



USAID
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LABOR TRANSITION IN THE COAL SECTOR

SOUTHEAST EUROPE

APPENDIX A: BOSNIA AND HERZEGOVINA

DRAFT

MARCH 2007

This report is made possible by the support of the American People through the United States Agency for International Development (USAID). The contents of this report are the sole responsibility of Worldwide Strategies, Inc. and do not reflect the views of USAID or the United States Government. It was prepared by Worldwide Strategies, Inc.

ACKNOWLEDGEMENTS

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The development of this report has been an undertaking of the United States Agency for International Development's (USAID) Bureau for Europe and Eurasia. It was prepared under the direction of Robert Archer, Deputy Chief, Energy and Infrastructure Division and Elizabeth McKeon, Labor Market and Social Transition Specialist.

WSI conducted literature review and Web searches of key stakeholders in the Energy Community of Southeast Europe including World Bank, USAID, European Union, United Nations Economic Commission for Europe (UNECE), American Center for International Labor Solidarity, European Bank for Reconstruction and Development and national statistical agencies.

The WSI team wishes to thank those who provided invaluable information and insights: World Bank colleagues Adriana Eftimie, Michael Haney, Roman Palac, Jan Rutkowski, and John Strongman; Clark Talkington of the UNECE; Iza Bara of the Polish Mining Labor Agency; Miklos Ratvai, consultant to the Hungarian Ministry of Labor and the Hungarian Rapid Response Project; Agnes Szabone Bikki of the Borsod County Labor Office; Istvan Hornyak and Zoltan Vegvari of the Baranya County Labor Center; Jozsef Fazekas of the Hungarian Ministry of Economic Affairs; Geza Kovacs of the Hungarian Ministry of Labor; Steven Kopits; and USAID colleagues Robert Archer, Andres Doernberg, and Elizabeth McKeon.

This report in its entirety, including all appendices, will be available online through the USAID Development Experience Clearinghouse at <http://dec.usaid.gov> (PN-ADI-883).

SEE Coal Sector Labor Market Assessment
USAID Contract Number: REE-C-00-05-00106-00
Bureau for Europe and Eurasia
E+E/DGST
SO: 180-034
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ABBREVIATIONS

CARDS	Community Assistance for Development and Sustainability
CETEUR	Center for Environmental Technology Development
CFPP	Coal Fired Power Plant
CIDA	Canadian International Development Agency
EBRD	European Bank for Reconstruction and Development
EC	European Community
EFT	Energy Financing Team
EIB	European Investment Bank
EPBiH	Electroprivreda Bosnia and Herzegovina
EPHZHB	Electroprivreda Hrvatske Zajednice Herceg-Bosne
EPRS	Electroprivreda Republika Srpska
EU	European Union
EURACOAL	European Association for Coal and Lignite
FBiH	Federation of Bosnia and Herzegovina
FENA	Federal News Agency
FERK	Regulatory Commission for Electricity in FBiH
FIPA	Foreign Investment Promotion Agency of Bosnia and Herzegovina
FSD	Foundation for Sustainable Development
IDA	International Development Association
ISO	Independent System Operator
KM	Konvertible Marka
MOFTER	Ministry of Foreign Trade and Economic Relations
NGO	Non Government Organization
PAD	Project Appraisal Document
PID	Project Information Document
RS	Republika Srpska
SCADA	Supervisory Control and Data Acquisition
SERC	State Energy Regulatory Commission
SEE	South East Europe
SEETEC	Southeast European Electrical System Technical Support Project
SIDA	Swedish International Development Cooperation Agency
SME	Small and Medium-sized Enterprises
SOE	Socially Owned Enterprise
SSES	Confederation of Republika of Srpska
SSSBH	Confederation of Independent Trade Unions of Bosnia and Herzegovina
TPP	Thermal Power Plant
UCTE	Union for Cooperation and Transmission of Electricity
UK	United Kingdom
UNECE	United Nations Economic Commission for Europe
USAID	United States Agency for International Development
USTDA	United States Trade and Development Agency
VET	Vocational Education and Training
WSI	Worldwide Strategies, Inc.
ZEKC	Joint Coordination Center for Electric Power

Technical Terms:

GWh	Giga Watt Hour
kV	Kilo Volt
MW	Mega Watts
Mt	Million Tons

CURRENCY EQUIVALENTS

(Exchange Rate Effective October 2006)

Current Unit = Euro

Euro €1 = USD \$ 1.26

USD \$ 1 = Euro € .793

Konvertible Marka (KM)

KM 1 = USD \$.6429

USD \$ 1 = KM 1.555

DRAFT

Appendix A

BOSNIA AND HERZEGOVINA

This report presents country-specific information on coal sector labor in Bosnia and Herzegovina. It is part of a regional assessment of the labor force associated with coal mines and coal-fired power plants in Southeast Europe.¹

Labor Opportunities	Labor Challenges
<ul style="list-style-type: none">• Some workforce reductions have occurred.• Salaries have increased for remaining workers.• Employment rate has increased over the past four years.• Employment Through Education program is active.• Small and Medium Enterprise (SME) Strategy for 2004-2010 has been adopted.	<ul style="list-style-type: none">• Donors are scaling down overall planned assistance to Bosnia and Herzegovina.• Communities are negatively impacted by job loss, pollution, and infrastructural neglect.• Early retirement and layoffs in the FBiH are anticipated to cost \$55 million with no internal funding available at this time. (No estimates were available for the RS.)• Recurring pension liabilities and other non-wage costs present little potential for private sector investment.• Funding social care for disabled war veterans, who comprise 15 to 20% of the mining workforce.• An estimated 13,000 jobs need to be shed.• Labor laws and policies lack proactive approaches.

I. OVERVIEW AND BACKGROUND

Bosnia and Herzegovina was the poorest republic in the Yugoslav Federation, following Macedonia. Three years (1992-1995) of inter-ethnic strife destroyed the economy and infrastructure and displaced half of the population. The July 2004 estimated population was 4,007,608.² Considerable progress has been made since peace was re-established in late 1995. However, economic growth has been uneven with the Federation of Bosnia and Herzegovina outpacing the Republika Srpska. Centrally planned industry remains considerably overstaffed, privatization of state assets has been slow, and unemployment remains high throughout the Federation and Republic.

¹ The *Labor Transition in the Coal Sector: Southeast Europe* report in its entirety, including all appendices, will be available online through the USAID Development Experience Clearinghouse at <http://dec.usaid.gov> (PN-ADI-883).

² U.S. Department of State, Bureau of European and Eurasian Affairs, Bosnia and Herzegovina Country Profile. (Note: All data dealing with population are subject to considerable error because of dislocations called by military action and ethnic cleansing.)

Government Subdivisions

The Republic of Bosnia and Herzegovina is divided into two government entities:

- (1) The Federation of Bosnia and Herzegovina (FBiH), created in March 1994, is largely Bosniak and Croat. It comprises 51% of the union.
- (2) The Republika Srpska (RS) is primarily Serbian.

The entire pre-war territory of Brčko remains a separate self-governing district under exclusive sovereignty of Bosnia and Herzegovina since March 1999. However, the territory of Brčko belongs simultaneously to the FBiH and the RS; therefore, the territories of both entities overlap in the Brčko District³.

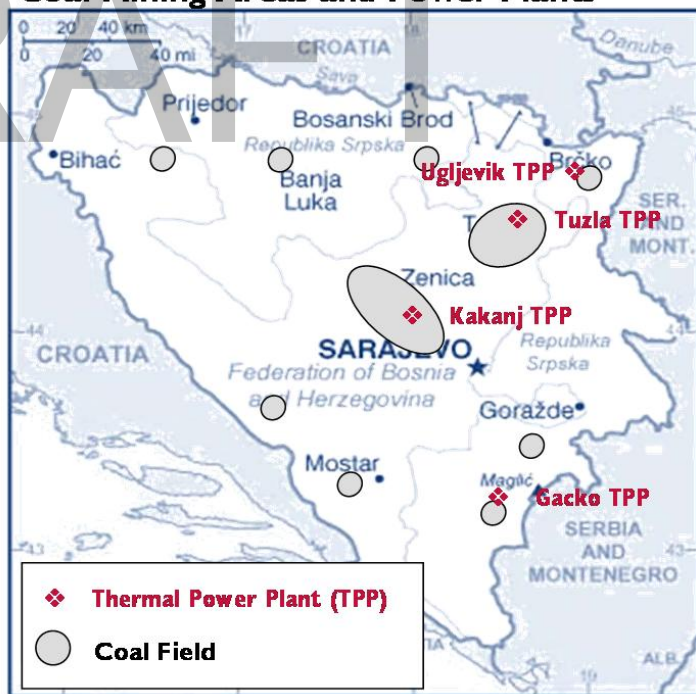
The coal sector is controlled entirely at the Entity level, without involvement from the state, cantonal or municipal levels. Although coal sector restructuring has begun, the complex political structure has slowed the process. Labor restructuring has lagged behind sector restructuring. This report assesses current labor trends in the sector, as well as the state of readiness of employment programs and assistance services to mitigate the impact on labor from restructuring. The report focuses on the coal mines and related coal-fired power plants in the Federation of Bosnia and Herzegovina – specifically its utility, Elektroprivreda Bosnia and Herzegovina (EPBiH) – and those within the Republika Srpska – and its utility, Elektroprivreda RS (EPRS). It excludes data concerning the Federation’s other power utility serving the Croatian community, Elektroprivreda Hrvatske Zajednice Herceg-Bosne (EPHZHB), because EPHZHB controls no coal-fired power plants.

II. COAL MINING – BACKGROUND INFORMATION

This section presents available information regarding Bosnia and Herzegovina’s coal production history, related employment trends, labor and other details, and operational data for each mine.

More than 30 mines supply two power stations with indigenous brown coal and lignite deposits. In 1980, coal mines annually produced about 18 million tons of coal, of which 80% was used to generate electricity. Before the war, Bosnia and Herzegovina supplied Yugoslavia with about 85% of its brown coal and 15% of its lignite.⁴ By 1994, annual coal production had decreased to 1.5 million tons, less than 10% of the pre-war level. Much of the mining equipment was destroyed during the war.

Bosnia and Herzegovina Coal Mining Areas and Power Plants



³ Ibid.

⁴ Walter G. Steblez, “The Mineral Industry of Bosnia and Herzegovina,” *US Geological Survey Minerals Yearbook – 1998* (Washington: US Geological Survey, 1998): 8.2.

In 2004, Bosnia and Herzegovina produced 8.7 million tons of coal, of which 47% was lignite. A survey of production levels in the first half of 2005 showed that production trends were up compared to previous years, although there remains an on-going need to modernize excavation, coal processing, and environmental protection technologies,⁵ as well as the need to reorganize unproductive units into independent companies that will eventually be made profitable through modernization.⁶

COAL MINES – SUMMARY AND TRENDS

Coal reserves for all Bosnia and Herzegovina are estimated at 3.8 billion metric tons (40% brown and 60% lignite), with the RS holding about 20% of the brown and 40% of lignite deposits.⁷ Approximately 94% of brown coal reserves are in the central Bosnia basin, while the largest brown coal mine is in the northeast at Banovici. Coal now accounts for 93% of total energy potential of Bosnia and Herzegovina.⁸ However, a 2001 investment profile noted that production costs were higher than the cost of imported coal and that the industry was operating at a loss.⁹

Mine modernization will require \$205 million with only \$5 million self-financed and \$52 million from State/Entity government. Early retirement and layoffs in the FBiH are anticipated to cost \$55 million with no internal funding available at this time. In the RS, mine modernization is estimated at \$77 million – \$35 million self-financed and \$16 million from State/Entity contributions. No estimates were available for early retirements and layoffs in the RS.¹⁰

In millions of tons	1990	1996	2000	2004
Federation of Bosnia and Herzegovina	12.0	2.3	4.4	5.6
Republika Srpska	6.0	6.0	2.9	3.3
Total	18.0	8.3	7.3	8.9

(Source: Institute for Statistics of FBiH and RS)

COAL MINING WORKFORCE TRENDS

Before the war, coal production employed 26,000 workers.¹¹ According to 2004 data from the Federal FBiH Office of Statistics, 16,350 people were employed in coal mining operations in 2003, including 1,389

⁵ European Association for Coal and Lignite (EURACOAL), Bosnia and Herzegovina, (2004), <http://euracoal.be/newsite/bosnia.php>, (accessed 26 October 2006).

⁶ Ibid.

