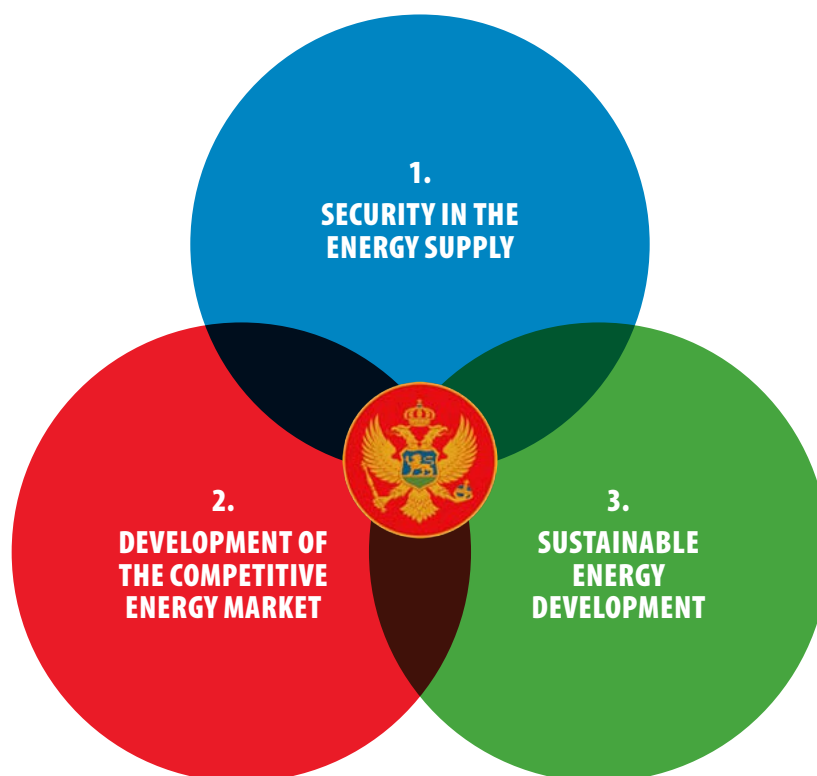


# REVIEW OF THE STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE DRAFT ENERGY DEVELOPMENT STRATEGY IN MONTENEGRO BY 2030



*Placing Sustainability at the heart of the Energy Development Strategy*



South East Europe  
Sustainable Energy  
Policy

**Prepared by Peter Nelson**

Principal; Planning Green Futures

For:



And

All Stakeholders in Montenegro, and the Trans Boundary Countries with interests in  
the Montenegro Energy Strategy until 2030

**8<sup>th</sup> June 2013**



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# REVIEW OF THE STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE DRAFT ENERGY DEVELOPMENT STRATEGY IN MONTENEGRO BY 2030

## INTRODUCTION

This review was commissioned on 14<sup>th</sup> April 2013 by a group of NGOs led by Green Home, MANS and WWF – World Wide Fund for Nature, and co-funded by SEE Change Net<sup>1</sup> through the EC funded regional CSO programme entitled South East Europe Sustainable Energy Policy (SEE SEP)

The purpose of the review and this report is to assist the Non-Government Organisations in Montenegro in fulfilling their roles as stakeholders during the course of public consultations on the Draft Energy Development Strategy (DEDS) and the Draft Strategic Environmental Assessment (SEA) of the DEDS.

The report:

- Provides an independent expert opinion on the content and quality of the SEA,
- Highlights strategic issues relating to energy, environment, and social and economic conditions that are considered relevant within the internationally agreed aims of Strategic Environmental Assessment.

Part One of this report reviews the quality and content of the SEA, while Part Two sets out recommendations for its improvement in accordance with the requests for public comment provided by the Ministry of Economic Planning.

The review has been conducted by Peter Nelson, an independent SEA Practitioner and Reviewer over a period of three weeks from the beginning of May, 2013.

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1 SEE Change Net – Fondacija Mreža za promjene Jugoistočne Evrope – Rrjeti për Ndryshimin e Evropës Juglindore.

## **ABOUT THE REVIEWER**

### **Peter Nelson MA; MSc; Dip TRP; MRTPI**

Peter is an environmental scientist, town and regional planner and international expert in Environmental Impact Assessment and Strategic Environmental Assessment. He is a member of the International Association of Impact Assessors.

He holds academic and professional qualifications in geography, hydrology and environmental conservation from the Universities of Cambridge and Salford in the UK, and in town and regional planning from Leeds.

Peter has worked in local government and in private consultancy. He spent 35 years undertaking EIAs and SEAs as a consultant, Principal and Director of Land Use Consultants, London. He now runs his own international consultancy, Planning Green Futures. Peter's work has included EIAs and strategic studies on all economic sectors, including economic development of natural resources, energy, mining and transport, urban development town planning, tourism agriculture and fisheries.

Since 1996, Peter has specialised in Strategic Environmental Assessment and he has lead more than 20 SEAs in the United Kingdom, South Africa, Gibraltar, Ghana, Montenegro, Kenya, Tanzania, Malawi and Sierra Leone for governments, the World Bank, UNDP, and NGOs including WWF.

Peter was external examiner in EIA and SEA postgraduate courses at Manchester and Oxford Brookes Universities in the 1980's-90s and has taught EIA and SEA methodology at seven universities, including the Central European University, Budapest. He was a technical advisor on the OECD-DAC Guidance for SEA in Developing Countries and co-edited the latest book on Good Practice.

Peter is currently the environmental specialist on the Independent Panel of Reviewers for the Joint Multi-Purpose Dams studies on the Blue Nile led by ENTRO and the World Bank.

He is also principal advisor on an SEA for the Tana River Basin in Kenya and recently completed the SEA on Offshore Hydrocarbons development for Sierra Leone.

Peter knows the energy and development issues of Montenegro well, having led the SEA teams responsible for preparation of the 2006 SEA of the National Spatial Plan, a review of the 2007 Energy Development Strategy, and the SEA of the Tourism Master Plan. He has also advised on the development of SEA in Albania.



## PART ONE

# REVIEW OF THE OVERALL CONTENT AND QUALITY OF THE SEA

## INTRODUCTION

The SEA has been reviewed using a template, which is derived from the Montenegro Law on SEA and guidelines prepared by the following professional bodies:

- EU, 2005 (The SEA Manual; Source Book on Transport Infrastructure Programmes),
- OECD, 2010 (Applying Strategic Environmental Assessment); incorporating The International Association for Impact Assessment (IAIA), 2002 (SEA Performance Criteria).

The source material for the review template is contained in Annex 2.

All reviews are inevitably subjective but, by using a standard template and performance criteria, the findings can be replicated and judged by the reader. Evidence used in formulating the review is quoted in the second part of this report.

## OVERVIEW

The review recognises that, taking all factors into consideration, a serious effort has been made by the authors of the Draft SEA to produce a credible document in a very short timescale. Overall, however, the SEA fails to present a convincing picture of the complex mix of environmental, social and economic issues that need to be resolved by the Government of Montenegro in taking forward its energy strategy to 2030. Some of the shortcomings that are identified by the review can be ascribed to the unrealistic timescale allowed for the SEA and the complexity of the issues to be explored. However, the SEA also concentrates too much attention on the baseline and relatively minor issues in the first two thirds of the document. It fails to get to the heart of the strategic elements until the closing chapters. A further significant concern about the objectivity of the SEA is that some of the key conclusions that were reached in the March Consultation Report have been deleted in the subsequent April Edition, without explanation.

A weakness of the current draft of the SEA is that it focuses largely on a review of the SEA objectives (rather than the primary aim of the SEA, which is to focus on the Energy Development Strategy). It also deals largely with areas of environmental risk relating to individual energy sources (which is a legitimate and important part of the SEA requirements) at the expense of neglecting other important aspects of the EDS on the development and management of an integrated energy network, energy efficiency and conservation, district heating needs etc.

The SEA analysis and assessment of environmental issues is sometimes partial and subjective and an unintentional bias is occasionally introduced where environmental concerns are referred to as 'obstacles' to realisation of the EDS when, in fact, the issues of environmental protection in question are stated policies of the Government and are enshrined in Montenegro's constitution as an ecological state.

The SEA also suffers from a constraint, which was introduced unintentionally through the process of selection of the consultants. The introduction to the SEA gives a clear explanation of the circumstances under which COWI (Norway) came to be appointed to undertake the SEA as a quite separate legal en-



tity from COWI (Denmark) who were part of the consortium preparing the draft Energy Development Strategy (DEDS).

Section 1.4.1 of the SEA states:

**“No cooperation has been, or will be, made with COWI Denmark in the preparation of the SEA in order to comply with Article 16 of the SEA Law of Montenegro.”**

Unfortunately, the Terms of Reference for the SEA, which also form part of the SEA Law, are very specific in requiring the authors of the SEA:

**“to cooperate with the team which prepares the Strategy in all phases of the preparation of the SEA report , as well as with the competent Ministry”**

It is evident, from reading the SEA and the Draft Energy Development Strategy in their entirety, that the COWI Norway team responsible for the SEA have lacked the opportunity of discussing many of the critical issues affecting the formulation of the DEDS with their colleagues and in consequence have failed to address some key issues that are formally required in the Terms of Reference relating to social and economic impacts.

Notwithstanding these critical remarks, the Draft SEA does provide a good review of current legislation and the environmental baseline in Montenegro. It also refers to important matters relating to alternatives and offers advice that the ‘Reference Scenario’ outlined in the EDS has been adopted prematurely without adequate consideration of one of the alternatives.

The Consultants state that their own assessment of alternatives has been constrained by shortage of finance and lack of time. However, there is a need in all SEA work to balance time and budget and these are not adequate reasons for the lack of attention to reasonable alternatives as specifically required under EU requirements (see Box 1) which have been transposed into Montenegrin Law – the onus for assessing reasonable alternatives rests with the SEA managers, not with the promoter, and in this respect the Draft SEA is defective.



## BOX 1 : STRATEGIC ENVIRONMENTAL ASSESSMENT



The SEA Directive applies to a wide range of **public** plans and programmes (e.g. on land use, transport, energy, waste, agriculture, etc). The SEA Directive does not refer to policies. The SEA Directive is in force since 2001 and should have been transposed by July 2004.

The SEA procedure can be summarized as follows: an environmental report is prepared in which the likely significant effects on the environment and the reasonable alternatives of the proposed plan or programme are identified. The public and the environmental authorities are informed and consulted on the draft plan or programme and the environmental report prepared. As regards plans and programmes which are likely to have significant effects on the environment in another Member State, the Member State in whose territory the plan or programme is being prepared must consult the other Member State(s). On this issue the SEA Directive follows the general approach taken by the [SEA Protocol](#) to the UN ECE Convention on Environmental Impact Assessment in a Trans-boundary Context.

The environmental report and the results of the consultations are taken into account before adoption. Once the plan or programme is adopted, the environmental authorities and the public are informed and relevant information is made available to them. In order to identify unforeseen adverse effects at an early stage, significant environmental effects of the plan or programme are to be monitored. The SEA and EIA procedures are very similar, but there are some **differences**:

- the SEA requires the **environmental authorities** to be consulted at the screening stage;
- **scoping** (i.e. the stage of the SEA process that determines the content and extent of the matters to be covered in the SEA report to be submitted to a competent authority) is obligatory under the SEA;
- the SEA requires an assessment of reasonable **alternatives** (under the EIA the developer chooses the alternatives to be studied);
- under the SEA Member States must **monitor** the significant environmental effects of the implementation of plans/programmes in order to identify unforeseen adverse effects and undertake appropriate remedial action.
- the SEA obliges Member States to ensure that environmental reports are of a sufficient **quality**.

SOURCE: [EC.EUROPA.EU/ENVIRONMENT/EIA/SEA-LEGALCONTEXT.HTM](https://ec.europa.eu/environment/eia/sea-legalcontext.htm)



# SUMMARY OF THE DRAFT SEA REVIEW FINDINGS

The detailed review of individual sections of the SEA is given in Part Two, but the results have been summarised in the checklist reproduced in Figure 1.

