Table of Contents

Overview- Hydro Power Plant “Janjići”

Location of facility: the river Bosna, the area of municipality Zenica
Type of facility: run of dam power plant
Installed capacity: 13.3 MW
Annual production: 68 GWh

Investment

Investment: 68.5 million KM
Financing: Loans and funds of JP EPBIH

Project status

Completed activities:

- Feasibility Study

Activities in progress:

- Drafting Preliminary Design for HPP Janjići
- Consulting Services: Study of Fauna Baseline Survey and Social Impact Assessment Study (ESIA)

Future activities:

- Development of Concept Design and the Environmental Impact Study

Overview- Hydro Power Plant “Una Kostela-Annex”

Location of facility: the river Una, existing HPP “Una Kostela” are of the municipality Bihać,
Type of facility: run-of derivation power plant
Installed power: 6.46 MW
Annual production : 21.42 GWh

Investment

Investment: 20.1 million KM
Financing: Loans and funds of JP EPBIH

Project status

Completed activities:

- Analysis of hydraulic performance and energy effects of the second phase of reconstruction of HPP “Una Kostela” and “HPP Una Kostela Annex” - Study on expansion
- Study of the environmental discharge based on Una river investigations at the site of HPP Una Kostela

Activities in progress:

- Drafting and Review of Preliminary Design for reconstruction and expansion

Future activities:

- Environmental Impact Assessment
- Ensuring the approval of the competent authorities for the reconstruction and expansion

Environment and Energy / Environment / Your Voice:

- Hydropower_Project_Una-Kostela_Bihac.pdf

Overview- Hydro Power Plant “Ustikolina”

Location of facility: the river Drina, Bosnian-Podrinje Canton – Goražde
Type of facility: run-of dam power plant
Installed power: 60.48 MW
Annual production: 236.80 GWh

Investment

Investments: 270 million KM
Financing: Loans and funds of JP EPBIH

Project status

Completed activities:

- Preliminary design Phase I without the site investigation works
- Environmental permit

Activities in progress:

- Ensuring the approvals of the competent authorities for the investigation works

Future activities:

- Carrying out the site investigation works aimed at completing the Preliminary Design

Hydro Power Plant “Kovanići”

Location of facility: the river Bosna, Zenica-Doboj Canton
Type of facility: run-of dam power plant
Installed capacity: 13.3 MW
Annual production: 65 GWh

Investment

Investment: 68 million KM
Financing: Loans and funds of JP EPBIH

Project status

Activities in progress:

- Drafting Feasibility Study including Site Investigation works

Future activities:

- Upon completion of the Feasibility Study it will be prepared and submitted request/unsolicited proposal for obtaining concessions

Hydro Power Plant “Čaplje”

Location of facility: the Sana River, area of Sanski Most
Type o facility: run-of dam power plant
Installed power: 11.63 MW
Annual production: 56.82 GWh

Investment

Investments: 64.5 million KM
Financing: Loans and funds of JP EPBIH

Project status

Completed activities:
Geological and geotechnical, geophysical and seismological site investigation works project for Preliminary design of HPP Čaplje, Energoinvest Energoinžinjering, Sarajevo, July 2012

Activities in progress:
Ensuring the approval of the competent authorities for performing site investigation works

Future activities:
Performing site investigation works

Hydro Power Plant “Babino Selo”

Location of facility: the river Vrbas, municipality Donji Vakuf
Type of facility: run-of derivation power plant
Installed net electric power: 11,5 MW
Electricity generation: 59.9 GWh annually

Total investment cost: 22.2 million EUR
Civil Works: 13.6 million EUR
Equipment: 7.1 million EUR
Other costs: 1.5 million EUR

Project status

Completed activities:

- The Feasibility Report including an Environmental and Social Impact Assessment (ESIA) will be funded through a WBIF grant (750.000 EUR)
- The consent to perform research works has been obtained from the Council of Municipality Donji Vakuf

Activities in progress:

- Development of Feasibility Study
- Study of hydro potential of Vrbas River completed
- PRESENTATION OF PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT
  Presentation of "Preliminary Environmental Impact Assessment" and "Plan of stakeholders participation in project" will be held on 04/26/2016 at 13.00 in the hall of

the Donji Vakuf Municipality, all in context of Feasibility Study drafting.

- These documents can be downloaded below:

  ENVIRONMENTAL AND SOCIAL SCOPING STUDY.pdf
  STAKEHOLDER ENGAGEMENT PLAN.pdf
  PROJECT INFORMATION FLYER.pdf

Hydro Power Plant “Kruševo & Zeleni Vir”

Location of facility: the river Bioštica, the area of municipality Olovo
Type of facility: HPP Kruševo is peak HPP; HPP Zeleni Vir is compensation HPP
Installed power: HPP Kruševo / HPP Zeleni Vir – 10.97 / 2.36 MW
Annual production: HPP Kruševo / HPP Zeleni Vir – 30.76 / 9.64 GWh

Investment

Investment: HPP Kruševo + HPP Zeleni Vir – 33.75 + 9.63 million EUR
Financing: Loans and funds of JP EPBIH

Project status

Completed activities:

- The Technical Report of hydropower usage of the river Bioštica
- The Economic and Financial Analysis for HPP Kruševo with HPP Zeleni Vir
- The Study of hydropower usage of the river Bioštica in the municipality of Olovo with The Conceptual design of hydropower plants
- WBIF approved 1.0 million EURO for drafting the Feasibility study with the site investigation works on level of preliminary design and the Environmental impact assessment
- Performed technical survey and demining the area that is planned for the construction of HPP Kruševo with Zeleni Vir

Future activities:

- Drafting Preliminary design including Environmental Impact Assessment

6 HYDRO POWER PLANTS ON BOSNA RIVER

Project title: 6 Hydro Power Plants on the Bosna River: HPP Begov Han, HPP Zelece, HPP Potklecka polja, HPP Dolina, HPP Globarica, HPP Komsic

Location : The project spans over the area of three municipalities: Zepce (HPP Begov Han, HPP Zelece and HPP Globarica) Zavidovici (HPP Potklecka polja, HPP Dolina) Maglaj (HPP Komsici)

Installed net electric power : 90 MW
Electricity generation: 375,58 GWh
Investment & Technical documentation status : Project concepts and pre-feasibility studies All the conditions for obtaining concessions are fulfilled.
Project schedule: The construction phase is 5 years. With the current price of electricity (0.05 EUR per kWh), the annual income is 18 779 000 EUR. Based on that, return of investment (ROI) period is under 8 years.
Total investment cost : 150 million EUR
Form of cooperation with foreign partner : Sale of company, loans, strategic partner or joint venture

HPP BILEĆA,Trebišnjica river

Location: Bileća, Trebišnjica river

Type: Run – of – river

Installed net electric power: 33 MW

Electricity generation: 116 GWh annually

Total investment cost: 48 million EUR

Civil Works: The feeder tunnel Fatnicko field - Bileca with total length of 15.6 km was built

Investment & Technical documentation status: Preliminary Design and Study of Justification (2008)

HPP DRINA I,DRINA II, DRINA III

HPP DRINA I

Type: Run – of – river
Installed net electric power: 93 MW
Electricity generation: 396 GWhannually
Total investment cost: 155 million EUR

HPP DRINA II

Type: Up-to-dam
Installed net electric power : 93 MW
Electricity generation: 396 GWhannually
Total investment cost: 171 million EUR

HPP DRINA III

Type: Up-to-dam
Installed net electric power: 93 MW
Electricity generation: 396 GWhannually
Total investment cost : 198 million EUR

Investment & Technical documentation status: Document: "Usage of Hydro Power Potential of Upper Drina &Sutjeska" as well as Conceptual Design and the Preliminary Study of Justification completed.

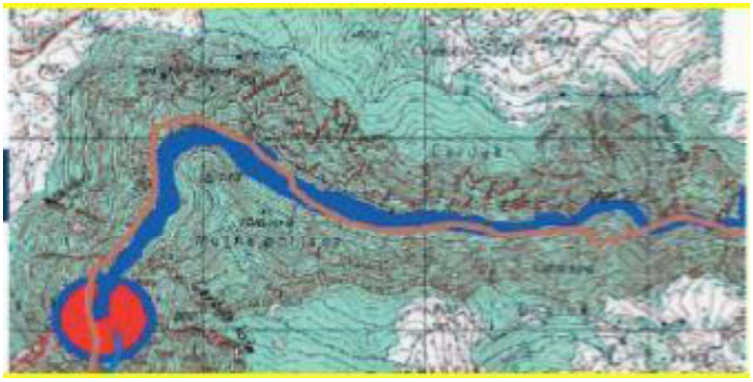
HPP HAN SKELA, Jajce

Location: Jajce, Vrbas River
Type: Run – of – river
Installed net electric power: 2x6 =12 MW
Electricity generation: 52 GWhannually
Total investment cost: 29.50 million EUR
Civil Works: 12.38 million EUR
Equipment: 10.09 million EUR
Other costs: 2.03 million EUR
Investments schedule (€ million): 2013 : 11.8 ; 2014: 17.8
Investment & Technical documentation status: Prefeasibility Study completed

HPP VRLETNA KOSA, Jajce

Location: Jajce , Ugar River
Type: Run – of – river
Installed net electric power: 2x5.6 = 11.2 MW
Electricity generation: 22.538 GWh annually
Total investment cost: 6.93 million EUR
Civil Works: 3.68 million EUR
Equipment: 2.18 million EUR
Other costs: 1.07 million EUR
Investments schedule (€ million) : 2016: 2.77 2017: 4.16
Investment & Technical documentation status : Prefeasibility Study completed

HPP IVIK, Jajce



Location: Jajce, Ugar River
Type: Run – of – river
Installed net electric power: 2x5.6 = 11.2 MW
Electricity generation: 21.883 GWhannually
Total investment cost : 6.93 million EUR
Civil Works: 3.68 million EUR
Equipment: 2.18 million EUR
Other costs: 1.07 million EUR
Investments schedule (€ million): 2015 : 2.77 2016: 4.16
Investment & Technical documentation status: Prefeasibility Study completed

PUMPED STORAGE POWER PLANT (PSPP) KABLIĆ, Livno

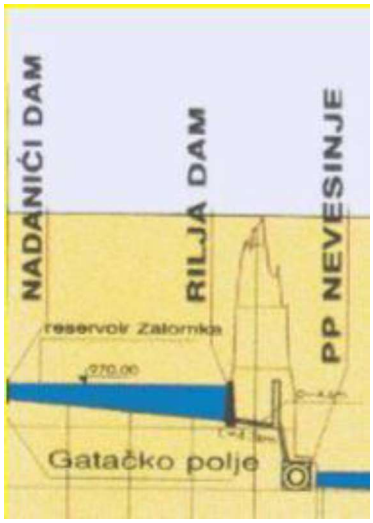
Location: Glamočko and Livanjsko field

Type: Pumped Storage Power Plant
Installed net electric power: 2x26 = 52 MW
Electricity generation: 73.44 GWhannually
Total investment cost: 58.42 million EUR
Civil Works: 30.00 million EUR
Equipment: 24.44 million EUR
Other costs: 3.98 million EUR

Investments schedule (€ million):	2015	2016	2017
	14.60	26.30	17.52

Investment & Technical documentation status : Prefeasibility Study completed 2010

HPP NEVESINJE, ZALOMKA RIVER



Location: Zalomka River, Nevesinje

Type: Run – of – river

Installed net electric power: 60 MW

Electricity generation: 100 GWh annually

Total investment cost: 100 million EUR

Investment & Technical documentation status : Preliminary Design and Study of Justification