⁷ Walter G. Steblez, "The Mineral Industry of Bosnia and Herzegovina," *US Geological Survey Minerals Yearbook – 1999* (Washington: US Geological Survey, 1999): 8.2.

⁸ Mubera Bicakcic, "Development of South-East European Regional Energy Market Experience of Bosnia and Herzegovina," Presentation to UNECE Sustainable Energy Committee, (Geneva, 27 June 2005): slide 4.

⁹ Business Forum/ European Bank for Reconstruction and Development (EBRD). *Investment Profile Bosnia & Herzegovina Business Forum/EBRD Annual Meeting*, (London: April 2001).

¹⁰ World Bank, *Bosnia and Herzegovina Infrastructure and Energy Strategy*, Infrastructure and Energy Department, Europe and Central Asia Region, (Washington: World Bank, 15 June 2004).

¹¹ World Bank, *Lessons for Rebuilding Southeast Europe, the Bosnia and Herzegovina Experience*, (Washington: World Bank, 1999), <http://inweb18.worldbank.org/eca/eca.nsf/d1e666886eb626e2852567d100165168/471a735b06f845e98525688f007f1e92?OpenDocument>

females.¹² **Mining in Bosnia and Herzegovina faces a huge restructuring challenge to provide social care for disabled war veterans who now make up between 15 and 20% of the entire workforce in the mining sector of Bosnia and Herzegovina.**¹³ In addition, it is estimated that more than €35 million (\$44.5 million) will be needed to address the needs associated with laid-off workers.¹⁴

The following chart summarizes data regarding the coal mines and labor force that supply the thermal power stations in the FBiH and the RS.

Coal Mine and Labor Force Summary: Bosnia and Herzegovina

	Production	Type of Coal	Exploitable Coal Reserves	Number of Employees	Est. Workforce Change
Federation of Bosnia and Herzegovina					
Central Bosnian Deposits – Supply the Kakanj TPP (578 MW)					
Kakanj Group (includes Vrtliste open pit mine and Stara Jama and Haljinici underground mines)	1 million tons	Brown	160 million tons	2,235 includes 1,921 coal workers: ¹⁵ Vrtliste: 462 Stara Jama: 257 Haljinici: 790 Separation Facility: 298 Maintenance Facility: 114	-735 ¹⁶
Breza Group (includes underground mines at Sretno and Kamenica)		Brown		1,260 ¹⁷	-310 ¹⁸
Zenica Group (includes underground mines at Stara Jama, Raspotocje and Starnjani)	290,000 tons	Brown		1575 includes 850 miners or production workers ¹⁹	
Bila Group (includes Grahovcici open pit mine)		Lignite		25	

¹² Federation of Bosnia and Herzegovina Federal Office of Statistics, *Women and Men in FBiH* (Sarajevo: Federal Office of Statistics, 2004), <http://www.fzs.ba>.

¹³ EURACOAL 2004.

¹⁴ Izet Ibreljic and Salih Kulenovic., *The Coal Industry in Southeast Europe (Paying Special Attention to Bosnia and Herzegovina) in the Context of Restructuring Energetics and the Protection of the Environment*, European Regional Science Association (ERSA), ersa05134, presented at the 45th Congress of ERSA, Vrije University, Amsterdam, 23-27 August 2005.

¹⁵ Kakanj Coal Mine, Official Website, <http://www.rmukakanj.com/onama/index.php>, (accessed 26 October 2006).

¹⁶ "Kakanj Mine Director Interview," *ENI News*, Sarajevo, <http://www.eni-news.com>.

¹⁷ In 2004, Breza municipality's mayor stated that only 866 of the workers at the mine were actually working; the remainder were on sick leave, holiday leave, or a wait list.

"Miners of Breza mine on strike" Grad Visoko Online, 26 October 2004, <http://www.visoko.co.ba/arhiva/news-archive-22-8-2004.html>.

¹⁸ Approximately 100 workers are eligible for retirement, but lack records of continued insurance payments FBiH. is expected to take responsibility for redundant workers using funds secured through credits after the June 2006 merger with EPBosnia and Herzegovina. Source: Alija Omerhodzic, "Preparations for Merger of Mine Breza to Elektroprivreda Bosnia and Herzegovina: Statement by Alija Omerhodzic, President of Breza Union," *Nezavisne Novine* 31 March 2006, <http://www.bhtraders.biz>.

¹⁹ Hajrudin Mehic, "Coal Mine Zenica satisfied with the annual results", statement of the President of the Supervisory Board of Coal Mine "Zenica" Hajrudin Mehic," Federal News Agency (FENA), 19 December 19 2005, <http://available at www.fena.ba>,

Gracanica Group (includes Dimnjace open pit mine)	500,000 tons	Lignite	1.3 million tons	257 ²⁰	
Livno Deposit – Supplies the Kakanj TPP (578 MW)					
Tusnica Coal Mine		Brown and Lignite	331,000 tons	220 estimated	
Tuzla Deposits - Supply the Tuzla TPP (779 MW)					
Kreka Group (includes Sikulje & Dubrave open pit lignite mines and underground mines at Mramor and Bukinje)		Lignite		4,200 ²¹ includes 129 railway workers ²²	
Dubrave open pit mine	420,000 tons	Lignite	90 million tons	(870) Part of Kreka	
Bukinje underground mine	300,000 tons		425 million tons	(1107) Part of Kreka	
Djurdevik Group (includes open pit brown coal mines at Visca II and Potocari and the Djurdevik underground mine)	500,000 tons			1,250 ²³	
Banovici Group (includes open pit mines at Grivice, Cubric and Turija, and underground mine at Omazici)	1.4 million tons (2005)	Brown		Unavailable	+130
Republika Srpska					
GACKO DEPOSITS					
EPRS – Gacko Mine – Supplies the Gacko TPP(300MW)	1.65 million tons (capacity)	Lignite	400 million tons	Unavailable	
EPRS – Ugljevik (includes open pit brown coal mine at Bogutovo Selo) – Supplies the Ugljevik TPP(300MW)	1.4million tons	Brown	462 million tons	1725 ²⁴ (includes CFPP employment) 802 miners/102 disabled	
PRIVATIZED MINES					
Miljevina – supplies Foca/Srbijne co-generation plant				180 ²⁵	
Stanari Mine – To supply the proposed Stanari TPP in 2011 (Private investor took over controlling stake May 2005)	Forecast: 600,000 tons by 2007	Lignite	129.5 million tons	280	+70

²⁰Gracanica Coal Mine, Official Website, <http://www.rudnikgracanica.com/index>.

²¹ “Equipment more than 25 years old”, *Nezavisne Novine*, 11 April 2006, <http://www.nezavisne.com>

²² Kreka Coal Mine, Official Website, <http://www.kreka.inet.ba>.

²³ Djurdjevik Coal Mine, Official Website, <http://www.rmu-djurdjevik.com>.

²⁴ V. Djuric and B. Veselinovic, “Pathology of the invalidity of the miners and workers in coal fired plant and mine Ugljevik,” First B&H Congress of Occupational Medicine, (HealthBosnia.com 2002). <http://www.healthbosnia.com/medrada/abstract/13.htm>.

²⁵ Center for Peace in the Balkans (2006), <http://www.balkanpeace.org>.

The Federation of Bosnia and Herzegovina produces coal in the following mines:

1. Kakanj Coal Mine is currently Entity-owned. At an average annual production level of 3 million tons, it is estimated that brown coal reserves can support production for 30 more years.²⁶ In 2004, Kakanj made a 16,500 KM (\$10,082) profit for the first time in 60 years, recovering 3.7 million KM (\$2,260,700) lost in 2003.²⁷ In 2005, 500,000 KM (\$305,500) was invested to improve safety measures.²⁸

2. Breza Coal Mine - The current plan for restructuring mine operations is for redundant workers to remain at Breza under temporary contracts pending the securing of 10 to 15 million KM (\$6 to 9 million) for severance payments, and health, pension and retirement insurance that were unpaid by the government during the past six years.²⁹ In August 2004, surplus skilled workers went on strike, causing the FBiH to provide salary increases and regular health insurance payments.³⁰ In March 2006, workers again went on strike due to unpaid health insurance,³¹ a debt of 7 to 8 million KM (\$4 to 5 million). The strike was called off after Prime Minister Ahmet Hadzipasic promised 3.6 million KM (\$2.2 million) as incentives for production, improved social status, and equipment repairs.³² Nearly 360 workers have been disabled due to 25-year-old equipment, and each year 10 to 15 miners are unable to work because of severe injuries.³³ Approximately 180 people are on daily sick leave due to injuries from collapsing walls and harsh working conditions.³⁴ The Mine Director estimated that 12.5 million KM (\$7.6 million) is needed to renovate the facilities, while 70 million KM (\$42.8 million) is needed for restructuring.³⁵

Breza assets include 300 to 500 hectares of reserve lands, a gas station, and a security section.³⁶ The Breza municipality has cited the mine as an environmental hazard because of improper overburden deposits near the town and sink-holes from underground pits that drain groundwater from cultivated land.³⁷

3. Zenica Coal Mine lost 9,505,000 KM (\$5.8 million) in 2004.³⁸ The mine was scheduled to receive 40 million KM (\$24.4 million) through the Government Action Plan for 2003-2007, which has not yet occurred.³⁹ In 2005, the mine developed, in close cooperation with the FBiH, a Restructuring and Modernization Action Plan to analyze the mine's current status and develop plans to address redundant

²⁶ Kreka Coal Mine.

²⁷ "Kakanj Mine Director Interview."

²⁸ Hrais Naimarlija, "The Mine will Produce Electric Power, Interview with Hrais Naimarlija, Director of "Kakanj" Mine," *Nasa Rijec Newspaper*, 12 December 2005, <http://www.nasarijec.ba/index.php?katid=8&brnrid=27>.

²⁹ Alija Omerhodzic, "Preparations for Merger of Mine Breza to Elektroprivreda Bosnia and Herzegovina: Statement by Alija Omerhodzic, President of Breza Union," *Nezavisne Novine* 31 March 2006, <http://www.bhtraders.biz>.

³⁰ "Miners of Breza Mine on Strike," *Grad Visoko Online*, 26 August 2004, <http://www.visoko.co.ba/arhiva/news-archive-22-8-2004.html>.

³¹ Omerhodzic 2006.

³² *Ibid.*

³³ "Equipment More Than 25 Years Old," *Nezavisne Novine*, 11 April 2006, <http://www.nezavisne.com>.

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ "Miners of Breza Mine on Strike."

³⁷ "Development Program of Breza Municipality", March 2002, <http://www.breza.com>, (accessed March 2006).

³⁸ "Restructuring and modernization of Brown Coal Mine Zenica," SuperBosna Inc., 4 April 2005, <http://www.superbosna.com>.

³⁹ Mehic 2005.

workers.⁴⁰ The mine also developed an investment program to increase brown coal production from 2004-2006.⁴¹

In January 2004, workers went on strike to demand full payment of December 2003 salaries, a 30% salary increase, one-quarter payment of past due meal allowances, a change in union management, and a 500 KM (\$306) minimum salary.⁴² In August 2004, 50 miners and 5 electricians were hired to work in the pits, while 76 workers retired.⁴³

In April 2005, Zenica was unable to meet production needs, with only 46% of its employees (1,526) assigned to production⁴⁴ due to the significant number of disabled war veterans. By December 2005, Zenica increased its production workforce to 54% (1,575), at an average annual salary of 400 KM (\$257).⁴⁵ In January 2006, one worker died and 24 workers were hospitalized because of Leptospirosis, a disease previously unknown in Bosnia.⁴⁶

4. Bila Coal Mine (Abid Lolik-Bila) is a small lignite mine near the municipality of Travnik. In 2006, of the 25 miners employed, a gas explosion killed one miner and injured 22 others, 14 of whom required hospitalization.⁴⁷

5. Gracanica Coal Mine began lignite mining in 1938. According to a 2001 investment profile, this mine was ready to be privatized and had negotiated with potential buyers from Turkey and Hungary.⁴⁸ Recent data about the status of privatization were not available.

Gracanica is near the municipality of Gornji Vakuf within the Bugojno coal basin, which has an estimated 1.3 billion tons of coal reserves. The Dimnjace surface mine has 1.3 million tons of lignite reserves with an annual capacity of 500,000 tons. Gracanica's lignite production is estimated to continue for another 25 years. In addition to TPP Kakanj, the mine supplies coal to INCEL in Banja Luka and NATRON in Maglaj.

