



Republika Srbija

MINISTARSTVO ENERGETIKE,
RAZVOJA I ZAŠTITE ŽIVOTNE SREDINE

Program
Ujedinjenih nacija
za razvoj



*Empowered lives.
Resilient nations.*

CONSTRUCTION OF PLANTS AND ELECTRICITY/HEAT GENERATION FROM BIOMASS IN THE REPUBLIC OF SERBIA

Guide for Investors

IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE/ TOPLOTNE ENERGIJE IZ BIOMASE U REPUBLICI SRBIJI

Vodič za investitore

Second Edition, February 2013

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Supported by: United Nations Development Programme

First Edition, November 2010

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Supported by: GTZ and USAID



Drugo izdanje, Februar 2013.

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Uz podršku: GTZ i USAID

English

Srpski



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ELECTRICITY/HEAT GENERATION FROM
BIOMASS IN THE REPUBLIC OF SERBIA**
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Guide for Investors

Foreword	7
Biomass	9
Biogas	9
Biomass/Biogas Plants	10
Plant Classification	11
Relevant Legislation	13
Competent Institutions	13
Basic Steps from Idea to the Operation of a Plant	14
I Acquiring the Right to Construct a Plant	15
I-1 Selection of the Location, Perusal of Valid Planning Documents and Information on Location	16
I-2 Energy Permit	17
I-2 Obtaining the Energy Permit	18
I-3 Location Permit	19
I-3 Requirements for Connection	20
I-3 Forming the Building Plot	21
I-3 Allotment/Reallotment	22
I-3 Water Documents	23
I-3 Water Requirements	23
I-3 Obtaining the Location Permit	24
I-4 Construction Permit	25
I-4 Environmental Impact Assessment	26
I-4 Integrated Permit	29
I-4 Technical Documentation	31
I-4 Water Approval and Technical Review of the Main Design	32
I-4 Obtaining the Construction Permit	33
I-5 Operation Permit	34
I-5 Construction of the Structure	35
I-5 Technical Inspection and Operation Permit	36
II Acquiring the Right to Engage in the Activity of Electricity Generation	37
II-1 Right to Engage in the Production of Heat - options	38
II-1 Entrusting the Right to Engage in Public Utility Services	38
II-1 Concession	39
II-1 Contents of the Concession Agreement	40
II-2 License	41
II-3 Connection of the Plant to Electric Power Grid	42
II-3 Connection of the Plant to the Heat Distribution Network	43
II-4 Privileged Energy Producer Status	44
II-4 Obtaining the Privileged Energy Producer Status	45
II-5 Electricity Purchase Contract	45
Commencement of Generation (and Sale) of Electricity/Heat	46
Guarantees of Origin	46

Foreword

Serbia's significant renewable energy potential is still not sufficiently exploited due to a number of reasons that cause a lack of investment activity in renewable energy sector. The Government of the Republic of Serbia has recently accepted the Decision of the Ministerial Council of Energy Community on the promotion of the use of renewable energy by means of transposition of the EU Directive 2009/28/EC on renewable energy. This decision sets an ambitious goal for Serbia to increase the share of renewable energy in gross final energy consumption to 27% by 2020, with respect to baseline of 21.2% in 2009, which will lead to intensive investment activities in the sector in the forthcoming period.

Based on the Agreement for the provision of support services with the Ministry of Energy, Development and Environmental Protection under the auspices of the "Policy Advice on Renewable Energy Sources" project, in 2012 UNDP Serbia focused on promoting investments in renewable energy sector by updating and revising four existing, yet outdated, guides for investors in renewable energy facilities and by elaborating two new guides:

- CONSTRUCTION OF PLANTS AND ELECTRICITY/HEAT GENERATION FROM BIOMASS IN THE REPUBLIC OF SERBIA
 - CONSTRUCTION OF PLANTS AND ELECTRICITY GENERATION IN SMALL HYDROPOWER PLANTS IN THE REPUBLIC OF SERBIA
 - CONSTRUCTION OF PLANTS AND ELECTRICITY GENERATION IN WIND POWER PLANTS IN THE REPUBLIC OF SERBIA
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- **CONSTRUCTION OF PLANTS AND ELECTRICITY/HEAT GENERATION FROM HYDRO-GEOTHERMAL SOURCES IN THE REPUBLIC OF SERBIA**
 - **CONSTRUCTION OF PLANTS AND ELECTRICITY GENERATION IN SOLAR POWER PLANTS IN THE REPUBLIC OF SERBIA**
 - **CONSTRUCTION OF THE SOLAR HEATING SYSTEMS IN REPUBLIC OF SERBIA**

All guides, with the exception of one, are bilingual and exist in two versions. Six elaborated guides describe in details very complex and comprehensive procedure for constructing energy facilities and performing economic activity of energy generation from renewable sources. The detailed guides are intended primarily for investors and project developers, but also for officials in different competent institutions since the legal procedure is typically cross-sectoral. In five less detailed guides the comprehensive matter is described in a simple and illustrative manner with an idea to bring it closer to the wide range of stakeholders.