HPP UGAR UŠĆE, Jajce

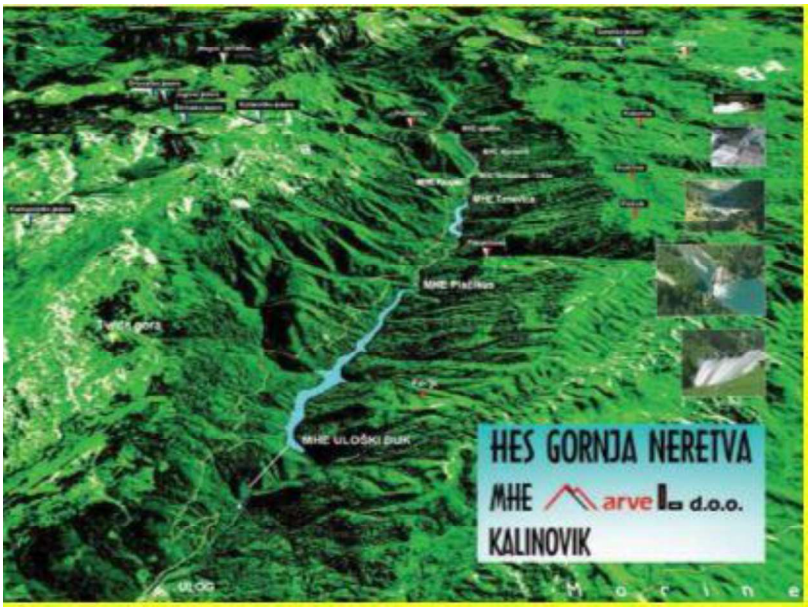
Location: Jajce, Vrbas River
Type: Run – of – river
Installed net electric power: 2x5.8 = 11.6 MW
Electricity generation: 33.188 GW h annually
Total investment cost: 12.87 million EUR
Civil Works: 8.94 million EUR
Equipment: 2.05 million EUR
Other costs: 1.88 million EUR
Investments schedule (€ million):

2014	2015
5.15	7.72

Investment & Technical documentation status: Prefeasibility Study completed

SMALL HIDRO POWER PLANTS

HPP HES “GORNJA NERETVA



Location: Municipality of Gacko and Municipality of Kalinovik

Type: Derivational, 7 small hydro power plants

Installed net electric power: 14,396 MW

Electricity generation: 53,40 GWh

Total investment cost: 28.50 million EUR

Civil Works: 16.50 million EUR

Equipment: 9.00 million EUR

Other costs: 3.00 million EUR

Approvals status: 3 small HPP in Gacko municipality: all documentation for approval completed up to the phase of getting the building permit 4 small HPP in Kalinovik municipality, Environmental study in the procedure of approval

Investment & Technical documentation status : Complete Concept Design and Study of Economic Justification

SHPP “MARIN MOST”, PROZOR RAMA

Location: Prozor/Rama

Type: SHPP

Installed net electric power SHPP: Capacity 2.470 kW

Electricity generation Possible annual production: 12.109 MWh

Total investment cost : 4.000.000 EUR

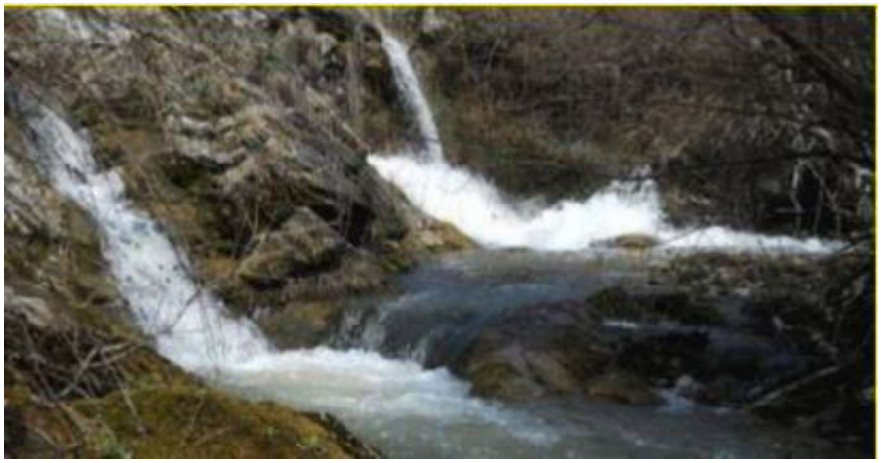
Approvals status: Study on Environmental Impact Assessment in MHE Marin most

Investment & Technical documentation status: Process of obtaining zoning approvals

Project schedule: Implementation period: 2 years

Project payback period: 7 years

MHPP ‘’IVANČICA’’, BUSOVAČA



Location: Busovača Municipality, Central Bosnia Canton Federation of BiH
Type: Mini Hydro Power Plants
Installed net electric power: Derivational Mini Hydro Power Plants nominal power of 0,498 MW and annual production of 1.8 GWh of electricity

Total investment cost: The total project is 0,82 million EUR , the estimated annual income of 110,000 EUR

Approvals status: The main project - under construction

Investment & Technical documentation status:
The concession contract signed with the Canton Central Bosnia on 30 years. Conceptual design and Economic exploitation plan with Environmental impact assessments - made.

Project schedule Implementation period: 2 years Project payback period: 8 years

MINI HPP “PONOR“, MRKONJIĆ GRAD

Location: Ponor river, Municipality of Mrkonjić Grad

Type: Mini hydro power plants “PONOR“
Storage capacity: 2.8 million m3

Installed net electric power: 10 MW
Electricity generation: Ey 53,33 GWh/per year

Total investment cost: 28 million €
Civil Works: 25 million €
Equipment: 2 million €
Other costs: 1 million €
Approvals status: Feasibility Study

Investment & Technical documentation status:
Preliminary Study, Economic and Technical Analysis Business Plan Study on hydrology Topographic survey
Project schedule: The planned period of project implementation - 3 years The planned period of return - 9 years Projected revenues - 3,394,700 € / year

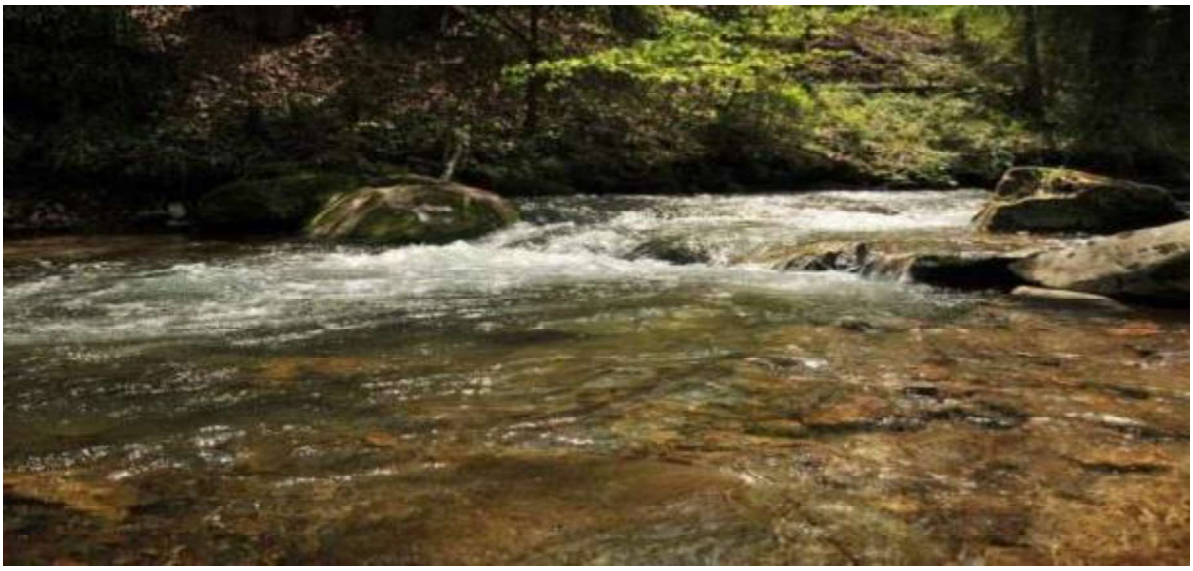
SMALL HPP “GLAVICA“, SIPOVO

Project title: Small Hydro Power Plant “Glavica“ on Pliva river
Sector : Energy
Location: Municipality of Sipovo
Location description: Pliva river is a left tributary of Vrbas river, with a length of 33 km. HPP accumulation will be positioned on downstream part of the river and SHPP Glavica on its upstream part, just above town of Sipovo.
Company description: Project owner/developer: BBB Ltd Sipovo
Project status: Ready for Implementation
Project description: Technical solution enables secure energy production on high level achieving aboveaverage energy production of 9. 5 G Wh. Water inflow is stable and constant (with average value of 22.1 m3/s in more than 45% of the time annually) on treated site.

Financial indicators: IRR = 13.8%; B/C = 1. 47; ROA = 3.1; ROE = 16.65

Estimated total investment cost: 3 100 000 EUR
Inputs provided by local partner: 300 000 EUR
Inputs required from foreign partner : 2 800 000 EUR
Form of cooperation with foreign partner: Joint venture

SMALL HPP KRUSCICA 1, VITEZ



Project title : Small hydro power Plant “Kruscica 1”

Location : River Kruscica, Vitez Municipality

Installed net electric power : Installed power 0.662 MW

Electricity generation: Annual production 2.7 GWh

Investment & Technical documentation status : Concession Agreement Approvals and Construction permit obtained

Total investment cost : 1.8 million EUR

Inputs provided by local partner : 300 000 EUR Obtaining the construction permit

Inputs required from foreign partner: 1.5 million EUR Financing the project and takeover part of the company from the owner of the concession.

Form of cooperation with foreign partner : Joint Venture Financing the project, with participation in profit during concession period of 30 years in amount of 70%.

SMALL HPP MEDNA SKLOP, MRKONJIC GRAD

Location: Mrkonjic Grad Municipality, Medljanska river

Type: SHPP

Installed net electric power: Installed Power: 0.89 MW

Electricity generation: Annual production: 4,364 GWh

Total investment cost: 1.613 million EUR

Civil Works: 0.929 million EUR

Equipment: 0.500 million EUR

Other costs: 0.184 million EUR

Approvals status: All approvals issued Main project approved

Investment & Technical documentation status: Obtaining urban permits in progress

SMALL HPP SOKOCNICA, MRKONJIC GRAD

Location : Mrkonjic Grad Municipality, Sokocnica River

Type: SHPP

Installed net electric power: Installed Power: 0.75 MW

Electricity generation: Annual Production: 3,426 GWh

Total investment cost: 1.215 million EUR

Civil Works : 0.641 million EUR

Equipment : 0.474 million EUR

Other costs: 0.100 million EUR

Approvals status : All approvals issued Main project approved

Investment & Technical documentation status : Obtaining urban permits in progress

SHPP “TOPLICA 3”, KISELJAK

Location: Lepenica, Kiseljak

Type: SHPP

Installed net electric power: Installed Capacity 619 kW

Electricity generation Ey: Possible annual production 2.980 MWh

Total investment cost: 1.500.000 EUR

Approvals status: Study on Environmental Impact Assessment in MHE Marin most

Investment & Technical documentation status: Process of urban permit obtaining

Polimac Company d.o.o.
Sarajevo, Bosna i Hercegovina

SOLAR POWER PLANTS

IN BOSNIA AND HERZEGOVINA

Sarajevo, 2020

Polimac Company LTD

Bosna & Hercegovina

2020

Mr. Mehmed Polimac
General Manager
mehmed.polimac@polimac-co.ba
Mob. +387 61 14 18 72
Fax. +387 33 66 59 87

PhD Rasim Gačanović
Consultant - Advisor
technics@polimac-co.ba

Web: www.polimac-co.ba
Email: office@polimac-co.ba
Phone: +387 33 66 59 87

Table of Contents

GENERAL INFORMATION

Energy has a major impact on the growth and development of the economy of each country, primarily through technological development and the increasing competitiveness of the economy. Energy is a generator of development in the technological, economic, scientific and educational terms.

The energy supply is essential for the sustainability of economic development of the countries of the Western Balkans, especially due to the fact that it is a large number of relatively small economies.

From the perspective of the European Union, SEE region has been identified as a major transit region for gas, oil and electricity. World Bank research shows that the lack of energy and energy demands throughout the region will be dramatically increased in the near future.

Energy sector is one of the most powerful in B&H, with long tradition, huge potentials and opportunities for further development and investment.

According to the latest data, B & H is at first place in the region concerning the export of electricity. The export of electricity in 2014 was 5,997 GWh.

In the last three years, BiH was ranked as 24th in the world in the export of electricity, while Germany occupied first place.

In the last few years a significant growth of foreign investment in Bosnia and Herzegovina

Energy sector, has recorded. Foreign investors have recognized the potential of this sector in B&H, and also the B&H Public Companies producing electricity, invest substantial means in order to this sector enable sustainable development and growth.

