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Report No: PAD1129

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EUR 227.48 MILLION
(US$300 MILLION EQUIVALENT)

TO THE

REPUBLIC OF SERBIA

FOR A

FLOODS EMERGENCY RECOVERY PROJECT

September 22, 2014

Energy and Extractives Global Practice
Southeast Europe Country Unit
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective August 2014)

Currency Unit	=	RSD
87.63 RSD	=	USD 1
118.9 RSD	=	EUR 1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AERS	Energy Agency of the Republic Of Serbia
APL	Energy Community of South East Europe
CAD	Current Account Deficit
CAP	Common Agricultural Policy
CFLs	Compact Fluorescent Lights
CHP	Combined Heat and Power
DA	Designated Account
DAP	Directorate for Agrarian Payments
DH	District Heating
DRM	Disaster Risk Management
DWM	Directorate of Water Management
EC	European Commission
ECA	Europe and Central Asia
EEX	European Energy Exchange
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
EMS	Elektromreža Srbije
EPS	Elektroprivreda Srbije
EPTD	Electric Power Trading Division
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
EU	European Union
EUR	Euro
FA	Farm Registry
FIRR	Financial Internal Rate of Return
GDP	Gross Domestic Product
GoS	Government of Serbia
GWh	Gigawatt Hours
HDI	Human Development Index
HPP	Hydropower Plant
HUPX	Hungarian Power Exchange
IARD	Incentives for Agriculture and Rural Development
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDRP	Irrigation and Drainage Rehabilitation Project
IFIs	International Financial Institutions
IFRs	Interim Financial Reports
IMF	International Monetary Fund
IPA	Instrument for Pre-Accession Assistance
IPARD	Instrument for Pre-Accession Assistance for Rural Development
IPF	Investment Project Financing
ISA	International Standard on Auditing
JICA	Japan International Cooperation Agency
MAEP	Ministry of Agriculture and Environmental Protection
MCM	Million Cubic Meters
MDTF	Multi - Donor Trust Fund
META	Model for Electricity Technology Assessment
MME	Ministry of Mining and Energy
MWh	Megawatt Hours
NBS	National Bank of Serbia
NCB	National Competitive Bidding
NPV	Net Present Value
ORAF	Operational Risk Assessment Framework
PAD	Project Appraisal Document
PDO	Project Development Objective
PIU	Project Implementation Unit
PSC	Project Steering Committee
POM	Project Operations Manual
PWMC	Public Water Management Company
RAP	Resettlement Action Plan
RFP	Request for Proposal
RNA	Recovery Needs Assessment
RPF	Resettlement Policy Framework
RSD	Serbian Dinar
RSO	Republican Statistical Office
SEE CRIF	South East Europe Catastrophic Risk Insurance Facility
SEE	South East Europe
SEPA	Serbian Environmental Protection Agency
SILC	Statistics on Income and Living Conditions
SME	Small and Medium Enterprise
SOE	State Owned Enterprise
SoE	Statement of Expenditures
TOR	Terms of Reference
TPP	Thermal Power Plant
TW	Tamnava West
TWh	Terawatt Hours
USD	United States Dollars
WB	World Bank

Regional Vice President:	Laura Tuck
Country Director:	Ellen A. Goldstein
Senior Global Practice Director:	Anita George
Practice Manager:	Ranjit Lamech
Task Team Leaders:	Claudia Ines Vasquez Suarez and Olivera Jordanovic

REPUBLIC OF SERBIA
Floods Emergency Recovery Project

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PAD DATA SHEET

Serbia

Floods Emergency Recovery Project (P152018)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

GEEDR

Report No.: PAD1129

Basic Information		
Project ID	EA Category	Team Leader
P152018	B - Partial Assessment	Claudia Ines Vasquez Suarez
Lending Instrument	Fragile and/or Capacity Constraints [X]	
Investment Project Financing	- Natural or man-made disaster	
	Financial Intermediaries [ ]	
	Series of Projects [ ]	
Project Implementation Start Date	Project Implementation End Date	
03-Oct-2014	31-Dec-2017	
Expected Effectiveness Date	Expected Closing Date	
01-Jan-2015	31-Dec-2017	
Joint IFC		
No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Ranjit J. Lamech	Anita Marangoly George	Ellen A. Goldstein	Laura Tuck

Borrower: Republic of Serbia			
Responsible Agency: Elektroprivreda Srbije			
Contact:	Milos Stojanovic	Title:	Head of Strategy and Investment Department
Telephone No.:	381113952323	Email:	milos.stojanovic@eps.rs
Responsible Agency: Directorate of Agrarian Payments (DAP)			
Contact:	Vladislav Krsmanovic	Title:	Director
Telephone No.:	381115367510	Email:	vladislav.krsmanovic@minpolj.gov.rs
Responsible Agency: Directorate of Water Management			
Contact:	Miodrag Pjescic	Title:	Director
Telephone No.:	381112013360	Email:	miodrag.pjescic@minpolj.gov.rs

Safeguards Deferral (from Decision Review Decision Note)										
Will the review of Safeguards be deferred? [X] Yes [ ] No										
Project Financing Data(in USD Million)										
[X] Loan	[ ] IDA Grant	[ ] Guarantee								
[ ] Credit	[ ] Grant	[ ] Other								
Total Project Cost:	300.00	Total Bank Financing:	300.00							
Financing Gap:	0.00									

Financing Source	**Amount**
Borrower	0.00
International Bank for Reconstruction and Development	300.00
Total	300.00

Expected Disbursements (in USD Million)										
Fiscal Year	2015	2016	2017	2018	0000	0000	0000	0000	0000	0000
Annual	180.00	60.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative	180.00	240.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Proposed Development Objective(s)

The Project Development Objective (PDO) is to: (i) help restore power system capability to reliably meet domestic demand; (ii) protect livelihoods of farmers in the flood affected areas; (iii) protect people and assets from floods; and (iv) improve the Borrower's capacity to respond effectively to disasters.

Components

Component Name	**Cost (USD Millions)**
Component 1: Energy Sector Support	207.25
Component 2: Agricultural Sector Support	70.00
Component 3: Flood Protection	22.00
Component 4: Contingent Emergency Response	0.00

Institutional Data

Practice Area / Cross Cutting Solution Area

Energy & Extractives

Cross Cutting Areas

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] Gender

[ ] Jobs

[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Energy and mining	General energy sector	70		
Agriculture, fishing, and forestry	General agriculture, fishing and forestry sector	20		
Water, sanitation and flood protection	Flood protection	10		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Social protection and risk management	Natural disaster management	100
Total		100

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [X] No [ ]
Have these been approved by Bank management?	Yes [ ] No [X]

Is approval for any policy waiver sought from the Board?	Yes [X] No [ ]

Explanation:

A waiver of paragraph 1.16 (e) of the Bank's "Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grant by World Bank Borrowers" (January 2011, revised July 2014) is being sought in connection with eleven signed import contracts subject to retroactive financing.

Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09	X	
Physical Cultural Resources OP/BP 4.11		X
Indigenous Peoples OP/BP 4.10		X
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50	X	
Projects in Disputed Areas OP/BP 7.60		X

Legal Covenants

Name	Recurrent	Due Date	Frequency
Farm Incentives Program	X		CONTINUOUS

Description of Covenant

The Borrower shall not amend, suspend, abrogate, repeal or waive the Farm Incentive Program in any way that, in the opinion of the Bank, would affect materially and adversely the payments to farmers in the Flood Affected Areas, under Part II of the Project.

Name	Recurrent	Due Date	Frequency
Project Implementation Entity - EPS		15-Nov-2014	

Description of Covenant

The Borrower through the Office for Reconstruction and Flood Relief shall cause the Project Implementing Entity to establish not later than November 15, 2014, and thereafter maintain a Project implementation team with terms of reference, competent staff and sufficient resources, satisfactory to the Bank, for purposes of carrying out Part I of the Project.

Name	Recurrent	Due Date	Frequency
Project Implementation Unit - DWM		15-Nov-2014	

Description of Covenant

The Borrower shall ensure that MAEP establishes, not later than November 15, 2014 and thereafter maintains a Project Implementation Unit under the Directorate of Water Management (DWM) with terms of reference, competent staff, including a manager, a procurement specialist, a financial management specialist, a safeguards specialist, and a monitoring and evaluation specialist, and sufficient resources, satisfactory to the Bank, to carry out Parts II and III of the Project.

Name	Recurrent	Due Date	Frequency
Subsidiary Agreement	X		CONTINUOUS

Description of Covenant

The Borrower shall make part of the proceeds of the Loan available to the Project Implementing Entity (PIE) under a subsidiary agreement (SA) between the Borrower and the PIE under terms and conditions approved by the Bank which shall include: the principal amount of the Loan made available under the SA shall be: (a) denominated and repayable in Euros; and (b) made in no less favorable terms than the terms of the Loan. The Borrower shall not assign, amend, abrogate or waive the SA or any of its provisions.

Name	Recurrent	Due Date	Frequency
Implementation of the Environmental Management Plan	X		CONTINUOUS

Description of Covenant

The Borrower shall ensure, and shall cause the Project Implementing Entity to ensure, the complete implementation of the Environmental Management Plan (EMP) for the Tamnava West Mine field and any and all EMPs in a manner acceptable to the Bank, including all necessary measures to minimize and to mitigate any adverse environmental impacts caused by the implementation of the Project.

Name	Recurrent	Due Date	Frequency
Project Reports	X		CONTINUOUS

Description of Covenant

The Borrower shall monitor and evaluate the progress of the Project and prepare Project Reports. Each Project Report shall cover the period of one calendar semester, and shall be furnished to the Bank not later than forty-five (45) days after the end of the period covered by such report.

Name	Recurrent	Due Date	Frequency
Financial Reports	X		Quarterly

Description of Covenant

The Borrower shall prepare and furnish to the Bank not later than 45 days after the end of each calendar quarter, interim unaudited financial reports for the Project covering the quarter, in form and substance satisfactory to the Bank.

Name	Recurrent	Due Date	Frequency
Auditing of Financial Reports	X		Yearly

Description of Covenant

The Borrower shall have its Financial Statements audited in accordance with the provisions of Section 5.09(b) of the General Conditions. Each audit of the Financial Statements shall cover the period of one fiscal year of the Borrower. The audited Financial Statements for each such period shall be furnished to the Bank not later than six months after the end of such period.

Name	Recurrent	Due Date	Frequency
Auditing of Financial Reports of PIE	X		Yearly

Description of Covenant

The Borrower shall ensure that the Project Implementing Entity has its financial statements audited on an annual basis. The audited Financial Statements for each such period shall be furnished to the Bank not later than nine (9) months after the end of such period.

Name	Recurrent	Due Date	Frequency
Financial Sustainability of the Project Implementing Agency (EPS)	X		CONTINUOUS

Description of Covenant

The Borrower undertakes to ensure the financial sustainability of the Project Implementing Entity, on the basis of a set of operational and financial target indicators acceptable to the Bank and set forth in the PIE Operations Manual, which may be reviewed and adjusted from time to time, but at least annually, with the agreement of the Bank. The Borrower undertakes to prepare a time-bound action plan, acceptable to the Bank to address deviations from the set of operational and financial target indicators.

Conditions

Source Of Fund	Name	Type
IBRD	Subsidiary Agreement	Effectiveness

Description of Condition

The Subsidiary Agreement has been executed on behalf of the Borrower and the PIE (Public Enterprise Elecktroprivreda Srbije - EPS).

Source Of Fund	Name	Type
IBRD	Disbursement Condition for Component 1	Disbursement

Description of Condition

Not withdrawal shall be made under Component 1 unless:
(i) the Project Implementing Entity has adopted the PIE Project Operations Manual satisfactory to the Bank
(ii) EPS has adopted the Project Operations Manual satisfactory to the Bank
EPS has adopted and published the ESMF and RPF satisfactory to the Bank have been adopted and published

Source Of Fund	Name	Type
IBRD	Disbursement Condition for Component 2	Disbursement

Description of Condition

No withdrawal shall be made under Component 2 unless:
(i) MAEP has adopted the MAEP Project Operations Manual satisfactory to the Bank;
(ii) the ESMF satisfactory to the Bank has been adopted and published;
(iii) MAEP has submitted evidence satisfactory to the Bank that any payments under the Farm Incentive Program have been made to eligible beneficiaries by the Borrower; and
(iii) DWM has established a PIU with terms of reference, competent staff, and sufficient resources satisfactory to the Bank

Source Of Fund	Name	Type
IBRD	Disbursement Condition for Component 3	Disbursement

Description of Condition

No withdrawal shall be made under Component 3 unless:
(i) MAEP has adopted the MAEP Project Operations Manual satisfactory to the Bank;
(ii) the ESMF and RPF satisfactory to the Bank have been adopted and published; and
(iv) DWM has established a PIU with terms of reference, competent staff, and sufficient resources satisfactory to the Bank

Source Of Fund	Name	Type
IBRD	Disbursement Condition for Component 4	Disbursement

Description of Condition

No withdrawal shall be made under Component 4 unless:
(i) An Eligible Crisis or Emergency has occurred and the Bank has agreed with such determination;
(ii) All safeguard instruments have been prepared and disclosed;
(iii) the Borrower's Coordinating Authority has adequate staff and resources; and
(iii) the Borrower has adopted a Contingency Emergency Response Component (CERC) Operations Manual in form, substance and manner acceptable to the Bank

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Nebojsa Arsenijevic	Operations Officer	Energy	CEUSB
Raymond Bourdeaux	Program Leader	Donor Coordination	ECCU4
Aleksandar Crnomarkovic	Sr Financial Management Specialist	Financial Management	GGODR
Kashmira Daruwalla	Senior Procurement Specialist	Procurement	GGODR
Naima A Hasci	Sr Social Scientist	Social Safeguards	GSURR
Nikola Ille	Senior Environmental Specialist	Environmental Safeguards	GENDR
Bekim Imeri	Social Scientist	Social Safeguards	GSURR
Jose C. Janeiro	Senior Finance Officer	Disbursement	CTRLA
Ramiro Ignacio Jauregui-Zabalaga	Counsel	Legal	LEGLE
Olivera Jordanovic	Land Administration Specialist	Co-Team Lead	GSURR
Toshiaki Keicho	Senior Urban Development Specialist	Urban Development	GSURR
Agnes I. Kiss	Regional Environmental and Safeguards Advisor	Environmental Safeguards Safeguards Advisor	OPSOR

Vesna Kostic	Senior Communications Officer	Communications	ECCYU
Dung Kim Le	Program Assistant	Operations Support	GEEDR
David Malcolm Lord	Water & Sanitation Specialist	Floods Protection	GWADR
Luiz T. A. Maurer	Principal Industry Specialist	Energy	GCCCS
Karuna Elisabeth Phillips	Consultant	Energy, Project Coordination	GEEDR
Gregory Scopelitis	E T Consultant	Economic and Financial	GEEDR
Lazar Sestovic	Senior Economist	Economic	GMFDR
Adam Shayne	Lead Counsel	Legal	LEGLE
Mirjana Simic Bowen	Consultant	Procurement	GEEDR
Desanka Stanic	Program Assistant	Operations Support	ECCYU
Efstratios Tavoulareas	Senior Operations Officer	Energy	CASEE
Jose C. Joaquin Toro Landivar	Senior Disaster Risk Management Specialist	Disaster Risk Management	GSURR
Claudia Ines Vasquez Suarez	Energy Economist	Team Lead	GEEDR
Heather B. Worley	Senior Communications Officer	Communications	ECRGP`

Non Bank Staff

Name	Title	City

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Serbia	Central Serbia	Central Serbia	**X**		

I. STRATEGIC CONTEXT

A. Country Context

1. **The Serbian economy remains weak and vulnerable to internal and external shocks**. The economy has already been in recession twice since the start of the international economic crisis in 2008 and a net decrease in economic activity is expected again in 2014. Factors explaining the significant fluctuations in economic activity include adverse external factors (lower capital inflows and smaller demand for Serbian exports), natural disasters, and modest progress with reforms. In May 2014, the country suffered from severe floods which are estimated to impact economic growth by -0.9 percentage points, i.e. the Serbian economy will contract by 0.4 percent in 2014, rather than growing by 0.5 percent as projected before the floods.

2. **The economic downturn had negative consequences on employment and poverty**. In the third quarter of 2014, unemployment was over 20 percent and the youth unemployment is one of the highest in Europe at close to 50 percent. Poverty has increased significantly in recent years as well. Almost a quarter of the population (24.6 percent, measured by Statistics on Income and Living Conditions, SILC) has an income below 60 percent of the median income as of 2013. This is the highest relative poverty rate among the group of EU new member states and candidate states. Real wages also dropped significantly and in 2013, they were 9 percent lower than in 2008.

3. **The devastating floods of May 2014, which resulted in 51 fatalities, caused significant economic hardship for much of the population in Serbia and disproportionally affected poor and vulnerable people.** Approximately 51,800 people have lost their jobs temporarily due to the interruption of productive activities and household incomes are expected to decline proportionally. It is also estimated that since the floods, 125,000 individuals have fallen below the poverty line, resulting in an increase of nearly 7 percent over last year's poverty level. These negative impacts on livelihoods and employment were more acute in vulnerable groups and among the rural population (the rural poverty rate in Serbia is 9.4 percent, twice as high as the urban poverty rate). Overall, the human development index (HDI) is expected to decline in 2014 reversing approximately two years' worth of growth.

4. **Serbia faces significant fiscal challenges that have been exacerbated by the recent natural disaster.** Over the last five years, the general fiscal deficit and debt of Serbia, as a share of GDP, was among the highest in the South East Europe (SEE) region. Between 2009 and 2013, fiscal deficit averaged 5.6 percent of GDP while public debt increased from 29 to 64 percent of GDP. The May 2014 floods will increase the government deficit by an additional 1.0 percent of GDP. Without fiscal consolidation measures, the fiscal deficit could exceed 8 percent of GDP by year end. Against this backdrop, the Government of Serbia remains committed to reducing fiscal risks. The first step is to adopt a supplementary budget in the fall of 2014. Discussions with the International Monetary Fund (IMF) are also expected to be initiated shortly thereafter.

B. Situations of Urgent Need of Assistance

5. **Unprecedented[1] rainfall started in early/mid-May 2014 causing massive floods, resulting in the declaration of a national state of emergency on May 15, 2014**. The heavy rainfall, led to a rapid and substantial increase of water levels in eight of the main rivers in western, south-western, central and eastern Serbia. Flash floods destroyed houses, bridges and sections of roads, while rising water levels resulted in flooding in both urban and rural areas. The disaster resulted in 51 deaths, with approximately 32,000 people evacuated from their homes, and around 110,000 households cut off from electricity supply. Overall, the floods affected some 1.6 million people, or about one fifth of the total population living in 49 municipalities. Adverse weather conditions have continued since, causing further damage to harvest and infrastructure.

6. **The Government conducted a Recovery Needs Assessment (RNA) which revealed that the total value of the disaster effects are around EUR 1.7 billion, or over 4 percent of GDP.** The RNA process was initiated on June 9 and completed by July 10, 2014 with the objective of estimating disaster effects.[2] The European Union, the United Nations and the World Bank provided financial and expert support to conduct the assessment. The RNA focused on the 24 most affected municipalities and revealed that the total effects of the disaster amounts to EUR 1.525 billion (see Table 1). When all 49 municipalities affected by the floods are taken into account, the total value of disaster effects increases to EUR 1.7 billion, or over 4 percent of GDP. The most affected sector was mining/energy (32 percent of the total), followed by housing, agriculture and trade, each accounting for around 15 percent.

Table 1. Estimated Damages and Losses as a Result of the Floods[3]
(Million EUR)

Sectors	Damages	Losses	Total
Social	**234.6**	**7.1**	**241.7**
Housing	227.3	3.7	230.9
Education, Health, and Culture	7.4	3.4	10.8
Productive	**516.1**	**547.6**	**1,063.6**
Mining and energy	181.9	305.8	487.7
Agriculture	107.9	120.1	228.0
Trade	169.6	55.2	224.8
Manufacturing and Tourism	56.7	66.5	123.2
Infrastructure	**117.3**	**74.8**	**192.1**
Transport & Communications	104.9	71.5	176.5
Water and sanitation	12.4	3.2	15.7
Cross cutting (Environment & Governance)	**17.2**	**10.6**	**27.9**
Total	**885.2**	**640.1**	**1,525.3**

Source: Republic of Serbia, Recovery Needs Assessment, 2014, covering 24 most affected municipalities

[1] A record rainfall of 200 mm was recorded in less than a week's time, which is the equivalent of three months of rain under normal conditions. It was Serbia's worst rainfall since the beginning of records 120 years ago.
[2] Disaster effects are classified under damages and losses. Damage refers to the total or partial destruction of physical assets existing in the affected area and losses refer to changes in economic flows arising from the disaster.
[3] Totals do not add exactly due to rounding.

7. **The energy sector was the hardest hit (losses and damages of EUR 488 million) and the power supply gap is expected to reach 15 percent of demand over the next winter season.** Water overflowing from the Kolubara River flooded the open pit mines Tamnava West and Veliki Crljeni. Water in the open pits is approximately 200 million cubic meters (m^3) while maximum water depth is 60 meters. This situation is unprecedented; the two mines account for about two thirds of the country's coal production and are the primary sources of fuel supply to the Nikola Tesla Thermal Power Plants (TPPs). These TPPs account for 40 percent of the total installed capacity in the country and are the backbone of the country's power system. Due to the lack of coal supplies, the electricity supply-demand gap between June 2014 and April 2015 is estimated to be about 3,700 GWh, or around 15 percent of demand. There were also significant damages to coal mining equipment and in the distribution network (see Annex 2).

8. **The agriculture sector was also drastically affected by the floods.** Thirty nine percent of Serbia's farm households representing 28 percent of total arable land and 41 percent of total livestock are located in the flood affected municipalities. As per the RNA**,** estimated damages and losses amount to EUR 228 million. Loss in farmers' income from crops alone amounts to EUR 90.6 million while damage and loss to the livestock sector[4] is estimated to be EUR 5.3 million. Some 12,000 ha of crop area was rendered useless for agricultural production in the coming months. Brining the agriculture sector back to its pre-flood production levels will require financial support over the next 3 to 5 years.

9. **Flood protection infrastructure was significantly damaged, leaving the country more vulnerable to future floods.** The RNA indicates that the cost of repairs to existing flood protection and drainage infrastructure is in the order of EUR 24 million. The largest share of damages occurred to infrastructure managed by Public Water Management Company (PWMC) Srbijavode and PWMC Beogradvode. Drainage infrastructure was also affected, including both collector canals and pump stations used to help discharge the excess water collected on lower land when it cannot flow by gravity to the recipient river. Significant attention is needed to these flood protection facilities in order to reduce increased risks of flooding.