The objective of the guides is to encourage and assist the investors interested in Serbian renewable energy sector, but also to identify through a thorough analysis weaknesses and inconsistencies of the legal procedure and to encourage competent institutions to perform legal and institutional improvements. We sincerely hope that the guides will trigger constructive dialogue between numerous stakeholders and thus contribute to their better awareness and mutual understanding, which should ultimately result in favourable environment for investments in renewable energy.

Biomass

- Biomass is a biodegradable part of products, waste and residues of biological origin from agriculture (including plants and animal matters), forestry and related industries, as well as biodegradable part of industrial and municipal waste
 - Biomass does not include any of the fossil fuels, peat, paper or cardboard, textile, animal parts, industrial waste except waste defined as biomass, municipal waste, waste originating from municipal wastewater treatment plants, and commercial waste.
-

Note

It should be underlined that this Guide refers to all biomass/biogas – based plants and that it describes procedures towards competent authorities and institutions, but that certain elements of these procedures, as well as enforcement of certain procedures depends on the size of the structure, site where the structure is constructed, specific power generation technology and other characteristics of the structure using biomass/biogas.

Biogas

- Biogas occurs as a result of anaerobic processes, from biomass, i.e.:
 - from biomass residues derived from the primary processing of agricultural products (that do not contain any hazardous substances)
 - separate category: biogas of animal origin, occurring in the installations for treating by-products of animal origin (category 2 and 3 – animal corpses, carcasse, parts of animal carcasses, parts of animal bodies, products of animal origin and from food of animal origin which are not intended for human nutrition), in compliance with the regulations defining the treatment of by-products of animal origin, as well as with other regulations from the veterinary field.

Energy Law: Biomass is a biodegradable part of products, waste and residues of biological origin from agriculture (including plants and animal matters), forestry and related industries, as well as biodegradable part of industrial and municipal waste

Straw and other non-hazardous agricultural or forest materials found in nature, and used in agriculture, forestry, or for energy production using such biomass or processes or methods that do not have a harmful effect on the environment and do not endanger health of people
is not subject to the Law on Waste Management

Everything else... is subject to the Law on Waste Management

Biomass/
Biogas
Fuelled
Plants

The investor shall acquire the following:



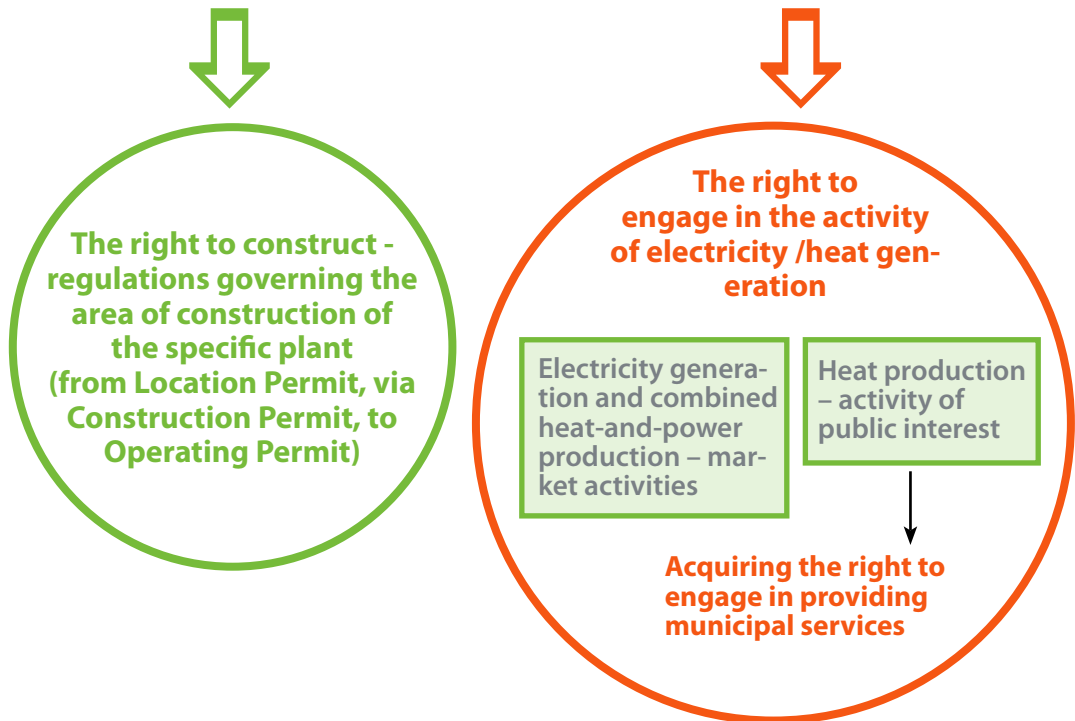
I
The right to construct the plant



II
The right to engage in the activity of electricity/heat generation

Biomass/
Biogas
Fuelled
Plants

The investor shall acquire the following:



Plant
Classification

- **Energy law**
 - plants fuelled with renewable energy sources - biomass/ biogas
 - plants using the combined cycle
- **Rulebook on Criteria for Issuing Energy Permits, Contents of the Application, and Procedure for Issuing Energy Permits**
 - Plants for electricity generation of rated capacity from 1 to 10 MW
 - Plants for electricity generation of rated capacity over 10 MW
 - Plants for production of heat with installed capacity of over 1 MW

Plant Classification

- **Law on Planning and Construction**
 - plants producing energy from renewable energy sources – jurisdiction of the Ministry in charge of civil engineering affairs, or the Autonomous Province
 - combined heat-and-power plants of a capacity below 10 MW – jurisdiction of local self-government units (exceptions)
- **Decree on Requirements for Obtaining Privileged Electricity Producer Status**
 - biomass/biogas fuelled plants (power plants) using biodegradable matter from agriculture, forestry and households comprising: plants and plant parts, plant residues occurred in agriculture (straw, stover, branches, fruit stones, husk), farm manure, plant residues in forestry (tree felling residues), biodegradable residues in food processing and wood processing industry, which do not contain hazardous substance and separated biodegradable fraction of the municipal waste
 - power plants with combined production, simultaneously producing electricity and heat using fossil fuels (coal or natural gas), waste technological gases with organic fraction or fossil fuels combined with some renewable energy source, waste or waste technological gases with organic fraction.
- **Decree on the List of Projects for which Environmental Impact Assessment (EIA) Study is mandatory and the List of Projects for which EIA Study may be required, makes the following distinction:**
 - Plants having or exceeding the capacity of 50 MW (List I) – for which the Environmental Impact Assessment Study is mandatory, and
 - Plants having the capacity of 1 - 50 MW (List I) – for which the Environmental Impact Assessment Study may be required. Exceptionally, for plants of capacity under 1 MW the study may be required if they are constructed in a protected cultural asset or in the protected environs of outstanding cultural assets and in other areas for special

An important element for proper operation of the biomass plant is a long-term biomass supply contract

Relevant Legislation

- Energy Law (Official Gazette of the RoS, Nos. 57/11, 80/11 and 93/12)
 - Decision on the Energy Sector Development Strategy of the Republic of Serbia by 2015 (Official Gazette of the RoS, No. 44/05)
 - Decree on the Implementation Program of the Energy Sector Development Strategy of the Republic of Serbia by 2015 for the Period from 2007-2012 (Official Gazette of the RoS, Nos. 17/07, 73/07, 99/09 and 27/10)
 - Law on Planning and Construction (Official Gazette of the RoS, Nos. 72/09, 81/09 and 24/11)
 - Law on the Spatial Plan of the Republic of Serbia from 2010 to 2020 (Official Gazette of the RoS, No. 88/10).
 - Law on Environmental Protection (Official Gazette of the RoS, Nos. 135/04 and 36/09)
 - Law on Waters (Official Gazette of the RoS, Nos. 30/10 and 93/12).
 - Law on Forests (Official Gazette of the RoS, Nos. 30/10 and 93/12).
 - Law on Environmental Impact Assessment (Official Gazette of the RoS, Nos. 135/04)
 - Law on Integrated Pollution Prevention and Control (Official Gazette of the RoS, No. 135/04).
 - and other laws and bylaws...
-

Competent Institutions

- Ministry of Energy, Development and Environmental Protection of the Republic of Serbia – MEDEP
- Local self-government unit - LSU
- Energy Agency - EA
- Republic Geodetic Authority - RGA
- Ministry of Agriculture, Forestry and Water Management – MAFWM
- Ministry of Natural Resources, Mining and Spatial Planning - MNRMSP
- Republic Hydrometeorological Service - RHMS
- Electric Power Grid of Serbia- EPGS
- Electric Power Industry of Serbia- EPS
- and other institutions relevant in the specific case