WHY INVEST IN ENERGY SECTOR OF B&H?

- Energy Community Membership
- Favorable Feed-in-tariffs for RES power plant
- Low operating costs and competitively priced & qualified human capital
- Energy Reserves and Potentials

2006 B&H ratified the Treaty Establishing the Energy Community, which provides the creation of the biggest internal market in the world for electricity and gas, signed between European Union on one side,

and eight Contracting Parties: Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Moldova, Montenegro, Serbia and Ukraine.

Seventeen countries have the status of Participants and directly participate in the work of the Energy Community bodies: Austria, Bulgaria, Czech Republic, Croatia, Cyprus, Finland, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Romania, Slovakia, Slovenia and the United Kingdom.

Armenia, Georgia, Norway and Turkey have observer status in the Energy Community bodies.

The main goals of the Energy Community are:

• Creation of a stable and single regulatory framework and market space

• Providing of reliable energy supply

• Attracting investments in the electricity and gas sectors.

• Implementation of energy efficiency

• Utilization of renewable sources.

ENERGY RESERVES AND POTENTIALS

Bosnia and Herzegovina is endeavored with significant and diverse indigenous natural energy re-sources that are still untouched or only partly exploited, such as:

• The main energy resource of B&H is coal (brown coal and lignite), with estimated reserves of 6 billion tons (average annual coal consumption for electricity production is about 8 million tons)
• The hydropower potential is 6000 MW which locates B&H on the eight place in Europe and currently installed capacity of 2 054 MW represents 36% of total hydro potential ,
• According to the extensive researches, there is significant wind energy potential which is estimated at 2000 MW
• Raw material resources for the bio-mass energy are extremely favorable, including approximately 1.5 million m3 of forest / wood industry residues (all wood waste, sawdust, chips, and chipped technical wood), etc.
• Potential for exploitation of geo-thermal and solar energy are available too, but have not been sufficiently explored and exploited
• Preliminary research surveys of oil and gas, had indicated the presence of promising deposits on a number of sites in B&H (off-balance sheet reserves are estimated at about 50 million tons of oil.

B&H energy sector encompasses the following main subsectors:

• Coal

• Electric power

• Oil & Natural gas

POWER GENERATION

Electricity is predominantly produced in hydro and thermal power plants. Currently, the production facilities, with total installed capacities of 4000 MW, exceed the domestic demand, and the electricity is exported.

Gross electricity production in Bosnia and Herzegovina was 1328 GWh in August 2017, and it decreased by 5.4% compared to August 2016. In total gross electricity production hydro power plants participated with the share of 22.5% and thermal power plants with 77.5%

NEW POWER GENERATION PROJECTS DEVELOPMENT

Intending to harness the substantial and diversified energy resource base in B&H, all relevant stakeholders in B&H are adopted development and investment programs for construction of new generation plants, entirely respecting recommendation from EU Directive 2003/54.

Significant investments in new power system facilities and expansion of power generation capacities are foreseen by these programs, in order to meet growing electricity supply deficit within regional and larger European markets.

Investment programs encompass a number of the development projects, based on coal, hydro and renewable energy sources, including both expansion of existing and construction of new power generation capacities.

ENVIRONMENT FOR INVESTMENT

The energy sector is central to the Bosnia and Herzegovina (BiH) economy and considered its greatest long-term development potential, since the country is a surplus generator and one of only two countries in the South East Europe region that exports electricity.

BiH has significant reserves in fossil fuels and potential in renewables, especially hydropower, where only an estimated one third of the total potential is being used currently. Almost no significant generation

infrastructure has been built in more than 25 years; the aging infrastructure reduces the security of BiH's energy supply and threatens its revenue-generating surplus electricity exports.

As a result, the country must focus on a major overhaul of its existing plants and the development of new generation capacity. BiH has extraordinary potential for the substantial expansion of generation if it can attract the needed investment.

Since hydropower is the most under-utilized natural resource, the expansion in construction of both small and a large (Drina River) hydro power plants could be the most significant. The construction and operation of this additional generation capacity would create many new jobs, which are sorely needed in BiH.

At present, the number of private investors in BiH is low despite the country's great potential and several other factors that make the country an attractive destination for investors, such as competitive labor cost, low corporate taxes, and convenient (close) access to major European consumer markets.

Some investors have succeeded in completing their projects, while others have had their projects stalled for years.

Authorization Framework

EU Authorization Framework: The Berger Study

The Berger Study covers data on permitting from a survey of 13 EU Member States: Austria, Denmark, France, Germany, Hungary, Ireland, Italy, the Netherlands, Poland, Slovenia, Spain Sweden and the UK. Although the Berger Study is focused on transmission permitting process, the basic authorization permitting processes and steps for both transmission and generation are the same.

As noted earlier in the text, the Berger Study established a generic framework for the authorization process. The meaning of the phrase "the authorization of energy projects" for the purpose of the Berger Study includes the development of a project from the identification of the need for expanding the energy infrastructure to the start of construction of an energy infrastructure project.

The four steps typical for the authorization framework of energy infrastructure projects in all EU member states are defined, as illustrated in the figure below. The four identified steps are as follows: 1) the definition of projects of public interest; 2) spatial planning; 3) the actual permitting procedure; and 4) securing the land or the right to use the land required to construct and operate the facility.

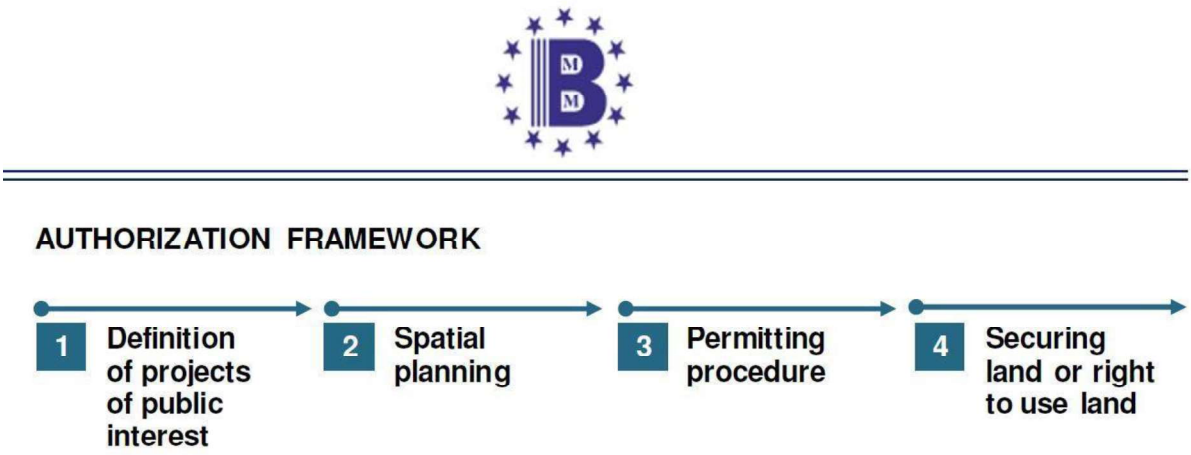


Figure 1: The Berger Study – Authorization Framework

1. Definition of projects of public interest: In many countries, the government or the Parliament identifies the need for expanding the energy infrastructure (transmission or generation facilities). Energy infrastructure projects for which legislation was passed or incorporated in planning documents are considered to be of public interest.

2. Spatial Planning: The spatial planning procedure includes two steps: 1) deciding on the location of planned energy infrastructure projects or the route they follow; 2) deciding on whether and how to adjust the existing spatial plan to be compatible with official spatial planning documents. In practice, these two steps are often inseparably linked. With regard to the first step, the location and/or route must in many countries be compatible with official spatial planning documents. The spatial plan determines for what purpose land may be used. In the process of detailing the location and/or route of the planned energy infrastructure project, the results of an Environment Impact Assessment (EIA) also play a significant role. With regard to the second step, the following considerations apply: for land to be used for building and operating energy infrastructure, the spatial plan must first be adapted to reflect the location of the energy infrastructure or its approximate route. Adapting the spatial plan can be done by decision of the legislator, and/or through a separate spatial planning procedure at a regional or local level.

3. Permitting Procedures: At its most fundamental level, the basic authorization framework for permitting energy infrastructure generally consists of a permitting procedure. The permitting procedure for the construction and operation of energy infrastructure (i) examines its technical characteristics, safety, environmental and social impact on the basis of detailed application documents compiled and submitted by the developer; (ii) examines and considers comments from stakeholders (the relevant authorities, NGOs, interest groups, people affected and the general public); and (iii) the responsible authority decides whether permit(s) will be issued.

4. Securing land, or the right to use land: The developer needs to obtain the land (or the right to use the land) required for construction and operation of the project. Affected landowners receive financial compensation.

The Berger Study tracks what it considered to be the eight key challenges to permitting procedures, noting in general that public opposition and complex permitting procedures are the most important causes of delays, at least from the perspective of investors (developers).13 The key challenges are as follows:

1. Number of Processes and Process Steps: The risk of duplicated work (meaning that the same documents are checked and assessed by two or more different levels of jurisdiction) and the risk of inconsistency between decisions, decreases with fewer processes and process steps. Further, the simpler the process, the less time the authority and the developer need to invest in coordinating interfaces between the different processes. The Berger Study indicates that Italy has one process, Germany two processes, and Hungary up to seven processes, five of the seven authorities being on more than one level.

2. Processes in Parallel or in Sequence: When one process step requires the result of another step as input means that the two processes cannot be performed in parallel, which increases the complexity of and time to complete the process.

3. Number of institutions having the competence for the issuance of permits and approvals: The number of authorities involved in the permitting process impacts the complexity of the permitting process: the more streamlined and transparent the process, usually meaning fewer authorities, the shorter and more efficient the process tends to be. Whereas in England and Wales, the Netherlands, and Italy only one authority holds overall responsibility for the permitting procedure, in Poland more than ten authorities may be responsible for a single process and no single institution has overall responsibility for driving the procedure and controlling the quality of output. Hungary and Slovenia have 4-5 responsible authorities; and France, Germany Denmark and Sweden have 2-3.16

4. Involving and Informing Stakeholders. The EIA Directive17 makes mandatory the involvement of authorities that are likely to be concerned by a project because of their environmental responsibilities or local and regional competences. Similarly, to ensure the effective participation of the public concerned, the public must be informed by appropriate means “early in the environmental decision-making procedures.”

5. Application Documents. The documents submitted as part of the permit application are crucial to the permitting procedure, as they are utilized during the public consultation and provide the basis for the permit. Interestingly, the EIA Directive requires a non-technical summary of the project application that can be understood by non-experts. Approximately 80% of the documentation submitted with the application consists of environmental documents and analyses, which typically take two years or more to prepare.

6. Resources. The lack of resources – both technical (technical, environmental and legal) and processhandling (experience with permitting processes, working with stakeholders and communications) in the responsible permitting authorities – causes delay in permitting processes.

7. Duration. Duration of the permitting process holds back many infrastructure investments and causes additional costs for developers in terms of financing arrangements and under-utilized resources or equipment. The Berger Study found that the average length of the procedure is more or less four years.

8. Cost. Both the permitting authority and the developer incur costs during a permitting procedure. The main cost driver for the authority was personnel, particularly during the public consultation stage, and at

the permit issuance stage. From the developer's point of view, costs can accumulate due to delay resulting from penalties from construction companies and unused equipment and unrealized cash flows.

Authorization Framework in BiH

According to the Constitutional organization of Bosnia and Herzegovina, the jurisdiction for conducting processes and steps within the authorization framework for the development of infrastructure projects is divided among different government levels in Bosnia and Herzegovina (the state, entity, and BD).

A typical authorization framework, as defined by the Berger Study, which includes four steps: 1) definition of project of public interest; 2) spatial planning; 3) permitting procedure; and 4) securing the land or right to use the land, can be identified at the entity level.

Thus, the permitting procedure for the development of energy infrastructure projects as the core part of the authorization framework is primarily regulated at the entity level: the Federation of BiH (FBiH), and the Republika Srpska (RS).

Further, due to the division of competences between the Federation BiH and its ten (10) cantons, established by the FBiH Constitution,23 many relevant permitting areas in FBiH are regulated by both FBiH and cantonal legislation (e.g., concessions, spatial planning). Consequently, the permitting procedure in FBiH is conducted at the FBiH and/or cantonal level. In contrast, the permitting procedure in the RS is more centralized at the entity level.