6. Tusnica Coal Mine is located near the town of Livno. Water from lignite deposits is pumped into the irrigation system for agriculture.⁴⁹ In 1998, miners from the Kakanj, Zenica, Breza, Bila and Gracanica mines protested the decision of the TPP Kakanj to buy 18,000 tons from Tusnica.⁵⁰

7. Kreka Coal Mine Complex in Tuzla produces 43% of the FBiH's coal and nearly 60% of the coal in the Tuzla canton. Approximately 80% of production is used by the Tuzla Power Plant.⁵¹ For the first

⁴⁰ "Restructuring and Modernization of Brown Coal Mine Zenica," 2005.

⁴¹ Ibid.

⁴² "Miners will Stay in Pit until They Are Paid," *Oslobodjenje*, 17 January 2004, <http://www.24sata.info>.

⁴³ "Brown Coal Mine Zenice Hired New Workers," *Bosnia.ba*, 12 August 2004, <http://www.bosnia.ba>.

⁴⁴ Mehic 2005.

⁴⁵ Ibid.

⁴⁶ Leptospirosis is spread mainly by contact with water, soil, or plants contaminated by the urine of infected animals. Safet Durmo, "Director of Brown Coal Mine "Zenica" Safet Durmo." *Bosnian Radio*, <http://www.irib.ir/worldservice/bosnianRADIO/interviu/SafetDurm.html>).

⁴⁷ Reuters, "Gas Blast Kills One, Injures 22 in Bosnia Coal Mine," *Boston Globe*, 16 February 2006, http://www.boston.com/news/world/europe/articles/2006/02/16/gas_blast_kills_one_injures_22_in_bosnia_coal_mine/.

⁴⁸ EBRD, *Bosnia and Herzegovina Investment Profile 2001*, Business Forum, London, 22-24 April 2001, <http://www.fifoost.org/bosnien/bosn.pdf>.

⁴⁹ International Bureau for Environmental Studies, INTAILRISK, Assessment of Environmental Risk of Radioactivity Contaminated Industrial Tailings., <http://www.ibes.be/intailrisk/HTML/2-4-2.htm>.

⁵⁰ "Business Not Politics." (Livno: Alternative Information Network, 24 October 1998), <http://www.aimpress.ch>.

three months in 2006, coal production reached its highest level since the end of the war.⁵² At the end of 2005, the Kreka Mines, EPBiH, and the Government of the FBiH created committees to determine methods and deadlines to implement the restructuring process and the merger of Kreka into EPBiH.

- The **Mramor pit** continues to have safety issues due to the use of antiquated machinery. A lack of capital will require that the pit be mined manually.
- **The Dubrave lignite pit** produces an annual average of 420,000 tons of lignite, 90% of which is used at the Tuzla Power Plant.⁵³
- **The Bukinje lignite pit** produces 300,000 tons, with nearly 70% used by the Tuzla Power Plant and the remainder offered for private consumption.⁵⁴ Reserves are estimated to last another 20 years.

In addition to mining, the Kreka complex operates two road transportation facilities. The Mramor Road Transport facility provides coal transport and vehicle repair, while the Bukinje Railway Transport facility operates an eight locomotive, 40 km industrial railway.⁵⁵ The railway employs 164, including 129 workers in transport (75), track and facility maintenance (24), and locomotive maintenance (30).

8. Djurdevik Coal Mine is south of the municipality of Zivinice. The Djurdevik mine is an aging facility, becoming operational in 1936. The mine is owned by the Government of the FBiH and supplies between 85-90% of its annual production to the EPBiH utility. Additional production is sold to Montenegro and the Osijek sugar factory in Croatia.⁵⁶

In accordance with the FBiH restructuring plan, Djurdjevik is preparing a new organizational structure, including the reduction of employees, with the expectation of increasing production. The first phase includes the separation of production and non-production facilities. Core activities involving the Visca open pit mine, the Djurdevik pit mine, the separation facility, and the directorate will remain combined. Non-core organizational units, including maintenance, recultivation, the Djurdejvic Restaurant, and the Sretno Fire Department, will be spun off as independent enterprises.⁵⁷

9. Banovici Coal Mine has been a member of the European Association for Coal and Lignite (EURACOAL)⁵⁸ since 2005. A third open pit mine is being developed at Turija.⁵⁹ The FBiH controls 67%,

⁵¹ Tuzla Cantonal Chamber of Commerce, "Record in the after War Production of Kreka Mine," <http://www.kpktz.ba> (accessed 12 March, 2006).

⁵² "Equipment More Than 25 Years Old," 2006.

⁵³ Kreka Coal Mine.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Djurdjevik Coal Mine.

⁵⁷ Ibid.

⁵⁸ The European Association for Coal and Lignite (EURACOAL) is an umbrella organization for the European coal industry, with members from Belgium, France, Germany, Greece, Spain, UK, Czech Republic, the Netherlands, Hungary, Poland, Slovakia, Slovenia, Bulgaria, Bosnia and Herzegovina, and Romania. The Euracoal Website is <http://euracoal.be>

⁵⁹ EURACOAL 2004.

⁵⁹ *ibid*

and employees own the rest.⁶⁰ In 2004, coal workers filed a grievance with the mine's management and steering board citing illegal management, human rights violations, and criminal activities.⁶¹

In 2004, Banovici's brown coal production represented 29.2% of Bosnia and Herzegovina's total brown coal output and 15.3% of its solid fuel production.⁶² In 2005, the mine produced about 1.4 million tons⁶³ and was projected to hire an additional 130 employees.⁶⁴ Yearly trends show increasing production, but there is an ongoing need to modernize excavation technology, coal processing, and environmental protection.⁶⁵

The Republika Srpska produces coal in four mines. The Gacko lignite mine and the Ugljevik brown coal mine are part of the EPRS utility; the Stanari lignite mine and Miljevina mine are privately-owned.⁶⁶

RR Coal Production vs Workforce
 1990: 3,000 employees produced 4 million tons
 2001: 2,000 employees produced 3.3 million tons.

Coal Mines

1. Gacko Mine and Coal-Fired Power Plant are integrated as a joint stock company.⁶⁷ The Gacko Basin has an estimated 400 million tons of coal reserves in four lignite coal fields (Western, Central, East, and Povolatana).⁶⁸

**Available Labor:
 Ugljevik Mine & Power Plant**

Workforce:	1,725 workers
Disabled Workers:	<u>132</u> includes:
	102 miners
	25 power plant workers
	5 general workers
Able to Work:	116
Average Age:	39 years
Average Length of Service:	21 years
Most Frequent Cause of Disability:	
	Disease – 77.27%
	Work injuries – 17.42%
	Off-Job Injury – 5.30%

2. Ugljevik Mine and Coal-Fired Power Plant are integrated and operate as a joint stock company. It is organized into three business units – mining, power plant, and investments.

- The **Ugljevik mine** is between the Drina and Sava Rivers, near the town of Bjeljina.⁶⁹
- The **Bogutovo Selo** open pit mine was opened to supply coal to the Ugljevik Power Plant.

⁶⁰ FFBiH Agency for Privatization, "Privatization Plan and Program of AFP for 2006," (Sarajevo: FFBiH Agency for Privatization, 2006).

⁶¹ Mehic 2005.

⁶² EURACOAL 2004.

⁶³ Tuzla Cantonal Chamber of Commerce, "Banovici Produced A Million Tons of Coal before Deadline," <http://www.kpktz.ba> (accessed 12 March, 2006).

⁶⁴ Sarajevo Stock Exchange (SASE), "SASE Monthly Report – April." (Sarajevo, SASE 2005) [http://www.rbr.ba/upload/att/Monthly report-April-eng.pdf](http://www.rbr.ba/upload/att/Monthly%20report-April-eng.pdf).

⁶⁵ EURACOAL 2004.

⁶⁶ Ministry of Economy and Coordination, *Public Investments Program 2004 – 2006*, (Banja Luka: RS Government, 18 December 2003).

⁶⁷ Republika Srpska Regulatory Commission for Electricity (REER), Register of Licenses for Generation of Electricity, (Tebinje: REER, 19 January 2006), <http://www.reers.ba>.

⁶⁸ Elektroprivreda Republika Srpska (EPRS), Official Website, <http://www.elektroprivreda-rs.com/pocetna.htm>.

⁶⁹ Ibid.

PRIVATIZED MINES

1. Stanari Lignite Mine. The EFT Group (Energy Financing Team) and the state-owned mine formed a 76%/24% joint venture in May 2005 as part of the plan for mine rehabilitation.⁷⁰ EFT invested €14 million (\$17.8 million) for refurbishment and new equipment. Stanari is expected to increase production to 600,000 tons over the next two years.⁷¹ The mine's estimated 129.5 million tons of coal reserves are projected to allow another 50 years of coal production.⁷² EFT claims that the coal in Stanari burns clean due to its low sulfur content.

EFT has also agreed to a social program of 3,542,808 KM (\$2.2 million) over the next two years, including worker training, scholarships, a 10% wage increase, meal subsistence, and health treatment costs. Wage and contribution arrears will be paid, with a five-year provision for redundancies. EFT also expects the current workforce to increase to 350.⁷³

2. Miljevina Coal Mine uses only 15% of its capacity to supply the Maglic co-generation power plant in Foca/Srbinje.⁷⁴

III. COAL-FIRED POWER PLANTS – BACKGROUND INFORMATION

Before the war, Bosnia and Herzegovina had a single, vertically-integrated socially-owned power company comprised of 13 hydropower and 12 thermal power plants.

After the war, most local power plants struggled because of a lack of coal, antiquated equipment, and poor facility maintenance. Revenue collection dropped as low as 25% of invoiced amounts as households and commercial and industrial enterprises were unable to pay for electricity consumption.⁷⁵ Other factors included unfavorable long-term contracts with buyers, inefficient work practices, poor investments in equipment and operations, and overstaffing.⁷⁶ There is a chronic lack of capital to support maintenance and new investment.⁷⁷

Power exchanges between different areas of Bosnia and Herzegovina were limited after the war by the destruction of many transmission and distribution lines. A Joint Power Coordinating Center (ZEKC) was established in March 1999 to coordinate operation of the 400kV power transmission system by the three power utilities established after the war and to recommend power dispatches to the utilities. All three utilities declared their support for Bosnia and Herzegovina to rejoin the European Union for the Coordination of Transmission of Electricity (UCTE).

⁷⁰ Center for Peace in the Balkans 2006.

⁷¹ RS Government, Statement, 10 February 2005, <http://www.vlada.rs.net>.

⁷² Ibid.

⁷³ EFT (Energy Financing Team), Official Website, <http://www.eft-group.net/investments> (accessed 10 September 2006).