Basic Steps from Idea to the Operation of a Plant

I Acquiring

- the right to construct the plant

II Acquiring

- the right to engage in the activity of electricity/heat generation

Basic Steps from Idea to the Operation of a Plant

Acquiring the Right to Construct a Plant

I-1 Obtaining Information on Location

I-2 Obtaining Energy Permit

Preparation of Pre-feasibility Study with the General Design

Resolving of property right relations / Allotment and Re-allotment

Collection of conditions for designing

I-3 Obtaining Location Permit*

Development of the Feasibility Study with Conceptual Design / Main Design

Preparation of the Environmental Impact Assessment Study

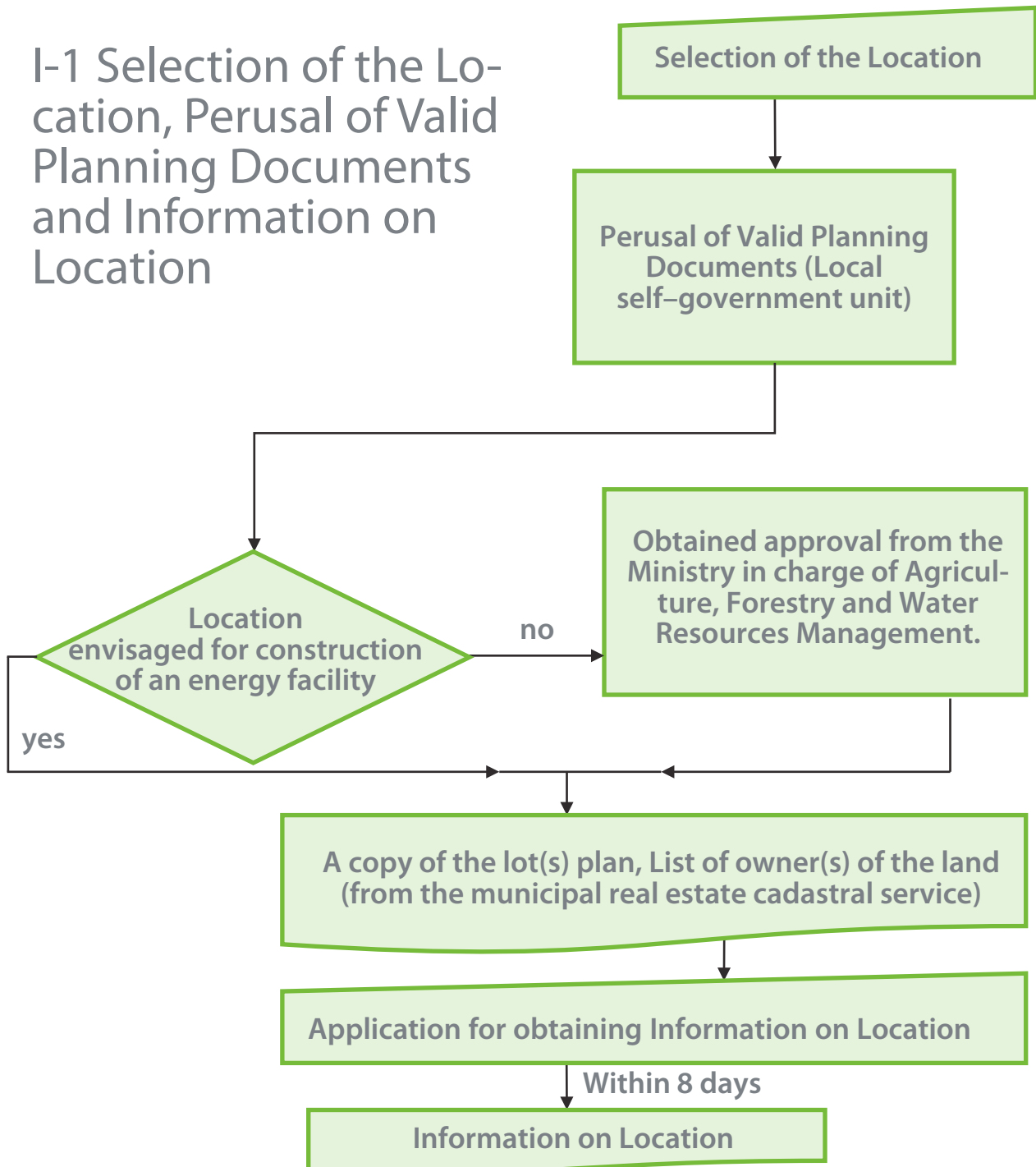
I-4 Obtaining Construction Permit

Construction of the facility

I-5 Obtaining Water Permit and Operation Permit

**can be done before or after obtaining the Energy Permit*

I-1 Selection of the Location, Perusal of Valid Planning Documents and Information on Location

