Energija
Energy

Potrošnja energije u BIH 1999. bila je na pretposljednjem mjestu u Evropi i niža od polovine predratne potrošnje. Više od polovine potrebne energije je bilo uvezeno. Neposredno nakon rata više od pola kapaciteta za proizvodnju i prenos električne energije bilo je oštećeno ili uništeno. Većina tih kapaciteta je obnovljena. U 2000, izvezena je jedna petina proizvedene električne energije. Emisije ugljendioksida u 1999. bile su skoro 100 puta niže nego u Jugoslaviji (EIA, 2001).

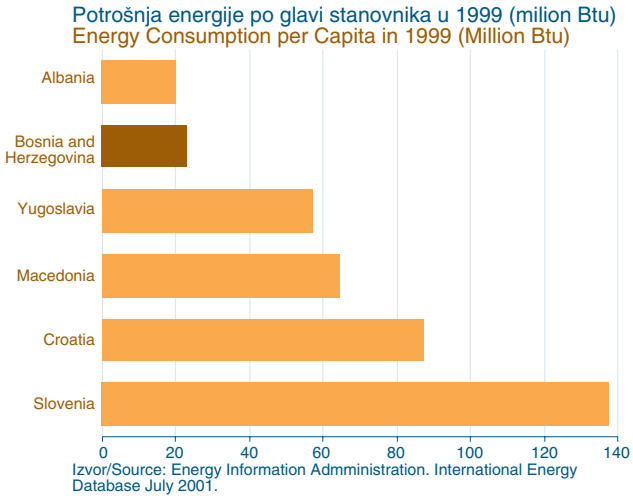
Energy consumption in BIH in 1999 was the second lowest in Europe, and was less than half of the pre-war consumption. More than a half of the energy needed was imported. Immediately after the war more than half of the country's capacity for the generation and transmission of electricity was damaged or destroyed. Most of these facilities have been recovered since. In 2000, one fifth of the electricity generated was exported. Carbon dioxide emissions in 1999 were almost 100 times lower than in Yugoslavia (EIA, 2001).

Glavni trendovi u BIH

Potrošnja energije po glavi stanovnika bila je na pretposljednjem mjestu u Evropi sa 0,03 proizvedenih i 0,09 potrošenih kvadriliona Btu u 1999. Više od polovine potreba u energiji bilo je uvezeno.

Ne postoji proizvodnja sirove nafte i prirodnog gasa. Sav prirodni gas uvozi se iz Rusije preko Mađarske i Srbije.

Kada se rat završio, 1996, više od pola proizvodnih kapaciteta bilo je van pogona, a oko 60% prenosne i distributivne mreže bilo je ozbiljno oštećeno.

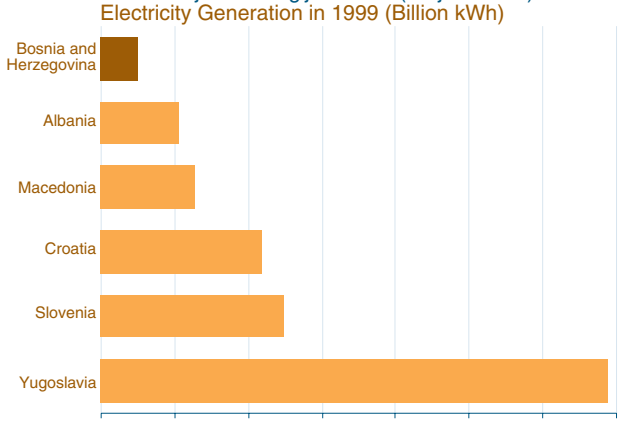


Do sada je oko 80% kapaciteta obnovljeno, što je dovoljno za sadašnju potrošnju, koja je ispod 50% od predratnog nivoa. Bosna i Hercegovina je bila uvoznik električne energije u 1999, a 2000. je oko 20% proizvedene električne energije bilo izvezeno.

Emisije ugljika iz potrošnje prirodnog gasa, uglja i nafte u 1999. iznosile su 1,2 milion metričkih tona (EIA, 2001).

