



UNDP Project Document

UNDP-GEF Medium-Size Project (MSP)

Government of Montenegro

United Nations Development Programme
The Ministry for Economic Development
Hydrological Institute, Seismological Institute, Private Sector

PIMS 3813
Atlas award 000 49703
Atlas project ID 00060829

Power Sector Policy Reform to Promote Small Hydropower Development in the Republic of Montenegro

Brief description

The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective and economically responsible manner, and therefore in a more politically sustainable manner. In so doing the project will avoid 402,360 to 536,480 CO₂ eq in Green House Gases (GHG) emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the government of Montenegro (GoM) in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions;
- by setting attractive but competitive business terms and conditions for investors;
- and helping the new Energy Efficiency (EE) and Renewable Energy Unit role out a streamlined and transparent tendering process.

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Abbreviations

APR	Annual Project Review
BOT	Build Operate Transfer
CEZ	Power company of the Czech Republic
CDM	Clean Development Mechanism
CO	Country Office
CO ₂ eqv.	Emissions of Greenhouse Gases express in
GHG	Greenhouse Gases
GoM	Government of Montenegro
EE	Energy Efficiency
EIA	Environmental Impact Assessment
EU	European Union
ERA	Energy Regulatory Agency
EAR	European Agency for Reconstruction
EPCG	National Electric Company of Montenegro (ElektroPrivredaCrneGore)
GEF	Global Environmental Facility
GWh	giga (10 ⁹)-watt-hour
HPP	Hydro Power Plant
HMIM	Hydro Meteorological Institute of Montenegro
HSE	Slovenia energy company-Holding Slovenske Elektranre d.o.o.
IPP	Independent Power Producer
IW	Inception Workshop
IR	Inception Report
kWh	kilo (10 ³)-watt-hour
MW	mega (10 ⁶)-watt
MVM	Hungary utility-Magyar Villamos Muvek Zárt.
NTE	Norway utility-Nord-Trøndelag Elektrisitetsverk FKF
OFP	Operational Focal Point
PIR	Project Implementation Review
PMU	Project Management Unit
PPA	Power Purchase Agreement
RE	Renewable Energy
SEE	South East Europe
SHPP	Small Hydro Power Plant
TPR	Tripartite Project Review
UNFCCC	United Nations Framework Convention on Climate Change

SECTION I: ELABORATION OF THE NARRATIVE

PART I: Situation Analysis

In May 2006 Montenegro became the newest independent state in the world and the newest UN member. This move was followed with an intense period of establishing multi- and bilateral relations, speeding up the process of EU integrations, and consolidating the normative framework for internal economic development of the young state. The Government of Montenegro (GoM) has adopted the new Energy Strategy in December 2007, and in the same month it had published a tender for research and construction of small mini hydro power plants on over forty locations. This move is in line with the new small hydro development strategy adopted in April 2006 that sets a target of 15 to 20 MW of new generating capacity from small hydro power resources by 2015 and it constitutes an environmentally and politically acceptable way of reducing the country's dependence on energy imports. Montenegro has a total installed capacity of 868 MW, of which over 70% comes from two large hydro generating facilities. The remainder comes from a single coal fired power generating station. All three plants were built between 1977 and 1981. Some seven small hydro power plants of 10MW and less also contribute just over 1% or almost 9MW of generating capacity to this mix. Demand for power fell during the 1990's due to economic contraction, so there was little pressure to plan for new generating capacity. While there has been some discussion about the construction of new generating facilities, mainly large hydro facilities, for various reasons no construction of any new generating capacity since 1981 has been undertaken. However since the mid 1990s demand for power has begun to grow again. In 1994 total final consumption was 505 GWh, while in 2005 it was 2077 GWh. Surprisingly, most of this growth in demand comes from the residential sector, rather than the industrial sector. Montenegro saw a doubling in demand from the residential sector over the last 20 years. In part this can be explained by the heavily subsidized tariff of 2.2 €cents/ kWh, but also from a growth in housing. Although far less efficient it has been cheaper for houses to use electricity for space heating and hot water because of the low tariff.

Considering the political changes in the mid 2006 and the subsequent GoM moves in the energy sector (adoption of the Energy Strategy, publishing of the mini-hydro tender), there are two windows of opportunity for significant assistance from this project is: a) enabling investment decisions in this sector through streamlining of the procedures, collecting basic data, and setting an attractive yet competitive business terms and conditions for the investors, and b) capacity building for the Energy Efficiency and the Renewable Energy Unit within the Ministry for Economic Development and helping to create a streamlined and transparent tendering process.

See more [details](#) in attached appro

PART II : Strategy

Goal: To reduce green house gasses emissions by creating favorable legal, regulatory and market environment and building institutional and administrative capacities to promote development of Montenegro's abundant small hydropower potential for grid-connected electricity generation. **Objective:** An increase in 15MW to 20MW of new power generating capacity in Montenegro by the close of the project. The project is expected to result in an estimated annual reduction of 20,118 -26,824 tons of CO_{2eq} by facilitating development of new small hydropower plants with total production capacity of 15-20 MW. This will be achieved by removing existing legal, regulatory, institutional and market barriers to private investments in small hydropower development in Montenegro. The project strategy will be realized through achievement of the following four Outcomes: a) institutional, legal, and price conditions attracting investment in small hydro-power generation; b) independent power producers' investment decisions in small hydro power supported; c) small hydro power IPP concessions operations; project results and lessons learned summarized, documented, and made publicly available.

PART III : Management Arrangements

This project will be managed under the direct supervision (DEX execution modality) of the Economy and Environment Cluster Leader, and led by the project implementation unit (PIU). The PIU will consist of a national project manager and a national project assistant. (to be selected). The Project Board will be selected to include: an executive and supplier (UNDP, EE Cluster Leader), and user (the Ministry for Economic Development)- an institutional body that will oversee the implementation of the project and that the Project Manager will call upon at all critical stages of the project and when set tolerances have been exceeded. In order to accord proper acknowledgement to GEF for providing funding, a GEF should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF. The UNDP logo should be more prominent -- and separated from the GEF logo if possible, as UN visibility is important for security purposes. For [more](#) details look into attached approved MSP request.

PART IV : Monitoring and Evaluation Plan and Budget

[Monitoring](#) and evaluating of the project as well as the budget for M&E activities are described in detail in approved request for MSP approval by CEO. The document is attached.

PART V: Legal Context

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Montenegro and the United Nations Development Programme, signed by the parties on December 2007. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement. The UNDP Resident Representative in Montenegro is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) *Inclusion of additional annexes and attachments only as set out here in this Project Document*

SECTION II: STRATEGIC RESULTS FRAMEWORK, SRG AND GEF INCREMENT

Project RESULTS [FRAMEWORK](#) could be seen in approved (and attached) MSP request for CEO endorsement.

SECTION III: TOTAL BUDGET AND WORKPLAN

ANNEX E: TOTAL BUDGET AND WORK PLAN

The total [budget](#) and work plan is included into the approved and attached MSP request below.

SECTION IV: ADDITIONAL INFORMATION
PART I: Approved MSP request for CEO endorsement



REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Medium-sized Project
THE GEF TRUST FUND

Submission Date: 19 October 2007
Re-submission Date: 21 March 2007
Re-submission Date: 22 October 2007
Re-submission Date: 27 November 2007

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 3256

GEF AGENCY PROJECT ID: 3813
COUNTRY(IES): Montenegro
PROJECT TITLE: Power Sector Policy Reform to Promote Small Hydropower Development in the Republic of Montenegro
GEF AGENCY(IES): UNDP
OTHER EXECUTING PARTNER(S): Ministry of Economy
GEF FOCAL AREA(S): Climate Change
GEF-4 STRATEGIC PROGRAM(S): CC-SP3-RE
NAME OF PARENT PROGRAM/UMBRELLA PROJECT: N/A

Expected Calendar	
Milestones	Dates
Work Program (for FSP)	n/a
GEF Agency Approval	February 2008
Implementation Start	May 2008
Mid-term Review (if planned)	May 2010
Implementation Completion	May 2012

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: An increase in 15MW to 20MW of new power generating capacity in Montenegro by the close of the project

<u>Project Components</u>	<u>Investment TA, or STA**</u>	Expected Outcomes	<u>Expected Outputs</u>	<u>GEF Financing*</u>		Co-financing*	Total (\$)	
				<u>(\$)</u>	<u>%</u>			
1. Creating attractive institutional, legal and price conditions for SHPP development	TA	Institutional, legal and price conditions attracting investment in small hydro-power generation	1.1 Tendering and authorisation procedures for small hydro-power producers simplified 1.2 Regulation for connection by small power producers to the power grid developed 1.3 Financial incentive scheme for small hydro power development elaborated	230,192	23.5	931,000	26,8	1,166,892
2. Support to IPP investment	Investment,	IPP investment decisions in Small hydro power	2.1 Hydrological data for additional 15 sites collected 2.2 All available small hydro-site	402,950	41.2	1,762,000	50,8	2,156,500

	TA	supported	data collected and posted on web site					
3. Support to IPP concessions operationalization	TA	Small hydropower IPP concessions operational	3.1 Design model tendering and contractual documents for SHPPs 3.2 Train and organize unit in SHPP tendering and contracting process 3.3 Tender and contract out the development 5 selected SHPP sites for power generation	220,392	22.5	485,000	14.0	720,892
4.M&E and dissemination of results	TA	Project results and lessons learnt summarized, documented and made publicly available	4.1 Monitor construction and operation of small hydro power plants 4.2 Identification, codification and dissemination of lessons learnt and best practices	102,859	10.5	214,000	6.2	304,109
5. Project management				22,000	2.3	78,000	2.2	100,000
Total Project Costs				978,393	100%	3,470,000	100%	4,448,393

* List the \$ by project components. The percentage is the share of GEF and Co-financing respectively to the total amount for the component.

** TA = Technical Assistance; STA = Scientific & technical analysis.

B. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	<i>Project Preparation*</i>	<i>Project</i>	<i>Agency Fee</i>	<i>Total at CEO Endorsement</i>	<i>For the record: Total at PIF</i>
GEF	n/a	978,393	97,839	1,076,232	1,076,232
Co-financing	n/a	3,470,000		3,470,000	3,470,000
Total	n/a	4,448,393	97,839	4,546,232	4,546,232

* Please include the previously approved PDFs and PPG, if any. Indicate the amount already approved as footnote here and if the GEF

funding is from GEF-3. Provide the status of implementation and use of fund for the project preparation grant in Annex D.

C. SOURCES OF CONFIRMED CO-FINANCING, including co-financing for project preparation for both the PDFs and PPG.

(expand the table line items as necessary)

<i>Name of co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Amount (\$)</i>	<i>%*</i>
Ministry of Economy	Nat'l Gov't	In-kind	1,400,000	40.3
Energy Regulatory Agency	Nat'l Gov't	In-kind	190,000	5.5
European Agency for Reconstruction	Multilat. Agency	Grant	1,190,000	34.3
Norwegian Government	Bilat. Agency	Grant	650,000	18.7

UNDP	Exec. Agency	Grant	40,000	1.2
Total Co-financing			3,470,000 ¹	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY(IES) OR COUNTRY(IES): N/A

E. PROJECT MANAGEMENT BUDGET/COST

<u>Cost Items</u>	<u>Total Estimate d person weeks</u>	<u>GEF (\$)</u>	<u>Other sources (\$)</u>	<u>Project total (\$)</u>
<u>Local consultants*</u>	152	22,000	38,000	60,000
<u>International consultants*</u>	0	0	0	0
<u>Office facilities, equipment, vehicles and communications**</u>		0	40,000	40,000
<i>Travel**</i>		0	0	0
Total	152	22,000	78,000	100,000

* Provide detailed information regarding the consultants in Annex C.

** Provide detailed information and justification for these line items. This will include office rent and other costs associated with PMU work, such as computers, telephone, printing costs, etc.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<u>Component</u>	<u>Estimate d person weeks</u>	<u>GEF(\$)</u>	<u>Other sources (\$)</u>	<u>Project total (\$)</u>
<u>Local consultants*</u>	1133	273,750	387,840	661,590
<u>International consultants*</u>	354	330,000	1,444,128	1,774,128
<u>Total</u>	1,487	603,750	1,831,968	2,435,718

* Provide detailed information regarding the consultants in Annex C.

G. DESCRIBE THE BUDGETED M&E PLAN:

Outcome 4 will provide for monitoring of the project implementation. Two independent evaluations of the project will be scheduled. The project's Logical Framework contains smart implementation and result indicators, against which the project team will report annually and against which the independent evaluator will also assess performance of the project. The project

¹ Out of total co-financing 1,910,128 USD will cover project management costs and technical consultants (see tables E and F). The rest will cover equipment for hydrological and geological surveys, software and hardware for hydrological analysis, satellite images, laboratory tests (rocks, soils, river sediments, etc), trainings/workshops.

manager will develop a detailed work plan for the project at inception phase to help the project reach its targets. Project consultants will review the tendering process as an adaptive management tool to improve this process, and project consultants will develop a baseline and monitoring methodology consistent with CDM rule to measure emission reductions from the small hydro dams. USD 102,859 from outcome 4 are earmarked to conduct the activities listed below.

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team Staff time</i>	Time frame
Inception Workshop (IW)	§ Project Coordinator § UNDP CO	None	Within first two months of project start up
Inception Report (IR)	§ Project Team § UNDP CO	None	Immediately following IW
Develop CDM compliant monitoring methodology for project targets	§ Project Coordinator will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	USD 26,059	Start of project
Annual measurement and verification of progress and impact and verification	§ Oversight by Project GEF Technical Advisor and Project Coordinator § Measurements by regional field officers and local IAs	USD 18,000 (\$4,500/year)	Annually prior to APR/PIR and to the definition of annual work plans
Annual Project Review (APR) and Project Implementation Review (PIR).	§ Project Team § UNDP-CO § UNDP-GEF	None	Annually
Tripartite Project Review (TPR) and TPR report	§ Government Counterparts § UNDP CO § Project team § UNDP-GEF Regional Coordinating Unit	None	Every year, upon receipt of APR
Steering Committee Meetings	§ Project Coordinator § UNDP CO	None	Following Project IW and subsequently at least once a year
Periodic status reports	§ Project team	None	To be determined by Project team and UNDP CO
Mid-term External Evaluation	§ Project team § UNDP- CO § UNDP-GEF Regional Coordinating Unit § External Consultants (i.e. evaluation team)	18,000	At the mid-point of project implementation.
Final External Evaluation	§ Project team, § UNDP-CO § UNDP-GEF Regional Coordinating Unit § External Consultants (i.e. evaluation team)	18,000	At the end of project implementation
Terminal Report	§ Project team	None	At least one month

	§ UNDP-CO § External Consultant		before the end of the project
Lessons learned	§ Project team § UNDP-GEF Regional Coordinating Unit (suggested formats for documenting best practices, etc)	18,000	Last year of the project
Audit	§ UNDP-CO § Project team	4,800 (average \$1200 per year)	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	§ UNDP Country Office § UNDP-GEF Regional Coordinating Unit (as appropriate) § Government representatives	None	Yearly
TOTAL INDICATIVE COST			
<i>Excluding project team staff time and UNDP staff and travel expenses</i>		US\$ 102,859	

PART II: PROJECT JUSTIFICATION

A. DESCRIBE THE PROJECT RATIONALE AND THE EXPECTED MEASURABLE GLOBAL ENVIRONMENTAL BENEFITS:

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in Green House Gases (GHG) emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the government of Montenegro (GoM) in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions;
- by setting attractive but competitive business terms and conditions for investors;
- and helping the new Energy Efficiency (EE) and Renewable Energy Unit role out a streamlined and transparent tendering process.