Local authorities are also involved in some specific permitting processes and steps in both entities. Although the typical authorization framework (as defined by the Berger Study) is implemented at the entity level, the issuance of some important approvals and permits are within the competence of the state level institutions/bodies, such as concessions in cases when the law authorizes the state to issue concessions, and connection to the transmission network (110 kV, 220 kV, and 400 kV).

The role of the state-level institutions in implementing energy infrastructure projects is likely to become more prominent given that almost all planned and bigger energy infrastructure projects will have an inter-entity and/or inter-state (regional) element (i.e., construction of hydro power plants on rivers running through both BiH entities and between countries such as the HPPs on the Drina River or transmission from BiH to Serbia and Croatia), for which the jurisdiction is at the state level pursuant to the BiH Constitution.

The role of the state level institutions in the permitting procedure is particularly important in light of the future implementation of Projects of Energy Community Interest (PECI), which are planned to be constructed on the territory of BiH and its neighboring counties, Serbia and Croatia. Specifically, the Energy Community (EnC) Ministerial Council adopted a list of Projects of Energy Community Interest (PECI) on October 24, 2013, including seven projects on BIH territory, with a total estimated value of EUR 1.627 billion for five electricity generation plants24 and EUR 28.8 million for two transmission lines, one to

Croatia and one to Serbia. Thus, seven PECI projects located on the BiH territory are currently on the EnC list.

Out of those seven, five projects relate to the construction of new energy facilities, and two relate to construction of transmission to neighboring countries, Croatia and Serbia.

Moreover, the EnC Ministerial Council adopted the Decision on Implementation of the Regulation (EU) No. 347/2013 on Guidelines for Trans-European Energy Infrastructure in the EC (Regulation 347) on October 16, 2015. Regulation 347 established a comprehensive framework for speeding up and simplifying the permitting procedure for construction of Projects of Common Interest (PCI) in the EU as well as for the distribution of costs between the Member States. Since October 16, 2015, the measures prescribed by Regulation 347 are binding for all signatories of the Energy Community Treaty, including BiH, and applicable to implementation of the PECI projects.

BiH is, therefore, obliged to harmonize its legislative and regulatory framework (laws, regulations and administrative procedures) with the adapted text of Regulation 347, by December 31, 2016. The promoters of PECI projects and all respective institutions in BiH are required to secure the fastest possible legal treatment in their implementation.

Some of the measures that need to be included into the legislative framework in BiH are as follows:

i) the designation of the status of the "highest state importance" to PECI projects and their prioritized treatment in the permitting procedure, including spatial planning and the Environmental Impact Assessment (EIA);

ii) the designation of one state institution (body) that will be responsible for enabling and coordination of the permitting procedure for PECI projects in line with one of the three proposed schemes (i.e., integrated, coordinated, collaborative);

iii) definition of the procedure for implementation of PECI projects, which will consist of two parts (two procedures), the combined duration of which cannot last longer than three (3) years and six (6) months. PECI projects are of crucial importance for the sustainability of the BiH energy system, increased security of supply, and connecting the BiH energy market with the markets of the EnC Treaty signatory countries, and the EU Member States.

Furthermore, the role of the state level institutions in the permitting procedure for the development of energy infrastructure projects needs to be considered in light of the size and volume of investment: namely, credible financial institutions, ability to provide a high level of funds, and request for guarantees for the repayment of their loans. A previous experience with a similar project in the energy sector in 2011, when the Italian investor SECI ENERGIA negotiated the construction of the HPPs Middle Drina (one of the projects from the PECI list) with the RS and then BiH authorities showed that international financial institutions are likely to request guarantees from the state, and not the entity, because of the Constitutional competences of the state in granting concessions comprising inter-state and inter-entity elements.

Hence, despite the fact that the entity level authorization framework is the main focus of this report, the relevant part of the authorization framework and permits pertaining to the construction of energy infrastructure projects at the state level are highlighted in this Chapter. Given its special status, the key features of the BD authorization framework are also included.

State Level

The authorization framework at the state level, as well as at the entities and BD levels, is presented using the Berger framework, which consists of the four typical steps. In addition, the types of Project Documentation that an investor needs to develop and present to the relevant authorities at the different stages of the permitting procedure in the entities and BD are also identified under this chapter, since they are generic and applicable to all government levels in BiH.

Step 1 - Designation of Status of a "Public (General) Interest": The state level authorization framework entails a few steps and processes relevant to the implementation of an energy infrastructure project in BiH. However, the legislative framework governing those steps and processes is not well developed. First, the procedure for designation of status of a "general (public) interest" to an energy infrastructure project (or any other project) at the state level is not defined by any law or regulation.

Also, no regulation authorizes a body or an institution to designate such status. The BiH Law on Concessions prescribes the requirement for an "assessment of whether a general (public) interest exists," and defines it as the responsibility of a competent state ministry where a bidder submits its proposal for a concession for which there was no public invitation (unsolicited proposal). However, the BiH Law does not identify the authorized body or institution tasked to designate such status nor does it prescribe the procedure for it.

Further, the legal framework at the state level does not define how such public interest is harmonized or coordinated with the entity public interest and that of other government levels in BiH. The procedure of determining the public interest is provided by entity laws: examples are the laws on entity governments, laws on spatial planning and construction and laws on expropriation.

Step 2 - Spatial Planning: The adoption of a Spatial Plan at the BiH level is not prescribed by the existing legislative framework. The adoption of Spatial Plans are the competences of Entities and BD; thus, this activity is stipulated by the respective entity and BD legislation. There has been no attempt thus far to coordinate the development or to harmonize Spatial Plans of entities and/or other government levels.

Step 3 – Permitting Procedures: There are two procedures at the state level that the investor is required to complete in order to develop an energy infrastructure project in BiH: the first procedure includes obtaining a concession from BiH, provided the state and not another level of government is authorized to grant such concession, and the second procedure pertains to the connection of new facilities to the transmission network.

Concessions: The BiH Law on Concessions is one of the fourteen laws on concessions in BiH. Apart from the BiH Law on Concessions, there are two entity laws on concessions, ten cantonal laws, and the BD Law on Concessions. These laws are not harmonized and are often contradictory. The abundance of laws on concessions has been identified as a major obstacle for the development of the area of concessions in BiH by a comprehensive review conducted by OECD/SIGMA, funded by the EU (the OECD/SIGMA/EU Review). Although the review was carried out in the period 2008-2009, its findings are still relevant, since there have been a few changes to the legislative framework and practice in granting concessions in BiH. The OECD/SIGMA/EU Review identifies flaws in the system of concessions in BiH and highlights discrepancies with the EU Directives.

The term concession is a very broadly defined by Article 3 of the BiH Law on Concessions as the "right granted by a Conceding Party30 to provide the construction of infrastructure and/or services and to exploit natural resources under terms and conditions agreed on by a Conceding Party and Concessionaire."

Article 4 of the BiH Law on Concessions prescribes the authority for the BiH Council of Ministers to make decisions on the type and subject of the concession to be granted, subject to approval by the BiH Parliamentary Assembly. As to the institutional structure in the area of concessions at the state level, the BiH Commission for Concessions is established and functions as an independent regulatory legal entity, which, pursuant to the BiH Law on Concessions, has an important role in the procedure for granting concessions. Finally, the BiH Law prescribes two methods for granting concessions: 1) public tender, and 2) unsolicited proposal.

The BiH Law on Concessions was adopted in 2002, while the BiH Commission on Concessions commenced its work in 2005. No concession has been granted by BiH thus far. Besides a complex political structure and continued debates over the competencies of the state and entities, many other pending issues contribute to the inefficiency of the concession-granting process at the state level. One of them is an ambiguity of the provisions of the BiH Law on Concessions.

As noted earlier in the text, the BiH Law on Concessions does not define a body or a procedure for the designation of a public (general) interest in the process of granting concessions. As an example, the state level Ministry for Foreign Trade and Economic Relations (MOFTER) received an unsolicited proposal for the construction of two mini hydro power plants (request submitted to MOFTER by the RS authorities), but the concession was not granted because it could not be established which body should make a decision that proposed projects satisfy a "public interest test" – the BiH Council of Ministers or a competent ministry. Further, the most disputed issue is related to competences for concession granting or, more specifically, whether the state or an entity is competent to grant concessions. The insufficiently clear wording of Article 1, read in conjunction with Article 6 of the Law on Concessions, contributes to a variety of interpretations.

Article 1 of the BiH Law on Concessions defines the competences of the state in the following way: "This Law sets forth the conditions under which local and foreign legal persons may be granted concessions

that are under the jurisdiction of Bosnia and Herzegovina, pursuant to the Constitution32 and laws of Bosnia and Herzegovina and where it concerns the representation of the international subjectivity of Bosnia and Herzegovina, as well as in the cases where concession property extends to the Federation of Bosnia and Herzegovina and the RS for providing infrastructure and services, exploitation of natural resources and facilities used for their exploitation, financing, design, construction, rehabilitation, maintenance and/or operation of such infrastructure and all accompanying facilities thereto."

Article 6 of the BiH Law on Concessions further prescribes that the BiH Commission for Concessions functions in the capacity of the Commission for Granting Concessions of Bosnia and Herzegovina when it performs duties and gives authorizations pertaining to concessions that fall under the exclusive competence of Bosnia and Herzegovina. In addition, the BiH Commission for Concessions functions in the capacity of a Joint Commission for Granting Concessions pertaining to concessions that do not fall under the exclusive competence of BiH, and in disputes arising from concession granting between BiH and/or Republika Srpska.

Article 1of the BiH Law on Concessions does not distinguish "exclusive competences of BiH" from those "that are not exclusive." However, the functioning of the BiH Commission for Concessions in Article 6 is derived on this basis. Although the exclusive competences of BiH can be drawn implicitly from the reading of Article 1 and are sufficiently clear, the investment projects initiated in the past showed that there was not a common understanding of what the "exclusive competences" of the state in granting concessions are. First, there was a disagreement over the issue when the unsolicited proposal was submitted by a local power utility EP BiH to MOFTER to construct a hydro power plan on the Drina River (HPP Tegare). An administrative dispute was initiated, which ended in a BiH Court decision that the state was competent for the issuance of the concession in that case. Similarly, it was raised again when an Italian investor - SECI ENERGIA was involved in negotiation for the same project with the RS and BiH authorities.

A different understanding generated by the interpretation of Article 2 with regard to competences of the state to grant concessions, which fall under category of "unexclusive competences of BiH" or "joint competences of BiH and other government levels" is even more apparent. The understanding of the meaning of what should be included under the wording "when property extends to the Federation of BiH and Republika Srpska . . ." is the focus of debate. One interpretation advocates that such wording should be interpreted to encompass any case of the construction of generation facilities on rivers that flow through both entities.

According to proponents of this interpretation, the construction of a hydro power plant on any part of the river that runs through both entities affects the entire river's flow and impacts both entities, and therefore, BiH Institutions should be authorized to grant concessions in those cases. On the other hand, another group of proponents supports a narrow interpretation, under which the BiH Institutions should be authorized to grant concessions only if a generation facility is to be built directly on an inter-entity border, or within a few meters distance from an inter-entity border; in all other cases, concessions are in

the jurisdiction of the entities. To sum up, the implementation of a concession project that requires the approval of government levels in addition to BiH, is likely to be stalled for years.

Finally, it needs to be noted that many other issues are closely related to the inability of the system for concessions to function at the state level. Some are of a political nature, such as the lack of cooperation between the state and entities; resistance to reaching political compromises over projects that would be located on the territory of both entities; missing strategies and/or parallel and often conflicting strategies at the state and entities levels; and an undefined inter-entity border. In addition, unresolved issues over state-owned property, land registries that are not up-to-date, the organization of state level structures, and the lack of capacities, expertise and financial resources of the state level institutions, are important factors to consider.

Connection to the Grid: The Transmission Company "Elektroprenos BiH," headquartered in Banja Luka (Transco BiH), was established by the Law on Establishing the Company for Transmission of Electric Power in Bosnia and Herzegovina. The main competences of Transco BiH include electricity transmission, maintenance, construction and expansion of the electricity transmission network in BiH. This is the only company for the transmission of electric power in the BiH market. Transco BiH operates at the state level, and its activities are regulated by the State Electricity Regulatory Commission (SERC).