10. **The Government established the Office for Reconstruction and Flood Relief to lead the reconstruction strategy and coordinate the actions and funding of local, national, and international agencies.** On July 18, 2014, the Government of Serbia adopted the Law on Post-Flood Rehabilitation[5] regulating the rehabilitation and establishing an overarching umbrella organization to better define the programs of assistance and recovery in line with sector priorities. The Law stipulated the creation of the *Office for Reconstruction and Flood Relief* (Office for Reconstruction hereafter) to be responsible for the coordination of transparent and efficient use of financial assistance. The RNA was presented at a donor's Conference convened in Brussels on July 16, 2014 in the aftermath of the natural disaster. The Donor's conference mobilized pledges of EUR 995.2 million from 60 countries and 23 international organizations, of which EUR 107 million are grant funds. In addition, EUR 41.4 million were pledged for cross-border activities.

[4] Including fisheries.
[5] Official Gazette No. 75/2014 established the creation of the Office for the Assistance and Recovery of Flooded Areas, known widely as Office for Reconstruction and Flood Relief.

11. **The Bank's response to the devastating floods in Serbia is structured to align with the government's strategy.** The Bank's emergency support is built upon the following key elements:

- *Diagnosis of the impact of the floods and identification of urgent needs.* The Bank supported the RNA by providing expertise from the Disaster Risk Management (DRM) Department; it led the diagnostic efforts in the energy and transport sectors, and also provided technical inputs to several other sectors.
- *Promotion of cooperation amongst donors to ensure adequate financing of the emergency needs* has been carried out through the Office for Reconstruction in close coordination with the European Union (EU - flood protection, housing), UN agencies (FAO - agriculture sector assistance), IFIs (road/transport sector) and bilateral donors (Japanese Government – energy sector support).
- *Financing and technical support through a portfolio review* which: (i) identified the Road Rehabilitation Project (financing of USD100 million) as a candidate for restructuring to support reconstruction and rehabilitation of transport infrastructure in the most affected areas; and (ii) extended the closing date of the Delivery of Local Improved Services Project in order to utilize EUR 2.5 million of funds towards priorities emerging from flood damages.
- *A multi-sectoral Floods Emergency Recovery Loan Project* as described below.

12. **The Floods Emergency Recovery Project focuses on delivering support to the priority sectors that were affected by the floods, as identified in the RNA**. This includes support to the energy and agriculture sectors, and flood protection. The needs in the housing sector, which was also one of the hardest hit, have been addressed by the government through other donor support mechanisms, notably from the EU and the UN. The project would: (i) help close the financing gap and ensure continued provision of electricity services, particularly during the first winter following the floods; (ii) provide direct financial support to farmers in affected areas at a time when the fiscal accounts are under severe stress and may be unable to deliver the needed support; and (iii) help improve resilience to disasters by financing investments in critical flood prevention infrastructure. This initiative will be complemented by existing and planned regional activities on floods prevention and DRM including the Drina River Basin Management Project, the West Balkan Investment Framework Technical Assistance (TA), and the South East Europe and Caucasus Risk Insurance Facility Project.[6]

C. Sectoral and Institutional Context

13. **Energy and Mining**: The country is characterized by a high share of coal use (over 50 percent) in the total primary energy supply; lignite-fired thermal power plants account for over 70 percent of the electricity generation. Under normal weather conditions, domestic power generation covers demand. Serbia is well interconnected with the SEE electricity market through 22 high voltage lines with 8 neighboring countries. Power demand is highly seasonal (i.e. higher consumption in winter months when electricity demand for heating purposes is high) and

[6] The Global Environment Facility (GEF) Drina River Basin Management Project (USD10 million) provides TA and hydro-meteorological equipment. The West Balkan Investment Framework-funded TA will develop an Investment Prioritization Framework for the Drina basin. Finally, the South East Europe and Catastrophic Risk Insurance Facility Project (SEEC CRIF) is a regional initiative to mitigate damage caused by natural disasters. Serbia has not yet taken all necessary actions to activate this mechanism.

characterized by a large share of consumption by the residential sector (about 55 percent) due to the inefficient use of electricity for heating purposes. Prices for residential consumers are well below cost recovery levels (roughly 15 percent before the crisis).

14. **State Owned Enterprises (SOEs) play a pivotal role in the energy sector.** The Ministry of Mining and Energy (MME) is responsible for overall policy and oversight of the mining and energy sectors. The independent energy regulatory agency, the Energy Agency of the Republic of Serbia (AERS) is in charge of overseeing and guiding regulatory compliance. The largest SOE is the fully state-owned owned, vertically integrated holding Public Company Elektroprivreda Srbije (EPS) that encompasses thirteen legal entities covering coal production, electricity generation, distribution, electricity trading, electricity supply and renewable energy sources. In 2013, EPS subsidiaries accounted altogether for 99 percent of domestic electricity generation and 97 percent of sales to final consumers. Public Enterprise Elektromreza Srbije (JP EMS) owns the transmission network and it is also the transmission system and market operator.

15. **Agriculture**: The agricultural sector has great economic, social, and political significance. Its share of GDP is currently 10 percent and it is characterized by low competitiveness. Exports are mainly primary products while imports are made of high-value processed products. However, increased access to EU and regional markets in recent years has created the conditions for Serbia to become a net exporter of food. In 2013, agri-food exports made 19 percent of total exports. Agriculture is also one of the biggest employers in rural areas and the main contributor to the rural population's food security. Most of the Serbian holdings are managed by self-employed farmers, who are at a significantly higher risk of poverty (38 percent, 2012)[7] than the average employed person (15 percent).

16. **Unfavorable weather conditions, highly volatile food prices, and unpredictable policies had a negative impact on the sector's development in recent years.** The agriculture sector was affected by floods in 2005 and 2006, as well as a severe drought in 2012, which resulted in the highest ever recorded drop in production (22 percent). During world food crises (2007, 2008, 2011) many agricultural and food products in Serbia showed high price volatility, with Serbian food prices rising higher than EU prices when there are shortages and dropping below EU prices when there are surpluses.[8] Over the last 10 years, growth in the agriculture sector has also been constrained by unpredictable policies that made it difficult for farmers, processors, and traders to plan ahead. It was only in 2013 that Serbia introduced some stability in the agriculture policies by adopting the Law on Incentives for Agriculture and Rural Development (hereinafter Farm Incentives Program) defining a specific support program for farmers.

17. **Flood Protection:** Flooding has been a persistent and pervasive problem, particularly over the last 15 years with several large flood events resulting in loss of life, severe damage to infrastructure, human settlements and adverse impacts on productive sectors. Key sector issues include: (i) inadequate flood protection and drainage infrastructure due to lack of maintenance and insufficient investments; (ii) institutional and management weaknesses; and (iii) lack of hydro-meteorological monitoring and analysis, preparedness and response initiatives. Against this backdrop, the Government prepared the Strategy for Emergency Management and Civil

[7] http://webrzs.stat.gov.rs/WebSite/repository/documents/00/01/25/92/PD10_366_engl.pdf
[8] The Road to Prosperity: Productivity and Exports, Serbia Country Economic Memorandum. World Bank, January 2012.

Protection (2011-2016), to guide efforts towards a comprehensive and effective system to reduce the risk and consequences of natural disasters. The Government has also embarked upon institutional reforms in the water sector, including the three PWMCs under the Directorate of Water Management (DWM).

D. Higher Level Objectives to which the Project Contributes

18. **The higher level objective to which the project seeks to contribute is to restore Serbia on a growth path following the devastating floods.** The project will contribute to the recovery and reconstruction efforts so that they are carried out in critical sectors (continued access to energy supplies and income support for farmers) for timely resumed growth.

19. **The project contributes to the Bank's twin goals of ending extreme poverty and promoting shared prosperity, as well as to the wider strategies of the Bank's Europe and Central Region (ECA).** The recent disaster had a disproportionate impact on the growth, employment, and income and via these channels on poverty and shared prosperity. The negative impact on livelihoods and employment is also more acute in vulnerable groups such as rural elderly farmers, which account for a sizable share of Serbia's poorest 40 percent. By ensuring continued energy supplies, improving protection for the population against future floods, and compensating for lost income for farmers, the project is expected to have a positive impact on the poor and help restore income growth of the poorest 40 percent.

20. **While addressing immediate to short-term needs arising from the crisis, the project promotes resilience building in line with the Bank's good practice guidance in terms of emergency responses.** In promoting resilience after a natural disaster and following under the principle of rebuilding with climate resilient infrastructure ("building back better"), the investments in Serbia's flood protection infrastructure and capacity building are fully aligned with relevant Bank sector policies and strategies, such as "Acting Today for Tomorrow" (2012), and guidelines summarizing the Bank's global experience in "Building Resilience – Integrating Climate and Disaster Risk into Development" (2013).

II. PROJECT DEVELOPMENT OBJECTIVES

21. **The Project Development Objective (PDO)** is to: (i) help restore power system capability to reliably meet domestic demand; (ii) protect livelihoods of farmers in flood affected areas; (iii) protect people and assets from floods; and (iv) improve the Borrower's capacity to respond effectively to disasters.

22. **Project Beneficiaries:** The project beneficiaries are the country's overall population who will benefit from reduced electricity shortages, increased security of domestic food supply for the affected populations, restored flood prevention facilities, and improved response to disasters. It is also expected that 1.6 million people living in the flood affected areas, especially those living in rural areas, will benefit from the project's activities. Direct beneficiaries will include:

- Households and firms benefiting from more reliable electricity supplies, as well as more accurate consumption measurement;
- Farmers living in the affected municipalities who would continue to have access to financial incentives to help them cope with short–term income shortfalls; and

- Populations living in areas which would benefit from more resilient flood protection infrastructure.

23. **PDO Level results indicators:** The following performance indicators will be monitored on a regular basis to measure achievement of the project development objectives:

- Availability of power supplies restored to pre-flood levels (through additional domestic generation/imports, GWh);
- Farm income in the flood affected areas recovered to pre-flood level (percentage of income recovered);
- Agricultural land receiving improved flood protection (# of Hectares of land)
- Number of households receiving improved flood protection (# of households.

III. PROJECT DESCRIPTION

A. Project Components

24. The project consists of four components: (1) Energy Sector Support; (2) Agricultural Sector Support; (3) Flood Protection; and (4) Contingent Emergency Response. See Annex 2 for a detailed description of the project components.

Component 1: Energy Sector Support (EUR 157.11 million)

25. The objective of this component is help restore power system capability to reliably meet domestic demand through power purchases, improved reliability of the distribution system and energy conservation measures, and help the restoration of strategic energy assets.

26. *Subcomponent 1A: Support for electricity purchases (EUR 119.82 million*). Subcomponent 1A will support electricity purchases by EPS to improve power availability and avert an impending energy crisis particularly over the first winter heating season following the floods. The project would support power purchases made under commercial practices under multi-monthly, monthly, and weekly contracts. Retroactive financing for power import contracts from June 2014 to the signing of the Loan Agreement will also be considered carrying ex-post facto review for eligibility.

27. *Subcomponent 1B: Urgent restoration of the distribution network and load management* (*EUR 14.29 million*). Subcomponent 1B will support the provision of: (i) metering devices for the flood affected areas; (ii) mobile substations; (iii) energy-efficient light bulbs, technical assistance, and other goods to support load management activities.

28. *Subcomponent 1C: Dewatering of the Tamnava West Field Mine (EUR 23 million).* Subcomponent 1C will support the first critical step to put the Tamnava West Field Mine in the Kolubara mining basin back into operation and help avoid significant health hazards associated with the flooded mine, including the potential pollution of ground water, an increase in water-borne diseases, as well as threats to surrounding flora and fauna that would emerge as a result of stagnant water in the mine pit. Subsequent activities related to mine recovery and coal mining equipment rehabilitation will be undertaken by EPS and are outside the scope of this project. Given the urgent need to begin this health- and safety-related activity, the procurement of the

overall dewatering service contract was carried out in accordance with the Public Procurement Law of Serbia. The contract was signed on August 19, 2014, and it will be considered under retroactive financing carrying ex-post facto review for eligibility.

Component 2: Agricultural Sector Support (EUR 53.08 million)

29. Component 2 will support the ongoing Farm Incentives Program in order to protect the livelihood of farmers affected by the floods and offset their income losses. This component would cover up to EUR 53.08 million in costs of the program for payments made to farmers in the 49 affected municipalities from May 15, 2014 to December 31, 2015.

Component 3: Flood Protection (EUR 16.72 million)

30. The objective of this component is to support urgent rehabilitation of flood protection and drainage control infrastructure, and strengthen the technical capacity of government agencies for improved flood prevention and management.

31. *Subcomponent 3A: Investments in Flood Protection (EUR 14.72 million*). Subcomponent 3A will finance rehabilitation and reconstruction of priority flood protection and drainage control infrastructure through the provision of goods, civil works, and consultants' services in the flood affected areas and areas vulnerable to flooding. To the extent possible, rehabilitation and reconstruction will follow the principle of "building back better" after a natural disaster.

32. *Subcomponent 3B: Project Implementation Support for Flood Management (EUR 2 million).* This Subcomponent will support project management, including operating costs. It will also support strengthening technical capacity for improved flood prevention and management, including technical studies to identify priority flood prevention infrastructure works, preparation of technical designs and bidding documents, Terms of Reference for such activities, and options for strengthening institutional arrangements and disaster risk management in the water sector.

Component 4: Contingent Emergency Response (EUR 0)

33. The objective of this component is to improve Serbia's capacity to better respond to disasters. Following an adverse natural or man-made event that causes a major disaster; the Government of Serbia may request the Bank to re-allocate project funds to this component to partially cover emergency response and recovery costs. This component could also be used to channel additional funds should they become available as a result of the emergency.[9]

B. Project Financing

34. **Lending Instrument.** The lending instrument would be an Investment Project Financing (IPF) prepared as a Fragile, Capacity Constraint and Emergency Project. Approval by Bank management to apply condensed procedures covered by paragraph 12 of OP 10.00 was obtained on May 20, 2014.

[9] Such a reallocation would not constitute a formal Project restructuring (Including Contingent Emergency Response Components in Standard Investment Projects, Guidance Note to Staff, April 2009, footnote 6).

35. **Project Cost and Financing.** The total cost of the project is EUR 227.48 million, to be financed through an IBRD loan of EUR 227.48 million (USD 300 million equivalent). The Ministry of Finance will on-lend under the same terms and conditions of the IBRD loan to EPS for investments described in Component 1 above.

Table 2. Project Costs and Financing

Project Components	Project cost (Mill EUR)	IBRD Financing (Mill EUR)	Financing (percent)
Component 1: Energy Sector Support	157.11	157.11	100 %
Component 2: Agriculture Sector Support	53.08	53.08	100 %
Component 3: Flood protection	16.72	16.72	100 %
Component 4: Contingency Emergency Response	0	0	100%
Total Project Costs	**226.97**	**226.97**	**100%**
Front-End Fees	0.57	0.57	100 %
Total Financing Required	**227.48**	**227.48**	**100 %**

C. Lessons Learned and Reflected in the Project Design

36. Several lessons learned from previous Bank-financed activities in Serbia and in other similar emergency operations in other countries, have been reflected in the project's design:

- **Investing in flood protection infrastructure may be challenging under the short timeframe of a typical emergency operation but it represents a unique opportunity** to mitigate elements of disaster risks. Governments are more focused on flood protection and disaster management issues in the aftermath of disasters. The proposed project includes investments in floods protection in assets of critical importance, as well as technical capacity building for improved flood prevention.
- **Emergency operations should complement other World Bank and donor post-crisis assistance.** Emergency operations are typically part of a broader strategy with a specific focus on swiftly restoring and rehabilitating key public services and infrastructure. The proposed project will effectively complement the World Bank's efforts in early recovery (see para. 11) and make use of ongoing projects to leverage resources. Close donor coordination is being ensured by the Office for Reconstruction.
- **Government ownership and leadership are paramount to a successful operation.** Success of the implementation depends on an effective champion and strong engagement of the implementing agencies as demonstrated in recent Bank operations in Serbia. The Office for Reconstruction has a mandate to carry out reconstruction related efforts. It played a critical role in the design of the proposed operation and coordination with the Ministry of Finance, MME, Ministry of Agriculture and Environmental Protection (MAEP), and EPS.

IV. IMPLEMENTATION

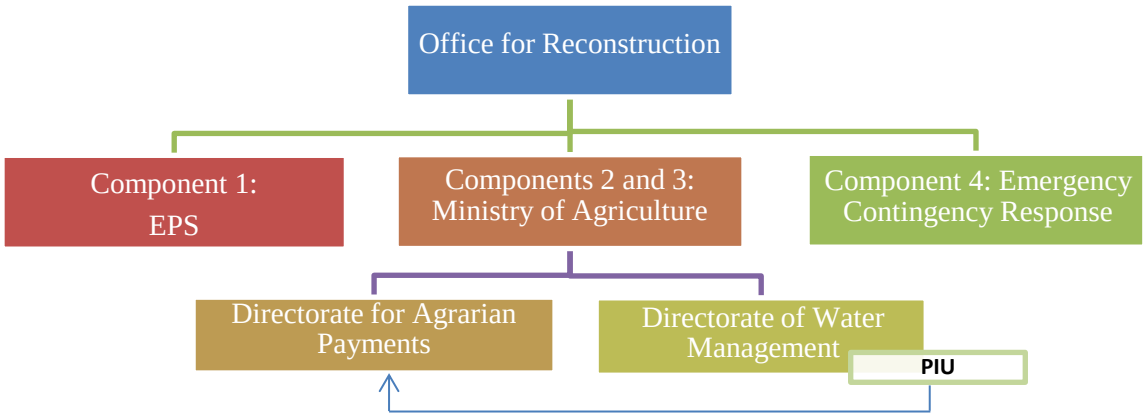
A. Institutional and Implementation Arrangements

37. The project will be implemented over three years with a proposed closing date of December 31, 2017. Institutional arrangements and responsibilities of the different institutions are outlined below.

38. **Overall Arrangements.** The Office for Reconstruction will be responsible for overseeing the overall project implementation. Project management functions and day to day operations will be the responsibility of EPS, the Directorate for Agrarian Payments (DAP) (with the support of Treasury), and the Project Implementation Unit (PIU) established under DWM (see Figure 1 below).

39. **Project Implementation.** The responsibilities of various Government Agencies will be as follows:

Figure 1: Implementation Arrangements



40. Component 1: Energy Sector Support will be the responsibility of EPS. General management and support functions are assigned to its Head Office in Belgrade. EPS will designate a small team of staff (project implementation team) for the implementation of the proposed project to work under the Head of Strategy and Investment Department of EPS. The project implementation team's main function will be to prepare the Project Operations Manual (POM), coordinate with other corporate departments to ensure effective implementation of procurement, contracting, contract administration, disbursement, financial management, accounting, and reporting. This team will be responsible for the submission of Financial Management Reports to the Bank. The project accounts will be maintained by the Finance Department of EPS.

41. No new arrangements, or creation of any new unit, are proposed for project implementation since the existing organization structure and business processes of EPS are considered adequate and satisfactory for this project. EPS has successfully implemented the Energy Community of South East Europe (APL) Program – Serbia Project (P088867) which closed on June 30, 2012 and is familiar with World Bank policies and procedures.

42. Component 2: Agriculture Sector Support will be the responsibility of DAP under the MAEP. DAP has a contract with the Treasury and uses the network of local Treasury offices to deliver the direct support scheme to registered farmers. The project component will be implemented by the existing system for implementing the Financial Incentives Program to farmers. DAP will be responsible for identification of eligible payments (with support from the Treasury). Technical support to DAP in order to meet the additional responsibilities under this project, such as preparation of the POM, financial management, disbursement, safeguards, and monitoring and evaluation will be provided by the PIU established in DWM (Component 3).

43. Component 3: Flood Protection will be the responsibility of DWM. A PIU will be established, with a similar form and function to that which was previously utilized under the recently completed World Bank financed Irrigation and Drainage Rehabilitation Project (IDRP, P087964) which closed on March 31, 2013. The PIU will be responsible for procurement and contract management for Component 3, and financial management, disbursement, safeguards, and monitoring and evaluation for Components 2 and 3. Consultants will be engaged to provide technical support to the PIU as needed. The POM prepared under IDRP will be updated during implementation and utilized to guide activities to be financed under Components 2 and 3. During preparation of investments and implementation of works, the PIU will work in close coordination with the three PWMCs.

44. Component 4: Contingent Emergency Response: will be the responsibility of the Office of Reconstruction or any successor thereto.

B. Results Monitoring and Evaluation

45. In line with the July 2014 Guidance Note for Projects in Situations of Urgent Need, the monitoring strategy selects indicators that will track progress and outputs. Targets have already been defined for some, while others will be set at the beginning of implementation, once the prioritization of activities is completed. The selected project indicators will track: (i) implementation pace; (ii) expenditure efficiency (based on outputs); and (iii) due processes.

46. The project will be monitored by EPS, and the PIU under the DWM. Information and data collected at each of the implementation agencies will be fed into overall monitoring and evaluation (M&E). The Office for Reconstruction will oversee M&E activities regularly through the project reports, evaluate the results achieved and guide the implementing agencies on corrective management actions.

C. Sustainability

47. **Sustainability of energy sector related activities as part of Component 1.** Pricing, market reform, and corporate reform EPS are critical elements to ensure the medium and longer term sustainability of the power sector. The country's EU accession process and the obligations under the Energy Community Treaty[10] would help ensure consistency in the sector's policies towards this end: full market liberalization is expected in January 2015 and the enactment of a new Energy Law which would implement the EU's Third Energy Package is expected by

[10] The Energy Community is an international organization dealing with energy policy. The organization was established by an international law treaty in October 2005. The Parties to the Treaty are the European Union and 8 Contracting Parties from the South East Europe and the Black Sea regions.

December 2014. In terms of corporate reform, on July 30, 2014, an important milestone for the reform of EPS was achieved with the Government's approval of a Decision of the Company's Articles of Association which is the first step in EPS restructuring and corporate governance improvement. It is expected that this and subsequent reform actions would help realize important efficiency improvements and cost savings, which are estimated to be of around EUR 140 million on today's cost base, excluding restructuring costs and improvement investments. Finally, the Regulator (AERS) is considering tariff measures to increase the incentives for residential consumers to save energy specifically for heating purposes.

