrument for Pre-accession Assistance
Kgoe	Kilogrammes of Oil Equivalent
KT	Kilo Tonnes
LPG	Liquefied Petroleum Gas
MANS	Network for the Affirmation of NGO Sector, Montenegrin national chapter of TI
ME	Ministry of Economy
MEA	Multilateral Environmental Agreement
MN	Montenegro
Mtoe	Million tonnes of oil equivalent
MS(s)	Member State(s)
msl	metre(s) above sea level
MW(h)	Mega Watt (hours)
NEDS	National Energy Development Strategy of Montenegro (by 2025)
NEEAP	National Energy Efficiency Action Plan
OECD	Organization for Economic Co-operation and Development
RES	Renewable Energy Source
SEA	Strategic Environmental Assessment

SEE	Southeastern Europe
SHPP	Small Hydropower Plant
TI	Transparency International
toe	Tonnes of oil equivalent
TPP	Thermal Power Plant
TW(h)	Terra Watt (hours)
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Education, Science and Culture Organization
WWF (MedPO)	World Wild Fund for Nature (Mediterranean Programme Office)

PREAMBLE

In June 2011, the NGO Green Home commissioned consultants to study the status of implementation of the Energy Development Strategy of Montenegro by 2025 (NEDS), in the framework of the project “Analysis of Energy Strategy implementation – Case Study of participatory process related to Morača River Hydro Power dams” and to present a number of recommendations on the possible way forward for the energy policy of the country.

In this context, the consultant was in particular tasked to assess the implementation of the NEDS and its compliance with EU requirements and other international legal and institutional frameworks, as well as to analyze the energy situation in the neighboring countries of Croatia, FYR Macedonia and Serbia.

One of the tasks of the consultants was to analyze implementation of NEDS since the start of the Energy Strategy implementation and to create conclusions related to progress of achievements of NEDS goals, as well as to describe public participation process for proposed building of four dams on the Morača River.

This is the Final Report of the assignment.

As a methodology, the consultants were requested to conduct an analysis based on a desktop bibliographic review of documents provided by Green Home and to draw conclusions on the basis of these. The consultant sought additional information on relevant websites from the Government of Montenegro, the Energy Community and the European Commission to complete potential gaps.

The study focused on the following Western Balkan countries: Croatia, FYR Macedonia, Montenegro and Serbia. It does not pretend to give an exhaustive view, but rather aims at proposing a number of preliminary policy recommendations/solutions.

INTRODUCTION

Montenegro is a country in transition, in a region in transition. As many countries in the Western Balkans, it has left behind military conflict and economic turmoil, now facing significant challenges in rebuilding its economy, for which stable and sufficient energy supply is vital.

As most of its neighbors, where conventional sources of energy are lacking, but endowed with a considerable hydropower potential, Montenegro eyes at hydropower as an 'ideal solution', especially in the context of climate change. Indeed, Montenegro has turned to hydropower as a 'clean' source of energy supply for its market and for increased income through electricity exports. As a result, several hydropower projects of different sizes and capacities are planned to be built in the country, often neglecting the heavy toll on ecosystems and biodiversity and the social costs for local communities such a development implies.

The Spatial Plan of Montenegro by 2020 proposes notably the construction of four dams on the Morača River. This proposal was made on the basis of data dating back to the 1970s. During the public hearing process that lasted one month (in July 2007), several NGOs vigorously criticized this hydropower project as an unsustainable solution. A number of comments were submitted to the proposed document from national (Green Home, MANS, Expeditio, Center for Birds Research) and international organizations (UNDP, EC, WWF).

In the meantime, despite recommendations from international organizations (European Commission in Montenegro) to improve the spatial plan, and ignoring the fact that the spatial plan was not yet finalized, the Ministry for Economical Development published the draft National Energy Development Strategy by 2025 (NEDS), which envisages the construction of four dams on the Morača river by 2015, without any serious assessment of alternative options and needs. The NEDS was adopted in December 2007 – just before strategic environmental assessments (SEAs) became a binding legal requirement in Montenegro –, despite critiques from the public and the EC Delegation in Montenegro. The spatial plan was also adopted in March 2008 without any further assessment. Since Montenegro has opted for the status of "Ecological State" – a status enshrined in its Constitution – it has however committed to foster a balanced and sustainable development that takes into account the environment's and society's well-being.

In this context, Montenegro ought to seek to assess more thoroughly the potential impacts of its plans and policies and make sure there is consistency between its overall objectives and the development of specific sectors. Sustainable development cannot be achieved by sacrificing some important parameters to others, and ignoring environmental and social costs in the face of immediate, not always transparent nor fairly shared, economic growth. Such choices would bear significant boomerang effects, a burden often shifted to society.

The aim of this study is thus to analyze the current energy policy of Montenegro (notably the NEDS and its Action Plan), the global and regional context in which it is evolving, and provide, to the best possible extent, recommendations/suggestions on how to improve Montenegro's energy policy in the near future, in the context notably of the revision of the NEDS, in order to make it more suitable for the purposes of sustainable development.

I. SITUATION OVERVIEW

1.1. The Western Balkans: a snapshot

The Western Balkan region, comprising¹ Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Kosovo, is highly diverse in terms of its geography and natural characteristics.

Situated at the crossroads between the East and the West, due to its turbulent history and the influences of various empires and civilizations, the Western Balkan region is a “puzzle” of ethnic and religious groups, including Catholic, Orthodox and Islamic communities with different cultures, and therefore traditionally characterized by an unstable political situation.

More recently, between 1991 and 2001, after the dissolution of Yugoslavia and the collapse of the socialist political system, the Western Balkans have suffered a period of serious conflicts leaving the region with a legacy of inadequate growth and declining living standards. However, since the end of the war, reconstruction and rehabilitation have been the main common denominators in the region, and after the end of the Kosovo crisis in 1999, there has been considerable improvement. Civil unrest has been overcome and a political balance has been found that has allowed a return to economic growth and closer regional cooperation.²

Indeed, “institutions of the emerging democracies and market economies are being created and strengthened, regional trade links are being restored, private investment is slowly growing and the prospects for poverty reduction have improved. The ability of all countries to maintain macroeconomic stability and sustain reforms has been the foundation on which progress has been built. For the region at large, growth has been close to an annual 5 percent in real terms since 2000.”³

The Western Balkans are now engaged in a process of “rapprochement” with the European Union and this perspective has become particularly evident after the EU enlargement to Slovenia, Bulgaria and Romania, leaving this region a small enclave within the Union. Therefore, EU accession is currently the main political driver for changes in the region, structured around the Stabilization and Association Process and Accession Process for Croatia and FYR Macedonia. These processes run on a country by country basis, depending on individual fulfillment of the Copenhagen criteria for EU membership. Croatia recently received clearance to become an EU member state in 2013, showing the way for the neighboring countries in the region.

The current trends in economic growth and progressive democratization, leading to increased consumer demand and new life-styles, have resulted in a need for more energy. Due to the destruction of much infrastructure during the war, however, this demand cannot be matched without the rehabilitation of old and development of new energy production facilities and the improvement of the whole energy supply system. New challenges are therefore lying ahead in terms of energy policies.

¹ According to the EU and other international institutions

² Economic Reconstruction and Development in South East Europe, Office for South East Europe European Commission/World Bank, website: <http://www.seerecon.org/gen/econsituation.htm>

³ Ibid.

1.2. The energy sector

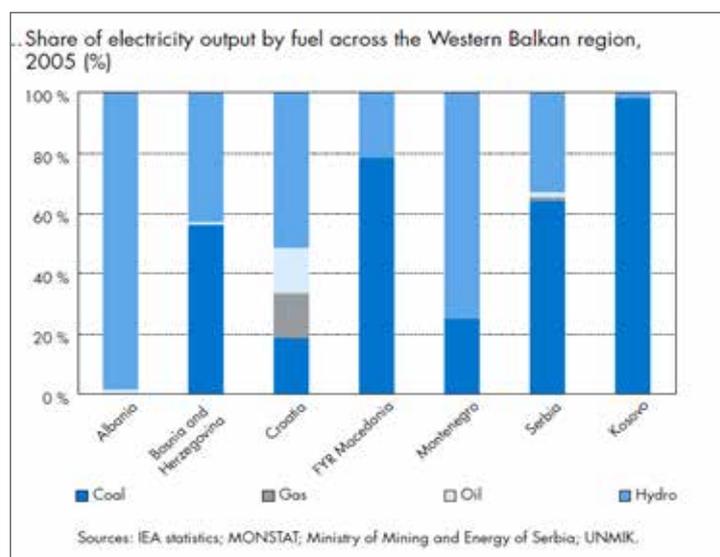
In the Western Balkan region, where conventional resources of energy are scarce -with limited deposits of coal in Bosnia and Herzegovina, Kosovo and Serbia and few reserves of petroleum (Albania, Croatia and Serbia)-, energy supply represents a significant issue.

This situation is aggravated by “poor management and high losses due to inefficient generation, transmission and distribution systems (that) have undercut the viability of the region’s energy sector.”

Therefore, the “countries rely largely on oil and natural gas imports and some of them are experiencing domestic supply disruptions for commercial or technical reasons.”⁴

Although energy consumption is much lower in total terms, the average energy intensity is 60% higher than in the OECD Europe.⁵

In such a context, hydropower is a largely used source of electricity (see IEA graph below). The region is indeed endowed with hydro-geo-morphological assets such as narrow river canyons with fast running waters. Coal is mainly important where deposits occur, as is the case in Bosnia, FYR Macedonia, Kosovo and Serbia (see IEA graph below).⁶



The governments of several countries of the region claim that there is a high potential for hydropower and that it should be exploited as a ‘clean’ energy in the context of climate change mitigation. Indeed, electricity generation from water does not release CO₂ and is therefore considered optimal in terms of climate change mitigation. Moreover, the use of water by dams is considered as non consumptive, since water is stored, but not consumed. However, reservoirs could release methane, which is another greenhouse gas (GHG). Another claim used by Western Balkan countries is energy security, according to which countries should rely on their own resources.

Besides security of supply and development of hydropower potential, the main policy objectives for the region are: a) restructuring of the energy sector and increased competitiveness, b) developing and rehabilitating infrastructure, c) sustainability of energy development and environmental considerations, d) increase in energy efficiency (EE) and the use of renewable energy sources (RES), e) increased supply of natural gas.

⁴ Bergasse, E. (2003) *What energy policy for South East Europe?* in Public Service Review: European Union/IEA. Available from: <http://www.oecd.org/dataoecd/49/17/34477045.pdf>

⁵ Ibid.

⁶ International Energy Agency (IEA) (2008) *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.

Since the end of the conflict, legal and institutional frameworks for energy sector operation in Southeastern European (SEE) countries have been changing rapidly. New institutions have been or are being set up to implement national priorities, fulfill requirements of the EU and obligations undertaken upon signature of the Energy Community Treaty (ECT, also referred to as Energy Community of South East Europe (ECSEE)).⁷

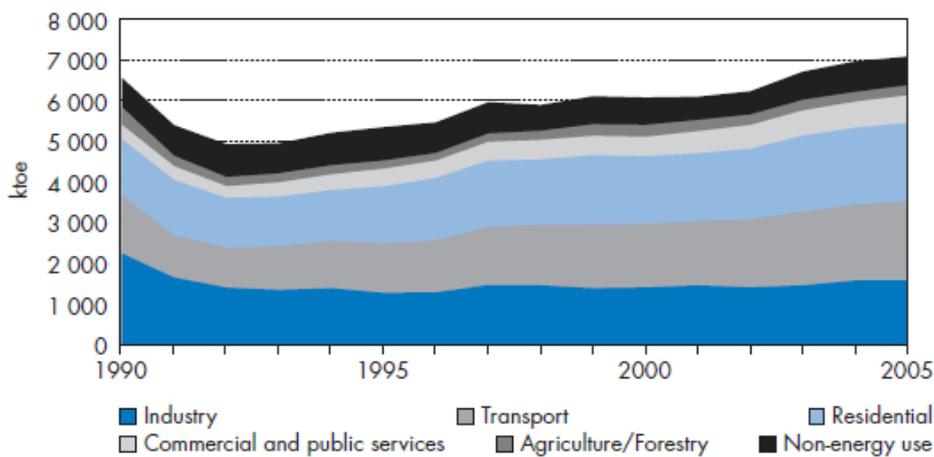
All the Western Balkan countries are Contracting Parties to this treaty and have thus committed to an ambitious and demanding effort requiring substantial legislative work, administrative capacity and resources, but also significant political commitment and a shift in social perceptions.⁸

1.2.1. Croatia

Croatia's primary energy production consists of natural gas (average 43% in the period 2002-2007), crude oil (21%), hydropower (28%) and other renewable energy sources (8%). In total, domestic energy production covers 48% of the country's total energy needs, the remaining 52% being imported.⁹

In terms of consumption as shown by the below IEA graph¹⁰, it is the residential sector that is consuming most, and where the curve is increasing together with transports. The main factors for this are increased heating and use of cars and trucks, with the economic situation of the country improving.

Croatia's total final consumption by sector, 1990-2005



Source: IEA statistics.

The Croatian energy policy consists of elaborated institutional and legislative frameworks. There is a Croatian electricity utility (HEP); an energy agency is however not yet in place. Electricity and gas markets are open, but still dominated by single suppliers. The level of alignment of national legislation with the EU *acquis* is high. Implementation of the national targets in the area of renewable energy resources (20% increase of overall consumption by 2020) is however hampered by complicated bureaucratic procedures and in the case of energy efficiency (10% reduction of final energy consumption by 2020), by market (price) distortions, insufficient incentives and lack of monitoring.

⁷ Marković, M., Xhitoni, A, Hakani, L, Dakić, M., Kalaba, I., Tankosić-Kelly, G., ... , Klaushen, A. (2011) Fairer, Cleaner, Safer - Towards a more sustainable, people centred approach to energy development in South East Europe.

⁸ Ibid.

⁹ Ministry of Economy, Employment and Entrepreneurship of Croatia (2007) Energy in Croatia 2007: Annual Energy Report

¹⁰ International Energy Agency (IEA) (2008) *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.