Depending on the installed capacity, an electric power facility requires a connection either to transmission or distribution network of Bosnia and Herzegovina. Transco BiH is the only company authorized for the issuance of permits for connection to the transmission network in BiH.

The connection procedure is regulated by the Connection Rules (Rules)38 adopted by SERC. The technical aspects of the connection are prescribed by the Independent System Operator in BiH (ISO BiH) and approved by SERC in the Grid Code.

The Grid Code prescribes the procedure as follows:

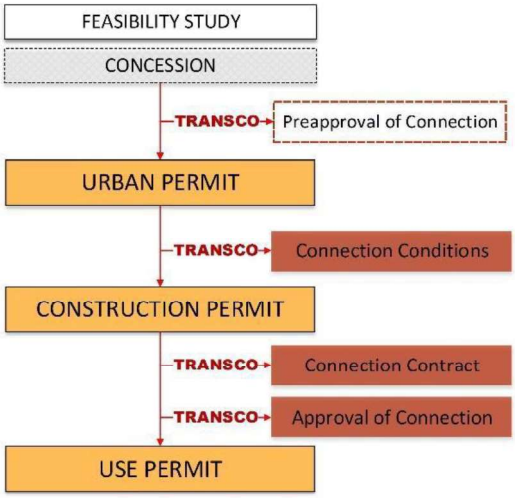
1. Connection of new facilities to the transmission network at 400, 220 and 110 kV;

2. Connection of facilities to 35, 20, 10 and 6kV medium voltage level at 110/x kV substations of the Transmission Company;

3. Existing facilities in case of an increase in granted capacity, upgrade or reconstruction of facilities;

In order to connect new facilities to the transmission network, reconstruct or upgrade existing capacities, an investor must obtain the documents and approvals from Transco BiH throughout the permitting procedure. The role of Transco BiH and stages of the issuance of the connection approvals and documents in relation to the Urban Permit and the Connection Permit are illustrated by Figure 2, and explained in the text below.

Figure 2: BiH level – Transco: Documents and Approvals



1. Conditions for Connection of the User to the Transmission Network (Connection Conditions)

The Connection Conditions define the minimum technical, construction and operation criteria that must be fulfilled for an investor to connect to the transmission network. This is a document that contains the necessary technical parameters for a connection to the transmission network in accordance to the Grid Code, such as: basic user data, location of connection, granted capacity, technical conditions for the billing-metering point nominal voltage and validity period.

The Connection Conditions define the technical criteria required by a Project Analysis of the Technical Solution for Connection (Project Analysis). The Project Analysis is a document prepared by Transco BiH (or other competent institution) on the basis of technical standards prescribed by the ISO BiH.

Application for the issuance of Connection Conditions must be accompanied by an urban permit40 issued by a competent authority in an entity. Connection Conditions are to be issued by Transco BiH within 90 days from the day of application.

Sometimes authorities competent for the issuance of an urban permit in entities (entity level ministries and/or local authorities – municipality (RS) and canton/municipality (FBiH)) require a preapproval permit for connection to confirm the possibility of connection to the transmission network. If required, Pre-approval for Connection may be issued by Transco BiH.

2. Connection Contract

A Connection Contract is signed between an investor and Transco BiH after the issuance of a construction permit and includes the terms specified under the conditions for connection. The Contract regulates technical, legal and economic conditions for connection to the network and other details of connection construction, such as: work and equipment for construction of connection, connection fees, and technical parameters for the connection point, ownership relations, and the like. The Connection Contract also determines future relations in regard to operation and maintenance of the connection.

3. Approval of Connection

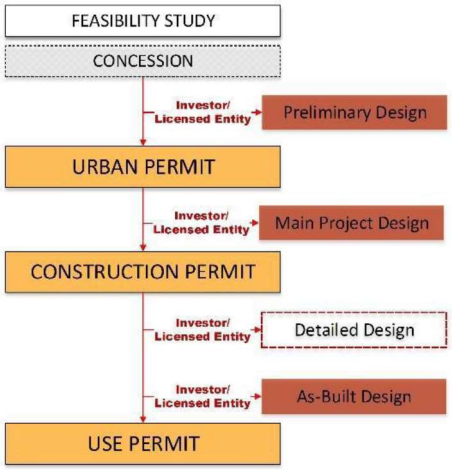
After a facility has been constructed, an on-site inspection is performed by the Transco BiH. If an investor has completed all technical and legal conditions stipulated by the Contract, then the Transco BiH will issue an Approval of Connection. This is the final approval for connection to the network and includes all relevant data, such as nominal voltage of the connection point; granted capacity; annual consumption and generation of electricity; technical characteristics of the billingmetering point; equipment parameters, and the like. The Approval of Connection verifies that all aspects of connection to the transmission network have been met in accordance to the Rules and Grid Code.

Step 4 - Securing Land, or the Right to Use Land: There are no laws or procedures at the state level that would facilitate the acquisition or the right to use land or construct on land in the development of energy infrastructure projects in BiH. The laws regulating property and other subject matters are adopted at the entity and BD level.

Project/Technical Documentation: Legislation in both entities and BD requires development of the Project/Technical Documentation, and prescribes the same type of documentation. Both terms – project and technical documentation – are used to identify the same type of documentation, and therefore have the same meaning throughout BiH. Thus, an investor needs to develop project documentation for the planned construction of a generation facility and submit it to the competent entity/BD institutions, along with the applications for the most important permits in the permitting procedure: the Urban Permit (FBiH)/Location Conditions (RS), and the Construction Permit. The Project/Technical Documentation comprises architectural drawings, documents and studies, which illustrate the concept and the use of the facility and provide technical solutions for the construction.

The deeper the investor gets into the permitting procedure, the more detailed Project Documentation is required. The types and stages of the development of Project Documentation in the permitting procedure in relation to the Urban Permit (FBiH)/Location Condition (RS) and the Construction Permit are illustrated by Figure 3 and explained in the text below.

Figure 3: Development of Project Documentation - Types and Stages



The types of Project Documentation that an investor needs to develop as the permitting procedure progresses are as follows:

1. Preliminary Project Design:

The Preliminary Project Design comprises harmonized architectural drawings, documents and studies, which outline the basic architectural, functional and technical solutions for a planned facility on the specific location. The Preliminary Project Design must be prepared before an Urban Permit (FBiH)/Location Conditions (RS) is sought, and it becomes part of the issued Urban Permit or Location Conditions.

2. Main Project Design:

The Main Project Design includes harmonized architectural drawings, documents and studies, which outline (provide) technical solutions for the planned facility, ensuring that the key terms and conditions for construction are met. The Main Project Design must be developed in accordance to the Urban Permit/Location Conditions and consistent with the Preliminary Project Design. Depending on the type of generation facility and proposed technical solutions, the Main Project Design comprises the following sections: i) architectural designs; ii) construction designs; iii) installation design, iv) technological process design; and v) steps for the installation of equipment. The Construction Permit is issued on the basis of the Main Project Design.

3. Detailed Project Design

The Detailed Project Design is a further-developed type of Project Documentation, which is required only if detailed drawings and textual explanation could not be provided under the Main Project Design, given the type of facility and other specific circumstances related to the construction. The Detailed Design elaborates technical solutions in detail and must be developed in line with the Main Project Design.

4. As-Built Design

The As-Built Design is an addition to the Main Project Design, which includes all changes and adjustments that occurred during the process of construction. The modifications should be in line with the Construction Permit. The technical inspection of the facility, which precedes the issuance of the Use Permit, is performed on the basis of the As-Built Design.

ENTITY LEVEL AUTHORIZATION FRAMEWORK: FEDERATION OF BIH (FBIH)

Step 1 - Designation of Status of a "Public (General) Interest": In a formal legal sense, the energy infrastructure projects in FBiH can get "public (general) interest" status. In compliance with legal provisions, the public interest is determined in a concession granting procedure as a "the grant of a concession in the public interest," as well as in an expropriation procedure, which includes the "construction in the public interest for expropriation purposes." In the case of expropriation, the public interest in FBiH is determined by the Law on Expropriation. All government levels in FBiH can determine projects in the "public or general interest" in accordance with their jurisdiction. Whether a project is in the public interest of FBiH is determined by the FBiH Government, and of a particular canton by the cantonal government.

Step 2 - Spatial Planning: There is no Spatial Plan for FBiH. The FBiH Spatial Plan Proposal (20082028), was discussed by the FBiH Parliament, but it has not been adopted yet. Until the adoption of the FBiH Spatial Plan, the Spatial Plan of the Socialist Republic of BiH (SRBiH) for the period from 1981 to 2000 has been applied, where it has not been contrary to the FBiH Constitution. The SRBiH Spatial Plan envisaged the construction of hydropower and thermal power plants but did not foresee the construction of non-conventional renewable energy power plants. Given that the Spatial Plan of SRBiH was adopted back in 1981, for the entire territory of BiH, which had no entities, Cantons, and the BD, it is not clear to what extent such plan has been or, indeed, could have been implemented. In addition, there are local spatial plans that have been adopted at the lower government levels. Some of the 10 Cantons in FBiH have adopted a Spatial Plan (Sarajevo Canton, Zenica-Doboj Canton, Tuzla Canton, Una-Sana Canton, Bosnia-Podrinje Canton and HerzegovinaNeretva Canton), while other Cantons do not have Spatial Plans. Also, some municipalities in FBiH have Spatial Plans and some do not.

At present, certain power facilities are envisaged by the existing spatial planning documents in FBiH (such as the hydropower plants in the upper-Neretva River – Bjelimici, Glavaticevo and Konjic), but some are not. Also, the construction of (hydro) energy facilities is possible in some areas in accordance with the current spatial plans because the land use is broadly defined. However, the size and type of such facilities is often not defined by this plan, which prevents their construction.

The adoption and harmonization of Spatial Plans at all government levels in BiH is of critical importance for the construction of energy infrastructure projects, since an urban permit, which is one of the key permits in the permitting procedure, cannot be obtained unless generation or transmission facilities are included in the existing spatial planning documents.

At present, only certain power facilities are included in the existing spatial planning documents in FBiH (such as the hydropower plants in the upper-Neretva River – Bjelimici, Glavaticevo and Konjic). Also, the construction of (hydro) energy facilities is possible in some areas in accordance with the current spatial plans, because the land use is broadly defined; however, the size and type of such facilities is often not defined by this plan, which prevents their construction.

Step 3 - Permitting Procedure: The permitting procedure is the core part of the authorization framework in FBiH. The permitting procedure for the construction of energy infrastructure facilities in FBiH is conducted at the FBiH and/or cantonal level, depending on the type and size of a facility as well as the competences. This applies for all processes and steps within one permitting procedure. In practice, this means that the investor might obtain some permits at the level of the Federation and other(s) at the cantonal level. The lack of legislative clarity that pertains to the issue of jurisdiction for the issuance of certain permits is often stressed by investors as the major cause of delays in the permitting procedure.

There are a number of documents (e.g., permits, approvals, consents, certificates) that the investor (developer) must acquire through different processes and process steps in order to begin the construction and complete an energy infrastructure project. Those processes and steps are governed by laws and regulations from the different sectors/areas (e.g., concessions, spatial planning, construction, water management), which are usually adopted on both the Federation and cantonal levels. Typically, the laws regulating the subject areas at the Federation level and those adopted at the cantonal level are not harmonized. The most illustrative example is the area of concessions. Thus, Article 3 of the FBiH Law on Concessions defines the "energy facilities that can be subject to concessions," among other public goods, in the following way:

". . . 2. Use of river flows and other water in the areas or the interest of two or more Cantons;
3. The construction of hydro power facilities of installed capacities over 5 MW;
4. The construction and use of hydro accumulations in the areas or interest of two or more Cantons;
5. Research or use of energy and other mineral resources. . ."

Interestingly, the above cited Article 3 of the FBiH Law on Concessions does not envision granting concessions for the construction of plants using renewable energy sources (RES), such as a solar, biogas, wind, and biomass or cogeneration plants.