48. The Bank will support the Government's efforts to ensure the financial sustainability of sector. The Bank has engaged in dialogue with AERS and the Government on tariff related issues. In addition, key performance target indicators will be used to monitor the overall financial viability of EPS. These indicators will be defined and agreed with the Bank in the POM. If significant deviations from the target values are observed, EPS in agreement with the Government will prepare a time-bound action plan to improve the performance of the Company.

49. **Sustainability of agriculture support incentive programs will be considered under Component 2.** In the medium term, the sustainability of a reliable support system for farmers is ensured through the implementation of Serbia's Strategy for Agriculture and Rural Development, which outlines the path for sector development during 2014-2024. In the longer term, Serbia's EU accession path and its convergence with EU farm support programs under the EU Common Agricultural Policy (CAP) will ensure sustainability of farm support schemes. In this connection, DAP is currently undergoing an accreditation process for managing the EU ARD funds for pre-accession countries (IPARD). The Bank is providing technical assistance to the Ministry of Finance and the MAEP with the objective to identify options to improve agriculture and rural development policies and ensure better targeting and greater sustainability of the farm incentives program.

50. **The introduction of a proactive flood protection system under the guiding principle of building back better will extend beyond the life of an emergency recovery operation**. The proposed Project will contribute to longer term sustainability by rehabilitating critical flood protection facilities under the principle of building back better. Technical assistance will also be provided to increase capacity in government institutions so that the country's resilience and response to floods is improved. These activities will be coordinated with a broader, strategic dialogue on flood management and DRM that the Bank is leading together with the Office for Reconstruction.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk Category	Rating
Stakeholder Risk	**Moderate**
Implementing Agency Risk	**Substantial**
- Capacity	Moderate
- Governance	Substantial
Project Risk	**Substantial**
- Design	Moderate
- Social and Environmental	Moderate
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	Low
- Other (Climate and energy supply)	Moderate
- Other (Reputational)	High
Overall Implementation Risk	**Substantial**

B. Overall Risk Rating Explanation

51. **The overall risk rating for this operation is Substantial.** The proposed operation includes investments in several sectors with diverse implementation arrangements. To mitigate these risks, the majority of the project's investments will be implemented through EPS which has adequate technical, fiduciary, and monitoring capacities, including prior experience in implementing World Bank projects. The Farm Incentives Program under Component 2 is a well-established program with adequate processes and control mechanisms. Upon approval, implementation support will focus on: ensuring that the PIU responsible for the implementation of Components 2 and 3 will be adequately staffed, enhancing its capacity, and establishing cooperation with other government agencies. Key PIU staff will include, at a minimum, a project coordinator, a procurement and financial management officers, a safeguards specialist, a civil engineer, and a monitoring and evaluation specialist.

52. **Overall project coordination and oversight may be transferred from the Office for Reconstruction to a different government agency.** The Law on Post-Flood Rehabilitation (July 22, 2014) which sets the mandate for the Office for Reconstruction is a *lex specialis* which will expire after one year. To mitigate this risk, it was agreed with the Borrower that, in the case that the mandate of the Office is not extended under a different legal act, the overall coordination and oversight for the project will be transferred to the Prime Minister's Office.

53. **Another high risk relates to the potential for perceived association with operation of the mine and public opposition to coal-fired electricity.** There are existing environmental and social issues relating to the Tamnava West mine which could result in reputational risks for the Bank, through association, on the basis that the dewatering represents support for the operation of the mine and coal-fired generation. The project is consistent with the World Bank's Broad approved Energy Directions Paper, in that it would not support development of greenfield coal

mining and coal-based power generation. [11] Furthermore, the dewatering subcomponent is a matter of public health and safety. However, it will be important for the Office for Reconstruction and EPS to consult with civil society and the public to raise awareness to the urgency of the project, distinguish the recovery-focused goals of this emergency operation from a new investment in mine expansion for coal-fired power, and assure citizens that the project will comply with all relevant environmental standards. The Bank will also implement a communications strategy with stakeholders throughout implementation of the project.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

54. To respond to the urgent nature of this operation, the following section presents a simplified economic and financial analysis of the project. An ex-post assessment will be undertaken at completion.

55. **Energy.** EPS is severely cash constrained and access to commercial financing under reasonable terms to cover the overall needs for energy imports and reconstruction is unlikely. This project would make available public funding for expenditures and investments critical to ensure that access to affordable and reliable electricity services do not become a bottleneck for resumed growth.

56. *Economic Analysis.* The economic appraisal is carried out for the period 2014-2025 with a cost-benefit analysis comparing the situations with and without the project. The project costs are estimated at EUR 157.1 million. Project benefits stem from the avoided economic costs associated with reducing the load-shedding that would occur without the project.[12] The economic Net Present Value (NPV) of the project reaches EUR 1,935 million and the Economic Internal Rate of Return (EIRR) is 99.7 percent. The project is very robust to large variations of all key parameters: import price, investment costs, and delays in investments.

57. *Financial Analysis.* The financial analysis is based on the similar scenario and assumptions as the economic analysis. The benefits stem from the incremental sales of electricity at the average retail tariff of 5.4 EUR cents/kWh after transmission and distribution losses (16 percent) compared to the scenario without the project. At the assumed import price of 4.9 EUR cents/kWh, the project financial revenues are insufficient to compensate for the transmission and distribution losses, the rest of the investment costs, taxes and duties. As a result, the project has a negative financial NPV of EUR -54 million. Despite this negative IRR, the implementation of the project is justified by its significant positive economic impact as discussed above.

58. *Financial situation of EPS.* Before the floods, EPS identified the need for substantial tariff increase and cost savings in order to ensure the long term financial sustainability of the Company and the implementation of its 10-year investment plan. The investment plan aims at modernizing its infrastructure and operations as well as improving EPS's operational and financial efficiency. The impact of the flood is using up EPS limited cash resources and reducing

[11] Toward a sustainable energy future for all: directions for the World Bank Group's energy sector, July 2013.
[12] To estimate the avoided cost of load-shedding the electricity intensity of GDP is used as a proxy (1.01 EUR/kWh in 2014). Alternative methodologies for estimating the costs of unserved demand are in line with this value.

its already limited borrowing capacity. To monitor the financial performance of EPS, key performance (operational and financial) target indicators will be defined and agreed with the Bank in the POM. If significant deviations from the target values are observed, EPS in agreement with the Government will prepare a time-bound action plan to improve the performance of the Company.

59. **Farm Incentives Program.** An economic analysis was not undertaken for this specific program. However, the EIRR is estimated between 15 to 30 percent depending on the type of rural development investments in other countries in the region. More broadly, direct economic benefits from the incentive programs include: (i) ensured food self-sufficiency; (ii) additional cash income; (iii) local jobs maintained; and (iv) benefits to the upstream and downstream sectors (i.e. input supplying industries, food processing and trade sector, etc).

60. **Flood Protection.** An economic analysis of the proposed flood protection investments has not been carried out. However, similar studies and past experience demonstrate that the EIRR of such investments is around 20 percent[13] as targeted flood protection and drainage investments reduce expected losses and generate substantial economic benefits justifying the investment costs. This includes a direct positive impact on the livelihoods of project beneficiaries, as losses - including public infrastructure, agricultural and livestock production, as well as family household assets - are significantly reduced.

B. Technical

61. The project involves technical challenges for activities related under Components 1C, Dewatering of the Tamnava West Field. Other project activities do not involve any particular technical challenges.

62. **Energy.** All energy sector activities in Component 1, except for the mine dewatering, are based on commodities or readily available goods and technologies.

63. *Electricity Purchases.* Power supplies are available in the South East and Central Europe Balkans (e.g., Hungary, Bulgaria and Romania). Serbia's interconnection capacity (for approximately 2,550 MW) with eight neighboring countries is also adequate for the projected import needs. Serbia's Transmission System Operator (TSO) EMS is a full member of ENTSO-E (The European Network of Transmission System Operators for Electricity) and as such it complies with ENTSO-E standards related to scheduling cross-border interconnectors, as well as accounting and settlement for power trade. The only risk associated with imports is a scenario of very cold weather or lack of natural gas in which case some of the neighboring countries may temporarily shut down their borders to electricity trade. To address this risk, EPS and the Government are exploring the possibility of importing coal. EPS has adequate institutional capacity and a long standing history of power imports/exports. The Electric Power Trading Division (EPTD) at EPS is responsible for power trading, accounting and settlement and its main operational, management and trading processes have been documented, codified, and improved over time. EPS follows commercial practices consisting of bilateral contracts established through

[13] See economic analysis for Drina Flood Protection Project (April, 2014), which estimated the aggregate ERR to be 23.6 percent.

a tendering process. Between January 2010 and June 2014, EPS has concluded over 800 import contracts for about 5 TWh of electricity.

64. *Distribution equipment and energy efficiency investments*. The project would finance the purchase and installation of 20,000 residential metering devices in the flood affected areas. Type, technical solution, and communication protocols will be in accordance with EPS's strategy for replacement of meters in the country. Following the principle of "building back better", new meters will be relocated from the houses to outside posts in order to decrease the risk of damage by future floods and other catastrophes. The project would also finance the procurement of about 16 mobile substations of different voltage levels (110/35kV, 35/10kV, and 20(10)/0.4 kV) to be able to reduce the impact of damaged equipment during the floods and decrease the number of outages. The project will also support the deployment of energy-efficiency light bulbs by EPS distribution subsidiaries. The replacement of incandescent bulbs will primarily focus on the public buildings sector.

65. *Dewatering of the Tamnava West Field mine.* It is estimated that around 187 million m^3 of silted water will need to be pumped out of the Tamnava West Mine Field where the maximum water depth is 60 meters. Water would be pumped back into the Kolubara River (which is a tributary of the Sava River) and the Kladnica River in line with maximum allowable rates of discharge and after daily testing of the properties of the discharged water. It is estimated that the volume of silt in the flooded mine is 2 to 3 million m^3. Most of it will be kept in the inactive area of the mine, where it has already settled. Only a small portion of the silt will be moved (found at the slopes and around the submerged equipment) and disposed in the abandoned Tamnava East Mine Field open pit mine. Given the complexity of the dewatering activity, EPS issued a Tender for a service contract to hire a Contractor with adequate technical expertise and experience to undertake the overall dewatering process. It is the responsibility of the contractor to propose the best technical solution for the overall dewatering activity. Important consideration has been given with regards to environmental issues related to the pumping activity. A site-specific EMP was developed by EPS, and was approved by the Bank on September 16, 2014 (see Environment section below and Annex 3E).

66. **Agriculture.** The proposed activities do not pose technical challenges. There is no dedicated compensation program for losses incurred due to the floods for farmers. The only public support available to farmers (in flooded and non-flooded areas alike) is delivered under the Farm Incentives Program. Safeguarding this public support is a needed intervention to help the agriculture sector recover from the flood damage. In its letter to the Bank (dated August 5, 2014), the Ministry of Finance sought financial assistance in order to provide the adequate support, through the program, to farmers in order to help them start the 2014/2015 growing season. The Borrower has agreed not to make any material changes that would affect the implementation of the Farm Incentives Program for the Farmers in the flood affected municipalities.

67. The Farm Incentives Program consists of three main subprograms: Direct Income Support, Investment Grants and Special Support Measures. The program in Serbia is already emulating the EU CAP policy design, and is pursuing a dual objective: (i) income redistribution towards the farming sector, through direct payments, and (ii) increase of agricultural competitiveness, primarily through investment grants (see Annex 8 for further details). DAP implements the Farm Incentives Program with support from the Treasury. Farmers applying for the program have to be

registered in the Farm Registry to be eligible for support. DAP announces the calls for farmers to apply for incentives, with details on the criteria for each individual incentive specified. DAP screens the applications against the criteria and processes applications in accordance with the procedures prescribed by the DAP's rulebooks. Once applications are approved the funds are released as cash-transfers to the farmers' accounts. For area based incentives, payments are not made for less than 0.5 ha or more than 100 ha per one farm. The cap is intended to ensure better distribution equity, and effectively excludes from public aid 24 percent of the country's utilized agricultural area, operated by a few, very large holdings. While small rural households with less than 0.5 Ha do not generate their income from crops, they can benefit from rural development support schemes.

68. **Floods protection.** The majority of activities will be implemented through small civil works and goods contracts and are not expected to pose any technical challenges. A rapid investment screening and prioritization process was carried out by the Bank, to identify an indicative list of priority activities based on a list of investments put forward by the DWM. The proposed investments are at an advanced stage of readiness, with final estimates, specifications, designs and any necessary permitting procedures, scheduled to be completed shortly after effectiveness. The precise scope and cost estimates, indicated in the priority list of investments will be further reviewed and confirmed during implementation. A consultancy firm will be engaged for construction supervision.

C. Financial Management

69. **Implementation.** Electricity Company (EPS) will be in charge of financial management for Component 1. EPS will designate a team of staff, including a Financial Management Officer, to work on project implementation. EPS is a large public enterprise with prior experience in implementation of World Bank projects and appropriate capacity, systems and structure. Responsibility for financial management for Components 2 and 3 will be assumed by a Project Implementation Unit (PIU) to be established under the DWM. In line with procedures for emergency operations, it is acceptable for the PIU to be appropriately staffed during implementation, with no conditions in this sense imposed for preparation stages. Besides staff in charge for technical aspects, the PIU will include staff to handle fiduciary responsibilities. Structure, procedures and lines of responsibility for implementation of Components 1, 2 and 3 will be described in their respective POMs, which will be prepared during implementation. In addition, Components 1 and 2 are expected to use retroactive financing. Request for retroactive financing will be prepared and signed by delegated and authorized government officials. The overall financial management risk for the project is high before mitigation measures, and with adequate mitigation measures agreed, the financial management residual risk is rated substantial.

70. **EPS and the PIU under the Directorate of Water Management will maintain Financial Management (FM) systems acceptable to the Bank.** Two sets of project financial statements, one for Component 1 and the other for Components 2 and 3, as well as EPS entity financial statements will be annually audited by independent auditors acceptable to the Bank and on terms of reference acceptable to the Bank. The annual audited financial statements and the audit reports will be provided to the Bank within six months of the end of each fiscal year. The project entity annual financial statements will be provided to the Bank within nine months of the end of the fiscal year. Expenditures which were on the basis of retroactive financing will

be included in the first annual project financial statements, and subject to audit. EPS (for Component 1) and the PIU (consolidated for Components 2 and 3) shall also prepare and furnish to the Bank not later than forty five (45) days after the end of each calendar quarter, interim unaudited financial reports for the project covering the quarter, in form and substance satisfactory to the Bank. Retroactive financing will relate to disbursement of Components 1 and 2. Procedures in relation to retroactive financing include application for withdrawal upon effectiveness, with Statement of Expenditures (SoE) type of report being the basis for withdrawal and being reviewed by the auditors ex-post.

71. **There will be two project Designated Accounts.** Designated account in EUR for Component 1 (with mirror local currency account for payments within the country) will be opened in a commercial bank with good standing and will be administered by EPS. A Designated Account for Components 2 and 3 will be opened at the National Bank of Serbia and will be administered by the PIU within the DWM. It will also be a EUR account from which the funds will be transferred to a separate local currency account/sub-account opened for respective components within Single Treasury Account. Advances to Designated Accounts will be the method of disbursement. Retroactive financing will be disbursed to a foreign currency Single Treasury Account in line with instructions from the MoF for Component 2 and to EPS's operating bank account for Component 1.

D. Procurement

72. **Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrower,"** dated January 2011 revised July 2014, and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," dated January 2011 revised July 2014, and the provisions stipulated in the Loan Agreement. The Bank's "Guidelines on Preventing and Combatting Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated October 15, 2006 and revised in January 2011 (Anti-Corruption Guidelines) would apply to this project. Procurement under Emergency Procedures will be implemented as per OP 8.00 revised July 1, 2014 *Rapid Response to Crisis and Emergencies*.

73. **Two contracts will be considered for retroactive finance under Component 1:** (i) Power purchase contracts for the period of June 2014 to the signing of the Loan Agreement which have adopted commercial practices; and (ii) the Contract for the Dewatering of the Tamnava West Field mine. For the power purchase contracts, a waiver of the requirements under paragraph 1.16(e) of the Procurement Guidelines will be sought. In this regard, a special financial audit of these contracts will be carried out and the Borrower will support, to the extent of its authority, request from the Bank for the purposes of any investigations and audit requirements to counterparts of the signed contracts, should it be necessary. Tendering of future power import contracts shall follow commercial practices in accordance with paragraph 2.68 of the procurement guidelines and will include the Bank's standard clauses on right to audit and Fraud and Corruption. The procurement process for the Dewatering of the Tamnava West Field mine was carried out in accordance with the national emergency procedures; it has been reviewed and deemed acceptable to the Bank. The Dewatering contract will incorporate the Bank's standard clauses on right to audit and Fraud and Corruption.

74. **Project procurement activities will be implemented by EPS for Component 1 and by the PIU under the Directorate of Water Management for Component 3**. A procurement assessment initiated in July 2014 concluded that EPS has adequate experience and capacity to carry out the procurement activities related to the project. EPS will include in the project implementation team an experienced procurement specialist who has successfully gained practical knowledge of World Bank procurement through the Bank funded Energy Community of South East Europe (APL) Program that closed in June 2012. Procurement activities for Component 3 will be carried out by the PIU to be formed under DWM. The PIU will hire an experienced Procurement Specialist. The overall procurement risk for the project is high before mitigation measures. After agreed adequate mitigation measures, the procurement residual risk is rated substantial. More detailed findings of the assessment, the proposed procurement arrangements and measures to address the identified risks are presented in Annex 3. A simplified Project Procurement Plan covering the first six months of the project implementation is also presented in Annex 3.

E. Social (including Safeguards)

75. **The project is expected to result in significant social benefits through reduced electricity shortages, ensured farm income support and improved floods prevention and management.** The project activities will generate positive impacts for both women and men. Relevant implementing agencies will make sure that the services are provided in a gender and vulnerability informed/sensitive manner. For the purpose of project monitoring and evaluation and to the extent possible, implementing agencies will report on the project impact through data disaggregated by gender, age and vulnerability.

76. **Very small rural households (0.5 Ha) affected by the floods which are not eligible for land area based support schemes under the Farm Incentives Program will not be left behind.** The EU is putting in place an in-kind grant program for farmers directly affected by floods, targeting small scale farmers cultivating up to 2 ha. The program would address the immediate needs of flood-affected farms through a EUR 8 million program which will be implemented by FAO UN. Small rural households will also benefit from continued access to other (non-area based) support schemes under the Farm Incentives Program.

77. **The Bank Operational Policy on Involuntary Resettlement (OP 4.12) has been triggered** in view of the fact that the infrastructure rehabilitation and reconstruction works under Component 3A (Investments in Flood Protection) in some cases may lead to temporary acquisition of private land for securing the right-of-way. Since the size, scale and location of activities could not be determined during project preparation, the Resettlement Policy Framework (RPF) and Environment and Social Management Framework (ESMF) will be prepared to mitigate potential environmental and resettlement impacts.

78. **Broader social issues related to the Kolubara mining operation were assessed.** While mine dewatering does not require land acquisition or involuntary resettlement, there have been recent complaints in the context of mine expansion of nearby fields in the Kolubara mining basin regarding the way resettlement was carried out and that people had to wait too long to be resettled (away from polluted areas). The project site and its surroundings were visited, local authorities were interviewed, and other available written information were reviewed. Around one third of the households living in nearby settlements have either been resettled or are in the

process of signing relocation contracts. For some other households who would like to be relocated, there is no imminent need to do so as the land they occupy will not be required for mine expansion for a number of years. Nevertheless, EPS has informed these households that they will accommodate the resettlement requests as soon as funds are available. Furthermore, this mine expansion is not considered to be an associated activity as defined in OP 4.12, as it is not "directly and significantly related to the Bank-assisted project," nor "necessary to achieve its objectives as set forth in the project documents." Similarly, while environmental (particularly air) pollution is a significant general concern for residents of the Kolubara district, the dewatering and resumed operation of the Tamnava West Field mine would not make a substantial change in this aspect.

F. Environment (including Safeguards)

79. **The Project is classified as environmental category "B", in accordance with Operational Policy OP 4.01.** The activities already identified for financing under the project fall under Category B due to their potential impact. The Tamnava dewatering activities, despite the large quantity of water involved, also falls under Category B due to the following:

- Water quality sampling (several sets of water quality testing have been performed in June and August 2014) confirmed that water in the open pit belongs to the same class as in the Kolubara and Kladnica Rivers (recipient bodies) at the same reach;
- Sediment samples (performed in July 2014) indicate that sludge/mud contains polluting substances in concentrations above the limits prescribed for the water class of the recipient body. However, there is no plan for large-scale removal of sludge/mud outside the pit as noted in Section VI B above;
- The Serbian Environmental Protection Agency in June 2014 prepared and issued a "Program for Extraordinary Monitoring of Water Quality from Tamnava Mines", which determines a comprehensive monitoring system to be implemented during the dewatering operation, and lists the remedial actions in case of any issues related to water and/or mud quality.
- A site-specific EMP has been approved by the Bank on September 4, 2014 for public disclosure and consultation. Implementation of the EMP will be a part of the contract between EPS and the contractor and will apply to both EPS and the Contractor's dewatering activities (see Annex 3).

80. **Since all activities have not been determined at the onset of the project, the appropriate instrument of OP 4.01 is an Environmental and Social Management Framework (ESMF).** The ESMF identifies the policy triggers for the project, the screening criteria for activities, the environmental and social impacts likely financing and the potential mitigation measures to mitigate the identified risks, assessment of the institutional capacity of the implementing agency and measures for capacity-filling gaps, and an estimate of the budget needed for the implementation of the ESMF and related instruments. Information received to date indicates that no strategic Environmental Assessment (EA) or Environmental Impact Assessment (EIA) have been prepared for the Farms Incentive Program. The ESMF, to be prepared for the roject, will include specific actions to review the current impact of the program. The ESMF will directly provide a list of activities that can be financed, and screen out activities that correspond to Category A projects that will not be financed by the project, or that may

trigger additional safeguards policies. Additionally, the ESMF will provide guidance for preparation of activities specific Environmental and Social Impact Assessments (ESIAs) and/or Environmental and Social Management Plans (EMPs).