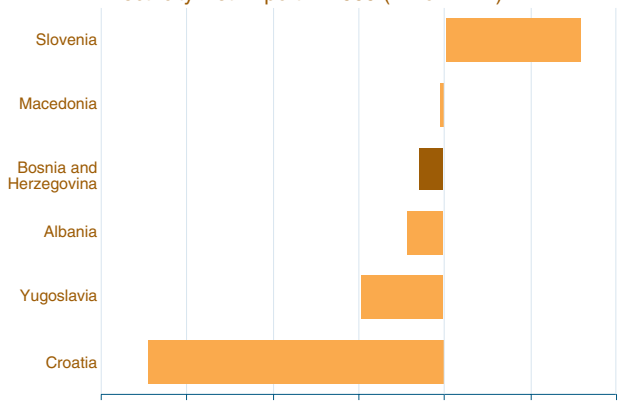
Energija
Energy

Proizvodnja el. energije u 1999 (milijardi kWh)
Electricity Generation in 1999 (Billion kWh)



Izvor/Source: Energy Information Admministration. International Energy Database July 2001.

Neto izvoz el. energije u 1999 (milijardi kWh)
Electricity Net Export in 1999 (Billion kWh)



Izvor/Source: Energy Information Admministration. International Energy Database July 2001.

Main BIH Trends

Energy consumption per capita was the second lowest in Europe with 0.03 quadrillion Btu produced and 0.09 consumed in 1999. More than half of the energy needed was imported.

There is no crude oil or natural gas production. All natural gas is imported through Hungary and Serbia from Russia.

In 1996, when the war ended, more than half of the country's capacity to generate electricity was disabled, and about 60% of the transmission and distribution network was seriously damaged.

Currently about 80% of capacities are restored, sufficing for the present consumption, which is less than 50% of the pre-war level. Bosnia and Herzegovina was a net importer of electricity in 1999, but in 2000 about 20% of the electricity generated was exported.

Carbon emissions from the consumption of natural gas, coal, and petroleum in 1999 were 1.2 million metric tons (EIA, 2001).

Energija

Najvažniji problem izazvan proizvodnjom energije je promjena klime. Promjena klime je problem koji je povezan sa promjenama u koncentraciji stakleničkih gasova (vodene pare, CO_2, CH_4, N_2O i CFC), koji apsorbuju infracrveno zračenje koje dolazi sa zemljine površine i tako izazivaju efekat staklene bašte. Ovaj efekat je inače prirodni fenomen koji pomaže održanju stabilne temperature i klime na zemlji. Ljudske aktivnosti, kao što su sagorijevanje fosilnih goriva, deforestacija i neki industrijski procesi, dovode do povećanja koncentracije stakleničkih gasova. Zbog toga, mnogo više infracrvenog zračenja biva apsorbovano u atmosferi, što dovodi do promjena u temperaturi vazduha, količini padavina, izaziva porast nivoa mora i topljenje glečera. Pored promjena klime, emisije NOx i SOx pri sagorijevanju goriva izazivaju kisele taloge na zemljištu i u vodi.

Voda koja se koristi u svrhe hlađenja prilikom proizvodnje energije, vraća se nazad u rijeke nakon

Globalni trendovi i projekcije

Ukupno korištenje energije u svijetu porast će za 51% između 1995. i 2020. Ukupno korištenje energije u Istočnoj Evropi i bivšem Sovjetskom Savezu ponovo će porasti, nakon pada u 90-tim izazvanog ekonomskim propadanjem i političkim reformama.

OECD zemlje proizvode oko 74% energije koju troše. Energija proizvedena iz nuklearnih goriva i obnovljivih izvora trenutno može pokriti potrebe OECD zemalja, međutim, predviđa se da će broj zemalja koje će moći da same zadovolje svoje potrebe opasti do 2020.

U 1998, energetski i sektor prevoza bili su odgovorni za 80% od ukupnih emisija stakleničkih plinova u zemljama OECD, čemu je nafta najviše doprinijela. Emisije SO_2 i CO_2 iz energetskog sektora će nastaviti da rastu.

Količina vode koja se koristi za rashladna postrojenja u proizvodnji energije dramatično raste (OECD, 2001).

Global Trends and Projections

Worldwide total energy use will grow by 51% between 1995 and 2020. Total energy use in Eastern Europe and the former Soviet Union will start to grow again, after the decline in the 1990s caused by the economic decline and political reforms.