**Figure 1 CHECKLIST FOR REVIEW OF THE DRAFT SEA**

RELEVANT CRITERION	MEASURE OF PERFORMANCE					COMMENT
	-2	-1	0	1	2	
<b>Available Information</b>						
Was the information provided by the SEA adequate from the point of view of the Reviewer		Yellow		Green		A mixed standard has been achieved – some parts are excellent, others are very poor
Has sufficient information and analysis been offered to support all conclusions drawn?			Grey			The conclusions – such as they are – are supported but key issues are ignored
Has information and analysis been presented so as to be comprehensible to the non-specialist, using maps, tables and graphical material as appropriate?		Yellow		Green		The Draft EDS is not analysed and presented. Trans boundary presentation is poor
Are all the important data and results discussed in an integrated fashion within the information?		Yellow	Grey			Hard data on the Draft EDS is very limited
Has superfluous information (i.e. information not needed for the decision) been avoided?		Yellow				The baseline is unnecessarily long (e.g soils)
<b>Cooperation and stakeholder participation</b>						
Has there been effective participation between the SEA team and those responsible for developing the Draft EDS?	Red					None – to avoid conflict of interest
<b>Description of the SEA procedure in the report</b>						
Has the purpose of the SEA been described with a mention of the regulations which underpin the SEA process and document		Yellow	Grey			Law is well covered – but principles of SEA are ignored
Is the scope of the SEA discussed?		Yellow	Grey			Yes in an Annex – but with no elaboration in the text
<b>Objectives used for the SEA</b>						
Have the substantial objectives used for the SEA been described and defined, quantitatively where appropriate			Grey	Green		Yes – although subsequent application is open to challenge
Does the SEA report identify and describe any conflicts that exist between the objectives and the Draft Energy Development Strategy		Yellow	Grey			Tables are presented in an Annex but there is no substantive analysis.
<b>Alternatives</b>						
Have different alternatives (including the “non”-scenario) been analysed and compared?	Red	Yellow	Grey			A very limited but inadequate and partial assessment is undertaken. A key alternative has been deleted without explanation
<b>Content of the SEA and assessment of environmental impacts</b>						

Is there an adequate description of baseline conditions?						Well covered – sometimes in too much detail
Is there a detailed analysis of the key issues arising from the Energy Development Strategy?						A partial analysis is undertaken on KAP – but there is no analysis of energy efficiency and related EDS objectives
Have prominence and emphasis been given to severe adverse impacts, to substantial environmental benefits, and to controversial issues?						The framework for analysis exists but results are poorly recorded
Is the information objective?						Not consistently.
Is an effort made to prioritise those effects that most affect sustainability?						The results are not convincing
Are the methodologies for assessing environmental impacts described?						There is a good description of methods but the conclusions from summary tables in the Annexes is not used effectively in the body of the report
Is the full range of positive and beneficial and negative impacts addressed?						Yes in tables – but not in the critical overview and summary
Where there are uncertainties in assessing impacts and assumptions have been made, are they justified and the worst-case scenario used?						No – invariably the most optimistic outcome is identified
Are mitigation measures clearly described that will prevent, reduce or remedy any significant adverse effects on the environment in implementing the Energy Development Strategy?						The descriptions are good but the prospect of preventing environmental damage is very low.
<b>Planned Follow-up Activities and Implementation</b>						
Are the indicators for monitoring clearly defined? And, are they based upon the original baseline information and on the objectives of the Energy Development Strategy and the SEA?						A good attempt has been made to define monitoring requirements
Are the links to other potential follow-up procedures specified e.g. project EIA, design guidance etc.?						There is a very good section on responsibilities
Are clear recommendations given to the promoter of the Energy Development Strategy?						Original advice and guidance has been deleted from the latest draft
<b>Are outcome indicators defined?</b>						
Is there an evaluation plan (with adequate budget and clearly assigned responsibilities) so that the sustainability focus of the SEA can continue beyond the planning phase?						This aim is identified but not addressed within the SEA

## Key to the Checklist

Column 1 contains a list of review questions compiled from international sources. The Columns headed 'Measure of Performance' are scaled from – 2 to +2:

+2 task has been very well performed with no errors or omissions

+1 task has been performed to a reasonable standard with only a few errors/ omissions

0 task has been completed to broadly acceptable standard but with errors/omissions

-1 Task has been completed poorly, with significant errors or omissions

-2 Task has not been undertaken or is substantially below standards expected.

The final column sets out the Reviewer's opinion.



## Next Steps

The matters raised in this review will be discussed and debated through the process of public consultation on the draft EDS and the draft SEA.

The SEA Consultants will then prepare a Report on Consultations within 15 days following the closure of the public debate.

Thereafter, a final SEA report will be prepared by “correcting the draft SEA report to make it compliant with comments from the public hearing”, within 30 days from completion of the public hearing.

Critically, the Final SEA Report will be evaluated and approved by the competent Ministry within four weeks from its delivery.

An extended version of the Checklist has been prepared below In order to assist all stakeholders in reviewing the outcome of the Final SEA Report and to check whether the issues raised in this review (and their own concerns) have been properly addressed.

**Figure 2 CHECKLIST FOR REVIEW OF FINAL SEA OF THE ENERGY DEVELOPMENT STRATEGY**

RELEVANT CRITERION	MEASURE OF PERFORMANCE					COMMENT
	-2	-1	0	1	2	
<b>Available Information</b>						
Was the information provided by the SEA adequate from the point of view of the key stakeholders (NGOs /Civil Society)?						
Was the information provided by the SEA adequate from the point of view of the Ministry of the Environment / EPA?						
Was the information provided by the SEA adequate from the point of view of the promoter?						
Have the remarks provided by external authorities and the general public been taken into account						
Has sufficient information and analysis been offered to support all conclusions drawn?						
Has information and analysis been presented so as to be comprehensible to the non-specialist, using maps, tables and graphical material as appropriate?						
Are all the important data and results discussed in an integrated fashion within the information?						
Has superfluous information (i.e. information not needed for the decision) been avoided?						
<b>Cooperation and stakeholder participation</b>						
Have the shortcomings arising from the lack of participation between the SEA team and those responsible for developing the Draft EDS been satisfactorily resolved?						
Has a full description of the scoping stage and methods been provided in an opening chapter to the SEA?						
<b>Description of the SEA procedure in the report</b>						
Has the purpose of the SEA been described with a clear introduction to the methodology in the opening chapter to support mention of the regulations which underpin the SEA process and document?						
Has a full description of the scoping stage and methods been provided in an opening chapter to the SEA?						

<b>Objectives used for the SEA</b>						
Have the substantial objectives used for the SEA been described and defined, quantitatively where appropriate and modified in response to consultation?						
Does the SE report identify and describe conflicts that exist between the objectives and the Draft Energy Development Strategy in the main text of the report as well as in annexes?						
<b>Alternatives</b>						
Have different alternatives (including the “non”-scenario) been properly analysed and compared by the SEA Consultants and included in the Final Report?						
Has a programme been agreed between the promoter of the EDS and the SEA Working Group for continued review of alternatives to the reference strategy?						
<b>Content of the SEA and assessment of environmental impacts</b>						
Has the baseline section of the SEA been edited to reduce superfluous material?						
Has the list of key issues arising from the Energy Development Strategy been refined to cover all of the concerns raised by consultees in the public meetings?						
Has the prominence and emphasis given to severe adverse impacts, to substantial environmental benefits, and to controversial issues been adequately refined?						
Is the information in the final report objective?						
Does the final SEA report prioritise those effects that most effect sustainability?						
Is a fully balanced list of environmental impacts carried forward into the report from the Annexes?						
Is the full range of positive and beneficial and negative impacts addressed?						
Where there are uncertainties in assessing impacts and assumptions have been made, are they justified and is the worst-case scenario used?						
Are mitigation measures clearly described that will prevent, reduce or remedy any significant adverse effects on the environment in implementing the Energy Development Strategy?						
<b>Planned Follow-up Activities and Implementation</b>						
Have proposals for mitigation made during the consultation period been taken into consideration in the final report?						
Have the links to other potential follow-up procedures specified e.g. project EIA, design guidance etc. been extended as a result of the consultation process?						
Are clear recommendations given in the SEA to the promoter of the Energy Development Strategy?						
Has the promoter of the EDS given a clear response to recommendations in the SEA?						



## PART TWO

# DETAILED REVIEW OF THE DRAFT SEA AND RECOMMENDATIONS FOR ITS ENHANCEMENT

### **PRESENTATION OF INFORMATION**

The content of the Draft SEA Report is reviewed first, and this is then followed by a summary of recommendations.

In the interests of objectivity, the content in each section of this report is clearly distinguished using the following definitions:

*Statements of fact* are either direct quotations from the draft SEA, highlighted in blue, or paraphrased extracts from the report.

*Commentary and Observations* represent the opinion of the reviewer

*Recommendations* are based on the professional judgement of the reviewer.

The analysis follows the same sequence as the draft SEA with chapters identified in blue. Sub-headings are also in blue, unless they form part of the review commentary, in which case they appear in black.



## 1 – INTRODUCTION

### 1.1 – Background

This section described the background to the Energy Law, Policy and Draft Energy Development Strategy. It also introduces the role and function of the SEA and relationship with other programmes.

**COMMENTARY:** The opening section of the report starts with a description of the Energy Policy and draft EDS, with no explanation of the status of the report, the reasons for its preparation or what it seeks to achieve.

**RECOMMENDATION:** A new introduction is needed to set the context before starting to describe the Energy Development Strategy so that members of the public are given a clearer understanding of the SEA's relevance.

### 1.2 – New Energy Policy

**COMMENT:** The SEA correctly describes the new Energy Policy as an innovative document and notes that the 'strategic directions and development paths of the energy sector in Montenegro by 2030 will need to be defined in the (draft) EDS. Unfortunately this requirement is not followed through in the SEA itself, which adopts an uncritical view of the main strategic issues.

**RECOMMENDATION:** A direct reference should be made to the 'strategic directions and development paths of the energy sector' at an appropriate point in the SEA. This could be in the introduction to SEA or under the discussion of alternatives.

### 1.3 – Breakdown of the draft EDS

The objectives and various components of the draft EDS are identified and the key reforms that are needed. These reforms are described as:

1. Long term development objectives and guidelines for development of supply and meeting energy demand, while taking into account technological, economic and environmental protection criteria;
2. Developing Energy infrastructure, encouraging use of renewables and increasing energy efficiency;
3. Long term protection of the total energy balance of the country;
4. Other objectives relating to the Law on Energy
5. Tentative financial resources for implementing the strategy.

**COMMENT:** The Draft SEA Report focuses all of its attention in the first 123 pages on the potential sources of energy supply (part of reform 1 above), and only considers the other factors (reforms 2-5) that give rise to potential alternative strategies in Section 8 (Do Nothing Option) and Section 9 (Analysis of Alternatives) which extend to 12 pages in total. This analysis is very superficial and is not considered to meet the requirements of the SEA Law and EU Directive.

#### 1.3.1 – RATIONALE FOR UPDATE AND UPGRADE OF DRAFT EDS

This section of the SEA provides a good summary of the reasons for updating the EDS and contains some important observations, including the fact that Montenegro imports 100% of all liquid fuels. However, the conclusions are not built into the subsequent analysis in the SEA.

The report confirms that the Draft EDS needs to be harmonised to address the following issues:

- Dynamics of construction of large thermal (TPP) and hydro power (HPP) plants;
- Planning and accelerated construction of small hydro power (SHPP) plants and wind farms;



- New detailed assessments of other renewables (biomass, solar energy, municipal waste);
- Assessment of delays in construction and reductions in regional energy capacities;
- Recognition of international cooperation opportunities based on the planned 400kV submarine electricity cable between Montenegro and Italy and interconnections with Bosnia and Herzegovina (BiH) and/or the Republic of Serbia;
- The effects of unbundling EPCG AD, increasing the capital of the Transmission company CGES AD and other organisational reforms;
- Emphasising the importance and role of energy efficiency in Montenegro's Energy Policy;
- Determining a National Target for utilization of renewable energy sources;
- Reviewing the State's position on introduction of natural gas and a potential connection to the Ionian-Adriatic gas pipeline (IAP), and,
- Clearer recognition of the energy sector role in emission of greenhouse gases.

**RECOMMENDATION:** The SEA should comment on which of these issues is relevant under SEA legislation – specifically taking into account Article 2, objective 4 of the Montenegro SEA Law, which states: “The objectives of SEA are as follows: (4) provide for sustainable development”.

### 1.3.2 – GOALS AND STRATEGIC ENERGY COMMITMENTS OF MONTENEGRO BY 2030

The goals, priorities for action and 20 key strategic objectives are reproduced directly from the draft EDS document.

**COMMENT:** The entire content of the draft EDS, which runs to 171 pages, plus annexes, is summarised in 2 pages, with the addition of an extracted table. There is no analysis of the content of the strategy or explanation of which elements will be reviewed by the SEA.

It is normal practice for an analysis of the plan, programme or strategy to be undertaken as part of a scoping exercise.

**RECOMMENDATION:** A new chapter should be added (based on the current Annex) clearly setting out the SEA methodology and giving a detailed analysis of the EDS contents and elements that are of critical importance to the environment and interlinking social and economic factors.

## 1.4 – The need for SEA

**COMMENT:** The explanation given in the report for the ‘need’ for SEA focuses entirely on the legal requirement, rather than the underlying goals of SEA, which are to improve the sustainability of development, activities and quality of decision-making on plans and programmes, as set out in both the Montenegro Law and European Directive.

**RECOMMENDATION:** A paragraph should be added spelling out the internationally accepted reasons for undertaking SEA. These should include the SEA principles, which are clearly laid out in Article 3 of the Law.

### 1.4.1 – CONTRACTING SEA CONSULTANT

**STATEMENT OF FACT:** The SEA has been prepared by a team led by COWI AS and Partners from Norway, supported by COWI Serbia d.o.o. from Belgrade and the Regional Environmental Centre from Podgorica. The special circumstances under which COWI Denmark were hired to produce the Energy Development Strategy and COWI Norway were appointed to prepare the SEA are set out in sub-section 1.4.1, with the observation that in order to maintain the total independence of the SEA authors “**no cooperation has been, or will be, made with COWI Denmark in the preparation of the SEA**”.

**COMMENT:** As far as article 16 of the Montenegro Law is concerned, there is no conflict of interest in COWI (Norway) undertaking the SEA. However, the decision by COWI as authors of the SEA to have no contact with key members of the team who produced the Energy Development Strategy directly con-



tradicts a key requirement of the Terms of Reference for the SEA which is that the SEA authors should 'cooperate with the team that prepares the Strategy, in all phases of the preparation of the SEA report, as well as with the competent Ministry'.