81. **Given the emergency response nature of the project and in order to facilitate the project processing, the World Bank team has prepared an Environmental and Social Safeguards Framework (ESSF)** that will help guide the preparation of the ESMF and Resettlement Policy Framework (RPF). The ESSF sets out how the safeguard policies will be applied during the preparation and implementation of the project, including deferring the requirement for preparation and disclosure of the ESMF and RPF at the project implementation stage. Preparation and disclosure of the ESMF and RPF will be a condition for reimbursement and disbursement of project funds under Components 1 and 3, except for power purchases. As per the ESMF, subsequent EMPs will be prepared, with disclosure and public consultations in accordance with the Bank policies at national and local levels. The ESIAs in most cases will not be prepared, as the proposed activities relate only to rehabilitation and/or repair of already existing infrastructure, which will not change their existing footprint. There will be no new construction activities involved. A Safeguards Action Plan has been prepared, and is attached to Annex 6 along with an exclusion list of activities that are excluded from financing. EPS has a track record of implementing World Bank projects and is familiar with the provisions of the Bank's safeguards policies. The PIU to be established DWM will hire safeguard staff to ensure an adequate and speedy preparation and supervision process.

G. Other Safeguards Policies Triggered

82. **The project triggers OP 7.50 Projects on International Waterways.** Project activities under Component 1C (Dewatering of the Tamnava West Field mine) will trigger OP 7.50 for Projects on International Waterways. Water from the open Tamnava West Field mine will be discharged into the Kolubara River which is a tributary of the Sava and by extension the Danube River. In accordance with OP7.50 the notification letter has been prepared by the MME and submitted to the riparian countries through the Danube River Basin Commission on July 31, 2014 and additional information on the scope of the activities to be undertaken under the project was provided in a subsequent letter on August 4, 2014. The deadline for riparians to provide comments was August 22, 2014. On September 11, 2014, the Danube River Basin Commission confirmed that riparian member states were notified and no issues were raised. Adequate provisions will be made in the ESMF to ensure that the project financed activities under Component 3 do not adversely impact the quality or quantity of water to riparian countries.

83. **The Pest Management (OP 4.09) has also been triggered.** Information received to date indicates that no strategic EA or EIA have been prepared for the Farm Incentives Program. The ESMF, to be prepared for the Project, will include specific actions to review the current impact of the program.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[X]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[X]	[ ]
Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[X]

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

ANNEX 1: RESULTS FRAMEWORK AND MONITORING

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

The Project Development Objective (PDO) is to: (i) help restore power system capability to reliably meet domestic demand; (ii) protect livelihoods of farmers in flood affected areas; (iii) protect people and assets from floods; and (iv) improve the Borrower's capacity to respond effectively to disasters.

PDO Level Results Indicators	Core	Unit of Measure	Baseline Jun 2014	Cumulative Target Values			Frequency	Data Source	Data Collection
				YR 1 Dec 2015	YR 2 Dec 2016	YR3 Dec 2017			
Availability of power supplies restored to pre-flood levels through additional domestic generation/imports		GWh	0	10,955	20,900	30,845	Quarterly	Project Reports	EPS
Farm income recovered to pre-flood levels (measured on the basis of standard output)		Percent	65	70	75	80	Annually	Project Reports	Statistical Office, Municipalities, Farm Extension Serv.
Agricultural land receiving improved flood protection		Hectare (Ha.)	0	0	9,000	18,950	Annually	Project Reports	PIU
Number of households receiving improved flood protection		Number	0	0	3,500	7,000	Annually	Project Reports	PIU

The Project Development Objective (PDO) is to: (i) help restore power system capability to reliably meet domestic demand; (ii) protect livelihoods of farmers in flood affected areas; (iii) protect people and assets from floods; and (iv) improve the Borrower's capacity to respond effectively to disasters.									
Intermediate Results Indicators	**Core**	**Unit of Measure**	**Baseline Jun 2014**	**Cumulative Target Values**			**Frequency**	**Data Source/ Methodology**	**Data Collection**
				YR 1 Dec 2015	**YR 2 Dec 2016**	**YR3 Dec 2017**			
Dewatering of the Tamnava West open pit mine finalized		Yes/No	No	Yes	Yes	Yes	Semi-annually	Project Reports	EPS
Number of meters replaced in affected areas		Number	0	10,000	15,000	20,000	Semi-annually	Project Reports	EPS
Number of energy efficient light bulbs installed / energy efficiency measures implemented		Number	0	tbc	tbc	tbc	Annually	Project Reports	EPS
Farms benefiting from Government support in the affected areas		Number	120,000	≥120,000	≥120,000	≥120,000	Annually	Project Reports	DAP & Treasury
Length of flood protection reconstruction / rehabilitation works		km	0	0	35.0	71.5	Semi-annually	Project Reports	PIU
Direct Project beneficiaries	☒	Number	360,000	405,000	430,500	441,000	Annually	Project Reports	EPS, DAP & Treasury
Of which female	☒	Percent	51	51	51	51	Annually	Project Reports	EPS, DAP & Treasury, PIU

Results Framework Description of indicators

Project Development Objective Indicators	
Indicator Name	Description (indicator definition etc.)
Availability of power supplies to restored to pre-flood levels through additional domestic generation/imports	Additional power available from power purchases (imports) or increased domestic power generation (additional thermal power generation as a result of increased availability of fuel) (GWh)
Farm income recovered to pre-flood levels (measured on the basis of standard output)	Farm income is calculated as a proxy of the Standard Output. While National Statistics keeps the data on the Standard Output, it does not track the Farm Income. Standard output [14] before the floods was EUR 4,800/farm/year. Standard Output in June 2014 (after the floods) is estimated at 65 percent of the Standard Output before the floods. Percentage of Farm Income recovered is in direct correlation with the Standard Output recovered. Standard Output is expected to recover 5 percent each year, getting to 80 percent of its pre-floods value after three years, thus the Farm Income is expected to recover in the same percent.
Agricultural land receiving improved flood protection	Comparison of target rural area before and after reconstruction of the flood protection infrastructure.
Number of households receiving improved flood protection	Comparison of number of households living in the target rural/urban areas before reconstruction of the flood protection infrastructure

[14] SORS – Census of Agriculture, 2012; The ***Standard output*** expresses mean monetary value of gross agricultural production of particular sectors of crop and animal production. The standard output is calculated by multiplying the production per unit by the farm-gate price; VAT, taxes on products and direct payments are not included. The physical measurement unit of standard output is EUR per hectare.

Results Framework Description of indicators

Intermediate Results Indicators	
Indicator Name	Description (indicator definition etc.)
Dewatering of the Tamnava West open pit mine finalized	Process of pumping out the water of Tamnava West Field mine defined in tender document: Pumping out the silted water and silt in the Open Pit Mine MB Kolubara – Tamnava West Field completed
Number of meters replaced in affected areas	Number of meters replaced for residential consumers in the municipalities affected by floods
Number of energy efficient light bulbs installed/energy efficiency measures implemented	Energy Efficiency light bulbs distributed and installed, primarily focusing on the public sector and/or energy efficiency measures implemented
Farms benefiting from Government support in the affected areas	Number of farms benefiting from the incentive program in the 49 municipalities affected by the floods
Length of flood protection reconstruction / rehabilitation works	Geodetic measurement or other field survey
Direct Project beneficiaries	Direct Project beneficiaries from: (i) number of farm households receiving incentive program, (ii) number of households with new electricity metering devices, and (iii) number of households with improved flood protection systems. Assumed 3 beneficiaries per household
Of which female	Percentage of female farmers and female headed households benefitting from i) incentive program, ii) electricity, iii) flood protection systems

ANNEX 2: DETAILED PROJECT DESCRIPTION

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

A. Component 1: Energy Sector Support (EUR 157.11 million)

1. The objective of this component is to: (i) improve the available electricity supply, particularly over the 2014-2015 winter season through power purchases, (ii) improve the reliability of the system by carrying out urgent investments in the distribution network and reduce power consumption primarily in the public sector by providing energy-efficient light bulbs, and (iii) help restore strategic energy assets through dewatering of the Tamnava West Field mine. This component consists of the following three subcomponents:

2. Subcomponent 1A: Support for electricity purchases (EUR 119.82 million). It is estimated that due to the unavailability of coal supplies, the power shortfall between June 2014 and April 2015 will be about 3,694 GWh, or 13 percent of domestic consumption. The estimated cost of electricity imports to cover the supply and demand gap is approximately EUR 180 million[15]. The proposed project will provide funding to cover up to EUR 119.82 million of the import costs while the remaining portion will be financed by EPS' own sources. The project would support power purchases made under commercial practices consisting on bilateral contracts established through a tender process. Purchases considered for Bank financing will consist of multi-monthly, monthly or weekly contracts. Retroactive financing for power purchases from June 2014 to the signing of the Loan Agreement will also be considered carrying ex-post facto review for eligibility (basis the final tender documents issued; bid evaluation report and the signed contract).

3. Subcomponent 1B: Urgent restoration of the distribution network and load management (EUR 14.29 million). Subcomponent 1B will finance purchase and installation of 20,000 residential metering devices, to replace those which were damaged during the floods. Following the principle of "building back better", new meters will be relocated from the houses to outside posts in order to decrease the risk of damage by future floods and other catastrophes. Replacement of temporary (scrap) meters installed after the floods is expected to significantly reduce EPS's commercial losses and improve collections.

4. To improve the reliability of the distribution network over the next winter season, the project would finance mobile substations of different voltage levels. It is estimated that a total of 16 substations would be purchased: one substation of 110/35kV, five substations of 25/10kV, and 10 mobile substations of 20(10/0,4kV). The exact number of substations and voltage levels will be determined during implementation. These mobile substations should be strategically placed to be able to reduce the impact of damaged equipment during the floods which will take longer to replace and decrease the number of outages due to reduced generation capacity, which is likely to require numerous commutations of electric switch gears.

[15] This assumes an average price of roughly 48 EUR/MWh between June 2014 to April 2015 (see Annex 9 for details)

5. Subcomponent 1B also will finance an energy efficient lighting program with a primary focus on the public sector. Technical assistance to support the deployment of the program as well as broader load management activities will be financed by the project.

6. Subcomponent 1C: Dewatering of the Tamnava West Field Mine (EUR 23 million). Mine dewatering will involve pumping out approximately 187 million m^3 of water and silt which flooded the mine. The water will be pumped back into the Kolubara and Kladica Rivers that initially flooded the mine and the silt/sludge will be disposed in the abandoned open pit of the Tamnava East Field mine. Mine dewatering will also help avoid health hazards through pollution of ground water, increase of water-borne diseases, as well as threads to surrounding flora and fauna that would emerge as a result of stagnant water in the mine pit. Subsequent activities related to mine recovery and coal equipment rehabilitation (e.g. bucket excavators, etc.) will be undertaken by EPS and other donors and are outside the scope of this project. For example, Japanese assistance is being considered for the financing of the coal mining equipment. Given the urgency of starting the de-watering process, EPS entered into a contract with a service company to undertake the overall dewatering process in accordance with Public Procurement Law of Serbia. De-watering costs will also be considered under retroactive financing carrying ex-post facto review for eligibility (basis the final tender documents issued; bid evaluation report and the signed contract). Following completion of dewatering activities, some inflow into the mine will still continue, chiefly originating from the sources located within the mine itself, from precipitation and from drainage of the local command area. This situation is not uncommon for the open mines and EPS has already operational pumping facility to cover these requirements.

B. Component 2: Agriculture Sector Support (EUR 53.08 million)

7. The objective of this component is to protect livelihoods of farmers and facilitate gradual recovery of the farmers' income from agriculture to pre-floods level. This component would cover up to EUR 53.1 million in costs of the ongoing Farm Incentives Program, for payments made to farmers in the 49 affected municipalities from May 15, 2014 to December 31, 2015. Payments made to farmers in the 49 affected municipalities from May 15, 2014 to the signing of the Loan Agreement will be considered for retroactive financing. This component will support the Government's medium term strategy to maintain the current size and scope of farm incentives until at least 2017 (Strategy for Agriculture and Rural Development 2014- 2024), with gradual adjustment of the policy on incentives in accordance with the progress of the EU accession process.

8. Although the Farm Incentives Program has some shortcomings (i.e. extensive focus on area payment, insufficient support to farm investments, and agri-environmental activities), it is currently the main source of income stability for farmers in Serbia. In addition, there is no dedicated income compensation program for farmers for losses incurred due to the floods. Safeguarding this public support, broadly in line with its current scope and size, is a needed intervention needed to help the agriculture sector recover from the flood damage. In its letter to the Bank (dated August 5, 2014), the Ministry of Finance sought financial assistance in order to maintain the current program and help farmers to start the 2014/2015 growing season.

9. The project will finance payments made to farmers under the three pillars of the Farm Incentives Program:

- *Direct income support,* which currently accounts for up 92 percent of the annual budget of EUR 250 million available for the sector. Direct income support is targeting small and medium size (family) farmers, and largely serves as a social safety net. It is a critical tool for stabilizing farmers' incomes; in times of crisis, it is particularly important for ensuring the needed liquidity to replenish agriculture inputs (seeds, fertilizers, animal stock, etc.) that are needed to restart the production cycle.
- *Investment grants,* which represent 4 percent of the current support program. This grant support is critical for ensuring that productive assets damaged (or lost) during floods - e.g. machinery, storage facilities, and infrastructure - are rebuilt or rehabilitated. Investment grants, targeted at commercially-oriented holdings, play an essential role in modernizing Serbia's farms and in increasing their competitiveness.
- *Special support measures,* which take about 4 percent of the total program, aim at improving framer's knowledge on farm management, and modern technologies facilitating more efficient use of resources.

10. DAP implements the Farm Incentives Program. Farmers applying for the program have to be registered in the Farm Registry to be eligible for support. DAP announces the calls for farmers to apply for incentives, with details on the criteria for each individual incentive specified. DAP screens the applications against the criteria and processes applications in accordance with the procedures prescribed by the DAP's rulebooks. Once applications are approved the funds are released as cash-transfers to the farmers' accounts. For area based incentives, payments are not made for less than 0.5 ha or more than 100 ha per one farm. The cap is intended to ensure better distribution equity, and effectively excludes from public aid 24 percent of the country's utilized agricultural area, operated by a few, very large holdings. While small rural households with less than 0.5 ha do not generate their income from crops, the can benefit from rural development support schemes.

C. Component 3: Flood Protection (EUR 16.72 million).

11. The objective of this component is to support urgent rehabilitation of the flood protection and drainage control infrastructure, under the principle of '"building back better" through solutions which enhance the function and effectiveness of existing flood protection facilities (e.g through heightening and improving design and construction standards). This component will also strengthen the technical capacity of the government agencies for improved flood prevention and management. The flood protection component consists of the following two subcomponents:

12. Subcomponent 3A: Investments in Flood Protection (EUR 14.72 million)**.** The aim of the proposed investments is to reduce imminent risk of recurring floods by restoring and/or improving the function of existing infrastructure. Physical investments proposed under this component include civil works and supply and installation of electrical and mechanical equipment, for the rehabilitation and reconstruction of flood protection and drainage systems, including flood protection dikes/levees and retention systems, cleaning and restoration of drainage canals, and refurbishment of pump stations. The proposed investments concentrate on areas known to be vulnerable and affected by flooding, in which urgent protection is required in order to reduce the risk of future flooding and further devastating social and economic impacts.

13. The precise scope and cost estimates, indicated in the priority list of investments will be further reviewed and confirmed during implementation. A list of priority investments was put forward by the DWM, developed in close cooperation with the PWMC's. A rapid investment screening and prioritization process was carried out by the Bank, to identify an indicative list of priority activities (Table 1 below). The process was guided by the following key criteria: (1) repair / rehabilitation urgency – considering the extent of damage and risks of future impacts, (2) implementation readiness (i.e. status of designs, permits etc.,) and a (3) technical review of the scope and scheduling to confirm ability to complete works within the project duration. The proposed investments are at an advanced stage of readiness, with final estimates, specifications, designs and any necessary permitting procedures, scheduled to be completed shortly after effectiveness. A consultancy firm will be engaged for construction supervision.

14. Subcomponent 3B: Project Implementation Support for Flood Management and Disaster Resilience (EUR 2 million). This Subcomponent will cover the incremental costs (staff, equipment, operating costs etc.) of a PIU which will be established under the DWM which will support the implementation of Components 2 and 3. PIU staff will include at least a project coordinator, procurement and financial management officers, a safeguards specialist, a civil engineer, and a monitoring and evaluation specialist. High priority technical assistance and capacity building activities will be selected to improve flood management, planning, prevention and resilience. It could include financing hydrological and hydraulic diagnostics of recent flood events, structural/safety inspections of major flood protection infrastructure, a review of design standards and planning norms for flood protection, and a review of existing DRM strategies/plans and institutional framework and capacity constraints to enable effective integrated flood management and broader disaster risk management. The final selection of TA activities will be defined during the initial stages of project implementation and will be designed to complement other planned sector wide initiatives for improved flood management and DRM.

Table 1: Indicative List of Priority Investment Proposed under Sub-component 3A

Responsibility / PWMC	Contract / Description	Cost Estimate (USD)	Contract Period	Readiness / Status
Works				
Srbijavode	Flood Protection of Novi Pazar settlement: Including regulation and embankment protection of Raska River and its tributaries. Section I: from Careva Cuprija to mouth of the Banjska River (2,15km)	2,415,400	16 months	Designs complete, construction permit to be issued
Srbijavode	Flood Protection of Aleksinac settlement: Including regulation and embankment works on Moravica river through Aleksinac town from km 2+370 to km 3+100 providing the flow capacity for the high water at upstream section from km 3+100 to km 3+950, and downstream section from km2+000 to km 2+370	1,840,800	18 months	Designs complete, construction permit to be issued
Srbijavode	Flood Protection of Smederevska Palanka settlement: Including reconstruction of regulation works at Jasenica river and dike (from km 10 +235 to 19+300) for protecting of the river flow capacity in the upstream section (from km 19+300 to km 24+454)	1,950,000	18 months	Designs complete, construction permit to be issued

Srbijavode	Flood Protection of Negotin area: Including reconstruction of protective system in Radujevac including embankment construction works (2,7km)	1,495,000	14 months	Designs complete and permits issued
Srbijavode	Construction of flood protection system for Donji Ljubes settlement: Including reconstruction of the left bank embankment (16,7км) of the river Južna Morava with left bank protection(1,1км)	3,105,700	19 months	Designs complete, construction permit to be issued
Beogradvode	Rehabilitation of Tamis dike including heightening of 1m for 13.5 km section.	3,361,800	18 months	Designs complete and permits not required
Vode Vojvodina	Erosion protection and rehabilitation works on left bank on the Sava River on section km 174+000 to km 178+500	94,900	9 months	Designs complete and permits not required
Vode Vojvodina	Rehabilitation of the left bank embankment on the Danube River on section B. Palanka town(km 1+800 to km 9+850) and Sombor town (km 3+461 to km 6+583 and km 49+410 to km 52+400)- embankment crest stabilization (asphaltic road)	2,185,300	13 months	Designs complete and permits not required
SUB-TOTAL		**16,448,900**		
Goods				
All PWMCs	Supply and installation for equipment for flood control and protection	1,820,000	6 months	Draft specifications and estimates prepared
Services				
All PWMCs	Construction supervision for flood protection works	657,956	20 months	TOR to be prepared by effectiveness
Unallocated		**1,073,144**		
TOTAL		**20,000,000**		

D. Component 4: Contingent Emergency Response (USD 0)

15. Following an adverse natural event that causes a major natural disaster, the Government of Serbia may request the Bank to re-allocate project funds to support response and reconstruction and partially cover emergency response and recovery costs. This component could also be used to channel additional funds should they become available through as a result of the emergency.

16. Disbursements would be made against a positive list of critical goods or the procurement of works, and consultant services required to support the immediate response and recovery needs of Serbia. All expenditures under this component, should it be triggered, will be in accordance with BP/OP 8.0 and will be appraised, reviewed and found to be acceptable to the Bank before

any disbursement is made. In accordance with BP/OP 8.00, this component would provide immediate, quick-disbursing support to finance goods (positive list agreed with the Government), works, and services needed for response, mitigation, recovery, and reconstruction activities. Operating costs eligible for financing would include the incremental expenses incurred by the Government for early recovery efforts arising as a result of the impact of major natural disasters.

17. Goods, Works and Services under this component would be financed based on review of satisfactory supporting documentation presented by the Government including adherence to appropriate procurement practices in emergency context. All supporting documents for reimbursement of such expenditures will be verified by the Internal Auditors of the Government and by the Project Coordinator, certifying that the expenditures were incurred for the intended purpose and to enable a fast recovery following the damage caused by adverse natural events, before the Application is submitted to the Bank. This verification should be sent to the Bank together with the Application.

18. Specific eligible expenditures under the category of Goods include: (i) construction materials; water, land and air transport equipment, including supplies and spare parts; (ii) school supplies and equipment; (iii) medical supplies and equipment; (iv) petroleum and fuel products; (v) construction equipment and industrial machinery; and (vi) communications equipment.

19. Specific eligible expenditures under the category of Works may include urgent infrastructure works (repairs, rehabilitation, construction, etc.) to mitigate the risks associated with the disaster for affected populations. Specific eligible expenditures under the category of Services may include urgent studies (either technical, social, environmental, etc.) necessary as a result of the effects of the disaster (identification of priority works, feasibility assessments, delivery of related analyses, etc).

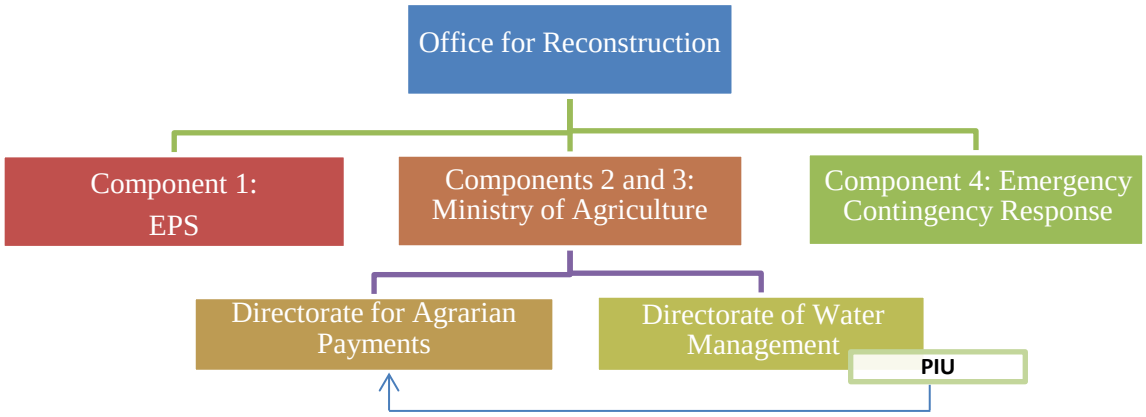
ANNEX 3: INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

A. Project Administration Mechanisms

1. **Overall Arrangements.** The Office for Reconstruction will be responsible for overseeing the project implementation (see figure 1 below) including (i) carrying out periodic monitoring of project implementation and evaluation of all project activities; (ii) resolving any issue related to intergovernmental agency coordination; (iii) advising on the adoption and/or amendments of the Project Operations Manual (POM); and Project Procurement Plan (PPP) for activities under components 2 and 3. They will also be responsible for (i) monitoring disbursements and addressing bottlenecks; (ii) reviewing periodic financial reports; and (iii) monitoring timely resolution of audit issues for the project. Project management functions and day-to-day operations will be devoted to EPS, DAP (with the support of Treasury), and the PIU established under the DWM.