Hydropower is the most exploited renewable energy resource. The hydropower generation capacity accounts for 51% of total installed capacity. Croatia considers that it still has a certain number of undeveloped sites where large projects could fit in. However, in most cases the energy capability of potential large hydropower plants (HPPs) refers to an increase of capacity of already existing facilities (additional or improved units), while there are only at few locations left where completely new large HPPs could be built. In 2006, the Croatian electricity utility HEP started the construction of the new HPP Lešće. And two additional HPPs planned by HEP, Podsused and Drenje, respectively of 215 and 185GWh, were scheduled to be finished by 2010. Projects like the Ombla HPP and the HPP on the Lika River seem also to be going ahead. However, part of the hydro-potential suitable for large hydropower plants is permanently lost due to urban, environmental and economic limits, or due to significant tourist potential of Croatian rivers.

Further efforts are needed to secure the administrative capacity and independence of the energy sector regulators, as well as to improve transparency and public participation (in particular with implementation of the environmental legislation required under the ECT).

1.2.2. FYR Macedonia

Although the country's energy infrastructure has been neglected due to recent political history and economic difficulties, FYR Macedonia has some of the highest coal production figures in the region and a considerable hydropower potential. There has been an increased sense of urgency to develop domestic energy generation especially since the country is strongly import-dependent: It imports its entire demand for oil, petroleum derivatives and natural gas, and since 2000 also a large part (up to 40%) of electricity.

FYR Macedonia has very low energy consumption per capita and at the same time high energy consumption per unit of GDP in all sectors. The country's energy balance reflects indeed a relatively low rate of efficiency in energy transformation. The bulk of electricity is generated from lignite in ageing and inefficient plants. As a consequence, energy intensity in 2005 was 0.71 toe per thousand USD of GDP, more than three times the average for OECD Europe.¹¹ The most used energy resources in the total consumption of primary energy are coal and crude oil with petroleum products, followed by biomass, imported electricity, hydropower, natural gas and geothermal energy.

In terms of installed capacity for electricity generation, FYR Macedonia has HPPs of a total 580 MW, both coal (lignite) and fuel-fired TPPs of respectively 800 MW and 210 MW. The total heating consumption connected to the central heating systems in the Republic of Macedonia and delivered to the end users is about 630 MW. The biggest central heating system is the system connects about 550 MW. Several smaller systems, two of which are outside of Skopje, connect about 80 MW.¹²

For the import of petroleum, FYR Macedonia has a pipeline connection with Greece. The entire quantity of natural gas is imported from Russia through the gas pipeline that enters Macedonia at Deve Bair, on the border with Bulgaria and stretches through Kriva Palanka, Kratovo and Kumanovo to Skopje.

Regarding the situation of renewable energy sources, there is a good potential for construction of new large and small hydropower plants but moreover for the rehabilitation of existing ones.¹³ Other types of RES available are “geothermal wells currently used for heating greenhouses,

¹¹ International Energy Agency (IEA) (2008), *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.

¹² Government of FYR Macedonia (2008, 2009) *Energy balances 2008 and 2009*. Skopje.

¹³ Markovic, M., Xhitoni, A., Hakani, L., Dakic, M., Kalaba, I., Tankosic-Kelly, G., ... , Klauschen, A. (2011) *Fairer, Cleaner, Safer - Towards a more sustainable, people centred approach to energy development in South East Europe*.

residential houses, some commercial buildings, swimming pools and in balneology”¹⁴ as well as solar thermal energy (mainly for hot water in the residential sector). FYR Macedonia has also a bio-diesel fuel refinery with a capacity of 30 thousand tons per year. The production of bio-diesel fuel uses unrefined beet oil. At this stage the unrefined oil is imported.

Regarding the legal and institutional setting, new energy strategies were adopted in FYR Macedonia in 2010 while a new comprehensive energy law was passed in February 2011. The strategy for the use of renewable energy sources set a target for a share of 21% of RES in the total energy consumption by 2020. The country has started to address its EE objectives, but the Energy Agency still lacks the necessary resources and administrative capacity to effectively promote energy efficiency and renewable energy sources. Natural gas supply has still not been unbundled from transmission, as required by the Natural Gas directive. The electricity market is still not fully opened to all non-household customers.¹⁵

Taking into account FYR Macedonia's baseline scenario of a 2.64% total final energy consumption growth until 2020 and current electricity transmission/distribution losses of about 19%, the country envisages as necessary measures to improve the energy efficiency in the production, transmission, distribution and utilization of energy and to develop higher energy production from RES and other domestic resources as well as an increased share of natural gas in the energy consumption and reduced relative share of electricity.

1.2.3. Montenegro

Montenegro's electricity generation is mainly provided by hydropower – from 2 hydropower plants (HPPs) Piva and Perućica - and coal, with the thermal power plant (TPP) in Pljevlja. Piva and Perućica HPPs supply around 1.860 GWh annually and the coal potential of the Pljevlja basin amounts around 1,300,000 tons per year. These provide two thirds of the country's electricity needs, the rest being imported. The total need for oil derivatives (ca. 270,000 tons per year) and a third of the electricity supply (about 1,300 GWh) are covered through imports.¹⁶

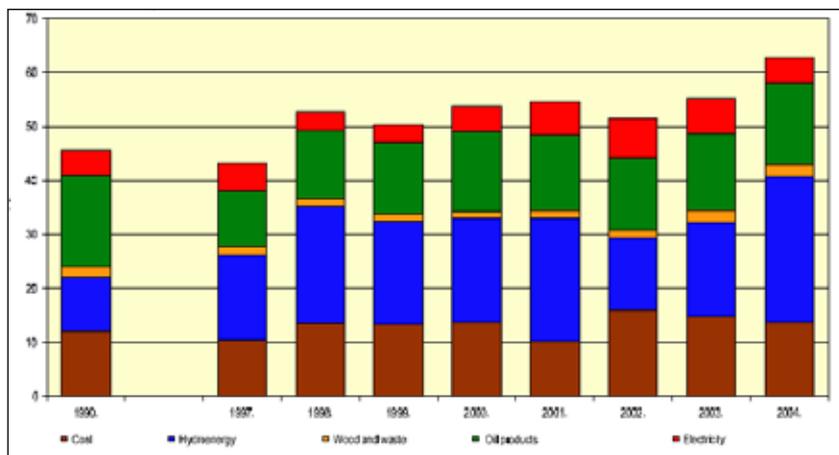


Figure: Share of the energy types in total energy consumption in Montenegro (1990, 1997-2004)¹⁷

In terms of theoretical potential, it is estimated that Montenegro still possesses a significant hydropower potential suitable for peak load HPPs with high capacities. In addition, there is an

¹⁴ Ibid.

¹⁵ Ibid

¹⁶ Prof. Ilija Vujosevic *A Brief Background Note on the power sector reforms in Montenegro*. Podgorica:University of Montenegro.

¹⁷ Ibid.

estimated potential from small water currents of about 680 GWh per year. Montenegro also has total coal reserves of 255 million tons. However, more recent plans to build an HPP on the Tara River, at Buk Bijela, had to be dropped in 2005 due to strong mobilization of civil society and international organizations, in particular UNESCO, since the site was located within the World Heritage site of the Durmitor National Park. Another highly controversial project to build four HPPs on the Morača River seems also thwarted, as no investor finally submitted a proposal to a tender that has now elapsed.

Other renewable energy sources (RES), such as solar, wind energy and biomass energy, are also present in Montenegro. However, except for the traditional usage of firewood and solar collectors. These types of energy are not yet significantly exploited. Excluding the hydro-potential from large HPPs, studies have shown that the development of RES (e.g. small hydro, wind and solar energy, biomass etc.) is also economically viable.

Solar energy is considered economically viable in three regions of Montenegro: along the coast, near Skadar Lake and in the capital city of Podgorica, with up to 2 500 hours of direct solar irradiation per year in these regions. The average solar energy measured in southern cities (Ulcinj and Bar) is even higher. Solar thermal installations are used in some hotel and tourist resorts, with total installed surface of 11,000 m² for a capacity of approximately 5.5 MW.¹⁸

The inherited industrial structure, in particular the two biggest metallurgic facilities, substantially relies on high energy consumption (especially electricity) and there is high demand and consumption from households. The final energy consumption per capita in Montenegro (estimated at 1.08 ten/per capita for 2003) is relatively low and it is keeping with the world average, while 5 times less than consumption in developed countries. However, further energy consumption growth alongside foreseeable growth in GDP and improvement in living standards are to be expected. On the other hand, the Montenegrin energy sector is characterized by high energy intensity levels in comparison with the EU and other developed countries, mainly due to the strong energy demand of the heavy industry. In 2003, Montenegro's energy intensity factor was 3,3 times greater than in the EU, which indicates significant area for optimizing energy usage.¹⁹

In Montenegro 35% of the electricity is imported on an annual basis. The electricity import, high losses in transmission in combined with significant portion of illegal settlements, result in regular increase of prices of the electricity. This in turn has negative impacts on the economy as a whole and particularly the most vulnerable groups of the society. In the past three years, the energy prices had almost doubled, while the demands of Energy suppliers for price increase are still ongoing.

Regarding the institutional setting, Montenegro adopted a new Energy Law, which is overall in line with the *acquis communautaire* on energy in 2010.

There has been some progress in the legal and regulatory framework on renewable energy sources. Implementing legislation aiming to improve alignment of national legislation with the RES and Cogeneration Directives was adopted in 2011. However, regulatory measures for the implementation of the EU energy "*acquis*" are still weak, according to a recent EU progress report on Montenegro.²⁰ Targets for RES have not been set, while current efforts to increase them are focused on the electricity sector alone.

¹⁸ International Energy Agency (IEA) (2008) *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.

¹⁹ Prof. Ilija Vujosevic *A Brief Background Note on the power sector reforms in Montenegro*. Podgorica:University of Montenegro.

²⁰ COM(2011) 666: Montenegro 2011 Progress Report.

With regard to Montenegro's strategic framework on EE²¹, this comprises the Energy Efficiency Strategy of the Republic of Montenegro adopted in 2005, a new Law on Energy Efficiency and accompanying National Energy Efficiency Action Plan (NEEAP) adopted by the government in December 2010 for the period 2010-2012, the NEDS and the previous Action Plans for Energy Efficiency (2006, 2007, 2008-2012). The legal basis for transposition of EU Directives through secondary legislation is: a) Directive 2006/32/EC on energy services (ESD), b) Directive 2002/91/EC on Energy Performance of Buildings (EPBD), c) Energy Labeling Directives (92/75/EEC and subsequent Directives).

The new Energy Efficiency Law and Action Plan target a 9% energy saving by 2018, in compliance with the Energy Community's requirements. The EE Law was to be applied from May 2011, after the adoption of 19 legal acts from secondary legislation. These have not all been adopted yet. A number of instruments enabling the application of the law still need to be set up (such as an energy efficiency fund and agency).²² In accordance with the ECT decision from 24/09/2010, Montenegro will prepare a law amending the Law on Energy Efficiency to transpose the new EU obligations until the year 2013.

The electricity market has been open for all non-household consumers since 2009, but it is not active yet. Legal unbundling in the electricity distribution sector is yet to be implemented, and legal framework for the future gas market is still missing. Further adjustments of the legal and institutional framework and in particular strengthening of administrative and implementation capacities are needed.

1.2.4. Serbia

As for Serbia, the volume and structure of energy reserves and resources of Serbia is very unfavorable. The reserves of quality energy products, such as oil and natural gas, are small and constitute less than 1 % in the total balance sheet reserves of Serbia, while the remaining 99% of energy reserves consist of various types of coal, predominantly low-quality lignite, with a share of over 92% in the total balance sheet reserves. This particularly relates to the lignite extracted in open pit mines, which with the total extraction reserves of about 13,350 million tons represents the most important domestic energy resource of the Republic of Serbia. The disproportion between the geological and extraction reserves of coal, oil and natural gas indicates the possible uncertainties in the management of these reserves in the future.²³

The most important renewable energy resource of Serbia is its hydropower potential (c.17,000 GWh), about 10,000 GWh of which has been used so far, so that the total remaining, technically usable hydropower potential in Serbia is about 7,000 GWh, which represents about 8.6% of the final energy consumption in 2003. This potential is mostly located in the Morava river basin (2,300 GWh), then on the Drina and Lim (1,900 GWh) and the Danube (1,000 GWh), for construction of individual facilities with power over 10 MW and annual production of about 5,200 GWh.

Furthermore, at about 900 potential locations on the Serbian rivers, including small rivers, the possibilities have been determined for the construction of small hydropower plants (of up to 10 MW), with a possible production of about 1,800 GWh/year. In determination of the possibilities for the utilization of the largest part of remaining technical hydropower potential, one should take into

²¹ Nenezic, M. (2011) Presentation on «Implementation of the 1st National Energy Efficiency Action Plan 2010-2012», 11th Energy Efficiency Task Force Meeting, Energy Community, Vienna, March. Podgorica: Ministry of Economy

²² Markovic, M., Xhitoni, A., Hakani, L., Dakic, M., Kalaba, I., Tankosic-Kelly, G., ... , Klauschen, A. (2011) *Fairer, Cleaner, Safer - Towards a more sustainable, people centered approach to energy development in South East Europe.*

²³ Ibid.

account the decisive effect of the non-energy criteria related to the multipurpose utilization of waters and the political agreements on the sharing of hydropower potential with the neighboring countries.

Within the category of renewable energy sources (RES), which includes biomass, hydropower potentials of small rivers (with facilities of up to 10 MW), geothermal energy, wind energy and solar radiation, it should be pointed out that there are special possibilities and needs in Serbia for their organized utilization in the so-called decentralized heat production (by biomass combustion and "collection" of solar radiation) and power (by constructing hydropower mini plants with a power of up to 10 MW and wind power generators, with up to 1 MW of power), in order to meet the needs of local consumers as well as the delivery of surplus power to the local network within the Serbian power system. The geothermal potential in Serbia is considerable. It represents about 80 % of the total RES potential and about 1.0 Mtoe, mainly consisting of wood biomass (woodcutting and wood mass refuse produced in its primary and/or industrial processing), and more than 1.5 Mtoe of agricultural biomass (agricultural and farming cultivation residues, including also liquid manure). The energy potential of the existing geothermal springs in Serbia is nearly 0.2 Mtoe, in the territory of Vojvodina, the Sava Basin, Mačva, the Danube Basin and the wider region of the Central Serbia as well as in the existing spas.

The lack of systematic approach in the exploration and preparatory works for the utilization of geothermal springs and the absence of incentives for the organized use of this energy source are the main reasons of the minimum use of hot water energy.