It is clear that no discussion on the significance of key issues (or other relevant matters) took place between the SEA consultants and the team responsible for generating the draft Energy Development Strategy. Under these circumstances the robustness and credibility of the SEA is seriously weakened.

**RECOMMENDATION:** The Government should now review the situation and determine how the Final SEA can be completed in accordance with the Terms of Reference, which are a formal requirement under Article 11 of the Law.

#### 1.4.2 – CONTENT OF THE SEA

**STATEMENT OF FACT:** This Section lists the chapter headings of the SEA, which follow the sequence of articles in the Law, with the addition of a 'Do Nothing' option requested by the Working Group.

**COMMENT:** It is normal for an SEA to include a scoping stage in which the content of the relevant plan or programme is critically reviewed and the key components that warrant assessment are identified. There is no reference in the opening chapters to a scoping stage in this SEA and it is not known what method was used to identify key components. The components that are assessed in these sections are restricted to physical processes for producing energy.

There is a clear logic in the sequence of presentation of information, but the intelligibility of the document suffers from the lack of any explanation of the method followed. This would normally be included in the opening chapter of an SEA, or in a separate annex.

**RECOMMENDATION:** The method of approach and techniques used by the Consultant should be clearly set out at an appropriate point in the document, in accordance with Stages in the SEA Procedure, Article 8 (2) of the Law.

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#### 1.4.3 – RELATIONSHIP WITH OTHER PROGRAMS

**STATEMENT OF FACT:** A clear list of projects and programs is presented, together with some relevant and helpful observations on their potential effects on the Draft Energy Development Strategy. These include:

- Montenegro's potential engagement in the Ionian-Adriatic Gas Pipeline;
- Off-shore wind energy development, and,
- the submarine High Voltage Direct Current (HVDC) interconnection between Italy and Montenegro.

**COMMENT:** Unfortunately, the links between these strategic elements, which have a major impact on delivery of the preferred scenario of the Draft Energy Development Strategy or its alternatives, are not examined in the SEA assessment, which greatly reduces the value of the document and the hard work, which has been undertaken by the Consultant.

**RECOMMENDATION:** A new chapter should be added to the SEA to analyse the consequences and environmental effects of different outcomes to the programs described above.

## 2 – PROJECT CONTEXT

**STATEMENT OF FACT:** This section runs to a total of 44 pages. It describes the characteristics and environmental baseline according to the categories defined in the EU Directive and the Law.

### 2.2 – Environment

**COMMENT:** The content of this section is well written. It provides a comprehensive description of Montenegro's physical characteristics and environment. The description of climate change projections is particularly valuable. Unfortunately, a major weakness in the presentation is a failure to deliver what the title suggests – a description of the 'project context'. There is no recognition in this section of the trans-boundary significance of energy development including critical relationships of existing energy transfers between Serbia and Montenegro and the planned gas and electricity interconnectors with Albania Italy and other members of SEE. Trans-boundary linkages in terms of hydrology, biodiversity and human activity are referred to in passing in individual sub-sections but there is no positioning of the Montenegro Draft Energy Development Strategy in the South East European Region.

**RECOMMENDATION:** A new introduction to regional energy issues needs to be written which clearly identifies those geographical areas that are identified in the DEDS. Figure 2.1 should be replaced (or an additional map added) to show the regional context.

#### 2.2.1 – CLIMATE

**STATEMENT OF FACT:** This is a clear summary and no comment is required

#### 2.2.2 – CLIMATE CHANGE

**STATEMENT OF FACT:** The sub-section refers to a number of climatic models and provides predictions about future changes in climate that could affect elements of the DEDS.

**COMMENTARY:** It is not clear whether the modelling at Eta Belgrade University was undertaken as part of the SEA – this should be clarified. Many detailed predictions are made in this sub-section, which are not used, subsequently in the detailed assessments.

**RECOMMENDATION:** The consultants should review all climate change predictions listed on pages 10-11 and refer to these directly in later sections dealing with environmental risk.

#### 2.2.3 – AIR QUALITY

**STATEMENT OF FACT:** This sub-section gives valuable information about current levels of air-quality monitoring.

**COMMENTARY AND RECOMMENDATION:** Reference should be made in this section to issues of green house gas emissions, particularly from Thermal Power Stations – as a precursor for subsequent discussion on carbon capture and carbon trading which is a very important issue in the DEDS.

#### 2.2.4 – HYDROLOGY, WATER RESOURCES AND HYDROPOWER

The approach to this section is different from others. Instead of focusing on a description of the environmental baseline, the section starts to explore some of the technical and environmental issues relating to hydro power development.

The final paragraph states:

**“Despite the substantial hydro potential within the country there are many obstacles placed upon planners of future HPPs in Montenegro. The Tara River Canyon is protected as a UNESCO World Heritage Site. A recent proposal for harnessing the hydro potential of the Morača River is strongly opposed by some stakeholders”.**



The wording of this final paragraph is inappropriate in an independent SEA, (although it is possible that the original meaning of the sentence may have been lost in translation from Montenegrin to English). For a supposedly balanced assessment, these statements call into question the objectivity of the Consultants. Planners of HPPs need, as a matter of course, to evaluate all opportunities and constraints affecting the design of new projects, and most engineers recognise that there are practical limitations on realising the ‘technical maximum potential’ of all energy sources.

**RECOMMENDATION:** The facts should be stated as they are: For example:

*Calculation of the ‘theoretical’ maximum power generation from Montenegro’s rivers of 9,846 GWh, is made without reference to other water use requirements or protection of sensitive environments, including sections of river within protected areas. Increased use of hydro power needs to be balanced against social and environmental objectives for the same river systems.*

## 2.2.5 – GEOLOGY AND SEISMIC ACTIVITY

**STATEMENT OF FACT:** A description of geologic structure and rock types is given, with additional reference to the on-going Alpine orogeny leading to tectonic and seismic activity. A map is produced showing zones of seismic activity and their relative intensity.

The text states, that “for the developments proposed as part of the draft EDS, the hydropower installations carry the most risk to human life and property. The proposed dam sites for hydropower (Morača and Komarnica) are in lower zones of seismic activity (Zone VII) and they are designed to withstand such seismic shocks”.

**COMMENTARY:** This sub-section carries several errors. The first point to make is that two critical issues are combined in the second sentence – with lack of clarity in terms of what is actually meant.

Dam sites themselves cannot be designed to withstand seismic shock. It may be the case that measures have been incorporated into dam designs to reduce the risk of damage from seismic shock – or that dam sites have been chosen which are particularly resistant to earth tremors, or indeed that both measures have already been taken– but these are only a few of the key design issues to be considered. The risk that earthquakes could result in rock and mud slides into the reservoir basins – leading to water surges over the spillways and dam crests needs to be considered very carefully (and it is understood from the draft EDS that the size of the upper Morača reservoir has been reduced to avoid an unstable area). Analysis of whether or not dam designs and construction methods are safe is a matter for detailed technical study and the relevant EIA. It is inappropriate to conclude in an SEA that dams can withstand ‘such’ seismic shocks, without presenting the evidence. In addition it should be noted that there is an inconsistency between the statement given in 2.2.5 that Morača dam sites are in Zone VII, and the text in section 3.3.3 where the same dams are described as being “situated in Seismic Zone VIII and the risk of earthquakes with larger magnitudes increases in a southerly direction downstream”.

**RECOMMENDATION:** This sub-section of the SEA is describing baseline conditions and should simply state that potential hydro-electric dams and reservoirs are located in areas that are prone to seismic activity. A more detailed commentary on risk assessment and mitigation should be given in later sections of the SEA.

## 2.2.6 – MATERIAL ASSETS

**STATEMENT OF FACTS:** This section gives a detailed account of the different types of mineral resources found within Montenegro.

**COMMENTARY:** It is important to recognise the distinction in hydrocarbon exploration between recording a ‘discovery’ of oil or gas and confirming a ‘commercial find’. A discovery simply indicates that oil or gas has been detected in rock formations of a type that are capable of accumulating hydrocarbons, whereas a commercial find means that the prospecting company believes it will be possible to extract oil and/or gas economically.

## 2.2.7 – SOILS

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics

**COMMENTARY:** The levels of PCBs found in soil samples near Podgorica, Berane and Pljevlja are evidence of serious pollution from industrial and energy plants.

## 2.2.8 – PROTECTED AREAS

**STATEMENT OF FACT:** Reference is made to the fact that Montenegro has been declared as an ‘ecological state’ in the first article of the Constitution and with that it has given the highest priority to its natural resources.

**COMMENTARY:** This fact is ignored by the SEA in later sections where values are given to different components in Table 6.3 and subsequently in the introduction of weighing of alternatives. The formal position set out clearly in 2.2.8 invalidates conclusions drawn elsewhere in the SEA.

## 2.2.9 – BIODIVERSITY

**STATEMENT OF FACT:** The importance and significance of biodiversity zones within Montenegro is clearly stated in this sub-section.

**COMMENTARY:** No comments are necessary.

## 2.2.10 – ARCHAEOLOGY AND CULTURAL HERITAGE

**STATEMENT OF FACT:** The importance of cultural heritage to national identity and development is clearly stated.

**COMMENTARY:** The evidence of lack of attention and maintenance of the nation’s cultural heritage should be a matter of grave concern to the Government.

## 2.2.11 – LANDSCAPE

**STATEMENT OF FACT:** Landscape is an integral part of the natural resources that give Montenegro its special ecological status. These characteristics are described.

**COMMENTARY:** Greater attention will need to be given to care and management of the landscape if these assets are to be maintained with increasing development pressure.

## 2.3 – Socio-Economic

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics

**COMMENTARY:** No comments are necessary.

### 2.3.1 – DEMOGRAPHY

**STATEMENT OF FACT:** This sub-section describes different projections of population growth and discusses issues of ethnicity and migration.

**COMMENTARY:** The SEA should include a reference to the two forecasts of future population to 2030 presented by the draft NDS and express an opinion on whether the UN, Montenegro baseline or both sets of figures should be used for projecting final energy consumption.

### 2.3.2 – EMPLOYMENT

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.



### **2.3.3 – UNEMPLOYMENT**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.4 – POVERTY**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.5 – ETHNICITY AND RELIGION**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.6 – ADMINISTRATIVE REGIONS**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.7 – EDUCATION**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.8 – HUMAN HEALTH**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.9 – LAND USE**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.10 – ENERGY**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** The information provided in this sub-section (and in the draft NDS) provides the basis for subsequent assessment and does not need further elaboration here.

### **2.3.11 – FISHERIES**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.12 – AGRICULTURE**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

### **2.3.13 – TOURISM**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

#### **2.3.14 – MINING**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

#### **2.3.15 – OTHER INDUSTRY**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

#### **2.3.16 – TRANSPORT NETWORKS**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.



## 3 – AREAS AT RISK AND ENVIRONMENTAL CHARACTERISTICS

### Introduction

**STATEMENT OF FACTS:** This section of the SEA describes the location and environmental characteristics of the main development components in the Draft NDS. As the title and section notes, SEA Law; Article 15, clause 3, requires that areas likely to be exposed to significant risk should be identified and described.

**COMMENTARY:** Since this is the first occasion in the SEA where locations potentially affected by the Energy Development Strategy are described it would be helpful to summarise what proposals are envisaged at each location and why the location is identified as being at risk. This has been done for Morača, but not for other hydropower or thermal power developments.

For the most part, the sub-sections contain entirely factual information and comments are only made against them if the information is particularly significant to conclusions drawn later in the SEA.

### 3.1 – Coal Mines

**STATEMENT OF FACT:** There is no description of Berane coalfield.

**COMMENTARY:** This omission should be rectified. The Berane energy options have not yet been clarified sufficiently to determine what role this area might play during the period up to 2030. These issues should be explored in the SEA.

#### 3.1.2 – MAOČE (PROPOSED OPERATION)

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics

**COMMENTARY AND RECOMMENDATION:** Reference is made in the draft EDS to the possible need to relocate people on land to be used for coal extraction. This may be after the strategy's current period – but the information could be significant to any initial investment decisions and should be explored in the SEA.

### 3.2 – Thermal Power plants

**COMMENTARY AND RECOMMENDATION:** An additional sub-section should be added, describing the locational setting and environmental characteristics of the Berane area

#### 3.2.1 – PLJEVLJA (EXISTING OPERATIONS)

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

#### 3.2.2 – MAOČE TPP (PROPOSED OPERATION)

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** The issues relating to sources of coal to fuel the power station should be explored in the SEA.

### 3.3 – Hydropower Plants

#### 3.3.1 – PIVA HPP (EXISTING OPERATION)

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics. The text notes that the dam “is a very imposing visual impact; with an artificial reservoir incorporated into the natural landscape – the visual impact is not overpowering, but on the contrary reduces the rigors of the canyon”.



**COMMENTARY:** It is unfortunate that the objective evaluation of a large hydropower dam's characteristics as set out in this sub-section is not replicated in later sections in the SEA dealing with potential impacts from the Morača and Komarnica Canyon Dams.

There is no explanation as to why this existing dam and reservoir are regarded as 'at risk'.

**STATEMENT OF FACT:** The report notes that Piva dam lies within Seismic Zone VII and, – after the initial filling – increased seismic activity was noted from the surrounding region. "Filling and emptying the reservoir has activated more local seismogenic zones and manifestation of new focal points in the broad area of accumulation".