Figure 1: Project Implementation Arrangements



2. *Implementing Agencies.* There will be two implementing agencies: (1) EPS, a public owned vertically integrated electricity utility, under the responsibility Ministry of Economy and overseen jointly by the MME and by the Ministry of Economy, implementing Component 1, and (2) the MAEP with the DAP and the DWM, implementing Component 2 and Component 3, respectively. A Project Implementation Unit (PIU) will be established in the DWM and will be responsible for procurement and contract management for Component 3, and financial management, disbursement, safeguards, and monitoring and evaluation for Components 2 and 3. Consultants will be engaged to provide technical support to the PIU as needed. Should an emergency situation arise during project implementation, implementation of the Emergency Contingency Response will be implemented by the Office for Reconstruction or any successor thereto.

Implementation arrangements for each project Component are detailed below:

3. *Component 1: Energy Sector Support* will be the responsibility of EPS and general management and support functions are assigned to its Head Office in Belgrade. EPS will designate a small team of staff (project implementation team) for the implementation of the

proposed project to work under the Head of Strategy and Investment Department of EPS who will be responsible for overall project implementation. The project implementation team's main function will be to coordinate with other corporate departments to ensure effective implementation of procurement, contracting, contract administration and disbursement, financial management and accounting, and reporting. This team will be responsible for the submission of Financial Management Reports to the Bank. The project accounts will be maintained by the Finance Department of EPS.

4. No new arrangements, or creation of any new unit, are proposed for project implementation since the existing organization structure and business processes of EPS are considered adequate and satisfactory for this project. EPS has successfully implemented the Energy Community of South East Europe (APL) Program – Serbia Project (P088867) which closed on June 30, 2012 and is familiar with World Bank policies and procedures.

5. *Component 2: Agricultural Sector Support.* The project will use the established system of government agencies for implementation of the Farm Incentives Program. The responsible implementing agency is MAEP. A specialized technical department - DAP - is managing this program in accordance with procedures prescribed for each type of farm support measure (incentive). DAP is also the holder of the Farm Registry (FA), a registry where all farms applying for the government's farm incentives program need to be registered. For part of the incentives program DAP has a contract with the Treasury and uses the network of local Treasury offices to deliver financial incentives to registered farmers.

6. While this component will use well established government systems, financial management, disbursement, safeguards and monitoring and evaluation reporting for the purposes of this Loan will be responsibility of the PIU established in the DWM.

7. *Component 3: Floods Protection.* Activities supported under the Component 3 of the project will be implemented by a PIU established under the DWM. During preparation of investments and implementation of investments, the PIU will work in close coordination with the three PWMCs: Srbijavode PWMC, Vode Vojvodine PWMC and Beogradvode PWMC that have the delegated responsibility for management and operations of the "level 1" watercourses.

8. The PIU will be established with a similar form and function to that which was previously utilized under the recently completed World Bank financed Irrigation and Drainage Rehabilitation Project (IDRP). The PIU will be responsible for (i) procurement, contract management for Component 3, and for (ii) financial management, disbursement, safeguards, and monitoring and evaluation for Components 2 and 3. Consultants will be engaged to provide technical support to the PIU as needed. The Project Operations Manual (POM) prepared under IDRP will be updated and utilized by the Directorate to guide activities to be financed under Components 2 and 3.

9. *Component 4: Contingent Emergency Response.* Following an adverse natural or man-made event or that causes a major disaster; the Government of Serbia may request the Bank to re-allocate project funds to this component to partially cover emergency response and recovery

costs. This component could also be used to channel additional funds should they become available as a result of the emergency[16].

B. Financial Management

10. **Implementing Entity.** EPS will be in charge of financial management for Component 1. EPS will designate team of staff, including financial management officer, to work on project implementation. EPS is a large public enterprise with prior experience in implementation of World Bank projects and appropriate capacity, systems and structure. EPS was one of the implementing entities for Energy Community of South East Europe (APL) Program – Serbia Project (P088867). Financial management performance of EPS during implementation of EPS project was satisfactory

11. Responsibility for financial management for Components 2 and 3 will be assumed by a Project Implementation Unit (PIU) under the Directorate of Water Management (DWM). In line with procedures for emergency operations, it is acceptable for the PIU to be appropriately staffed during implementation, with no conditions in this sense imposed for preparation stages. The PIU will include financial management staff, besides staff in charge for technical aspects, procurement and other functions. Structure, procedures and lines of responsibility for implementation of Components 1, 2 and 3 will be described in their respective POMs to be prepared during implementation. The PIU will be provided with necessary training in implementation procedures by the World Bank staff.

12. **Planning and Budgeting.** There is appropriate capacity and experience for planning and budgeting in EPS, as the Company prepares its annual budget every year. Variances are appropriately analyzed and followed up. Planning and budgeting capacity within government institutions and budget users is assessed to be reliable. It will be ensured that the PIU established for implementation of Components 2 and 3 draws on the existing capacity within DAP and DWM, and any additional requirements will be described in the POM. Approval and adequacy of annual budgets will be verified during the Bank's financial management supervision process.

13. **Staffing.** EPS will designate team of staff with appropriate qualifications and experience, including financial management officer, to work on project implementation. The PIU to be established for implementation of Components 2 and 3, will be staffed by qualified and experienced financial management officer in addition to staff in charge of technical aspects, procurement and other functions. Terms of Reference for the financial management staff with detailed descriptions of duties will be agreed with implementing entities and will make part of the respective Project Operations Manual (Components 2 and 3).

14. **Accounting.** Information Systems: Software used in EPS for entity accounting is reliable and performing well, and project transactions will be recorded in the software. This will ensure transparency of the use of project funds. However, since the existing software is designed for accrual accounting, and cannot present the project transactions in an isolated way and in the appropriate format of reporting, supporting analytical records of project transactions will be maintained in Excel spreadsheets and quarterly IFRs compiled based on those. Accounting for Components 2 and 3 will be maintained in acceptable accounting software to be acquired during

[16] Such a reallocation would not constitute a formal Project restructuring (Including Contingent Emergency Response Components in Standard Investment Projects, Guidance Note to Staff, April 2009, footnote 6).

implementation. The software should produce IFRs in the appropriate format automatically. Accounting records should be up to date and each transaction should be accounted for at the latest eight days after occurring.

15. Accounting Policies and Procedures: Appropriate accounting policies and procedures are in place in EPS. There is Rulebook on Accounting which defines procedures, responsibilities and accounting controls. The POM to be developed for Components 2 and 3 will describe accounting policies and procedures for the components, some of which are presented further on. Accounting policies and procedures to be applied for project accounting include the following major assumptions:

- cash accounting as the basis for recording transactions;
- appropriate analytical accounting records exist by contracts and payments;
- reporting should be done in EUR (reporting currency);
- quarterly IFRs prepared;

16. **Internal Controls and Internal Audit.** Key internal controls to be applied include appropriate authorizations, control checks, segregation of duties, reconciliations and documenting transactions. Such controls and procedures are described in existing manuals and rulebooks within EPS and will apply to implementation of Component 1. For Components 2 and 3, those will be described in Project Operations Manuals that will be developed. Financial management and internal control policies and procedures and are intended to guide staff and minimize the risk of errors and omissions, as well as delays in recording and reporting. These written standards also clarify responsibilities, including level of authority, clear control over assets, cash, and bank accounts, and it ensures timely and accurate financial reporting.

17. Each implementing entity will sign contracts related to its component. The latter entity receives an invoice and verifies it in terms of quality and quantity of the goods/services received versus invoiced. Financial management staff checks the invoice, the calculation of the invoice, and finds the appropriate budget from which the amount will be charged (contract number, item number and component).

18. All relevant documentation shall be attached to the invoice enabling the authorized signatory to immediately evidence that the necessary checks have been performed. Payment order and the invoice with all designated approvals and signatories are submitted to the commercial bank/National Bank of Serbia where the Designated Account is opened for payment or in case of Direct Payment the application form for such method payment is submitted to the World Bank. Bank Statements are received daily or weekly by implementing entities, based on which the financial management staff will record executed payments and perform due reconciliation of the bank balances. The implementing entities will prepare interim un-audited financial reports quarterly in the agreed format and submit the reports to the Bank.

19. Component 2 will focus on cash transfers to farmers. The transfers are administered by the Treasury for certain types and nature of payments, and by DAP for others. Process and control mechanism were reviewed in both institutions, and were assessed to be reliable. There is a set of written procedures which define different steps in this process, starting from eligibility, appropriate submission forms, needed documentation, control checks and processing of payment. It is envisaged that the existing system will continue to be used for the project, and the Treasury/DAP after performing all necessary steps will submit final lists presenting cash need for transfers to the PIU, in order for the PIU to transfer needed funds to local currency

account/sub-account opened for this purpose within the Treasury Single Account. The PIU financial management staff will based on such information account for expenditures and later on compile such information for quarterly financial reports.

20. There is internal audit department within EPS which is well organized and functioning, although in need for additional capacity. The department is centralized within the holding company, but covers all daughter companies.

21. In relation to components 2 and 3, all implementing agencies are in the scope of work of internal audit department within the Government. Internal audit is a young function within the public sector in Serbia, hence the internal audit department, although rapidly developing, still lacks capacity and experience.

22. **Financial Reporting and Monitoring.** Project management-oriented interim un-audited financial reports (IFRs) will be used for project monitoring and supervision. The format of the IFRs will be agreed during negotiation and attached to the minutes of negotiation. The entities in charge of project implementation will produce a full set of IFRs for each calendar quarter throughout the life of the project for their respective components, namely EPS for Component 1, and PIU under DWM a single set of financial reports for Components 2 and 3. The reports will be due 45 days after each quarter end. Reporting currency will be EUR and cash basis of accounting will apply. The IFRs will comprise the following reports presented in the agreed format:

- Cash Receipts and Payments;
- Uses of Funds by Activity;
- Designated Account statement;
- Narratives to the reports.

23. **External Audit.** The project and entity financial statements will be audited in accordance with terms of reference acceptable to the Bank by a private sector audit firm acceptable to the Bank, and the audit report will be submitted to the Bank at the latest six months after the end of the period audited.

24. The project financial statements are prepared on cash basis, while EPS entity financial statements are prepared on accrual basis in line with prevailing legislation in the country, therefore in line with IFRS. Expenditures which were basis for retroactive financing will be included in the first annual project financial statements, and subject to audit. Audits should be conducted in accordance with ISA. ToRs for financial audit are attached to minutes of negotiation. The audited financial statements of the project will be posted on the EPS/MAEP websites, respectively, within 2 weeks upon the audit report is issued by the auditor and accepted by the World Bank. The annual cost of the project audit will be covered by the project funds, while EPS entity audit will be financed from EPS own funds.

25. The following chart identifies the audit reports that will be required to be submitted by the project implementation agencies together with the due date for submission.

Audited scope	*Type of engagement*	*Due Date*
Annual entity financial statements of EPS	Financial audit	Within nine months of the end of each fiscal year
Annual project financial statements (PFS) for component 1	Financial audit	Within six months of the end of each fiscal year and also at the closing of the project
Annual project financial statements (PFS) for components 2 and 3	Financial audit	Within six months of the end of each fiscal year and also at the closing of the project

26. **Action plan**. The following financial management actions need to be implemented:

Action	*Responsible entity*	*Deadline*
Implementing units/teams should be fully staffed with adequate professionals	EPS, DWM	Implementation
Project Operations Manuals (POM) should be prepared for components 1, 2 and 3, respectively.	EPS, MAEP	Implementation
Acceptable accounting software for implementation of components 2 and 3 should be in place	DWM	Implementation

C. Funds Flow and Disbursement Arrangements

27. Project funds will flow from the Bank (i) either as an advance, via two foreign currency Designated Accounts (DA) in EUR to be opened at a commercial bank for Component 1 and at the National Bank of Serbia for Components 2 and 3, which will be replenished based on a SoE, and managed as described below; (ii) by direct payment from the World Bank to contractors on the basis of direct payment withdrawal applications; or (iii) reimbursement of agreed expenditures pre-financed by the Borrower.

28. The implementing entities will administer DAs and prepare withdrawal applications for replenishment of the DAs which ought to be signed by authorized signatories deposited when opening the accounts. Advances to Designated Accounts will be method of disbursement. Payments from the Designated Account are executed by the means of payment orders. DA for Component 1 will have a mirror local currency account for payments within the country, while from DA for Components 2 and 3 the funds will be transferred to a separate local currency account/sub-account opened for respective components within Single Treasury Account. After all the procedures with respect to flow of documents, verifications and authorizations described in internal controls section are applied, payment order signed by authorized representatives is submitted to the banks where the Designated Account is opened for payment. In the case of Direct Payment the application form for such method payment is submitted to the World Bank.

29. The Ceiling for Designated Accounts will be defined in the disbursement letter. Documentation requirements for replenishment would follow standard World Bank procedures as described in Disbursement Handbook.

30. In case of retroactive financing related to Components 1 and 2, upon effectiveness withdrawal application for retroactive financing will be prepared, detailing all payments included in the application. Based on that application, the funds for retroactive financing will be reimbursed to the Borrower. Retroactive financing will be disbursed to foreign currency Single Treasury Account in line with instructions from the MoF for Component 2 and to EPS operating bank account for Component 1. All details on the flow of funds will be described in the POM.

D. Procurement

31. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrower," dated January 2011 revised July 2014, and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," dated January 2011 revised July 2014, and the provisions stipulated in the Loan Agreement. The Bank's "Guidelines on Preventing and Combatting Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated October 15, 2006 and revised in January 2011 (Anti-Corruption Guidelines) would apply to this project. Procurement under Emergency Procedures will be implemented as per OP 8.00 revised July 1, 2014, *Rapid Response to Crisis and Emergencies*. A General Procurement Notice will be published on the Bank's external website and the UN Development Business website before the loan negotiations. The following section describes the procurement implementation arrangements agreed.

Procurement Capacity and Risk Assessment

32. A Procurement Capacity and Risk assessment of the project's implementing agencies has been initiated in July 2014. The Procurement Department (PD) within the EPS was formed a year and a half ago and has approximately 25 procurement officers. Currently, the PD implements EBRD and KFW financed projects; the rest of the procurement is conducted in accordance with the Public Procurement Law. The PD is responsible for all procurement, except for the trade of electric power. EPS will include an experienced procurement specialist in the project implementation team under the Head of Strategy and Investment Department of EPS who has successfully gained practical knowledge of procurement through implementing the Bank-funded Energy Community of South East Europe (APL) Program that closed in June 2012 and who is now working in the Department for Strategic and Investment within EPS. In addition, this Procurement Specialist has participated in several Procurement Workshops. EPS has adequate experience and capacity to carry out the procurement activities under Component 1 related to the project. The procurement activities for Component 3 will be carried out by the PIU to be formed under DWM, who currently do not have sufficient capacity to carry out the procurement activities under the project. The PIU will hire an experienced procurement specialist who is familiar with the World Bank and other international financing institutions procurement procedures.

33. The key issues and risks concerning procurement for implementation of the project have been identified and include: (i) potential risk of delays in the implementation of complex works contracts and unsatisfactory quality of technical specifications or designs; (ii) delays in bidding process and bid evaluation may result substantial delays in contract or project implementation; and (iii) insufficient knowledge of the Bank's procurement procedures, including the latest Procurement and Consultants Guidelines (January 2011, revised July 2014) applicable for the Project.

34. Given the findings of the assessment as presented above, the procurement risk for the project is rated as **Substantial**.

35. To mitigate the identified procurement-related risks, the following mitigation actions were agreed between the Bank and the Borrower during project preparation.

Risk	Mitigation Measure	Responsible Party	Deadline
1. Potential risk of delays in the implementation of complex works contracts and unsatisfactory quality of technical specifications or designs.	Hire qualified consultants for the preparation of technical specifications and designs. Close involvement of Bank technical expert in the review of these documents.	Borrower/ Bank	Implementation
2. Delays in bidding process and bid evaluation may result substantial delays in contract or project implementation	Hire Consultants with international technical experience and contract management knowledge.	Borrower	Implementation
3. In sufficient knowledge of the Bank's procurement procedures, including the latest Procurement and Consultants Guidelines (January 2011, revised July 2014) applicable for the Project.	Hire Procurement Specialist with experience in Bank's procurement procedures. Bank's procurement specialist to work closely with the implementing agencies and organize procurement training whenever required during project implementation.	Borrower/ Bank	Implementation
4. Compliance with the agreed procedures	Project Operations Manual (POM) prepared under IDRP will be updated and disseminated to all stakeholders.	Borrower	Implementation

Simplified Procurement Methods

36. Simplified procurement methods will be used until the situation permits the use of the usual bid submission deadlines and other conditions waived under the emergency procedures, including the higher thresholds for selection methods and prior review; it is expected that the need for emergency procedures will last until April 2015. The simplified methods are as follows:

- Direct Contracting or Simple Shopping for the procurement of services of qualified UN agencies/programs and/or suppliers (for goods) and civil works contractors already mobilized and working in emergency areas (for works); shopping thresholds for goods with a contract value up to USD 500,000 and simple works with a contract value up to USD 1,000,000; in exceptional cases, when shopping needs to be followed for contracts estimated to cost more than these values, Bank's clearance is required;
- Single Sourcing or Consultant's Qualification Selection (CQS) for contracting firms already working in the area and which have a proven track record for the provision of technical assistance; the Selection Based on the Consultants' Qualifications (CQS) can be applied for contracts estimated to cost above USD 300,000 with Bank's prior acceptance;
- Extending contracts issued under existing projects for similar activities by increasing their corresponding contract amounts;
- Force Account for delivery of services directly related to the emergency if there is no alternative arrangements available;

- Simplified International Competitive Bidding and National Competitive Bidding with accelerated bidding and streamlined procedures and applying Bank provisions on elimination, as necessary, of bid and performance securities in small-medium size contracts, but in works contracts, retention money may be retained during the liability period; and for goods contracts, manufacture warranties will be requested.

37. A simplified Procurement Plan for a period of six months of the project implementation will be sent to the Bank before negotiations which will reflect the object of each contract; estimated cost; procurement method; estimated date of bid submission; and Bank review (prior/post).

Procurement as per Standard Procurement Plan

38. A standard procurement plan has been developed for the next 18 months (see table below), and will be updated at least annually or before as required to reflect the actual project implementation needs and improvements in institutional capacity. The Procurement Plan and its updates will be submitted to the Bank for approval. The procurement thresholds for procurement of goods, works and consultancy contracts are set in the procurement plan in accordance with the results of the procurement capacity assessment and within the latest ECA regional thresholds. The contracts subject to prior review are reflected in the procurement plan as such.

Contract Package	Contract Description	Estimated Cost (EUR million)	Procurement Method	Review Method	Expected Bid/RFP Announcement Date
I	**Component 1 – Support to Energy Sector**				
1	Power Imports: July 2014 to the signing of the Loan Agreement (expected December 2014)	62.0	Commodities	Post	06/09/2014
2	Power Imports: January 2015 onwards	57.8	Commodities	Prior	11/15/2014
3	Metering devices	4.0	ICB	Prior	04/05/2015
4	Mobile substations for the distribution network	5.8	ICB	Prior	04/11/2015
5	Energy efficient light bulbs and other load management activities	4.1	ICB	Prior	03/15/2015
6	Technical assistance for load management activities	0.2	CQS	Prior	11/15/2014
7	Dewatering of the Tamnava West Field Mine	23.0	National Emergency Procedures	Post	08/11/2014
II	**Component 3 – Floods Protection**				
1	Flood Protection of Novi Pazar settlement	1.8	NCB	Prior	06/10/2015
2	Flood Protection of Aleksinac settlement	1.4	NCB	Prior	06/21/2015
3	Flood Protection of Smederevska Palanka settlement	1.5	NCB	Post	07/01/2015
4	Flood Protection of Negotin area	1.1	NCB	Post	07/10/2015
5	Construction of flood protection system for Donji Ljubes settlement	2.3	NCB	Post	07/15/2015
6	Rehabilitation of Tamis dike	2.5	NCB	Prior	07/21/2015
7	Erosion protection and rehabilitation works on	0.07	Shopping	Prior	06/30/2015

	left bank on the Sava River				
8	Rehabilitation of the left bank embankment on the Danube River on section B. Palanka town	1.6	NCB	Post	07/15/2015
9	Supply and Installation for Equipment for Flood Control and Protection	1.4	ICB	Prior	06/05/2015
10	Construction supervision for flood protection works	0.5	QCBS	Prior	06/15/2015
11	Project Coordinator	0.14	SSS	Prior	12/01/14
12	Civil Engineer	0.10	SSS	Prior	12/01/14
13	Safeguards Specialist	0.10	SSS	Prior	12/01/14
14	Monitoring and Evaluation Expert	0.10	SSS	Prior	12/01/14
15	Procurement Officer	0.13	IC	Prior	12/01/14
16	Financial Management Officer	0.13	SSS	Prior	12/01/14
17	Office Assistant/Interpreter	0.05	IC	Prior	12/01/14
18	Project Audit (Components 1, 2, and 3)	0.8	CQS	Prior	11/15/2014

Procurement Implementation Arrangements

39. The following methods may be used for procurement of civil works, goods and non-consulting services as agreed in the procurement plan: International Competitive Bidding (ICB), National Competitive Bidding (NCB), Shopping (S), and Direct Contracting (DC) with prior Bank's approval. Procurement for all ICB procedures will be done using the Bank's Standard Bidding Documents (SBD). Smaller value contracts as needed will be procured using the Standard NCB documents for Goods or shopping using ITQ (June 2011), depending on the cost estimate for the package. The procurement of power imports will be conducted in accordance with provisions under clause 2.68 (procurement of commodities) of the procurement guidelines, following commercial practices.