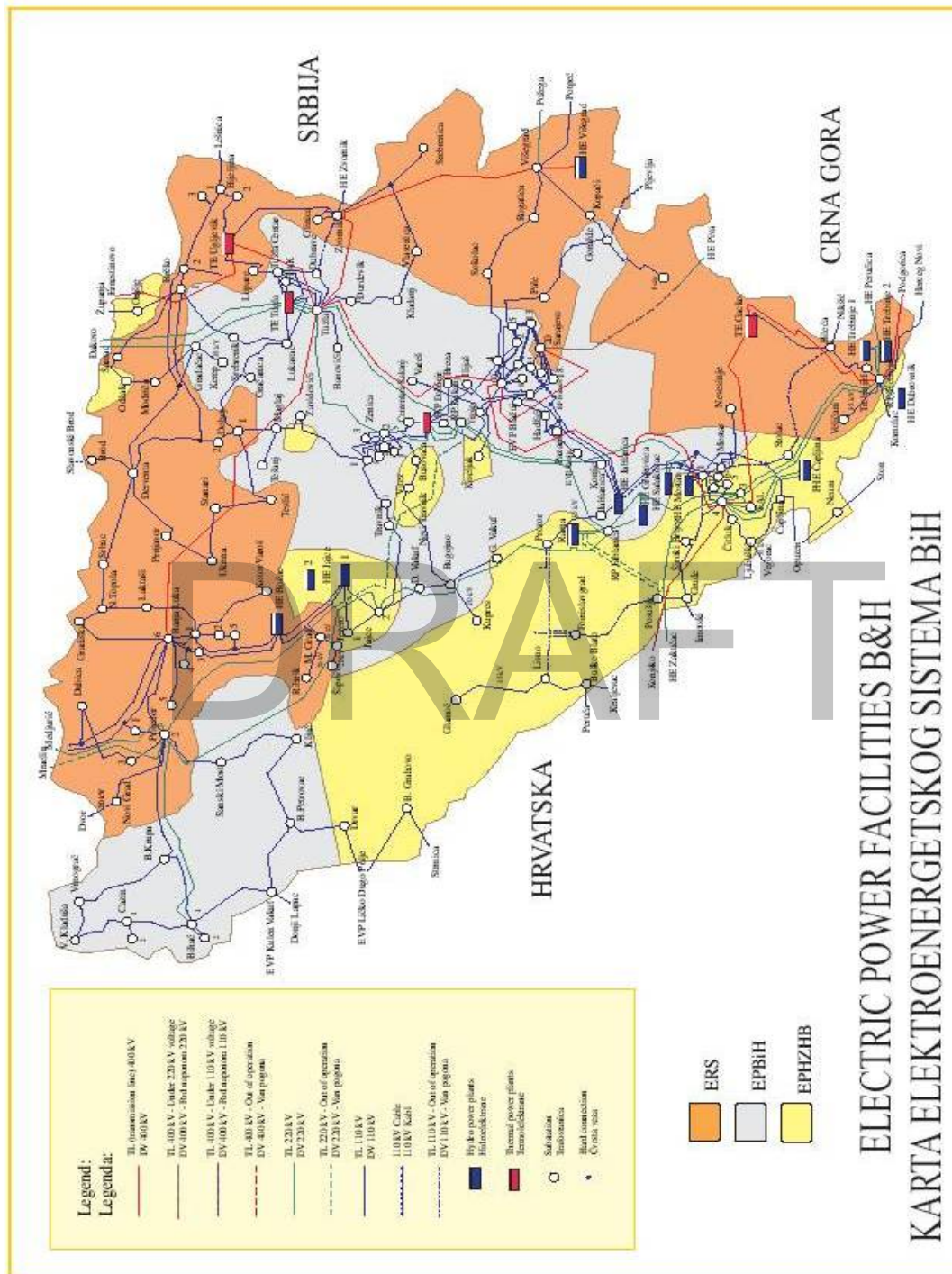
⁷⁴ Ministry of Economy and Coordination 2003.

⁷⁵ World Bank, *Project Information Document (PID) of Bosnia and Herzegovina – Third Electric Power Reconstruction Project*, Report No PID8399, (Washington: World Bank, 20 March 2000), <http://www-wds.worldbank.org/servlet/WDS>.

⁷⁶ Ibreljic and Kulenovic 2005.

⁷⁷ Ibid.

Today, Bosnia and Herzegovina is the only SEE country that exports significant amounts of electricity, primarily to Croatia, Italy and Slovenia.⁷⁸ Most of its generation potential remains underutilized.⁷⁹ Nonetheless, quality of service has been reasonably restored.



⁷⁸ Steblez 1998.

⁷⁹ EURACOAL 2004.

The following chart summarizes data regarding the coal-fired power plants in the FBiH and the RS, including available labor force data.

Bosnia and Herzegovina Coal Fired Power Plants

	Production (GWh/year)	Year Opened	Number of Units Installed capacity (2003)	Coal Use	Number of Employees in 2004
FBiH					
EPBiH - Tuzla	2856 ⁸⁰	1964	6 units - 779 MW	Lignite/ Brown (3.3 Mt)	770
EPBiH -Kakanj	1579 ⁸¹	1953	7 units- 578 MW	Brown (1.8 Mt)	662
RS					
EPRS -Gacko	1650	1983	1 unit - 300 MW	Lignite	Unavailable
EPRS -Ugljevik	1708.4	1985	1 unit - 300 MW	Brown	1725 (includes mine employment) 260 workers/25 disabled

POWER UTILITIES – BACKGROUND INFORMATION

I. Elektroprivreda Bosnia and Herzegovina – EPBiH

EPBiH represents 47% of Bosnia and Herzegovina's installed power capacity and is the successor to the pre-war Republic-wide Elektroprivreda Bosne i Hercegovin. Established in 1993, it serves seven cantons (regions) in the FBiH⁸² and supplies more than 634,000 customers.

There are eight operating units:

- one hydropower plant unit
- two thermal power plants (Kakanj and Tuzla)
- five regional distribution units⁸³

The EPBiH website states that it is one of the most profitable firms in Bosnia.⁸⁴ The utility showed a 11 million KM (\$6.7 million) profit in the first half of 2004 after posting losses for several years largely due to high depreciation costs.⁸⁵ However, only 30% of depreciation is covered by revenues. This leads to a large maintenance imbalance and asset degradation manifested in system losses of about 20% on average,

EPBiH Labor Data (1999 to 2004)

Employment Decrease: 11% (6,430 to 5,750)

Net Salary Increase: 60% (500 KM to 800 KM (\$489))

EPBosnia and Herzegovinas statistics on employee qualifications illustrate:

2003 incurred the highest loss 6.3%

Education levels indicate: 4,842 worker-level

2004 Employment reductions indicate:

Coal-Fired Power Plant Employment: 25% of workforce

Kakanj: 663 Employees

Tuzla: 771 Employees

⁸⁰ Elektroprivreda Bosnia and Herzegovina (EPBiH), *2004 Annual Report*, (Sarajevo: EPBiH, 2005), <http://www.elektroprivreda.ba/np/ep/epp?bp=7&mp=24>.

⁸¹ Ibid.

⁸² Ibid.

⁸³ EPBiH, Official Website, <http://www.elektroprivreda.ba/np/ep/epp>.

⁸⁴ EPBiH 2005.

⁸⁵ Embassy of Denmark, Sarajevo. Mining Sector Analysis, March 2006, www.ambsarajevo.um.dk/da/menu/Eksportraadgivning/Markedsmuligheder/Sektoranalyser/MiljoeOgEnergi.

compared to comparable EU loss levels of about 12%. In addition, experts estimate that \$123 million is required for coal-fired generation rehabilitation, of which only 30% can be self-financed.⁸⁶

EPBiH is organized as a Joint Stock Company with mixed ownership (10% investment funds and small shareholders and 90% FBiH).⁸⁷ The first implementation phase of EPBiH's restructuring plan involved the unbundling of accounting functions among its business units. The second phase involves transforming EPBiH into separate generation and distribution companies.⁸⁸

EPBiH's Operating Budget

Coal and transport:	50.1%
Salaries:	23.2%
Maintenance:	5.8%
Other:	<u>20.9%</u>
	100%

Source: EPBosnia and Herzegovina Website, 2003 Data.

EPBiH's coal-fired power plant Kakanj is 5km from the town of Kakanj in the Central Bosnian coal basin. Construction started in 1947, and was completed in 1988 when the plant was commissioned. In addition to electricity, the plant produces thermal energy for heating Kakanj town and supplies overburden and ash to the Kakanj Cement Factory.

There are seven units at the plant. Improvements are expected to extend production capabilities for 15 years and to decrease emissions.⁸⁹ Environmental and health risks to the population of Kakanj has not yet been assessed.⁹⁰

Kakanj maintains a slag storage site near the Bosnia River. The capacity is one million tons, with space for expansion. During the last 40 years, 150,000 tons of waste material have been deposited by coal mines each year. Approximately 400,000 tons per year are used to produce cement and bricks with a smaller amount used to repair local roads during winter.



EPBiH's Tuzla Coal-Fired Plant was established in 1978⁹¹ in the center of Kreka – Banovici, the largest coal basin in Bosnia and Herzegovina.⁹² In addition to electricity, the Tuzla plant produces thermal heat for the nearby towns of Tuzla and Lukavac, steam for industrial needs, ash for the Lukavac Cement Factory, and industrial water for the nearby area. Tuzla's annual coal consumption reaches 3.3 million tons. The plant includes six units. Following the war, investments were made for reconstruction and modernization of Units 3 and 4. An investment of 100 million KM⁹³ (\$611 million) funded reconstruction of Unit 5, which is still in progress. As a result, emissions per unit have been reduced to European standards, extending the life of production facilities by 15 years.

⁸⁶ World Bank 2004.

⁸⁷ EPBiH.

⁸⁸ EPBiH 2004.

⁸⁹ EPBiH.

⁹⁰ International Bureau for Environmental Studies.

⁹¹ Ibid.

⁹² EPBiH.

⁹³ Tuzla Canton Government, Official Website, <http://www.vladatk.kim.ba/OKantonu/privreda.htm>, (accessed 10 March 2006).

EPBiH: Qualifications and Number of Employees (1999-2004)⁹⁴

Year	Dr.	M.Sc	VSS	VS	VKV	SSS	KV	PK	NK	Total	Change
1991										18029	
1999	1	14	634	215	1661	1440	1512	716	237	6430	0.9%
2000	1	16	667	205	1719	1449	1447	651	248	6403	- 0.4%
2001	1	15	690	203	1675	1440	1405	681	175	6286	- 1.8%
2002	1	16	724	206	1570	1427	1360	647	144	6095	- 3.0%
2003	2	21	695	188	1530	1524	1304	481	145	5890	- 6.3%
2004	3	20	696	189	1589	1469	1200	451	133	5750	- 2.4%
share	0.1%	0.3%	12.1%	33.3%	27.6%	25.5%	20.9%	7.8%	2.3%		

DR – doctorate; M.Sc. – Masters; VSS – university level; VS – technical college;
VKV – highly skilled; SSS - secondary school; KV – skilled; PK- semi skilled.; NK – unskilled

EPBiH's Power Plant Workforce in 2004⁹⁵

Unit	Number of Employees			Change
	December 2003	December 2004	Share in 2004	
Head Office	356	353	6.1%	-3
Hydro on Neretva River	405	396	6.9%	-10
TPP Tuzla	798	771	13.4%	-27
TTP Kakanj	678	663	11.5%	-15
Generation Total	1882	1830	31.8 %	-52
Bosnia and Herzegovinaač	442	428	7.4%	-14
Gorazde	61	58	1.0%	-3
Mostar	227	223	3.9%	-4
Sarajevo	658	648	11.3%	-10
Travnik	260	257	4.5%	-3
Tuzla	801	769	13.4%	-32
Zenica	563	554	9.6%	-9
Distribution Total	3012	2937	51.1%	-75
Transmission	640	630	11.0%	-10
Total	5890	5750		-140

⁹⁴ EPBiH 2005.

⁹⁵ Ibid.

2. Elektroprivreda RS (EPRS)

EPRS represents 34% of Bosnia and Herzegovina's installed power capacity. Established in 1992 and headquartered in Trebinje, EPRS supplies nearly 436,000 customers, including 400,000 households, and exports electricity to Croatia and Montenegro.⁹⁶

EPRS is comprised of 11 independent operating units:

- three hydropower plants
- two thermal power plants (Gacko, Ugljevik)
- five regional distribution companies
- one transmission company⁹⁷

Only 30% of depreciation is covered by revenues. This leads to a large maintenance imbalance and asset degradation that is manifested in average system losses of about 27%, compared to EU loss levels of about 12%. In addition, \$50 million is required for coal-fired generation rehabilitation, of which only 30% can be self-financed.⁹⁸

The Gacko and Ugljevik plants have been in operation approximately 23 years and account for 49% of EPRS's total installed electricity capacity. Each is fueled by lignite or brown coal sourced from integrated coal mines.⁹⁹ Ugljevik Coal-Fired Power Plant was established in 1985. Environmental protection efforts to address de-sulfurization of air emissions, storage and transportation of dust and overburden, and water pollution are in progress.

EPRS Labor Data

Detailed employment data: Unavailable
Employees: 7,000

Education levels indicate:

Ugljevic: 1,696 (1,540 worker-level)

Gacko: Data unavailable

Ugljevik: Qualifications and Number of Employees

VSS	VS	SSS	VKV	KV	PK	Total
107	49	338	271	718	213	1696

VSS – University Level; VS – Technical College; SSS - Secondary School;
VKV – Highly Skilled; KV – Skilled; PK – Semi-skilled

IV. LABOR LAWS AND REGULATIONS¹⁰⁰

Labor market analysis in Bosnia and Herzegovina remains constrained by severe data limitations (availability, quality and representativeness), particularly data provided by administrative sources. Data collected by Statistical Offices are partial in coverage and often inaccurate.¹⁰¹ The two Entities often apply different methodologies and use terms in dissimilar ways. Because data are far from ideal, it provides an incomplete and possibly unreliable picture of the labor market.

⁹⁶ Embassy of Denmark 2006.

⁹⁷ EPRS.

⁹⁸ World Bank 2004.