**COMMENTARY:** The issue of increased seismic activity following filling of a large dam deserves more attention in later sections of the SEA, which make no reference to this actual example in Montenegro.

### **3.3.2 – PERUĆICA HPP (EXISTING OPERATION)**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** There is no explanation of what aspects of the Perućica location are exposed to risk so the information given has limited value.

### **3.3.3 – MORAČA HPP (PROPOSED OPERATION)**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics for the four dams that form part of the proposed Morača cascade.

**COMMENTARY:** The text goes into considerable detail about adjustments to dam heights for the Andrijevo Reservoir – but there is no indication, through a map or diagram, of what this means in practice – or how the planned reservoir would impinge on areas of acknowledged environmental importance.

### **3.3.4 – KOMARNICA (PROPOSED OPERATION)**

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics, including an account of areas that would be flooded by a new reservoir.

**COMMENTARY:** It is impossible for the reader to form any opinion on the significance of the environmental risks, which have led to inclusion of this location because the map included refers only to Canyon Nevidio.

### **3.4 – SMALL HYDROPOWER PLANTS**

**STATEMENT OF FACT:** A description is given of the areas around two small existing hydropower plants on the Zeta River; the Slap Zeta and the Glava Zeta with a reference to the fact that another SHPP is proposed at Rošca.

**COMMENTARY:** This sub-section is seriously deficient in that it describes the environmental and locational characteristics of two existing plants but says nothing about the setting of many other small HPPs that will be built under the EDS.

### **3.5 – Wind Farms (proposed)**

**STATEMENT OF FACT:** Descriptions of baseline characteristics are given for the proposed wind farms at Možura and Krnovo.

**COMMENTARY:** This sub-section provides only limited and partial information on 'areas at risk'. It should refer directly to the analysis in the NDS of Montenegro as a whole, in terms of wind speeds and identify those areas, which have been described as having potential for wind power development.



### **3.6 – Ionian Adriatic Pipeline (proposed)**

**STATEMENT OF FACT:** The sub-section notes that routing of the proposed Ionian Adriatic Pipeline is still not decided.

**COMMENTARY:** There is no information of any value in this sub-section on this major international project, which, while the routing options remain open, should have featured as a major component of the SEA. There are some fundamental strategic choices involved affecting not just the environment but, critically, socio-economic development opportunities affecting the central and northern regions of Montenegro, which require proper assessment within the SEA.

### **3.7 – HVDC connection (high energy cable) MNE – Italy and transmission line**

**STATEMENT OF FACT:** This sub-section gives a purely factual description of baseline characteristics for the submarine cable and overland transmission lines.

**COMMENTARY:** An ‘artists impression’ is provided of the Cape of Jaz which is assumed to show a buried cable line. There is no explanation of why different regions of Montenegro are said to be at environmental risk – although reference to the NDS confirms that the purpose of the high energy cable is to link Montenegro and Italy and provide a connection to new or upgraded thermal and hydro-power stations by overland power lines forming part of the national grid. These power lines will pass through two national parks. This information should be stated clearly in this sub-section of the SEA.

## 4 – EXISTING ENVIRONMENTAL ISSUES FOR DRAFT EDS

### Introduction

**COMMENTARY:** While it is definitely a requirement of the Law that environmental issues are explored it is also a fundamental component of an SEA that an assessment of key issues is undertaken. International guidance on SEA stresses that where the effects on the environment, local economy or social conditions are uncertain, the worst case scenario should be described.

The text throughout this chapter fails to identify the core issues in a convincing manner since the conclusions reached by the SEA team are largely superficial, as illustrated in comments below.

### 4.1 – Existing Protected Areas

#### 4.1.1 – NATIONAL PARKS

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics for five national parks.

##### Skadar Lake National Park:

**COMMENTARY:** The report states, “From a review of the draft EDS, Skadar Lake could be influenced by the proposed HPPs on the Morača River”. This is a remarkably understated conclusion to what is accepted by all parties as being one of the most critical sustainability issues in the Energy Development Strategy, both for Montenegro and internationally. While there may be debate about the scale and nature of the impacts there is no doubt whatsoever that a hydropower cascade of dams on the Morača will affect Skadar Lake, which the SEA text states is of Global Importance.

##### Lovćen National Park:

**STATEMENT OF FACTS:** The sub-section indicates that Lovćen National Park could be ‘slightly affected by some planned activities including overhead power-lines in the vicinity and routing of the Ionian Adriatic Pipeline.

**COMMENTARY:** The level of analysis provided here does not allow the reader to draw any conclusions as to the significance or severity of effects that are being discussed.

##### Durmitor National Park:

The sub-section indicates that Durmitor National Park could be ‘slightly affected by some planned activities including overhead power-lines in the vicinity and construction of HPP Komarnica.

**COMMENTARY:** The same criticism of the SEA made in relation to Lovćen NP applies equally to Durmitor NP.

##### Biogradska Gora:

It is stated that this National Park will not be affected by any of the proposed activities associated with the strategy.

**COMMENTARY:** The question needs to be asked – has the SEA considered the full range of circumstances under which the coal reserves of the Berane coalfield could be exploited for energy generation and are there no proposals for small scale HPPs within the headwaters of the Tara and Lim rivers that could be developed in the timescale of the EDS to 2030?

##### Prokletije:

**STATEMENT OF FACTS:** It is stated that this National Park will not be affected by any of the proposed activities associated with the strategy.



**COMMENTARY:** The question needs to be asked –are there no proposals for small scale HPPs within the catchment of Plavsko Lake that could be developed in the timescale of the EDS to 2030?

#### 4.1.2 – NATURE RESERVES

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics

**COMMENTARY:** This sub-section gives a clearer picture of key issues than the preceding section on National Parks. However, the observation that five nature reserves associated with Skadar Lake **may** be affected by any rise and fall in lake level is not particularly helpful. As noted in relation to the information on Skadar Lake National Park – any change in the water level regime will have ecological effects and these may have socio-economic consequences as well. The text should be more positive and confirm that there will be effects.

#### 4.1.3 – NATURAL MONUMENTS

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** The same observations apply as are stated in relation to Skadar Lake (sub section 4.1.1).

#### 4.1.4 – NATURE PARKS

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** The importance of Nature Parks (and all other designations) should be stressed in the SEA with the observation that any works associated with the Energy Development Strategy over the next 20 years should respect their existence.

#### 4.1.5 – MUNICIPAL PARKS

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No new comments other than those for preceding sub-sections are necessary.

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### 4.2 – International Protected Areas

**STATEMENT OF FACT:** This sub-section lists the international conventions and related protected areas to which Montenegro is a formal signatory.

**COMMENTARY:** The information given is factually correct, but the SEA should emphasise the cumulative status of local, national and international designations and the added significance of any activities that might cause harm to their status.

### 4.3 – Planned Protected Areas

**STATEMENT OF FACT:** This short section highlights the importance of the EMERALD network of ecological sites linked with implementation of a number of European Directives and the Bern Convention; and describes work in progress on the development of Natura 2000 sites.

**COMMENTARY:** The SEA states that Montenegro is ‘currently not obliged to support Natura 2000’. However, as a candidate nation for European Union membership, Montenegro is expected to support all European activities under the Aquis agreement. It is an entirely normal process for any country’s legislation and designations to be reviewed and developed over time.

However the SEA concludes, in what appears to be a grudging and partisan manner, that:

“Clearly , upholding any obligations for Natura 2000 is going to be extremely challenging for Montenegro if it wants to pursue its energy strategy. However, this is the route necessary and Natural 2000 will be a legally binding requirement if Montenegro wants EU accession”.

A better way of expressing the same concern would be to state that “As part of its special status as an Ecological State under the constitution, Montenegro will wish to adopt a sustainable energy development strategy that fully respects the relevant international and national designations for nature conservation”.

#### 4.4 – Protected areas with trans-boundary characteristics

**STATEMENT OF FACT:** This sub-section gives a description of baseline characteristics.

**COMMENTARY:** No comments are necessary.

#### 4.5 – Bio-Corridors

**STATEMENT OF FACT:** This sub-section describes the concept of bio-corridors, which have both a national and international dimension, and stresses their importance. However the SEA text currently states, “from a review of the proposed activities associated with the draft EDS it can be concluded that none of the proposed main activities (i.e. HPP, TPPPS etc.) would negatively influence the proposed primary bio-corridors.

**COMMENTARY:** The conclusion in relation to impacts on National and Regional Bio Corridors may, or may not be, correct in relation to strictly defined limits of the reservoirs for Komarnica and Morača HPPs. Only a detailed analysis could answer this question. However ecosystems do not follow precise lines on a map and the likelihood of trans-boundary impacts is very high. In any event the SEA text states that “specific centres of flora, fauna and ecosystem diversity are related to significant refugial areas in canyons and gorges of which the most important are Tara, Morača, Piva, Lim and their associated tributaries and others as well as to the numerous caverns (due to the karst nature of the rocks)”.

Given this statement under the heading of 4.5 Bio-Corridors the SEA consultants should be asked to validate their conclusion that none of the HPPs (including Morača) will negatively influence the primary bio-corridors.

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#### 4.6 – Ecosystem as a component of spatial planning

**STATEMENT OF FACT:** The sub-section spells out lack of progress in implementing the Spatial Plan of Montenegro with respect to ecosystem management.

**COMMENTARY:** It is clear that greater emphasis needs to be given to this work as part of the national agenda and budget.

#### 4.7 – Coastal Zone

**STATEMENT OF FACT:** The information given in this sub-section on the coast and environmental issues is informative and very detailed.

**COMMENTARY:** No observations or conclusions are reached by the SEA report on impacts in the coastal zone. This is somewhat surprising given the location of the High Voltage Interconnector, wind farm development and impacts on water flows from Skadar Lake to the Adriatic.

#### 4.8 – Concluding Remarks

**STATEMENT OF FACT:** The report states that “In terms of already protected areas, the major developments associated with the draft EDS in general will not impinge upon the integrity of the assigned areas. There are conflicting opinions on Skadar Lake..”

**COMMENTARY:** If this is the conclusion of the SEA team in relation to a section entitled “Existing Environmental Issues for the EDS”, it is necessary to ask why the authorities who carried out the initial screening for an SEA under the terms of the Law, reached the conclusion that significant environmental effects are likely? In any event, later sections of the SEA contradict this conclusion and make it clear that there are significant adverse as well as beneficial effects



## 5 – ENVIRONMENTAL PROTECTION – RELEVANT LEGISLATION

**STATEMENT OF FACTS:** The section describes the institutional framework, discusses human resources, highlights the principle components of relevant laws, European legislation and International Conventions and Protocols, ending with a coherence check on the draft EDS in relation to other National Policies.

**COMMENTARY:** The first part of this section is very comprehensive and provides much valuable information. Unfortunately, however, the sub-section on the coherence of the EDS in relation to other government policies is very brief and restricted to two pages of text. This analysis, which is well covered in annexes, should have formed a substantial part of the main SEA report.

## 6 – IMPACT IDENTIFICATION / EVALUATION

### 6.1 – Introduction

**STATEMENT OF FACTS:** This section introduces the use of sustainability criteria and their relationship to SEA objectives. It then examines potential impacts of energy sources in relation to parameters derived from the Law and EU Directive. The summation of all the impacts is then ‘checked’ against the SEA Objectives followed by discussion, in sequence, of beneficial, Mixed-Neutral, and Adverse Impacts. The section concludes with a set of summary tables.

**COMMENTARY:** The reviewer has serious concerns with the methodology and logic that has been employed in this critical section of the SEA. The approach makes reference to international guidelines but does not reflect a basic requirement, which is to produce a user-friendly presentation. Instead the SEA findings are summarised in a series of overly complex analysis tables. The result is an academic synthesis which is more concerned with the compatibility of its own (SEA) objectives /indicators with other sustainability criteria – than with carrying out the basic task.

What was expected here was a straightforward assessment of the components of the Draft Energy Development Strategy in terms of the extent to which they comply with, are neutral or deviate from Montenegro’s own Sustainable Development Criteria, which are clearly set out in the Government’s policy on Sustainable Development (the National Sustainable Development Strategy, 2007).

Instead, there is a discussion about the relative performance of criteria at such a broad level of generality that the results have limited value. There is no conclusion to this section, or clear explanation of how the results have subsequently been used, although the authors acknowledge that a more detailed checklist had to be used for identification of impacts associated with the draft EDS

### 6.2 – Selection of Sustainability and SEA Objectives

**STATEMENT OF FACTS:** The methodology for developing sustainability criteria and SEA objectives is set out with reference to Annex 6 and 7.

**COMMENTARY:** There is no clear explanation of what the differences are between Sustainability Criteria and SEA Objectives since both are derived from the same source information and serve the same purposes. It is also not clear what purpose these criteria and objectives are supposed to serve in the subsequent analysis since they are applied only to each other (although later in sub-section 6.5, generic levels of impact for main components of the EDS are said to be checked against the SEA Objectives) .

### 6.3 – Comparing the sustainability criteria with SEA objectives

**STATEMENT OF FACTS:** This sub-section describes the process used to compare sustainability criteria with chosen SEA objectives, leading to a table (6.3), which purports to show relative sustainability levels.

**COMMENTARY:** For a public document, the text in this section is somewhat confusing, for example “**The next step required a cross comparison of the sustainability criteria with the chosen SEA objectives to assess the degree of coherence of a compared criteria with the SEA Objective**”.