Procurement of Civil Works

40. Procurement of civil works would include, *inter alia*, flood protection infrastructure reconstruction and rehabilitation.

Procurement of Goods, including commodities, and non-consulting services

41. Goods and non-consulting services procured would include, inter alia, goods and services in the areas of energy (e.g. procurement of meters, mobile sub-stations, power imports, etc.), dewatering of the *Tamnava West Field* mine, and flood protection (e.g. related spare parts, water pumps, etc).

Selection of Consultants

42. Consultant services would include, *inter alia*, design and supervision; technical studies; contract monitoring and supervision; monitoring and evaluation; financial audit; public awareness, communications campaign for load management, technical assistance in the area of DRM, etc.

43. The following methods may be used for the selection of consultants: Quality and Cost-Based Selection (QCBS), Quality-Based Selection (QBS), Least-Cost Selection (LCS), Fixed Budget Selection (FBS), Selection based on Consultants Qualifications (CQS)[17], Individual

[17] For standard tasks costing not more than USD 300,000 equivalent.

Consultant Selection (IC), and Single Source Selection (SSS) with prior Bank's approval. The World Bank's Standard Request for Proposals will be used. Terms of Reference, irrespective of prior/post review status, may be subject to the Bank Team's prior review and no objection. Shortlist of consultants for services estimated to cost equal or less than USD 300,000 equivalent per contract, may comprise entirely national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Training

44. An annual training plan shall be prepared and agreed with the Bank. It will include information on the title of training, institution that shall provide it, timeline, cost, number, position and names of relevant people to be trained. The training plan shall be updated in agreement with the Bank through the duration of the Project at least annually or as required to reflect the actual project implementation needs.

Retroactive Financing

45. Two contracts will be considered for retroactive finance under Component 1: (i) Power imports contracts for the period of July to the signing of the Loan Agreement that have adopted commercial practices. A waiver of the requirements under paragraph 1.16(e) of the Procurement Guidelines will be sought and the Bank will carry out special financial audit of these contracts. In this connection, a special financial audit of these contracts will be carried out and the Borrower will support, to the extent of its authority, request from the Bank for the purposes of any investigations and audit requirements to counterparts of the signed contracts, should it be necessary. Tendering of future power import contracts shall follow commercial practices in accordance with paragraph 2.68 of the procurement guidelines and will include the Bank's standard clauses on right to audit and Fraud and Corruption in the tender documents, sample contracts, and signed contracts; and (ii) Contract for the Dewatering of the Tamnava West Field mine . The procurement process in accordance with the national emergency procedures has been reviewed and deemed acceptable to the Bank. The Dewatering contract will incorporate the Bank's standard clauses on right to audit and Fraud and Corruption.

Operating Costs

46. The activities to be financed by the project (as defined in the Loan Agreement) will be procured using the implementing entities' administrative procedures which were reviewed and found acceptable to the Bank.

Procurement Thresholds and Frequency of Procurement Supervision

47. The Bank will closely supervise the project and will review the procurement arrangements as performed by the respective beneficiaries – including contract packaging, applicable procedures, methods and the scheduling of procurement process for conformity with the Loan Agreement, the proposed implementation program and the disbursement schedule. Contracts not subject to Bank's prior review are marked as such in the procurement plan and will be subject to post review by the Bank' procurement specialist assigned to the project. Post review of contracts will be carried out at least once in six months. At a minimum, 1 out of 10 contracts will be randomly selected for post review. The Bank will conduct a special post review of physical and financial implementation of the contracts eligible for retroactive financing. The Bank's standard clauses on Fraud and Corruption including the Right to Audit shall also be applicable.

Thresholds for Procurement Methods and Bank Prior Review

Procurement Method	USD and EUR equivalent		Comments
	Within emergency period (until June 2015)	After emergency period	
Goods/Works			
International Competitive Bidding (ICB) Goods	> 2,000,000 / EUR 1,500,000	≥ 1,000,000 / EUR 772,000	All subject to prior review
National Competitive Bidding (NCB) Goods	< 2,000,000 / EUR 1,500,000	< 1,000,000 / EUR 772,000	First two Goods contracts subject to prior review
Shopping (Goods)	< 500,000 / EUR 386,000	< 100,000 / EUR 770,000	First contract
International Competitive Bidding (ICB) Works	> 10,000,000 / EUR 7,700,000	> 5,000,000 / EUR 3,800,000	All subject to prior review
National Competitive Bidding (NCB) Works	< 10,000,000 / EUR 7,70,000	< 5,000,000 EUR 3,800,000	First two Works contracts subject to prior review
Shopping (Works)	< 1,000,000 / EUR 772,000	< 200,000 / EUR 154,000	First contract
Direct Contracting (DC)	-	-	All contracts above USD 60,000 subject to prior review
Consultancy Services			
Quality and Cost Based Selection (QCBS)	> 300,000 / EUR 232,000	> 300,000 / EUR 232,000	All subject to prior review
Quality Based Selection (QBS), Fixed Budget Selection (FBS), and Least Cost Selection (LCS)	-	-	All contracts above USD 200,000 subject to prior review
Selection Based on Consultants' Qualifications (CQS)	> 300,000 / EUR 232,000	< 300,000 / EUR 232,000	Contracts above 300,000 all subject to prior review. Contracts less than 300,000 – First contract.
Single-Source Selection (SSS)	-	-	All contracts above USD 5,000 subject to prior review
Individual Consultant (IC)	-	-	All TORs and PIU contracts subject to prior review

E. Environmental and Social (including safeguards)

48. The Project is classified as environmental category "B", in accordance with Operational Policy OP 4.01. The already identified activities, due to their potential impact, belong to category

B. The Tamnava dewatering activities, despite a large quantity of water involved, belongs to category B due to the following:

- Water quality sampling (several sets of water quality testing have been performed in June, July, and August 2014) confirmed that water in the open pit belongs to the same class as in the Kolubara and Kladnica Rivers (recipient bodies) at the same reach; concentrations of polluting substances in the water do not exceed the thresholds determined by the national legislation for the water class in the recipient rivers;
- Sediment samples (preformed in July 2014) indicate that sludge/mud contain some polluting substances in concentrations above the limits prescribed for the water class of the recipient body. However, there is no plan for large-scale removal of sludge/mud outside the pit as noted in Section VI B of the main PAD body;
- The Serbian Environmental Protection Agency in June 2014 prepared and issued a "Program for Extraordinary Monitoring of Water Quality from Tamnava Mines", which determines a comprehensive monitoring system to be implemented during the dewatering operation, and list the remedial actions in case of any issues related to water and/or mud quality. The Program also identifies parties responsible for monitoring per specific test and measuring point – National Laboratory of Serbian EPA; Laboratory of RB Kolubara Lazarevac – Vreoci Coal and Wastewater Center, and Republic Hydro Met Institute. The Plan also contains overall cost associated for performing the monitoring.
- A site-specific EMP had been prepared and has been approved by the Bank for public disclosure and consultations. The EMP will cover in particular the following main issues: (1) water quantity and its impact downstream from point of discharge into Kolubara River; (2) water quality and mode of control/monitoring; (3) mud/sludge quality and its impact on the Kolubara River water quality – and impact of suspended matter that will be pumped out with water into the river; (4) mud/sludge management and arrangements in case of finding "unpolluted" and "polluted" sludge; (5) bank stability downstream of the water discharge point; (6) health and safety at work - arrangements; (7) restoration of the embankments from damage caused by dewatering activities, upon their completion. Implementation of the EMP will be a part of the contract between EPS and the contractor and will apply to both EPS and the Contractor dewatering activities.

49. The project is expected to result in significant social benefits through reduced electricity shortages during the upcoming winter, increased security of domestic food supply for rural populations affected by the floods and improved floods prevention and management. According to the RNA, the recent disaster had a disproportionate impact on the poor and vulnerable population (see Section I B in the main document). The proposed operation is therefore expected to have positive effects on the poor by providing rapid rehabilitation and recovery to ensure the continuity of access to basic services such as electricity, and a secured financial support to farmers through a stable farm subsidy program.

50. The project-supported agricultural, energy, and flood protection activities will benefit both men and women. No gender-related constraints are expected under the project activities, as these will rather generate positive impact and benefits for both women and men with their livelihoods improved through restoration and rehabilitation of flood-damaged infrastructure. The

World Bank will support the relevant agencies to ensure that a gender and vulnerability sensitive method is used in the delivery of services through the use of disaggregated data to the extent available.

51. Broader environmental and social issues related to the Kolubara mining activities. The project itself is not expected to have significant direct negative environmental or social impacts. However, the dewatering and restoration of flood protection infrastructure for the mine represents general support for the continuing operation of the mine. Therefore, from a "due diligence" perspective, project preparation included a review of existing environmental and social issues relating to the Tamnava West Field mine (and more broadly, the Kolubara coal district) to which the project could be linked in public perception, resulting in obstacles for project implementation and/or reputational risks for WB. For example, while no land acquisition or involuntary resettlement is required to enable the activities or achieve the objectives of Component 1 of the proposed project, there have been substantial complaints regarding resettlement carried out in the context of recent expansion of other nearby lignite mines in the Kolubara complex. This mine expansion is not considered to be an associated activity as defined in OP 4.12, as it is not "directly and significantly related to the Bank-assisted project," nor "necessary to achieve its objectives as set forth in the project documents." Similarly, while environmental (particularly air) pollution is a significant general concern for residents of the Kolubara district, the dewatering and resumed operation of the Tamnava West Field mine would not make a substantial change in this aspect.

52. To obtain a better understanding of the local context, the Bank team visited the project site and its surroundings, focusing particularly in those areas where there have been specific concerns relating to resettlement, to assess the current situation. This included both complaints regarding the way in which some resettlement was carried out (e.g. insufficient notification, destruction of a cemetery without adequate provisions for re-interment, etc.), and complaints that people have had to wait too long for promised relocation (away from the polluted areas). Based on the findings of the site visit, information available in various reports, and interviews with relevant authorities, the Team was able to determine that many of the problems have been resolved or are in the process of being resolved. With respect to environmental pollution, the Team reviewed and reported on recent environmental monitoring reports for the Kolubara region (covering calendar year 2013), which indicate that: (i) for air quality monitoring – concentrations of sulphur dioxide and nitrogen oxides did not exceed the maximum allowable daily values; while daily concentrations of soot and suspended solids did exceed maximum allowable daily values; (ii) for wastewater monitoring – treated wastewater at the outlet of Waste Water Treatment Plant is characterized by high turbidity, increased concentrations of suspended solids, organic substances, iron, phenol and arsenic; and (iii) for noise levels – daily operation did not exceed the noise level limit, while night time operations did exceed the prescribed noise limit level. The mining complex Kolubara has an Environmental and Social Action Plan prepared in February 2012 and revised in October 2013; and a Stakeholder Engagement Plan prepared in February 2011. Reportedly, the actions are being implemented in accordance with the plans.

53. The conclusion from the environmental and social "due diligence" carried out to date is that no urgent environmental or social issues have been identified that would be exacerbated by the project or are likely to present an obstacle to project implementation. During project implementation support, the Team will continue to seek and review information on these aspects

and report any significant findings to Management for discussion with the Borrower. This includes verifying that the mining complex and power plant are operating in compliance with national laws and regulations, including regular monitoring of air and water quality. If it is found that the mine is not operating in compliance with applicable laws, or environmental quality is not meeting required standards, the WB will discuss with the Borrower what measures can be taken to improve the situation.

54. Since all activities to be financed under this project have not determined at the onset of the Project, the appropriate instrument of OP 4.01 is an Environmental and Social Management Framework (ESMF). Given the emergency response nature of the project and in order to facilitate the project processing, the World Bank team has prepared an Environmental and Social Safeguards Framework (ESSF) that will help guide the preparation of the ESMF and Resettlement Policy Framework (RPF). Detailed information on the ESMF is provided in section VI.F in the main text of the PAD as well as in Annex 6.

55. The Bank Operational Policy on Involuntary Resettlement (OP 4.12) has been triggered in view of the fact that the infrastructure rehabilitation and reconstruction works under Component 3A (flood protection infrastructure) in some cases may lead to possible land acquisition for securing the right-of-way. The flooded open mine pit Tamnava East and West fields, the project site, and associated access roads and pipes to transport the pumped water back to the Kolubara and Kladnica Rivers are with in the territory of mining operation of Kolubara mines and there are no settlements nearby. The operation of the water pumping and transport through temporary pipes to the River of Kolubara, will neither going to interfere with any private property nor it will cause any disturbance to any settlement in the wider Kolubara mining settlement.

56. The project also triggers OP7.50 Projects on International Waterways and the Pest Management OP 4.09. Detailed information on the ESMF is provided in section VI.F in the main text of the PAD.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[X]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[X]	[ ]
Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[X]

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

F. Monitoring & Evaluation

57. The project defines to a large extent the specific activities to be undertaken under the project in order to ensure availability of power supplies over the next winter season and beyond, support the restoration of agriculture production and farmers' livelihoods in the flood affected areas, and restore critical floods protection infrastructure. Specific activities under Sub-components 1B (load management) and 3A (Floods protection) will be fully identified during implementation, therefore the specific type and number of outputs expected is not known at the outset.

58. In line with the 2014 Guidance Note for Projects in Situations of Urgent Need, the monitoring strategy selects indicators that will track progress and outputs. The project will be monitored by EPS, and the PIU under the DWM (see monitoring arrangements in section IVB in the main text of the PAD).

ANNEX 4: OPERATIONAL RISK ASSESSMENT FRAMEWORK (ORAF)

Serbia: Floods Emergency Recovery Project (P152018)

<table>
<tr><td colspan="7">Project Stakeholder Risks</td></tr>
<tr><td>Stakeholder Risk</td><td colspan="6">Rating Moderate</td></tr>
<tr><td rowspan="4">Risk Description:

Government commitment, including financing support for the Farm Incentives Program and power imports, could fade away as it focuses on tackling a substantial reform agenda.</td><td colspan="6">Risk Management:

The Ministry of Finance sent a letter to the Bank indicating the Government's commitment to continuing the Farm Incentives Program recognizing that this program will be critical in the post-flood environment when farmers' income is lost, preventing them from making investments for the next season.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Client</td><td>Completed</td><td>Preparation</td><td>☐</td><td>05-Aug-2014</td><td></td></tr>
<tr><td colspan="6">Risk Management:

Response to the floods disaster in the energy sector will remain a priority because of the economic and social impacts of potential supply interruptions. The proposed operation is closely aligned with the critical elements of the Government’s reconstruction strategy.</td></tr>
<tr><td></td><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td></td><td>Client</td><td>In Progress</td><td>Both</td><td>☑</td><td></td><td>Yearly</td></tr>
<tr><td colspan="7">Implementing Agency (IA) Risks (including Fiduciary Risks)</td></tr>
<tr><td>Capacity</td><td colspan="6">Rating Moderate</td></tr>
<tr><td rowspan="4">Risk Description:

Capacity of the Ministry of Agriculture and Environmental Protection (MAEP) is constrained and could affect the implementation time line of Components 2 and 3. Delays in setting up the PIU under DWM could substantially delay implementation of these components.</td><td colspan="6">Risk Management:

The project is supporting the existing Farm Incentives Program in its current scope and size. The Bank is providing technical assistance to the Ministry of Finance and the Ministry of Agriculture and Environmental Protection with an objective to identify options to improve agriculture and rural development policies and ensure better targeting and greater sustainability of the Farm Incentives Program.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Bank</td><td>In Progress</td><td>Both</td><td>☑</td><td></td><td>CONTINUOUS</td></tr>
<tr><td colspan="6">Risk Management:</td></tr>
</table>

	TThe Directorate of Water Management has experience implementing WB projects. To further strengthen capacity, a PIU will be set-up with the responsibility of technical and fiduciary controls. As soon as the project becomes effective, MAEP has committed to set-up the PIU.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Implementation	☐	31-Dec-2014	
Governance	**Rating**	**Substantial**				
Risk Description: The Office for Reconstruction will be coordinating the overall project implementation. Its mandate will expire on July 22, 2015 as per the Law on Post-Flood Rehabilitation.	**Risk Management:** Broader recovery and reconstruction activities stipulated in the Law and which are being coordinated by the Office of Reconstruction will span well beyond one year. To mitigate this risk, it was agreed with the Borrower that in case the mandate of the Office is not extended under a different legal act, the overall coordination and oversight for the project will be transferred to the Prime Minister's Office.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Implementation	☑		Yearly
	Risk Management: EPS as well as DAP and Treasury internal processes and fiduciary controls have been assessed as adequate for the implementation of Components 1 and 2. Close Bank supervision will be ensured for all Implementing Entities.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Bank	In Progress	Both	☑		Quarterly
	Risk Management: An Engineer will be engaged, as an individual consultant for technical assistance and construction supervision including responsibilities of the Engineer / Project Manager during the implementation of supply and installation activities. Close Bank supervision will be ensured for Component 3.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Bank	In Progress	Implementation	☐	31-Dec-2014	
Project Risks						
Design	**Rating**	**Moderate**				
Risk Description:	**Risk Management:**					

<table>
<tr><td rowspan="3">Due to the short preparation timeline, not all the needs and priority investments have been fully identified (Components 1B and 3A) as it is frequently the case in most Emergency Operations.</td><td colspan="6">Include flexibility in the project design to allow for subsequent identification of investment priorities.</td></tr>
<tr><td>Resp:
Bank</td><td>Status:
In Progress</td><td>Stage:
Preparation</td><td>Recurrent:
☐</td><td>Due Date:
31-Oct-2014</td><td>Frequency:</td></tr>
<tr><td colspan="6">Risk Management:
The Bank team has reviewed the readiness and prioritized the pipeline of investment projects under Component 3A.</td></tr>
<tr><td></td><td>Resp:
Bank</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☐</td><td>Due Date:
31-Dec-2014</td><td>Frequency:</td></tr>
<tr><td>Social and Environmental</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td rowspan="3">Risk Description:

4.2.1 There is potential environmental damage resulting from the dewatering operation.
4.2.2 There is a risk that very small, subsistence farms that are not eligible for area-based farm incentives due to size restrictions will not receive the support necessary for them to recover from the floods.</td><td colspan="6">Risk Management:
A site specific EMP was developed and approved by the Bank for disclosure and public consultations. The EMP will become part of the contract with the contractor. The EMP will be a condition for disbursement of Component 1C. Close supervision by the team will be ensured during the dewatering activities.</td></tr>
<tr><td>Resp:
Bank</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☑</td><td>Due Date:</td><td>Frequency:
CONTINUOUS</td></tr>
<tr><td colspan="6">Risk Management:
EU is funding a project (implemented by FAO UN) for providing in-kind grants to farmers directly affected by floods targeting small farms. The Bank is coordinating closely with FAO on this program. Small farms will benefit from continuous access to other (non-area based) farm incentives, such as rural development support.</td></tr>
<tr><td></td><td>Resp:
Client</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☑</td><td>Due Date:</td><td>Frequency:
Yearly</td></tr>
<tr><td>Program and Donor</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td>Risk Description:

The recovery and reconstruction needs in the energy sector are significantly larger than financing provided under the proposed operation.</td><td colspan="6">Risk Management:
The Bank is coordinating with the EU and the Japanese Embassy which are considering financing sector needs. EPS is also exploring obtaining financing from commercial banks to cover the remaining share of electricity imports.</td></tr>
</table>

	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Both	☐	31-Dec-2014	
Delivery Monitoring and Sustainability	**Rating**	**Low**				
Risk Description: Results monitoring will be undertaken by implementing agencies.	**Risk Management:** Monitoring and evaluation will be based on existing reporting systems					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Bank	In Progress	Both	☐	31-Oct-2014	
Other (Optional)	**Rating**	**Moderate**				
Risk Description: Climate and Energy Supply Risks: Ensuring continued electricity supplies can be severely affected by: (i) harsh weather conditions; (ii) low hydrology; and (iii) interruptions of Russian gas supplies (only source of gas) to Serbia.	**Risk Management:** EPS will optimize hydro/thermal generation to reduce imports over the 2014/2015 winter season. The Government issued a decision on measures to mitigate the impact of potential gas interruptions by increasing volumes of gas in the storage. Purchases of coal supplies are also being considered by the Government to improve security of supplies.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Implementation	☑		Quarterly
Other (Optional)	**Rating**	**High**				
Risk Description: Reputational Risk: Risk of perceived association with mine expansion and opposition to coal-fired generation.	**Risk Management:** The Government will consult regularly with civil society and the public to raise awareness on the urgency of the project, distinguish the recovery-focused goals of this emergency operation from a new investment in coal-fired power, and assure citizens that the project will comply with all relevant environmental standards.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	Not Yet Due	Implementation	☑		Quarterly
	Risk Management: Bank to prepare a detailed communications strategy to complement activities undertaken under the Project.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Bank	Not Yet Due	Implementation	☐	31-Dec-2014	

Overall Risk		
Overall Implementation Risk:	**Rating**	**Substantial**
Risk Description:		
There is a substantial risk related to the potential for perceived association with expansion of the mine and public opposition to coal-fired electricity. It will be important that the Client consult with civil society and the public to raise awareness to the urgency of the project, distinguish the recovery-focused goals of this emergency operation from a new investment in mine expansion, coal-fired power, and assure citizens that the project will comply with all relevant environmental standards.		

ANNEX 5: IMPLEMENTATION SUPPORT PLAN

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

A. Implementation Support Strategy and Approach

1. **Overview.** The Implementation Support Plan (ISP) for the project has been developed based on the specific and multi-sector nature of the project, the planned implementation schedule, lessons learned from similar emergency operations, and specific needs as identified in the ORAF (See Annex 4), as well as the fact that the project was prepared based on an emergency procedure. The ISP envisages frequent implementation support missions by a multi-sectoral team. The Bank team will monitor implementation progress through: i) reporting against the key performance indicators as outlined in the results framework; ii) entity level project reports; iii) independent verification of progress through field visits; iv) fiduciary oversight of implementing entity activities (EPS, DAP and the PIU); and v) regular communication with the implementing entities and the Office for Reconstruction.

2. Project implementation will be supported by the task team based in HQ and in Belgrade. This will ensure that it is possible to rapidly field missions should the need arise. Formal missions will be conducted at least three times during the first year of implementation and semi-annually thereafter.

B. Implementation Support Plan

3. The following ISP reflects the preliminary estimates of the skill, timing, and resource requirements over the implementation period of the project. The ISP will be reviewed from time to time to ensure that it continues to meet the implementation support needs of the project.