Situation Analysis

Power sector assets and ownership: Montenegro has a total installed capacity of 868 MW, of which over 70% comes from two large hydro generating facilities. The remainder comes from a single coal fired power generating station. All three plants were built between 1977 and 1981. 7 small hydro power plants of 10MW and less also contribute just over 1% or almost 9MW of generating capacity to this mix (see Annex 1 for more details). Demand for power fell during the 1990's due to economic contraction, so there was little pressure to plan for new generating capacity (see Annex 2 for more details). While there has been some discussion about the construction of new generating facilities, mainly large hydro facilities, for various reasons no construction of any new generating capacity since 1981 has been undertaken. However

since the mid 1990s demand for power has begun to grow again. In 1994 total final consumption was 505 GWh, while in 2005 it was 2077 GWh. Surprisingly most of this growth in demand comes from the residential sector, rather than the industrial sector. Montenegro saw a doubling in demand from the residential sector over the last 20 years. In part this can be explained by the heavily subsidized tariff of 2.2 €cents/ kWh, but also from a growth in housing. Although far less efficient it has been cheaper for houses to use electricity for space heating and hot water because of the low tariff.

Installed capacity of generation and electricity production in the electric power system

	Installed capacity		Net capacity		Average generation realised		Realised in 2005		Plan for 2006	
	MW	%	MW	%	GWh	%	GWh	%	GWh	%
Small HP	9.0	1.0	9.0	1.1	21.4	0.9	22.9	0.8	21	0.8
HP (Piva and Perucica)	649.0	74.8	649.0	76.3	1 552.0	62.2	1818	66.6	1673	60.5
TPP (Plevlja)	210.0	24.2	193.0	22.7	922.0	36.9	890	32.5	1073	38.7
Total production	868.0	100.0	851.0	100.0	2495.4	100.0	2730.9	100.0	2 767	100.0

Montenegro can no longer meet its own power needs. In 2005 the country had a power deficit of 1800GWh. To make up the difference the National Electric Power Company of Montenegro (EPGC) imported power, and over the last few years these imports have met 1/3 of all consumption needs, and imported power is more expensive than domestic production. In 2006 the average domestic cost of generation was €2.65 cents/kWh, while the imported price was €4.2 cents/ kWh.

The government is now drafting its energy development strategy, so it is looking at it options for new generating capacity. An EPGC study² has identified a number of options. These include 3 large hydro

² The EPCG Study *Construction of New Electric Power Sources* revealed the following options:

- The construction of BUK BIJELA HPP hydro power plant on the river Drina together with Bosnia and Herzegovina with a capacity of 450 MW and an average annual generation of 1150 GWh. It was rejected though by the Montenegrins because of environmental impact it would have on surrounding UNESCO World Heritage sites and important wildlife habitats. The Government of the Bosnia and Herzegovina decided to continue construction of the plant on its side of the border regardless of the anticipated environmental damage.
- The construction of KOSTANICA HPP with the translocation of a part of inflows of the Tara river into the Moraca river and construction of HPP on the Moraca river for a capacity of 552 MW and the annual generation of 1254 GWh. This project is considered as the most economically viable option as it will solve the problem of energy supply in the long-term period, but will generate a surplus electricity that can be exported;
- The construction of four HPP on the Moraca river with a capacity of 357 MW and annual generation of 694 GWh without translocation of water of the Tara river to 1054 GWh with translocation of water. The study has indicated that without translocation of water the project will be relatively expensive.
- The thermal plant expansion by the addition of a second unit at the Pljevlja thermal plant with a capacity of 210 MW and an average annual production of about 1000 GWh. This is a practical option since about 35% of the cost of the second unit has already been invested and the added capacity would meet the energy deficit.

power plants either in a UNESCO site or upstream of Serbian hydro-power facilities. Strong public opinion (about the UNESCO site), and political relations with Serbia are likely to slow if not prevent the development of these sites. On the other hand a 210 MW extension to the existing coal power plant and 357 MW of hydro power from sites on the Moraca River are more possible in the current geopolitical climate. Finally decisions have not yet been taken on how to expand capacity. In the mean time the government has endorsed a new small hydro development strategy and set a target of 15 to 20 MW of new generating capacity from small hydro power resources by 2015. Although power from small hydro resources, it makes political sense for Montenegro to adopt this strategy when it has declared itself as an ecological state, there is heavy public opinion against the power sector and in particular the development of large hydro power stations, and where small hydro power production is more compatible with an economy where the tourism industry contributes 15% of GDP and is the fastest growing tourist sector in the world, with estimates of a 10% increase over the next decade.

Small hydro-power: The most recent study "Guidelines for development and construction of small hydropower plants in Montenegro" (2000) identifies 70 potential locations (see Annex 3 for map of sites) for small hydropower plant construction with a total estimated generating capacity of 232 MW, or 644 GWh per year³. In theory small hydro power could also cover Montenegro's power deficit. However more detailed site surveys are first needed and it is likely that only a subset of the 45 sites will turn out to be viable (see Annex 4 for details on data).

Installed capacity of 7 existing small hydropower plants amounts to 8.92 MW with average production of 25 GWh per year. Table 2 shows the age structure of the existing small hydropower plants. Most units have been operating for more than 20 years and over half of them are more than 40 years old. Only 2 small hydropower plants can be considered as relatively new (19 years). In the past 10 years there were no renovations of the units. EPCG reports the cost of production from these sites at around €6.5 cents/kWh. The government plans to sell off all 7 sites, but has yet to agree to any tariff for small hydro power.

Age structure of the existing small hydropower plants

Age	0-19 Year	20-39 Year	40-59 Year	>60 Year	Total
Number of SHPP	2	1	3	1	7
Share of SHPP in %	29	14	43	14	100

Power market operation: The entire power sector including the generating facilities, along with the transmission and distribution system is owned and managed by the single State owned company EPCG. EPCG is now functionally unbundled, and is preparing for legal unbundling of the transmission and distribution sector and sell off of the thermal generating unit (30% of the countries generating capacity) by the beginning of 2007. At this point the government is considering whether or not they will privatize the remaining large hydro assets, but one option under consideration is the sale of large hydro generating assets by 2010.

Tariffs for the vertically integrated EPCG are set through a cost plus arrangement. EPCG submits costs of production to the ERA (Energy Regulatory Agency), and if accepted these costs are reimbursed together with a profit margin of 5%. For 2005 EPCG submitted production costs of USD 234 million to the ERA, and they are still under review. Consumer tariffs are set by a government decision in 2003, defining costs by customer category (kV categories), season and daily peak times. The tariff for small users of less than

³ Measurements of the hydrological regime suggest on average these 70 sites would be operating 31.7% of the time.

1kW (in effect households) is on average 2.2 € cents/kWh; while small businesses are charged 4.4 € cents/kWh. The tariff for residential users is heavily subsidized, but the government has agreed to remove all subsidies as one of the conditions of the Treaty establishing the Energy Community.

For imported power, EPCG issues a tender to prospective bidders, and enters into bilateral contracts with the winners for one year. For reserve power, Montenegro has an arrangement with Serbia over the use of power from Piva power plant (from which both countries share power generation capacity), so they do not need to enter into spot market arrangements for imported power.

As per the Energy Law Montenegro is in the process of introducing a power market, which will have the following characteristics:

- An Independent Energy Regulatory Agency, responsible for implementing and enforcing government policy including, the development of secondary legislation, licensing authorization and supervision of market activities and tariff setting;
- A market operator who will receive and match supply and purchase bids for power and dispatch according to a merit order. Power will be bought and sold through bilateral contracts and on the spot market;
- Generation, transmission, distribution and suppliers will all be unbundled licensed operators charging for services rendered;
- The Ministry of Economy will maintain an inspectorate to conduct inspection from time to time to supervise compliance of licensees.

The ERA will initially introduce a cost plus tariff methodology for market operators to charge for services, and as experience and data is accumulated, they will probably move to a price cap tariff methodology to encourage energy savings and lower power prices. Ultimately the ERA has the authority to deregulate tariffs as and when it deems the market is competitive. The Montenegrin power market is generally considered to be too small to become competitive by itself. However as it becomes part of the regional power market under the Energy Community Treaty competition is likely to increase, and under this treaty industrial power consumers will be free to purchase power from any source by 2008, while residential consumers will be free to buy their power from any source by 2015.

Small renewable energy generation: Small renewable hydro-power producers of less than 10MW will be subject to slightly different arrangements than that for larger generators described above. An Energy Efficiency and Renewable Energy Unit is being established within the Ministry of Economy who will be responsible for providing data for renewable energy generation sites, authorizing and permitting new generating facilities and licensing and inspecting activities. None-the-less for grid connected users they will still be trading power through the market operator, as with other generators, although subject to different licensing and tariff conditions.

The current plan of the Ministry is to introduce a cost plus tariff methodology (as for large hydro power producers), for a short period while they collect cost data and develop an incentive based tariff. This project urgently needs to support the development of an incentive based tariff otherwise the SHPP sector is likely to develop with prices that are politically unsustainable, with the potential outcome that the small hydro strategy will be abandoned. Connected with this is the process by which the unit will contract new investment in power plant assets. It is important that this project supports the unit in developing a procedure, terms and conditions that attracts investors, but at a competitive price. Apart from site data collection the other main area of work will be to simplify the application, permitting and licensing procedures and reduce administrative resistance to foreign investment interest. Some of this work is underway, while the project will support simplification in other areas, to ensure the unit has access to best practice experience.

As a first step, the Government will privatize the 7 existing small hydro-power generating assets in 2006-2007, and this puts time pressure on the EE and RE unit to complete the procedures for this process. As a second phase the unit will prepare a further 15MW to 20MW of new capacity for development by 2015 at the latest. Using the CDM's operating margin methodology to calculate an emission factor of 0.479, 15MW to 20MW of new small hydro generating capacity would result in annual GHG reductions of 20,118 to 26,824⁴ CO₂ eq. Below is a more detailed summary of the current constraints to investment in small hydro-power plant generating capacity.

Data for small- hydro sites to support investment decisions: Existing data for all but 5 of the 70 sites is not sufficient to make basic investment decisions. Completed studies rely mostly on river catchment-level hydrological and rainfall data from 21 stations (see Annex 5 for details) and topographic maps to model water velocity, volume and generating potential for each site. From this only 12 sites are considered to have reliable data to make an investment grade assessment of energy potential. 1 in 50,000 geological maps and 1 in 2,500 soil maps are used to assess suitability of sites for construction. This will need to be complimented by site specific testing to assess technical and therefore cost requirements related to dam foundation and construction. Site specific data is available on the proximity to grid, but sites have not been reviewed against spatial plans, environmental impact and there is no data on ownership, access and use rights. For the 5 exception sites pre-feasibility work has been done and technical concept plans are available. Because of their interest to invest in small hydro-power generating capacity, in 2005 the Norwegian Government initiated a two year programme for USD 650,000 that will undertake hydrological measurements at 15 new stations along Lim, Piva and Komarnica rivers. It is expected that by the end of the project, there will be sufficient historical hydrological data for most of Montenegro's big rivers allowing for more precise assessment of hydropower generation capacity of the potential SHPP sites. The project will support the government to collect hydrological data for 15 additional potential sites and collect, assemble and present an investment package for 5 of the most interesting sites.

Legal and regulatory framework for SHPP development: The European Agency for Reconstruction (EAR) has prepared a USD 820,000 project to EPCG with legal unbundling of the company and privatisation of its assets. It has also prepared a second USD 370,000 project to support the ERA to develop the energy market design, authorisation and licensing procedures, tariff methodologies and price reviews. As yet no support has been given to the Ministry of Economy to set-up a unit for management of small renewable energy generators. Because of time pressure they have begun to review procedures for authorizing new construction, issuing permits for construction and licensing market activities, tariff methodology, and a distribution code, but more support is needed. In particular the law on Private Sector Participation needs to be reviewed and revised to simplify both the tendering procedure for small hydro-power sites and for issuing water usage and concession fees, and to develop a tariff methodology. Under current practice, contracting is complicated, time consuming and involves a large number of actors (the Government of Montenegro, Council for Privatisation, Commission for Concessions and BOT arrangements, Ministry responsible for water management, Energy Regulatory Agency, Ministry of Economy as the responsible ministry, special organisational units within specific authorities – units for project evaluation, *ad-hoc* commissions for project assessment). Total duration of the entire small hydropower plant construction authorisation process is estimated to be a minimum of six years.

There are also no special **provisions regulating connection, transmission and distribution of electricity produced from renewable energy sources** to/through the Montenegrin grid.

The *Provisional Distribution Code* is not accompanied by implementing documents such as Rules or Guidelines, which would define specific conditions applicable to individual small hydropower plants. The provisional nature of the Code also adds to uncertainty. Finally, there are no rules and procedures

⁴ $15\text{-}20\text{MW}_{(\text{new capacity})} \times 2800\text{hr/yr}_{(\text{av. operating capacity})} \times 0.479_{(\text{operating margin})} = 20,118 - 26,892 \text{ tonnes CO}_{2\text{eq}} \text{ avoided/ yr.}$

describing the process of small hydro power plant connection to network, including the application process, sanctions for delay with connection, etc. Overall, development of legal and regulatory framework setting out the relations between Independent Power Producers (IPP), and particularly small-hydro power plants, and transmission and distribution system operators is a critical issue which needs further clarification and formalization, especially in light of on-going restructuring of Montenegro power sector and unbundling of EPCG. There is no clarity and guidelines from the Ministry of Economy regarding methodology for calculating and establishing the grid connection fees for small hydropower plants. Finally, the lack of legal provisions regulating the purchase of electricity from small hydropower plants is another important barrier to SHPP development.

As with the ERA the Ministry of Economy initially plans to introduce a cost plus methodology for generators, with a view to introducing an incentive based methodology as data on generating costs are gained. The project needs to support the development of an incentive based tariff as quickly as possible, to help the government keep the costs of power from renewable sources down.

Institutional arrangements and human capacities: The Law on Energy clearly makes the Ministry of Economy responsible for attracting and managing small renewable generators of 10MW and less. The Ministry of Economy has set up an Energy Efficiency and Renewable Energy unit who will be tasked with the above responsibilities, but at the moment it has only one staff member. There are plans to build up the new unit with new staff members. This project will support capacity and institutional building of this unit to leave behind an independently functioning unit.

Project Goal, Objective, Outcomes, and Outputs/Activities

The goal of the proposed medium-sized GEF project is to reduce GHG emissions by creating favorable legal, regulatory and market environment and building institutional and administrative capacities to promote development of Montenegro's abundant small hydropower potential for grid-connected electricity generation. The project is expected to result in an estimated annual reduction of 20,118 - 26,824 tons of CO_{2eq} by facilitating development of new small hydropower plants with total production capacity of 15-20 MW. This will be achieved by removing existing legal, regulatory, institutional and market barriers to private investments in small hydropower development in Montenegro. The project strategy will be realized through achievement of the following four Outcomes:

Objective: An increase in 15MW to 20MW of new power generating capacity in Montenegro by the close of the project.

Outcome 1: Institutional, legal and price conditions attracting investment in small hydro-power generation.

The Ministry of Economy will establish a new Energy Efficiency and Renewable Energy Unit, to undertake new responsibilities in Small hydro power allocated to it. It will recruit 3 team members, and provide them with office space and facilities. The GEF will finance consultants to provide technical assistance to support the new team in conducting the activities listed below. GEF funds will be used to conduct analysis and develop solutions for the activities listed below including drafting new legislation and guidance. The GoM will finance the costs to implement these changes. Various legal acts would include laws on tendering procedure, concessions, constructions and on economic instruments for water usage. GEF financing is justified on the basis discussed in the incremental cost section above. That is the technical support being offered by the project will help the government to simplify tendering and

connection procedures and offer incentives that attract competitive offers to develop the country's SHPP resources.

Output 1.1: Simplify tendering and authorisation procedures for small hydro-power producers

- 1.1.1 Establish a target for share of power from renewable energy sources
- 1.1.2 Review, simplify and clarify procedure for the concession of public services
- 1.1.3 Streamline, simplify and clarifying roles, responsibilities and procedures to coordinate and shorten the authorization process
- 1.1.4 Simplify documentation for construction permits of small hydro power units
- 1.1.5 Revise legislation to require a single water usage/ concession fees from small hydro-power users

Output 1.2: Develop regulation for connection by small power producers to the power grid

- 1.2.1 Draft provisions for priority access to the grid system of electricity produced from small hydro power sources
- 1.2.2 Develop and publish the rules and procedures for connection of small hydro power plants to the distribution network based on Provisional Distribution Code
- 1.2.3 Develop and publish the methodology for calculating connection fees for small hydro-power producers
- 1.2.4 Develop secondary regulation governing relations between small-hydro power plants and transmission and distribution system operators

Output 1.3: Development of financial incentive scheme for small hydro power development

- 1.3.1 Collect and analyze cost data on small hydro-power generation
- 1.3.2 Review best practice on incentive based tariffs for small hydro power producers
- 1.3.3 Develop the two most favored options and assess cost and feasibility implications
- 1.3.4 Support the process to legally endorse the favored incentive tariff
- 1.3.5 Review and revise the tax legislation to remove import duties and VAT from small power equipment and production.
- 1.3.6 Review options for the generation and sale of carbon credits from new small hydro capacity.