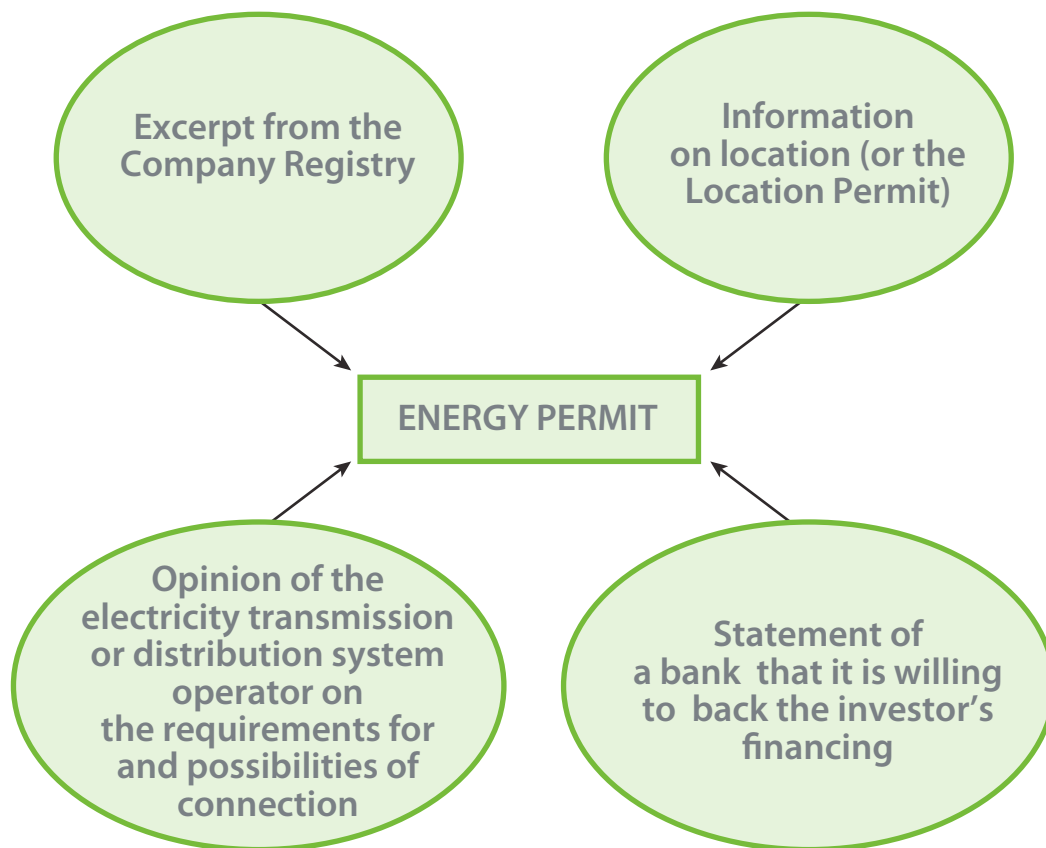


Note

Analysis and selection of the potential location for the construction of a plant are the first step, significantly affecting the preparation of technical documentation for the construction of plant

