



# LEGISLATION AND REGULATION ANALYSIS COUNTRY BROCHURES

## SERBIA

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The legislative and regulatory analysis for the Serbia has been completed for the virtual case study at the Bodjani Monastery in Serbia. The monastery is located in the Autonomous Province of Vojvodina; South Bačka District, in the Municipality of Bač.

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# GEOHERMAL LEGISLATION

Geothermal Energy is defined in the Mining and Geological Explorations Law («Official Gazette of RS», No. 101/2015). Geothermal resources are defined as renewable geological resources encompassing ground water and heat from rock masses from which thermal energy extraction is possible.

Shallow geothermal resources are defined as 'sub-geothermal' resources with the water temperature and the heat of rock masses up to 30°C. Low enthalpy resources are defined as having temperatures of between 30°C and 100°C to extract the thermal energy. Resources of medium and high enthalpy are defined by resources where heat energy can be extracted at temperature above 100°C.

Petrogeothermal energy is defined in the legislation and covers all types of geo probes (vertical and horizontal)

## LOCAL LEGISLATION

No secondary or local legislation is applicable.

# LICENSING & PERMITTING PROCEDURES

## LICENSING AND PLANNING APPLICATION

A dedicated licensing system for GSHP system installations is in place. Approval is required to outline the exploitation area and quantify the geothermal resources. The Mining and Geological Explorations Law govern the licensing process.

There are two different levels of licencing in case of geothermal energy resources utilisation. The first applies to larger projects and involves geothermal energy utilisation by companies and/or another legal entities, entrepreneurs and developers. A simplified process applies in the case of family households.

The licensing authority responsible for geothermal energy is the Ministry for Mining and Energy. Provincial Secretariat for Energy and Mineral Resources are the applicable licensing authority in the case of the Bodjani Monastery.

Typical permit processing time for petro geothermal energy resources utilisation for legal entity, such as monastery Bodjani case, is about two months for exploration licence and one year for utilisation permit. The typical permitting costs are about €500. The exploration license grants the user the permission to drill the borehole and complete the collector whilst gathering information during the first year of production.

Planning permission is required in the case of a new or greenfield development where a GSHP system installation is planned. Where GSHP systems are installed in a retrofit scenario and substitute fossil fuel fired technologies, no planning is required but a detailed geological and technical feasibility and project design are required. The Ministry of Construction, Transport and Infrastructure is in charge of the planning permits and typical processing time of 2 years is applicable. The final permission is granted only upon review of the data collected during the first year of operation.

## DRILLING PERMITS

Drilling permits are obligatory for GHSP system and covered as part of the exploration license described above.

## EIA REQUIREMENTS

A requirement for completing an EIA is applicable in the case of open loop systems (hydrogeothermal resources usage) where groundwater is extracted and discharged. The processing time for the EIA is typically 2 months.

## MONITORING REQUIREMENTS

A monitoring requirement on open loop system is imposed by the Mining and Geological explorations Law, Open loop system require monitoring of groundwater quality and volumes abstracted from the well field, weekly groundwater level and temperature, yearly groundwater quality analyses, full chemical composition, groundwater volumes and long term pumping data are required. The typical monitoring costs are €1,500 per annum in the case of open loop system.

Monitoring requirements are place for closed loop system heat exchangers for the first year of operation, where ground are installed with the exception of the requirement for a TRT to be performed.

The Ministry of Mining and Geology is the licensing authority responsible for collecting monitoring data and in the case of Bodjani, the Provincial Secretariat for Energy and Mineral Resources.

## REGULATIONS

### GSHP SYSTEM REGULATIONS

Regulations for geothermal energy resources including definitions and thresholds for different resources, aside from those set out in the Mining and Exploration Law are currently under development.

### ENVIRONMENTAL

The environmental regulations for GSHP systems require the following information to be submitted as part go the exploration licence to the Provincial Secretariat for Energy and Mineral Resources:

- Evidence of business entities on registration the applicant;
- Topographic maps showing marked borders and coordinates of the area;
- project of geological explorations;
- report and confirmation of carried out technical control of the project;
- proof of payment of all administrative fees if the exploration is carried out on provincial territories;
- proof of right to use data and exploration results that are the result of geological exploration
- approval of the project design and implementation of the planned geological explorations, issued by the competent Institute for Nature Protection and the competent institute for protection of cultural heritage or other competent entity.

There are no restrictions to the deployment of GSHP systems.

### BUILDINGS

Regulations on the renovation of historical and cultural buildings deal with in the Planning and Construction: 1, the regulations on Energy Efficiency of Buildings ("Official Gazette of RS", No. 61/11) and the Law on Cultural Assets (Official Gazette of RS", No. 71/94, 52/11, 52/11, 99/11-dr). There are no specific targets for renewable technologies installations and no exact target in Rulebook on Energy Efficiency in Buildings for ground source heat pumps.

### HEATING & COOLING PLANTS

The regulations in place for the Energy law (Official Gazette of the RS", No. 145/2014); The rulebook on energy permits (Official Gazette of the RS", No. 15/2015) deal with heating a cooling plants. GSHPs are not specifically mentioned or dealt with in this document.

## POLICY CONTEXT

National Renewable energy action plan of the Republic of Serbia does not have fixed targets for geothermal heat pumps.

## STANDARDS & GUIDELINES

No standards and guidelines were reported.

## TRAINING & CERTIFICATION

Personnel and companies involved in the installation of heat pumps are required to have specific training. Training course takes three months, after that period attendees are awarded licence for system installation.

The certification and licence of designers is issued by Serbian Chamber of Engineers (SCE). SCE organises training and certification for architects, civil engineers, mechanical engineer and electrical engineers and authorised building energy efficiency engineers in accordance with the applicable regulations. The training also includes spatial and urban planning, production of technical documentation and construction aspects. («RS Official Gazette» no 4/10, 21/10 и 14/12).

Additional, training programmes for energy managers and authorised energy auditors in accordance with the Law on efficient energy use («RS Official Gazette» no 25/13) will be available to . Training and accreditation of experts is being considered through additional sub-laws on the basis of Law on efficient energy use («RS Official Gazette» no 25/13).

## OTHER INFORMATION

A database of GSHP systems is managed by the Laboratory for geothermal energy, at the faculty of mining and geology at the University of Belgrade but is not publicly available. Further information is held by the Ministry of Mining and Energy.

Regulations on financial incentives are being prepared, as part of this process GSHPs are being considered as exempt from import tax.