⁹⁹ Embassy of Denmark 2006.

¹⁰⁰ The data and information in this section is drawn mainly from a World Bank, *Bosnia and Herzegovina, Labor Market Update, The Role of Industrial Relations*, (Washington: World Bank, 2005). Additional information on specific laws and regulations can be found in Annex B of this report.

¹⁰¹ World Bank, *Bosnia and Herzegovina, Labor Market Update, The Role of Industrial Relations*, (Washington: World Bank, 2005).

Employment and Unemployment Rates

GDP growth in Bosnia and Herzegovina has led to employment creation (about 8% in the FBiH and 1% in the RS). This has not been enough to reduce unemployment, which appears to have stabilized at more than 21% in FBiH and 24% in the RS, rates that have remained virtually unchanged since 2002.

Unemployment rates are higher for women in the FBiH than in the RS, and for youth under 25 and older workers above 55. Youth unemployment is exceptionally high, in excess of 50%, with only 73% of those in the 15 to 18 year age group enrolled in secondary education. Forty percent of students in secondary education enroll in vocational programs.

The national employment rate has increased from 40 to 46% between 2001 and 2004, providing jobs for nearly 15,000 additional workers. Private sector employment has increased from 34% in 2001 to 40% in 2003, indicating that most employment gains have come from the informal sector. Data from 2004 suggest that female employment rates rose by more than 30% compared to 18% for men. In the FBiH, the employment rate of females grew by 32% compared to 14% in the RS. The difficulty of the labor market to generate jobs has been traditionally linked to rising labor costs. However, a poor investment climate and delayed restructuring are doing more to inhibit formal sector job creation than deficiencies in Bosnia and Herzegovina's labor market.¹⁰²

Wages and Payroll Contributions

Overall wage growth in the RS has outstripped productivity growth over the past years. This discrepancy is less pronounced in the FBiH. Real wage increases appear to be growing faster in the RS, at 2 to 3% annually. Wage increases are ahead of inflation in both Entities. Gender differences in earnings favor men by 15-20%. The effect of a worker's age on earnings is less clear-cut. In the public sector, real wage increases average 9.6% and take place within a narrow band in both Entities and for male and female workers. It is important to note that **the minimum wage rate in the FBiH is one of the highest among transition countries in Europe and Central Asia.**

Wage data for coal mining were not available. However, average monthly earnings in 2004 for the overall mining sector were 433 KM (\$278) in the FBiH, a 30% increase from 2001 to 2003. In the RS, average monthly wages were 332 KM (\$213), a 58% increase from 2002 to 2004. There is a small disparity between wages paid by public and private mining companies in the FBiH [KM 423 public (\$272)/ 435 KM (\$280) private] but a significant difference in the RS between public and private employers [295 KM (\$190) public/580 KM (\$373) private]. No data on private employers were available from administrative sources, which showed an average wage for the mining sector of 445 KM (\$286) in the FBiH and 245 KM (\$158) in the RS.

For the electricity, gas and water supply sector, average earnings in the FBiH were 719 KM (\$462) in 2004, decreasing by 4% from 2001 to 2003. In RS, average wages were 550 KM (\$354), increasing by 12% between 2002 and 2004. In the FBiH, public employer monthly wages averaged 516 KM (\$332), while private employers averaged 397 KM (\$255). In the RS, there were no data for the private sector; the public sector averaged 318 KM (\$204). No data on private employers were available from administrative sources, which showed an average wage for the utility sector of 676 KM (\$435) in the FBiH and 516 KM (\$332) in the RS.

¹⁰² Ibid.

In both Entities, the electricity industry is among the four highest-paying industries, while mining is one of the six lowest-paying industries, but there are higher wage level differences between industries in the FBiH by 30 to 40%. Earnings in the lowest-paying industries experienced a greater proportionate increase than in high-paying sectors.

Payroll contributions as a share of total labor costs are almost equal in the two Entities (around 34%) and – while relatively low in comparison to other SEE countries – add to the overall high labor costs.

Key Labor Provisions Related to the Coal Sector

Bosnia and Herzegovina has made significant progress in reforming previously rigid labor market legislation to promote job creation. The Entities introduced their own labor laws in 2000, which were supplemented by General Collective Agreements (in 2000 and 2005 in the FBiH and in 1999 and 2001 in the RS). (Annex C compares the Entities’ collective agreement benefits.) Both Entities’ laws are fairly harmonized and both set a comprehensive, but relatively broad and flexible framework that is used for negotiations between social partners.

Both Entities’ laws:

- Set the minimum labor standards and frameworks for obligations and rights of employers and workers.
- Leave much to be decided by the more decentralized level from general and branch collective agreements to company rulebooks and individual employment contracts.
- Reduce obstacles to hiring and firing and allow contracts of limited duration, as well as part-time employment.
- Provide for collective agreements and set rules for worker and employer representation.
- Curtail severance obligations and stipulate a mechanism to end the status of wait-listed workers. The FBiH allows for termination for justified economic, technical or organizational reasons after the employer has exhausted all possibilities for internal transfers or retraining. For collective redundancies (termination of 10% or more workers in workplaces with more than 15 employees), the employer should consult with a works council or trade union.
- Provide that an employment contract may be terminated for non-performance, absenteeism, misconduct, or breach of obligations.

However, both Entities’ labor regulations do not appear to be binding, even when stipulated in collective agreements. For example, wage increases based on seniority, education and allowances (such as hot meals, transport, or annual leave) are often unpaid in state-owned enterprises (SOEs) and privatized companies due to financial constraints.

There are also gaps in legislation and inadequate practices, including:

Key Provisions Labor Laws and Regulations FBiH and RS

Collective Agreements	●
Union Representation	●
Early Warning	
Planning Committees (company)	●
Community Planning	
Migration Program	
Social Insurance	●
Pensions	●
Health Insurance	●
Severances	●
Wait Listing	
Early Retirement	
Forced Retirement	
Voluntary Retirement	
Hiring Freeze	
One Time Financial Compensation	
Retraining	● (RS only)
Alternative Employment	
Vocational Training	
Social Programs	● (RS only)
Health and Safety	
Medical Care	●
Inspections	
Safety Gear	
Hazardous Work Compensation	
Meals	●
Environmental Protection	●

- Disharmony of the Entity laws with respect to contribution rates, benefits coverage, and treating non-wage benefits as part of total compensation
- Workers who no longer have jobs at SOEs remain fictitiously employed to accumulate wage and social insurance arrears – and to eventually secure a sizeable severance or additional contributions.
- Requirements for employers to retain workbooks until social insurance contributions are paid, which delays formal termination and increases arrears.

The system of industrial relations is evolving, but there are some regulatory gaps and considerable constraints in some statutory provisions. For example, workers who suffer a workplace injury or occupational disease cannot be laid off. If the worker is able to return to work, he/she is entitled to return to the previous job or assigned to another appropriate job, whether such a position exists or not. While the RS labor law forbids lay-off based on remaining work capacity or immediate risk of occurrence of disability, the FBiH law allows lay-off with the consent of the workers' council (which is still not functional).

With respect to collective dismissals, neither Entity provides obstacles. The requirement for workers' council or trade union consent has been removed. Instead, employers with more than 15 workers are required to consult only if collective dismissals involve more than 10% of the workforce over three months. These consultations must include information on the reasons for termination, the number and qualifications of affected employees, and measures that might avoid termination (e.g., reassignments) or help employees be recruited elsewhere. Laid-off workers also retain priority for re-hiring.

Overstaffing Challenge

Labor laws enacted in 2000 introduced greater flexibility in employment protection to facilitate labor adjustments. However, the private sector retains greater flexibility than the majority SOE sector. Although total employment in SOE's fell from 37 to 20% between 2001 and 2004, the restructuring process has been slow and large SOEs continue to suffer from substantial overstaffing. Despite a loss of 120,000 jobs in SOEs since 2001, net employment appears to have increased by about 40,000 jobs. As much as another 35 to 40% reduction is still needed to bring the current SOE employment of 220,000 closer to 150,000. **In a survey of 20 strategic SOEs in the FBiH, companies' management indicated that as much as 37% of the formally employed workforce may need to be laid off.**

Wage Arrears

Because wait-listing is not authorized by any labor provision and there is no clear definition of "fictitious worker," there is no reliable information about the exact number of workers whose workbooks are held by an employer pending settlement of outstanding liabilities. The share of public sector workers with zero earnings is 2% in the FBiH and 15% in the RS. The common belief is that the number of "wait-listed" workers might still be greater than 100,000. Estimates suggest that there are about 30,000 to 40,000 "fictitious workers" in the RS and about 80,000 in the FBiH.

Companies cannot afford to finance mandated severance payments or settle wage and social insurance contribution arrears. Non-payment prevents termination, which means workers cannot move on to new employment. The requirement that an employer must hold a worker's workbook until financial settlement and termination was designed for full-time, life-time employment. This practice has fuelled the informal sector and proved to be a major barrier to alternative forms of formal employment, including part-time, temporary, and secondary jobs. Moreover, neither the formal or informal employer contributes payroll taxes for these "wait-listed" workers. Such outmoded employment regulations have created a no-win situation for inactive workers and for employers and government. Wage and social

contribution arrears do not appear to be solvable by applying current statutory provisions such as severance payments.

While the full extent of fictitious employment and overstaffing in the SOE sector is uncertain, overstaffing is seen as a major obstacle to restructuring. According to the Labor Market Update report, **few countries face an overstaffing problem as pressing and overwhelming as Bosnia and Herzegovina. There is also a continued reliance on philosophies that are appropriate for a planned economy, but not for a market economy.**

Severance Payments

The minimum rule for severance equals not less than one-third of a worker's average monthly salary over the three months preceding dismissal for each year of employment. The RS collective agreement (amended in 2001) raised the amount to 40% for up to ten years employment, increasing incrementally to 70% for those with more than 30 years of service.

Both Entity labor laws introduced a sunset clause for wait-listed workers and stipulated various severance payment schemes. Workers cannot be "wait-listed" longer than six months in the FBiH or three months in the RS from the date the law took effect in 1999. However, while wait-lists are now abolished under both laws, the practice continues in many companies.

It appears that the absence of sanctions in the FBiH and the insolvency of most employers are the reasons for slow implementation. There is also an incentive for companies not to comply, but rather to wait for a change in government leadership or programs. For example, in 2002, Sarajevo Canton allocated KM 1m (\$610,000) to finance severance for wait-listed workers based on data from the canton employment service database. The program announcement triggered a massive termination of other wait-listed employees, resulting in new claims that exceeded funding.

Social Programs

A Medium-Term Development Strategy – Labor Market Reforms Action Plan¹⁰³ recommended that both Entities adopt laws or ordinances by the first half of 2004 to provide more protection for workers who lose jobs through privatization, bankruptcy, or liquidation.

In the RS, the Parliament passed (in July 2003) a "social program for care of workers who lose their jobs due to privatization, bankruptcy and liquidation." The program enabled the payment of contributions from January 1, 1998 to the day of privatization or the day of bankruptcy filing, if the new owner did not assume these obligations. Funds were provided to the RS's privatization fund and employment institute for workers who did not claim this right until privatization occurred.¹⁰⁴ During 2004, 9 million KM (\$5,490,000) was used for this program, of which 6 million KM (\$3,660,000) was used for bridging years of service for 3,000 workers.¹⁰⁵ In 2005, the 18 million KM (\$10,980,000) allocated to the program fell short of funding requirements.¹⁰⁶

¹⁰³ World Bank 2005.

¹⁰⁴ Alliance of Independent Trade Unions of Bosnia and Herzegovina , Brcko District Trade Union, Alliance of Trade Unions of Republika Srpska, "Employment and Reduction of Poverty in Bosnia and Herzegovina" (2005), [http://www.lotcobistand.org/pdf/Bosnia and HerzegovinaUnionsDoc_eng.pdf](http://www.lotcobistand.org/pdf/Bosnia%20and%20HerzegovinaUnionsDoc_eng.pdf).