Outcome 2: IPP investment decisions in Small hydro power supported

Norwegian and government funding will be used to collect hydrological data for the 30 sites to make an investment grade assessment of the generating capacity in the 30 sites. GEF resources will compliment this by financing the collection of hydrological data for 15 additional sites and training hydrological engineers to process and analyze data. Also, the project will collect additional data essential for attracting investors for all 45 sites, including data on site spatial planning, site ownership and access. The 45 sites will be assessed taking into account climate change factor. All data will be assembled data in site specific fiches for interested investors. For the 5 most promising sites, the GEF will finance the development of a technical concept plan and pre-feasibility assessments, as well as finance an environmental impact assessment, obtain owners consent for access and construction, authorization to construct, and planning and water use permits. All site data will be assembled and made available to the public.

Output 2.1 Hydrological data for additional 15 sites collected

- 2.1.1 Stations to measure water level in 15 potential locations constructed and equipped
- 2.1.2 Rating curves for 15 sites made and actual discharge at different water levels calculated
- 2.1.3 Duration curves for 15 sites made and energy potential at the potential locations calculated
- 2.1.4 Dam location size and construction estimated
- 2.1.5 Hydromet hydrological engineers trained to make duration curves

Output 2.2 All available small hydro-site data collected and posted on web site

- 2.1.1 Assemble available data on 45 potential small hydro sites
- 2.1.2 Analyze likely influence of climate change on the hydrological potential of the 45 sites
- 2.1.3 Prepare additional cadastre data for each site, including, location, existing infrastructure, geology, hydrology, proximity to the grid or buyer, planning designations, ownership, use and access rights
- 2.1.4 Define site eligibility criteria including spatial, ecological, cultural and water use limitations
- 2.1.5 Filter out 20 eligible small-hydro sites with the greatest potential for development and post site data for public access
- 2.1.6 For the 5 most promising sites collect data to project concept level, including technical solutions and pre-feasibility assessment, complete pre-investment documentation, including environmental impact assessment, stakeholder consent, planning permission, access and use permits
- 2.1.7 Advertise 5 sites for expressions of interest from investors

Outcome 3: Small hydropower IPP concessions operational

The GoM will finance running costs of the Energy Efficiency and Renewable Energy Unit. The GEF will finance work to take the unit staff through the different options for power purchase agreements, concession and agreement and bidding options. The GEF will then finance the development of model documents according to the agreed options and support the unit in undertaking the bidding process and signing the concession contracts.

Output 3.1: Design model tendering and contractual documents for SHPPs

- 3.1.1 Develop a model Power Purchase Agreement (PPA)
- 3.1.2 Develop a model Concession Agreement for SHPP construction and operation, including provisions for guarantees and risk mitigation
- 3.1.3 Develop bidding documents for the award of SHPP sites/concessions to potential investors, including detailed bid evaluation criteria

Output 3.2: Train and organize unit in SHPP tendering and contracting process

- 3.2.1 Develop procedures and assign responsibilities for bidding and negotiation process
- 3.2.2 Develop staff capabilities, including training for organization and negotiation of tenders
- 3.2.3 Web-site and other information dissemination and awareness raising activities to inform potential investors on SHPP opportunities and policies in Montenegro

Output 3.3. Tender and contract out the development 5 selected SHPP sites for power generation

- 3.3.1 Prepare and publish concession tender announcement
- 3.3.2 Respond to Independent Power Producer enquiries
- 3.3.3 Evaluate and select winning IPP offer
- 3.3.4 Negotiate and sign PPA and concession agreements

Outcome 4: Project results and lessons learnt summarized, documented and made publicly available

The GoM will finance all running costs of the EE and RE unit. The GEF will finance the costs to review and adjust the bidding process and associated documents for a second round of bidding, which the unit will under take independently of the project The GEF will also support the unit in developing the production data requirements that power producers should submit to the EE and RE unit so that a review and revision of the tariffs can be undertaken, and emission savings can be calculated.

Output 4.1 Monitor construction and operation of small hydro power plants

- 4.1.1 Monitor the bidding, authorization and construction process
- 4.1.2 Review and revise the process, responsibilities and documents for attract investment in small hydro-power plant rehabilitation.
- 4.1.3 Supervise the construction and commissioning at 5 sites
- 4.1.4 Develop requirements for the submission of production data by the independent power producer to the EE and RE unit.
- 4.1.5 Monitor GHG emission savings.

Output 4.2 Identification, codification and dissemination of lessons learnt and best practices

- 4.2.1 Prepare a series of publications reflecting project results and lessons (e.g. organization of public tenders on SHPPs, economic mechanisms to promote SHPP in Montenegro, etc).
- 4.2.2 Organize a national level seminar to present the lessons learned to stakeholders and potential investors.
- 4.2.3 Undertake two fully independent evaluations of the project.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

Treaty Establishing the Energy Community: Montenegro became an adhering party of the Treaty to Establish an Energy Community in October 2005. The intension of the treaty is to promote energy security by allowing all members (EU members and SEE countries) to trade power with each other and help to balance supply and demand across the region. The Treaty also sets out the rights and obligations of members. Adherents are expected to create free and fair conditions for free trade of power. They are obliged to create the institutions and rules for power trade, unbundle the energy sector, and allow transparent and non-discriminatory opportunities for new generating opportunities. Under the treaty adherents are also obliged to set a renewable energy generation target, however in the case of Montenegro, it is unlikely they would be obliged to expand their target beyond the existing share of renewable energy generating capacity.

Energy Law: In 2003, Montenegro approved a new Energy Law laying the legal foundation for unbundling the energy sector, confirming the policy making role of the government and Ministry of Economy, establishing a fully independent Energy Regulatory Agency, and setting the framework conditions for an electricity market. The law makes provisions for foreign investment in the sector and for non-discriminatory access to the transmission and distribution network and to the sale of power for renewable energy generating sites of 10 MW and less, along with simplified procedures for authorisation and licensing.

Energy Development Strategy: The Ministry of Economy has published energy policy guidelines based on which the energy development strategy is now being drafted. The government's policy goals and objectives in the energy sector include: a secure, high quality, reliable power supply; a reduction in dependence on energy imports; the creation of conditions for investment in new and upgrading existing generating capacity; and higher utilisation of renewable energy resources. First drafts of the energy development strategy indicate the government is expecting private investment to drive the construction of new generating capacity. While the regional power market is not yet established the government is expecting regional market prices for energy to drive private investment in new generating capacity, however they will consider subsidies where necessary.

The Small Hydro Development Strategy: The part of the government's plan to build new capacity is enshrined in the newly adopted Small Hydro Power Development Strategy, which will become part of the Energy Development Strategy once it has been drafted. The strategy sets out specific steps to realize between 15 and 20MW of new small hydro-generating capacity by 2015:

- Assessment of technical potential for small hydro power development in Montenegro and its environmental impact;
- Development of administrative and operational procedures for purchase of electricity from small hydropower plants and its delivery to the Montenegrin grid;
- Designing simplified and streamlined procedures for tendering and authorization procedures for construction of new small hydropower plants;
- Harmonizing a system of fees and charges for small hydropower electricity producers;
- Methodology for setting purchase price for electricity from small hydropower plant;
- Governmental investment support schemes for small hydropower development projects.

Environment Law: The Government of Montenegro declared itself as an ecological state in 1991. The environment law adopted in 1996 declares that Montenegro will adopt stricter environment norms and standards than international legislation. This includes emission standards and environmental impact assessment, and the higher standards effect the government’s options for developing its generating capacity. It makes it difficult for Montenegro to develop its large hydro power potential, particularly in protected areas, and will increase the cost of power generation from new and existing thermal sources, since generators will need to make additional investments to complying with higher air emission standards.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS:

The project falls under Operational Programme No. 6: Promotion of renewable energy by removing barriers and reducing implementation costs. In particular, it will contribute to achievement of CC-SP3 ‘Promoting market Approaches for Renewable Energy’, by creating favorable legal, regulatory and economic environment and building institutional and administrative capacities of the Montenegrin Government to promote development of country’s abundant small hydropower potential for grid-connected electricity generation.

D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

UNDP confirmed with the WB that they have cancelled their GEF project on Energy Efficiency for Serbia and Montenegro. There is no other GEF climate change project planned in Serbia and Montenegro and therefore coordination is not an issue.

As mentioned above, the Norwegian Government initiated a two year programme that will undertake hydrological measurements at 15 new stations along Lim, Piva and Komarnica rivers. The proposed project will compliment Norwegian funding by financing the collection of hydrological data for additional 15 sites and data on site spatial planning, site ownership and access, as well as assemble and present an investment package for 5 of the most interesting sites.

In addition, the European Agency for Reconstruction (EAR) has prepared a project to support the ERA to develop the energy market design, authorisation and licensing procedures, tariff methodologies and price reviews. As yet no support has been given to the Ministry of Economy to set-up a unit for management of small renewable energy generators. Because of time pressure they have begun to review procedures for authorizing new construction, issuing permits for construction and licensing market activities, tariff methodology, and a distribution code, but more support is needed. In particular the law on Private Sector Participation needs to be reviewed and revised to simplify both the tendering procedure for small hydro-power sites and for issuing water usage and concession fees, and to develop a tariff methodology.

E. DESCRIBE THE [INCREMENTAL REASONING](#) OF THE PROJECT:

In summary the incremental rationale for this project is as follows. The private sector has expressed interest in investing in small hydro-power. Several European utilities, including Norway's NTE, Hungary's MVM, Slovenia's HSE and CEZ of the Czech Republic have recently already expressed their interest to participate in small hydropower development in Montenegro. Interest is keen to the point that the Government of Norway has put USD 650,000 into hydrological measurement in Montenegro. However, investment decisions hinge on the terms and conditions being offered by the government to investors. At the same time the government recognises the need for subsidies and in favour of small hydro power because it is a politically popular (partial) solution to Montenegro's power capacity shortage. However with removal of residential power subsidies, and liberalisation in the power market consumers power prices will grow. Under such conditions the government will need to justify its small hydro power policy as it comes under pressure to provide cheaper power. The incremental justification therefore for this project is that (a) it will support the government in implementing its small hydro-power development policy more quickly than otherwise be the case; and (b) it will support the government in attracting investment at a competitive price, it can justify to its electorate, as power prices rise, and provide a sustainable underpinning to the government's small hydro power policy.

F. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

Risk	Rating	Mitigation
Favorable investment climate and political stability in Montenegro will sustain	Medium	The project aims to create a favorable investment environment by streamlining the requirements for granting small hydro concessions and operating a business
Continuous government's commitment to SHHP development and implementation of EU "acquis communautaire"	Medium	The project aims to attract the most competitive option to develop and operate small hydro facilities, keeping the cost of electricity production as low as possible.
Hydrological potential is sufficient to identify at least five potential SHHP locations	Low	Montenegro has historical river flow data from 21 hydrological measuring stations. While 70 potential sites may not all be economically viable, the likelihood that 5 sites in Montenegro are not feasible is low.

G. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

The expectation is that the GoM will install 15 to 20MW of new small hydro capacity by close of the project. This will give annual emission reductions of 20,118 to 26,824 t CO₂ eq. Over a 20 year life span of the small hydro equipment this would amount to 402,360 to 536,480 CO₂ eq of post project direct savings. That's equal to ratio of GEF 2.4 to 1.8 USD/ t CO₂ eq in emission reductions. In addition there is a low possibility that the government would extend its target if the project demonstrates competitive energy generation from SHPP, and as a result an additional 454,932t CO₂eq could be claimed by this project in indirect savings.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENT:

The project is planned for direct execution (DEX) by UNDP. UNDP will provide the following services as per the Universal Price List: payments; staff selection and recruitment; staff administration & management; recurrent; consultant recruitment; issue/renew IDs (UN LP, UN ID, etc.); vehicle registration; visa request; ticket request; travel authorization; hotel reservation; and procurement.

The Project Management Unit will consist of a project manager and assistant. He or she will manage project consultants in support of the Energy Efficiency and Renewable Energy Unit of the Ministry of Economy as well as provide his or her contribution as an Energy Policy Specialist. The project will have a Project Steering Committee which will review and approve annual work plans and budgets prepared by the project manager. The Committee will include representatives of the Ministry of Economy, Energy Regulatory Agency, EPCG, UNDP and representatives of local authorities in which the hydro power plants will be located. The Committee will be chaired by the Ministry of Economy and the project manager will act as Secretary to the Committee.

CORE COMMITMENTS AND LINKAGES

This project did not use any PDF funds. Instead UNDP mobilized and managed USD 70,000 in grants to develop Montenegro's Small Hydro Development Strategy. The strategy has now been endorsed by the Government of Montenegro, and this project is based on the recommendations of that strategy. UNDP's added advantage is in policy negotiation, and the office has allocated USD 40,000 to support policy work of the project, to ensure that there are framework conditions enabling investment.

SUSTAINABILITY (INCLUDING FINANCIAL SUSTAINABILITY)

Institutional sustainability: The Ministry of Economy has been delegated the responsibility to manage privatization of the country's small hydro power assets. It has confirmed in its letter of co-financing to project that it has set aside the funds to finance the costs of a unit, to carryout this new mandate. This will be the basis for institutional sustainability. The project will support the unit through capacity building, training and organization to promote the development of SHPP resources in Montenegro.

Financial sustainability: Power generated from SHPP resources costs more than from fossil fuel. Without financial support therefore SHPP resources can not compete with fossil fuel in an open market. The government has declared in its strategy for SHPP development that it will offer feed-in-tariff subsidies to SHPP investors. This subsidy will provide the financial sustainability necessary to see the development of SHPP resources.

REPLICABILITY

Montenegro has identified 232MW of technical potential SHHP capacity, or 70 sites. Of this The Government's SHHP strategy is to develop 15-20 MW of this potential generating capacity. There is not enough data to know precisely what of the remaining 212 - 217MW. Part of the project will be to support the process to understand which of the sites are financially viable to develop. This or course will depend in part on the tariff that is offered by the government. The incremental cost rational for this project is to help the government develop their SHHP potential at a low cost, by benefiting from experience and best practice from other countries. Assuming the project is successful, an assumption has been made that the project will be prepared to develop a further 42MW of capacity. However there has been no commitment by government to do this as yet. Their decision will hinge on the success of the current programme.

Finally Albania is currently considering ways to expand its SHHP capacity. Experiences emerging from implementation of this project will be observed closely by Albania, with some expectation that they will adopt successful practices. Albania has a technical potential of 140MW of capacity that could benefits from experience in Montenegro.

STAKEHOLDER INVOLVEMENT

The Energy Regulatory Agency, The Ministry of Economy and National Electric Company of Montenegro (ElektroPrivredaCrneGore, EPCG) the power company's views were solicited during project preparation. Furthermore the project is based on the Small-hydro development strategy endorsed by the government, and the GEF Operational Focal Point (OFF) has endorsed the project.

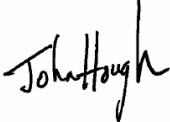
During implementation the project will be working directly with the EE and RE unit within the Ministry of Economy who are responsible for the realization of renewable energy resources by small generators. An adaptive management process will be applied and the EE and RE Unit will have the option to adapt the support they receive from the project to full the project goals.

In addition to the above-mentioned institutions, wide range of stakeholders will be involved in the project implementation. These include: Ministries in charge for water and environment, Hydro meteorological institute of Montenegro, authorities in charge at the municipal level, SHPP site operators and investors, site owners, civil society and NGOs, as well as media (see Annex 9 for full list).

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

The project design is fully aligned with the original PIF, including the budget.