4. **Procurement, Financial Management, Environmental and Social Safeguards**. The Bank's procurement, financial management, environmental and social safeguards specialists are both HQ and field based and will provide regular implementation support and technical assistance to the counterpart teams during the project implementation. These team members will also identify capacity building needs to strengthen procurement, financial management, and safeguard capacity of the project implementation units.

- **Procurement**. In addition to the procurement prior review to be carried out by the Task Team, procurement support missions will be undertaken once in six months to carry out post review of procurement actions in the field. The Procurement specialist will provide focused procurement support including: (i) reviewing procurement documents and providing timely feedback to the counterparts; (ii) providing detailed advice and guidance on the application of the World Bank's Procurement Guidelines; and, (iii) monitoring procurement progress against the Procurement Plan.
- **Financial management**. The Bank will conduct risk-based financial management supervisions, at appropriate intervals, in the following ways: (a) review the project's quarterly financial reports, the project's annual audited financial statements, the auditor's management letter and remedial actions, if any; and (b) during the Bank's on-site supervision missions, review the following key areas (i) project accounting and internal control systems; (ii) budgeting and financial planning arrangements; (iii) disbursement

management and financial flows, including counterpart funds, as applicable; and (iv) any incidences of corrupt practices involving project resources. As required, a Bank-accredited Financial Management Specialist will assist in the supervision process.

- **Environment and social safeguards**. During the period of civil works the environmental and social safeguards specialists shall make annual or more frequent mission visits to ensure compliance with project safeguard requirements. Between missions they will review the supervision consultant's reports to monitor progress and identify issues that may arise. The Safeguards specialists will monitor the implementation in accordance with the Bank safeguard policies, and advise on corrective measures as needed. The implementation of the EMP will be closely monitored, both through reviewing the supervision consultant's reports and through field visits.

Table 1: Skills and Resource Requirements

Time (months)	Focus	Skills Needed	Resource Estimate (Staff Weeks)
First six	Technical review of designs and bidding documents	Engineer	4
	Technical review of TA documents	Technical Specialists	4
	Review of procurement documents, systems & training	Procurement Specialist	3
	Environmental safeguards monitoring & training	Environmental Specialist	2
	Social safeguards monitoring & training	Social Specialist	2
	Review of financial management systems & training	Financial Management Specialist	2
	Communications	Communications Specialist	2
	Implementation Support	ACS	4
	Team Leadership	TTL	8
Six-36	Technical review of works implementation	Engineer	12
	Technical reviews of TA Outputs	Technical Specialists	8
	Environmental safeguards monitoring & training	Environmental Specialist	5
	Social safeguards monitoring & training	Social Specialist	4
	Review of procurement documents	Procurement Specialist	9
	Review of financial management	Financial Management Specialist	3
	Communications	Communications Specialist	2
	Implementation Support	ACS	12
	Team Leadership	TTL	24

Table 2: World Bank Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Team Leadership	46	10	
Environmental Specialist	7	6	
Financial Specialist	5	4	
Engineer	16	6	
Implementation Support	16	2	
Procurement Specialist	12	4	
Social Specialist	6	3	
Communications Specialist	4	0	
Technical Specialists	12	6	In various disciplines (Energy, Agriculture, Water DRM)

ANNEX 6: SAFEGUARDS ACTION PLAN (FOR DEFERRED SAFEGUARDS PREPARATION)

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

A. Planned Project Activities

1. Recognizing the emergency nature of the proposed operation, and the related need for providing immediate assistance, while at the same time ensuring due diligence in managing potential environmental and social risks, this Plan is based on the following principles:

- The proposed operations will support multiple activities, the detailed designs of which were fully identified at the time of project Appraisal. To ensure effective application of the World Bank's safeguard policies, an Environmental and Social Framework document has been developed providing the approach to be taken during implementation for the selection and design of activities and the planning of mitigation measures;
- The proposed operation will not support environmental Category A[18] activities or activities requiring permanent land acquisition. Since the activities supported under this operation are focused on rehabilitation and reconstruction, temporary land use may be anticipated, and as such a precautionary Resettlement Policy Framework document will be developed. An Environmental and Social Management Framework will be developed prior to disbursement of funds under Components 1 and 3, and will provide additional guidelines on the development of Environmental Management Plans (EMPs) for individual activities that may require them. The ESMF will also ensure that the proposed activities will be screened to ensure that the environmental and social risks can be adequately addressed through the application of standardized guidelines and codes of practice;
- The project triggers the International Waterways policy (OP/BP 7.50), and a notification to the International Danube River Basin Commission was sent on July 31, 2014 with additional information on the activities to be covered by the project submitted on August 4th, 2104. The Commission will also serve as a communication channel for the duration of the project.
- Project design and activities selection will be based on environmental sustainability and social equity principles.
- The ESMF/EMPs and RPF are condition for disbursement of project funds under Components 1 and 3.

B. Alternatives Considered In Project Approach and/or Design.

2. The ESMF will enlist the criteria for screening and exclusion of activities corresponding to Category A as well as other activities that may have irreversible impacts or trigger additional policies. It will also contain measures such as social and environmental screening, consultations, preparation and implementation of the Resettlement Action Plan (RAP), if required, and

[18] As defined in World Bank Operational Policy 4.01 on Environmental Assessment. Also corresponding to the projects and activities for which a an environmental permit based on a full EIA report is mandatory under the corresponding Law on Environmental Protection and Law on EIA.

extension of entitlements. The mitigation measures will be integrated into the activity planning, design, implementation, operation and maintenance.

C. Sequencing and Implementation Schedule For Safeguards Processing

3. The ESMF and RPF are condition for disbursement of project funds.

D. Implementation Roles and Responsibilities

4. To ensure prompt and efficient implementation, the arrangements will be made with EPS and the PIU to be created under the Directorate of Water Management, which will implement this Project. EPS is familiar with the provisions of the Bank's safeguards policies, their implementation and monitoring in line with the provisions set out in the relevant safeguards instruments - ESMF/EMPs and RPF/RAPs. In the newly established PIU, experienced safeguards specialists will be hired and assigned to ensure adherence to safeguards related policies.

5. The specific environmental requirements for the project activities, as set forth in the ESMF and the subsequent EMPs where needed, will be a part of the bidding documents and will be provided to the contractors/workers to implement.

6. A site supervisor / engineer will have the EMP provisions and the monitoring plan included in the scope of their work and contract to ensure that supervision of all mitigation and monitoring measures is met. World Bank team will provide additional supervision to make sure that all works are conducted in line with this Framework and with the ESMF, EMPs and RPF/RAPs if needed.

Activities NOT eligible for financing
GENERAL CHARACTERISTICS
Corresponds to World Bank Category A project. Has a significant and irreversible environmental impact and requires a mandatory environmental permit based on a **full EIA report** as per the Law on Environmental Protection and Law of EIA
Involves significant conversion or degradation of critical **natural habitats**. These may include, but not be limited to any protected areas, protected landscapes or nature parks including special reserve areas. No works, other than removal of debris and repair of pre-existing infrastructure is allowed.
Will involve works and potential damages on any of the listed or potential **cultural heritage sites** and buildings that are proclaimed as such by the Institute for the Preservation of Monuments and the responsible Institutes for Monument Protection.
Require **pesticides** that fall in WHO classes IA, IB or II.
Require displacement/resettlement of affected population.
Repair of **privately owned** production facilities/ houses.
Supports commercial **logging** or plantations in forested areas. Any “salvage logging” operations (which might be undertaken as a result of damage to forests)
Drinking Water Supply: New or expansion of piped water scheme to serve 500 or more households.
Sanitation: New or significant expansion of sewerage or wastewater treatment plant. Rehabilitation of existing wastewater treatment plant.
Solid Waste: New or significant expansion of sanitary and engineered disposal sites.

No expansion of open municipal dump-sites.
Roads and Infrastructure: New roads. Widening of primary roads. Construction of new temporary or permanent infrastructure to bypass devastated areas which have a segment length greater than 500 m and cumulative length of 2,000 m within a corridor of 10 km or less
Agriculture/Irrigation: Procurement of seeds or planting material for crops meant for consumption, without prior soil sampling to ensure no contamination and/or heavy metal presence in soil Procurement of seeds and seedlings allowed only with guidance of the relevant agriculture/plant institutes in country New irrigation scheme or expansion of a scheme requiring increased water intake. New tube-well for irrigation.
River Basin Management: Repair of dykes or dams that are higher than 15 m or store water volumes larger than 1,000,000 m^3 Construction of new or substantial expansion of existing flood protection works, including the conversion of floodplains or riverine forests.
Power: New power generating capacity of more than 5 MW Rehabilitation of hydro-electric power station with dam, or entailing alteration of the water flow regime.
Oil and Gas: New distribution
Income Generating Activities: Activities involving use of unsustainably harvested timber or fuel-wood. Activities involving the use of hazardous substances such as pesticides/herbicides, explosives, products deemed illegal by national laws, PCBs, radioactive materials unbound asbestos fibers

ANNEX 7: ECONOMIC ANALYSIS

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

A. Economic Analysis of Energy Sector Support (Component 1)

1. To respond to the urgent nature of this operation, the following section presents a simplified economic and financial analysis of the project. An ex-post assessment will be undertaken at completion.

Economic Analysis

2. The economic appraisal was carried out for the period 2014-2025 with a cost-benefit analysis comparing scenarios with and without the project. The relatively short period of time considered for the analysis is justified by the short to medium term horizon of the project implementation (3 years).

3. **Short term electricity supply:** Options for maintaining an adequate supply of electricity to the economy and the population within the coming months are limited:

- *Coal Power Plants:* the power plants are already running at full capacity and the interconnection of Serbia with neighboring markets allowed the generation of export revenues. Maximum generation can therefore not be increased significantly. Nonetheless, export can be brought down to a minimum in order to serve the domestic market in priority.
- *Hydropower:* optimal use of hydropower plants can help shift some of the generation to winter even at the cost of some import of electricity during the current summer. Little can be done nonetheless to increase the maximum generation of the HPPs, which is driven by hydrological conditions.
- *Gas, CHP, Renewables energy:* none of these options offer a technically feasible short term solution. Developing any sizable capacity to fill the gap within a few months is not technically feasible. Gas supply in Serbia is also limited by the pipeline capacity.
- *Diesel generation:* it would be technically feasible to purchase or lease 800MW of diesel-based generation capacity and have it operational in a few months. Using the Model for Electricity Technology Assessment (META) developed by the World Bank, such diesel generator in a context similar to Serbia would cost at least 14 EUR cents/kWh. If EPS was in a position to pay such price for diesel-based generation, it would first be in a position to import such electricity at a cheaper price from neighboring countries (imported electricity average 4.9 EUR cents/kWh) and without any investment since Serbia is already well interconnected. This option is therefore not realistic in the context of Serbia.

4. **Without project scenario.** Without the project there is no realistic and viable short term option to supply required amounts of electricity in the next few months. Therefore, without electricity imports, Serbia would experience large scale and widespread load-shedding. Load-shedding would be greater by 2,457 GWh (the energy expected to be financed by the Bank) which would have significant impact on the Serbian economy. The analysis assumes that exports

are reduced to a minimum to serve the domestic market in priority. The analysis further assumes that the ongoing dewatering of the Veliki Crljeni mine would be completed as planned allowing for an increased generation from the coal power plants in 2014/15 with and without the project. Dewatering of the Tamnava West Field mine financed under the project is assumed to be completed in 2015.

5. **Project Cost.** The project cost is EUR 157.1 million and includes the following elements:

- Support for electricity purchases (EUR 1119.8 million) for the winter 2014-2015 which is equivalent to 2,457 GWh at an average price of EUR 47.8 /MWh
- Loss reduction and reliability improvement in the distribution network and load management (EUR 14.3 million)
- Dewatering of the Tamnava West Field mine (EUR 23 million, including 20 percent contingency).

6. **Project Benefits.** The project benefits stem from avoided economic costs associated the reduction in expected load-shedding in Serbia. On average Serbia has been an electricity net exporter over the recent past, depending on hydrological conditions. Serbia has no structural unserved demand. Given the time constraint, no physical survey could be conducted to estimate the Willingness-to-Pay in Serbia. To estimate the avoided cost of load-shedding the electricity intensity of GDP is used as a proxy and is estimated at 1.34 USD/kWh in 2014.

7. This value is a reasonable approximation of the Cost of Unserved Energy (COUE) in Serbia. Over 55 percent of electricity consumption in Serbia is from residential customers for which the COUE is typically lower than for industrial and commercial customers. COUE for residential customers is estimated with the Value of Lost Load (VOLL). Table 1 below presents a sample of estimated VOLL for different countries and their GDP per capita which highly influence the VOLL. Serbia's GDP per capita was USD 5,935 in 2013.

Table 1: Estimation of VOLL in Serbia by Comparison with Other Countries

	VOLL USD/kWh[19]	GDP/Capita USD[20]	Ratio of GDP/capita with Serbia	Estimated VOLL for Serbia
New Zealand	11.3	40,842	6.9	1.65
Austria	1.5	49,074	8.3	0.19
Netherlands	10	47,617	8.0	1.25
USA	1.7	53,143	9.0	0.19
Ireland	17.9	47,400	8.0	2.25
Germany	17.7	45,085	7.6	2.33

8. On average these examples lead to an estimated COUE for residential customers in Serbia of 1.31 USD/kWh. Commercial and industrial customers who tend to have a much higher COUE than residential customers represent 45 percent of electricity consumption in Serbia.

[19] "*Estimating the Value of Lost Load: Briefing paper",* Electric Reliability Council of Texas by London Economics International LLC, 2013

[20] World Bank database

These elements suggest that a value of 1.34 USD/kWh for the electricity intensity is a reasonable approximation of the COUE in Serbia. For illustration purposes the results of the analysis will also be presented with a 20 percent variation in the value of the proxy.

9. Direct economic benefits from the civil work components of loss reduction or flood protection investments in terms of jobs and economic activity are not considered in the analysis given their limited size and the time constraint. Excluding these benefits is a conservative assumption.

10. Other base Assumptions:

- The economic discount rate for the analysis is 10 percent
- The import price of electricity is assumed at 47.8 EUR/MWh from EEX
- The World Bank is assumed to be financing approximately 2,457 GWh of imports
- 100 percent of the electricity required for imports is available on EEX

11. **Result of the Economic Analysis.** The NPV of the project reaches EUR 1,935 million and the EIRR is 99.7 percent. Without the project significant disruption would be caused to the electricity system (13% of electricity consumption of the country), in turn the avoided cost of load-shedding is very high and reaches over 6 percent of GDP in the first year. Clearly Serbia cannot afford to not undertake this project. As explained earlier, with a 20 percent variation of the value of proxy used for the cost of load-shedding, the project economic NPV varies between USD 2,003 million and USD 2,348 million.

12. **Sensitivity Analysis.** The project is very robust to large variations of key parameters: price of imports and investment cost. Table 2 below presents a summary of the results.

Table 2: Economic Sensitivity Analysis

	NPV (EUR million)	**EIRR (percent)**
Baseline	1,935	99.7%
a- Price of electricity doubles at 100 EUR/MWh	858	99.3%
b- Investment cost doubles for dewatering, loss reduction and flood protection	1,917	99.3%
c- Delay of 2 years in dewatering	1,932	N/A
d- a., b. and c. together	833	N/A

Financial Analysis

13. The financial analysis is based on the similar scenario and assumptions as the economic analysis, including project cost, import quantities and price and project life time. The financial analysis applies Euro-inflation to foreign cost since it is assumed that imports of electricity and equipment would come from partners of the Euro Zone.

14. The financial cost and benefits are assessed inclusive of applicable direct taxes, such as Value Added Tax or "VAT" and import duties. The project is assumed 100 percent debt financed and a full pass-through of the lending term is assumed in the on-lending arrangements. Therefore the discount rate used for the project is 2 percent[21]. The financial benefits stem from the sale of electricity at the average retail tariff of 5.4 EUR cents/kWh after transmission and distribution losses of 16 percent. The electricity is imported at 4.9 EUR cents/kWh, during winter, hence at high demand period and will be sold in the local market at a relatively low tariff. The project financial revenues are insufficient to compensate for the transmission and distribution losses, the investment costs, taxes and duties. The project has a negative financial NPV of $US -71 million.

15. The Bank is working with AERS, in consultation with the Government and EPS on a broader tariff reform agenda to enable the sector to reach cost recovery levels, ensuring sector sustainability. Specific measures being explored include measures to incentivize consumers to reduce power consumption for heating purposes and gradual tariff increases. Although the financial analysis reflects the low level of tariff in Serbia, a comprehensive tariff reform will take time to design and implement.

16. **Sensitivity Analysis.** The project is very robust to large variations of key parameters: price of imports and investment cost. Table 3 below presents a summary of the results.

Table 3: Financial Sensitivity Analysis

	NPV (EUR million)	**FIRR (EUR million)**
Baseline	-53.96	N/A
a- Price of electricity doubles at 100 EUR/MWh	-114	N/A
b- Investment cost doubles for dewatering, loss reduction and flood protection	-101.84	N/A
c- Delay of 2 years in dewatering	-53.96	N/A
d- a., b. and c. together	-161.88	N/A

Summary of EPS Financial Situation

17. The following is based on data and information presented by EPS management. Due to time constraint and lack of up-to-date financial information reflecting the medium and long term impact of the flood, limited analysis could be undertaken.

18. In 2013 EPS had a good year. Favorable weather and hydrological conditions boosted income by 15 percent and EPS presented an EBITDA margin of 32 percent and a net margin of 8.7 percent while 2012 had shown operating losses of 3 percent and negative free cash flow. In 2013, EPS had a sustainable Debt-to-EBITDA ratio of 1.3x and solid EBITDA interest coverage. Liquidity ratios were reasonable with a current ratio of 1.24x and a quick ratio of 1.06x.

[21] 2 percent if chosen as an indicative cost for the purpose of this analysis only and does not preclude of the applicable interest rate of the World Bank loan.

19. Nonetheless, according to a management assessment, EPS' operations and financial situation were not sustainable over the medium and long term. After the strong year 2013, EPS forecasted its EBITDA to turn negative by 2016 and its market share to decline. Aging assets, high level of technical losses and operational inefficiencies were pointed by management as crippling the company's financial standing. Liquidity issues and indebtedness beyond its general acceptable market limit (net Debt/EBITDA ratio of maximum 3.0x) were expected. EPS management assessed that indebtedness level would be critical by 2015 onwards and mostly rely on expensive short term commercial lending.

20. Before the floods, EPS had recently endorsed an ambitious development plan of EUR 6 billion by 2025. The investment plan aims at retrofitting thermal generation assets, including for environmental aspects, developing new generation assets (thermal, hydropower and renewables), developing and modernizing the mining and distribution activities. The 10-year investment plan would average in nominal terms EUR 690 million per year during the first 5 years (2014-2019), then EUR 312 million per year in the second half. With a balance sheet amounting to EUR 7.2 billion in 2014, this plan is a significant undertaking.

21. The key element to the delivery of this investment plan is the substantial effort in operational efficiency, expected to bring an additional 5 percent of EBITDA margin by 2018. Close to EUR 1 billion of savings would be generated over 10 years from mining (35 percent), generation (19 percent), distribution (32 percent) and group operations (14 percent). A tariff increase (15 percent in 2015 then following inflation) was also planned to increase revenues. The increased EBITDA would allow EPS to mobilize the required funding to deliver the investment plan without reaching unsustainable levels of indebtedness.

22. While 2014 is the initial year of the 10-year plan, the emergency situation created by the floods question the viability and feasibility of such a program. The efficiency efforts have not yet had a chance to come to fruition and deliver envisioned savings at a time when EPS faces critical short-term liquidity needs to pay for the post-floods recovery. EPS management is actively seeking funding in the local capital markets, but local funding capacity is limited. Without immediate financial support at this critical time to pay for energy imports and recovery investments, EPS may not be in a financial position to launch the investment cycle deemed necessary for the long term sustainability of the company and its assets (e.g. aging TPPs).

23. To date, EPS management has not been able to update the investment plan to reflect the impact of the floods, but preliminary results of their analysis suggest that some capital expenditure and O&M expenditures will be postponed or cut, while the level of indebtedness would increase over the long term. During implementation, key performance target indicators will be used to monitor the overall financial viability of EPS. These indicators will be defined and agreed with the Bank in the POM. If significant deviations from the target values are observed, EPS in agreement with the Government will prepare a time-bound action plan to improve the performance of the Company.

B. Economic Analysis of Agriculture Sector Support (Component 2)

24. The proposed project is addressing the immediate needs to prevent a further decrease of farm *household income* following the natural disaster which resulted in degradation of the

environment, land and physical resources, a precipitous drop in production, and broken links in the agricultural supply chain. Targeted assistance aims to reduce the effects of agricultural production losses on farm household income and to help farmers in the flood affected areas to restore their degraded natural and physical resources.

25. The flood affected areas are dominated by small farms with mixed income structure, *hidden unemployment/*underemployment and high share of output used for self-consumption. Therefore, support farm income will contribute to household well-being in a way that ensures maintaining the food self-sufficiency, production of *food-surpluses for the local market,* preserving the jobs of permanent and seasonal workforce and strengthening the entrepreneurial sector relied on agriculture.

26. It is estimated that by supporting the farm incentives program in the flood affected areas the Project will have an *impact on food self-sufficiency* of farm household which makes about 15-20 percent of their total income, i.e. about EUR 510 per household. Having in mind that the farms in this area generate 8-10 percent of their income from the sale of agricultural products, it is estimated that the project will contribute to generating additional cash *income derived from sales of agricultural products* of about USD 500 per household.

27. As affected areas are dominated by labor-intensive sectors of agriculture, such as horticulture and viticulture, the Project will have a significant impact on the *preservation of jobs of permanent and seasonal workers*. A high percentage of rural labour is employed in agriculture (over 45 percent), of which 18 percent generate income solely from agriculture, suggesting that maintaining agricultural production at pre-flood levels in the flood affected municipalities will keep over 20 thousand individuals *fully employed in agriculture*. It is estimated that about 100 farm holdings and over 10,000 family farms will be able to hire seasonal workers.

28. In addition to the agriculture, sectors upstream and downstream will benefit. The input supplying industries (chemicals, machinery, seeds, feed, animal breeders) will benefit mainly from the volume of trade, while food processing sector will have stable source of raw materials to continue the work. *The trade sector, as well as SMEs sector linked to agriculture and food processing*, make up a significant segment of the rural economy in this area. Support to agriculture could contribute to more dynamic activities in these sectors, the growth of turnover, export, preservation usually weak business ties and preserving jobs.