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

The FBiH also has an “Employment through Education” program, which provides incentives to employers who retain trainees for two years. However, there are no programs to address workers who are unemployed through privatization, bankruptcy, or liquidation. While the FBiH developed draft legislation, and the Ministry of Labor and Social Issues states that the document was passed by the Parliament on March 30, 2004, no text was published in the Official Gazette.¹⁰⁷ The FBiH Employment Bureau developed a program for social support to employees who become redundant, but it has not been implemented because there is no legal framework. **In 2005, the Employment Bureau created a plan for social protection of targeted groups to improve program implementation. However, only changes and amendments to the law on mediation and social security of unemployed people have been enacted.**

Trade Unions

There are two separate confederations, one in each Entity. Membership has declined as workers become unemployed or surplus and stop receiving wages. In the FBiH, the Confederation of Independent Trade Unions of Bosnia and Herzegovina (SSSBH) is comprised of 23 industrial branch trade unions, including the Trade Union of Electricity Workers (7,500 members), Trade Union of Utility Workers (7,400), and Trade Union of Miners (16,000 members). In the RS, the Confederation of Republika Srpska (SSRS), with 14 branch trade unions, reported no union for electricity or utility workers. There are 17,000 members in the RS Trade Union of Metalworkers and Miners, which has withdrawn from the confederation structure. Both confederations have been exploring plans to consolidate the branch unions system by merging affiliate branches.

The Labor Market Update report estimated that 6.1% of all miners in the FBiH mining sector are covered by collective agreements, compared to 21% in the RS. In the Electricity, Gas and Water Supply sector, 5.7% in the FBiH are covered versus none in the RS. Note that the report states these are only estimates based on union membership data from Entity trade union confederations and from employment data provided by Statistical Offices.

Trade union membership remains heavily concentrated in mass privatized sectors and SOEs. Because most employers and workers engaged in collective bargaining in both Entities are affiliated with the public sector, the Government is represented three times at the bargaining table – as Government, as employer, and as workers. Thus, there is incomplete representation of social partners in tripartite arrangements and an ineffective tripartite negotiation system.

Small and Medium Enterprise (SME) Development Programs

After Bosnia and Herzegovina signed the European Charter for Small Enterprises in June 2003 – an obligation for all EU candidate states – the RS Government adopted in February 2006 a “Strategy for the Development of SMEs for 2006-2010.” The Strategy envisions SMEs as the main pillar of economic development. The RS Agency for SME Development is tasked with monitoring, coordinating and initiating the work of other SME development actors at the entity, regional and local level. Bosnia and Herzegovina’s European Charter increased participation of the RS National Assembly in SME development policy and strategy and established several municipal credit programs and grants based on municipal funding and other sources, such as donor funds. About 20 micro-credit organizations operate in the RS. Their credits are usually in amounts up to 30,000 KM (\$19,287) for up to 36 months. The annual interest rate is about 12 to 18% with an additional commission of 1 to 2%.

¹⁰⁷ Ibid.

Two Private Sector Credit Projects supported by the World Bank, in which the RS Development and Employment Fund managed a revolving fund for SMEs, were not successful. The Fund amounted to 9.2 million KM (\$5.9million), but ended on June 30, 2005 with the World Bank withdrawing funds. The Fund will now operate on resources from earned credits and the number of beneficiaries will drop.

In the FBiH, the Ministry of Labor and Social Issues has an active self-employment SME program for all persons registered with the Employment Bureau.

V. COMMUNITY PROFILES – KAKANJ AND UGLJEVIK

This section summarizes current economic and social conditions in the FBiH's Kakanj municipality and in the RS's Ugljevik municipality. Experience has shown that consulting with local communities and adapting planning to local conditions strongly influences the impact of restructuring.

COMMUNITY PROFILE

Kakanj, FBiH

COMMUNITY CHARACTERISTICS

Coal mining in Kakanj began in 1902. Kakanj is approximately 40km northwest of Sarajevo. It is easily accessible as it lies in the River Bosnia valley along the highway and the railroad that links Zenica with Sarajevo. Kakanj has a population of 43,991 in 2002, down from 55,857 in a 1991 census.

There are also seven villages with approximately 3,500 residents who live within 2 km of the Kakanj coal-fired power plant's waste storage site. Two nearby reservoirs (Dragici and Hrasno) hold industrial water for irrigation.

BUSINESS ENVIRONMENT

Since 2000, and particularly in the past 18 months, comprehensive reform efforts have improved the business and investment environment in and around the region. The Zenica region has the most efficient licensing and permitting procedures for business start-up.

Kakanj is considered a more developed municipality because it has three large employers. Because the local economy functioned throughout the war, Kakanj citizens have a better living standard than other cities in Bosnia and Herzegovina. However, businesses are faced with surplus labor that generally lacks skills in new technologies. According to the Economy and Urban Planning Department, surplus and unskilled labor is the greatest obstacle to economic development.

The construction industry is growing, with contract opportunities to rebuild community infrastructure, particularly roads that remain damaged from the war. The coal mines generate business in transporting raw materials and ancillary products. The main growth areas are services and light industry, with small and medium enterprises (SMEs) leading the way. With privatization of large enterprises proceeding slowly, it is likely that SMEs will continue to be the main force for growth in the medium term.

Privatization of assets throughout the municipality is implemented in accordance with

COMMUNITY PROFILE: Kakanj, FBiH, continued

the cantonal development strategy. Approximately ten companies have been privatized, including the cement factory. Approximately 170 people lost their jobs during privatization; most were over 45 years of age, with 20% eligible for retirement. Wood processing and textile industries have not completed privatization. The power plant and mines are operating with negative revenues, with the power plant performing somewhat better. In the past ten years, power plant profitability has declined due to the cost of production and the selling price of electricity.

EMPLOYMENT DATA

Most local residents work in coal mining (2,221 as opposed to 2,235 reported by Kakanj Coal Mine website), at the power plant (480 versus 662 reported by EPBiH), at the cement factory (400), or in the educational system (400). The unemployment rate is 44.35%, of which half are first-time job seekers and half redundant workers over 45 years of age from privatized enterprises.

UNEMPLOYMENT SUPPORT SERVICES

Other support efforts include NGO development, local self-government, an SME development strategy, and improved fiscal practices. However, there are no business support services, such as technology centers, incubators, or consultancy companies. Access to capital is limited and interest rates are high, although the canton has subsidized part of the interest rate in some cases.

COMMUNITY INFRASTRUCTURE

The power plant and cement factory emissions and waste pollute the atmosphere and contaminate the water and land. The obsolete water supplies are of poor quality and inadequate, with disruptions to consumers. The sewer system requires rehabilitation; untreated waste waters flow into the Zgosca River. Roads were heavily damaged during the war and are poorly maintained.

OPPORTUNITIES

- Easily accessible location
- Growing construction, transport, light industry, and services industries
- SME development strategy
- Number of SMEs increasing
- Emerging licensing and permitting procedures for business start-up
- Efforts made to “internationalize” business
- Wages higher than national average
- Many points of interest to attract tourists

CHALLENGES

- High unemployment rate (44.35%)
- Environmental pollution
- Inadequate water supply and sewer systems
- Surplus labor, aging and unskilled workforce
- Few business support services
- Limited access to capital, high interest rates
- Power plant and mines operating with negative revenues
- Poultry industry hindered by avian flu

COMMUNITY PROFILE

Ugljevik, RS

COMMUNITY CHARACTERISTICS

Ugljevik was named for coal (“ugalj” in Serbian) and is steeped in mining tradition that commenced as early as 1899 on Mount Majeveca. Ugljevik municipality is in the northeast of Republika Srpska and comprised of 21 settlements. The population of 16,455 is down from pre-war numbers of 25,641. About 4,000 inhabitants live in Ugljevik town, the most modern and urban living conditions in the RS, while others live in villages. The standard of living is low due to high unemployment and a lack of social support programs.

BUSINESS ENVIRONMENT

The Ugljevik coal-fired power complex employs nearly half of the registered employed. The successful Kompred water and sanitation utility ranks second to the Ugljevik power complex in economic importance to the community, employing sixty people. Both are part of the municipality’s strategic goals. Gajic Prom, a small transport company, has obtained a valuable contract to provide local school bus service and looks toward expansion.

There is a discrepancy regarding the profitability of Ugljevik’s CFPP and mines. According to an interview with municipal officials, the enterprise has been profitable the past few years. However, the Bosnia and Herzegovina business web portal states that the mines and power plant registered a net loss of over 3 million KM (\$1.9 million) in the first six months of 2006, although the company did manage to carry out consolidation and modernize its equipment.

Three privately-owned farmer’s cooperatives have experienced good business results after shifting to furniture production and fertilizer sales. Out of 6,000 households, at least 5,000 have some sort of agricultural activity, particularly fruit production. A Crafts and Entrepreneurship group formed an SME in late 2004.

- The general level of economic activity is low. Companies operate at only 30% of pre-war capacity. High tax rates limit employment opportunities. The textile industry has failed.
- A transport company that employed 110 workers has been liquidated.
- The “Gradjenje” construction company is on the verge of failure.
- The “Niskogradnja” construction company operates at a very low activity level.
- The “Podmladak” textile industry, which employed 260 workers pre-war, was privatized in 2005 and shifted activities into shoe production for a Bijeljina-based company. Results are poor and many workers were laid off.

The banking sector is very well-developed in the RS, but SME access to credits is not very favorable. None of the RS banks provide start-up credits; most grant credits to SMEs in amounts up to 50,000 KM (\$32,145) at an average interest rate of 9%, with processing fees between 0.5 and 2%. Banks request high security, such as funds on deposits, guarantee by another commercial bank, or real estate. The amount of paperwork is an additional challenge for SMEs.

COMMUNITY PROFILE: Ugljevik, RS, continued

EMPLOYMENT DATA

Officially, 3,506 are employed in the municipality, while 1,734 are unemployed. Most residents are employed by the coal mine and coal-fired power plant (between 1,700 and 1,750 employees); approximately 400 work in education, health institutions and municipal administration; and an estimated 500 work in shops and catering facilities. The public utility company (water and sanitation) employs around 60.

UNEMPLOYMENT SUPPORT SERVICES

The RS Employment Bureau is beginning to implement active labor policy measures, mainly through co-financing programs. For example, several employment fairs have been held. In 2006, the Employment Bureau initiated a project to develop and support volunteer work for people with college or university educations.

COMMUNITY INFRASTRUCTURE

Environmental protection is poor. Waste waters are released directly into the Janja River. The coal-fired power plant lacks de-sulfurization and releases gases into the atmosphere. The infrastructure of Ugljevik has been declining for some time, but is improving through citizen contributions and municipal funding.

OPPORTUNITIES

- Most modern town in RS
- Gajic Prom busing and transportation company expansion
- Three privately-owned farmer cooperatives
- Growing furniture production and fertilizer sales
- Agricultural activity
- Developed banking sector
- Vocational Education and Training program (VET) to reform local school systems
- Some active labor programs in place

CHALLENGES

- High unemployment rate
- Lack of social support programs
- Low economic activity – 30% pre-war capacity
- High tax rates
- Limited access to capital with high interest rates and collateral requirements
- Closure or business failure of several large employers: textiles, transportation, and construction
- Coal mine and coal-fired power plant are largest employers.
- Mismatch between VET and available jobs

VI. POWER SECTOR REFORMS

Power sector reforms are under way. A new legal framework has been established at the State and entity levels, resulting in the creation of:

- 1) a State-level transmission company that pulls together the transmission assets from the three companies;
- 2) an Independent System Operator (ISO) to operate the systems; and,
- 3) the State Energy Regulatory Commission (SERC), with authority over the transmission and ISO, and two entity energy regulators with authority over the three utilities that now distribute and generate electricity.

With international assistance, the FBiH and the RS Governments prepared power sector reform policies for restructuring, including corporatization and commercial operation, access on equal terms to transmission networks, and establishment of an independent system operator to replace ZEKC. The Entity and State Governments simultaneously prepared Entity and State laws that incorporated the new policies.¹⁰⁸

Power sector restructuring involves organizational changes to increase efficiency and reduce operating costs. New financial management systems, based on international accounting standards, are to be in place in each of the three utilities.¹⁰⁹ In Bosnia and Herzegovina, restructuring is proceeding in three stages in accordance with action plans and implementation schedules. The three stages are:

1. **Reallocation of Funds:** Funds and debts are separated and personnel allocated to new organizations. Core and non-core activities are separated into distinct business units, starting with accounting, collection and communication systems. A transmission company with separate personnel, assets, and debts is established. A joint power coordination center is transformed into the Independent System Operator.
2. **Corporatization:** New accounting and financial systems and uniform IT systems for accounting, collection and communications are established. New generation and distribution companies

Status of Energy Restructuring in Bosnia and Herzegovina

	CM	CPP
Unbundling	◐	◐
Producer Subsidization	◐	◐
Corporatization		
Separation of Transmission Network	-	●
Separation of Distribution Network (ISO)	-	◐
Independent Regulator	-	●
Liquidation of Non-Viable Entities	◐	○
Refurbishment	◐	◐
Commercialization		
Liberalization/Deregulation	○	○
Price Stabilization	○	○
Consumer Subsidies	○	○
Privatization		
Private Investors	◐	◐

CM – Coal Mines ; CPP- Coal-Fired Power Plants

Completion Status:

● Full ◐ Partial ○ None – Not applicable

¹⁰⁸ World Bank *Reconstruction and Development Program in Bosnia and Herzegovina, Progress Update* (Washington: World Bank, June 2003).