In terms of institutional setting, the formal opening-up of the electricity and gas markets to non-household consumers has been completed. Further efforts are needed to achieve unbundling and real market opening. The current Energy Law needs to be aligned with the electricity and gas acquis, and the role and independence of the Energy Regulatory Agency needs to be strengthened. Legislative framework on energy efficiency (EE) is lacking, but the national energy efficiency action plan was adopted in 2010. The main elements of the acquis on renewable energy remain to be transposed whereas some regulations to stimulate renewable energy (such as feed-in tariffs for electricity produced from renewable sources) are already in place.²⁴

²⁴ Ibid.

II. THE WIDER POLITICAL CONTEXT

Recent history in the Western Balkan region has led to a very complex situation, combining fragile neighborly relations, economic transition, the involvement of international institutions, the perspective of EU accession and the new countries' role in international relations. This larger political context has an impact on regional and national energy policies in the region and vice-versa. In the below sections, we seek to give an overview of the most relevant aspects of regional cooperation and international processes and agreements with regard to energy management and development in the Western Balkans.

2.1. Regional cooperation

Three regional processes are relevant for the Western Balkans' energy sector: i) EU accession due to the legislation and policies the EU pursues and requires in the field of energy, ii) the Energy Community Treaty, and iii) the Regional Cooperation Council, which seeks to provide a political framework to the region, including energy issues. The relevant aspects of the three processes are described below.

2.1.1. EU accession

The Western Balkans are now “on the road” to European Union (EU) accession. “Public opinion in the Western Balkans is largely favorable to EU integration. All governments have committed themselves to this objective and are implementing reforms.”²⁵

The European Union has frequently reiterated its “unequivocal support to the European perspective of the Western Balkan countries”.²⁶ Moreover, since Slovenia joined the European Union (2004), closely followed by Romania and Bulgaria (2007), the Western Balkans are a “sort of land-locked island” in the EU, which gives even more weight to their European aspiration.

Croatia and FYR Macedonia have already been enjoying official candidate status since 2005, whereas Bosnia and Herzegovina, Montenegro, Serbia and Albania have engaged in the Stabilization and Association process and are considered as “potential candidate countries”. In 2011, Croatia received the official clearance to become an EU member-state in 2013.

The enlargement “model”, although not leading to proper accession status, is progressively applied to these countries, which hence receive assistance to become closer to the EU through legislative approximation, regulatory convergence and institution building.

Since 2007, the EU provides financial support to potential candidate and candidate countries in the Western Balkans through the new Instrument for Pre-accession Assistance (IPA). This financial assistance is intended to help the countries to introduce the necessary political, economic and institutional reforms in line with EU standards, including in the adoption of the *acquis communautaire*. It consists of five different dimensions²⁷ aiming notably to prepare them to implement major EU policies such as the Cohesion Policy, the Common Agricultural Policy or the European Social Fund. The Western Balkans received around €4 billion under IPA for the period 2007-2011, the equivalent of €30 per capita per year.

²⁵ Communication from the European Commission “Western Balkans: Enhancing the European perspective”, COM(2008) 127 final, March 2008, p.2

²⁶ See: the European summit in Thessaloniki, 2003

²⁷ Transition, assistance and institution building, cross-border cooperation, regional development, human resources development and rural development

With regard to EU alignment in the energy sector, a number of policies and legal instruments are relevant. In 2008, the EU adopted a strategy targeting at 20% renewable energies and 20% energy efficiency by the year 2020. This new policy is notably supported by the following Directives: the Directive 2009/28/EC²⁸ on the promotion of the use of energy from renewable sources (RES Directive); the Directive 2002/91/EC on Energy Performance of Buildings (EPBD)²⁹, the Directive 2006/32/EC on energy services (ESD), the Energy Labeling Directives (92/75/EEC) and subsequent Directives.

Under the Directive on RES³⁰, the requirements on Member States (MSs) to promote the use of energy from renewable sources has been expanded and intensified by the setting of mandatory targets. The new Directive extends the scope of preceding legislation, amending and repealing Directives 2001/77/EC on the promotion of the use of electricity from renewable energy sources and 2003/30/EC on the promotion of the use of bio-fuels and other renewable energy sources in transport. It essentially further harmonizes the frameworks for the promotion of renewable energy across the EU MSs. The Directive is accordingly more detailed and lessons learnt have been incorporated where the Commission has the right to take initiative based on the principles of subsidiarity and proportionality.

Moreover, in its Communication on “20 20 by 2020 - Europe's climate change opportunity”³¹, the European Commission stresses the importance of energy efficiency, setting a 20% target for energy savings in sectors such as transport, buildings and through more efficient power generation, transmission and distribution. One relevant directive is notably the Directive 2002/91/EC on Energy Performance of Buildings³².

The broader EU legal framework includes the Directives on Environmental Impact Assessments, on Strategic Environmental Assessments, on public, information, participation and access to justice in environmental matters. These aims to ensure that infrastructure development is addressed in a sustainable manner and that the stakeholders are reasonably involved in decision-making processes affecting their livelihoods.

2.1.2. The Energy Community Treaty

The Treaty establishing Energy Community (ECT)³³ was signed in October 2005 in Athens, Greece. It entered into force on 1 July 2006. The parties to the Treaty were the European Community, on the one hand, and seven contracting parties, namely, Albania, Bosnia and Herzegovina, FYR Macedonia, Montenegro, Serbia and the United Nations Interim Administration Mission in Kosovo, on the other. Moreover, in 2007, 14 EU member-states received the status of participants, whereas Georgia, Moldova, Norway, Turkey and Ukraine became observers and a number of international donors and market operators also contributing to the process.

The Energy Community extends the EU internal energy market to Contracting Parties in South East Europe and beyond. This creates a stable investment environment based on the rule of law, and ties the Contracting Parties together with the European Union” and its “*acquis communautaire*”. This

²⁸ Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

²⁹ Directive 2002/91/EC on the energy performance of buildings
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:001:0065:0071:EN:PDF>

³⁰ Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

³¹ COM(2008) 30 final on “20 20 by 2020 - Europe's climate change opportunity” - http://www.energy.eu/directives/com2008_0030en01.pdf

³² Directive 2002/91/EC on the energy performance of buildings
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:001:0065:0071:EN:PDF>

³³ http://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY

means that by joining the Energy Community, the Parties have committed to implement the relevant EU rules on energy, environment and competition. The Treaty moreover provides the tools for the cross-border operation of the energy markets in the region.

The Energy Community's purpose is three-fold: First, it aims to create open and transparent national energy markets capable of attracting investments in power generation and networks. Then, the establishment of a regional energy market is foreseen to allow for cross-border trade in energy, guarantee energy supply and ensure that climate/environmental and social considerations are integrated in the energy sector operation. Finally, in the long term, the objective of the Energy Community is to have this regional market fully integrated in the EU's internal energy market.³⁴

To that purpose, the Contracting Parties to the ECT agreed to implement the relevant EU legislation, to set up regulatory structures and to liberalize their energy markets. The *acquis communautaire* consists presently of 12 legal acts in the area of electricity, gas, environment and renewables. The main principles of the EU competition policy are also applicable. The Treaty foresees the implementation of the *acquis* within a fixed time-frame.”³⁵

Among the more specific objectives of the Energy Community are mentioned not only security of supply, but also the improvement of the environmental situation in relation with this as well as enhanced competition at regional level and economies of scale.³⁶

The EU Commission leads the process for a number of reasons. Firstly, improving the balance between energy supply and demand is crucial to sustain economic development in South East Europe. This requires a strong legal commitment by the countries of the region towards market oriented reforms, regional integration and sustainable development, and investment security. This will offer significant advantages both in terms of improved utilization of existing supply and production capacities, but also in fostering more cooperation and integration in the region, which would result in economic growth, stability and investment.

Secondly, the security of supply of the European Union is based on diversifying supply of gas and electricity and in being politically able to counter threats to energy disruption in the European Union. By connecting this strategic area with the internal energy market, both the European Union's security of supply and that of the region are assured.

Thirdly, the destruction of the energy infrastructure in the region during the wars of the 1990s and the economic fall-out following the break up of Yugoslavia have had extremely negative effects on the security of citizens. Mortality rates increased, woods were deforested and established patterns of trade disrupted, impoverishing the local population.³⁷

“Practically, in South East Europe that means creating a local regional market and designing it so that it seamlessly will fit into the general framework of the European Union's Internal Energy Market.”³⁸

The timetable for implementation of the Treaty is as follows:

- By 1 July 2007: implementation of the two EU energy market directives and the regulation on cross-border network access;
- From 1 January 2008: liberalisation of the market for all non-household customers;

³⁴ Markovic, M., Xhitoni, A., Hakani, L., Dakic, M., Kalaba, I., Tankosic-Kelly, G., ... , Klauschen, A. (2011) *Fairer, Cleaner, Safer - Towards a more sustainable, people centred approach to energy development in South East Europe*.

³⁵ Ibid.

³⁶ Ibid.

³⁷ European Commission, DG Energy and Transport (2005) *An integrated market for electricity and gas across 34 European countries. Memo*.

³⁸ Ibid.

- By 31 December 2011: reduction in the sulfur content of certain liquid fuels;
- From 1 January 2015: liberalization of the market for all customers;
- By 31 December 2017: limitation of emissions of certain pollutants into the air from large combustion plants.

With regard to the implementation of the ECT, a recent Report by the EC identified the following main challenges³⁹:

- Ø Bridging the existing gap between theory (political commitments) and practice (full implementation of the Energy Community acquis and enforcement of the rules adopted)
- Ø Private investments in the energy sectors of the ECT Parties remained on a relatively low level (despite substantial support from international financing institutions); the main reasons include the unreliable implementation of the regulatory framework and the small scale of national markets;
- Ø Failure of governments to restructure regulated end-user prices and the associated implicit and explicit subsidies on all energy markets.² The international legal and institutional framework.

2.1.3. The Regional Cooperation Council

The **Regional Cooperation Council (RCC)**, officially launched in Sofia, on 27 February 2008 with the full commitment and support from South Eastern European countries, donor countries and other international actors, such as the European Commission.⁴⁰ is a new structure that replaces the **Stability Pact for South Eastern Europe**, which was launched in 1999 as the first comprehensive conflict prevention strategy of the international community for the region.

The Stability Pact aimed at “strengthening the efforts of the countries of South Eastern Europe in fostering peace, democracy, respect for human rights and economic prosperity” and provided a “framework to stimulate regional cooperation and expedite integration into European and Euro-Atlantic structures”.⁴¹

As substantial progress on the ground was achieved and political, economic and social conditions improved throughout the region, the internationally led Pact started to become obsolete, and the need was felt for a more regionally owned framework. This was the main motive in launching the transformation of the Stability Pact into its successor organization, the RCC.

The Regional Cooperation Council thus inherited the mandate of the Stability Pact to oversee cooperation processes in South Eastern Europe and to support European and Euro-Atlantic integration of the region. “Its Secretariat is co-financed by the countries in the region, the Commission and other international donors. The EU, represented by the Troika consisting of the EU Presidency, the European Commission and the European Council Secretariat, is represented on the RCC Board.”⁴²

The RCC's work focuses on six priority areas: economic and social development, energy and infrastructure, justice and home affairs, security cooperation, building human capital, and parliamentary cooperation as an overarching theme. It works closely with all relevant actors, such as governments, international organizations, international financial institutions, regional organizations, civil society and the private sector.

³⁹ COM(2011) 105 final, *Report from the Commission to the European Parliament and the Council* under Article 7 of Decision 2006/500/EC (Energy Community Treaty)

⁴⁰ <http://www.rcc.int/>

⁴¹ <http://www.stabilitypact.org/>

⁴² Ibid.

As the entity responsible for promoting, coordinating and monitoring regional cooperation processes in South East Europe, the RCC particularly focuses on energy and infrastructure, as the most important prerequisites for the overall economic, social and environmental development, stability and prosperity of the region.

In particular, the RCC Secretariat monitors the development of the Energy Community and provides political support in overcoming bottlenecks in its implementation. It also promotes sustainable energy development in the region, with a focus on knowledge transfer from EU member States on sustainable energy projects preparation, development, financing schemes and implementation.⁴³

2.2. The international legal and institutional framework

The Western Balkan countries are signatories to several MEAs and UN conventions relevant to sustainable development, nature protection, energy and good governance, and thus to energy policy. Moreover, even if a country is not yet party to an international legally-binding instrument that has however been ratified by the European Commission, it will be bound to its ratification at the moment of accession to the EU. In this section, the most relevant international agreements are briefly discussed.

2.2.1. The Aarhus Convention

The “Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters”, done in Aarhus on 25 June 1998, has been ratified by Albania (2001), Bosnia and Herzegovina (2008), Croatia (2007), FYR Macedonia (1999), the European Community (2005) and Montenegro and Serbia finally in 2009.⁴⁴

This convention aims essentially at promoting “environmental democracy” in “obliging” the countries parties to guarantee rights of access to information, public participation in decision-making and access to justice in environmental matters. As such, it represents a new kind of environmental agreement, linking environmental rights and human rights. “It also refers to the goal of protecting the right of every person of present and future generations to live in an environment adequate to health and well-being, which represents a significant step forward in international law. These rights underlie the various procedural requirements in the Convention.”⁴⁵

Focusing on interactions between the general public and public authorities in a democratic context and through forging a new process for public participation in the negotiation and implementation of international agreements, it is very relevant to the development of large infrastructure, such as large hydropower, that often affect not only the environment but also people’s livelihoods (i.e. loss of incomes, displacement, etc.).

2.2.2. The Espoo Convention and the Kiev Protocol

A further relevant multilateral agreement facilitated by the United Nations Economic Commission for Europe is the **Espoo Convention** on Environmental Impact Assessment in a trans-boundary context⁴⁶ that entered into force in 1997 and has so far been ratified by Albania, Croatia, FYR Macedonia, Serbia, Montenegro (2009) and the EC (2008)⁴⁷. It “sets out the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning” and “also lays down the general obligation of States to notify and consult each other on all major projects under

⁴³ <http://www.rcc.int/pages/15/6/infrastructure-and-energy>

⁴⁴ On the ratification status of the convention, please refer to: <http://www.unece.org/env/pp/ratification.htm>

⁴⁵ <http://www.unece.org/env/>

⁴⁶ UNECE Convention on Environmental Impact Assessment in a Trans-boundary Context (Espoo, 1991)
<http://www.unece.org/env/eia/documents/legaltexts/conventiontextenglish.pdf>

⁴⁷ On the ratification status of the convention, please refer to: <http://www.unece.org/env/eia/ratification/convratif.html>

consideration that are likely to have a significant adverse environmental impact across boundaries”. The case of the Chancy-Pougny Hydropower Station⁴⁸, on the border between France and Switzerland, is a good example of the significance of such a convention for hydropower development. The Convention is also relevant for other trans-boundary issues such as potential air pollution caused from thermal power plants.