C. Economic Analysis of Flood Protection Investments (Component 3)

29. Due to emergency situation and brevity of project preparation an economic analysis of the proposed flood protection investments has not been carried out. However, similar studies[22] and past experience demonstrate that targeted flood protection and drainage investments reduce expected losses and generate substantial economic benefits justifying the investment costs. This includes a direct positive impact on the livelihoods of project beneficiaries, as losses - including public infrastructure, agricultural and livestock production, as well as family household assets - are significantly reduced.

[22] See economic analysis for Drina Flood Protection Project (April, 2014), which estimated the aggregate ERR to be 23.6 percent.

30. The following are some of the expected benefits from the proposed flood control and drainage structures:

a. avoided damages of agriculture production on land likely to suffer frequent floods;
b. avoided damages of assets (private houses; apartment houses; industrial facilities; roads, electricity, schools, kindergartens, health facilities and other public buildings);
c. avoided losses of business due to uninterrupted production, provision of services, interrupted communications, traffic disruption, etc.;
d. avoided human health costs due to reduction of the pollution in the water supply systems, reduced water borne diseases, and reduced risks of human life losses;
e. increased recreation benefits including tourism development;
f. indirect economic development effects.

31. A detailed economic analysis of the flood protection and drainage improvement works will be carried out at project closure. This analysis will estimate avoided damages - as the difference between damages caused in the pre-project situation which is vulnerable to frequent floods and the post project scenario in which damages are eliminated or reduced depending on the magnitude of the river flows and flood events. As flood events occur to different degrees and frequency, the calculation will take into account the probability of occurrence of different flood intensities and the related damages caused by floods weighted by the respective probability in both scenarios. Furthermore, the analysis will quantify beneficiary investments, including the agricultural land, infrastructure and settlements protected through the project investments and consider improvements to income security and living conditions of the beneficiaries[23.]

32. Moreover, it is expected that the overall economic assessment of the aggregate project investments in flood control and drainage improvements will generate a positive Economic Rate of Return (ERR). The proposed project investments will reduce the frequency and cost of related flooding events.

[23] Technical estimates carried out under Drina Project, indicate that benefitted farmers' net income could be increased from an average of 12 to 40 percent in the case of field crops and from 15 to 80 percent in the case of fruits and vegetables.

ANNEX 8: OVERVIEW OF AGRICULTURE SECTOR AND FARM INCENTIVES PROGRAMS

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

1. **In Serbia, the agricultural sector has great economic, social, and political significance.** The share of primary agriculture in Serbia's GDP (in constant 2002 prices) is currently 10 percent. The real annual growth rate of the agricultural sector has mainly been negative over the past 10 years. In the same period, while the average annual growth rate (AGR) of GDP was 2.7 percent, the average AGR of agriculture was only 0.9 percent. Agriculture primary products[24] and the agri-food products make about 8 percent and 19.2 percent of the total export, respectively. Increased access to EU and regional markets through trade agreements has allowed Serbia to become a net exporter of food. This was recorded for the first time in 2005, with a surplus of about USD 255 million. In 2013, agri-food exports amounted to over USD 2.7 billion, which is an increase of 3.5 percent compared to 2012. The sector's competitiveness however is still very low. Serbia is exporting mainly primary products, while importing high-value processed products. Serbia is the only EU candidate country that has been liberalizing its trade with the EU while not yet using pre-accession funds (Instruments for Pre-Accession Assistance for Rural development- IPARD). More than a half of Serbia's population (7.4 million) resides in rural areas and over two thirds of rural households identify agricultural activity as a source of income. Agriculture is one of the biggest employers in rural areas and the main contributor to the rural population's food security.

2. **Serbian farms are small in size and run by elderly farmers.** The 2012 agricultural census records a total of 628,552 family agricultural holdings and 3,000 agricultural enterprises. The average agricultural area per holding is 5.4 ha and the average age of the holder of family agricultural holdings is 59 years, with 65 percent of farmers over 55 years of age. Only 4.6 percent of farm holders are under 35 years of age. Forty nine percent of farm households have less than 2 ha of utilized agricultural land. Farms smaller than 5 ha form 78 percent of total farm holdings. Only 3.1 percent of farm households have more than 20 ha and they represent 44 percent of total agricultural land utilization. Forty nine percent of cattle, fifty six percent of pigs and seventy four percent of sheep are kept in holdings of less than 10 animals.

3. **Production patterns and farms structure in the northern part of the country, the Province of Vojvodina and the central Serbia are substantially different.** Large scale crop and livestock farms characterize the northern part of the country. Farmers cultivate hundreds of ha, growing mainly cereals and industrial crops. In central Serbia which has been affected by the floods, smaller scale (nearly subsistence) livestock and horticulture farms prevail. Famers in central Serbia grow cereals (mainly maize for animal feed), fodder crops, and high-value cash crops such as vegetables (in greenhouses and in the open field), and fruits (plums, cherries, raspberries, apples, etc.).

4. **Global economic crises, unfavorable weather conditions and rising food prices** have **had a major impact on the agriculture sector over the last 10 years.** Due to the prolonged

[24] This includes only primary products (raw material), i.e does not include any form of processed products, such as frozen raspberries (or other frozen fruits and vegetables) which make important share of agri-food export.

economic crises, Serbia's government is struggling with growing fiscal constraints. The agricultural budget for many years has been insufficient to ensure the stability of the state's agriculture financial incentives program, and the government is struggling to meet the financial commitments to farmers under the Farm Incentives Program (defined by sector legislation, such as the Law on Agriculture 2009, the IARD Law and amendments to Law on Agriculture in 2013). In addition to the global economic crises there were other external factors that had a detrimental impact on the sector. The floods of 2005 and 2006, and the severe drought in 2012 when the production of cereals was reduced by 37 percent and the total crop production by 31 percent, resulting in the highest ever recorded drop in the total agriculture produce of 22 percent[25] (compared with the previous year). During the world food prices crises in 2007 - 2008 and early 2011, many agricultural and food products in Serbia showed high volatility, with Serbian food prices rising higher than EU prices when there are shortages and dropping below EU prices when there are surpluses, which all created high pressure on the inflation.[26] Exasperating the situation, Serbia's agriculture policy has been changed many times over the last 10 years. Sector growth was substantially constrained by unpredictable policies that made it impossible for farmers, processors and traders to plan ahead.

5. **As an EU candidate country, Serbia is in the process of harmonization of its policies and legislation with the EU.** Both agriculture and rural development policy is in deep transition and, while Serbia has been working hard to bring it closer to the policies of the EU, it lacks the resources and capacity necessary to effectively implement the process in a timely manner. Current policies, albeit with many shortcomings, still provide critical incentives for farmers to invest in production, in modernizing their farms, and to cope with competition at the regional market. In order to ensure greater transparency and better control over the use of public funds for agriculture, the government is investing in building capacity in institutions such as Farm Registry and the Agrarian Paying Agency[27], which are also required for the use of the EU pre-accession funds. Namely, the system of financial incentives that has been put in place under the Law on Incentives for Agriculture and Rural Development of 2013 (the IARD Law) aims at ensuring greater stability of the government's support to the agriculture sector.

6. **The IARD Law defines type, minimum size of financial support to farmers and the eligibility criteria.** The objective of the current program of incentives is to increase agriculture productivity, diversify production, modernize farm facilities, thus improving sector competiveness in general. Some of these incentives are design to resemble the support the EU provide to its farmers under the Common Agriculture Policy (EU CAP), such as the "single area payment", or support to farm investments to diversify production, or meet different quality standards (such as food safety, environmental protection, good agriculture practice, etc.). The program of incentives is conducted under a multi-year framework, but the budgeting takes place every year, and the available funds for the program are subject to a change. The annual allocation of funds over the last two years was about EUR 250 million.

7. **Three groups of incentives make the government program of incentives for agriculture and rural development, and those are the following:**

[25] Statistical Office, Republic of Serbia
[26] CEM 2012
[27] This Agency in Serbia is the Directorate for Agrarian Payments

- *Direct Support* makes 92 percent of all payments to farms, and presents a mixture of income support, and input/product subsidies. It provides (i) RSD 6,000[28] per hectare of land cultivated for up to 100 ha per farm registered in the Farm Registry (FA); (ii) reimbursement of fuel, seeds and fertilizer costs of up to RSD 6,000 against the receipts; (ii) milk premium of minimum RSD 7 per liter from animal registered in the Heard Book (HB); (iv) livestock related incentives: headage payment of RSD 20,000 per dairy cow, RSD 4,000 per sheep/goat/sow, RSD 10,000 per fattening bull, RSD 1,000 per fattening pig; RSD 500 per beehive; RSD 60-300 for poultry; RSD 300-500 reproductive fish; (v) subsidized interest rate for agricultural credits provided by the commercial banks – subsidized interest rate if 4 -6 percent for credit in Serbian Dinar (RSD) with 1-3 years maturity. Maximum amount of direct support to an individual farm is RSD 10 million (excluding credit support). For amounts from RSD 10 million to 20 million the payment reduction is 5 percent, and over RSD 20 million the reduction is 10 percent. The payments are made through cash transfers to farmers' individual bank accounts based on a certain documents provided by farmers as defined for each specific incentive.
- *Rural Development Support* makes some 4 percent of all payments under the Farm Incentives Program and consists of support to investments in (i) improving quality standards and competitiveness (primary production, farm associations, processing and marketing); (ii) sustainable rural development (implementation of agri-environmental measures, organic agriculture, preservation of genetic resources; implementation of good agriculture practice standards); (iii) improvements of rural economy (rural infrastructure, diversification, adding value to products (certification, branding, geographical indication), education); and (iv) rural community development strategies (development or implementation of local development strategies). This type of support works on a principle of reimbursement of the share of investments/project costs, usually 30-45percent (higher percent is provided for project in marginal areas).
- *Special Support Measures* make 4 percent of the Incentives Program, and include assistance in (i) establishing agriculture marketing – information systems; (ii) introduction of farm accountancy and book-keeping; (iii) farm extension service; (iv) special livestock breeding programs; (v) support to innovations and farm modernizations; (vi) support to high quality seedling production (viticulture and fruit-culture). This type of support is provided through a project based financing.

8. **The program of incentives for agriculture and rural development is managed by the Ministry of Agriculture and Environmental Protection (MAEP), with the Directorate for Agrarian Payments as the implementing agency (DAP).** DAP is a technical agency and the holder of the Farm Registry (FA) as only farmers registered in the FA are eligible for support under the program. DAP has a contract with the Treasury (Ministry of Finance) and uses the network of local Treasury offices to deliver the direct support scheme to registered farmers. The Treasury has the access to the Farm Registry and manages the limited number of incentives on behalf of DAP. Those are the following incentives:

a. Payments per hectare of land cultivated (RSD 6,000/ha)
b. Reimbursement of seeds, fertilizers and fuel costs (up to RSD 6,000/ha) based on receipts

[28] 1 USD = 87.24 RSD as per the National Bank of Serbia medium exchange rate on August 3, 2014.

c. Crop insurance costs (up to 30 percent)

9. **Payment of incentives are fixed and made based on specific supporting documentation** in accordance with procedures prescribed for each type of farm support measure (incentive). For the incentives Treasury manages on behalf of DAP, Treasury checks if the farmer is registered in the Farm Registry and checks the documentation. In DAP, the applications are screened at least twice and agriculture inspection performs field control to ensure the assistance is used for conducting agriculture/rural development activities by visiting sample farms selected on a random basis, and those specifically indicated by DAP. The field control function of DAP needs to be strengthened, and that is one of the requirements that would need to be fulfilled in order for DAP to complete the accreditation process for managing the EU ARD funds for pre-accession countries (IPARD).

10. **The system of farm incentives is fragile and can be easily distorted by various factors: political, financial, or weather related.** In 2012, the drought combined with the fiscal constraints and payment delays due to elections, resulted in a substantial share of government commitments to farmers (some 17 percent of the total) being transferred to 2013. This had been a recurring problem for several years, and it was only in 2013 that the fiscal commitments to farmers under the incentive program were met to a large extent. The drop in GDP and additional fiscal pressure caused by the floods will likely take a heavy toll on the farm incentives program. To mitigate this risk, the Borrower has agreed not to make any material changes that would affect the implementation of the Farm Incentives Program for the Farmers in the flood affected municipalities.

ANNEX 9: ELECTRICITY SUPPLY AND DEMAND GAP

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

A. Imports Requirement

1. EPS is planning to import electricity to cover power supply deficits caused by the floods, as shown in Table 1.

Table 1: Electricity Imports by EPS (GWh)

	2014							2015			
	Jun	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**TOTAL**
Planned Electricity Imports (GWh)	203	340	246	561	525	449	440	330	300	300	**3,694**
Price (EUR/MWh)	40.5	45.4	46.4	47	47	50	50	52	52	52	
Import Cost (EUR million)	8.2	15.4	11.4	26.4	24.7	22.5	22.0	17.2	15.6	15.6	**178.9**
Imports planned before the flood (GWh)	8	-	14	14	15	15	50	160	130	0	406

2. Table shows also the import plans before the flood, indicating that Serbia did not need significant imports to meet its energy demand. Import requirements have increased by more than 3,200 GWh due to the flood.

3. The Bank team carried out its own analysis to independently estimate the import needs of Serbia as well as to identify options to reduce import requirements. EPS estimates are consistent with the World Bank estimates; both reflect some of the options which could optimize power production and reduce imports. Key considerations include the following:

- Both EPS and Bank took into account optimization of hydro resources, which involves importing electricity when it is cheap (summer and early fall of 2014), allowing hydro resources to be conserved for the winter months; also, the Bajina Basta reversible pumped storage plant is expected to be at full capacity and ready to provide power when needed.
- EPS is applying 70 percent probability of cumulative water flows into the hydro plants; this is a conservative approach but a lower probability would carry high risks; the World Bank agrees with the EPS methodology, but recommends close monitoring of the water resources (as affected continuously by weather conditions) and continuous fine-tuning of EPS import plans.
- The Kolubara mines sell approximately 1.56 million tons of coal to the retail market (households and industry). EPS has reduced this amount to 0.96 million tons to save coal for the power plants.
- Maintenance of thermal power plants should be carried out to ensure availability during the peak season. In particular, Kostolac B1 (350 MW) is being rehabilitated and expected to come back on line in early December (2014). Any delay in this project could increase

the need for imports during the peak demand season in the region when import prices are substantially higher and availability is constrained.

4. *Uncertainties*: A number of factors could turn out to be more favorable resulting in a reduced need for imports; such factors include: 1. more rainfall; 2. shifting of all retail market coal needs from Kolubara to Kostolac mines; and 3. rapid implementation of energy savings measures (e.g., installation of energy efficient light bulbs) which may reduce electricity demand.

5. However, adverse impacts are also possible. A colder than average winter could increase demand, widening the supply-demand gap. Also, shortages of natural gas could have adverse impacts on Serbia. While Serbia is using a fairly limited amount of gas (about 2.8 MCM annually), a reduced availability of gas could increase electricity demand. Most gas is used for space heating, for which the only alternative for these consumers is electricity. Finally, bad hydrology coupled with the unavailability of some of the thermal plants (e.g., forced outages) could reduce the available energy and capacity domestically. The combined impact of these events (except forced outages of thermal power plants) could add up to 2,500 GWh to the current supply-demand gap of just under 3,700 GWh for a total of approximately 6,200 GWh. Certainly, such amount should not be included in the import plans, but provisions should be made in case such adverse events actually occur.

B. Regional Supplies Available For Imports

6. The projected needs can be met by imports from the regional market, especially by thermal power plants in Central Europe and the Balkans (e.g., Hungary, Bulgaria and Romania). Also, cross-border transmission capacity is available. The transmission capacity between Western Europe and the Balkans is estimated at 3,650 MW. Serbia has approximately 2,550 MW cross-border transmission capacity linking it to eight neighboring countries. Typically, about 800 MW of these interconnections are under long-term contracts, but approximately 1,750 MW are available. Such capacity is adequate for the projected import needs. The only risk associated with imports is a scenario of very cold weather or lack of natural gas in which case some of the neighboring countries may shut down their borders to electricity trade.

C. Cost of Electricity Imports

7. Based on historical prices in the regional market (especially HUPX for the period 2004-2013), the price of imported electricity is expected to range from EUR 45/MWh in July to EUR 52/MWh in the winter months. Table 1 shows the estimated cost of projected imports.

8. The price of imported electricity is based on the assumption that most of the purchases will be for baseload capacity using 6-months, 3-months and 1-month delivery contracts. Week-ahead, day-ahead and spot market will be used too, but mainly for fine-tuning the supply-demand balance. This is feasible in Serbia because of the large capacity of the hydro reservoirs and the Bajina Basta reversible pumped storage plant, which can be used to satisfy peak demand.

9. If Serbia needs a substantial amount of energy to be purchased on a short notice during the peak demand season (winter), it is possible that the prices will be much higher that projected in the previous table. Spot market and day-ahead prices in the regional market have been known to reach levels above EUR100/MWh.

D. EPS's Electricity Import Experience and Practices

10. EPS has the institutional capacity and the experience to carry out the task of procuring energy which is imported into Serbia. EPS current organization structure includes an Electric Power Trading Division (EPTD) which is responsible for power trading, accounting and settlement. EPTD is also responsible for planning, operations, and optimal dispatch of the power system. Decisions on trading (energy buying & selling) are integrated into physical operation of the power sector. Trading plays a key role to maximize EPS revenues, reduce import costs, and encourage company overall efficiency.

11. Serbia through EMS is a full member of ENTSO-E (The European Network of Transmission System Operators for Electricity) and as such it complies with ENTSO-E standards related to scheduling cross-border interconnectors, as well as accounting and settlement. Dispatching of power generation facilities and use of cross-border transmission is determined based on criteria included in ENTSO-E standards, as well as the country's Grid Code and market rules. All traders submit their schedules on a daily basis and ENTSO-E uses them to create an aggregate schedule.

12. EPS has documented and codified its main operational, management and trading processes, including market rules, competitive procedures for short term trading, market monitoring, and others. EPS has been preparing itself for a growing liberalization of the retail market, which will include a much larger number of buyers. Retail competition for large customers resulted from the enactment of the new Energy Law in August 2008 and subsequent bylaws by 2013. Full retail competition is expected to take place within the next couple of years.

13. EPTD of EPS was established in 2006 and has since carried out multiple auctions, t signing numerous power supply contracts every year as shown in Table 2.

Table 2: Historical Data on EPS Electricity Trading

	2010	2011	2012	2013	2014*
Imported Electricity (GWh)	754.6	1,106.14	1,170	3.60	1,909
Cost of imported electricity (EUR million)	37.5	75.8	89	0.13	86.75
Unit price (EUR/MWh)	49.67	68.52	76	36	45
No of contracts	100	105	219	3	402
No of electricity suppliers	11	10	17	2	26

* As of July 28, 2014

14. Serbia's Public Procurement Law for purchasing electricity was followed by EPS until the beginning of 2013. However, since 2013, EPS is no longer required to implement Serbia's Procurement Law and it instead follows the approach established by power companies operating in the regional power market, consisting on bilateral contracts concluded trough and tender process.

E. EPS Power Import Strategy For Winter 2014/2015

15. EPS is in the process of revisiting its procurement strategy in light of this significant supply shock. The procurement strategy takes into account different scenarios. For example, in case of interruption of natural gas supplies, EPS will have to procure an additional 0.85 TWh. A colder winter than usual may also have a significant impact: for every degree colder, Serbia will have to import 0.3 TWh more. In the case of poor hydrology, an additional 0.5 TWh will be necessary. In a scenario that combines both, Serbia would have to import up to 2-5 TWh, or around EUR 250 million or more, if import prices increase as well. Those figures do not include energy efficiency and conservation efforts which are also being considered by EPS and the MME.

16. It will be critical to have a portfolio of contracts with different durations and delivery periods, to cope with the shortfall and uncertain scenarios. As part of the revised portfolio, longer term, higher volume import contracts will be necessary to hedge prices during the critical winter months and avoid unnecessary exposure to a large fraction of Serbia's market needs. EPS has recently designed and implemented a competitive tender for 6 month base load contracts for delivery between July 01 and December 31, 2014. Tender documents did not stipulate the amount of energy to be delivered, but specified a maximum block of 150 MW or 662.4 GWh to be delivered during this period. Bidders were allowed to present multiple combinations of quantities and prices in a sealed envelope. The tender attracted 14 bidders and 46 bids. After the evaluation of all bids and taking into consideration price of electricity until the end of 2014 (trend of rising of electricity futures and forwards) the decision was made to purchase block of 300 MW in total 1.325 TWh of energy, representing about EUR 61.75 million. This was the first long term (6-month) contract acquired by EPS resulting in good competition among multiple bidders.

17. Between September 2014 and April 2015, EPS will need to procure around 2 TWh (net of an existing 6-month contract). It is expected that the proposed Emergency Recovery Loan will lessen the severe budgetary constraints that EPS currently faces post floods and will therefore enable EPS to optimize its procurement strategy, ensuring an appropriate balance between short and longer term power import contracts. EPS is also exploring the possibility of coal imports to enhance security of supplies in extreme events.

ANNEX 10: MAP AND LIST OF FLOOD AFFECTED MUNICIPALITIES

REPUBLIC OF SERBIA: Floods Emergency Recovery Project (P152018)

List of Municipalities affected by the Floods

1. Aleksinac,
2. Bajina Bašta
3. Bogatić
4. Čačak
5. Ćuprija
6. Despotovac
7. Doljevac
8. Gornji Milanovac
9. Grocka
10. Jagodina
11. Knić
12. Koceljeva
13. Kosjerić
14. Kragujevac
15. Kraljevo
16. Krupanj
17. Kruševac
18. Lajkovac
19. Lazarevac
20. Ljig
21. Ljubovija
22. Loznica
23. Lučani,
24. Mali Zvornik
25. Mionica
26. Mladenovac
27. Obrenovac
28. Osečina
29. Paraćin
30. Petrovac na Mlavi
31. Požarevac
32. Požega
33. Rača
34. Rakovica
35. Ražanj
36. Rekovac
37. Šabac
38. Šid
39. Smederevska Palanka
40. Sremska Mitrovica
41. Svilajnac
42. Trstenik
43. Ub
44. Užice
45. Valjevo
46. Varvarin
47. Velika Plana
48. Vladimirci
49. Zaječar