¹⁰⁹ World Bank, *Project Appraisal Document (PAD) on a Proposed Credit in the Amount of SDR 25.4 Million (US\$ 35 M equivalent) to Bosnia and Herzegovina for the Third Electric Power Reconstruction Project*, Energy Sector Unit, South East Europe Country Unit, Europe and Central Asia Region, (Washington: World Bank, 24 May 2001).

are defined and planned.

3. Commercialization (for distribution companies and generation companies): Generation and distribution companies prove to prospective investors that they can operate successfully. A plan for reducing costs and improving collections is developed.

In June 2004, the FBiH adopted an Action Plan to restructure and modernize coal mines. The FBiH's planned first phase of restructuring is to be completed by the end of 2007, including an investment of more than €190 million for new equipment and modernization. **During this phase, it is estimated that costs will decrease by \$1.8 million, production will increase by about 30%, and employment will be reduced by a third.**¹¹⁰

The institutional transition is likely to require another 5-10 years to be fully completed due to the complexity and difficulty of achieving profound structural change in Bosnia and Herzegovina's economic system.¹¹¹ The design and implementation of social impact mitigation programs is a main priority.

PRIVATIZATION AND INVESTMENT PRIORITIES

A 2001 investment profile¹¹² described Bosnia and Herzegovina's foreign direct investment as follows:

- In the FBiH, Kakanj Coal Mine is finalizing several projects to open two pits, construct a reloading system, introduce a new coal refinement system, build a road, and conduct geological research on 254 hectares with estimated deposits of 18 million tons.¹¹⁴
- Kakanj TPP is expected to construct a new 200 MW unit, which will require more coal production.¹¹⁵
- There is a proposal to build a coal-fired power plant in northwestern Bosnia.¹¹⁶

Kamengrad Coal Mine was privatized in 2004. After two decades of closure, the open pit at Gorice (the only brown coal mine in Unsko-sanski canton) is expected to produce 60,000 tons in 2006.¹¹³ Under new management, production was also scheduled to begin in 2006 at the Zlausa open pit mine, which had been closed for five years. Zlausa mine was under a lake which was drained despite the fact that community had invested in the lake to farm fish.

However, the Infrastructure and Energy Strategy report prepared by the World Bank in mid-2003 reported that despite assumptions that government budget contributions and self-financing by sector enterprises would occur (and at a higher rate than historically provided), **there is still a financing gap for priority investments.**¹¹⁷ All of Bosnia and Herzegovina's coal-fired power plants are priorities for rehabilitation because plant retirement dates have passed (2001) or are approaching (2009). Rehabilitation will extend plant life cycles past 2020, but expected financing will cover less than half of the needed investment.

¹¹⁰ Ibreljic and Kulenovic 2005.

¹¹¹ World Bank 2004.

¹¹² Business Forum/EBRD 2001.

¹¹³ Ibid.

¹¹⁴ *Energy Observer*, 28 August 2006, Issue 63, <http://www.energyobserver.com>.

¹¹⁵ *Energy Observer* 2006.

¹¹⁶ Center for Peace in the Balkans 2006.

¹¹⁷ World Bank 2004.

According to this report, private investor interest has shrunk dramatically, and **Bosnia and Herzegovina is poorly placed to attract investors because of the lack of reforms and institutional preparedness.** Only 2% of international private power

Priority Investments		
Sector	Project Amount	Internal Cash Generation
Electricity	\$740 million	\$220 million
Coal	\$340 million	\$ 40 million + \$70 million from government budget

investors surveyed in early 2002 were interested in increasing involvement in the next three to five years. On a more positive note, the Bosnia and Herzegovina power companies have, in contrast to a number of emerging market power companies, achieved a tariff regime that can cover operating costs and could provide an adequate debt service buffer.

In addition, the report cited operating costs and other inefficiencies in energy services delivery, which are subsidized by the government. Even so, coal sector subsidies are insufficient to fund regular maintenance, let alone investments. **Capacity reductions of 60% are needed in the coal sector; this will require staff reductions and programs to mitigate social costs in areas heavily reliant on mining.** Coal sector inefficiencies impose a burden on the electricity sector. Social costs are very high, leading to inertia to deal with the issue. The sector is unable to meet recurring pension liabilities and other non-wage costs. The coal sector presents very little potential for private sector investment through 2007.

Donor Investments

Although post-conflict reconstruction was successful in largely restoring essential services, there is a huge backlog of essential maintenance and unfinished rehabilitation. In 2004, Bosnia and Herzegovina adopted a Medium-term Development Strategy 2004-2007, which addresses State and Entity rehabilitation investment projects under a Priority Reconstruction Program. However, investments are not occurring at the scale and rate required. The Infrastructure and Energy Strategy report states that **expected financing will cover less than half of the priority investment needs and that priority investments for 2003 – 2007 exclude investments in electricity generation and for environmental upgrades to meet EU-standards.**

Prospective World Bank engagement could include supporting the Government in the design of mine closure programs and associated programs to mitigate social impacts.¹¹⁸ See Annex A for Donor Activities.

¹¹⁸ Ibid.

Sector Opportunities	Sector Challenges
<ul style="list-style-type: none"> • There is regional demand for electricity and coal. • Investments have upgraded plants and improved emissions. • Operating efficiency gains can be achieved by consolidating the power utilities. • Coal sector could be profitable with market reforms and appropriate investments. • Donors have funded technological renewal and improvements. 	<ul style="list-style-type: none"> • Three government subdivisions are involved in restructuring frameworks. • Coal sector inefficiencies impose a burden on the electricity sector. • Markets, facilities, and infrastructure are damaged and production levels are reduced. • Maintenance and asset degradation losses are estimated at 20% against a EU standard of 12%. • Only 30% of rehabilitation investments can be self-financed. • Coal sector capacity reductions of 60% are forecast. • Expected financing will cover less than half of priority investment needs, which exclude electricity generation and environmental upgrades.

VII. KEY STAKEHOLDERS – BOSNIA AND HERZEGOVINA POWER SECTOR RESTRUCTURING

The following stakeholders have or will play key roles in coal sector restructuring.

STATE LEVEL– BOSNIA AND HERZEGOVINA

- **Bosnia and Herzegovina-Council of Ministers, Unit for Economic Policy Planning and Implementation of Bosnia and Herzegovina Medium Term Development Strategy.**¹¹⁹ This council developed a medium-term strategy (2004-2007) for all economic sectors of Bosnia and Herzegovina (including energy), as well as a strategy to reduce poverty and to promote economic development to meet EU standards. The Council is responsible for submitting medium-term strategy status reports to the Parliament.
- **Independent System Operator (ISO Bosnia and Herzegovina).**¹²⁰ An Independent System Operator was created by the Law on Establishing an Independent System Operator for the Transmission System in Bosnia and Herzegovina (Bosnia and Herzegovina Official Gazette No.35/04). It was formed by transferring ownership, obligations and property from the three electrical companies. The assets and obligations of ZEKČ were also transferred.
- **ZEKČ (Joint Coordination Center for Electric Power).** ZEKČ was established in March 1999¹²¹ to operate the Bosnia and Herzegovina system as a single control area in accordance with UCTE rules. ZEKČ was established by the three power utilities as a business association registered in the FBiH and headquartered in Sarajevo. Members from each utility were appointed

¹¹⁹ Embassy of Denmark 2006.

¹²⁰ Bosnia and Herzegovina Independent System Operator, Official Website, <http://www.nos.Bosnia and Herzegovina.com>.

¹²¹ World Bank 2001: 28.

to a three-person managing board and a three-person management team to formalize information exchange among each utility's control centers. Responsibilities include:

- manage the transmission system and production equipment in the central control center
 - ensure market balance
 - provide system and ancillary services
 - develop reliability standards and rules for transmission system usage
 - develop and implement market rules related to system and ancillary services
- **State Energy Regulatory Commission (SERC).**¹²² Market liberalization and electricity generation and distribution are governed by three separate laws: the Law on Electricity Transmission, System Regulator and Operator in Bosnia and Herzegovina (adopted in April 2002); the Law on Electricity of the FBiH; and the Law on Electricity of the RS. SERC is responsible for regulatory tasks for the transmission grid, whereas generation, distribution and trading are the responsibility of the individual regulatory commissions of the FBiH and the RS.
 - **Foreign Investment Promotion Agency of Bosnia and Herzegovina (FIPA)** (<http://www.fipa.gov.ba>) provides free information and contact services for foreign investors evaluating investment opportunities in Bosnia and Herzegovina. FIPA offers assistance at all stages – from initial investment planning to implementation – to help foreign investment projects succeed. All services for foreign investors are free and confidential.
 - **Ministry of Foreign Trade and Economic Relations (MOFTER)**

ENTITY (FEDERAL) LEVEL

The Federation of Bosnia and Herzegovina

- The **Foundation for Sustainable Development (FSD) in FBiH** provides technical assistance and training to build capacity of municipal authorities and local banks; issues loans to banks for municipal investments in utility companies; and finances micro-credit organizations that work with marginalized populations to spur employment and create sustainable institutions. The foundation finances reconstruction and building of local infrastructure and provides technical assistance and training to communities to improve living conditions. The FSD also provides assistance in the tender sale of state-owned enterprises, including the preparation of legislative and regulatory frameworks for transfer of ownership and the preparation of holding companies and large enterprises for privatization.¹²³
- **Federal Ministry of Energy, Mining and Industry** administers, implements, and enforces the laws, regulations, and policies pertaining to energy, mining and industry.¹²⁴
- **Federal Ministry of Physical Planning and Environment** prepares, implements and enforces the Physical Plan of the Federation, including monitoring compliance of cantonal plans with the FBiH plan; streamlining long-term development of natural resources; supporting geological exploration by designing basic geophysical, seismological, geothermal, mineral-genetic, geochemical, geo-morphological and other maps; preparing geological backgrounds of air, water and soil; preparing environmental strategies and policies; establishing standards for air, water, and soil quality; monitoring and controlling air, water and soil pollution; and supervising relevant institutions.
- **Regulatory Commission for Electricity in FBiH (FERK)**¹²⁵

¹²² Regional Network for Efficient Use of Energy and Water Resources for Southeast Europe (RENEUER), *Bosnia and Herzegovina Country Profile*, (Sofia: Center for Energy Efficiency EnEffect, nd.), http://www.reneuer.com/upload/B&H_CP_Long.pdf.

¹²³ Foundation for Sustainable Development, Official Website, <http://www.odraz.ba>.

¹²⁴ Embassy of Denmark 2006.

- **Chamber of Economy of the FBiH**, (<http://www.kFBiH.com>).

The Republika Srpska

- **Ministry of Economy, Energy and Development** has five units with energy-related responsibilities: Department for Energy and Energy Power Utilities, Department for Energy and Fuels, Department for Development of Energy and Mining, Thermo Energetic Inspection Unit, and the Electric Power Inspection Unit.
- **Ministry of Urbanism, Civil Engineering and Ecology** manages a national activity plan for environmental protection and climate change activities. The RS Ministry also represents Bosnia and Herzegovina in the Kyoto Protocol.
- **Regulatory Commission for Electricity**¹²⁶
- **Chamber of Economy of the RS**, (<http://www.pkrs.inecco.net/>).