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.	
 John Hough Deputy Executive Coordinator a.i. UNDP/GEF	Mr. Geordie Colville Regional Technical Advisor
Date: 27 November 2007	Tel: +421 2 59 337 408 e-mail: geordie.colville@undp.org

LIST OF ANNEXES

- Annex A Project Results Framework and Key project indicators
- Annex B Responses to Project Reviews
- Annex C Consultants to be hired for the project
- Annex D Status of implementation of project preparation activities and the use of funds
- Annex E Total Budget and Work Plan
- Annex F Description of activities to be supported by GEF versus co-funded activities
- Annex G List of Abbreviations
- Annex H Electricity sector of Montenegro
- Annex I Electricity Consumption characteristics for Montenegro
- Annex J Existing SHPP and 70 potential locations identified for small hydropower plant construction data on SHPP sites
- Annex K Hydro Meteorological Institute of Montenegro (HMIM) hydrological measurements in 21 tributaries
- Annex L Emissions Savings Calculation
- Annex M List of Stakeholders to be involved in the project
- Annex N Details of the “in-kind” contributions
- Annex O Letters of co-financiers and RAF Endorsement Letter

ANNEX A: PROJECT RESULTS FRAMEWORK AND KEY PROJECT INDICATORS

Project Strategy	Objectively verifiable indicators				
Goal	To reduce emission of greenhouse gases (GHG) by promoting the development of small hydropower resources in the Republic of Montenegro.				
Objectives and outcomes	Indicator	<i>Baseline</i>	<i>Target</i>	Sources of verification	Risks and Assumptions
Objective of the project : An increase in utilization of small hydro potential in Montenegro for power generation	– New MW of power generated from small hydro sources	1.1% or of domestic electricity generation or 9MW	5% or additional 15-20 MW	Data on domestic electricity production	Favorable investment climate and political stability in Montenegro will sustain
Outcome 1 policies and regulations promoting IPP investment in small hydropower concessions	– Simplified tendering procedures – Simplified procedures for authorization, licensing, permitting and – Incentive based feed in tariff used	– No tendering/ authorization procedures for SHPPs; – No rules/tariff for SHPPs connection to the grid – Two fees for SHHP: concession and water; – No financial incentives for investments in SHPP	– SHPP tendering and concession granting procedures – Special rules for SHPP connection to the grid – Single fee for SHPP – Feed in tariff	New and amended legal and regulatory document, including Laws on Energy, Public Works, EIA	Continuous government’s commitment to SHHP development and implementation of <i>EU “acquis communautaire ”</i>
Outcome 2 IPP investment decisions in Small hydro power supported	– Data answers pre-investment questions of investors	- No reliable and up-to-date information on existing/potential SHPP locations	- National cadastre of small hydropower plants;	Min. of Economy investor Query log	Hydrological potential is sufficient to identify at least five potential SHHP location
Outcome 3 Small hydropower IPP concessions operational	– Competitive IPP concessions awarded for 15MW to 20 MW of new generating capacity utilizing incentive based tariffs	– Incentive based tariffs not used	Incentive based tariffs used, and terms/ conditions competitive compared to EU countries	Ministry of Economy and Energy Regulatory Agency (web-site)	Governmental has resources to sustain operation of CHUSHP; Interest of IPPs in SHHP development
Outcome 4 Project results and lessons learnt summarized, documented, presented and disseminated <i>Note: including project management costs, M&E</i>	– Procedures and models adapted based on experience – Tenders prepared for second phase of new sites	– No Tender documents fro second phase	Tender documents for second phase	Project office	M&E of project activities is carefully planned, covers all project components and is conducted on a continuous basis

KEY PROJECT INDICATORS

INDICATOR	DESCRIPTION	ESTIMATION
1. Tons of CO2 avoided		
1.1. Project Direct	The project is expected to support the development of new small hydropower plants with total production capacity of 15-20 MW. It is unrealistic to expect the new SHPP to be operating by the close of this project, i.e. after 4 years.	0
1.2. Post Project Direct	Investments supported by mechanisms that continue operating after the end of the project. Calculated emissions reductions are based on the following assumptions: a) GHG emissions over the 20 year life b) New small hydro capacity 15MW-20MW c) Operating capacity 2800hr/year (42,000MWh/year to 56,000MWh/year). d) Operating margin 0.479 kg/kWh	CO ₂ eqv/year reductions = Operating capacity [MWh/year] x Operating margin [0.479 kg/kWh] <i>Annual emission reductions of</i> 20,118 to 26,824 CO₂eqv./year.
1.3. Indirect	The government's SHPP policy is to support 15-20 MW of new SHPP. The project assumes new and additional capacity beyond this will not happen without additional feed in tariff subsidies. The question then becomes to what extent the government will be prepared to extend its small-hydro development target beyond the current target of 15-20MW. Montenegro has 232 MW of potential small-hydro generating capacity. After deducting the 20MW targeted under the current strategy, this leaves 212MW of potential generating capacity. There is not enough data on all sites to know if they are all financially attractive. To be conservative the calculation assumes that the government will add another 42 MW in the 10 years following project closure. Using the top down approach we could say the GEF will have a modest and substantial causality factor (CF) on additional expansion of the potential 42 MW of SHPP.	CO ₂ e. reductions = GEF causality factor x MW x Operating capacity x Operating margin x years of operation tCO₂e. reductions = 0.4 x 42.4 MW x 2800hr/year x 0.479kg/kWh x 20 years= 454,932 tCO₂e.
2. Adoption of on-grid renewable policies	Several legal acts (procedures) will be adopted to simplify the procedure for a) tendering b) authorization , licensing and permitting c) incentives based feed-in tariff Legal acts identified in the Action Plan of the Small Hydropower Plant Development Strategy for Montenegro (2006) will be analyzed in the context of the project's objectives.	New and amended legal and regulatory documents adopted, including Laws on Energy, Public works and EIA. a) SHPP tendering and concession granting procedures b) Special rules for SHPP connection to the grid c) Single fee for SHPP d) Feed in tariff.
3. Electricity Generation from the renewable sources	Montenegro is currently generating 1.1% (9MW) of electricity from SHPP (Baseline). With realization of the project additional 5% of electricity generation from SHPP or 15-20MW.	Installed capacity of 15-20MW.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

GEF SECRETARIAT MEDIUM-SIZED PROJECT AGREEMENT REVIEW

N	GEF Secretariat comments, 3 May 2007	UNDP response	Location of response
1	Please clarify specifically which activities are supposed to be funded by GEF resources and how much will be allocated for them. Those expected GEF supports need to be fully justified in terms of GEF eligibility since they seem baseline activities or unclear about specific contents and needs: " the finalization of staff needs and arrangements and the mandate of the unit"; "Simplification of the concession and tender law"; obtain owners consent for access and construction, authorization to construct", "Support the unit in undertaking the bidding process and signing the concession contracts".	A table with description of activities to be supported by GEF versus co-funded activities has been developed. The table also contains incremental reasoning.	Annex F, page 36
2	Please describe key indicators (Tons of CO2 avoided; adoption of on-grid renewable policies; and electricity generated from renewable sources) in the Table3 (Project Logical Framework) and attach the concrete estimations.	Table 1 that lists key indicators has been inserted. Project Logical Framework (Table 5) has three indicators required along with description and estimations. Annex L contains estimations of emissions reductions.	Annex A, page 17 Annex A, page 16 Annex L, page 49
3	Please attach a list of abbreviations and acronyms.	List of abbreviations included.	Annex G, page 39
4	Sustainability (including financial sustainability): Please add information on how practically institutional, including financial sustainability will be secured, if any, since it seems weak.	Information on sustainability revised.	Sustainability (including financial sustainability), page 13
5	Replicability: Please show the replication plan including timetable and clarification of " all 70 sites".	Information on replicability included.	Replicability, page 13
6	Stakeholder Involvement: Please attach a list of stakeholders including potential civil society and groups of citizens to	Additional information on stakeholder involvement included. Annex M: 'List of	Stakeholder involvement, page 14

	be involved in the project.	stakeholders to be involved in the project' included.	Annex M, page 50
7	Please specify the M&E work plan with a specific budget allocation, timetable and indicators.	'Indicative Monitoring and Evaluation Plan with budget and timeframe' included.	page 3
8	Terms of References: For all consultants hired to manage project or provide technical assistance, please attach a description in terms of their roles and functions in the project, and their position titles in the organization, such as project officer, supervisor, assistants or secretaries, in addition to the staff weeks described.	TORs included for all key consultants	Annex C, page 20
9	Travel costs The cost (\$10,000) of "Travel" needs to be fully justified or eliminated.	Travel cost eliminated from the management budget.	Project management Budget/cost, page 2
10	Budget/Costs for local and international consultants: The costs of Local consultants (\$2,495/w) and International consultants (\$17,344/w) need to be realistic. Especially, the cost of International consultants seems extraordinary. Please provide details of those consultants' services.	Table with costs of consultants revised. Details of consultant's services provided in the TORs.	Consultants working for technical assistance components, page 2 Annex C, page 20
11	Please show the details of the "in-kind" contributions	Annex N 'Details of the in-kind contributions' has been inserted.	Annex N, page 51
12	Annex 8 (Total Budget and Work Plan) needs to be revised following those comments mentioned above, including more detailed description of budget breakdown.	Total Budget and Work Plan has been revised.	Annex E, page 34
13	The letters of all Co-financiers need to be attached.	Annex O: 'Letters Of Co-Financers' included.	Annex O, page 52

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

Position Titles		\$/ person week	Estimated person weeks	Tasks to be performed ⁵
For Project Management				
<i>Local</i>				
Project Energy (national)	Manager/Economist	500	72	Overall co-ordination, management and supervision of project implementation
Project Assistant	Management	300	80	General administrative support to ensure the smooth running of the project management unit
For Technical Assistance				
<i>Local</i>				
GEF funded				
Energy (national) Manager	Economist / Project	750	120	Expert services as an energy economist, including assistance to International Economist
Environmental Assessment	Impact	750	96	Conduct EIA for the 5 most promising sites for SHPP construction
Water Engineer		750	48	Overall responsibility for attainment of Output 2.2
Spatial Planner		750	29	Data collection on potential sites, including spatial, ecological, cultural and water use limitations Development of pre-investment documentation for the best 5 sites, including information related to planning permission, access and use permits
Database/Web manager		750	16	Development of a national database of prospective small hydro sites for potential investors
Construction manager		750	24	Focus on Outcomes 1 and 4, in particular monitor and adjust bidding, authorization and construction process and supervise the

⁵ For detailed tasks description of the key staff please refer to the TORs below

construction and commissioning at 5 sites.

Legal expert 750 32

Focus on Outcomes 1, 2, 3 and 4, in particular on review, simplification and clarification of procedures, review and drafting of legislation, developing regulations, assist in training of governmental officials

Provide advise to the project team on national legislation and regulations

Co-financed

Engineer/ Hydrologist 500 192

Responsibilities related to the functioning of the new Energy Efficiency and Renewable Energy Unit at the Ministry of Economy that will be responsible for Small hydro power development in Montenegro

Public Administration Specialist/ 500 192

Responsibilities related to the functioning of the new Energy Efficiency and Renewable Energy Unit at the Ministry of Economy that will be responsible for Small hydro power development in Montenegro

Energy Economist 500 192

Responsibilities related to the functioning of the new Energy Efficiency and Renewable Energy Unit at the Ministry of Economy that will be responsible for Small hydro power development in Montenegro

Professional staff of the Energy Regulatory Agency and of Ministry of Economy 520 192

The staff will be receiving training and on-job coaching funded by the Energy Regulatory Agency Policy in the area of development and drafting secondary legislation including market design, market and compliance monitoring, authorization and licensing, tariff and price regulation, dispute resolution

International

GEF funded

Energy Privatization Specialist 2500 42

Focus on Outcome 1, 3 and 4, in particular simplify documentation for construction permits of small hydro power units, develop regulation for connection by small power producers to the power grid, design model tendering and contractual documents for SHPPs, review and revise the process, responsibilities and documents for attract

			investment in small hydro-power plant rehabilitation, etc.
Energy Economist	2500	42	Focus on Outcome 1, in particular present options for incentive based tariffs for small hydro power producers in Montenegro, including assessment of cost and feasibility implications and develop the methodology for calculating connection fees for small hydro-power producers, etc
Public Administration Specialist	2500	40	Focus on Outcomes 1, 3 and 4, in particular with assistance of the National Lawyer, and the Energy Privatization Specialist review, simplify and clarify procedure for the concession of public services; streamline, simplify and clarify roles, responsibilities and procedures to coordinate and shorten the authorization process; develop the rules and procedures for connection of SHPP to the distribution network; help to develop bidding documents for the award of SHPP sites/concessions to potential investors; develop procedures and assign responsibilities for bidding and negotiation process, etc.
CDM Baseline expert	2500	8	Estimate CDM potential of the project Provide estimation of baseline GHG emissions reductions
Co-financed			
Hydrologist	6,505	15	Hydrological measurements Duration curves Training local staff in hydrological measurement
Geologist	6,505	13	Preliminary geo-technical investigation for potential hydrological sites Reservoir investigation Mapping of the territory
Software programmer	6,505	8	Setting up profiles in the computer Training counterparts in use of software
Water engineer	6,505	11	Site location of measuring stations

Planner	6,505	7	Supervision of works Costing exercise Targets setting Master plan for national hydrological network, which includes database and additional measuring sites Planning for relocation of existing infrastructure
Lawyer	6,505	34	Drafting new sets of legal agreements for the unbundling of the company Set up system for dispute resolution Authorization and licensing procedure
Accountant	6,505	34	Reviewing and verifying accounts Present the summary of company's stock and assets and liabilities
Power Sector Privatization Specialist	6,505	26	Contractual agreements and arrangements for contractual arrangements Help to design market Market compliance
Engineer		34	Assess the status of company's assets
Institutional specialist	6,506	18	Institutional Workflow assessment
Economist	6,505	22	Tariff methodology

TORS FOR KEY NATIONAL PROJECT STAFF

Project Manager/ Energy Economist (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit roll out a streamlined and transparent tendering process

Roles and responsibilities

I. Project management

- Overall co-ordination, management and supervision of project implementation.
- Develop a detailed work plan for the project at inception phase.
- Control expenditures and ensure an adequate management of the resources provided for the project.
- Prepare periodic progress reports on the project as per UNDP and GEF requirements.
- Organize and facilitate national workshops.
- Organize and act as secretary to National Steering Committee meetings.
- Manage the hiring process for national and international experts.
- Manage and monitor delivery of outputs by national and international experts and institutions to work for the project in line with Terms of Reference.
- Coordinate between the international and national experts, ensuring the national staff receives all necessary training, templates, methodologies and support to undertake their data collection functions.
- Agree and draft and schedule of co-financing in-kind and cash contributions with co-financiers in-time for first project Implementation review
- Liaise with project partners to ensure their co-financing contributions are provided within the agreed terms.
- With inputs from national project staff recommend project implementation arrangements, plan for ensuring sustainability and replication.
- Ensure that the necessary monitoring mechanisms are built in the daily and periodic activities during the project implementation.

II. Expert support

- Prepare a series of publications reflecting project results and lessons (e.g. organization of public tenders on SHPPs, economic mechanisms to promote SHPP in Montenegro, etc).
- In consultation with national and international project experts and other stakeholders establish a target for share of power from renewable energy sources.
- Assist International Economist in developing financial incentive scheme for small hydro power development, in particular, collect and analyze cost data on small hydro-power generation, etc.
- Assist International Economist in developing the methodology for calculating connection fees for small hydro-power producers.
- Assist water engineer in defining site eligibility criteria in order to select 20 most promising sites.
- Conduct preliminary economic and financial analysis for 5 best sites.
- Assist water engineer in development of complete pre-investment documentation for 5 best sites.
- Meet with potential investors to promote SHPP development.
- Respond to Independent Power Producer enquiries.
- Web-site and other information dissemination and awareness raising activities to inform potential investors on SHPP opportunities and policies in Montenegro.
- Monitor GHG emission savings.
- Organize training in SHPP tendering and contracting process.

Qualifications and skills

- At least Masters Degree in economics, preferably in environmental economics.