Table 6-3 appears, on first inspection, to give an authoritative and convincing summary of strengths and weaknesses of SEA objectives compared with Sustainability Criteria. However, closer examination reveals that the level of generality presents a serious challenge. For example, the environmental goals set out under Sustainability Criteria are shown as performing very weakly (-2 orange in the table) against the economic goals listed under SEA Objectives. If however, one takes the first of the SEA Objectives “Promote growth of local and national GDP” and observes its emphasis on:

- completing a transition to a market economy,
- stimulating innovation and productivity,
- enhancing entrepreneurship,
- reducing the brain drain



It is not difficult to come to exactly the opposite conclusion to the one stated in terms of its effect on the environment. Each of these goals is, in the reviewer's opinion, entirely appropriate for promoting environmentally sustainable forms of development. Market economies are better able to respond to market opportunities (like the development of solar power) than state-controlled economies; Innovation supports new inventions and processes like ground heat pumps, increased productivity implies greater efficiency and energy-saving, enhanced entrepreneurship opens up new energy markets and the employment of people in environmentally sensitive industries reduces the brain drain.

Each of the interactions shown in this table is capable of being interpreted differently and the essential message, which emerges, is that the table is of little or no value in helping to decide what the nature of the environmental, social and economic effects of the Draft Energy Development Strategy is likely to be.

In an SEA of plans and programmes one of the key tasks is to compare the performance of the plan, programme or strategy (i.e. the Draft Energy Development Strategy) against other Government policies, plans and programmes. This has been covered in an Annex but with no comment on the findings or their significance in the main text of the report.

## 6.4 – Impact Identification for draft EDS main components

**STATEMENT OF FACTS:** A list of seven 'main components' of the EDS is given without explanation of the process for their selection. The report states that:

**“when assessing the impacts, the SEA Consultant has been impartial and has used qualitative “best judgement” for denoting values based on the information that has been made available”.**

**COMMENTARY:** An important step in scoping the content of an SEA involves studying the goals, aims and objectives of the Plan, Programme and Strategy and evaluating which elements are likely to have an effect on the environment, including social and economic linkages. It appears that the consultants have arbitrarily selected a number of energy development projects and discarded others that form an important component of the Strategy instead of taking a twenty year perspective for development of energy in Montenegro within the context of the new political and economic structure of South East Europe.

The SEA then attempts an “EIA project” style assessment of each major component, which is a legitimate approach in part, but fails to examine the bigger strategic issues that will determine whether the development of Montenegro's energy resources will ultimately leave the country in 2030 with a stronger economy, better human welfare and its environment enhanced.

## 6.5 – Assessment of Impacts against SEA Objectives

**STATEMENT OF FACTS:** The text in this sub-section states that the Consultant has performed an evaluation based on qualitative technique (involving expert judgement) in linking a classification and grading system to the SEA Objectives. This is then used to justify subsequent analysis of the beneficial, mixed-neutral and adverse impacts associated with the reference scenario of the draft EDS.

**COMMENTARY:** The weaknesses in the logic creating table 6-3 have already been stated. This problem is compounded when the judgements on the SEA Objectives are then given a grading in Table 6-5. A major challenge arises from the combination of conflicting objectives within individual criteria. This applies especially to the economic section, since 'accelerating growth' is not compatible with many environmental and other sustainable development criteria.

With no direct explanation, SEA Objective 1 (Promote growth of local and national GDP) is the only one out of 17 Objectives that is given a classification of “Very Beneficial” (despite the conflicting findings of table 6.3).

There is an international understanding, confirmed in Montenegro's Sustainable Development Strategy, that achievement of sustainable development requires equal weight be given to the three pillars



of sustainability, sound economic growth, human welfare and environmental protection. This is simply not reflected in the analysis presented in Table 6-5. In any event, as has been argued elsewhere in this review, the table is produced at such a high level of abstraction that its conclusions have no real meaning.

### 6.5.1 – DISCUSSION ON BENEFICIAL IMPACTS

**STATEMENT OF FACTS:** The SEA suggests that realisation of the Energy Development Strategy will be extremely beneficial for the Montenegrin economy and improve GDP.

**COMMENTARY:** This assumption is not tested by the SEA. All that has been done is to compare one set of sustainability criteria with another set of SEA Objectives rather than to analyse the content of the Draft Energy Development Strategy itself. The assessment, as presented, is too simplistic and fails to acknowledge the many diverse elements of the Draft Energy Development Strategy or the challenges and opportunities that exist in realising its potential. To give only one example: promotion of new thermal energy plants can only be successfully achieved when all the necessary feasibility studies on coal reserves, plant requirements, clean air emission controls and carbon capture have been completed. If a new TPP, HPP or indeed any energy project is promoted without a valid business case then the strategy may fail. This is clearly recognised in sections of the text of the EDS dealing with economic valuation, which have been ignored by the SEA. In practice, security of supply is likely to be a more important issue than the ability of Montenegro to act as a net exporter of energy, which in some circumstances could prove to be a liability to the economy if some current contracts were to remain in place after establishment of an open market.

Some elements of the Energy Development Strategy will undoubtedly be beneficial to the economy – others could prove to be a major drain on government finances and hold back essential investment in other areas. The strategy has important things to say about energy efficiency and energy conservation but these are not even considered up to this point in the SEA. Instead they are added as an afterthought in the concluding chapter and have clearly not been included in the assessment.

Other benefits are referred to which may or may not materialise – but the essential question that needs to be asked is **does the preferred strategy represent the optimal way of achieving such benefits?** This question is ignored.

Finally a paragraph is included on ways of enhancing benefits and avoiding adverse impacts. This belongs in the later section on Mitigation.

### 6.5.2 – Discussion on Mixed-Neutral Impacts

**STATEMENT OF FACTS:** This sub-section seeks to describe a range of what are called ‘mixed-neutral impacts’ identified through use of Table 6-3.

**COMMENTARY:** The text in this sub-section demonstrates the weakness of applying an EIA style of analysis to the very broad and strategic-level issues that should be addressed in an Energy Development SEA. Reference to ‘**watering roads to suppress dust and using low energy light bulbs to reduce light pollution at night**’ have relevance in regard to an individual project like an open pit mine, but they do not reflect the scale of issues that matter to a National Development Strategy.

**Cultural Heritage:** This concern is reinforced by the observations on cultural heritage where implementation of the draft EDS “**is considered to have an overall neutral impact**”. This might be concluded by the Consultants having counting squares in a matrix and summing the negatives against the positives, but it has no meaning in the real world.

The text itself makes clear how meaningless this statement of overall neutral impact really is.

The statement that “**There will be loss of material assets (existing homes, land and gravesites) that may have a strong link to cultural heritage**’, the stress on existing cultural monuments or the complete loss of cultural heritage – Prince Danilov bridge submerged by Andrijevo reservoir” is set against



the observation that **‘however, the development could bring benefits in terms of financial provision for regular preventative maintenance of buildings such as Morača Monastery’**. This is hardly a measure of neutrality.

It will be clear to most readers of the SEA that the necessary funds to maintain one of Montenegro’s priceless treasures should be provided from the appropriate State budget, regardless of whether its historic setting is transformed by the creation of a large reservoir which brings its own threats through increased humidity from changes in micro-climate and potential disturbance to the building structure from oscillations in ground water.

What is needed in an SEA is a clear and objective statement that some elements of the EDS are likely to give rise to irreversible loss of cultural heritage. There is, subsequently, the opportunity to state whether or not avoidance, mitigation or compensation are available in a separate section of the report.

Similar concerns are raised by every statement made by the SEA in relation to mixed/neutral impacts.

### 6.5.3 – Discussion of Adverse Impacts

**STATEMENT OF FACTS:** This sub-section details areas of adverse impact that are likely to result from some of the seven types of energy development projects discussed in the preceding section.

**COMMENTARY:** The treatment of this sub-section is more precise than the previous analysis of mixed/neutral impacts. However, it still contains unnecessary summaries of mitigation measures that should be reserved for later sections. The sub-section is also of such a generalised nature that it either ignores or fails to convey the scale and significance of major impacts. For example the reference to impacts of the Morača HPP scheme on Lake Skadar is restricted to concerns for fish spawning and nesting birds and effects on wetland plants; there is no acknowledgement of the numbers of people whose livelihoods would be directly impacted upon.

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It is clear that many of the statements in the whole of this section of the SEA have been summarised from other documents without the author(s) fully understanding the significance of the issues under discussion. For example, it is suggested that **‘the provision of an adequate minimum flow in the river downstream of Morača and Komarnica to recreate the present natural conditions is important’**. This statement displays ignorance of the changes that large hydropower schemes make to river regimes, under which it is impossible to ‘recreate the present natural conditions’ without severely limiting power production to uneconomic levels.

## 6.6 – Summary of impacts on Human Health and Environment

**STATEMENT OF FACTS:** Four pages of tables are provided listing potential impacts in bullet form.

**COMMENTARY:** The information provided is of varying levels of accuracy and significance, but this is inevitable given the nature of the exercise, which is to summarise a full range of impacts for major types of development.

The relevance of the information given in these tables should be treated with caution; for example it is stated that for Wind Farms **‘some environmental burdens from the emission of pollutants do occur during the production of the turbines’**. There is no equivalent statement in relation to construction of turbines for thermal and hydropower plants, or the greatly increased amounts of raw materials used in the construction of TPPs and HPPs. Similarly, the section on Solar Photo Voltaics contains 13 key adverse impacts compared with the 7 listed for Thermal Power plants. The section on TPPs makes no reference to disturbance of ecology and wildlife while it is suggested for solar plants that **“during operation, adverse ecological effects could occur from equipment noise and human activity”**.

## 7 – MITIGATION AND OPTIMISATION MEASURES

### 7.1 – Introduction

**STATEMENT OF FACTS:** This section outlines two categories of mitigation; measures that can be taken to enhance already positive impacts and those that can be adopted to prevent, reduce or eliminate negative impacts.

**COMMENTARY:** Much of what is written in this section represents standard practice for the design, construction and implementation of major development projects. The reviewer refers below only to those topics, which raise new issues.

### 7.2 – Measure to enhance positive impacts

Statement of Facts: This sub-section cover general policies on construction standards and hydroplants

**COMMENTARY:** The statement is misleading that ‘provision of recreational viewpoints (including toilet, picnicking facilities, etc.) at strategic points overlooking the dam sites and reservoirs (especially An-drijevo) will enhance the views of Morača Canyon ... and improve the tourism potential of the area’. Viewpoints may give better access and frame views, allowing people to observe the altered environment of the Morača Canyon – but they cannot alter the quality of the landscape. What is seen from viewpoints will depend on the season and the level of use of the reservoir for hydro-power. Taking the example of Lake Piva in mid to late summer (the height of the tourist season) the view will consist of a large body of water lying many metres below top water level, with unsightly drawdown stains on the exposed rock.

Proposals for maximising the economic benefit of hydro dams will need to factor in the realities of safety on operational reservoirs with high draw-off demands.

### 7.3 – Measures to prevent, reduce or eliminate negative impacts

**STATEMENT OF FACTS:** This sub-section provides advice on general mitigation and specific measures for each of the seven major components of the EDS that have been assessed by the SEA.

**COMMENTARY:** An important point is made by the SEA in relation to the Aarhus Convention, that the breakdown in trust between stakeholders and the public can be avoided if full transparency is shown to all stakeholders on all issues involved in the draft EDS activities. This is very much easier to say than it is to deliver in practice. Press statements make it abundantly clear that there is strong opposition to many elements in the Draft Energy Development Strategy and independent reviews have noted that established institutions in the energy sector in Montenegro are slow to respond to such criticism.

Remaining sub-sections set out standard measures for mitigation and do not warrant comment here – other than to note that most of the recommendations make clear how damaging the initial impacts are likely to be without suitable mitigation. They also reinforce earlier conclusions by the reviewer about the weaknesses in the methodology for quantifying the scale of impacts in the first place.



## 8 – DO NOTHING OPTION

**STATEMENT OF FACTS:** This section describes a ‘do-nothing’ option at the request of the Working Group established under the Ministry of Sustainable Development and Tourism.

**COMMENTARY:** A table 8.1 is used to provide a summary of advantages and disadvantages of the ‘do Nothing’ Option. This analysis is reasonable although it does not bring out the progressive nature of the decline, which would follow from a gradual collapse of the power sector to the national economy. This would affect all sectors; the economy, social conditions and the environment.

### 8.1 – Economic Aspects

**STATEMENT OF FACTS:** This short section is divided into an analysis of adverse and beneficial effects.

**COMMENTARY:** The observations on the economy are over-simplified. Montenegro has to import all its liquid fuels (aviation, diesel and petrol) and this is a more significant factor than the costs of importing electricity (which are covered under special contract agreements with Serbia whereby the two countries have historically exchanged electricity to meet base and peak loads).

The nature of the EDS and current alternatives considered within it provide no opportunity to reduce the balance of payments deficit on fuel imports. On the other hand a decision to close the economically unsound aluminium plant, KAP, would eliminate the electricity deficit, substantially reduce government debt and provide immediate opportunities for export, as discussed by the SEA under the heading of beneficial impacts.