I-2

Energy Permit



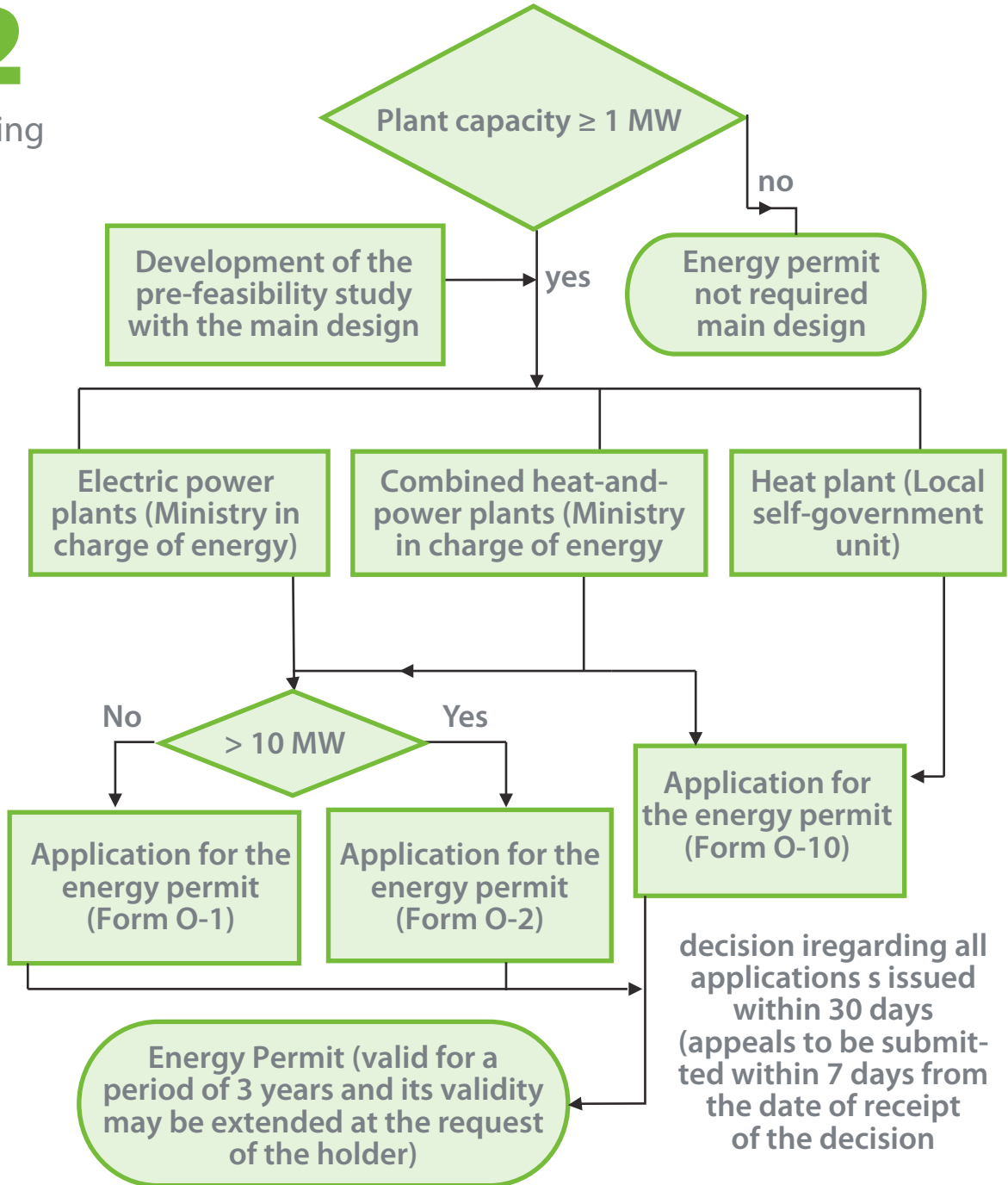
Energy Permit is a document required for obtaining the Construction Permit, prescribed by the Energy Law