- At least 7-10 years of work experience as an economist in Montenegro, preferably as energy economist.
- Strong familiarity with the Montenegrin energy sector.
- Experience of project manager, preferably for UNDP and/or GEF.
- Experience of cooperation with government, non-government and research institutions in the area directly relevant to sustainable environmental management.
- Ability to deliver on-time.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent negotiations skills.
- Fluency in written and spoken English and Montenegrin.
- Excellent drafting and reporting skills.
- Excellent computer literacy.

Recruitment will be carried out by open competition in line with UNDP principles.

Project Management Assistant (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit role out a streamlined and transparent tendering process

Duties and responsibilities

The Administrative and Financial Assistant provides assistance to the Project Manager in the implementation of day-to-day project activities. He/she is responsible for all administrative (contractual, organizational and logistical) and all accounting (disbursements, record-keeping, cash management) matters under the project.

Specific Tasks will include

- Provide general administrative support to ensure the smooth running of the project management unit.
- Project logistical support to the Project Manager and project consultants in conducting different project activities (trainings, workshops, stakeholder consultations, arrangements of study tour, etc.).
- During the visits of foreign experts, bear the responsibility for their visa support, transportation, hotel accommodation etc.
- Organize control of budget expenditures by preparing payment documents, and compiling financial reports.
- Maintain the project's disbursement ledger and journal.

- Keep files with project documents, expert reports.
- Control the usage non expendable equipment (record keeping, drawing up regular inventories).
- Keep regular contact with project experts and consultants to inform them about the project details and changes.
- Provide English translation as required.
- Draft correspondence and documents; finalize correspondence of administrative nature; edit reports and other documents for correctness of form and content.
- Arrange duty travel.
- Act on telephone inquiries, fax, post, e-mails and co-ordinate appointments.
- Perform any other administrative/financial duties as requested by the Project Manager.
- Organize and coordinate the procurement of services and goods under the project.

Qualifications and skills

- University degree.
- Fluency in written and spoken English and Montenegrin.
- Outstanding time-management, organizational and inter-personal skills.
- At least 2-year experience in office administration, preferably within UNDP projects.
- Excellent computer literacy.

Contractual and reporting arrangements

- Reports to the Project Manager and works under his/her direct supervision;
- Cannot be employed elsewhere during the entire course of the project.

Recruitment will be carried out by open competition in line with UNDP principles.

Environmental Impact Assessment (national contract)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit role out a streamlined and transparent tendering process

Duties and responsibilities

EIA Specialist/consulting company will focus on attainment of the following activities under Outcome 2:

- In accordance with the EIA decree of Montenegro, determine whether 5 SHPP construction proposals require EIA.
- In case of the positive decision, conduct EIA for the 5 most promising sites for SHPP construction, including:

- Collect all necessary environmental, social and other relevant for EIA data.
- Conduct stakeholder consultation.
- Prepare EIA report for each of the 5 sites that will include the following sections: i) description of the project; ii) alternatives that have been considered; iii) description of the environment; iv) description of the significant effects on the environment; v) mitigation; vi) non-technical summary; vii) lack of know-how/technical difficulties.
- Make the report publicly available.

Qualifications and skills

- Masters Degree in the area of environment.
- At least 5-7 years of work experience in the area of environmental assessment.
- Extensive experience in conducting EIA in Montenegro.
- Fluency in written and spoken English and Montenegrin.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent drafting skills.
- Excellent computer literacy.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

Water Engineer (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit roll out a streamlined and transparent tendering process

Duties and responsibilities

Under the supervision of the Project Manager, Water Engineer will assume overall responsibility for attainment of Output 2.2, which will include, but not be limited to the following:

- In consultation with the government and the project expert team to develop a matrix of data to be collected for 45 potential small hydro sites. Matrix should include data on location, existing infrastructure, geology, hydrology, proximity to the grid or buyer, planning designations, ownership, use and access rights, etc.
- Collate existing data on 45 potential small hydro sites.
- Analyze likely influence of climate change on the hydrological potential of the 45 sites.

- Collect missing data, which is not collected/planned to be collected by the government or other project counterparts.
- Assemble the data in site specific fiches for the convenience of potential investors.
- With assistance of the national expert team, define site eligibility criteria including spatial, ecological, cultural and water use limitations in order to select 20 most promising sites.
- Filter out 20 eligible small-hydro sites with the greatest potential for development.
- With assistance of the national expert team, complete pre-investment documentation for 5 best sites, including environmental impact assessment, stakeholder consent, planning permission, access and use permits.
- Work together with Database/Web manager on creating a national database of potential small hydro sites. Post site data for public access.

Qualifications and skills

- At least Masters Degree in engineering, preferably in the area of water.
- At least 7 years of experience as water engineer, experience with hydropower plants development, preferably SHPP.
- Excellent understanding of local context related to hydro power, preferably small hydropower.
- Fluency in written and spoken English and Montenegrin.
- Excellent drafting skills.
- Outstanding time-management, organizational and inter-personal skills
- Excellent computer literacy.

Reporting arrangements

- Reports to the Project Manager

Spatial Planner (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit role out a streamlined and transparent tendering process

Duties and responsibilities

Spatial Planner will focus on attainment of the following activities under Outcome 2:

- Assist water engineer in collecting data on 45 potential small hydro sites, in particular data on site spatial planning, site ownership and access.
- Assist water engineer in defining site eligibility criteria including spatial, ecological, cultural and water use limitations in order to select 20 most promising sites.

- Provide inputs in the development of complete pre-investment documentation for the best 5 sites, including information related to planning permission, access and use permits.

Qualifications and skills

- At least Masters Degree in land-use or spatial planning.
- At least 7-10 years of experience in spatial planning.
- Fluency in written and spoken English and Montenegrin.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent computer literacy.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

Database/Web manager (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit role out a streamlined and transparent tendering process

Duties and responsibilities

Database/Web manager will focus on attainment of the following activities under Outcome 2:

- Develop a national database of prospective small hydro sites for potential investors.

Qualifications and skills

- Higher education in web-design or IT.
- At least 5 years of experience in web-design, experience with data base development.
- Fluency in written and spoken English and Montenegrin.
- Outstanding time-management, organizational and inter-personal skills.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

Construction manager (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit roll out a streamlined and transparent tendering process

Duties and responsibilities

Construction manager will focus on attainment of the following activities under Outcomes 1 and 4:

- Assist Energy Privatization Specialist in simplifying documentation for construction permits of small hydro power units.
- Monitor the bidding, authorization and construction process.
- Together with the National Legal Expert, Energy Privatization Specialist, and Public Administration Specialist, review and revise the process, responsibilities and documents for attract investment in small hydro-power plant rehabilitation.
- Supervise the construction and commissioning at 5 sites.
- Train state inspectors in supervision of the construction and commissioning at SHPP sites.

Qualifications and skills

- At least Masters Degree in architecture or construction engineering.
- At least 7-10 years of experience in construction, solid experience in supervision of construction of SHPP.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent computer literacy.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

Legal expert (national)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. Furthermore this project will support the government in securing that additional capacity in a more cost effective, and therefore in a more politically sustainable manner. In so doing the project will avoid between 402,360 to 536,480 CO₂ eq in

GHG emissions over the 20 year life of the new small hydro generating facilities. The project will do this by supporting the GoM in:

- streamlining and simplifying the application procedures for small renewable independent power producers;
- collecting basic data to make investment decisions
- by setting attractive but competitive business terms and conditions for investors
- and helping the new EE and RE unit role out a streamlined and transparent tendering process

Duties and responsibilities

National Legal expert focus on attainment of the following activities under Outcomes 1, 2, 3 and 4:

- Assist Public Administration expert in review, simplification and clarification of procedures for the concession of public services, including drafting.
- Assist Public Administration expert in streamlining, simplification and clarification of roles, responsibilities and procedures to coordinate and shorten the authorization process, including drafting.
- Revise legislation to require a single water usage/ concession fees from small hydro-power users.
- Review and revise the tax legislation to remove import duties and VAT from small power equipment and production.
- Assist Energy Privatization Specialist and Public Administration Specialist in developing regulation for connection by small power producers to the power grid, including drafting.
- Assist Energy Privatization Specialist in developing requirements for the submission of production data by the independent power producer to the EE and RE unit, including drafting.
- Support legal endorsement of incentive tariff for small hydro power development.
- Together with the Construction Manager, Energy Privatization Specialist, and Public Administration Specialist, review and revise the process, responsibilities and documents for attract investment in small hydro-power plant rehabilitation.
- Assist Energy Privatization Specialist in design of model tendering and contractual documents for SHPPs.
- Assist Energy Privatization Specialist in drafting concession tender announcement.
- Assist Public Administration expert in developing procedures and assigning responsibilities for bidding and negotiation process.
- Assist in training of governmental officials.
- Provide inputs in the EIA, in particular, prepare an analysis of country's relevant legislative and regulatory framework.
- Assist water engineer in collecting data on 45 potential small hydro sites, in particular data on site ownership.
- Assist water engineer in defining site eligibility criteria in order to select 20 most promising sites.
- Provide inputs in the development of complete pre-investment documentation for the best 5 sites, including information related to planning permission, access and use permits, etc.
- Provide advise to the project team on national legislation and regulations relevant to small hydropower development, including water and land use rights, connection to the grid, ownership rights, investment, export of technologies, concessions, tendering and authorization procedures, construction permits, etc.

Qualifications and skills

- At least Masters Degree in civil law.

- At least 7-10 years of experience of work in one of the following areas: environmental law, contractual and property law.
- Excellent knowledge of the legal system in Montenegro.
- Solid experience of work in energy sector.
- Fluency in written and spoken English and Montenegrin.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent computer literacy.
- Excellent drafting skills.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

TORS FOR KEY INTERNATIONAL PROJECT CONSULTANTS

Energy Privatization Specialist (international)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. The project will do this by supporting the government of Montenegro (GoM) in: i) streamlining and simplifying the application procedures for small renewable independent power producers; ii) collecting basic data to make investment decisions; iii) by setting attractive but competitive business terms and conditions for investors; iv) and helping the new Energy Efficiency (EE) and Renewable Energy Unit role out a streamlined and transparent tendering process.

Duties and responsibilities

Energy Privatization Specialist will focus on attainment of the following activities under Outcome 1, 3 and 4:

- With inputs from Construction Manager, simplify documentation for construction permits of small hydro power units.
- With assistance of National Legal Expert, develop regulation for connection by small power producers to the power grid, including: draft provisions for priority access to the grid system of electricity produced from small hydro power sources; develop secondary regulation governing relations between small-hydro power plants and transmission and distribution system operators.
- Assist Public Administration Specialist in developing the rules and procedures for connection of small hydro power plants to the distribution network based on Provisional Distribution Code.
- Design model tendering and contractual documents for SHPPs, including:
 - Develop a model Power Purchase Agreement (PPA).
 - Develop a model Concession Agreement for SHPP construction and operation, including provisions for guarantees and risk mitigation.

- Develop bidding documents for the award of SHPP sites/concessions to potential investors, including detailed bid evaluation criteria.
- Participate in development and delivery of a training for EE and RE Unit.
- Assist in tendering and contracting out the development 5 selected SHPP sites for power generation, including:
 - Draft concession tender announcement.
 - Assist in evaluation and selection of the winning IPP offer.
- Together with the National Legal Expert, Construction Manager, and Public Administration Specialist, review and revise the process, responsibilities and documents for attract investment in small hydro-power plant rehabilitation.
- With assistance of National Legal Expert, develop requirements for the submission of production data by the independent power producer to the EE and RE unit.

Qualifications and skills

- At least Masters Degree economics or other relevant field.
- At least 10 years of experience of work in the area of privatization with strong focus on energy sector.
- Fluency in written and spoken English.
- Outstanding time-management, organizational and inter-personal skills.
- Full computer literacy.
- Excellent drafting skills.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

Energy Economist (international)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. The project will do this by supporting the government of Montenegro (GoM) in: i) streamlining and simplifying the application procedures for small renewable independent power producers; ii) collecting basic data to make investment decisions; iii) by setting attractive but competitive business terms and conditions for investors; iv) and helping the new Energy Efficiency (EE) and Renewable Energy Unit role out a streamlined and transparent tendering process.

Duties and responsibilities

Energy Economist will focus on attainment of the following activities under Outcome 1:

- Based on best international practices, present options for incentive based tariffs for small hydro power producers in Montenegro, including assessment of cost and feasibility implications.
- Agree the preferred option with governmental counterparts.
- Together with the national lawyer support the process to legally endorse the preferred incentive tariff.
- Develop the methodology for calculating connection fees for small hydro-power producers.

Qualifications and skills

- At least Masters Degree in economics, preferably in the field of energy.
- At least 10 years of work experience in the energy sector.
- In-depth knowledge of financial incentive schemes for RES development, in particular SHPP development. Hands-on experience with start-ups.
- Excellent drafting skills.
- Fluency in written and spoken English.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent computer literacy.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

Public Administration Specialist (international)

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy. The project will do this by supporting the government of Montenegro (GoM) in: i) streamlining and simplifying the application procedures for small renewable independent power producers; ii) collecting basic data to make investment decisions; iii) by setting attractive but competitive business terms and conditions for investors; iv) and helping the new Energy Efficiency (EE) and Renewable Energy Unit role out a streamlined and transparent tendering process.

Duties and responsibilities

S/he will focus on attainment of the following activities under Outcomes 1, 3 and 4:

- With assistance of the National Lawyer, and the Energy Privatization Specialist review, simplify and clarify procedure for the concession of public services.
- With assistance of the National Lawyer and the Energy Privatization Specialist, Streamline, simplify and clarifying roles, responsibilities and procedures to coordinate and shorten the authorization process.
- Develop the rules and procedures for connection of small hydro power plants to the distribution network based on Provisional Distribution Code.
- Help the Energy Privatization Specialist to develop bidding documents for the award of SHPP sites/concessions to potential investors, including detailed bid evaluation criteria
- Develop procedures and assign responsibilities for bidding and negotiation process.
- Develop EE and RE Unit staff capabilities, including training for organization and negotiation of tenders.
- Design information package for the web-site and other information dissemination and awareness raising activities to inform potential investors on SHPP opportunities and policies in Montenegro.
- Together with the National Legal Expert, Construction Manager, and Energy Privatization Specialist, review and revise the process, responsibilities and documents for attract investment in small hydro-power plant rehabilitation.
- Monitor bidding, authorization and construction process.

Qualifications and skills

- At least Masters Degree in public administration.
- At least 10 years of experience of work with the development of institutional frameworks in governmental sector.
- Fluency in written and spoken English.
- Outstanding time-management, organizational and inter-personal skills.
- Excellent computer literacy.
- Excellent drafting skills.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

CDM Baseline expert (international)**Background**

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy.

Duties and responsibilities

CDM Baseline expert will focus on attainment of the following activities under Outcome 1:

- Select/develop a baseline and monitoring methodology consistent with CDM rule to measure emission reductions from the small hydro dams.
- Review options for the generation and sale of carbon credits from new small hydro capacity.
- Provide estimation of baseline GHG emissions reductions using selected methodology (if data are not available to make estimation in line with CDM methodology, reference IPCC data has to be used and approach suggested for data collection).

Qualifications and skills

- At least Masters Degree in environment.
- Experience in project evaluation.
- Excellent knowledge of Kyoto protocol flexible mechanisms, particularly CDM.
- Extensive practical experience with conducting due diligence for CDM project development in South-Eastern Europe and CIS and in particular with hydropower projects.
- Fluency in written and spoken English.

Reporting arrangements

- Reports to the Project Manager

Recruitment will be carried out by open competition in line with UNDP principles.

INTERNATIONAL SUB-CONTRACT FOR CONSTRUCTION AND EQUIPMENT OF HYDROLOGICAL MEASUREMENT STATIONS AT 15 SITES

Background

The Government of Montenegro adopted the Small Hydro Development Strategy in April 2006, as a politically acceptable way in which to reduce its dependence on energy imports. The project will support the government in realizing its goal of 15 to 20 MW of new small generating capacity by the close of the project, instead of 2015 as declared by their strategy.

The government and the Norwegian will fund hydrological measurements for 30 potential sites. The project will collect hydrological data for the additional 15 sites for SHPP construction to make an investment grade assessment of the generating capacity.