The SEA notes that foreign direct investment (FDI) can have both positive and negative effects and concludes, “Doing Nothing also implies that it is very difficult for Montenegro to diversify and move from a tourism dominated economy”. However, the reviewer would argue that a decision by the Government to withdraw support for a particular component of the EDS would not necessarily lead to any change in the general willingness of investors to bring FDI to Montenegro. Indeed a well-balanced portfolio of energy objectives is more likely to attract a wider range of investors than one focusing only on limited choices.

In the discussion on future growth rates based on a rise in consumption of electricity of 3% per annum (as identified in the DEDS (S.4, p19), there is no reflection of the heavily skewed nature of Montenegro’s current energy demands, or even an acknowledgement that fixed growth rates may not be sustainable in the long term.

It should also be noted that in circumstances where the Government failed to set the framework of an energy development strategy, (i.e. a Do Nothing Scenario) businesses and the public would have to respond to the shortfalls in energy supply in their own ways. However such a failure would seriously affect Montenegro’s aspirations to join the European Union and would bar it from entry into regional energy markets.

### 8.2 – Social Effects

**STATEMENT OF FACTS:** A do Nothing option would lead to more frequent power cuts, higher costs, increased unemployment, and continuing poor health in mining areas. A small number of people would be relieved from the stress of uncertainty surrounding loss of their homes.

**COMMENTARY:** These conclusions are agreed.

### 8.3 – Environmental Effects

**STATEMENT OF FACTS:** This subsection considers adverse and beneficial effects on the environment

**COMMENTARY:** The links between the merits of dam and reservoir construction under a situation of increasing climate change are tenuous to say the least. The ecology of Montenegro’s rivers has adapted over millennia to extremes of flood and drought which are characteristics of Mediterranean climates,

landscapes and habitats with many sections of river running dry in mid-summer under existing conditions. Global warming is likely to intensify the severity and frequency of events, but the future of Montenegro as an ecological state is not dependent on placing dams on every river as the SEA would seem to imply.

The Do Nothing option is, of course, an unreal scenario but if it were to occur the main effects would be felt by people, and the natural environment would probably manage quite well without unnecessary interference.

## 8.4 – Future of KAP and ZNK

**STATEMENT OF FACTS:** The SEA states that whether the ‘do nothing’ option is feasible depends to a large extent on the fate of the two main energy consumers in the country; Aluminium Plant Podgorica ((KAP) and Nikšić Steelworks (ZNK). It therefore examined a number of policy documents and goes into considerable detail in discussing the guarantees and special loans that have been granted in recent years by the Government and other lenders to support heavy engineering and energy intensive industry.

The conclusion reached by the SEA is that:

“according to available national strategic documents and studies, no government policy assumes the permanent closure of the KAP and Nikšić Steelworks. Therefore, the assumption that these enterprises will continue finds support in national strategic documents and studies. Nevertheless the situation does not seem to be nearing a solution.”

## 8.5 – Discussion

**STATEMENT OF FACTS:** The SEA concludes that a ‘Do Nothing’ option would be a major setback for Montenegro, resulting in loss of credibility with its neighbours, and an inability to honour existing commitments and agreements.

The SEA then makes a very important set of statements, which are reproduced here, verbatim:

“The future of KAP is a politically sensitive issue that currently appears to be at an impasse. The facility has been in a state of reduced manufacturing capacity for more than five years and there is a general reluctance by the Government to make a decision on its future. This places the Montenegrin energy stakeholders in a very difficult position. KAP energy demands are so influential for the country’s power strategy that if they are no longer needed, the country can almost become self-sufficient. Hence the choice of strategy can be decisive.

Committing to the solutions outlined in the Reference Scenario (particularly the thermal power route) will be a major undertaking and the implications of EU membership will place further burdens upon the country particularly with regard to making all new TPPs carbon capture ready (CCR) from commencement. The Draft EDS does not go into detail about the cost implications of this requirement, but clearly they are going to be substantial. Changing course on such an undertaking, especially with so much up-front investment, also becomes very difficult.

The necessary transportation and storage of the carbon (needs a safe and secure – impermeable – underground repository) that is likely to be included in future European legislation will also be a challenge, and due to geological conditions in the country (predominantly karst) may not be possible without a trans boundary solution. The issues for permitting and whether the carbon will or will not be classified as a hazardous waste, or in what form the carbon is transported, carry major implications for the draft EPA and their current staffing capacity to deal with such undertakings.

The March 2013 edition of the SEA ended this discussion by concluding:

“Hence playing ‘the waiting game’ or perhaps a so-called ‘deferred do nothing’ option may not be such a bad thing, as it gives Montenegro breathing space to consider its long term future and the KAP issue in particular. An interim solution could be to begin implementation of the draft EDS with rehabilitation of its existing facilities and introduction of new technology to existing TPP at Pljevlja to pro-



vide cleaner emissions. After a few years, the situation could be reassessed and it could be checked whether other important developments such as the IAP or the results of exploration for hydrocarbons off the coast of Montenegro will come to fruition.

Subsequently this last paragraph was deleted and additional material was added to the April version of the SEA with a re-worded conclusion: These replacement paragraphs are reproduced below.

The KAP issue was analysed by Pöyry when they undertook their technical and economic analysis for Morača HPPs. (Report to the IFC, September 2009). The Pöyry study looked at the power market in a regional context. They concluded that KAP creates a major forecast uncertainty for the Montenegrin market. The power volume needed is large in relation to the country as a whole, but this is not the case in relation to the greater region. Electricity demand was presented both including and excluding the KAP power demand. Without KAP, Montenegrin electricity demand was approximately 1.9 TWh lower than with KAP.

Pöyry added that:

“Although electricity demand of KAP is very important from a Montenegrin perspective it only constitutes around 3 % (1.9 TWh) of gross demand in the neighbouring countries including Montenegro (gross demand roughly 61 TWh). If other countries in the region are included, the significance of KAP would quickly diminish. Although a closure of KAP could have some impact on power prices nationally and significant impact on employment in the short term, it is not plausible that the effect would last in the long-run. The likely growth of power demand in the region will induce investment in new generation capacity and thus pushing power prices up to long-run marginal cost in the region. A closure of KAP would mean that gross demand would decrease to 59 TWh in the region. If power demand increases by 1.6% a year in the region consisting of Montenegro, Serbia Bosnia and Albania, it would take 2 years until gross demand is 61 TWh all other factors constant.”

Hence it can be seen that general power demand growth in the region can replace the loss of quite considerable industrial capacity.

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The SEA suggests that consideration should be given to looking at all Draft EDS Scenarios keeping in mind the future actual status of KAP in accordance with decisions of the Government of Montenegro. This could be done in the scheduled Action Plan for implementation of the EDS, which will relate to the period 2014-2019.

**COMMENTARY:** The SEA team is commended for having addressed a number of sensitive issues in this section, which is appropriate in an objective and independent SEA. It is also clear from the summary quoted above that the SEA team were originally in favour of supporting a ‘deferred do-nothing scenario, but following the March/April review this position has been modified to suggesting that consideration be given to ‘all draft EDS Scenarios...through the scheduled Action Plan for implementation of the EDS covering the period (2014-2019).

**RECOMMENDATION:** The analysis by the SEA team in section 8, combined with their observations in section 9 on Alternatives provides a clear argument that alternatives to a single reference scenario should be built into the EDS. It is strongly recommended that the Government requires a proper assessment of alternatives as part of the combined EDS / SEA process. In addition the SEA itself should be re-worked to provide a realistic assessment of reasonable alternatives as required by Law and under the EU Directive. It is not acceptable to defer this responsibility to an Action Plan, which is not scrutinised by SEA.



## 9 – ANALYSIS OF ALTERNATIVES

### Introduction

**STATEMENT OF FACTS:** The authors of the SEA note that:

“this section of the SEA is often considered to be “the core” of the assessment process. Developing and comparing alternatives allows the decision-maker to determine how to achieve the strategic action’s objectives at the lowest social, environmental and economic cost whilst providing the greatest benefit; it essentially asks “is this the best strategic action possible to obtain”.

The section is divided into four sub-sections covering reasons for selection of alternatives, assessment techniques used; results of analysis and constraints and difficulties.

A critical observation by the consultants is that the Terms of Reference for the SEA did not provide the time or the financial resources to undertake a full analysis of alternatives.

**COMMENTARY:** The Consultants conclusion reported above are entirely in line with international good practice. However, this section on Alternatives raises serious questions about the credibility of the entire SEA process, which would appear to be beyond the consultants’ control.

A careful review has been made of the version of the SEA which was posted on the Ministry of Economic Planning website in March, 2013 (reference “Draft SEA Report – March 2013) accessed for this review on 14<sup>th</sup> April 2013 and the subsequent second draft – April 2013 which was located on the same website on 30<sup>th</sup> May 2013.

Significant changes have been made to the SEA document, which go well beyond the level of editing that would be expected following review by the Ministry of Environment ( if indeed this took place). This makes the task of reviewing a ‘public’ version of the SEA particularly difficult since two separate documents have now been released for consultation.

The fundamental change which is made to the latest draft (April) is the elimination of text on Alternative 4, which was previously identified by the SEA, as a potential contender from the record of assessment and analysis. All references to the analysis of Alternative 4 have now been deleted from the SEA report despite the SEA Consultants’ conclusion (in the March Edition) that:

**“the draft EDS has cast out Alternative 4 too quickly from the assessment. The potential for additional offshore wind farms or for further solar power facilities could warrant further analysis”**

It would appear that an element of censorship has been exercised over the content of this section of the SEA (and possibly other parts of the document as well), which is unfortunate since this suggests a failure on the part of those responsible to understand the true role and value of an SEA.

Despite this interference with the SEA findings the rest of this section will consider the two versions of the report, which have been posted.

### 9.1 – Reasons for Selections of Alternatives

The SEA notes the alternatives to the Reference Scenario that have been included and rejected in the Draft EDS

**The Reference Scenario** involves:

- two new large thermal power plants (TPPs Maoče and Pljevlja II),
- Four dams and HPPs on the Morača Canyon and the Komarnica Canyon HPP,
- Two wind farms at Možura and Krnovo,
- Small scale Hydro, biomass, solar collectors, heat pumps etc.

**Alternative 1** involves:



- Coastal thermal power plants (to replace inland TPP/HPP sites if investors are not found in time)
- Two wind farms at Možura and Krnovo,
- Small scale Hydro, biomass, solar collectors, heat pumps etc.

**Alternative 2** (the Green Scenario) involves no thermal plants, but:

- Four dams and HPPs on the Morača Canyon and the Komarnica Canyon HPP,
- Two wind farms at Možura and Krnovo,
- Small scale Hydro, biomass, solar collectors, heat pumps etc.

**Alternative 3** involves

- Deferring any export of electrical energy until after 2020,
- Building one large thermal power plant
- Promoting HPP Maoče and HPP Komarnica
- Two wind farms at Možura and Krnovo,
- Small scale Hydro, biomass, solar collectors, heat pumps etc.
- (deferring construction of TPP Pljevlja and the Morača Canyon Dams

**Alternative 4** assumes

- Increased use of renewables (above the Reference Scenario level)

It should be noted that these alternatives were identified in the DEDS and were not developed by the SEA. Analysis of these options in the draft EDS led the authors of that document to the conclusion that only the Reference Scenario and Alternatives 1-3 warranted further consideration. Alternative 4 was rejected on the grounds that:

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- **“Such an approach has no expertise justification because it is considered that the level of utilisation of renewable energy sources in the Reference Scenario is already very optimistic;**
- **From a technical standpoint this alternative could have a destabilising influence on the cost of electricity (Renewables being generally more expensive than conventional energy)”.**

In the April edition of the SEA a statement is made that:

**“Due to the above It is considered that this alternative can no longer be considered in this SEA”.**

The SEA consultants noted in March (while Alternative 4 was still included in the SEA analysis) that only the Reference Scenario and alternatives 1 and 2 met requirements for an energy export orientated approach, while Alternatives 3 and 4 focused on making Montenegro self-sufficient in (electrical) energy.

This view is modified in the April edition where it is stated:

**“In summary, out of the considered Reference Scenario and three alternatives, only the Reference Scenario and Alternative 1 (partially Alternative 3) are based on energy exports, making Montenegro a net exporter of energy, whilst Alternative 2 does not fulfil the self-sufficiency principle.**

Additional conditions are set in the draft EDS against which alternatives must be assessed before they can be considered further. These are:

- Complete energy self sufficiency (>100%), and,
- Meeting the national target for renewable energy of 29% in both target years (2020 and 2030)

It is stated that only the Reference Scenario fulfils both criteria.

The Draft EDS is quoted in the SEA (both March and April editions) as arriving at additional conclusions on the mix of power generation. These are:

- Complete energy self sufficiency requires one TPP of 300 MW and one large Hydropower plant;



- Achieving 29% renewable energy requires two HPPs on the Morača and HPP Komarnica before 2020;
- To be self sufficient, and achieve 29% from renewable sources, requires both hydropower schemes and one thermal plant;
- To be self sufficient, with 29% renewables and moderate export, requires Morača and Komarnica together with two thermal power plants.
- (A coastal TPP using imported coal could achieve extensive exports of electricity but not 29% renewables.