OECD countries produce about 74% of the energy they consume. The energy produced from nuclear fuel and renewable sources can currently cover the OECD countries needs. However, it is predicted that the number of countries able to support their own energy needs will decrease by 2020.

In 1998, the energy and transport sectors were responsible for 80% of total GHG emissions in OECD countries, oil being the main contributor. Emissions of SO_2 and CO_2 from the energy sector will continue to increase.

The amount of water used for cooling purposes in energy production has increased dramatically (OECD, 2001).

korištenja, ali sa većom temperaturom i manjim sadržajem kiseonika, izazivajući tako termalno zagađenje i smanjenje sadržaja kiseonika u vodama. Nafta koja otiče iz rezervoara izaziva zagađenje vode i tla. Brane na rijekama dovode do poremećaja u protoku vode i utiču na faunu. Prema nedavnom istraživanju, vještačka jezera prouzrokuju povećanu emisiju metana usljed raspadanja organskih materija u potopljenim oblastima (OECD, 2001).

Štetni uticaji na okoliš povezani su sa ekstrakcijom fosilnih goriva (uglja kroz degradaciju zemljišta i emisiju metana i nafte kroz zagađenje vode i tla izazvano curenjem i nezgodama). Kopanje uglja, kao i njegovo sagorijevanje, takođe ostavlja značajne količine čvrstog otpada. Upotreba nuklearne energije produkuje nuklearni otpad, a predstavlja i veliku opasnost od nezgoda koje mogu da se dogode tokom rada.

Političke opcije

Jedan od najvećih problema su visoke subvencije u energetskom sektoru, uglavnom za proizvodnju uglja, nafte i nuklearnog goriva. Ovo dovodi do toga da nema dovoljno podsticaja za uvođenje novih goriva i tehnologija koje bi mogle smanjiti negativan uticaj na okoliš. Zbog toga je potrebno napraviti reformu subvencija koje su dovele do šteta u okolišu. Pored toga, trebalo bi uvesti takse na gorivo, koje su proporcionalne šteti koju to gorivo prouzrokuje (na primjer, da odražavaju količinu ugljika koju goriva sadrže) (OECD, 2001).

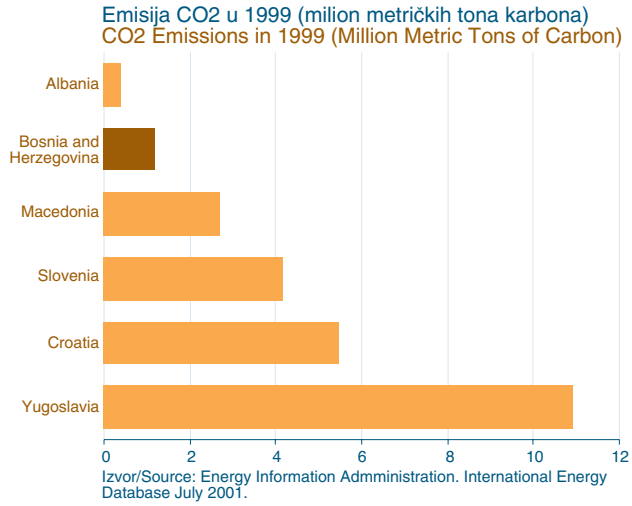
Rješenja za unapređenja u ovom sektoru nalaze se u povećanju efikasnosti sagorijevanja fosilnih goriva i podsticanju upotrebe obnovljive energije i novih tehnologija u proizvodnji energije. Potrebno je usredotočiti se na smanjenje emisije CO_2 (što znači smanjenje upotrebe energije ili prelazak na izvore sa niskom emisijom CO_2).

Postoje mnogi alternativni izvori energije i dobra tehnološka rješenja koja mogu smanjiti emisije. Problem je u tome što je njihova upotreba još uvijek vrlo skupa. Zbog toga još nije za očekivati velike promjene u tom smislu do 2020.

Energija
Energy

Energija u Bosni i Hercegovini

Prema podacima dostupnim do jula 2001, proizvodnja i potrošnja energije, kao i infrastruktura još uvijek nisu dostigli predratni nivo. Potrošnja energije po glavi stanovnika je na predzadnjem mjestu u Evropi, sa proizvedenih 0,03 kvadriliona Btu (British thermal unit - britanska termalna jedinica sadrži 1,055 J) i potrošenih 0,09 kvadriliona Btu u 1999 (EIA, 2001).