Tasks:

- To supply all necessary equipment for construction of hydrological measurement stations for 15 potential sites.
- To identify best locations for measurement stations.
- To construct 15 measurement stations.
- To train local hydrological experts on how to operate stations.
- To supervise data collection at the sites.

Contracting will be carried out by open competition in line with UNDP principles.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS: N/A

- A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.**
- B. DESCRIBE IF ANY FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION.**
- C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:**

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>Amount Approved</i>	<i>GEF Amount (\$)</i>			<i>Co-financing (\$)</i>
			<i>Amount Spent To-date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
	(Select)					
	(Select)					
Total						

* Uncommitted amount should be returned to the GEF Trust Fund. Please indicate expected date of refund transaction to Trustee.

ANNEX E: TOTAL BUDGET AND WORK PLAN

Award ID:		000 49703									
Award Title:		PIMS 3813 CC MSP: Power Sector Policy Reform to Promote Small Hydropower Development in the Republic of Montenegro									
Business Unit:		MNE10									
Project Title:		PIMS 3813 CC MSP: Power Sector Policy Reform to Promote Small Hydropower Development in the Republic of Montenegro									
Project ID		00060829									
Implementing Partner (Executing Agency)		UNDP (DEX execution modality)									
GEF Outcome/Atlas Activity	Responsible Party/Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)	See Budget Note:
OUTCOME 1: Institutional, legal and price conditions attracting investment in small hydro-power generation	UNDP	62000	GEF	71200	International Consultants	\$50,000	\$60,000	\$30,000	\$10,000	\$150,000	1
				71300	Local Consultants	\$14,200	\$14,200	\$9,200	\$9,200	\$46,800	2
				71600	Travel	\$9,504	\$7,429	\$3,654	\$2,805	\$23,392	
				72400	Communications	\$2500	\$2500	\$2500	\$2500	\$10,000	7
					sub-total GEF	\$76,204	\$84,129	\$45,354	\$24,505	\$230,192	
					Total Outcome 1	\$76,204	\$84,129	\$45,354	\$24,505	\$230,192	
OUTCOME 2: IPP investment decisions in Small hydro power supported	UNDP	62000	GEF	72100	Contractual services - companies	\$151,000	\$50,000	\$24,500	\$24,500	\$250,000	3
				71300	Local Consultants	\$46,400	\$56,350	\$32,100	\$3,100	\$137,950	4
				72800	IT equipment	\$15000				\$15000	8
					sub-total GEF	\$212,400	\$106,350	\$56,600	\$27,600	\$402,950	
					Total Outcome 2	\$212,400	\$106,350	\$56,600	\$27,600	\$402,950	
OUTCOME 3: Small hydropower IPP concessions operational	UNDP	62000	GEF	71200	International Consultants	\$50,000	\$60,000	\$30,000	\$10,000	\$150,000	1
				71300	Local Consultants	\$14,250	\$14,250	\$9,250	\$9,250	\$47,000	2
				71600	Travel	\$9,504	\$7,429	\$3,654	\$2,805	\$23,392	
					sub-total GEF	\$73,754	\$81,679	\$42,904	\$22,055	\$220,392	
					Total Outcome 3	\$73,754	\$81,679	\$42,904	\$22,055	\$220,392	
OUTCOME 4: Project results and lessons learnt summarized, documented, presented and disseminated.	UNDP	62000	GEF	71200	International Consultants	\$5,000	\$5,000	\$10,000	\$10,000	\$30,000	5
				71300	Local Consultants	\$10,500	\$10,500	\$10,500	\$10,500	\$42,000	2
				72100	Contractual services - companies	\$0	\$0	\$10,000	\$10,000	\$20,000	6
				71600	Travel	\$ 1,304		\$ 1,305		\$2,609	

				74200	Printing Production Costs					\$8,250	\$8,250	9
					sub-total GEF	\$16,804	\$15,500	\$31,805	\$38,750	\$102,859		
					Total Outcome 4	\$16,804	\$15,500	\$31,805	\$38,750	\$102,859		
Project Management	UNDP	62000	GEF	71400	Contractual services Indiv.	5,500	5,500	5,500	5,500	22,000		
		00012	UNDP	73100	Rental and Maintenance	\$8,000	\$8,000	\$8,000	\$8,000	\$32,000		
				74500	Miscellaneous	\$2,000	\$2,000	\$2,000	\$2,000	\$8,000		
					sub-total GEF	5,500	5,500	5,500	5,500	22,000		
					Total PM	5,500	5,500	5,500	5,500	62,000		
Total GEF										\$978,393		
Total UNDP										\$ 40,000		
GRAND TOTAL										\$ 1,018,393		

Summary of Funds:

Year	1	2	3	4	Total (USD)
GEF	384,662	293158	182163	118410	978,393
UNDP (grant)	10,000	10,000	10,000	10,000	40,000
Government (in-kind)	150,000	480,000	480,000	480,000	1,590,000
European Agency for Reconstruction (grant)	690,000	500,000			1,190,000
Norwegian Government (grant)	500,000 ⁶	150,000			650,000
TOTAL	1,734,662	1283158	822163	608410	4,448,393

Budget notes:

1. The international price for one month consultation runs at an average price of US\$10,000. For details of services please refer to Annex C. TORs for Key International Project Consultants.
2. For TORs please see Annex C. TORs for Key National Project Staff.
3. For details of the contract please refer to Annex C. International Contract for construction and equipment of hydrological measurement stations at 15 sites.
4. The international price for one month consultation runs at an average price of US\$3,000. For details of services please see Annex C. TORs for Key National Project Staff.
5. The international price for one month consultation runs at an average price of US\$10,000. For details of services please refer to Annex C. TORs for Key International Project Consultants.
6. This budget line is for production of the Lessons Learned report and project promotion materials.

⁶ By the end of 2006 300,000 USD were spent from the Norwegian grant so budget available for 2007 and 2008 is 200,000 USD and 150,000 USD respectively.

7. Phone calls and internet access
8. 4 computers and GIS software
9. Lessons learned printing and production costs

ANNEX F. DESCRIPTION OF ACTIVITIES TO BE SUPPORTED BY GEF VERSUS CO-FUNDED ACTIVITIES

OUTCOMES	GEF \$\$	ACTIVITIES/INCREMENTAL RATIONALE	CO-FUNDS	ACTIVITIES	TOTAL
OUTCOME 1 Institutional, legal and price conditions attracting investment in small-hydro power generation.	235,892	<p>The govt has an SHPP strategy and is financing the formation of a new unit to implement that strategy. However the new unit is very small and are untrained in SHPP specially. In discussions with the govt, there are no plans to provide them with training. GEF funds will be used to build the capacity of this unit to create an effective enabling environment for SHPP investment.</p> <p>The GEF will finance consultants to provide technical assistance to support the new team of Energy Efficiency and Renewable Energy Unit (EE and RE) in the Ministry of Economy in simplifying tendering and authorization procedures for small hydro-power; developing regulation for connection by small power producers to the power grid; developing a system of incentive based tariffs for small hydropower producers. This technical support is essential for building the capacity of the EERE Unit, based on the best international practices incentive system for the efficient SHPP development.</p>	931,000	<p>The Ministry of Economy will establish a new Energy Efficiency and Renewable Energy Unit, to undertake new responsibilities in Small hydro power allocated to it. It will recruit 3 team members, and provide them with office space and facilities.</p> <p>The Energy Regulatory Agency will provide financing for policy development and drafting secondary legislation, including Market design.</p> <p>The European Agency for Reconstruction will co-finance authorization and licensing procedure development and tariff and price regulation, for the power market (but not for small renewable energy producers).</p>	1,166,892

OUTCOMES	GEF \$\$	ACTIVITIES/INCREMENTAL RATIONALE	CO-FUNDS	ACTIVITIES	TOTAL
OUTCOME 2 IPP investment decisions in Small hydro power supported	394,500	<p>The incremental rational that GEF funded activities will help the government to collect data for additional sites. Site specific data would not be collected in the absence of this project (the govt. would continue to model flows based on river catchment data). Accurate flow rates are important for estimating the profitability of sites, and by collecting this data now, the project can save the investor two years of data measurement, and allow earlier investment in the sites. The domestic benefit from this activity is that the GoM will be able to use more accurate hydrological data for other planning exercises.</p> <p>GEF resources will compliment Norwegian and government funding by financing the collection of hydrological data for additional 15 sites and data on site spatial planning, site ownership and access. The project team will assist the EE and RE Unit in assembling all available data in site specific fiches for interested investors. For the most promising 5 concepts, the GEF will finance the development of a technical concept plan and pre-feasibility assessments , an environmental impact assessment, obtain, owners consent for access and construction, authorization to construct, and planning and water use permits. All site data will be put into a database.</p>	1,762,000	<p>The Ministry of Economy will provide financing for the following activities within the project:</p> <ul style="list-style-type: none"> - Hydrological measurements in river catchments, where 15 small hydro sites are located. - Geological mapping and data collection covering the area of 15 small hydro sites. - Staff costs of EE and RE Unit that will analyze results of the above surveillances - Organization of the web-site that will contain database of potential small hydro sites in the country. <p>The Government of Norway will provide additional financing for hydrological measurements in Montenegro, in particular:</p> <ul style="list-style-type: none"> - Hydrological measurements at 15 stations in Montenegro. - Identification of promising locations. - Master plan for the national hydrological network. 	2,156,500
OUTCOME 3: Small hydropower IPP concessions operational	235,892	<p>The GoM is establishing a unit to support the role out of its SHHP strategy. However the unit does not have access to international experience and best practice in tendering and contracting IPPs. In discussions with the Government there are no plans to provide the unit with this training. GEF funds will be used to provide the unit with access to best practice and experience in IPP tendering, contracting and supervision. The domestic benefit from this is that Montenegro is likely to receive more competitive and more sustainable tenders for SHHP concessions. This may reduce the price of power production below what could be expected without this component, however as Montenegro comes under increasing fiscal strain the govt is more likely to be able to defend competitive concessions.</p> <p>The GEF will finance work to take the unit staff through the different options for power purchase agreements, concession and agreement and bidding options. The GEF will then finance the development of model documents according to the agreed options and support the Unit in undertaking the bidding process and signing the concession contracts.</p>	485,000	<p>The Ministry of Economy will cover all running costs of the new EE and RE Unit. The Unit will develop procedures for tendering and contracting process. It will tender and contract out the development 5 selected SHP sites for power generation. It will also lead information dissemination and awareness raising activities.</p>	720,892

OUTCOMES	GEF \$\$	ACTIVITIES/INCREMENTAL RATIONALE	CO-FUNDS	ACTIVITIES	TOTAL
OUTCOME 4: Project results and lessons learnt summarized, documented and made publicly available	90,109	<p>In the absence of this project the GoM would not collect lessons from its experience with SHPP IPPs. Lessons learnt from project activities will (a) help to improve the government's implementation of its SHPP strategy, thereby reducing costs and making the scheme more attractive to investors. In this there is both national and global benefit as discussed in the other outcomes. However this is covered by the proportion of co-financing allocated to this outcome. (b) Secondly lessons learnt will help other countries to implement their own SHHP.</p> <p>The GEF will finance the costs to review and adjust the bidding process and associated documents for a second round of bidding, which the Unit will undertake independently of the project. The GEF will also support the Unit in developing the production data requirements that power producers should submit to the EE and RE unit so that a review and revision of the tariffs can be undertaken, and emission savings can be calculated. GEF funding will be used to undertake two independent evaluations of the project.</p>	214,000	The Ministry of Economy will cover all running costs of the new EE and RE Unit. In addition to already mentioned activities, the Unit will work on lessons learnt generation and information dissemination.	304,109
Project Management	22,000	GEF funding will cover the overall logistical management of MSP process to ensure delivery on the outcomes. This includes management of consultants, organization of stakeholder consultations and support to Steering Committee. This also includes administrative support to the project, such as printing, translation, etc.	78,000	UNDP will cover costs of the office facilities for the PM Unit for the whole duration of the project. The Ministry of Economy will cover all running costs of the new EE and RE Unit, including costs of personnel	100,000
TOTAL:	978,393		3,470,000		4,448,393

ANNEX G: LIST OF ABBREVIATIONS

APR	Annual Project Review
BOT	Build Operate Transfer
CEZ	Power company of the Czech Republic
CDM	Clean Development Mechanism
CO	Country Office
CO ₂ eqv.	Emissions of Greenhouse Gases expressed in
GHG	Greenhouse Gases
GoM	Government of Montenegro
EE	Energy Efficiency
EIA	Environmental Impact Assessment
EU	European Union
ERA	Energy Regulatory Agency
EAR	European Agency for Reconstruction
EPCG	National Electric Company of Montenegro (ElektroPrivredaCrneGore)
GEF	Global Environmental Facility
GDP	Gross Domestic Product
GWh	giga (10 ⁹)-watt-hour
HPP	Hydro Power Plant
HMIM	Hydro Meteorological Institute of Montenegro
HSE	Slovenia energy company-Holding Slovenske Elektrarne d.o.o.
IPP	Independent Power Producer
IW	Inception Workshop
IR	Inception Report
kWh	kilo (10 ³)-watt-hour
MW	mega (10 ⁶)-watt
MVM	Hungary utility-Magyar Villamos Muvek Zárt.
NTE	Norway utility-Nord-Trøndelag Elektrisitetsverk FKF
OPF	Operational Focal Point
PIR	Project Implementation Review
PMU	Project Management Unit
PPA	Power Purchase Agreement
RE	Renewable Energy
SEE	South East Europe
SHPP	Small Hydro Power Plant
TPR	Tripartite Project Review
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAT	Value added tax
WB	World Bank

ANNEX H. ELECTRICITY SECTOR OF MONTENEGRO

Generation capacity

Total electricity production capacity is 868 MW with 76% of hydropower plants. The largest hydropower plant, Piva, is operated by Electric Power Utility of Serbia (EPS) according to a long-term agreement between EPS and EPCG.

Piva HPP is a type of a storage hydro plant having the rated capacity of 3 x 114 MW. In the period of 1976-2000 this plant realized the average annual generation of 740 GWh.

Since the commissioning in 1976, PIVA has been operating as a peak hydro electric power plant within the electric power system of the Republic of Serbia, pursuant to the Contract on Long-Term Business and Technical Cooperation. This Contract was prolonged in 1991 for the period of another 25 years. It is on that basis that the Electricity Company of Serbia delivered to Montenegro Electricity Company during the last 25 years in average 1043 GWh per year of constant (base load) energy, with the valorisation factor of 1.41.

Perucica HPP is a type of a storage hydro plant, with the rated capacity of 307 MW. The first generating unit was put into operation in 1960, and the seventh one in 1978. The average annual generation in the period of 1996-2000 amounted to 824.6 GWh.

Montenegro Electricity Company disposes of **seven small hydro power plants** having the capacity of 55 kW (LIJEVA RIJEKA) to 2 x 2.650 kW (GLAVA ZETE). The average annual generation of these small hydro power plants during the last ten years amounted to 17.4 GWh.

Pljevlja Thermal Power Plant represents a condensation-type thermal power plant having the rated capacity of 210 MW. The average annual electricity generation in the period of 1983 – 2000 was 913 GWh.