The SEA (April edition) concludes that:

**“With such a starting point, it is therefore technically and economically challenging to undertake a comparison of any other alternatives except those outlined above without substantial further work and analysis”.**

**COMMENTARY:** The need to undertake a review of reasonable alternatives is a legal requirement under the Law, and in fulfilment of the European Directive, and this obligation falls on the authors of the SEA not on the promoters of the draft Energy Development Strategy. Given the analysis set out in the consultative draft, March edition, of the SEA (which has been deleted from the April edition) there is a prima facie case for considering more than one alternative to the Reference Scenario in the SEA. This is clearly indicated by the conclusions reached in the previous section on the potential for significant changes in energy demand in the industrial sector over the next 1-5 years.

Failure to address the need for a serious look at alternatives could leave the Government of Montenegro open to legal challenge and will certainly call into question the credibility of SEA procedures in terms of compliance with the spirit and principles of the EU Directive.

## 9.2 – Assessment Techniques Used

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**STATEMENT OF FACTS:** The SEA Consultant evaluated the Reference Scenario and 4 (now 3) alternatives using a simple scoring method ranging from – 3 very disadvantageous to +3 Highly advantageous. Scores were added for advantages and disadvantages leading to a simple numerical ranking shown below:

Option	Ranking	Total Score
Alternative 2	1 <sup>st</sup> place	15
Alternative 4	2 <sup>nd</sup> place	14
Reference Scenario	3 <sup>rd</sup> Place	12
Alternative 1	4 <sup>th</sup> place	1
Alternative 3	5 <sup>th</sup> place	4

**COMMENTARY:** This review has exposed an apparent error in the ranking in table 9.1 since Alternative 3 has a higher score than Alternative 1 (see above) and their relative positions should be reversed.

**STATEMENT OF FACTS:** There is no explanation for the decision to apply weightings to the themes under which each option has been assessed, but the SEA text states that a greater weighting 40% was then applied to economics and equal weighting of 30% to Social and environmental factors. The relevant tables appear in Annex 9 of the SEA (except for Alternative 4).

The revised ranking generated through weighting is shown below

Option	Ranking	Total Score
Reference Scenario	1 <sup>st</sup> place	5.2
Alternative 2	2 <sup>nd</sup> place	4.9
Alternative 4	3 <sup>rd</sup> place	4.7



Alternative 3	4 <sup>th</sup> place	1.5
Alternative 1	5 <sup>th</sup> place	0.9

**COMMENTARY:** It is not clear why an enhanced weighing was applied to the economic factors, or how the specific ratio of 40:30:30 was derived –or indeed, whether any sensitivity testing was used to see at what point the priorities determined by the initial scoring method were changed. In any event the entire structure of the alternatives assessment is built on the use of earlier scores in the impact assessment, whose limitations have already been described.

What is more important is the clear indication and advice from the SEA Consultants (in the version of the published consultation report released in March) that there is a case for closer scrutiny of alternatives, which has been rejected without the opportunity for public debate.

**RECOMMENDATION:** The advice of the SEA Consultants in March 2013 should be given serious consideration by the Government and the SEA should be re-worked to include an independently verified assessment of reasonable alternatives in accordance with the Law.

## 10 – OUTLINE OF POTENTIAL TRANS-BOUNDARY IMPACTS

**STATEMENT OF FACTS:** This section sets out a clear statement on the need for the assessment of trans-boundary impacts in the context of the draft EDS, based on international conventions (Espoo, Ramsar and Barcelona), and Montenegrin Law. Potential impacts include:

- Groundwater pollution from mining,
- Acid rain and air pollution (from mining and thermal energy plants),
- Stimulation of global warming from the release of greenhouse gases,
- Trans-boundary impacts on rivers and lakes from hydropower schemes,
- Cross boundary transport of material and equipment for energy construction projects,
- Introduction of alien species of plants and animals,
- Accidental oil spills,
- Impacts on migratory birds,
- Requirements for Carbon capture and storage

Potential trans-boundary effects on human health are also assessed, including:

- Gaseous emissions
- Airborne pollution from biomass burning
- Visual impacts from wind farms

The section concludes with recommendations on the steps that Montenegro needs to take to meet its obligations for dialogue with neighbouring countries.

**COMMENTARY:** This section of the SEA is well written and covers the salient points.



## 11 – ENVIRONMENTAL AND HUMAN HEALTH MONITORING

**STATEMENT OF FACTS:** This section of the SEA examines the full range of issues that will need to be monitored during the life of the draft Energy Development Strategy. A very comprehensive analysis of potential areas for environmental and human health monitoring programmes is given.

**COMMENTARY:** Historically, the capacity of Montenegro's institutions to carry out detailed environmental and health monitoring has been severely limited in terms of institutional commitment, finance and specialist advice as a result of emigration of many experts. Very substantial progress has been made to strengthen relevant institutions in recent years but it is clear that the monitoring commitments linked to implementation of the Energy Development Strategy represent a major challenge.

## 12 – CONCLUSIONS AND RECOMMENDATIONS

**STATEMENT OF FACTS:** This section is 6 pages in length. It begins with general conclusions, then considers each of the principal categories of the environment as defined under the Law and the EU Directive.

### 12.1.1 – GENERAL

**COMMENTARY:** The section opens with the statement “the draft EDS has been reviewed against other existing planned strategies and programmes and there is general concordance with most of the major ones”. It neglects to include the following observations, amongst others, from section 5.5 Coherence Check.

The Constitution

- There is potential discordance between Article 65 of the Constitution (the state shall protect the environment and key strategic commitment 8 of the Draft EDS which advocates exploration for offshore oil and gas and for coal in the Pljevlja and Berane basins,

The National Sustainable Development Strategy

- There is some discordance between draft EDS commitments 1 and 8 for construction of new infrastructure, and exploration for oil and gas and coal in relative to NSSD objectives for biodiversity and for spatial planning.

Having stated that most of the EDS Reference Scenario objectives are in general accordance with planning policies the SEA goes on to state:

**“All of the projects proposed that would be part of the draft EDS will be disruptive during the construction stage and many people will be permanently affected by the Reference Scenario due to the inundations of land for hydropower and for land required for TPP, new coal mines and other areas of wind farms....”**

This description hardly equates with the previous statements that the Reference Scenario is in general accordance with planning policies.

### 12.1.2 – POPULATION AND HUMAN HEALTH

**STATEMENT OF FACTS:** This section introduces, for the first time, the issues of domestic heating, the use of biofuels, fuel poverty and impacts of climate change on security of supply.

**COMMENTARY:** The information presented here is interesting and highly relevant but it should have been covered in the body of the SEA Report as well as in a section called ‘conclusions’.

**RECOMMENDATION:** The Final SEA should contain sections dealing specifically with these important areas of the EDS, including a proper assessment of what the likely significant effects of the EDS Reference Scenario and other reasonable scenarios will have on socio-economic and environmental conditions in Montenegro.

### 12.1.3 – AIR

**STATEMENT OF FACTS:** The report states that ‘with additional TPPS planned in (Montenegro) air quality is likely to deteriorate.

**COMMENTARY:** These consequences have trans boundary implications for Serbia and other neighbours. Why is this not referred to in the General conclusions as an area of conflict with other Montenegrin and international policies?

### 12.1.4 – CLIMATE CHANGE

**STATEMENT OF FACTS:** The information provided in this sub-section gives a clear indication of the changes that may be anticipated by the end of the century. The conclusions note **“Hydropower could be affected by changes in rainfall and snow cover, drier periods and more intense periods of rainfall and**



the implications this would have on water resources (elsewhere in the report it is stated that river flows could decrease by 30%). The report goes on “With such predictions there is a strong case for climate adaptation measures to be built into the draft EDS. In particular it would make sense to diversify electricity generation sources which may avoid some of the predicted vulnerabilities arising in the future”.

The sub-section concludes “Climate change trends are already established and are predicted to continue and potentially accelerate if carbon emissions are left unabated. This could have an impact on energy generation and distributions. Energy remains the main source of Greenhouse Gas Emissions in Montenegro ....Renewable energy sources have a much lower impact on greenhouse emissions, but this is only achieved where renewable energy generation displaces other, more polluting sources (e.g. those of thermal).

**COMMENTARY:** These observations in the SEA are of critical importance in understanding the role of alternatives to the Reference Scenario, which assume maximum development of HPP and TPP to provide strong sources of energy for export. The analysis set out in this concluding section on climate change should be incorporated in the main body of the SEA Report and linked directly to assessment of alternatives.

#### 12.1.6 – SOIL

**STATEMENT OF FACTS:** This sub-section provides a brief statement of soils relating principally to mitigation works.

**COMMENTARY:** None required

#### 12.1.7 – WATER

**STATEMENT OF FACTS:** This short sub-section confirms that the water environment has a crucial role to play in generating electricity in Montenegro. It also notes that “The Reference Scenario includes two major hydropower developments at Morača and Komarnica as well as SHPPs on the Zeta River, but these developments should be preceded by River Basin Management Plans in line with water management legislation aligned to the EU Water Framework Directive.

**COMMENTARY:** This sub-section contains a very clear statement on the impact of hydro-schemes on the water environment. It states “Hydropower is a key factor in preventing the achievement of good ecological status in rivers”. This statement, while undoubtedly correct, is at total variance with the generalised statements made throughout other sections of the report where it argued that the effects are neutral.

#### 12.1.8 – MARINE ENVIRONMENT

**STATEMENT OF FACTS:** The report says that there are likely to be a number of interactions between renewable energy generation and transmission and the marine and coastal environment of Montenegro. Key impacts and pressures include: hydrographic changes from the extraction of energy and presence of structures and pollution and chemical pressures arising from the spillage of fuel oil and construction materials

**COMMENTARY:** Two issues seem to be confused here: the first part of the statement talks about renewable energy (e.g. offshore wind) but the examples of impacts clearly relate to oil and gas exploration / production. This sub section needs to be clarified.

#### 12.1.9 – GEOLOGICAL CONDITIONS AND SEISMIC.

**STATEMENT OF FACTS:** This subsection largely repeats what has previously be written on seismicity.

**COMMENTARY:** The contradiction about the status of the seismic zone in which the Morača dams are located is repeated. Is it Zone VII or Zone VIII?

### 12.1.10 – BIODIVERSITY AND PROTECTED AREAS

**STATEMENT OF FACTS:** This sub-section concludes that Montenegro is one of the hot spots of European and world biodiversity. It highlights work in progress to extend designations and strengthen both the National Parks system and human resources for nature conservation.

**COMMENTARY:** This sub-section does not express any view on the biodiversity issues raised by the EDS. As such it is totally defective as a conclusion.

## 12.2 – Recommendations

**STATEMENT OF FACTS:** 22 recommendations are provided which are focussed largely on mitigating the adverse social, environmental and economic effects of the draft EDS.

**COMMENTARY:** None of the recommendations bear on the incompatibility of certain key components of the Reference Scenario for energy development with other aspects of national law and policy or on the need for closer inspection of alternatives.

## 12.3 – Discussion

**STATEMENT OF FACTS:** The Draft SEA effectively acknowledges the lack of any serious review of alternatives with the following conclusion.

“A key question that stakeholders may have is ‘Is it in the national interest to implement the draft EDS in its present form’? This is an important issue going forward for the public debates. In all countries different national institutions interpret things like national interest in very different ways and tend to promote their own agendas.

It is important that the selection of objectives should not promote particular sectoral, economic and environmental agendas, but need to encompass the major concerns of the people of Montenegro as a whole: it should reflect a fair consensus amongst stakeholders. This entails national sustainable development priorities and strategies but may also include concerns articulated by nongovernmental actors such as scientists, environmentalists, NGOs or community organisations.”

**COMMENTARY:** The question posed by the SEA Consultants is indeed likely to be one of the key topics that Stakeholders will wish to debate.



## 13 – RESUME – NON TECHNICAL SUMMARY

**STATEMENT OF FACTS:** The Non Technical Summary provided in the March Edition covered 29 pages of text and tables. The version produced in April 2013 has been reduced to five pages.

**COMMENTARY:** The process of cross-referencing every paragraph in the draft SEA between the versions produced in March and April will need to be performed by the authors of the report in order to ensure that the SEA is accurate, objective and unbiased and adequately reflects the views of all stakeholders. Failure to undertake these changes will leave the SEA open to legal challenge under both Montenegrin Law and the European Directive on SEA.

A rapid appraisal suggests that there are some key changes, which will need to be substantiated, with explanations for why it was felt necessary to modify the text between publication in March and April.