The **Kiev Protocol** on Strategic Environmental Assessment (2003) that accompanies the Espoo Convention is not yet in force, although signed by the EC and all the Western Balkan countries. When entering in force, the Protocol will have an important effect on the development of dams, since it “will require its Parties to evaluate the environmental consequences of their official draft plans and programmes” in a much earlier stage than EIAs. It also provides for extensive public participation in government decision-making and is therefore seen as a key tool for sustainable development.

2.2.3. The Bern Convention and the Emerald Network

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979) is a binding international legal instrument in the field of nature conservation, which covers the whole of the natural heritage of the European continent aiming at conserving wild flora and fauna and their natural habitats and to promote European co-operation in that field.⁴⁹

The Bern Convention has now been signed by all the member states of the Council of Europe, among which the Western Balkan countries, and by the European Union.⁵⁰

The Emerald network, launched in 1998 by the Council of Europe, is a “network of areas of special conservation interest (ASCIs), which is to be established in the territory of the contracting parties and observer States to the Bern Convention, including, among others, central and east European countries and the EU Member States.” For EU Member States, Emerald network sites are those of the Natura 2000 network, under the 1992 Habitat Directive. The Emerald Network is based on the same principles as Natura 2000, and represents its *de facto* extension to non-EU countries.⁵¹

2.2.4. The Ramsar Convention

The Convention on Wetlands⁵², signed in Ramsar, Iran, in 1971, is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources and aims at ensuring that wetlands can “continue fully to deliver their vital role in supporting maintenance of biological diversity and human well-being.” There are presently 160 Contracting Parties to the Convention, notably most of the Western Balkan countries (Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia), with several wetland sites, among which Lake Skadar (Albania-Montenegro), Livansko Polje (BiH), Lake Prespa (Albania-Greece), the Neretva Delta (Croatia), designated for inclusion in the Ramsar List of Wetlands of International Importance. The Ramsar Convention is particularly relevant in case of hydropower development, but also for wind parks, since the latter affect birds that use wetlands for wintering, nesting, etc. purposes.

Under Article 3.1 of the Convention, Contracting Parties agree to “formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as

⁴⁸ <http://www.unece.org/env/eia/pubs/factsheet4.html>

⁴⁹ <http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=104&CM=8&DF=&CL=ENG>

⁵⁰ <http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=104&CM=8&DF=&CL=ENG>

⁵¹ http://www.coe.int/t/dg4/cultureheritage/Regional/EcoNetworks/EmeraldNetwork_en.asp#TopOfPage

⁵² <http://www.ramsar.org/about/>

possible the wise use of wetlands in their territory”⁵³. Through this concept of “wise use”, the Convention emphasizes that human use on a sustainable basis is entirely compatible with Ramsar principles and wetland conservation in general. It is important to note that this concept “applies to all wetlands and water resources in a Contracting Party’s territory, not only to those sites designated as Wetlands of International Importance.”⁵⁴

⁵³ <http://www.ramsar.org/about/info2007-02-e.pdf>

⁵⁴ Ibid.

III. TRENDS AND CHALLENGES IN THE NEAR FUTURE

To be resilient, Montenegro's future orientation in terms of energy policy will also need to take into account relevant global trends and upcoming challenges. In this light, three major aspects will influence Montenegro's choices: energy security in the region, global oil supply and related prices as well as on-going climate change.

3.1. Energy security and regional socio-political stability

Since the end of the political and economical turmoil, the Western Balkans suffer serious energy deficit – due notably to the deterioration of their infrastructures and insufficient local energy sources – that was further aggravated by the closure of four out of six units of the nuclear power plant at Kozloduy, Bulgaria, in 2006. The region is still heavily dependent on gas and oil imports to cover its growing needs. As the recent crisis between Russia and the Ukraine over gas pipelines in the beginning of 2009 has shown, this can prove to be an important issue, e.g. leaving Western Balkan countries, such as Bosnia and Herzegovina and Montenegro, but not only, without heating in the midst of winter.⁵⁵

Such energy ‘insecurity’ could affect economic development as well as citizens’ well-being, and thus regional social and political stability. However, “a number of oil pipelines are currently under study or construction in the Balkans: the US registered Albanian-Macedonian-Bulgarian Oil Corporation (AMBO) project will carry oil from the Caspian to the Mediterranean, via Bulgaria, Macedonia and Albania; while the Adria Group project will channel Russian oil to the Omisalj terminal on the Croatian coast.”⁵⁶

In a larger regional context, issues of energy security are now additionally emerging from the recent switch in some of Northern European countries' energy policy. Indeed, after the nuclear accident in Fukushima beginning of 2011, Germany⁵⁷ especially decided to phase out nuclear power generation on its national territory by 2022. Other countries, such as Belgium and Switzerland⁵⁸, are moving into the same direction. Such moves entail increased dependency on energy imports for the countries in question and hence potential further interest in investing in new energy projects in the neighborhood to secure the necessary supply.

Competition over the Balkans, as a transition region strategically situated for energy supply, is hence evidently fierce and could benefit the region in terms of energy security, although the environmental sustainability of new projects needs to be assessed thoroughly. European promoters and investors need to take into account the EU environmental legislation when going ahead with projects in the region.

The countries of the region are now increasingly well connected to the energy supply grid of the EU through their participation in the Energy Community: “All parties to the Treaty, including EC, are subject to rules on free movement of energy, mutual assistance in the event of sudden energy disruption and dispute settlement.”⁵⁹, and provided they develop a sound energy mix (including

⁵⁵ See article Balkans freeze as Russia cuts gas supply, International Herald Tribune, Associated Press, 7 January 2009
<http://www.iht.com/articles/ap/2009/01/07/europe/EU-Ukraine-Russia-Gas-Optional.php>

⁵⁶ Balkan Vital Graphics Report, Environment and Security Initiative (UNEP, UNECE, UNDP, OSCE, NATO, REC), 2007, UNEP/GRIDArendal, ISBN: 978-82-7701-046-5 - <http://www.grida.no/publications/vg/balkan/> or www.envsec.org/see/index.php

⁵⁷ More info on: http://en.wikipedia.org/wiki/Nuclear_power_by_country – updated in September 2011

⁵⁸ Ibid.

⁵⁹ http://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY

energy efficiency, rehabilitation of transmission networks and infrastructure, and various renewable sources of energy), energy security should actually become less and less of an issue.

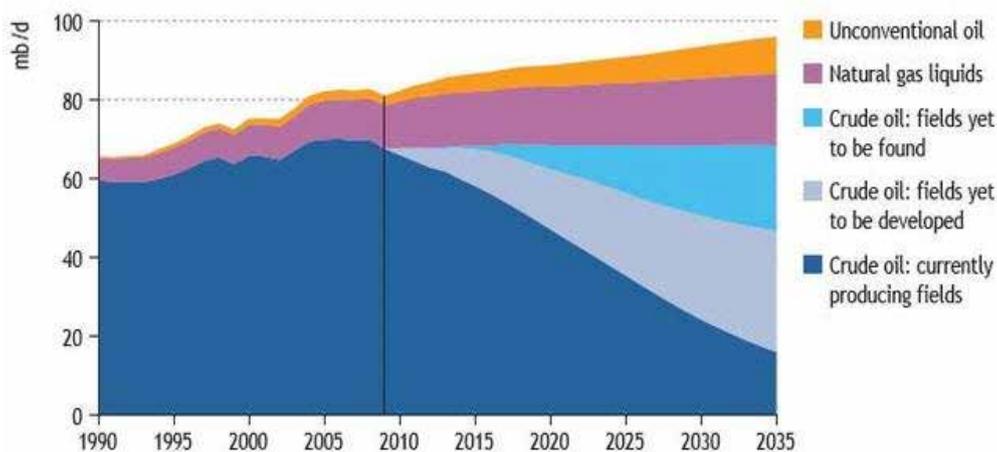
The region's progressive integration to the EU should improve the situation in the medium to long term, but in the short term there will continue to be a certain supply and demand gap, especially in the event of extreme weather conditions, which enhance the need for either heating or air conditioning, and thus energy demand, as well as could cause disruption in energy generation (see Section 3.3.).

3.2. Peak oil and rising energy prices

In its recent World Energy Outlook 2010⁶⁰ the IEA has confirmed that conventional fossil fuel reserves are dwindling (see below graph for more details). It is estimated that every year, the production of mature oil fields declines by 2,5 to 3 million barrels per day.

According to Peter Voser, the chief executive of Royal Dutch Shell, as reported by the Financial Times⁶¹, « Oil output from fields in production (even) declines by 5 per cent a year as reserves are depleted, so the world needed to add the equivalent of four Saudi Arabias or 10 North Seas over the next 10 years just to keep supply level, even before much of an increase in demand».

Figure 3.19 • World oil production by type in the New Policies Scenario



While exploiting non conventional sources of fossil fuels, such as shale gas and tar sands, it is extremely expensive, the world is at the same time facing an ever increasing demand. This means, says Peter Voser⁶², “we will have a lot of volatility ahead of us that we cannot avoid ... for energy prices in general.”

In this context, it is advisable for countries rich in RES to invest in such sources and phasing out fossil fuels as much as possible. Energy efficiency is a further sound option that needs to be made use of to the best extent. Fossil fuels savings usually entail a switch to bio-fuels or electricity-powered transportation means. The latter in turn might imply further development of public transport equipment and infrastructure, such as tram, metro, railways etc.

⁶⁰ IEA (2010), *World Energy Outlook 2010*, Paris: IEA – <http://www.iea.org/Textbase/npsum/weo2010sum.pdf>

⁶¹ Ed Crooks (2011) *Shell chief warns of era of energy volatility*. Article published in the Financial Times on September 21, 2011. Available on: <http://www.ft.com/intl/cms/s/0/bbda1c8-e485-11e0-92a3-00144feabdc0.html#axzz1chLxWQ4>

⁶² Ibid.

3.3. The implications of climate change

The implications of climate change for Southeastern Europe are manifold. Indeed, as explains the Blue Plan in a recent paper: “The predictions are that Southern and South-East Europe may be severely affected by climate change. Indeed, there is a growing body of scientific evidence showing that the effects of climate change on biodiversity and ecosystem services are steadily increasing. For South-East European countries in transition, including Albania, Bosnia-Herzegovina, Montenegro, Serbia and Turkey, specific impacts may include: decreasing the richness of biodiversity, water storage potential and tourism potential; and increasing invasion of alien species, crop failure, flooding and bushfires, storm damage and soil erosion.”⁶³

This will also have an impact on Montenegro’s energy policies/choices, notably a strong preference for RES, as 'clean' energy sources, versus more conventional sources. In this context, hydropower is clearly promoted by several international institutions (i.e. EU) as a renewable source of energy that contributes to mitigating CO₂ emissions.

However, if on the one hand, hydropower is promoted as a ‘clean’ energy solution for the mitigation of climate change, and dams more generally for the prevention of floods; on the other hand, there is growing evidence that the Western Balkans will not only be affected by more frequent floods but also by frequent and severe phases of drought in summer, resulting in a reduced output of hydropower infrastructure over the coming decades, but starting from now. Certain countries have already reported a significant drop in their hydropower production due to a decrease in surface water inflows to dams. An issue notably faced by Albania in recent years. “Besides the analysis of the observed data, it is necessary to evaluate the future impacts of climate change on water resources. Simulations conducted on European scale show that Southern European countries are likely to report a decrease in their river flows in the range of 10 to 30% by 2070.”⁶⁴ Moreover, dams for flood retention measures have their limits as recent floods have shown in the Lake Skadar basin shared by Albania and Montenegro.

With regard to bio-energy, it seems that the implications of bio-fuels are considerable in terms of food security and biodiversity. To produce bio-fuels from conventional food crops (e.g. maize, colza, etc.) but also from palm trees, more and more land is needed, including tropical forests and farmland. Massive expansion of bio-crops farming, as it takes place in e.g. Brazil or Indonesia, therefore is affecting food availability, small farmers’ income and precious natural habitats, like the Amazon forest or tropical forests in Indonesia.

A study recently conducted by the European Environmental Agency (EEA) found that “European Union regulations and policy targets should be revised to encourage bio-energy use only from additional biomass that reduces greenhouse gas emissions (GHGs), without displacing other ecosystems services such as the provision of food and the production of fibre.”⁶⁵

The recommendations of the EEA are therefore as follows:

- ñ Accounting standards for GHGs should fully reflect all changes in the amount of carbon stored by ecosystems and in the uptake and loss of carbon from them that result from the production and use of bio-energy.
- ñ Bio-energy policies should encourage energy production from biomass by-products, wastes and residues (except if those are needed to sustain soil fertility).

⁶³ <http://www.planbleu.org/publications>

⁶⁴ Strategies for integrated water and energy resources management to address climate change, Blue Plan Notes, No. 9, Nov. 2008

⁶⁵ EEA (2011) *Opinion of the EEA Scientific Committee on Greenhouse Gas Accounting in Relation to Bio-energy*

- ñ Bio-energy policies should also promote the integrated production of biomass that adds to, rather than displaces, food production.
- ñ Decision makers and stakeholders worldwide should adjust global expectations of bio-energy use to levels based on the planet's capacity to generate additional biomass, without jeopardizing natural ecosystems.

IV. ANALYSIS OF THE NEDS, ITS ACTION PLAN AND MAIN ISSUES

In the “Action Plan on the Energy Development of Montenegro by 2025”, the Government of Montenegro states that the NEDS “represents the starting point for a feasible and sustainable development model of the Montenegrin energy sector, which is in line with European guidelines and best practices (...) and the basis for the enactment of other necessary legislation and the institutional support for a successful implementation of Montenegrin energy policy.”

Notwithstanding the status of “Ecological State” enshrined in the country's Constitution, the Government also considers “the Montenegrin energy sector as the foundation of overall development of the country, from ecological, social and economic aspects. As such, the energy sector development is of great, and maybe crucial, importance for overall progress of Montenegro.”

In this context, the National Energy Development Strategy (NEDS) was adopted in December 2007. This was done without the support of NGOs, international organizations and the public opinion. In order to achieve the targets established by the NEDS, the Government of Montenegro, once it had adopted the latter, was required to put in place an Action Plan (AP) for its completion in a period of five years, which was performed by setting into place and adopting the Action Plan in October 2008, for the period between 2008 and 2012.