TRANSMISSION

LINES

The transmission network is made of :

- 255 km of 400 kV lines (4 lines)
- 371.80 km of 220 kV lines (7 lines)
- 647.80 km of 110 kV lines (31 lines)

The following table gives more details about each of them:

400 kV network	Length (km)	put in operation in
Podgorica-Ribarevine	85,7	1984
Podgorica-Trebinje	61,4	1984
Pljevlja-Ribarevine	54,8	1984
Ribarevine-Kosovo	53,1	1984

220 kV network	Length (km)	put in operation in
Podgorica-Pljevlja	149,1	1961/91
Podgorica-Perucica	34,1	1965/81
Perucica-Trebinje	42,5	1965/81

Podgorica-Albanian border	21	1972
Piva-Buk Bijela	23,4	1977
Piva-Pljevlja 264	49,8	1976
Piva-Pljevlja 265	49,6	1976
“T”otcjep-Mojkovac	2,3	1977

110 kV network	Length (km)	put in operation in
Perucica-Podgorica lines 2 and 3	32,6	1962
Perucica-Nikšić lines 1 and 2	12,8	1978
Perucica-Nikšić line 3	13,5	1958
Podgorica-EVP Trebješica	36,1	1960/77
EVP Trebješica-Berane-“T”otc.Andr	45,5+1,6	1960/77
Ribarevine-Mojkovac	14	1971/83
Podgorica 1-Podgorica 2 line I	5,8	1971
Podgorica 1-Podgorica 2 line II	5,9	1971
Perucica-Danilovgrad	18,6	1959/82
Podgorica 1-Danilovgrad	17,6	1959/82
Podgorica 1-Bar	50,4	1962/67
Podgorica 1-Budva	41,7	1962/67
Bar-Budva	33,4	1970
Budva-Tivat	16,6	1962
Tivat-Herceg Novi	20,7	1967/70
Bar-Ulcinj	23,7	1971/85
Nikšić-Bileca-“T”otcjep Vilusi	55,6+0,5	1956/84
Pljevlja 1-Cajnice	20,8	1957
Ribarevine-Nedakusi	8,6	1983
Berane-Rožaje	29,2	1987/04
Nikšić-Brezna	28,7	1986
Pljevlja 1-Žabljak	38,5	1978
Pljevlja 1-Pljevlja 2	2,8	1985
Berane-Ribarevine	21,1	1971/83
Podgorica 2-Podgorica 4	3,5	1988
Podgorica 1-Podgorica 3	3,9	1980
Podgorica 2-KAP line I	8,1	1971
Podgorica 2-KAP line II	8	1971
Budva-Cetinje	12,5	1978
Trebinje-Herceg Novi	15,5	1968

The transmission network as such was characterized by a quality connection of the Montenegrin network to the neighbouring systems at all three voltage levels through a total of 11 interconnection lines :

Ø 400 kV:

- link to Bosnia and Herzegovina: Podgorica 2-Trebinje,
- link to Serbia: Ribarevine Kosovo,

Ø 220 kV :

- link to Serbia: Pljevlja 2-Bajina Basta; Pljevlja 2-Pozega (link to Serbia),
- link to BIH: Perucica-Trebinje,

- link to Bosnia and Herzegovina: HP Piva-Buk Bijela-Sarajevo,
- link to Albania: Podgorica 1-Vau Dejes,

Ø 110 kV

- link to BIH: Niksic-Bileca,
- link to Bosnia and Herzegovina: Pljevlja 1-Cajnice,
- link to Serbia: Perucica-Trebinje),
- link to Bosnia and Herzegovina Herceg Novi-Trebinje.

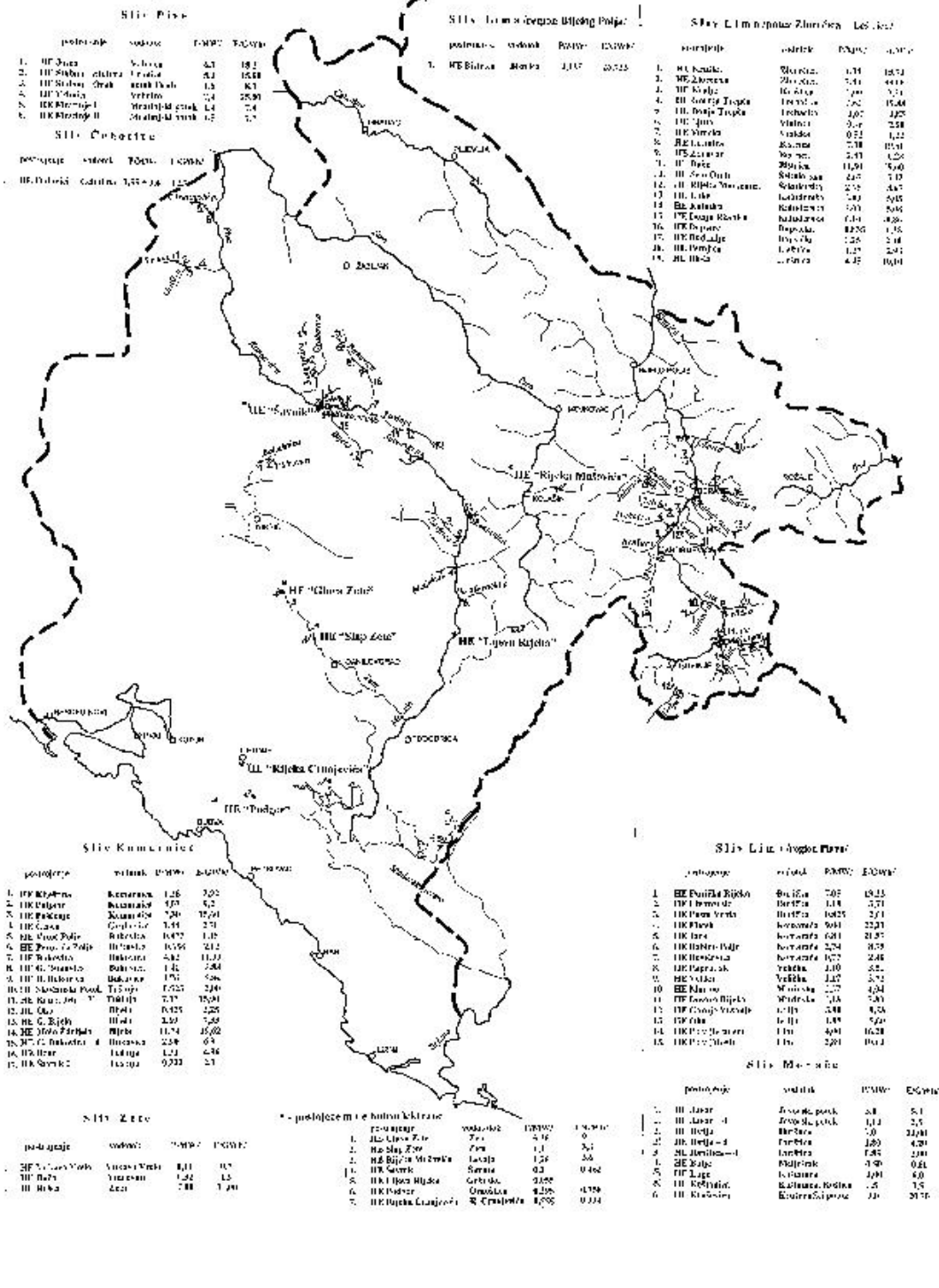


ANNEX I. ELECTRICITY CONSUMPTION CHARACTERISTICS FOR MONTENEGRO

Consumption in GWh	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Distribution net	1104	1125	1173	1218	1314	1402	1407	1426	1449	1650	1732	1719	1860	1961
Distribution losses	201	225	258	296	308	325	366	407	407	306	346	359	400	402
Distribution gross	1305	1350	1431	1514	1622	1727	1773	1832	1856	1956	2078	2077	2260	2362
Customers at 110kV	1925	1709	846	505	763	1234	1630	1580	1511	1711	1885	2002	2025	2064
Transmission losses	143	122	92	103	99	149	142	127	149	150	147	155	169	171
TOTAL = Consumption gross	3373	3181	2369	2122	2484	3110	3545	3540	3516	3817	4110	4235	4454	4598

ANNEX J. EXISTING SHPP AND 70 POTENTIAL LOCATIONS IDENTIFIED FOR SMALL HYDROPOWER PLANT CONSTRUCTION

POSTOJEĆE I PROJEKTOVANE MALE HIDROELEKTRANE U CRNOJ GORI



DATA ON SHPP SITES

ENERGETICALLY ACCEPTABLE (in the period of the study elaboration) and HYDROLOGICALLY EXPLORED (on basis of direct measurement of flows)

Number	Name: River/SHPP		Q_{sr} in watershed profile m^3/sec	Q_{sr} according to measurements on the hidrology station	Installed flux Q_i m^3/sec	Height difeference brutto H_b (m)	Heights difference netto H_n (m)	Installed capacity N_i MW	Energy E_{god}		Accumulation netto volume $V_k (10^6 m^3)$	Orthogonal height according to the study (mmm)	Orthogonal height according to Water Basis of MN (mmm)
1	Cehotina OTILOVICI												
2	Zlorečica /Lim ZLORECICA		4.83	5.37	8.00	113		7.40	33.06	25.80			880.00
3	Kutska /Zloreč. KRUŠKA		1.96	4.21	4.50	118		4.34	15.73	17.60			
4	Komarnica POŠCENJE		1.45	1.45	6.00	154.00		7.30	15.60	9.60	976.50		
5	Trepacka/Lim GORNJA TREPCA		0.575	1.18	1.725	550		7.62	19.88	5.50	1350.00		
6	Nožica/M.rijeka NOŽICA		2.56	1.42	12.0			14.0	24.0	17.0			948.50
7	Murinska/Lim DOSA VA RIJEKA		0.603	0.965	0.63	220		1.13	2.84				
8	Velicka/Lim VELIKA		0.34 0.376	0.542	1.43	-1.00		1.170	3.72				

Proposal for the second phase (prioritizing further development of SHPP)ENERGETICALLY ACCEPTABLE (in the period of the study elaboration) and HYDROLOGICALLY UNEXPLORED (without direct measurement of flows)

Number	Name: River/SHPP	Q_{sr} in watershed profile m^3/sec	Q_{sr} according to measurements on the hidrology station	Installed flux Q m^3/sec	Height difference brutto H_b (m)	Heights difference netto H_n (m)	Installed capacity N_i MW	Energy E_{god}	Accumulation netto volume V_k ($10^6 m^3$)	Orthogonal height according to the study (mnm)	Orthogonal height according to Water Basis of MN (mnm)
1	Bijela-Bukovica KOSORICI ili POGLEDINE	7.18		25.0	138.50		27.00	64.45	11.30	970.0	
2	Bukovica TIMOR	2.715		10.00	187.00		14.90	35.43	13.00	1170.0	
3	Bukovica BUKOVICA- ŠAVNIK	7.71		10.00	256.00		20.03	65.02	0.95	1080.00	
4	Grlja/Lim G. VUSANJE	2.63		8.00	57.50		3.80	8.53		997.50	1060.00
5	Temnjacka- Treskavicka/Lim JARA	0.562 1.36		3.85	220		6.80	21.57			
6	Beranska Bistrica/Lim LUBNICA	0.826		2.30	340		7.30	19.51	9.23	1325.00	698.00
7	Vrbnica/Piva VRBNICA	5.6		11.0	85.0	79.0	7.4	27.0	-	760.00	

Proposal for the third phase (prioritizing further development of SHPP)ENERGETICALLY NOT JUSTIFIED (in the period of the study elaboration) and **HYDROLOGICALY EXPLORED** (on basis of direct measurement of flows)

Number	Name: River/SHPP		Q_{sr} in watershed profile m^3/sec	Q_{sr} according to measurements on the hidrology station	Installed flux Q m^3/sec	Height difference brutto H_b (m)	Heights difference netto H_n (m)	Installed capacity N_i MW	Energy E_{god}		Accumulation netto volume V_k ($10^6 m^3$)	Orthogonal height according to the study (mnm)	Orthogonal height according to Water Basis of MN (mm)
1.	Đuricka/Lim ĐURICKA R.		2.20	2.12	6.60	136		7.05	19.22			1049.00	1050.0
2	Šekularska/Lim RIJEKA MARSENICA		1.06	1.45	2.30	149		2.75	8.67	4.65		868.00	885.00
3	Kaludarska /Lim DONJA RŽANICA		1.45	1.42	4.30	167		6.10	10.86	3.60		877.00	1030.0
4	Ljesnica/Lim BIOCE		2.25	2.67	6.75	84.00		4.45	10.10	21.25		715.00	740.0

**ANNEX K. HYDRO METEOROLOGICAL INSTITUTE OF MONTENEGRO (HMIM)
HYDROLOGICAL MEASUREMENTS IN 21 TRIBUTARIES**

N.	Tributary name	Hydrology station name	Measurement and observation period (years)	According to measurements of HMIM	According to internal segmentation in watershed
				Q (m ³ /s)	Q (m ³ /s)
1	Trokuska	TROKUS	1986-1992 (7)	1.66	0.886
2	Grlja	VUSANJE	1982-1996 (15)	3.64	2.31
3	Grcar	GUSINJE	1983-1992 (10)	6.22	10.22
4	Vruja	Gusinje	1982-1992 (11)	9.48	6.47
5	Đuricka	JASENICA	1985-1992 (8)	2.12	2.90
6	Velicka	VELIKA	1985-1992 (8)	0.542	0.744
7	Murinska	KUPUSINA	1985-1992 (8)	0.965	0.790
8	Perocica	KONJUHE	1985-1992 (8)	2.34	2.31
9	Kutska	KUTI (Karula)	1985-1992 (8)	4.21	2.87
10	Zlorečica	ĐULICI	1962-1983 (22)	5.37	
11	Zlorečica	ANDRIJEVICA	1985-1993 (9)	6.88	5.75
12	Šekularska	ŠEKULAR	1985-1992 (8)	1.45	0.981
13	Kaludarska	KALUDRA	1985-1992 (8)	1.42	0.95
14	Trepacka	TREPCA	1985-1992 (8)	1.18	0.965
15	Lješnica	BIOCE	1950-1994 (45)	2.67	3.55
16	Sjevernica	SRETEŠKA GORA	1985-1995 (11)	4.22	4.43
17	Nožica	NOŽICA	1984-1995 (12)	1.42	
18	Mala Rijeka	BRSKUT	1986-1996 (11)	0.608	
19	Plašnica	BAKOVICA KLISURA	1954-1991 (38)	6.21	6.00
20	Štitarica	PODBIŠĆE	1958-1992 (35)	1.74	1.98
21	Ljubovida	RAVNA RIJEKA	1980-1992 (13)	8.26	

ANNEX L. EMISSION SAVINGS CALCULATION

This annex sets out the emissions savings calculations and explains assumptions made for the following GEF emissions reductions categories:

- project direct
- post project direct
- indirect

Project direct = 0

The project is expected to support the development of new small hydropower plants with total production capacity of 15-20 MW. It is unrealistic to expect the new SHPP to be operating by the close of this project. That is why an installed MW capacity target has been set for the project objective, instead of kWhs.

Post project direct = 402,360 to 536,480 t CO₂eq in GHG emissions over the 20 year life

Calculated emission reductions are based on the following assumptions:

- new small hydro-capacity 15 MW-20 MW
- operating capacity 2800 hr/yr = 42,000 MWh/yr to 56,000 MWh/yr
- operating margin = 0.479 kg/kWh
- annual emission reductions of 20,118 to 26,824 t CO₂eq/yr

Indirect = 454,935t CO₂ eq.

The government's SHPP policy is to support 15-20 MW of new SHPP. The project assumes new and additional capacity beyond this will not happen without additional feed in tariff subsidies. The question then becomes to what extent the government will be prepared to extend its small-hydro development target beyond the current target of 15-20MW. Montenegro has 232 MW of potential small-hydro generating capacity. After deducting the 20MW targeted under the current strategy, this leaves 212MW of potential generating capacity. There is not enough data on all sites to know if they are all financially attractive. To be conservative the calculation assumes that the government will add another 42 MW in the 10 years following project closure. Using the top down approach we could say the GEF will have a modest and substantial causality factor (CF) on additional expansion of the potential 42 MW of SHPP.

CO₂ eqv. reductions = GEF causality factor x MW x Operating capacity x Operating margin x years of operation

CO₂eqv. reductions = 0.4 x 42.4 MW x 2800hr/yearx 0.479kg/kWh x 20 years= 454,932 t CO₂ eqv.