U 1999. uvezeno je 22.000 bbl/dan (bbl - barel, 0,159 kubnih metara) rafinirane nafte, jer rafinerije ne rade. Sav prirodni gas se uvozi iz Rusije kroz Mađarsku i Srbiju. Postoje dvije kompanije za distribuciju gasa: Gaspromet Pale i BH Gas (EIA, 2001).

Električna mreža u Bosni i Hercegovini je bila veoma oštećena u ratu. Međunarodni donatori dali su oko 513 miliona američkih dolara od 1996. za popravke električne infrastrukture. Uspostavljena su tri preduzeća za distribuciju su , umjesto jednog koje je bilo prije rata, dva u Federaciji i jedno u RS (EIA, 2001).

Energy

The most important problem caused by energy production and use is climate change. The climate change problem is related to changes in the concentration of the greenhouse gases (water vapor, CO_2, CH_4, N_2O, and CFCs), which trap infrared radiation from the Earth's surface and thus cause the greenhouse effect. This effect is a natural phenomenon, which helps maintain a stable temperature and climate on Earth. Human activities, such as fossil fuel combustion, deforestation, and some industrial processes have led to an increase in greenhouse gases concentration. Consequently, more infrared radiation has been captured in the atmosphere, which causes changes in the air temperature and precipitation patterns, the melting of ice and a consequent rise in sea-level. Air emission of NOx and SOx from fuel combustion leaves acidic deposit in water and soil.

The water used for cooling purposes in energy production is returned to its source after use, but at a higher temperature and with a lower oxygen contents, thus causing thermal pollution and oxygen depletion in water bodies. Leaking oil from oil tanks causes water and soil pollution. Dams on rivers cause disturbances in water flow and affect the fauna. According to a recent survey, they also cause an increase in methane emissions from the decay of organic matter in flooded areas (OECD, 2001).

Adverse environmental effects are related to the extraction of fossil fuels (coal, through land degradation and the emission of CH_4, and oil through pollution of water and soil caused by leaking and accidents). Coal mining and combustion also generate substantial amount of solid waste. The use of nuclear energy produces nuclear waste, and also represents a great hazard, in case of an accident occurring at a nuclear site during the operation.

Policy Options

One of the largest problems are high subsidies in the energy sector, mostly for nuclear, coal, and oil production. This has the effect of discouraging the introduction of new fuels and technologies that could reduce the adverse impact on the environment. It is, therefore, necessary to make a reform of such sub-

sidies that contribute to harming the environment. In addition, taxes on fuel use should be introduced, that are proportional to the environmental damage the fuels are likely to cause (reflecting, for example, their carbon content) (OECD, 2001).

Solutions to the problems in this sector may be sought in increasing the efficiency of fossil fuel combustion and encouraging the use of renewable energy and new technologies for energy generation. It is necessary to focus on CO_2 emission reduction (which means reduction in energy use or switching to low-emission sources).

Many solutions involving alternative energy sources and good technology have been offered that can help to reduce emissions. The problem is that their application and use are still very expensive. It is not to be expected, therefore, that important changes in this regard will have come about by 2020.

Energy in Bosnia and Herzegovina

As of July 2001, BIH energy production, consumption, and infrastructure have not returned to the levels before the war. Energy consumption per capita is the second lowest in Europe with 0.03 quadrillion Btu produced and 0.09 quadrillion Btu (Btu - British thermal unit, contains 1.055 J) consumed in 1999 (EIA, 2001).

In 1999, the country imported 22,000 bbl/day (bbl - barrel, 0.159 cubic meters) of refined oil, because the refineries are out of operation. All natural gas is imported through Hungary and Serbia from Russia. There are two gas companies: Gaspromet Pale and BH Gas (EIA, 2001).

The electricity network in Bosnia and Herzegovina was badly damaged during the war. International donors have contributed about USD 513 million since 1996 for the improvement of the electricity infrastructure. Instead of only one, three utilities have been created - two in the Federation of Bosnia and Herzegovina and one in Republika Srpska (EIA, 2001).