The AP, in accordance with the Montenegrin Law on Energy 28/2010, foresees:

- 1) Method and dynamics of achieving the NEDS;
- 2) Development and reconstruction plan of power generation facilities;
- 3) Deadlines for execution of activities for implementation of programme and project;
- 4) Method of implementation of programme and project and the stakeholders responsible for the implementation;
- 5) Estimate of financial resources required for implementation of the Action Plan and financing sources;
- 6) Other elements of importance for the execution of the NEDS.

In the light of the above, an analysis of the NEDS relevant contents, the extent and quality of its implementation as well as the contents of the connected Action Plan will be carried out.

4.1. Brief analysis of the strategic commitments under the NEDS

The NEDS outlines a number of possible solutions and commitments with regard to addressing the energy deficit, reducing the pressure on the economy and preparing Montenegro for future EU accession. While several of these solutions and commitments point into the right direction, others reveal significant shortcomings:

- The 3rd commitment states that “Montenegro will strive to fulfill all the required measures for a successful implementation of the *Acquis Communautaire* regarding energy, environment, competition, and renewable energy sources in line with requests and dynamics set out in the Energy Community Treaty.” Since Montenegro is approaching EU membership, this can be considered as a very sound commitment.

- Commitment No.4 proposes to “Identify energy as the mainstay of the overall, sustainable, and long-term stable growth of Montenegro with positive macroeconomic effects”. Since at the same

time, Montenegro has become an “Ecological State”, it is necessary to analyze more closely how these two orientations can be integrated and harmonized in a sound way, without jeopardizing the integrity of important ecosystems and landscapes the country is endowed with and which help sustain development of tourism-related activities. This commitment is therefore questionable.

- Another commitment foresees the “improvement of energy efficiency (EE) in production and consumption to the level of moderately developed EU countries”. Not only is promoting energy efficiency highly recommended, but moreover Montenegro and its neighboring countries could certainly step up efforts beyond the target of “level of moderately developed EU countries”, since the margins for improvement are much higher in this region and in that manner important leap-frog progress could be achieved. So, we would agree with this standpoint.

- While there is a commitment to “Undertake concrete measures to further maintain at least 20% share of renewable energy sources in total primary energy consumption in Montenegro”, this target can be considered as low. In the meanwhile, the ECT has calculated that a more ambitious target of 30% share of RES in the national energy consumption by 2020 would be more appropriate, which means an increase of 7% compared to 2005. This commitment is therefore insufficient.

- Regarding the commitment to “Rational and wise use of hydro-energy potentials at the river basins of Morača, Komarnica, Lim, Piva, Tara, Zeta, Ibar and Čehotina with full adherence to the applicable UNESCO declarations, decisions of the Montenegrin Parliament, and principles of sustainable development”, it is very risky to consider any use of the hydropower potential of rivers like the Tara, that are under high nature protection status, due to the fact that any type of utilization entails environmental impacts. Moreover, when it comes to hydropower, potential impacts on upstream and downstream valuable ecosystems and communities need to be assessed thoroughly ahead of any decision-making. This commitment is hence questionable.

- Moreover to “Rely on the exploitation of domestic coal reserves as the second important energy resource of Montenegro besides hydro-energy; the construction of TPP Pljevlja 2 and the heating system in town Pljevlja. (and potentially) to construct TPP Berane if the investment is proven to be economically profitable”, does not seem an optimal commitment in terms of environmental protection, public health and mitigation of climate change, due to significant release of CO₂ and other noxious emissions. In terms of energy security in the long run, since these are important domestic resources, they should be managed wisely.

- However, the decision to commit to the “Revitalization and technical modernization of the existing electricity generation, transmission, and distribution systems” is very sound, since it has been estimated that this type of losses could amount to approximately 30% of Montenegro’s energy consumption. In this respect, any initiative or measure that would lead to energy savings in this field should definitely be fostered and financially supported.

- With respect to “Reducing energy dependency (reduction of energy imports) and improve the security of energy supply in Montenegro”, the Government of Montenegro should on the one hand recall that it is a signatory party to the ECT, which requires progressive opening to a common energy market with neighboring countries and later with EU member-states, and on the other hand be aware that the best manner to reduce energy dependency would be to increase energy efficiency/savings as a first step.

- The commitment to “Support development and accelerate the introduction of renewable energy sources, using solar energy for obtaining thermal energy, replace industrial and small boiler rooms with cogenerations using liquefied petroleum gas (LPG) and liquid fuels, introduce other local energy systems in the country’s energy system” is an important one and in line with the

requirements of relevant EU legislation. However, the Government should strive towards sustainable development, based on a thorough needs and options assessment.

- Integration of environmental and energy policies, as outlined in the commitment to “implement a program of regulatory, legislative, and operational inclusion in the process of EU accession with regard to energy and ecology including integration in the energy market of SEE and EU”, is a prerequisite for sustainable development as it is a requirement of the EU. This commitment is thus reasonable.

- With regard to the commitment to “Continue with oil and gas exploration at the Montenegrin coast, coal exploration in Pljevlja and Berane basins, and carry on the study work on the exploitation of the remaining hydro potential”, the environmental risks entailed have to be highlighted, all the more than Montenegro's coast has a high potential for tourism-related income that could be extremely jeopardized if such highly hazardous projects would be developed. This commitment needs to be addressed in light of the precautionary principle.

4.2. Status of implementation of the NEDS and related issues

Hence, while there is a number of good resolutions/commitments formulated in the NEDS, it seems that in the follow up activities, in particular in the subsequently drafted Action Plan for its implementation, there have been gaps and inconsistencies.

The compliance of the NEDS with the EU acquis was not thoroughly analyzed and thus no measures could be taken to further enhance alignment. There is notably a weak overlap with EU requirements in practice. Especially secondary legislation level is poorly aligned, making it difficult to actually implement existing legal framework.

Furthermore, inconsistencies between the resolutions/commitments under the NEDS and the actual activities and related funds foreseen under the Action Plan for the implementation of the stated commitments are significant. This is particularly obvious for the activities related to energy efficiency and energy saving measures: not only are they often restrained to planning exercises but the allocated budget is low.

Uncertainty with regard to the status of implementation also remains high, since from the start of the NEDS' implementation, no reports or assessments related to the progress in the achievements of the strategic goals have been published. Moreover, so far there has been no study covering the issues related to participation of all stakeholders in the implementation process.

The latter is also a sign of insufficient stakeholder involvement. While the NEDS was developed in a consultative process with more than 10 CSOs participating in the strategy design with the support of the international community, the CSOs (and international) community involved at the time opposed strongly some of the energy solutions identified in the NEDS, notably the possibility of building large hydropower plants on river Morača. In the subsequent steps related to the NEDS' implementation, this lack of public participation and stakeholder engagement continued to flaw significantly planning and decision-making processes.

4.3. Process for the adoption of the Action Plan

The “Action Plan for the realization of the National Energy Development Strategy of Montenegro for the period between 2008 and 2012” (AP) has been prepared by the Ministry of Economic Development, while the final recommendation was announced in August 2008.

For the adoption of the AP, the organization of public debate was not planned. Also at the time of adoption of the AP, due to the establishment of the new Council for sustainable development, as a recommendation from the Cabinet for sustainable development and with consent of the president of the Council, a working group was formed, whose task was to, on behalf of the Council, review the AP 2008-2012 for the realization of the NEDS and provide advice. The Working group for the AP had two meetings on September 17th and 18th, 2008. Members of this working group were representatives of the Hydrometeorological Institute of Montenegro, Republic Institute for Environmental Protection of Montenegro, Ministry of Economic Development and Green Home NGO representative.

During the discussion on the AP, comments were provided by Green Home in collaboration with WWF, as well as the representative of the Republic Institute for Environmental Protection. All comments were withheld with the explanation that they mainly refer to the NEDS, which had been endorsed by the Government and as a result could not lead to on any changes in the AP. Accordingly, the working group, with the exceptional advice from NGO sector representatives, assessed the draft AP as satisfactory since professionally, technically and methodologically in compliance with the NEDS, based on which this plan has been adopted in October 2008.

4.4. Weaknesses of the Action Plan

The civil society identified the following weaknesses in the AP:

- Ø The AP treats the various programmes and projects with a compartmented approach. There is no integration amongst the programmes to then compare which one is the more cost effective at the lowest possible environmental damage.
- Ø The AP never addresses the environmental and social impacts of HPPs at a basin level. Downstream-upstream connection is never taken into account nor mentioned. With regard to the Morača HPPs, it mentions what could be the potential environmental or social benefits in the area where the dams are built, but it fails totally to consider the negative effects on the environment and on the economy of local communities downstream.
- Ø The AP plans to start i) retrofitting of existing plants, ii) energy efficiency measures and iii) building on new plants (HPP and TPP) all at the same time. Priority in resources, efforts and time should be given to retrofitting existing plants and efficiency measures and only when these plans are successfully started assess the need for new plants.
- Ø According to the EU Water Framework Directive, new hydropower projects are compatible with the WFD as long as they comply with the Art. 4.7. No mention to this provision is made in the AP, neither a similar approach is envisaged. The Montenegrin water law has been aligned already to the EU WFD hence a specific procedure is required before making decisions on the deterioration of water bodies (which is, a priori, a result of water infrastructure development).
- Ø The potential environmental impacts of small hydropower plants are completely neglected and not taken into any account. Small HPPs may have a very high cumulative impact, if planned in the wrong location and using an inadequate technology.
- Ø The wind energy development is scored as “having certain (minor) harmful effects“ on the environment (page 82 of the AP). This is not correct as wind energy plants, if wrongly located, may have a high impact on important biodiversity values (especially birds).

- Ø There is no concrete plan for preserving the country's important ecological values. Existing Protected Areas, Emerald Network areas and potential Natura 2000 sites (as envisaged EU Habitat Directive) should be preserved from any deterioration, as required by relevant agreements, ratified by the Government of Montenegro.

4.5. Brief analysis of the Action Plan's status of implementation

The realization/implementation of the NEDS and the AP is overseen by the Government committee body in charge of power/energy operations, i.e. Ministry of Economics (during the period when the NEDS and the AP were adopted, the Ministry for Economic Development). In accordance with the Law on Energy, this Ministry is required, by March 31st of the current year, for the previous year issue on the internet, to prepare and provide the Government of Montenegro with an annual report on the realization of the NEDS and the AP. The report should include:

- 1) Achieved results of accomplishing confirmed targets in the previous year;
- 2) Assessment of the impact of achieved results on the realization of the AP for the current year;
- 3) As required, recommendation of measures for more efficient execution and
- 4) Estimate of possible need for adjustment of the AP and the NEDS with realistic needs.

The final report, in accordance with the Law on Energy, should be published on the Ministry's website. However, until now, no such report has been published, that is, we can say that the monitoring and control of the AP's implementation programme has not been realized, since the adoption of the NEDS, due to two possible reasons: (I) the Government in 2009 decided not to put in place a special Directive for implementation of the NEDS, and (II) the sector as a part of Ministry of Economy which is responsible for this area, still does not have the staff to carry out these tasks. As a consequence, monitoring the development of the AP is performed in a limited scope and is not continuous.

Analyzing the present status of implementation of the AP, we can confirm that the planned dynamics have not been met in the sense of project prioritization or in the sense of meeting the set deadlines.

Given the size and scope of the NEDS and the AP, for the requirements of this short analysis, chosen were the projects, which were most frequently mentioned in public, relevant to the environment, and for which it was possible to, in a short time period, collect the necessary documentation. Analyzed projects are defined in the following parts of the AP: KS 2 (Increase of power generation efficiency of existing production facilities and transmission plants), KS 5 (Development and use of reusable energy sources) and KS 6 (Production increase of clean energy from fossil fuels).

The following parts of the AP were also analyzed in more detail:

KS2.2 Revitalization of small hydropower plants

The question of property rights has been solved and according to that legal/formal conditions have been set for the beginning of the long planned revitalization of small hydropower stations (SHPP) "Glava Zete" and "Slap na Zeti" with the establishment of mixed company "ZETA energy" in 2010. 51% of the company is owned by EPCG AD and 49% by NTE (Norway). According to the AP, interventions at the mentioned SHPP should be completed in 2011. As a result, this project faces a delay of at least 1.5 years.

KS2.3 Revitalization of Hydroelectric power station “Piva” (I. and II. phase)

Both phases are well defined in the AP. However, there is a delay in the implementation of phases, given that in autumn 2009, EPCG was partially privatized, which delayed procedures of decision making within the very company. Having in mind the definition of phases in the AP, currently the project delay is estimated to at least 1 year.

KS2.4 Revitalization of Hydroelectric power station “Perućica” (II. phase)

According to the AP, works as part of Phase II are intended to last 4.5 years (planned completion of works until November 2013). Comparing the state of current achievements, it is estimated that the project is not on schedule by at least 2 years.

KS2.5 Revitalization of thermal power station “Pljevlja” I

The reconstruction of TEP-I and ecological recovery has been completed during 2009. According to the dynamic plan of the AP, there is a delay of works in the reconstruction of cooling tower, landfill and new transport system for soot and ash, stabilization and re-cultivation of landfill and installation of deSO_x system. In accordance with the AP, such interventions are intended for the period of February 2011 until July 2013. Therefore, delay is assessed to amount to 1.5 years.

KS5.2 Program of use of the hydropower potential in Montenegro

Piva/HPP Krusevo: The HPP is intended as a balancing reservoir for the existing HPP Piva. However, there has practically been no progression since the adoption of the NEDS. The elements which are missing are still: the agreement between Montenegro and Bosnia and Herzegovina on the use of the hydropower potential, completion of the location research, update of the feasibility study and ideal solution and preparation of base for space-planning documentation, complete feasibility study – i.e. everything that is required for potential construction of the power plant after 2025.

Trebišnjica/HPP Boka: The expertise background required for processing of ideal solution for HPP Boka produced in January 2009 by the “Energoprojekt-Hidroinzenjering Beograd” was not accepted by the expert commission. As a result, processing of technical documentation titled “Ideal solution of use of hydro-energetic potential of Bilecko Lake in the part that belongs to Montenegro” has not been completed. Also, an international agreement between Montenegro, Bosnia and Herzegovina and Croatia on the division of the hydropower potential of the river Trebišnjice catchment has first to be reached.

Ćehotina: According to the AP, use of the hydropower potential of river Ćehotina is envisioned through the development of HPP Gradac and HPP Milovici. The second power plant has a relatively high accumulation, which can assist in regulation of water in the river Drina. Among the prerequisites for realization, which are missing is also the absence of agreement with Bosnia and Herzegovina on use of this hydropower potential.