ANNEX M. LIST OF STAKEHOLDERS TO BE INVOLVED IN THE PROJECT

- Ministry of Economic Development
- Ministry of Agriculture, Forestry and Water
- Ministry of Tourism and Environmental protection
- Energy Efficiency and Renewables Unit
- Regulatory Energy Agency
- Power Utility Company (ElektroPrivredaCrneGore/EPCG)
- HydroMeteorological Institute
- Municipality representatives/authorities in charge
- Small HydroPower Plants owners and investors
- Site owners
- NGO MANS-Network for Affirmation of Non-governmental Sector (MrezaAffirmarcijuNevladihogSektora)
- NGO GreenHome
- NGO Most/Bridge

ANNEX N. DETAILS OF CO-FINANCING

I. DETAILS OF THE »IN-KIND« CONTRIBUTIONS

- a) Ministry of Economy will co-finance the project in amount of USD 1,400,000 for the following activities:
- Hydrological measurements of river catchments, in which 70 small hydrosites are located
 - Geological mapping and data collection covering the area of 70 small hydro sites
 - Staff costs for the establishment and running of a new energy efficiency and renewable energy unit within the Ministry of Economy, responsible for the development of new small hydro-power resources.
- b) Energy Regulatory Agency will co-finance the project in amount of USD190.000 for the following activities:
- Policy development and drafting secondary legislation including Market design
 - Market and compliance monitoring
 - Authorization and licensing
 - Tariff and price regulation
 - Dispute resolution

II. DETAILS OF THE »IN-CASH« CONTRIBUTIONS

- a) UNDP LO Podgorica will co-finance the project in amount of USD 40,000 for the project management activities and policy formulation.
- b) European Agency for Reconstruction will co-finance the project in amount of USD1,190,000 for the following activities:
- Energy sector reform:
- Privatization strategy for the electricity utility EPCG
 - Assistance in the implementation of EPCG unbundling
- Capacity building for Energy Regulatory Agency:
- Market design and market compliance monitoring
 - Authorization and licensing procedure
 - Tariff and price regulation
 - Dispute resolution and other training
- c) Norwegian Government will co-finance the project in amount of USD 650,000 for the following activities:
- Hydrological measurements at 15 stations in Montenegro.
 - Identification of promising locations.
 - Master plan for the national hydrological network.

ANNEX O. LETTER OF ENDORSEMENT AND LETTERS OF CO-FINANCERS

1. Country Endorsement Letter (RAF endorsement letter if BD or CC project)
2. Ministry of Economy
3. Energy Regulatory Agency of Republic of Montenegro
4. European Agency for Reconstruction
5. Government of Norway, Norwegian Water Resources and Energy Directorate, Hydrology Department.
6. UNDP
7. Power Utility Company of Montenegro (EPCG)

a) Country Endorsement Letter (RAF endorsement letter if BD or CC project)



**Republic of Montenegro
Government of the Republic of Montenegro
Ministry of Environmental Protection
and Physical Planning**

United Nations Development Programme (UNDP)
UNDP Country Office in Serbia and Montenegro
Mr. Lance Clark
Resident Representative
Mr. Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica

Date: 3 April 2006
N^o 01-1249/06

Global Environmental Facility (GEF)

LETTER OF ENDORSEMENT

GEF project "Power Sector Policy Reform to support Small Hydropower Development in Montenegro"

Dear Sirs,

On behalf of the Government of Serbia and the Government of Montenegro and, in my capacity as GEF Operational Focal Point, I hereby endorse the request of funding of 1.000.000 USD for the MSP project entitled "Power Sector Policy Reform to support Small Hydropower Development In Montenegro", to be presented through the United Nations development Programme (UNDP) to the Global Environmental Facility.

As GEF Operational Focal Point, I am fully aware of the Resource Allocation Framework and its constraints for programming in Serbia and Montenegro and I decided to prioritize this project, knowing that it will use the entire GEF allocation for CC for Serbia and Montenegro in GEF 4. I am therefore working with the UNDP to prepare the project aimed at reforming power sector policy to support small hydropower development in Montenegro.

Looking forward to your kind consideration in this matter.

Sincerely,


(Signature)
Boro Vucinic
Minister



GEF Operational Focal Point
Ministry of environmental protection and physical planning of Montenegro
REPUBLIC OF MONTENEGRO
on behalf of
THE STATE UNION OF SERBIA AND MONTENEGRO



*Republic of Montenegro
Ministry of Environmental Protection
And Physical Planning*

*Ref.no.04-3077/06-2
Date: 4th September 2006*

**Global Environmental Facility (GEF)
Mrs. Monique Barbut, GEF CEO and Chairman**

GEF Secretariat
1818 H Street, N.W.
Washington, D.C. 20433
USA

Fax: +1 202 522 3240 or +1 202 522 3245
Email: mbarbut@thegef.org

Dear Mrs. Barbut,

I take this opportunity to thank you for your letter addressed to GEF Focal Points, dated 8 August 2006, on Resource Allocation Framework where you state that 15 September is the target date for endorsement of project concepts.

On behalf of the Government of Montenegro and as GEF Operational Focal Point I hereby confirm that I am fully aware of the Resource Allocation Framework as well as of the constraints for its programming in Montenegro. We also know that the final allocation is not yet known.

Regardless of the final amount for the allocation for Montenegro, we would like to inform you about our decision to prioritize the projects under the Climate Change and Biodiversity Focal Areas for the GEF 4 as follows:

- "Power Sector Policy Reform to support Small Hydropower Development in Montenegro" (MSP) – this is the top priority project and the one that we would like to use 1 million USD from the allocation for CC under RAF in GEF 4.
- "Securing biodiversity conservation and sustainable use in the Dinaric Mountain eco region of Montenegro" (Concept and PDF B) – this is the top priority project and the one that we would like to use 1.5 million USD from the allocation for BD under RAF in GEF 4.

We would also like to mention that we are working with UNDP on both projects and we are fully aware that these two projects might use the entire GEF allocation for CC and BD for Montenegro in GEF 4.

Looking forward to your kind consideration in this matter.

Sincerely,



Boro Vucinic
Minister
GEF Operational Focal Point

Cc. Richard Hosier: rhosier@thegef.org
Cc. Gonzalo Castro: gcastro@thegef.org



*Republic of Montenegro
Government of the Republic of Montenegro
Ministry of Environmental Protection
and Physical Planning*

Date: 18 May 2006

Global Environmental Facility (GEF)
Mr. Leonard Good
GEF CEO and Chairman

GEF Secretariat
1818 H Street, N.W.
Washington, D.C. 20433
USA

Fax: +1 202 522 3240 or +1 202 522 3245
Email: lgood@thegef.org

Dear Mr. Good

I take this opportunity to thank you for the invitation letter addressed to GEF Focal Points, dated 20 March 2006, on sub-regional consultations under GEF Dialogue Initiative, and to apologize for not being able to participate on the meeting for the Eastern Europe region, set for 22-23 May 2006 in Bratislava, due to immediate obligations that I have in that period.

In my capacity as GEF Operational Focal Point, I am fully aware of the Resource Allocation Framework and possible constraints for programming in Serbia and Montenegro. We also know that the final allocation is not yet known.

Regardless of the final amount for the allocation for Serbia and Montenegro, we would like to inform you about our decision to prioritize the projects under the Climate Change Focal Area for the entire duration of the GEF 4 as follows:

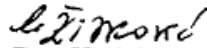
- 1) "Power Sector Policy Reform to support Small Hydropower Development in Montenegro" (MSP being submitted this week of May 2006 as per attached letter of endorsement) – this is the top priority project and the one that we would like to go first using the 50% allocation for Serbia and Montenegro.
- 2) "Support to Sustainable Transportation System in the City of Belgrade" (PDF A submitted in March 2006 as per attached letter of endorsement). The resulting MSP will be submitted for the second half of GEF 4.

We would also like to mention that we are working with UNDP in both projects and we are fully aware that these two projects might use the entire GEF allocation for CC for Serbia and Montenegro in GEF 4.

Looking forward to your kind consideration in this matter.

Sincerely,

For



Boro Vucinic

Minister

GEF Operational Focal Point

Ministry of environmental protection and physical planning of Montenegro

REPUBLIC OF MONTENEGRO

on behalf of

THE STATE UNION OF SERBIA AND MONTENEGRO

Cc. Richard Hosier: rhosier@thegef.org

b) Confirmed letters of commitments from co-financiers (with English translations)



Republic of Montenegro
Government of the Republic of Montenegro
MINISTRY OF ECONOMY

Ref. no.: 01-333/10
Podgorica, 15th May 2006

United Nations Development Programme (UNDP)
UNDP Country Office in Serbia and Montenegro
Mr. Lance Clark
Resident Representative
Mr. Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica

Subject: Confirmation of the co-financing of the Government of the Republic of Montenegro: project "Power Sector Policy Reform to Support Small Hydropower Development in Montenegro"

Dear Sirs,

The Government of the Republic of Montenegro has the pleasure to confirm co-financing for the above project in the amount of USD 1.400.000. The resources will be managed through the Ministry of Economy, for the following activities implemented between September 2006 and September 2010:

- hydrological measurements of river catchments, in which 70 small hydro sites are located;
- geological mapping and data collection covering the area of 70 small hydro sites;
- staff costs for the establishment and running of a new energy efficiency and renewable energy unit within the Ministry of Economy, responsible for the development of new small hydro-power resources.

Sincerely,



Minister of Economy

Predrag Bošković
Predrag Bošković

Rimski trg 46, 81000 Podgorica
TEL: (+381) 81 482-112; 242-104; FAX: (+381) 81 242-028
E-mail: ministarstvo-ekonomije@mn.yu
Web: www.minekon.vlada.cg.yu



Republic of Montenegro
Energy Regulatory Agency
Nr: 06/454-3
Podgorica, 16th May, 2006.

United Nations Development Programme (UNDP)
UNDP Country Office in Serbia and Montenegro
Mr. Lance Clark
Resident Representative
Mr. Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica


Subject: Confirmation of the co-financing of Energy Regulatory Agency: project
"Power Sector Policy Reform to Support Small Hydropower Development
in Montenegro"

Dear Sirs,

The Energy Regulatory Agency of the Republic of Montenegro has the pleasure to confirm co-financing for the above project in the amount of USD 190.000. The resources will be managed through engagement of the Energy Regulatory Agency, for the following activities being implemented from September 2006 to September 2010:

- Policy development and drafting secondary legislation including Market design
- Market and compliance monitoring
- Authorization and licensing
- Tariff and price regulation
- Dispute resolution

Sincerely,


Momir Skopelja
Deputy Director
Energy Regulatory Agency
Republic of Montenegro





European Agency for Reconstruction

Head of Centre Podgorica

Podgorica, 15 May 2006

United Nations Development Programme (UNDP)
UNDP Country Office in Serbia and Montenegro
Mr. Lance Clark
Resident Representative

Subject: Project "Power Sector Policy Reform to Support Small Hydropower Development in Montenegro"

Dear Sirs,

The European Agency for Reconstruction has the pleasure to confirm that its below listed technical assistance activities whose value is equivalent to USD 1.190.000 will complement the activities under the above project. The resources are managed through the following projects of the European Agency for Reconstruction:

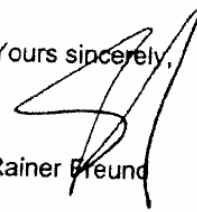
'Energy Sector Reform': in the amount of USD 820,000, involving the following activities, running from September 2006 to July 2007:

- Privatization strategy for the electricity utility EPCG, including the 7 existing small hydro power plants owned by EPCG (not new small hydro sites)
- Assistance in the implementation of the EPCG unbundling

'Capacity Building for the Energy Regulatory Agency': in the amount of USD 370,000, involving the following activities running from September 2006 to June 2007:

- Market design and market and compliance monitoring
- Authorization and licensing procedure
tariff and price regulation
dispute resolution and other training

Yours sincerely,


Rainer Freund

Mr. Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica

Headquarters
Egnatia 4, Thessaloniki 54628
Greece

Tel. +30 2310 505 100

Fax: +30 2310 505 172

<http://www.ea.r.eu.int>, info@ea.r.eu.int

The European Agency for Reconstruction is responsible for the management of the main EU assistance programmes in Serbia & Montenegro (Republic of Serbia, Republic of Montenegro, UN-administered Kosovo) and FYR Macedonia.

Operational Centre - Podgorica
Atinska 5, Podgorica 81000, Montenegro
Serbia & Montenegro

Tel. +381 81 406 600 (direct line: +381 81 406 600)

Fax: +381 81 655 532

dejan.milovic@ea.r.eu.int

**Government of Norway
Norwegian Water Resources and Energy Directorate
Hydrology Department**

Date: 12 May 2006

**United Nations Development Programme (UNDP)
UNDP Country Office in Serbia and Montenegro
Mr. Lance Clark
Resident Representative
Mr. Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica**

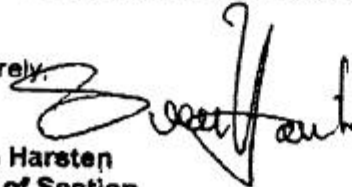
Subject: Confirmation of the co-financing of Norwegian Water Resources and Energy Directorate: project "Power Sector Policy Reform to Support Small Hydropower Development in Montenegro"

Dear Sirs,

The Norwegian Water Resources and Energy Directorate has the pleasure to confirm co-financing to the above project in the amount of USD 650.000. The resources will be managed through the Norwegian Project of Hydrology Researches Needed for Construction of Small Hydro Power Plants in Montenegro, running from September 2006 to September 2008. Funds under the project will support implementation of the following activities:

- hydrological measurements on fifteen stations in Montenegro
- identification of resting locations
- master plan for the national hydrological network

Sincerely,



**Svein Harsten
Head of Section
Hydrology Department
Norwegian Water Resources and Energy Directorate
Government of Norway**

United Nations Development Programme



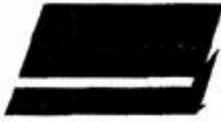
Podgorica, 17th May 2006

Subject: Confirmation of the co-financing of UNDP LO Podgorica: project "Power Sector Policy Reform to Support Small Hydropower Development in Montenegro"

UNDP LO Podgorica has the pleasure to confirm co-financing for the above project in the amount of USD 40.000. The resources will be managed through UNDP LO Podgorica, for the activities being implemented from September 2006 to September 2010.

A handwritten signature in black ink, appearing to read 'G. Kelly', written over a circular stamp or watermark.

Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica



ELEKTROPRIVREDA
CRNE GORE A.D. NIKSIC

GLAVNI DIREKTOR
tel: 013/204-108; 204-109
fax: 083/214-260

e-mail: epcg@cg.yu
web-site: www.epcg.cg.yu

Naš znak 10-00-7520

Vaš znak 19 May 2006.

Datum

United Nations Development Programme (UNDP)
UNDP Country Office in Serbia and Montenegro
Mr. Lance Clark
Resident Representative
Mr. Garret Tankosic-Kelly
Deputy Resident Representative
Head of UNDP Liaison Office in Podgorica

**Subject: Confirmation of the participation of the
Electric Power Company of Montenegro:
project "Power Sector Policy Reform to Support
Small Hydropower Development in Montenegro"**

Dear Sirs,

The Electric Power Company of Montenegro has the pleasure to confirm participation in the above project during its implementation from September 2006 to September 2010, providing its expertise related to small hydro power plants development in Montenegro.

Sincerely,



Srdjan Kovacevic
Chief Executive Officer
Electric Power Company of Montenegro

PART II: Terms of References for key project staff and main sub-contracts

[Terms](#) of reference for the relevant project staff and contractors is described in detail in attached and approved MSP request for CEO endorsement.

SIGNATURE PAGE

Country: Montenegro

UNDAF Outcome(s)Indicator(s)

Not applicable

Expected Outcome(s) / Indicator (s)

Expected Output(s)/Indicator(s)

Technical assistance provided to the Ministry for Economic Development and public-private partnership promoted through concrete pilot initiatives in energy generations.

New MW power generated from small hydro sources: Baseline: 1.1 % of domestic electricity generation.

Target: 5% of additional 15-20 MW

Implementing partner:

UNDP Country Office Montenegro

Other Partners:

Ministry for Economic Development
Hydrological Institute, Private Sector

Programme Period: 2007-2011
Programme Component: Energy and Environment
Project Title: Power Sector Policy Reform to Promote Small Hydropower Development in Montenegro
Project PIMS No.: 3813
Atlas Award: 00049703
Atlas Project ID: 00060829
Project Duration: 2008-2012
Management Arrangement: DEX

Budget	US\$ 4.448.393
GEF:	US\$ 978.393
• UNDP	US\$40.000
• Others	US\$1.840.000
• In kind contributions:	
• Government	US\$1.590.000

	Name	Signature	Date
Agreed by (Government)			

Agreed by (UNDP)

Garret Tankosic Kelly

20th March 2008