For plants of capacity up to 1 MW Energy Permit should not be needed

Note

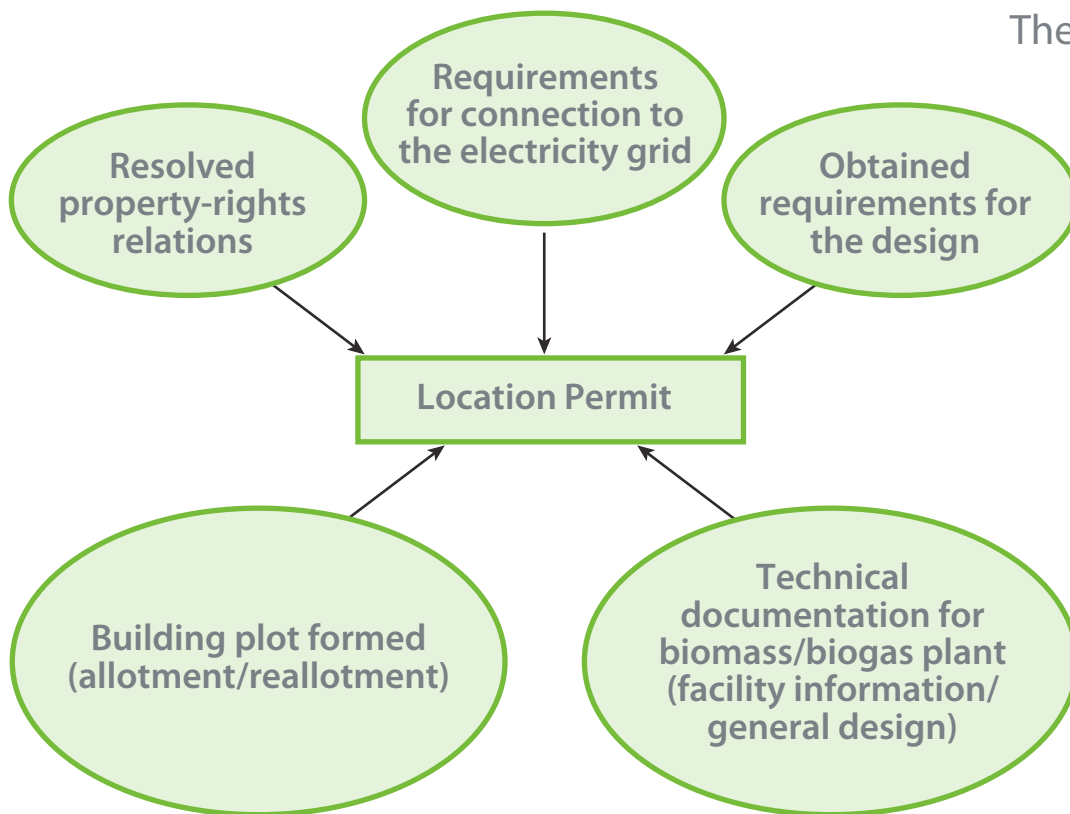
I-2

Obtaining Energy Permit



I-3

The Location Permit

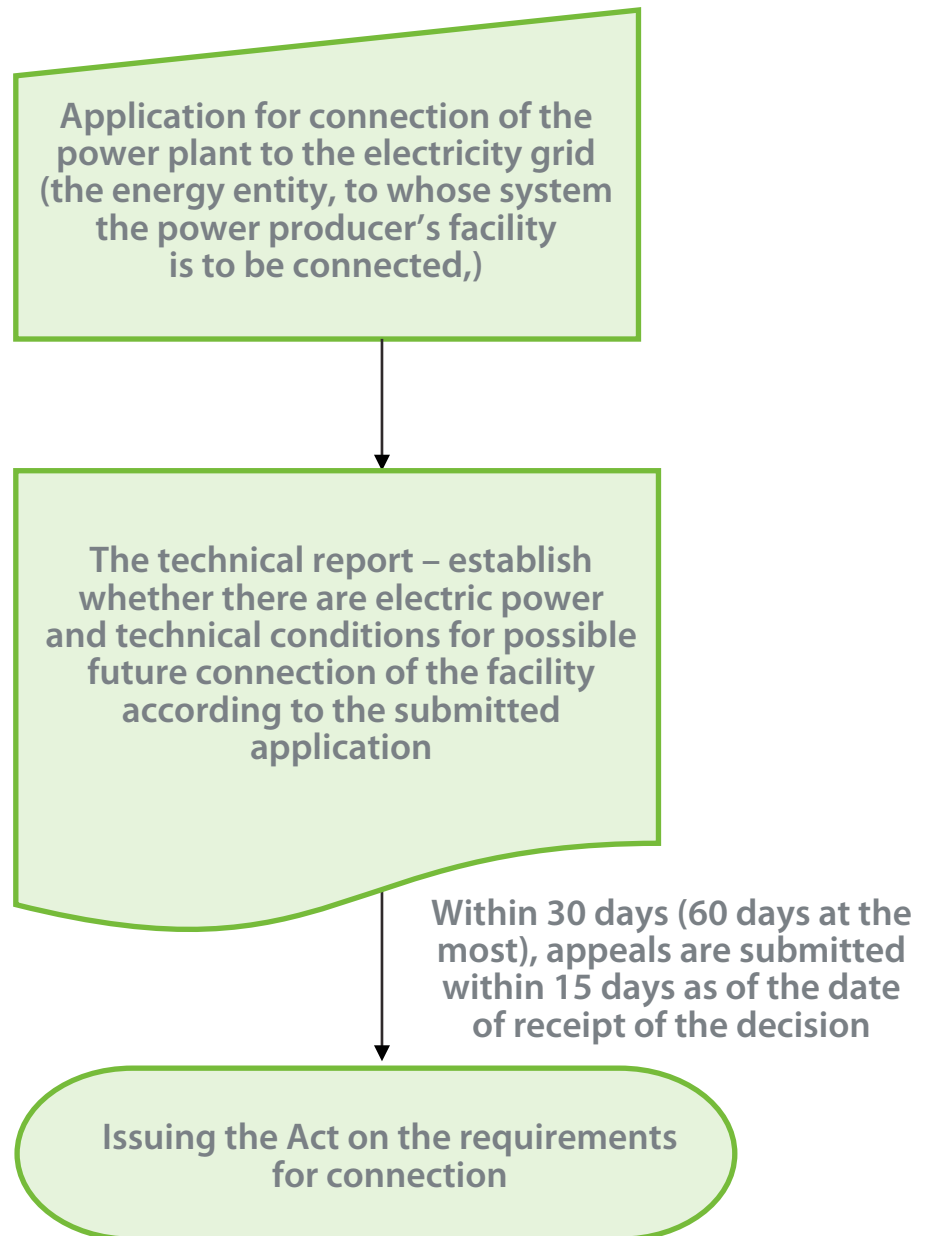


Location Permit is the document which contains all the requirements and data needed for preparation of the technical documentation, main design, in line with the valid planning document