KS 5.3 Construction of small hydropower stations

So far the Ministry of Economy has put out two tenders leading to concessions and permissions for a total of 86,58 MW or 289 GWh of expected production of electricity, while together with the third announcement, it is estimated that production of up to 108 MW will be achieved. As a comparison, the NEDS estimates 80MW obtained from small hydroelectric power stations until 2025.

KS 5.4 Use of wind for production of electric power (Rumija)

In 2010, two contracts were signed for land lease and construction of wind power plants on the sites Mozura and Krnovo, while in 2011 urban-technical conditions were defined for their construction, which can be considered as a slight delay in comparison to the AP.

KS5.7 Construction of HPP Komarnica

The time of construction is estimated to be 6 years, provided there is an investor and that a concession is issued by the end of 2012. In that case, the HPP could begin with operations at the earliest by 2019 instead of 2015 as anticipated in the NEDS, thus a delay of 4 years.

KS5.8 Construction of HPP on Morača

In comparison with the NEDS and the AP, as well as considering the fact that for the tender that was closed on 30 September 2011, there were no interested bidders, the project is at least 2 years behind schedule.

KS6.1 TPP Pljevlja II with city Pljevlje heating network supply

The contract which was negotiated on 22 September 2008 between EPCG AD and a Slovenian consultant for development of the ideal project and feasibility study for second block of the TPP Pljevlja (TPP 2) has not been realised. For these reasons, the owner of TPP Pljevlja (EPCG) has no further knowledge in comparison to the period when the NEDS was developed. According to the NEDS, the second block was meant to be put into operation in 2011. The project is already at least 4 years behind schedule and currently there are no indications that it will ever be completed.

V. THE CASE OF THE MORACA HYDROPOWER SCHEME

This chapter aims to provide a detailed chronology of all actions and steps taken in decision making process about the possible construction of dams on Morača River. The processes described in this chapter are: public hearings on draft DPP and SEA for multipurpose reservoir on Morača River, a public hearing for the draft Concessionary Act and a draft Agreement on sponsorship. Based on this chronological presentation, as well as interviews performed with representatives of relevant institutions, CSO and NGOs the quality of public hearings were analyzed as well as gaps and barriers in realizing the full public participation in the decision making process which serve in bringing of specific recommendations set out in section VI.

5.1. Background and legal framework

The Government of Montenegro adopts the Law on Strategic Environmental Assessment (SEA) in 2005, setting 2008 as a deadline by when the law becomes legally-binding.

Meantime, the Ministry of Economic Development made a draft in 2007 of the NEDS of Montenegro up to 2025 which, among other things, envisaged construction of 4 cascaded watergates/dams on the river Morača. In the framework of the development of the National Energy Development Strategy (NEDS), UNDP Montenegro commissions in agreement with the Ministry of Economic Development a Strategic Environmental Assessment of the draft NEDS, completed in August 2007. The draft SEA⁶⁶ concludes that important pitfalls are present in the NEDS and states that the “SEA findings do not support aspects of suggested Draft National Energy Development Strategy”.

In particular, it concludes that the proposed Morača hydropower scheme consisting of 4 dams would not be economically viable unless additional water from UN protected Tara River were diverted into Morača.

Furthermore, it cannot be regarded as a sustainable option and would seriously compromise Montenegro’s growing status as an Ecological State, in addition to running counter to the principles of many of the international conventions to which Montenegro is a signatory. It also suggests making further investigations and considering other options before taking the final decision to build the four dams on the Morača River.

The Ministry for Economic Development does not endorse the SEA conclusions and fails to formally approve this document prepared by well known Land Use Consultants.

The NEDS was adopted in December 2007 just several days before the Law on SEA and its compulsory requirement that preparation and approval of SEA must precede the adoption of strategic planning documents becomes effective. NEDS was adopted despite the UNDP commissioned SEA’s findings, many critical comments submitted during the public hearings by the civil society, international organizations and Mr. Clive Rumbold (Acting Head of the European Union Delegation to Montenegro) and ignoring the unfavorable comments on the Spatial Plan of Montenegro by 2020, that is still being finalized.

⁶⁶ Document available on: <http://www.undp.org.me/files/reports/ee/NEDS%20White%20Paper%20Review%2012%2003%2008%20ENG.pdf>

Adopted NEDS endorses the Morača hydropower project (HPP) consisting of 4 dams: Andrijevo, Raslovići, Milunovići and Zlatica; more specifically the High Andrijevo Dam Option I, generating annually 700GWh.

In parallel, a Spatial Plan of Montenegro by 2020 is developed by the Government of Montenegro, proposing the construction of four dams on the Morača River assuming as baseline data from the 1970s. In the course of public hearings, comments are provided by international organizations and local NGOs, with the view to improve the spatial plan in general and Morača hydropower scheme in particular. The Spatial plan was adopted in March 2008 without a SEA. At that time though the Government was obliged by law to assess the plan by SEA.

According to the Action Plan adopted in October 2008, the potential impact of dams on the Morača River and Lake Skadar are supposed to be assessed through a SEA that is to be approved by the Ministry of Environment Protection and the newly established Agency for Environmental Protection. Just one month after the Ministry for Economic Development launches an invitation for expression of interest for the construction of the hydropower plants on the Morača River and signs a success fee based advisory services agreement with the International Financial Corporation (IFC) to help structure and implement a concession tender for Morača HPP. In the context of the same agreement, IFC sub-contracts the following international consultants: (i) technical consultant to prepare technical, economic and financial analysis of the project; (ii) legal adviser to carry out legal due diligence and to help design the concession tender documents and implement the respective transaction; and (iii) PR consultant.

In 2009, the Government of Montenegro contracts a local consultant to draft a “Detailed Spatial Plan for Hydropower Projects on the Morača River” (DSP) based on the High Andrijevo Project Option I. The Government of Montenegro also contracts an international consultant COWI to carry out a “Strategic Environmental Impact Assessment (SEA) on the DSP.

In February 2010, the Government publishes a pre-qualification tender for the award of concession based on a Build – Operate – Transfer (BOT) model inviting interested investors to submit their bids by 30 April 2010 for development of hydropower plants Andrijevo, Raslovići, Milunovići, Zlatica - High Andrijevo Dam Option I.

The Government reserves the right to foresee in the tender documentation the possibility for qualified bidders to propose alternative solutions for the project. However, this self approved discretionary prerogative is in collision with the Article 7 of the Concession Law and NEDS which specifies very precisely which 4 hydropower plants can be built⁶⁷.

The Montenegrin Concession Law requires that DSP, SEA and Concession Act to be adopted prior to initiating such selection procedure, after a compulsory public consultation on technical, economic, financial, legal, social and environmental aspects of all project options, a crucial step which never took place. Four bidders has been selected.

1. Sinohydro Corporation Limited, China
2. ENEL S.P.A., Italy
3. Consortium, A2A S.p.A., Italy – EPCG AD Nikšić, Montenegro
4. Strabag International GmbH, Germany

⁶⁷ Government of Montenegro (2007) *NEDS*, page 39 Table 5: New power plants according to Scenario of „moderate construction“.

Civil society organizations issue public statements warning that such early launch of the tender might be in collision with the letter and spirit of the Concessions Law. They claim that without the Concession Act, which contains:

"Parameters for assessing the economic viability of the investment; justification for achieving the public interest by awarding a concession, containing indicators that such concession is capable of providing the public interest and the analysis of possible alternatives for delivering the services concerned; indicators that the planned concession is capable of ensuring an appropriate value for money; analysis of the assessment and balancing of risks between the Grantor and the Concessionaire; consideration whether the Grantor should have a stake in the concession company concerned (type and proportion of such stake); environment protection measures; draft concession agreement and other elements relevant for granting a concession"

i.e. without cost benefit analysis, it is not possible to conduct an informed debate on the viability of this large project and on the draft DSP and SEA (see next paragraph). Preparation of the above information is a compulsory requirement stipulated in the Article 18 of the Concessions Law. Under the circumstances, NGOs call on the Government of Montenegro to adopt and publish promptly a draft Concession Act, and to extend accordingly the public hearings on SEA and DSP, as well as the deadline for pre-qualification of potential investors. The Government ignore these demands.

5.2. Public consultation process for Detailed Spatial Plan (DSP) for accumulation on the Morača River and Strategic Environmental Impact Assessment (SEA) for DSP

The Government of Montenegro on 18 February 2010 adopted the draft of Detailed Spatial plan and the draft of the Report on strategic evaluation of impacts for multi-purpose accumulations on the river Morača. Previously, Council for hydroelectric power plants construction on the Morača adopted the final draft on that document on 16 February 2010. Thus, the conditions for sending the plan to public hearing/discussion, i.e. further legal procedure were met and these activities were performed by publishing the drafts of these documents on the site of Ministry of Environmental Protection and Spatial Planning and by organizing processes of public hearings for both documents in the period from 15 March to 13 April. Public hearing on DSP (Detailed Spatial Plan) for multipurpose accumulation on Morača River was conducted by the authority competent for plan and programme preparation, i.e. Ministry of Environmental Protection and Spatial Planning. Besides the information on the beginning of public hearing given on the web site of the competent Ministry, the public was given information about time and schedule of the public hearing by the advertisement in two daily newspapers as well.

Also, within public hearing at the press conference held on 19 March the competent authority presented Morača Catchment area DSP Draft and Climate Model of Hydro-meteorological Service of Montenegro and round tables within the public hearings were announced.

Public hearings organized by the competent authority are:

- University of Montenegro (23 March 2010)
- Municipality of Podgorica (24 March 2010)
- Municipality of Kolasin (26 March 2010)
- Montenegrin Academy of Sciences and Arts (CANU)

Besides these public hearings the competent authority has organized two workshops with local people of Morača and Rovci area – in the monastery Morača and Medjurjecje, at the location where future infrastructures are planned and with an aim of informing the local public.

During the first public hearing Metropolitanate of Montenegro and Littoral also organized the assembly dedicated to the risks of dam construction for the monastery Morača (25 March 2010) in order to pay attention to insufficiently analyzed question of cultural heritage with special focus on the preservation of the monastery Morača as a historic cultural monument. Also, the non-governmental organizations gathered within NGO for Sustainable Development Forum, led by NGO Green Home and NGO Greens of Montenegro organized public hearing on 31 March in order to present common opinion of Ecological NGO Department of Montenegro on the issue of possible dam construction on Morača River. The representatives of the competent institutions and media from Montenegro attended this hearing as well.

Based on the Law on SEA, the authority competent for plan and program setup, i.e. Ministry of Environmental Protection and Spatial Planning is competent for the making of reports on the participation of authorities and organizations interested in the public hearing which should contain opinion of the interested authorities and organizations as well as the opinion delivered during public inspection and public hearing about Report on Strategic Evaluation (Article 20). The Report is produced within 30 days from the end day of the public hearing and it contains an explanation of all accepted and declined opinions, it is delivered to the person who processes the Report on Strategic Evaluation of Impacts to the Environment and it is published on the web site of the competent authority.

Accordingly, the competent authority published the report about organized public hearings for DSP and SEA on 17 November 2010 with a delay of 7 months in relation to deadline imposed by law and just one day before the termination of the public hearing for Concession Act which was underway. Reports on DSP and SEA have been posted on the GoM web site⁶⁸.

Key concerns, questions, comments and requests posted by the civil society in the public debate was not addressed and commented in the report by the Ministry, although this is a legal obligation.

Despite fact that DSP and SEA was not finalized and that reports from public debates on SEA and DSP conducted in spring 2010 are still was not published, Ministry of Economy prepared draft Concession act for Morača dams. On 20 September the Government of Montenegro submits for a 25 day public consultation a draft Concession Act that proposes 3 different options to the preselected bidders, the Option I being the initial one (High Andrijevo Dam 285msl) proposed in the Detailed Spatial Plan for Hydropower Projects on the Morača River and two additional options never submitted to any SEA or a public hearing process.

The Option II is the same system of dams, except that the Andrijevo Dam would be slightly lower (250 msl) and would generate 616 GWh.

The Option III allows the tender participants to propose their own (alternative) project solution which is different from the previous two. The only parameter describing the alternative Option III is that it has to be more favorable with respect to economic benefits and environmental impact compared to Options I and II.

In this case the definite technical solution for the hydropower plants on the river Morača, as well as their power and expected annual generation, should be determined upon selection of the concessionaire.

⁶⁸ Documents are available at: <http://www.mrt.gov.me/pretraga/100900/IZVJEStAJ-SA-JAVNE-RASPRAVE-O-STRATEsKOJ-PROcJENI-UTICAJA-NA-zIVOTNU-SREDINU-DPP-ZA-PROSTOR-VisENAMJENSKIH-AKUMULACIJA-NA-RUJECl.html>

The Draft Concession Act was based on findings of an unfinished and “independent” study commissioned from the local Mediterranean University on the macro-economic impact of Options I and II (since Option III will only be known upon tender conclusion, if/when selected as the preferred bid).

However, the Mediterranean University denies authorship of this document. Well known economist and university professor Milenko Popovic, the intended project leader of this report, states to daily Vijesti that he withdrew from the project after being asked by government officials to act in an unprofessional manner and produce a biased report in favor of the project.

In the interview, he claims to have seen all available studies, including those prepared by international (IFC) consultants, and states that none of them contains the standard cost benefit analysis for a project of this type. Government then admits that its full-time employees prepared the macro-economic impact report.

During this public consultation process NGOs and CSOs complains that the tender process is not transparent, since the two new project options have not been presented at the previous public hearings on DSP and SEA. They also warn that this is in collision with the Concession Law (articles 7 and 18), according to which every officially endorsed project option must undergo public consultation before the tender is launched

In addition, they note that the draft Concession Act is incomplete. No explanation is provided why the Option I (High Andrijevo) has been kept although numerous arguments presented during public debates denied its validity. Among else, the document does not indicate how much the project(s) will cost the taxpayers, even though the law explicitly requires that this figure be stipulated.

Also missing is the analysis demonstrating that the planned concession secures public interest, value for money, and the balancing of risks between the grantor and the concessionaire. Although the Government repeatedly announced in the preceding months that draft Concession Act will address many unknowns – the document does not list the necessary measures to protect the environment and achieve energy efficiency. It is expected – that these will be proposed by the future concessionaire!

Following public criticisms that a number of concession documents were missing, on 2nd November the Government submits for 15 day consultation the draft Concession Agreement and the draft Sponsor Agreement. Reports on DSP and SEA are still not published at this point.