On the other hand, cantonal laws on concessions define the list of public goods and/or types of energy facilities that can be subject to concessions in a non-uniform manner, different from the FBiH Law on Concessions. As an example, Article 7 the Law on Concessions of Herzegovina-Neretva Canton, prescribes the list of public goods/generation facilities, among others, for which a concession can be granted, including those using renewable energy sources (RES), in the following way:

"b) use of water and water goods for: . . . .
5) Production of electricity of installed capacities up to 5 MW, ...
c) Exploration of energy and other mineral resources, including salt and salt water as defined by other law, ...
h) Exploitation of non-metal mineral sources, including all secondary mineral resources defined by other law, ...
n) and for the construction of the energy facilities:

1) Wind power up to 5MW of installed capacities per production unit and wind parks,
2) Cogeneration facilities of up to 5 MW of installed capacities,
3) Solar power plants between 20 kW and 5 MW of installed capacities."

In addition, the laws governing various sectors pertaining to a permitting procedure across the Federation are not harmonized between themselves. For example, there is no generic or standard term used as a single reference for an "energy infrastructure facility/project" or "generation facility." Moreover, no precise definition of the term is provided in any law, so it is often unclear what types of generation facilities are subject to regulation. In fact, each sectoral law defines energy infrastructure facilities differently. Thus, in the legislation governing spatial planning and construction, reference is made to "construction buildings and works" and "building complex," without defining what kind of buildings are encompassed by those terms. Further, the terms "hydro power facilities" and "hydro accumulations" are used in the sector of concession at the Federation level, without clear reference to other types of generation facilities. Finally, other sectoral laws refer to a "generation facility" as an "electro-energy object," again without defining this term.

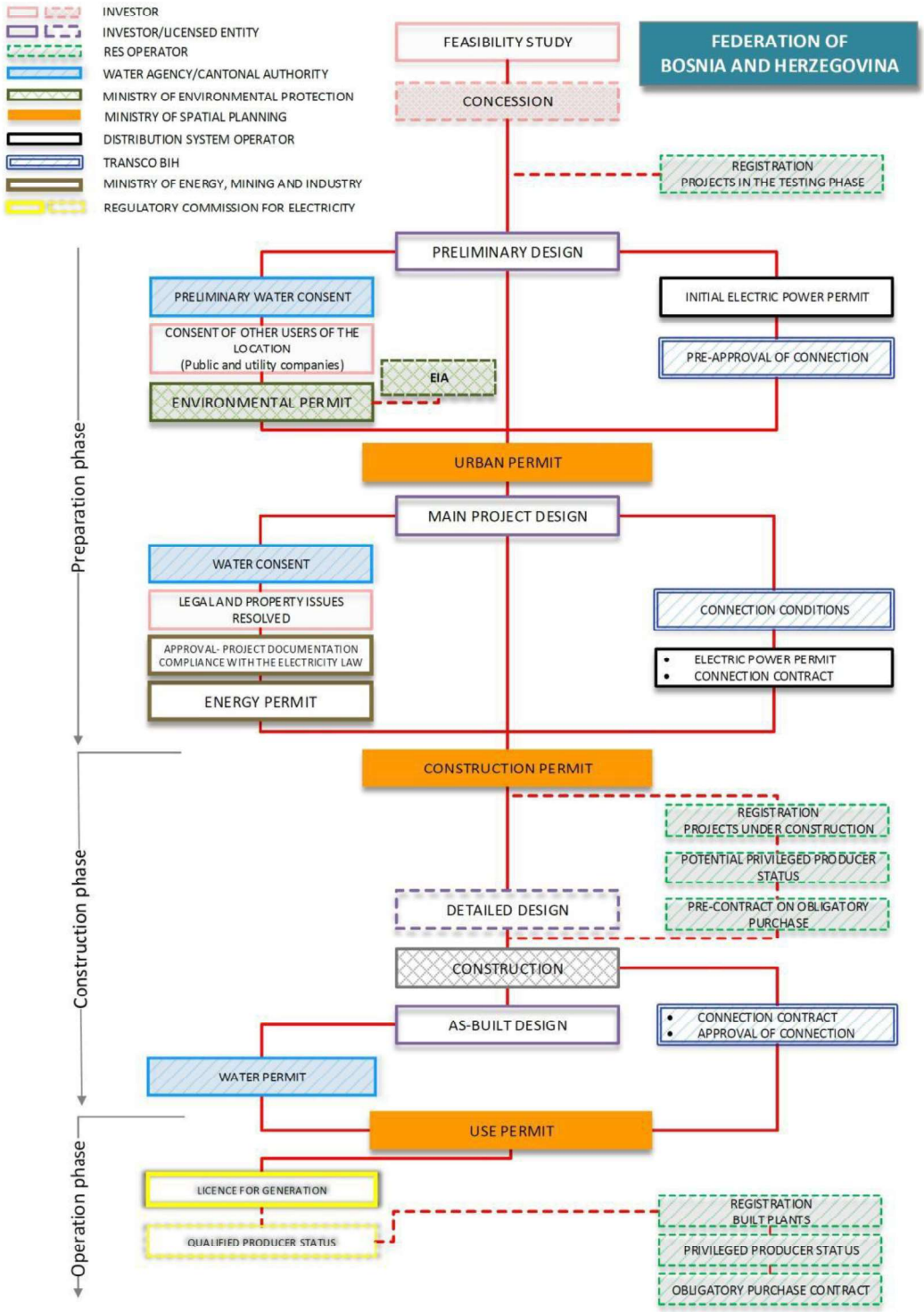
Typical processes and steps of a generic permitting procedure for the construction of a generation facility in the FBiH are illustrated by Figure 4 and explained in this chapter. Although all described processes and steps are required by laws and regulations, the two most important permits are: 1) the Urban Permit, and 2) the Construction Permit. The majority of other permits/approvals and consents are obtained as a precondition for the issuance of these two permits.

Further, the issuance of some permits consists of multiple steps and/or the issuance of progressive administrative decisions/acts as the permitting procedure progresses, which lead to the issuance of a final permit from that category. For example, a Water Permit is acquired at the end of the process (before the issuance of the Use Permit), but only after the Preliminary Water Consent and the Water Consent for that facility had been issued earlier in the procedure. All those water acts are issued by the same authority – the Water Management Agency – in the same permitting procedure and following the collection of required information. The Preliminary Water Permit contains the conditions and methods of use of water, and the documentation requirements; the Water Consent confirms the submission of the required documentation; and the Water Permit defines the operational conditions and disposal of waste.

In order to clearly illustrate this process in this Report, when necessary for clarity and coherence, the respective permits are grouped and presented on the basis of category and/or the institution competent for their issuance (e.g., water, connection to distribution network, RES production), rather than in the exact order of their collection as illustrated by Figure 4. In addition, each category of permit is identified by the same pattern and color in the diagram; for example, all water acts are colored in blue and illustrated by a diagonal pattern. Where a category of permits is described, for context and clarity at the beginning of that section, a process diagram containing the permitting process in such category in relation to the two main permits – the Urban Permit and Construction Permit – has been extracted from the overall diagram in Figure 4.

Since some procedural steps are optional and depend on the legal requirements for the type and size of generation facility and/or whether the competent authority deems the procedure necessary (e.g., concession, EIA), such procedure is presented in Figure 4 by dotted lines. A solid line is used to identify the required procedural steps that an investor must take.

Figure 4: FBiH – Permits and Competent Institutions



Concessions: In order to construct a certain type of energy infrastructure facility in the FBiH, such as a power plant in the FBiH, it might be necessary for an investor to acquire a Concession. A Concession can be granted at the level of FBiH, or, as stated in the 2002 FBiH Law on Concessions, at the cantonal level pursuant to the respective Cantonal Laws.

The legislative framework governing Concessions in FBiH, which includes the FBiH Concessions Law and 10 cantonal laws on concessions is not harmonized, particularly concerning the requirements for construction of RES generation. Thus, whether a Concession is required for the construction of a wind power plant, a solar power plant, a biomass or a biogas power plant varies from one Canton to another.

The FBiH Office for Audit conducted a performance audit on concessions, and developed a Report entitled "Performance Appraisal – Management of Concessions in the Federation of Bosnia and Hercegovina" (the Performance Report), dated February 2011. The Performance Report highlighted the need for the harmonization of cantonal laws on concessions (and other laws governing the areas that can be subject to concessions) with the FBiH Law on Concessions, as well as EU Directives pertaining to Concessions. No harmonization has been conducted thus far.

FBiH level: The FBiH Law on Concessions does not specify at which stage of the permitting procedure a Concession must be acquired, if mandatory. Most investors, however, request a Concession at an early stage of the process, immediately after the development of a Feasibility Study and prior to an application for the Urban Permit. Thus, in the flow chart, illustrated by Figure 4, a step for acquiring a Concession is included at the beginning of the permitting procedure.

The term "Concession" is defined by the FBiH Law on Concessions somewhat differently than by the state law: "The right to perform an economic activity through the use of natural resources, the resources in public use, and the performance of an activity in the public interest pursuant to this Law."

Article 3 of the FBiH Law on Concessions stipulates the list of objects or areas that may be subject to Concessions, including the energy resources. Further, Article 6 of the FBiH Law on Concessions prescribes the projects for which the FBiH Government has the authority to grant Concessions, including energy infrastructure facilities. Article 6, in pertinent part, reads as follows:

"2. use of river flows and other water in the areas or in the interest of two or more Cantons;
3. the construction of hydro power facilities of installed capacities over 5 MW;
4. the construction and use of hydro accumulations in the areas of interest for two or more Cantons;"

The Amendments to the FBiH Law on Concessions, passed in 2006, added a new requirement for the FBiH Government when deciding on Concessions under Article 6 of the FBiH Law on Concessions: namely, if a Concession has an impact predominantly on one municipality, a prior approval from the Municipal Council of the local community is also required.

The FBiH ministries, or other bodies designated by the FBiH Government to grant Concessions, play the role of Conceding Parties in the Concession Process. Competent ministries and bodies have the prime responsibility for the determination of a potential Concession, preparation of responses to unsolicited proposals, and for implementing procedures for approving Concessions, including negotiations with potential Concessionaires. In order to initiate the procedure for Concessions, listed under Article 6 of the FBiH Law on Concessions, FBiH Government prior approval is required. The entire procedure is subject to control by the FBiH Government and the FBiH Commission for Concessions, which is established as a professional and permanent body, similar to the BiH Commission for Concessions.

A Concession Contract can be concluded for a period of up to 30 years. Exceptionally, the period can be extended to a maximum of 50 years.

According to the 2014 Annual Report of the FBiH Commission for Concessions (the Annual Report), a total of two (2) Concessions have been granted at the FBiH level thus far:
1) hydro power plant (HPP) Vranduk – EP BiH (2012); and
2) HPP Janjici – EP BiH (2014).

The Annual Report noted that HPP Mostarsko Blato – that was already constructed by EP HZHB - requested a Concession in 2013 retroactively because it could not get an operational license from the Federation Energy Regulatory Commission (FERC), but the procedure has not been completed yet.

Cantonal level: Apart from the laws, many cantons have adopted their own cantonal regulation defining the Concession Procedure, authorities, and other Concession matters. Consequently, each Canton has its own structure and procedure governing the area of Concessions, different from other Cantons. In addition, a lower level of authority in each canton is each individual municipality, which also has its own local government and regulations affecting certain aspects of Concessions.

The Performance Report pointed out to the issue of transparency by stating that, “Although explicitly favored by the laws on concessions, there is a little evidence of the transparency of the process. The laws on concessions allow granting Concessions on the basis of unsolicited proposals, without public tender, which is not in line with best EU practise and Directives.”

Also, there is no public Registry of Concessions granted in FBiH nor a system for monitoring their realization (execution) and payment of fees. Further, there is no mechanism for recording the number of submitted applications for Concessions or information on granted Concessions that have not been realized. Very little information is available on the internet.

The laws on concessions in FBiH do not prescribe the deadlines for the implementation of the procedure pertaining to granting a Concession. The majority of Concessions have been granted through the procedure based on an unsolicited proposal. According to the Performance Report, the main factors

influencing the length of the procedure are pending approvals from the Municipal Council and late approvals of a Concession by the competent bodies.