ENERGY-RELATED ORGANIZATIONS¹²⁷

- **Center for Energy** (<http://www.mef.unsa.ba>), part of the Mechanical Engineering Faculty at the University of Sarajevo, is involved in creating an energy regulation system, energy efficiency, and energy technology improvements. It has prepared a document to be used as a basis for a long-term FBiH energy strategy. The strategy will help incorporate EU Energy Law into Bosnia and Herzegovina's Energy Law to ratify all environment standards, such as the Kyoto Protocol.
- **Center for Environmental Technological Development (CETEOR)** (<http://www.pkrs.com.ba/ceteor>) is a private organization established in Sarajevo in 1992. CETEOR networks with national and international partners in sustainable development, air quality management, solid waste management, energy efficiency, and chemical safety. CETEOR also collaborates with the Center for Energy and the Chamber of Economy of FBiH.
- **Regional Environmental Centre (Country Office of Bosnia and Herzegovina and Field Office in Banja Luka)** (<http://www.rec.org>) was established in 1997 in Sarajevo as part of an international organization. The country office provides a full range of services to NGOs in terms of financial support, capacity-building, and environmental information. The center is also a focal point for the international donor community and is regularly contacted as a source of information on Bosnia and Herzegovina's environmental conditions. Donors include World Bank and the Open Society Institute, Bosnia & Herzegovina.
- **Energoinvest** (<http://www.energoinvest.com>) is a private company active in the field of consulting, planning, construction and research in the energy and power sector.

¹²⁵ Regulatory Commission for Electricity in Federation of Bosnia and Herzegovina (FERK), Official Website, <http://www.ferk.ba/01-en/nadleznost.htm>.

¹²⁶ REER 2006.

¹²⁷ RENEUER.

ANNEX A

DONOR FUNDED ACTIVITIES

Although post-conflict reconstruction was largely successful in restoring essential services, there is a huge backlog of essential maintenance. Unfinished rehabilitation investments are not occurring at the scale and rate required.

Donors have supported the energy sector restructuring process to improve efficiency and reduce technical and commercial losses to create a more commercially viable sector that is attractive to investors. Overall, donors are scaling down planned assistance to Bosnia and Herzegovina.

Important operating efficiency gains can be achieved from consolidating the power utilities. Without consolidation, the economic and financial justification for engagement by lenders, investors, and donors is extremely weak.¹²⁸

Donor Funded Activities				
ACTIVITY	STATUS	DONOR	YEAR	AMOUNT
<u>Emergency Electric Power Reconstruction Project</u> Rehabilitation of CFPP plants (Tuzla, Kakanj, Ugljevik); coal mine rehabilitation (Tuzla, Central Bosnia, Ugljevik).	Completed	World Bank	1996-1998	\$196.4 m
<u>Second Electric Power Reconstruction Project</u> Continued rehabilitation and maintenance of CFPPs and coal mines, including the Gacko CFPP and mine. Established ZEKC; improved management and operation of three power utilities; produced coal sector restructuring study. ¹²⁹	Completed	World Bank	1999-2001	\$160.45 m
<u>Third Electric Power Reconstruction Project</u> Improve integrated operation of three utilities; establish legislative and regulatory framework for eventual privatization; reduce pollution at CFPPs; corporatize power utilities.	Completed	World Bank	2002-2005	\$231.10 m (\$38.52 m World Bank)
<u>Privatization Technical Assistance</u> Accelerate large-scale privatization through tender sales of state-owned enterprises.	Active	World Bank	2001-2006	\$22.76 m
<u>Second Social Sector Adjustment</u> Support reforms in cash transfer and labor programs to reorient social protection programs toward the poorest and most disabled.	Inactive	World Bank	In negotiation	\$50.63m
<u>Economic Management Structural Adjustment</u> Implement fiscal policy reform to improve economic and financial and budgetary management in public sector.	Closed	World Bank	2004-2005	\$33.85m
<u>Community Development</u> Improve basic services and facilities for low-income and poor communities in under-served municipalities and improve local governance.	Active	World Bank	2001-2006	\$17.22 m
<u>Business Enabling Environment Structural Adjustment</u> Improve investment climate and promote domestic and foreign investment and private sector growth.	Closed	World Bank/SIDA	2002-2005	\$51.91m

¹²⁸ Ibid.

¹²⁹ World Bank 2001.

Donor Funded Activities

ACTIVITY	STATUS	DONOR	YEAR	AMOUNT
<u>Social Insurance Technical Assistance</u> Provide technical assistance to strengthen health and pension insurance systems and reforms.	Active	World Bank/UK	2003-2007	\$11.58 m
<u>Second Employment Support</u> Provide employment services to 10,000 people recently retrenched and above 45 years of age and/or those who are actively seeking jobs for two or more years.	Active	World Bank	2004-2008	\$11.96 m
Establish a Department of Energy within the State Ministry of Foreign Trade & Economic Relations (MOFTER)	Completed	CIDA/SEETEC		
Prepare for Restructuring and Privatization by developing an integrated Power Reform Action Plan	Completed	CIDA/SEETEC		
Establish single transmission company – Phase 2	Ongoing	CIDA/SEETEC		
Develop market rules and design – Phase 1	Ongoing	CIDA/SEETEC		
Strengthen accounting systems in three power utilities	Completed	EBRD		
<u>Power Distribution Reconstruction Project</u> Modernize electricity distribution, improve supply reliability, and increase efficiency by minimizing losses in the three utilities. ¹³⁰		EBRD	2005	€ 50m (\$63 m)
<u>Pollution Control Equipment Project</u> Environmental improvements at CFPPs Tuzla, Kakanj, Gacko, and Ugljevik.		EBRD		\$16.9 m
<u>Electric Power Reconstruction Project</u> Worked in conjunction with projects financed by the World Bank, the EIB, and other bilateral donors. ¹³¹	Completed	EBRD	2001	\$231 m
Financial management assistance to the three power utilities	Completed Phase 1	EU (Phase 2 funded by IDA)		
Feasibility study for ZEKCs Supervisory Control and Data Acquisition System (SCADA)	Completed	USTDA		
Facilitate power trade in the region by installing SCADA system for electricity transmission network to re-establish Bosnia and Herzegovina's interconnection with the UCTE	Delayed ¹³²	EBRD	2001	€ 50m (\$63 m)
Tuzla and Kakanj CFPPs rehabilitation study and financing plan	Completed	USTDA		
Legal assistance to create single transmission company and independent system operator	Ongoing	USTDA		
Study of power sector institutional restructuring	Completed	USTDA		
Strengthen the Energy Department within MOFTER	Completed	EC/CARDS	2005	
Develop a blueprint for energy strategy		EC/CARDS	2006-2007	

¹³⁰ EBRD. 2005. PSD: Power Distribution Reconstruction Project: Bosnia and Herzegovina.

¹³¹ EBRD. 2001. PSD: Electric Power Reconstruction Project: Bosnia and Herzegovina.

¹³² Bicakcic. 2005: slide 12

Donor Funded Activities				
ACTIVITY	STATUS	DONOR	YEAR	AMOUNT
Tariff study to bring structure within EU averages and to improve cost recovery ¹³³	Completed	EBRD	1998	
Study on Restructuring and Privatization of the Power Sector (defined the scope and time schedule for restructuring)	Completed	USAID	2001	
Prepare State and Entity laws for an independent regulatory agency, transmission company, and independent service operator. Institutional development for State and Entity regulatory agencies' institutional development, licensing, tariffs and monitoring. ¹³⁴	Completed	USAID	1999	
<u>EU-VET Training for the Job Market</u> ¹³⁵ Update Bosnia and Herzegovina's vocation education and training systems to match labor market needs in agriculture and food processing.	Completed	EU/CARDS	2002-2004	€ 2.4 m (\$3.02 m)
FBiH coal mine rehabilitation feasibility study for Middle Bosnia and Tuzla coal mines ¹³⁶	Completed	USTDA	1999	

DRAFT

¹³³ World Bank 2000: 2.

¹³⁴ EPRS.

¹³⁵ European Union, *EU Vocational Education and Training Program*, <http://www.euvet.org>.

¹³⁶ Steblez 1999: 8.2

ANNEX B

LEGISLATIVE BACKGROUND

Bosnia and Herzegovina Legislation

- A FRAMEWORK LAW on privatization of enterprises and banks in Bosnia and Herzegovina was adopted in July 1998. The law recognized the right of each Entity to privatize enterprises and banks located in its territory with regulations adopted by the respective Entity parliament. State-owned capital in the enterprises dealing with generation and distribution of electricity and mining is privatized in accordance with this law, but under special Government privatization programs.
- Law on Application of Electricity Tariff System of the Federation of Bosnia and Herzegovina (Decision by the High Representative on 31 December 2003)
- Regulation (EC) No. 1228/2003 of the European Parliament and of the Council of June 26, 2003 for cross-border exchanges
- Directive 2003/54/EC of the European Parliament and of the Council for the Internal Market; Repealing Directive 96/92/EC
- Directive 2001/77/EC of the European Parliament and of the Council of September 27, 2001 on renewable energy sources
- Athens Memorandum 2002
- Athens Memorandum 2003

Conventions (Succession from former Yugoslavia)

- The Vienna Convention for the Protection of the Ozone Layer (1985) 6.3.1992
- The Montreal Protocol on Substances that Deplete the Ozone Layer (1987) 16.3.1992
- Convention on Long-Range Transboundary Air Pollution (13 Nov 1979); and Protocols (Financing, 1984)
- Convention Concerning the Protection of World Cultural and Natural Heritage (16 Nov 1972)
- Convention on Fishing & Conservation of Living Resources of the High Seas (29 Apr 1958)
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, (London, December 29, 1972)
- Dayton Peace Accord
- Directive 96/92 of European Parliament and of the Council of December 19, 1996
- Bosnia and Herzegovina Medium term Development Strategy 2004-2007
- Law on the Electricity Industry (Issued in September 1993 (Bulletin I))

FBiH Legislation

- Law on Electricity in FBiH (“Official Gazette of FBiH” 41/02)
- Modification of Electricity Law (Official Gazette FBiH, No. 24/05)
- The Law on Amendments and Modification of Electricity Law (Official Gazette FBiH, No. 38/05)
- Law on Application of Tariff System (Official Gazette FBiH, No. 06/04)
- Amendments of the Law on Distribution, System Regulator and Operator
- Law on Public Companies in FBiH
- Law on Establishment of Independent System Operator for Distribution System in Bosnia and Herzegovina
- Law on Establishment of Company for Distribution of Electricity in Bosnia and Herzegovina
- Law on Distribution, Regulator and Operator of the System in Bosnia and Herzegovina
- Law on Waste Management (“Official Gazette of FBiH” 33/03)
- Law on Air Protection (“Official Gazette of FBiH” 33/03)
- Law on Water Protection (“Official Gazette of FBiH” 33/03)
- Law on Nature Protection (“Official Gazette of FBiH” 33/03, “OG of RS” 50/02)
- Law on Fund for Environmental Protection in FBiH (“Official Gazette of FBiH” 33/03)

- Law on Enterprises
- Methodology for Price Determination from Renewable Sources (“Official Gazette of FBiH” 32/2002)

RS Legislation

- Law on Electricity in RS (“Official Gazette of RS” 66/02)
- Amendments to the Law on Electric Power in the RS (RS Official Gazette, No. 29/03, No. 86/03, and No. 111/04)
- Methodology for Price Determination from Renewable Sources (“Official Gazette of RS” 71/2003)
- Law on Electricity Industry (No. 01-203/97, adopted April 23 1997)
- Law on State Enterprises (RS Official Gazette No. 3/95)

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ANNEX C

BENEFITS IN BRANCH COLLECTIVE AGREEMENTS

List of Benefits in Branch Collective Agreements¹³⁷

Benefit Categories and Benefits	Entity
Standard Supplements	
Seniority increment for each additional year (transferable to new employer)	Both
Annual leave grants	Both
Hot meals allowance	Both
Transportation to work (General Collective Agreement in RS, rule book in FBH)	Both
Funds for heating and winter food provision	RS
Hours of Work (except during normal work week)	
Overtime	Both
Night work	Both
Work on weekends	Both
Work on state holidays	FBiH
Away from Duty Station	
Field work (if employee is not coming back home)	Both
Fixed supplements	Both
Per diem – for trips	Both
Living separate from the family for more than two months (based on last minimum Federal wage)	FBiH
Conditions of Work, Health and Safety, Injury	
Exposure to noise, dust, positioned vapor	Both
Work where additional safety equipment is required	Both
Increased danger of explosion, flood, etc.	RS
Danger of getting severe injuries	FBiH
Leave	
Paid leave for holidays	Both
Participation in cultural and sport events	FBiH
Blood donation	Both
Search for close family member missing in the war	FBiH
Search for close family member	FBiH
Illness/Injury/Disability	
Sick leave caused by injury at work (based on last month's basic wage;no allowances)	FBiH
Heavy disability of the employee	RS
Long-term illness or injury of employee	RS
Illness of close family member	FBiH
Marriage/Birth/Death	
Marriage (own)	Both

¹³⁷ World Bank 2005.