The new documents reveal that the state bears the costs of expropriation and protection of the Monastery, but this participation is not restricted and is not precisely defined as required by law, since the state kept the option to provide additional financial support to the concessionaire in other forms.

NGOs called again on the Government to publish the missing information and analyses of consultants, to reconcile the implementation of the concession procedures with the law and make it transparent, to take into account public comments, make the necessary changes in the project description and concession documents, and submit these in the corrected form, together with reports of earlier debates, for public review and inputs before proceeding with the tender.

The Government of Montenegro adopts the Concession Act and other concession documents on 18 November 2010, leaving the civil society without time to assess the reports on public hearings made available the day before.

Since the reports on public hearing for DSP and SEA have not been disseminated earlier, Montenegrin public and other potential investors have not been aware for 7 months that, among else, the Italian company a2a, consortium partner/bidder, stakeholder and manager of the majority state owned power utility EPCG submitted the following comments in March/April:

- i) Project's investment costs are significantly under-estimated, while the average annual power generation of is over-estimated (thus confirming NGO suspicions that the project is not viable to the investor without heavy state subsidies)
- ii) Relocation of existing highway should be postponed until the planned Podgorica Matesevo section of Bar – Boljari motorway is built (taxpayers should build the extremely expensive Podgorica Matesevo motorway, so that the concessionaire can afford to build the HPP)
- iii) project development area, as defined in DSP and SEA, should be significantly expanded to cover the whole area upstream from Zeta's outfall to Morača (covered by EPCG technical studies and designs prepared over last 40 years, but not accessible to other bidders).

Potential investors have not been aware during the Pre-qualification tender phase that A2A proposed and GoM adopted in the same month a suggestion for significant expansion of the project development area, because the Government did not publish until 17 November the comments on SEA and DSP.

This non-transparent act has resulted in discrimination of other potential investors who might have had interest to participate in the tender had they been aware of this option. This has reduced potential competition in the concession tender. In other words, the tender did not abide by the principles of transparency, non-discrimination, and competition embedded in the Article 3 of the Law on Concessions.

Anyhow tender process is continued and the pre-qualified bidders are given 6 months to submit their bids, until 30th April 2011. In the meanwhile, in December 2010, two of the pre-qualified bidders, the Austrian company Strabag and the Chinese company Sinohydro officially withdraw from the tender.

But in April 2011 upon request of two qualified bidders left, A2A and Enel, deadline for submission of bids has been extended until 30th September 2011. On 30th September Ministry of economy announced that tender has failed since no one submitted offer.

5.3. Participation and contribution of NGOs to the documents quality and public hearing processes

The public hearing on DSP and SEA, organized in the period from 15 March to 13 April 2010, drew considerable attention of the public and media due to, first of all, the great engagement of the domestic and international non-governmental organizations interested in environmental protection and with an aim of motivating the public to involve in the decision making process. NGO Green Home in cooperation with WWF MedPO parallel to the process of the public hearing on DSP and SEA organized the campaign "Pamet u glavu – plan na popravni" which aim was to draw attention of the expert and ordinary public to the insufficiently analyzed issues of the negative impacts of this project on the biodiversity and communities in the canyon of Morača, but downstream to the Skadar Lake as well. The campaign message was the necessity of change to the envisaged Governmental plan for the exploiting of the river Morača hydro-potential. The campaign was joined by ecological and other NGOs from Montenegro (total of 62 NGOs) and thus the

campaign was one of the greatest campaigns of the civil society since the time of River Tara preservation in 2004.

During the one-month campaign a great number of meeting, events, street performances was organized. Also, the signing of a petition for the changing of plan was organized and approximately 15,000 signatures of the citizens of Montenegro and the region were collected.

The signatures together with the comments and suggestions prepared by NGO Green Home and WWF MedPO as well as by other numerous civil society organizations were delivered to the competent authority prior to the ending of the public hearing.

By making analysis of the report on public hearing prepared by the competent authority as well as the questionnaires made for the purpose of this analysis, comments delivered by NGO Department concerning quality SEA for Morača could be defined as:

1. SEA has not anticipated and estimated alternative solutions.
2. Impacts on the waters are not estimated taking into consideration principles and requests of Framework guideline on waters
3. Impacts on biodiversity are not completely estimated considering EU requests and request of domestic regulations on environmental protection
4. Estimation of advantages and disadvantages of the plan solution (construction of 4 hydropower plants) and not building of the planned facilities is in most of cases exceedingly biased, sometimes even meaningless
5. Giving positive rating to the DSP, in spite of the fact that two areas of key impacts (hydrology and biodiversity) lack data necessary for estimation, is disputable
6. Consideration of climate change impacts and effects on the plan solution is a very disputable point
7. Inadequately processed environmental protection measures
8. Projected parameters related to tourism development being unviable.
9. Absence of relevant economic analysis (cost-benefit analysis)

One of the basic remarks on the quality of the public hearings for SEA and DSP for 4 hydroelectric power stations on the river Morača outlined in the questionnaire during making of this analysis is that civil society organizations were not consulted or contacted by the Relevant Ministry or the processor of DSP and SEA while making its draft. All NGO representatives who took part in the survey expressed their opinion that the process of making plans and estimations of impacts on environment, in the case of dams on Morača had been quite non-transparent, that CSOs had no insight into the method and phases of plan processing and estimations of the impacts. The basic source of information was media writing as well as the conversations with the colleagues from the civil sector

Certainly this cannot be viewed positively if we really want to satisfy the principle of involving the public and the consultations with all interested parties so as to reach consensus on such important matters.

Other negative sides of the public hearing process outlined by NGOs representatives could be defined as: insufficient transparency, data inaccessibility and analysis of consultants as well as data manipulation, followed by a poor media campaign, low quality of completed studies as well as not publishing the public hearing results for 7 months after its ending which had a negative impact on tender process and the future public hearings that followed.

Here the emphasis should be placed on the wide consensus and agreement on the issue of quality of data available during public hearing. Namely, both representatives of the civil society and representatives of the institutions who had been interviewed for the purpose of this analysis, agreed that quality and accessibility of data whether from biodiversity or social economic area were very poor and they did not satisfy the necessary quality level.

The most common positive points of the public hearing in the questionnaire are: active participation of the public and civil sector; great media interest and their considerable contribution, great number of comments delivered by expert and general public; great number of discussions, round tables and events organized during the public hearing process. We stress here that the institutions' representatives interviewed by the questionnaire, unlike CSOs, outlined that the public hearing process was transparent. The disagreement of public and state government institutions in view of public hearings quality is evident in the numeric rating itself, where the institutions' representatives gave highest marks to the public hearings, while grade 2 prevailed in the assessment of the CSOs representatives.

There is also agreement on the assessment of participation and engagement of the public and its contribution which was marked by the highest grades (average was 4,14) by all representatives with a note that the number of organizations which took active part could have been bigger.

VI. RECOMMENDATIONS

In the light of the analytical review conducted above, the following recommendations can be made for a sound revision of the National Energy Development Strategy by 2025 (NEDS), and more generally for the improvement of energy policies and governance in Montenegro:

6.1. On the overall policy orientations to be reflected in the revised NEDS

- Montenegro's energy policy should be defined in accordance with its status of "Ecological State" enshrined in the country's Constitution and integrated with other sectoral strategies (e.g. tourism, agriculture, etc.) to foster sustainable development. This means a comprehensive energy needs assessment should be conducted for the whole country and that export-oriented energy options be reviewed so as to fit the country's sustainable development objectives. A sound energy policy with a "good mix" building on energy efficiency and RES should prevail to foster development that is sustainable from an environmental, social and economical perspective.⁶⁹
- Moreover, Montenegro, as an official candidate to EU accession, will be more and more integrated into the single European energy market, which is the ultimate purpose of the ECT, and will open to the regional energy market in 2015. This means Montenegro has to further align its legislation with the "*acquis communautaire*" in matters of energy, but also climate change, environment and water as well as in the fields of governance and market functioning. More efforts need in particular to be made with regard to adopting secondary legislation and achieving implementation/enforcement of the legal and regulatory framework. This is particularly true and relevant for the third internal market package and the Directives on RES and EE.⁷⁰
- Montenegro must also comply with its relevant international commitments in matters of environmental protection, public information, transboundary cooperation, climate change etc. and seek their optimal implementation.

6.2. On the improvement of the Action Plan

On the basis of the weaknesses listed in Chapter IV, the AP should be revised or a new AP developed taking into account the following suggestions:

- Firstly, the AP should comply with the EU regulation on water management, the Water Framework Directive (Directive 2000/60/EC). In order to align to article 4.7 of the WFD, the AP should therefore:
 - § Anticipate the starting time of "programme of development of renewable energy sources (hydro potential excluded)" (currently supposed to start after the HPP and TPP construction processes are initiated);
 - § Delay the starting time of new HPPs to wait for the result of the above mentioned programme. Only when the programme studies are ready, and hence information available on the full potential and cost of solar (potentially very high) and wind power, the new plants should get started IN CASE they result to be the least environmentally damaging at the lower possible cost;

⁶⁹ International Energy Agency (IEA) (2008) *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.

⁷⁰ Ibid.

- § Tie the construction of dams to the highest possible environmental standards in dam siting, designing, and operation management by aligning to one of the most advanced green hydro criteria, as for example “Green Hydro”⁷¹ from Switzerland;
 - § Envisage the start up of a national certification scheme on hydropower plants, starting with a pilot project, and building up on best possible EU experiences (E.G. Naturemade);
 - § As part of the “programme for hydro potential use ” (CC 5) envisage a process for identifying areas of national and/or international importance for biodiversity that the government commits to protect from disruption (no go areas) due to water infrastructures development.
- Secondly, in the revised or new AP, priority with regard to resources, efforts and time should be given to retrofitting existing plants and implementing energy efficiency/saving measures; and only when these measures are exhausted should the need for new projects be assessed and identified new projects potentially be planned and go ahead.

6.3. On energy efficiency

- Montenegro needs to take advantage of its enormous energy saving/efficiency potential. EE remains the economically, socially and environmentally best alternative to energy production, with huge opportunities. Energy savings contribute significantly to the stimulation of innovation, employment and economic growth, with relatively small investments.⁷²
- To enable the application of the national Energy Efficiency Law and Action Plan passed in 2010, the adoption of all secondary legislation must be completed in due diligence.⁷³ Moreover, Montenegro needs to start procedures for amending the Law on Energy Efficiency to transpose the new EU obligations until the year 2013.
- An complementary step would be to upgrade the capacity and scope of the existing Energy Efficiency Unit and to create an inter-ministerial co-ordination mechanism.
- In addition to existing EE planning activities and accompanying measures, Montenegro's revised NEDS/Action Plan should include measures that actually increase EE in public buildings and revise the related budget accordingly.

6.3.1. In industry

- The measures foreseen for the refurbishing, retrofitting and upgrading of existing industrial and energy infrastructure (as e.g. for Pljevlja TPP) under the current NEDS should be implemented and financing sought more actively with potentially interested IFIs to this purpose.
- Moreover, further incentives need to be developed and implemented to reduce energy wastage by large industrial consumers, such as the KAP aluminum plant.
- EIAs should be conducted for the foreseen infrastructure refurbishing and upgrading activities and before issuing new/renewing licenses.

⁷¹ The “Green Hydro” concept was developed in the context of a multidisciplinary case study in the Southern Alps of Switzerland. The concept guarantees both general standards for different schemes operating in different types of watersheds and flexibility for local particularities. C. Bratrich et al. 2004. “Green hydropower: a new assessment procedure for river management”. *River Res. Applic.* 20: 865–882.

⁷² Nenezic, M. (2011) Presentation on the «Implementation of the 1st National Energy Efficiency Action Plan 2010-2012». Ministry of Economy, Montenegro. 11th Energy Efficiency Task Force Meeting.

⁷³ Markovic, M., Xhitoni, A., Hakani, L., Dakic, M., Kalaba, I., Tankosic-Kelly, G., ... , Klauschen, A., *Fairer, Cleaner, Safer - Towards a more sustainable, people centered approach to energy development in South East Europe*, Sarajevo-Podgorica, 2011

- National authorities should provide for more stringent operation standards in terms of safety and environmental protection, monitor their implementation and define enforcement measures/incentives.
- For obsolete infrastructure that cannot be upgraded and has become an economical and/or environmental liability, gradual phase out should occur and alternatives sought.

6.3.2. In buildings

- The EU Directive on EE in buildings should be completely transposed and implementation should start as soon as possible. National authorities should seek further financing from potential donors/IFIs and develop incentive packages (e.g. fiscal instruments) for citizens and private sector to speed up implementation.

6.3.3. In transports

- Ministries in charge of energy and transport sectors should consult and jointly develop a strategy towards sustainable transports (including the development of an integrated public transport system in densely populated urban areas and along the coast and relevant infrastructure such as a national railway system or a tramway for the city of Podgorica), that would alleviate import dependence on liquid and fossil fuels and reduce overall energy consumption from the transport sector.⁷⁴
- Montenegro should elaborate a strategy for sustainable cities/towns, encouraging citizens to use alternative means of transport, such as public transport and bicycles.⁷⁵

6.3.4. In transmission and distribution networks

- There is a highly recognized potential for significant energy savings in the transmission and distribution networks that the revised NEDS should address with even further attention.
- Montenegro in cooperation with its neighboring countries needs to start elaborate a strategy for the development of smart grids in the region, that could be eventually be connected to the internal energy market of the EU. In this regard, appropriate feasibility studies and cost-benefit analyses, taking into account environmental and social costs, should be conducted.

6.4. On renewable energy sources

- Overall, according to requirements of the EU RES Directive vis-à-vis the signatories of the ECT, Montenegro should set itself a target of 30% for its share of RES in the national energy consumption by 2020, which means an increase of 7% compared to 2005.⁷⁶
- Further efforts should be made towards setting up a regulatory environment that would foster the increased use of RES in all sectors, as required by the EU renewable energy *acquis*.
- However, in the case of Montenegro, this should not necessarily mean developing further hydropower, as it is also important to take into account environmental and social sustainability in the decision-making. Moreover, from an energy security point of view, it is wiser to combine different energy sources to avoid potential difficulties if one source should be scarce (e.g. drop in hydropower generation due to lack of precipitation and water scarcity). Therefore, it is important to plan for a good energy mix of RES and EE.

⁷⁴ For more details, see Section 3.2.

⁷⁵ International Energy Agency (IEA) (2008) *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.

⁷⁶ IPA Energy + Water Economics et al. (2010) *Study on the Implementation of the New EU Renewable Directive in the Energy Community*. Edinburgh.