Furthermore, the OECD/SIGMA/EU Review pointed out that: "The most worrying fact is that laws enable a bidder to prepare a Feasibility Study for the Concession, instead of requiring its development from a Conceding Party. This applies to both procedures: public announcement (tender) and unsolicited proposals. Through transfer of this task from the Conceding Party to the bidder, the definition of requirements of the Conceding Party is done by its future partner, who is by default extremely interested to be selected to be the private partner on the specific project, and, therefore, has a vital interest in presenting the needs and benefits of the Conceding Party in very positive sense. The preparation of the Feasibility Study, including environmental impact assessment (EIA), is usually the key task of the competent authority. The Feasibility Study contains specificities, which enables the authority to compare and evaluate the received bids."

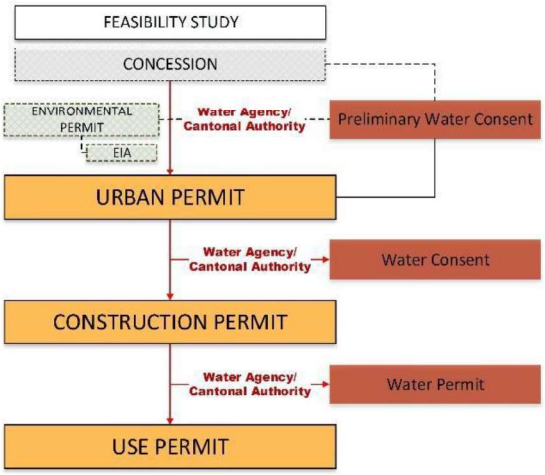
Since there is no public registry of concessions issued in FBiH, it cannot be established how many Concessions in the energy sector have been granted at the cantonal level to date. The OECD/SIGMA/EU Review noted that at the time their expert team was assessing the area of Concessions in BiH (2008 – 2009), approximately 300 Concessions had been granted at the cantonal level, mainly to local enterprises. There were a few exceptions including concessions for mini HPPs to Dutch and German companies.

Concession Fees comprise two types of payments. The first type of payment is a lump sum, which needs to be paid immediately after the Concession Contract is concluded, and cannot be less than 1.5% of the total planned investment. The second type of payment is paid as an annual fee, calculated on the basis of generated revenue.

Water Acts:

In order to acquire the right to use water by the new generation facility, an investor must go through different steps to acquire administrative documents, which will gradually lead to the final stage of obtaining a Water Permit. As the permitting procedure progresses, the competent authorities require more detailed information. The authorities make and issue administrative decisions – water acts along with this process. Figure 5 below identify the stages and the order of the issuance of water acts in relation to the Urban Permit and the Construction Permit.

Figure 5: FBiH - Water Acts – Consents and Permits



Water acts are administrative documents through which water use and water waste are defined. The issuance of these water acts is regulated by the FBiH Law on Water54 and the FBiH Regulation on Content, Form, Terms and Method of Issuance and Maintenance of Water Acts (the FBiH Regulation on Water Acts).

There are three types of water acts that are required to be obtained for any use of water or disposal of water waste by certain commercial activities, including energy facilities,56 which extends the volume of a general (ordinary) use of water, regardless of its impact. Thus, along with the permitting procedure for the construction of a new generation facility, the investor needs to obtain the following three water acts:

a. Preliminary Water Consent
b. Water Consent
c. Water Permit

a) Preliminary Water Consent: The Preliminary Water Consent is an administrative act, which defines the conditions for the right to use water and the allowed methods of such consumption, as well as the terms that need to be fulfilled by the investor's documentation for the construction of new or the reconstruction or removal of existing facilities that can permanently, temporarily or occasionally have an impact on the water regime. The issuance of a Preliminary Water Consent is mandatory for all energy facilities and is sought in the process of acquiring an Environmental Permit or an Urban Permit.

Also, if a Concession is required for the construction of the specific generation facility, the Preliminary Water Consent needs to be obtained prior to the Concession.

If a Preliminary Water Consent is requested in the Concession Process or in the process of acquiring the Environmental Permit, then such request needs to be submitted by the institution/body competent for granting a Concession or for the issuance of the Environmental Permit. However, in case those two processes are not required for that type of a generation facility by the law, then an investor is obligated to request an issuance of the Preliminary Water Permit.

The new FBiH Regulation on Water Acts, adopted recently in 2015, requires a Water Study for the Issuance of the Preliminary Water Consent, which is a new requirement. The Water Study needs to be prepared by the authorized legal entity that is included in the official list of authorized entities.
The issued Preliminary Water Consent is valid up to three years, during which period the request for Water Consent must be submitted.

b) Water Consent: The Water Consent is the second step in acquiring a final water permit. The Water Consent verifies that the documentation submitted by the investor with the request for the issuance of Water Consent meets the terms and conditions defined by the Preliminary Water Consent and water regulations.

A Water Consent needs to be obtained in the permitting process for the construction or reconstruction of all facilities for which the Preliminary Water Consent is required and issued in the previous stage. A Water Consent needs to be acquired before the issuance of a Construction Permit.

c) Water Permit: The Water Permit defines the purpose, the method and conditions for the use of water, the terms and condition for disposal of water waste and solid and liquid waste, and other terms and conditions as necessary.

A Water Permit certifies that the terms defined by a Water Consent are met. A Water Permit is issued on a temporary basis, up to a maximum of 15 years. The acquired rights to use water or the release of water waste by one investor cannot be transferred to another.

Institutions/bodies that are competent to issue Water Acts are defined by Article 139 of the FBiH Law on Water. Competences are divided between the FBiH and cantonal authorities, or more specifically, between the two FBiH Agencies for Water Management: the Agency for Sava Basin and the Agency for the Adriatic Sea Basin on the one hand (Water Management Agencies), and the Cantonal Ministries competent for the issuance of Water Acts on the other. Competencies for the issuance of water acts between Water Management Agencies and competent Cantonal Ministries are divided on the basis of the rivers' categories, among other criteria. Thus, Water Management Agencies are, for example, in charge of the issuance of water acts related to the construction of HPPs on bigger rivers falling under

Category 1 (for example, the Bosna, Neretva, Drina and Una Rivers), while Cantonal Ministries are authorized to decide a water request for the construction of HPPs on the rivers under Category 2 (smaller rivers), and up to 5 MW of installed capacity.

Consent of Other Users of the Location: In order to apply for an Urban Permit, the investor must also obtain written approvals (consents) from all users operating at the location (users operating on the soil and space above the location site) where a generation facility will be constructed (Users). In accordance with the Law on Spatial Planning and Land Utilization of the FBiH (Law on Spatial Planning), an Urban Permit specifies urban and technical conditions for a specific location. These conditions are determined and evaluated on a case-by-case basis, depending on the number of Users at the location.

Consents of Users usually include consents issued by Telecom Companies, Gas Companies, Public Road Management Companies, Water, Sewerage and other Utility Companies. Each User must issue a written consent separately and define the conditions, if necessary, that must be met if a generation facility is to be constructed at the site.

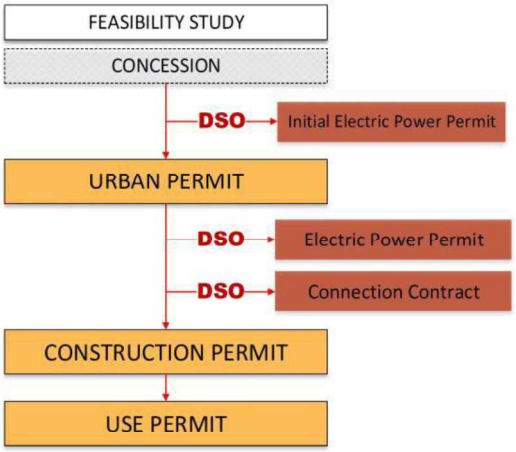
Connection to the Distribution Grid (Network): Before a Construction Permit is issued for a generation facility of low and medium voltage, the investor must have two permits for connection to the distribution grid: an Initial Power Permit and an Electric Power Permit.

The Initial Power Permit must be requested and issued at the beginning of the permitting procedure and prior to the request for the Urban Permit, while the Electric Power Permit must be issued prior to the start of construction, or, more specifically, before the Construction Permit is obtained.

Both permits are issued by the Distribution System Operator (DSO) at the request of an investor as illustrated by Figure 6 below. The DSO is a legal entity licensed for power distribution activity.

At present, there are two public utility companies licensed for power distribution in the FBiH – EP BiH and EP HZHB. Based on the issued Electric Power Permit, a Connection Contract is signed between the investor and DSO.

Figure 6: FBiH – Stages of Connection and Permits Issued by DSO



Initial Electric Power Permit: As defined by the General Conditions for Electricity Supply (General Conditions), the Initial Power Permit is issued as a confirmation that the planned facility can be connected to the power distribution grid in accordance with the power conditions and planned development for that specific area. In this permit, the DSO will also evaluate the effects of the planned generation facility on the distribution network.

The investor must submit an application for the issuance of this document, which contains all the necessary data that the DSO requires in order to determine all aspects of the connection to the distribution network, such as the data on the investor and the facility, purpose, capacity and annual consumption of electricity, list of appliances, and the like. Within 30 days following the date of the receipt of the "completed application," the DSO will issue the Initial Power Permit (if the decision is positive), which contains the information on installed power, and technical and other general conditions for the connections.

The period of validity of the Initial Electric Power Permit is one year; however, it can be extended for one additional year.

Electric Power Permit: Documents submitted with the application for the Electric Power Permit enables the DSO to estimate the economic and technical aspects of the connection. At this stage, the DSO also requires the relevant part of the Main Project Design or Detailed Design in addition to other documents.

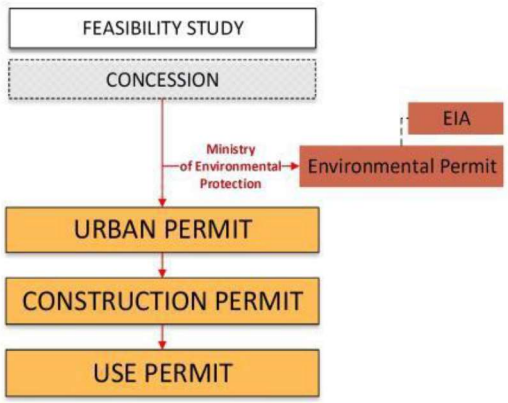
The DSO is obliged to decide upon the request for the Electric Power Permit within 30 days following the day of the receipt of a completed application. Typically, the Electric Power Permit contains the following: data on the applicant, installed capacity, the type of primary energy, voltage levels, the technical data, such as data on billing and the metering point, data on the connection point. This permit is not issued for a specific period of time, but it provides a mandatory time-frame in which the investor will have to sign the Connection Contract with the DSO.

The Connection Contract is based on the data specified by the Electric Power Permit, which contains the following basic information: data on both contracting parties, the subject, technical aspects of the connection point, ownership status, deadline for the construction of connection point, and the deadline for connection to the distribution network. The investor also has to pay connection fees, while the DSO is obliged to construct the connection point within 30 days from the date of signing the Connection Contract. According to the General Conditions, connection points are constructed and owned by the DSO.

The actual connection to the distribution network is performed after the works inside the facility have been completed and the construction of the connection point has been finalized.

Environmental Permit: An Environmental Permit is required as a precondition for the issuance of an urban permit for all generation facilities for which an Environmental Impact Assessment (EIA) is compulsory.

Figure 7 illustrates at what stage the Environmental Permit is issued in the FBiH permitting procedure:



The FBiH Regulation on Plants and Facilities that regulates the requirement for an EIA defines the types of generation and other energy infrastructure facilities that require an EIA. In addition to determining the types of plants and facilities for which an EIA is compulsory and thus cannot be constructed without an Environmental Permit, the FBiH Regulation on Plants and Facilities also determines the jurisdiction of FBiH in issuing an Environmental Permit for a certain category of projects, including those from the energy sector. Thus, according to Article 4(a) of the FBiH Regulation on Plants and Facilities, an EIA is mandatory for the following:

"3. Thermal plants and other facilities of 50 MW of installed capacity and over,
4. Facilities for production of hydro-power energy over 5 MW of installed capacity for the individual facility, or 2 MW for several facilities located within distance less than 2 km from each other,
5. Construction of power lines: -110 kV, if they are a part of the transmission network, -220 kV and more."

For the generation facilities and other energy objects listed under Article 4(a), an Environmental Permit is issued by the FBiH Ministry for Environment and Tourism (the FBiH Ministry for Environment) after the EIA is conducted.

