



NAMA Seeking Support for Implementation

A.1 Party	The Republic of Serbia	
A.2 Title of Mitigation Action	Construction of a Super-critical Lignite Power Plant TTP Kostolac B	
A.3 Description of mitigation action	Construction of a new lignite fired thermal power plant in TPP Kostolac B. The new unit, called block B3, will have an installed capacity of 600 MWe with net efficiency of 40.8%, which is significantly higher than 33.5% efficiency of a conventional lignite power plant in Serbia. The project will introduce a super-critical steam power generation technology.	
A.4 Sector	<input checked="" type="checkbox"/> Energy supply <input type="checkbox"/> Transport and its Infrastructure <input type="checkbox"/> Residential and Commercial buildings <input type="checkbox"/> Industry <input type="checkbox"/> Agriculture <input type="checkbox"/> Forestry <input type="checkbox"/> Waste management	
A.5 Technology	<input type="checkbox"/> Bioenergy <input type="checkbox"/> Cleaner Fuels <input checked="" type="checkbox"/> Energy Efficiency <input type="checkbox"/> Geothermal energy <input type="checkbox"/> Hydropower <input type="checkbox"/> Solar energy <input type="checkbox"/> Wind energy <input type="checkbox"/> Ocean energy <input type="checkbox"/> Carbon Capture and Storage <input type="checkbox"/> Other <Pls enter Other text here>	
A.6 Type of action	<input checked="" type="checkbox"/> National/ Sectoral goal <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> National/Sectoral policy or program <input type="checkbox"/> Project: Investment in machinery <input checked="" type="checkbox"/> Project: Investment in infrastructure <input type="checkbox"/> Other: <Pls enter Other text here>	
B National Implementing Entity		
B.1 Name	Public Enterprise Electric Power Industry of Serbia	
B.2.1 Contact Person	Aleksandar Obradovic, General Manager, A.I.	
B.2.2 Address	Balkanska 13, Belgrade	
B.2.3 Phone	+381 11 2024 600	
B.2.4 Email	aleksandar.obradovic@eps.rs	
B.3.1 Contact Person	Mihajlo Gavric (alternative Contact Person 1)	
B.3.2 Address	Vojvode Stepe 412, Belgrade	
B.3.3 Phone	+381 11 3952 316	
B.3.4 Email	mihajlo.gavric@eps.rs	
B.4.1 Contact Person	Dragan Vukotic (alternative Contact Person 2)	



B.4.2 Address	Vojvode Stepe 412, Belgrade											
B.4.3 Phone	+381 11 3952 349											
B.4.4 Email	dragan.vukotic@eps.rs											
C. Expected timeframe for the implementation of the mitigation action												
C.1 Number of years for completion	6											
C.2 Expected start year of implementation	2015											
D.1 Used Currency	EURO											
E Cost												
E.1 Estimated full cost of implementation	954,000,000											
E.2 Estimated incremental cost of implementation	n/a											
F Support required for the implementation of the mitigation action												
F.1.1 Amount of financial support	954,000,000.00											
F.1.2 Type of required financial support	<table><tr><td><input type="checkbox"/> Loan (sovereign)</td><td><input type="checkbox"/> Loan (Private)</td></tr><tr><td><input checked="" type="checkbox"/> Concessional loan</td><td><input type="checkbox"/> Debt Swap</td></tr><tr><td><input checked="" type="checkbox"/> Grant</td><td><input checked="" type="checkbox"/> Equity</td></tr><tr><td><input type="checkbox"/> Guarantee</td><td><input checked="" type="checkbox"/> Carbon finance</td></tr><tr><td><input type="checkbox"/> FDI</td><td><input type="checkbox"/> Others:<Pls enter Other text here></td></tr></table>		<input type="checkbox"/> Loan (sovereign)	<input type="checkbox"/> Loan (Private)	<input checked="" type="checkbox"/> Concessional loan	<input type="checkbox"/> Debt Swap	<input checked="" type="checkbox"/> Grant	<input checked="" type="checkbox"/> Equity	<input type="checkbox"/> Guarantee	<input checked="" type="checkbox"/> Carbon finance	<input type="checkbox"/> FDI	<input type="checkbox"/> Others:<Pls enter Other text here>
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F.1.3 Comments on Financial Support	EPS is open for various solutions regarding the finance of the project as stated in F.1.2.											
F.2.1 Amount of Technological Support	954,000,000											
F.2.2 Comments on Technological Support	Amount of the Technology support will be determined later, after finalisation of the Feasibility Study.											
F.3.1 Amount of capacity building support	0.00	<input checked="" type="checkbox"/> \$ (Dollars) <input type="checkbox"/> man/hours										
F.3.2 Type of required capacity building support	<input type="checkbox"/> Institutional development <input checked="" type="checkbox"/> Human capital <input type="checkbox"/> Systemic (policies, legislative, regulatory, etc)											
F.3.3 Comments on Capacity Building Support	Estimated amount for capacity building is 2% of the total investment (such as training of stuff in the countru of technology origin, et c...)											
G Estimated emission reductions												
G.1 Amount	56.00											
G.2 Unit	MtCO2e											