6.4.1. On large hydropower

- While there is still a high theoretical potential for hydropower development in Montenegro according to the national energy authorities, it is recommended that this potential be adequately assessed taking into account the social, environmental and economic feasibility, in full consideration of all costs, including environmental and social ones, to determine the realistically sustainable potential.
- As foreseen in the NEDS, priority should be given to rehabilitating, retrofitting and enhancing existing HPPs to increase their generation capacity, according to Best Available Techniques (BATs) and Best Environmental Practices (BEPs), and to incorporate environmentally-friendly devices and solutions.
- A more thorough analysis of the investment costs in HPPs should be done, including a comparative analysis with other RES as well as EE options and taking fully into account environmental and social costs to make sure that planned projects' costs are reflected in a realistic manner.
- Bearing in mind the significant social and environmental impacts of large hydropower projects, such projects should only be developed in accordance with internationally recognized norms and standards, based notably on the recommendations of the World Commission on Dams report⁷⁷ and similar initiatives⁷⁸, as well as in compliance with relevant EU legislation, including on environmental protection.
- No HPP should be built in or affect environmentally sensitive areas, notably Ramsar or otherwise protected natural sites.

6.4.2. On small hydropower

- Small hydropower installations should not be considered in isolation. Although there might be potential for this energy source, it is important to bear in mind that their energy output per installed capacity is much less than that of large hydropower and that they might have important cumulative impacts on the environment, which makes them overall economically less competitive.

6.4.3. On solar, wind and geothermal energy

- Since from all the countries of the region, Montenegro has the highest – and this means a significant – solar energy potential, all types of solar energy need to be given more incentives to spread its use, including economic and fiscal incentives (e.g. feed-in tariffs, tax deductions, etc.) to make it more competitive.
- Using thermal energy generated by the sun is a simple, cost-effective solution for water heating in buildings and needs to be supported by the national authorities through appropriate eco-incentive schemes.
- National authorities in charge of energy should seek to further explore, assess and develop the country's geothermal energy potential and invest, as appropriate, in relevant infrastructure, according to BATs and BEPs.
- Fiscal and economic incentives should be given for the installation of photo-voltaic panels on private and public buildings, especially in remote, mountainous areas that are not connected to the

⁷⁷ The World Commission on Dams (2000) *Dams and Development: A New Framework for Decision-Making*, London.

⁷⁸ See notably: the IHA Hydropower Sustainability Assessment Protocol (see: www.iha.org) and freshwater ecosystem prioritisation methodologies in: Meng, J., Klauschen, A., Antonelli F., Thieme, M. (2011) *Rivers for life: The case for conservation priorities in the face of infrastructure development*. Berlin: WWF Germany.

grid. To this effect, the technologies with the most sustainable/environmentally-friendly life cycle should be chosen or at least promoted.

- Opportunities for developing wind energy should be assessed more thoroughly, bearing in mind environmental and social impacts.
- National authorities should assess employment that can be created through investing in solar, wind and geothermal, and in particular whether there is room to develop domestic expertise and industry in this sector.

6.4.4. On bio-energy

- Bio-fuels as a RES should be considered with care due to their global implications for food security and biodiversity (see Chapter III).
- The potential of biomass from domestic forest and plant residues as a RES for Montenegro should be examined and a comparative analysis looking at advantages and short-comings done before deciding on its development.

6.5. On conventional energy sources

- As a country rich in RES and bound to EU legislation on both RES and EE, Montenegro should avoid as much as possible new investments in power plants fueled with conventional energy sources such as oil, coal and gas, since their combustion is harmful for the climate and public health. Moreover, the financial resources saved in this manner could be invested in cleaner and more sustainable types of energy sources instead, as well as in energy efficiency measures and/or clean transport (infrastructure) projects.
- From the aforementioned three categories, gas is the 'cleanest'; therefore it could be used as a transitional fuel, especially for transports and heating, until more appropriate, RES-type combustibles are available or transport infrastructure is adjusted.
- Coal reserves should be used cautiously to secure energy security in the long term.⁷⁹
- Use of oil and petrol by-products should be progressively reduced, and if possible phased out, from industrial production processes and power generation. This is the more recommended than oil reserves worldwide are diminishing constantly, pushing prices of this conventional fuel up.

6.6. On effective governance in energy policy related decision-making

6.6.1. On the application of the existing international and EU legal framework on public participation

- As a party to the Aarhus Convention, Montenegro should make sure that its public authorities guarantee Montenegrin citizens proper access to information, to public participation and to justice in environmental matters.
- Montenegrin citizens and concerned stakeholders should also be thoroughly involved at all stages of the conduction of EIAs and SEAs, as required by the relevant EU Directives and EU legislation relative to public participation. Any consultation or participation process should be assessed against its qualitative and quantitative involvement of the public and the degree of decision-making power.

⁷⁹ See comments regarding related commitment on p.23

6.6.2. On the conduction of public hearings

The quality of public hearings should be significantly improved, notably by:

- providing essential participation of the public in early stages of making of the strategic documents, who should be consulted from the very beginning of the process, and not only after publishing of final document draft for which the public hearing is held.
- paying special attention to the data quality and not organizing discussions on the documents, the data of which do not satisfy the quality level required for quality and purposive public hearing
- providing the necessary level of data accessibility and not publishing new and unconfirmed data during the process of public hearing itself
- improving the transparency level of the process and documents for which the discussion is held, and not basing it on data which are not available to the public
- finding the model for improving motivation of the public in order to have it involved more actively in public hearing process.
- considering the possibility of prolonging duration of public hearing in relation to the deadline stipulated by the Law on Strategic Environmental Assessments.

6.6.3. On good governance and transparency in the water and energy sector

- The Government of Montenegro should provide further support to the energy administration (ministries and agencies) and ensure its capability to employ and retain highly qualified personnel.
- The Government of Montenegro needs to make more efforts in ensuring transparency of the planning and transactions with regard to infrastructure development, if it wants to secure the trust of civil society.
- Such efforts could consist of voting in Parliament as well as more direct public involvement in decision-making processes (e.g. through referenda) when it comes to issues of national interest and strategic importance.
- Capital and operation expenditure costs for projects should be evaluated ex ante, during and ex post and also be made public.

CONCLUSIONS

Conducted analyzes showed that SRE and AP since the adoption in 2007 until today failed to meet the objectives and plans since in the most of planned projects are late more than 2 years, while for some there is no indication that will be realized at all. This indicates on the fact that SRE with Action plan (AP) for the period 2008 – 2012 is not well planned well in the beginning, while planned deadlines for its realization are not realistic, on what the foreign experts and civil sector indicated during its adoption.

The reasons for these problems in realization must be sought among others in: (i) in the fact that during the preparation of NEDS 2007 was avoided to assess this document with the Strategic Impact of Environmental Impact Assessment, which, which proved to be an important issue in the case of the recently completed tender procedure for the HPPs on the Morača River; (ii) ignoring statements, comments and suggestions of the public and of independent experts, which warned of the poor conception of the NEDS and unrealistic estimates, (iii) the unfavorable financial and economic situation on the global market; (iv) the non compliance with the priorities set in the AP with regard to project development (for e.g. TEP2 and HPP Komarnica which are late more than 4 years, and which NEDS and AP prioritized compared to other projects).

In order to avoid this in the future, the Government and the Ministry for Economy would need to provide more staff for managing and regularly monitoring the implementation of the AP to adequately and in due time solve all questions which refer to particular programs and projects and to introduce all necessary corrective measures. Also, such deviation from the accepted AP from 2008 and NEDS until 2025 must be taken into consideration when updating/setting forward the NEDS even in the late phase, for the preparation of new Action plan for the period 2012-2016 (AP-2012).

Updating and upgrading the NEDS until 2030

According to the available data the Ministry of Economy already started the activities on the updating the NEDS of Montenegro and Action Plan. Once the terms of reference for this project were agreed, financial support was secured from the EU Delegation to Montenegro to finalize the project's first phase which aims at the revision of the “Energy Development Strategy of Montenegro until 2030”.

The first phase of the project would consist of drafting a new NEDS, which should be subject to a Strategic Environmental Assessment (SEA) in a second phase, before being endorsed as a final document and then completed by an Action Plan for the following period of 5 years (2012-2016) (third phase of the project).

In this sense, in the process of updating NEDS it is necessary to improve NEDS in the part of its compliance with acquis of EU, since there is a little overlap with the requirements of EU in practice, particularly in the part of by-laws hindering the implementation of the existing legal framework. Energy policy in Montenegro should be defined in accordance with its status of ecological country validated in the Constitution of Montenegro and integrated in other sectoral strategies (e.g. tourism, agriculture) with aim to encourage the sustainable development. This means that a comprehensive assessment of energy needs to be done for the whole country and to examine options export oriented energy in order to effect their integration into sustainable development objectives of the state. Rational energy policy should prevail with a “good mix” which is based on energy efficiency

and sustainable energy sources, in order to stimulate development that is sustainable from environmental, social and economic perspectives.

It is necessary to pay special attention on the obligation from the strategy which regards to „Rational and wisely use of hidro energy potential on the basin of River Morača, Komarnica, Lim, Piva, Tara, Zeta, Ibar and Ćehotina, with full respect of applicable declarations of UNESCO, decisions of Assembly of Montenegro and the principles of sustainable development“. Naimly, it is very risky taking into count any use of hydro-energy potential of rivers as Tara River, which are under the high level of protection because of the fact that any kind of use implies impacts on environment. Moreover, when it comes to hydro-energy, potential impacts on upstream and downstream impacts on important ecosystems should be assessed before bringing any kind of decision.

Last but not least innovated NEDS should be assessed with SEA so that the environmental issues could be integrated through quality organized public debate for its adoption in order to establish dialogue and achieve the consensus that lacks in 2007 during its adoption.

Adapting to the global context

Whatever the direction the Government of Montenegro will take, it will seriously need to consider the global context in which it evolves. The world is characterized by a growing population – in 2011 we reached 7 billion people on the planet – putting an ever increasing pressure on natural resources, including conventional fuels, water, food crops, etc., which are limited. Thus, in a context of increasing resource scarcity, Montenegro, *inter alia*, would gain, as explained notably by the EEA⁸⁰, in investing more in resource efficiency and savings, including in the energy sector.

Montenegro needs to take advantage of its enormous energy saving/efficiency potential. EE remains the economically, socially and environmentally best alternative to energy production, with huge opportunities. Energy savings contribute significantly to the stimulation of innovation, employment and economic growth, with relatively small investments. Beside the planed EE and accompanying measures, revised NEDS should include measures which allow real increasing of EE public institutions, and consequently revise connected budget.

In this context it should be observed that our analysis and its recommendations and conclusions can contribute in creating and choosing the most optimal model for the further development of energy that would reconcile goals and environmental needs and demands of the future development of Montenegro respecting the needs and interests of its citizens.

⁸⁰ <http://www.eea.europa.eu/themes/economy/resource-efficiency/resource-efficiency>

REFERENCES

- Bergasse, E. (2003) *What energy policy for South East Europe?* in Public Service Review: European Union/IEA. Available from: <http://www.oecd.org/dataoecd/49/17/34477045.pdf>
- EBRD (2008) *Securing sustainable energy in transition economies*.
- European Commission, COM (2010) 639 final, *Energy 2020: A strategy for competitive, sustainable and secure energy*.
- European Commission, COM (2011) 105 final, *Report from the Commission to the European Parliament and the Council under Article 7 of Decision 2006/500/EC*.
- European Commission, COM (2011) 112 final, *A Roadmap for moving to a competitive low carbon economy in 2050*.
- European Commission, COM (2011) 31 final, *Renewable Energy: Progressing towards the 2020 target*.
- European Commission, COM (2011) 666, *Montenegro 2011 Progress Report*.
- Energy Community Secretariat (2010) *Annual Report on the Implementation of the Acquis under the Treaty for Establishing the Energy Community*. Vienna.
- European Commission (2011) *Energy Statistics: EU Energy in figures and fact sheets*.
- Government of FYR Macedonia (2008, 2009) *Energy balances 2008 and 2009*. Skopje.
- Government of Montenegro (2007) *Energy Development Strategy of Montenegro by 2025 – White Book*. Podgorica: Ministry of Economy.
- Government of Montenegro (2008) *Energy Development Strategy of Montenegro by 2025 – Action Plan 2008-2012*. Podgorica: Ministry of Economy.
- International Energy Agency (IEA) (2010) *World Energy Outlook 2010*. Paris: IEA. Available from: <http://www.iea.org/Textbase/npsum/weo2010sum.pdf>
- International Energy Agency (IEA) (2008) *Energy in the Western Balkans – The path to reform and reconstruction*. Paris: IEA Publications.
- IPA Energy + Water Economics et al. (2010) *Study on the Implementation of the New EU Renewable Directive in the Energy Community*. Edinburgh.
- Klauschen A. (2009) *Water for energy in the Western Balkans – An environmental and political issues paper*. Geneva: University of Geneva.
- Markovic, M., Xhitoni, A., Hakani, L., Dakic, M., Kalaba, I., Tankosic-Kelly, G., ... , and Klauschen, A. (2011) *Fairer, Cleaner, Safer – Towards a more sustainable, people centred approach to energy development in South East Europe*. Sarajevo-Podgorica: SEE Change Network.
- Meng, J., Klauschen, A., Antonelli F., Thieme, M. (2011) *Rivers for life: The case for conservation priorities in the face of infrastructure development*. Berlin: WWF Germany.
- Ministry of Economy, Labour and Entrepreneurship of Croatia (2007) *Energy in Croatia 2007: Annual Energy Report*. Zagreb.
- Nenezic, M. (2011) Presentation on the «*Implementation of the 1st National Energy Efficiency Action Plan 2010-2012*». Ministry of Economy, Montenegro. 11th Energy Efficiency Task Force Meeting. Vienna: Energy Community. Available from: <http://www.energy-community.org/pls/portal/docs/904183.pdf>
- Vujosevic, I. (Prof., Ph.D.) *A brief background not on the power sector reforms in Montenegro*. Podgorica: University of Montenegro.
- World Commission on Dams (2000) *Dams and Development: A New Framework for Decision-Making*. London: Earthscan Publication Ltd. Available from: http://www.rivernet.org/general/wcd/wcd_overview_english.pdf
- WWF, Ecofys, OMA (2011) *The Energy Report: 100% Renewable Energy by 2050*. Gland, Switzerland: WWF. Available from: http://wwf.panda.org/what_we_do/footprint/climate_carbon_energy/energy_solutions/renewableenergy/sustainable_energy_report/