Further, the BiH Regulation on Plants and Facilities also defines a second group of plants and facilities from the energy sector, for which the FBiH Ministry for Environment is authorized to issue an Environmental Permit after the FBiH Ministry for Environment has assessed in each individual case whether an EIA is necessary. Article 6 prescribes generation facilities that fall into this category, as follows:

"4. Facilities for the use of wind power for the production of electricity (wind miles) of 2 MW of installed power or 4 converters,
5. Hydro-power facilities up to 1 MW of installed capacity."

The procedure for obtaining an environmental permit in case of construction of a hydro-power plant up to 1 MW of installed capacity on the territory of FBiH includes the following two steps:
i) the FBiH Ministry for Environment makes a preliminary assessment on whether an EIA is required; and
ii) if the FBiH Ministry for Environment decides that the EIA is required, then the investor (developer) is obliged to complete an EIA Study within six months from the date of the issuance of the Ministry's opinion.

Articles 12-19 of the FBiH Regulation on Plants and Facilities define the content of the EIA Study. The list of legal entities authorized for the development of EIA Studies is available on the Ministry's web site. The FBiH Ministry for Environment manages a public consultation process pertaining to the EIA Study, which is conducted at locations closest to the proposed construction site.

The investor who seeks an Environmental Permit must have previously obtained a Preliminary Water Permit. The FBiH Ministry for Environment's decision on an Environmental Permit is a final administrative act, meaning that an appeal is not allowed to the second instance administrative body.

However, a dissatisfied party can initiate an administrative dispute before a competent court in FBiH. An Environmental Permit is valid for five (5) years. Environmental court cases are still rare, although there have been several "heated public debates."

Some cantons in FBiH have cantonal laws on environmental protection. Article 2 of the FBiH Regulation on Plants and Facilities prescribes that Cantonal Ministries competent in the environmental area will issue Environmental Permits for plants and facilities for which an EIA is not required, as well as for those that are beyond installed capacities and parameters prescribed by the FBiH Regulations on Plants and Facilities, or those that are not listed by it.

Urban Permit: The Urban Permit is one of the main (key) permits in the permitting procedure for the construction of a generation facility. Through issuance of an Urban Permit, a competent body at the respective government level (FBiH, Canton, or municipality), certifies that the construction of a specific plant or a facility is in line with spatial planning documents and other terms and condition envisioned for that area (location), as well as other pertinent laws and regulations.

When requesting an Urban Permit, the investor is obliged to submit a Preliminary Design, together with other previously obtained permits.

Article 40 of the FBiH Law on Spatial Planning and Land Utilization (the FBiH Law on Spatial Planning) prescribes the competences for the FBiH Ministry for Spatial Planning in issuing Urban Permits. Thus, the FBiH Ministry for Spatial Planning is authorized to issue Urban Permits in the following cases:

"1.) Facilities and works covering the territories of two or more Cantons
2.) Facilities and works in the interest of FBiH in the areas and locations that are important for FBiH
3.) On inter-state borders
4.) Free zones
5.) Facilities and activities that can have an impact on the environment, life and health of FBiH Citizens
6.) Facilities and works in the interest of and importance for FBiH
7.) Facilities and works in the areas of national monuments."

Article 40 also stipulates that the FBiH Ministry for Spatial Planning is obliged to obtain an opinion from the cantonal authorities prior to the issuance of an Urban Permit.

The issuance of an Urban Permit for generation facilities other than those listed in Article 40 of the FBiH Law on Spatial Planning and Land Utilization is within the competence of Cantons (cantonal and/or

municipal authorities), and therefore such procedure is defined by cantonal laws on spatial planning and construction.

An Urban Permit determines the urban and technical requirements for a specific generation facility, which the investor must meet, including the terms and conditions specified under previously obtained permits, such as the Preliminary Water Permit, the Environmental Permit, the Initial Electric Power Permit, Consent of Other User of the Location, and Pre-approval of Connection.

The FBiH Law on Spatial Planning and cantonal laws on spatial planning and construction allow the competent authorities to request other documents, if necessary. Thus, the FBiH Law for Spatial Planning prescribes that the Ministry may request submission of "other documents depending on the complexity of construction."

The Urban Permit is valid for one year, during which period the Construction Permit must be requested. Approval of Project Documentation – Compliance with the Electricity Law: A new process step in the permitting procedure for the construction of generation facilities, was introduced by the FBiH Law on Electricity,adopted in 2013. Specifically, Article 101, paragraph 1, of the FBiH Law on Electricity provides that investors are required to acquire an Approval of the Project Documentation Regarding Compliance with the Electricity Law and other Regulations from the FBiH Ministry for Energy, Mining and Industry (FMERI). The investor modifies and develops Project Documentation throughout the permitting procedure.73 In this stage, the Project Documentation is developed as the Main Project Design. The Approval of the Project Documentation, or the Main Project Design, by FMERI must be obtained before the application for a Construction Permit is submitted to the authorities that are competent to decide on a request for a Construction Permit.

As an example, the Review of the Project Documentation (the Main Project Design) for the construction of the generation facilities for which FBiH has competence includes the following:

" a) Level of harmonization of the Project Documentation with regulatory, technical and other regulations, standards, technical norms and recommendations governing the area of construction of generation facilities that are of importance for FBiH;
b) Complexity of the Project Documentation;
c) Technical Revision;
d) Procedures of the development of Project Documentation."

In addition, the Review of Project Documentation for the generation facilities that use renewable energy resource as their primary source of energy, is checking the documentation's harmonization with the Action Plan for the Use of Renewable Energy Resources in FBiH (the Action Plan for RES), issued by FMERI in May 2014.

Energy Permit: The Energy Permit is defined by the FBiH Law on Electricity as an administrative act issued by FMERI in the permitting procedure that precedes the construction and/or reconstruction of a generation facility. The FBiH Law on Electricity prescribes the competences of FMERI in issuing energy permits for all generation facilities, including those that are within Cantonal competences. Article 78 of the FBiH Law on Electricity, prescribes that FBiH is authorized for the construction of the following generation facilities:

"1) Hydro-energy objects above 5 MW of installed capacity and a few subsequent hydro-energy objects, each above 2 MW of installed capacity, and 2 km distance from each other;
2) Thermal-plants and other combustion facilities with heat output of 50 MWt and over;
3) Generation using wind power over 2 MW of installed capacity;
4) Generation using solar power of 1 MW of installed capacity and over;
5) Other generation of 5 MW or over."

Further, Article 78 prescribes that Energy Permits for the construction of generation facilities, listed under the above-cited paragraph (3), of installed capacities of 30 MW or over, are issued by FMERI, following the approval by the FBiH Government and the FBiH Parliament. However, for the construction of generation facilities of less of 30 MW of installed power, FMERI needs only FBIH Government approval.

The FBiH Regulation on Procedure, Criteria, Form, and Content of the Request for the Issuance of Energy Permit for Construction of New and Reconstruction of Existing Generation Capacities (the FBiH Regulation on Energy Permit)76 regulates all details required for the issuance of an Energy Permit, including the deadlines for the issuance and public consultation process.

Hence, Article 22 of the FBiH Regulation on Energy Permit prescribes that FMERI is required to finalize the Energy Permit request within three (3) months from the date of its notification that the request has been completed, unless FMERI decides that two (2) additional months are needed to complete the procedure. Also, Article 23 of the FBiH Regulation on Energy Permit defines issues such as drafting the Energy Permit, informing the public, and gathering comments.

FMERI issues a permit in the form of a certificate consisting of the Energy Permit and the terms and conditions for its issuance. The Energy Permit can be issued for a maximum of a five (5) year period.

Construction Permit: After the investor has acquired an Urban Permit, Water Consent, Energy Permit, Electric Power Permit and developed the Main Project Design for the construction of the generation facility, then it can request a Construction Permit. The Construction Permit is one of the main permits in the permitting procedure in addition to the Urban Permit. In addition to the abovelisted documentation, one of the preconditions for obtaining a Construction Permit is that property and legal issues at the construction site have been resolved.

As a rule, the authorities that have issued an Urban Permit in an earlier phase of the permitting procedure are authorized for the issuance of the Construction Permit for that generation facility, as well as for the Use Permit at the later stage. Thus, the FBiH Ministry for Spatial Planning is competent to decide on a request for Construction Permit of the generation facilities listed in Article 40 of the FBiH Law on Spatial Planning, while competent Cantonal Ministries are competent to decide on the request for a Construction Permit for the facilities defined by the Cantonal Laws.

The competent authority for the issuance of a Construction Permit (FBiH/Canton) is obliged to determine whether the Main Project Design is developed in accordance with the terms and conditions defined by the previously-issued Urban Permit for that facility. A Construction Permit will expire if construction works do not commence within one year following the final date of the issuance. However, the Construction Permit can be extended for an additional year, if the delays can be justified.

With regard to the construction of energy generation projects, especially bigger HPPs and thermal plants, investors usually approach the construction of those facilities sequentially, building one part of the facility first, and then the other parts at later stages. In such case, the investor must request a Preliminary Consent for the Construction of a Part of the Facility Complex. Such approval is prescribed by Article 61 of the FBiH Law on Spatial Planning and can be issued for one or more facilities that are part of the planned facility complex. The Preliminary Consent for Construction of a Part of a Facility Complex determines the parts of a "facility complex," their functional or/technological connections, and the order of issuance of an individual approval for construction of them. The Urban Permit for the entire facility complex must be obtained before the Preliminary Consent for Construction of the Part of the Facility Complex is requested.

Use Permit: After the generation facility has been constructed, or a part of such facility, which is a separate economic or technological unit that can be utilized, it can become operational, provided the investor has obtained a Use Permit. The request for the issuance of a Use Permit must be accompanied with the previously obtained Construction Permit. A Use Permit is issued after a technical inspection of the facility is performed. Competent authorities are required to perform a technical inspection within 30 days following the date of the submission of a request.
A facility for which a Construction Permit is not issued or which has no Use Permit cannot be registered in the land registry.

License for Electricity Generation: In order to perform activities in the electricity market after the construction of a generation facility has been completed, the investor must first obtain a License from the FBiH Regulatory Commission for Energy (FERC). The proceedings related to the license application, criteria, conditions and license contents are defined by the Licensing Rules issued by FERC.

An investor that intends to perform the activity of electricity generation has an obligation to file an application for a license from the Federation Energy Regulatory Commission. FERC is authorized to issue a License for Electricity Generation. An application is required to be submitted in the prescribed form, along with a number of documents, approvals and permits listed under Articles 22 and 23 of the Licensing Rules. Some of the documents required are as follows: Water Permit, Environmental Permit, Concession Contract (if required), Electric Power Permit and Use Permit.

A decision on the issuance of License is made within 60 days from the day of submission of the completed application, and the validity period of the license is 30 years. The License contains, among other things, the identification of the license holder, registration number, a code that is the licensee's identification in the electricity market and the validity period.

System of Incentives for Production and Purchase of Electricity from Renewable Generation and Efficient Cogeneration: In order to stimulate the production of electricity from RES and efficient cogeneration, a system of incentives for production and purchase of electricity from renewable generation has been established by the FBiH Law on the Use of Renewable Energy Sources (RES) and Efficient Cogeneration80 (the Law on RES), and supporting regulations.

In essence, all electricity end users (consumers) in FBiH are obligated to pay a surcharge for the production of electricity from RES as an incentive for RES generation, while eligible producers of electricity from RES are entitled to receive the currently valid feed-in-tariffs81 for the period of time specified under a contract signed with the Operator for Renewable Energy Sources and Efficient Cogeneration (the Operator).

The Regulation on Incentives of Electricity Production from RES and Cogeneration, Determination and Collection of Fees as Incentives (the Regulation on Incentives) passed by the FBiH Government, defines the methodology for determining incentive fees and the eligibility criteria for the status of privileged producer. The eligibility criteria are based on the installed generation capacities, as well as the type and/or technology used for the generation (e.g., solar, wind, biogas).

The Operator: The Operator acts as a non-profit entity in order to create an institutional structure for the operationalization of the system of incentives for production and purchase of electricity from renewable generation and efficient cogeneration.

Article 10 of the Law on RES defines the competences of the Operator. Some of the competences include: keeping records of the total electricity production from RES, signing preliminary contracts
and final contracts with different categories of RES generation, preparing analysis and planning of RES production, maintaining a Register of Projects, proposing rules on a balancing system in cooperation with the Independent System Operator BiH, and the like.