G.3 Comments Estimation is calculated based on 40 years of technical life time of instalation

H.1 Other indicators of implementation Pre-Feasibility Study and General Design is completed

I.1 Other relevant information including benefits for local sustainable development

Implementation of the NAMA is meeting majority of the Sustainable Development Indicators in accordance with tree criterion indicated in appendix of the Serbian DNA Rules of procedure.

According to the economic criterion, it satisfies following fields:

1. Investing conditions - Construction of the new TPP will be carried out through strategic partnership of EPS and power utility that will be selected on the international tender. EPS would participate with up to 49% of the capital, while the strategic partner would provide the rest of investments.
2. Sustainable technology transfer - Final technological solution is not been defined yet, but it is anticipated that TPP Kostolac B3 will be unit of the modern construction with supercritical steam parameters, which represent the best available technology at this point.
3. Economic development of the region - Construction of the TPP Kostolac B3 will bring construction of new infrastructure; it also contributes to the power system stability and supply security, which consequently have effect on the stability of the prices for electric energy.
4. Employment - Construction of the TPP Kostolac B3 will provide work for many domestic companies. After commissioning and connection to the network, new work places will be available at the power plant and following facilities, as well as the chance for engagement of the companies from the sector of services and maintenance on long-term basis.
5. Priorities of the sector - Power generation at the TPP Kostolac B3 will contribute to the power system stability and supply security, which represent one of the priorities in the energy sector.
6. Consumption and generation - Power generation at the new power plant will reduce need for electricity import, and its modern concept will reduce waste production per unit of generated energy as well as waste management in ecology acceptable manner.

According to the social criterion, it satisfies following fields:

1. Participation of the interested parties - Project TPP Kostolac B3 will be implemented with strategic partner on mutual benefit. Strategic partner will provide technology and financing, while EPS will provide fuel supply, existing infrastructure, and part of the funds. Implementation of this project includes participation of every governmental structure from the state to the local level, which supporting project due to its many advantages.
2. Life conditions improvement - Project implementation of such scope, lead up to the employment increase, as well as income increase, on the local and regional level.



3. Capacity increase - According to the work needs and modern equipment maintenance, strategic partner will provide training for the employees, as well as expertise and tools for local companies engaged on this implementation of the project during its operational life.

According to the environment and natural resources criterions, it satisfies following fields:

1. Energy resources – Generation of TPP Kostolac B3 will, due to the higher energy efficiency of the plant, reduce coal consumption for power generation, and significantly reduce need for electricity import.
2. Air - Due to the application of the modern technology and higher energy efficiency of the plant, project will result in reduced emission levels of CO₂, SO_x and NO_x, comparing to the existing thermo power plants in Serbia.
3. Water - Contribution to the sustainable water use would be the application of measures for water treatment of all water quantities used in the technological process of electricity generation.
4. Soil - New thermo power plant will be constructed on the location of TPP Kostolac B3, where already exist land for this purpose, as well as joint systems, so it would not be necessary to change the purpose of the land. In addition, ash disposal will be at the area anticipated for this purpose with application of the reclamation measures.
5. Biodiversity – Whether the ash disposal will be at the area reserved for that purpose or at the area of the open pit mines of EPS - biological reclamation measures will contribute to the preservation of plants and increase of wooded areas.
6. Natural recourses - Modern concept of the unit TPP Kostolac B3 will significantly contribute to the sustainable use of mineral recourses, because energy efficiency of primary energy transformation ($\approx 45\%$) will be significantly higher than at existing thermal power plants in Serbia. Exploitation life of domestic lignite deposits is extended that way.

J Links to National Policies and other NAMAs

J.1 Relevant National Policies <http://www.merz.gov.rs/en>