March Edition	April Edition																				
Energy and tourism are the two mainstays of the Montenegro economy	Energy, tourism and <b>agriculture</b> are the three main pillars of the Montenegrin economy																				
Wind farms – no reference to birds or bats	Predicted impacts of wind farms are likely with biodiversity ( <b>rotor blade hits on birds and bats</b> )																				
National Parks Bio Corridors negligible effects on ecosystems	Predicted impacts on Durmitor and – Lovćen National Parks from power lines would occur on biodiversity, noise cultural heritage and permanent impact on landscape																				
High Voltage Direct Current submarine cable has no significant effects on coastal environment	HVSC enters Adriatic Sea near Budva and will impact on <b>landscape/seascape</b> , and potential damage from oil spills																				
Population and Health	Complete re-working of the text with <b>new conclusions</b>																				
Air Quality and Climate Change  The text highlights some of the potential constraints on development of hydropower in a changing environment with less rainfall	Air Quality and Climate Change  The text <b>highlights the benefits of building dams to provide strategic water supplies for agriculture and domestic use</b> as well as for hydropower																				
Seismic conditions  Proposed hydropower dams lie within Seismic Zone VII or VIII	Seismic conditions  Proposed hydropower dams lie within Seismic Zones VII, VIII and IX																				
13.11.2 Alternatives Assessed under SEA  <table border="1"> <thead> <tr> <th>REFERENCE SCENARIO</th> <th>ALTERNATIVE 1</th> <th>ALTERNATIVE 2</th> <th>ALTERNATIVE 3</th> <th>ALTERNATIVE 4</th> </tr> </thead> <tbody> <tr> <td>14.7</td> <td>7.7</td> <td>10.9</td> <td>9</td> <td>7.3</td> </tr> <tr> <td>-9.5</td> <td>-6.8</td> <td>-6</td> <td>-7.5</td> <td>-2.6</td> </tr> <tr> <td>5.2</td> <td>0.9</td> <td>4.9</td> <td>1.5</td> <td>4.7</td> </tr> </tbody> </table> After taking into consideration the total weighed score the combined positive score for the Reference Scenario is the highest overall followed by the Alternative 2 (Green Scenario) Using this approach Alternative 4 is also a very close third.	REFERENCE SCENARIO	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4	14.7	7.7	10.9	9	7.3	-9.5	-6.8	-6	-7.5	-2.6	5.2	0.9	4.9	1.5	4.7	Even though the Draft EDS concluded that the Reference Scenario was the only option available, during development of SEA was undertaken a simple qualitative review (with and without weighting) of the alternatives considering the advantages and disadvantages across the three themes of economic, social and environmental factors. <b>This exercise did not consider Alternative 4, as it was not sufficiently developed within the Draft EDS.</b> The results show that the Reference Scenario is the preferred option when applying weighed criteria followed by Alternative 2 (Green Scenario)
REFERENCE SCENARIO	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4																	
14.7	7.7	10.9	9	7.3																	
-9.5	-6.8	-6	-7.5	-2.6																	
5.2	0.9	4.9	1.5	4.7																	



# CONCLUDING REMARKS ON THE REVIEW OF THE SEA OF THE DRAFT EDS

This review has concentrated on the content and quality of the Draft Strategic Environmental Assessment and has not considered the same range of topics in relation to the Draft Energy Development Strategy. However, the entire Draft EDS has been read in order to assess the extent to which the SEA has addressed the key issues.

In summary, the SEA Consultants are considered to have worked hard to marshal and assimilated the amount of information necessary to carry out the SEA and they are complemented on that effort. It is clear however that, due to the self imposed restriction on discussing any aspect of the SEA with the consortium who produced the Draft ED, the resulting SEA has failed to examine many of the key issues that should inform the future energy strategy. The draft report is also inconsistent in the way in which it treats strategic-level impacts.

In addition, it is the expert opinion of the Reviewer that the draft SEA has failed to consider reasonable alternatives as defined within the scope of the Montenegrin Law on SEA or to meet the standards that are expected on the review of alternatives, based on the European Directive on the Assessment of the effects of Certain Plans and Programmes on the Environment(2001/42/EC).

There is some evidence from the March edition of the SEA that the SEA Consultants are aware of these weaknesses and they have sought to ensure that appropriate advice is offered to Stakeholders. For reasons that will need to be explained it would appear that either the Consultants have changed their minds on certain conclusions, or other parties took over an editorial role on the SEA, between March and April 2013.

In order to clarify the situation identified above it is imperative that the SEA Authors confirm their status and independence. It is also strongly advised that further work on both the Draft Energy Development Strategy and the Draft SEA are put in abeyance until agreement has been reached with stakeholders on the introduction and discussion of reasonable alternatives within the SEA.

**Peter Nelson**

3<sup>rd</sup> June 2013

Approved for publication: 8<sup>th</sup> June 2013, following discussion with the client group of NGOs in Podgorica on Thursday 6<sup>th</sup> and Friday 7<sup>th</sup> June 2013.



## Contents of the SEA Report (Article 15 of the Law)

The SEA Report shall contain data describing and assessing the potential significant impacts on the environment that could be caused by the implementation of plans or programmes and alternatives that have been considered taking into account the objectives and geographical scope of plans or programmes. In addition to data referred to in Par. 1 of this Article, the SEA Report shall also contain the following data:

- 1) Short outline of the contents and main objectives of the plan or programme and their relation with other plans and programmes
- 2) Description of the existing environmental status and its possible development in case that the plan or programme is not realised
- 3) Identification of areas likely to be exposed to significant risk and characteristics of the environment in such areas
- 4) The existing environment-related problems in connection with the plan or programme, including in particular those relating to areas of special significance for the environment, such as wildlife habitats from the aspect of their conservation, in particular protected areas, national parks or coastal zone,
- 50 5) General and specific objectives of environmental protection set either at the national or at the international level that are of relevance for the plan or programme and ways in which these objectives as well as all other aspects of relevance for the environment shall be taken into consideration in the preparation process;
- 6) Potential significant impacts on public health and the environment, including factors such as biological diversity, population, fauna, flora, land, water, air, climatic aspects, material resources, cultural heritage, including architectural and archaeological heritage, landscape and relations between these factors,
- 7) Measures envisaged to prevent, mitigate or eliminate, to the highest extent possible, any significant negative impacts on the environment that can be caused by the implementation of the plan or programme
- 8) Outline of reasons used as the basis for selection of alternatives that have been taken into account and the description of methods of assessment, including potential difficulties that have occurred during the formulation of the required data (such as technical data or absence of know-how)
- 9) Outline of potential significant trans-boundary impacts on the environment
- 10) Description of the environmental status monitoring programmes, including human health, during the implementation of the plan or programme (monitoring)
- 11) Conclusions that have been reached during the elaboration of the SEA Report presented in the way understandable to public.

# Sources of Information for Compiling the Review Checklist

## Evaluation of the SEA Report Under Article 21 of the Law

The competent authority responsible for preparation of plans or programmes shall submit the SEA Report to the competent environmental protection authority for approval, along with the report on participation of authorities and organisations concerned and the public debate referred to in Article 20, Par. 1 of this Law.

The competent environmental protection authority is entitled to obtain the opinions of other authorised organisations or experts in certain fields or it can establish the Evaluation Committee that shall evaluate the SEA Report.

The evaluation of the Report referred to in Par. 1 of this Article shall be carried out based on the following criteria:

### 1) Plan and programme

- The plan and programme objectives and contents are presented, as well as the area for which the plan or programme is prepared, spatial scope and timeframe
- The environmental protection issues that have been included in the preparation of objectives of plans and programmes
- The connections with other relevant plans and programmes have been presented.

### 2) Status of the environment

- The existing and future status of the environment have been presented
- The environmental status description has been harmonised with the strategic assessment objectives and indicators
- Sources of data on the environmental status have been presented and the methodology used has been harmonised with the degree of the strategic assessment complexity.

### 3) Alternative solutions

- Method of preparation and consideration of alternative solutions for issues and problems related to certain environmental aspects has been presented
- The non-execution alternative solution (“zero alternative”) for the plan and programme and alternative solution that is most favourable from the aspect of environmental protection have been prepared
- Impacts of alternative solutions on the environment have been evaluated and comparisons have been made
- The reasons for selection of the alternative solution that is the most favourable from the aspect of environmental protection have been justified.

### 4) Environmental impact assessment

- Method of identification and evaluation of significant impacts of plans and programmes on the environment has been presented
- The following elements have been included in the environmental impact assessment: air; water; land; climate; flora and fauna; habitats; bio-diversity; landscape (natural beauties); natural



assets; population and health; cities and other settlements; cultural-historic heritage; infrastructure, industrial and other structures; other man-made values;

- The following impact characteristics have been taken into consideration in impact assessment: probability; intensity; complexity/reversibility; time dimensions (duration, frequency, repetition); spatial dimension (location, geographical area, size of the affected population, trans-boundary nature of impact); cumulative and synergistic nature of impact; other impact characteristics;
- **Identification and evaluation of significant impacts have been harmonised with the valid standards, regulations and limit values**
- The applied methodology has been described.

#### 5) Measures and environmental impact monitoring programme

- Measures of prevention and mitigating adverse impacts, or the increase of positive impacts on the environment for each of the evaluated impacts have been planned;
- Method of developing the guidelines for elaboration of environmental impact assessments and other strategic assessments has been presented;
- Environmental status monitoring programme during the plan or programme implementation has been prepared.

#### 6) SEA Report

- The role of competent authorities in the SEA elaboration has been clearly defined;
- The report has been prepared in a clear and precise way;
- All the elements of the report set forth in Article 15 of this Law have been considered and sources of information have been identified, including expert opinions;
- The way in which environmental issues have been included in plans and programmes has been outlined as well as the way in which the decision making process has been carried out and the reasons have been described that have been decisive in selection of the given plan and programme from the aspect of alternative solutions that have been considered;
- Conclusions on the elaborated SEA Report have been presented in the way understandable to the public.

#### 7) Participation of authorities and organisations and the public concerned

- Participation of authorities and organisations and the public concerned in the procedure of SEA elaboration has been provided;
- The opinions of authorities and organisations and public concerned related to the strategic assessment have been submitted and the decision making process with respect of the submitted opinions has been presented.

# European Union Review Criteria

## 3.4. REVIEW

### 3.4.1 Purpose

The main purpose of the review step is to confer SEA a quality check and safeguard its effectiveness, adequacy and continuing suitability. The purpose of the review is to evaluate the positive and negative aspects of the framework for sustainability and the final draft of the plan or programme.

For environmental authorities, as well as for bodies with environmental responsibilities and expertise, and for the public, the review gives an opportunity to comment and reflect on the results and activities of the SEA.

The report review (see also Section 2) should ensure that, at the very least, the following questions are fully answered (see table 3-4):

- Does the SEA report address the issues raised in the scoping report?
- Does the SEA report show if the goals and environmental strategy are fulfilled?
- Is the SEA report user-friendly and unbiased?
- Does the non-technical summary fairly reflect the full SEA report?
- Are all the relevant issues, including alternatives, discussed and analysed?
- Are the forecasts and the associated methods presented clearly?
- Are the results of consultation duly taken on board?

Criterion Relevant	(Yes/No)	Judgement (qualitative ranking)	Comment
Has information and analysis been offered to support all conclusions drawn?			
Has information and analysis been presented so as to be comprehensible to the non-specialist, using maps, tables and graphical material as appropriate?			
Are all the important data and results discussed in an integrated fashion within the information?			
Has superfluous information (i.e. information not needed for the decision) been avoided?			
Have prominence and emphasis been given to severe adverse impacts, to substantial environmental benefits, and to controversial issues?			
Is the information objective?			
Has been different alternatives (including the “non”-scenario) been analysed and compared?			
Have the remarks provided by external authorities and general public been taken into account			

Source: European Commission, 2005, 1994a



## OECD DAC GUIDELINE AND REFERENCE SERIES: APPLYING STRATEGIC ENVIRONMENTAL ASSESSMENT – GOOD PRACTICE GUIDE FOR DEVELOPMENT CO-OPERATION

### Checklist 6.2. Key questions for evaluation as a quality control check (cont.)

- Was the information provided by the SEA process adequate (see above) from the point of view of the key stakeholders? What was missing?

#### Co-operation and stakeholder participation

- Has there been effective co-operation between the SEA team and those responsible for developing the PPP? Why? How can this be improved?
- Was there effective public involvement? Why? How can this be improved?
- Was there an effort to involve less powerful stakeholders in the consultation? If so, how successful was this?

#### Description of the SEA procedure in the report

- Has the purpose/aim of the SEA been described with a mention of the regulations which underpin the SEA process and document?
- Is the scope of the SEA discussed?

#### Objectives used for the SEA

- Have the substantial objectives used for the SEA been described and defined, quantitatively where appropriate?
- Does the SEA report identify and describe any conflicts that exist between the objectives and the PPP, and between the objectives and other PPPs?

#### Alternatives

- Are the potential alternatives within the PPP described and considered in terms of the SEA objectives? Have these included the “no change” alternative?
- If any alternatives have been eliminated, have the reasons been provided?

#### Assessment of environmental impacts

- Where there are likely to be significant environmental effects, are they clearly described?
- Is an effort made to prioritise those effects that most affect sustainability?
- Are the methodologies for assessing environmental impacts described?
- Is the full range of positive and negative impacts addressed?
- Where there are uncertainties in assessing the impacts and assumptions have been made, have they been justified and the worst-case scenario used?
- Are mitigation measures clearly described and committed to that will prevent, reduce or remedy any significant adverse effects on the environment in implementing the PPP?

#### Planned follow up activities and implementation

- Are the indicators for monitoring clearly defined? And, are they based upon the original baseline information and on the objectives of the PPP and the SEA?
- Are the links to other potential follow-up procedures specified, e.g. project EIA, design guidance, etc.?
- Are recommendations for the implementation process clearly formulated?
- Are outcome indicators defined? And is there an evaluation plan (with adequate budget and clearly assigned responsibilities) so that the sustainability focus of the SEA can continue beyond the planning phase?

#### Overall comments on the SEA process

- What is the view of key stakeholders (particularly the less powerful ones) and those responsible for developing the PPP on the different elements of the SEA?
- How could it be improved in future?

#### Constraints and opportunities

- What were the most significant constraints to achieving an effective SEA?
- What were the most significant positive factors ensuring success of SEA?

*Based on evaluation criteria prepared by Rasso (2002) and the Institute of Environmental Management and Assessment ([www.iema.net](http://www.iema.net)).*







South East Europe  
Sustainable Energy  
Policy