Note

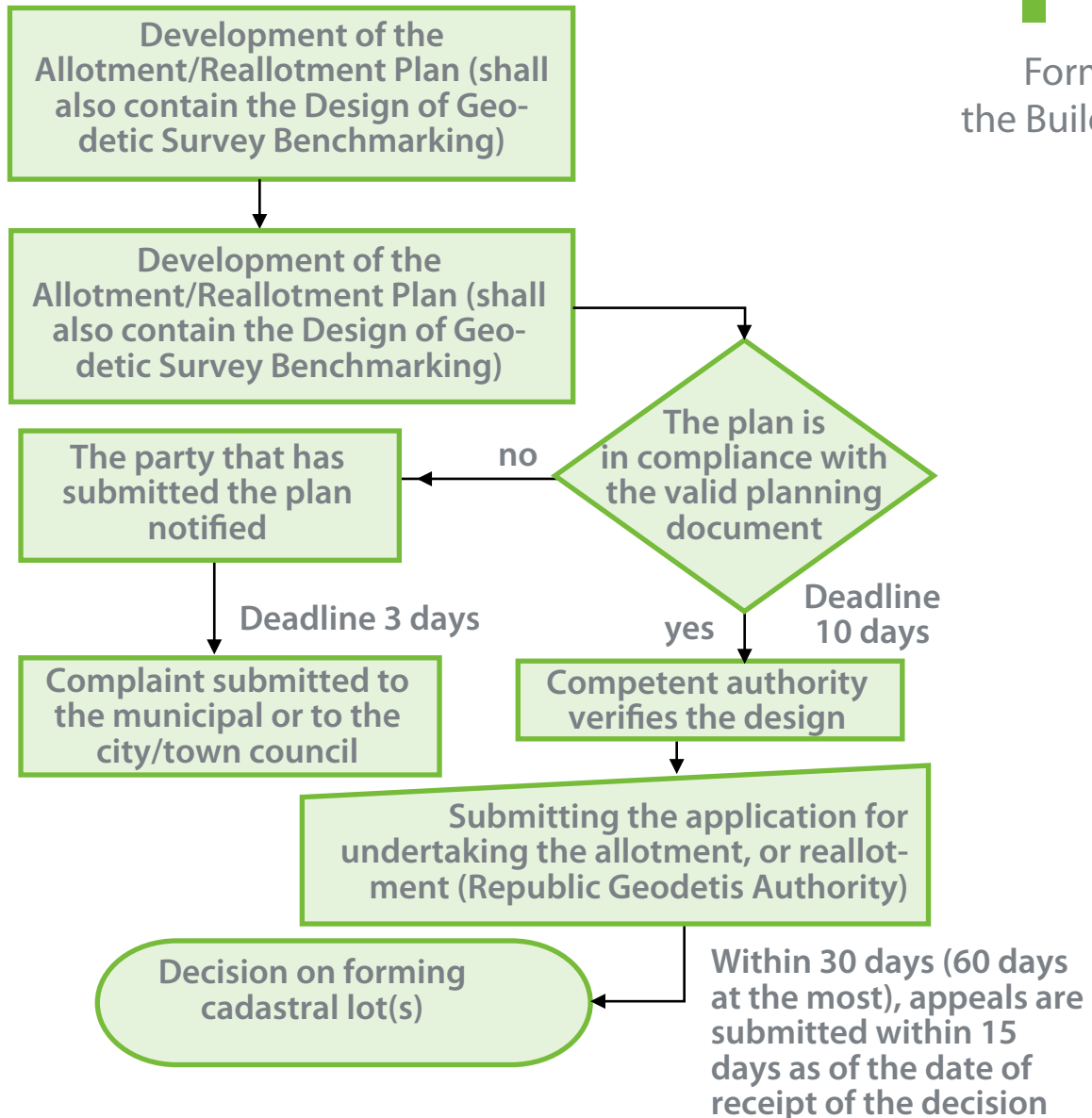
I-3

Requirements for Connection



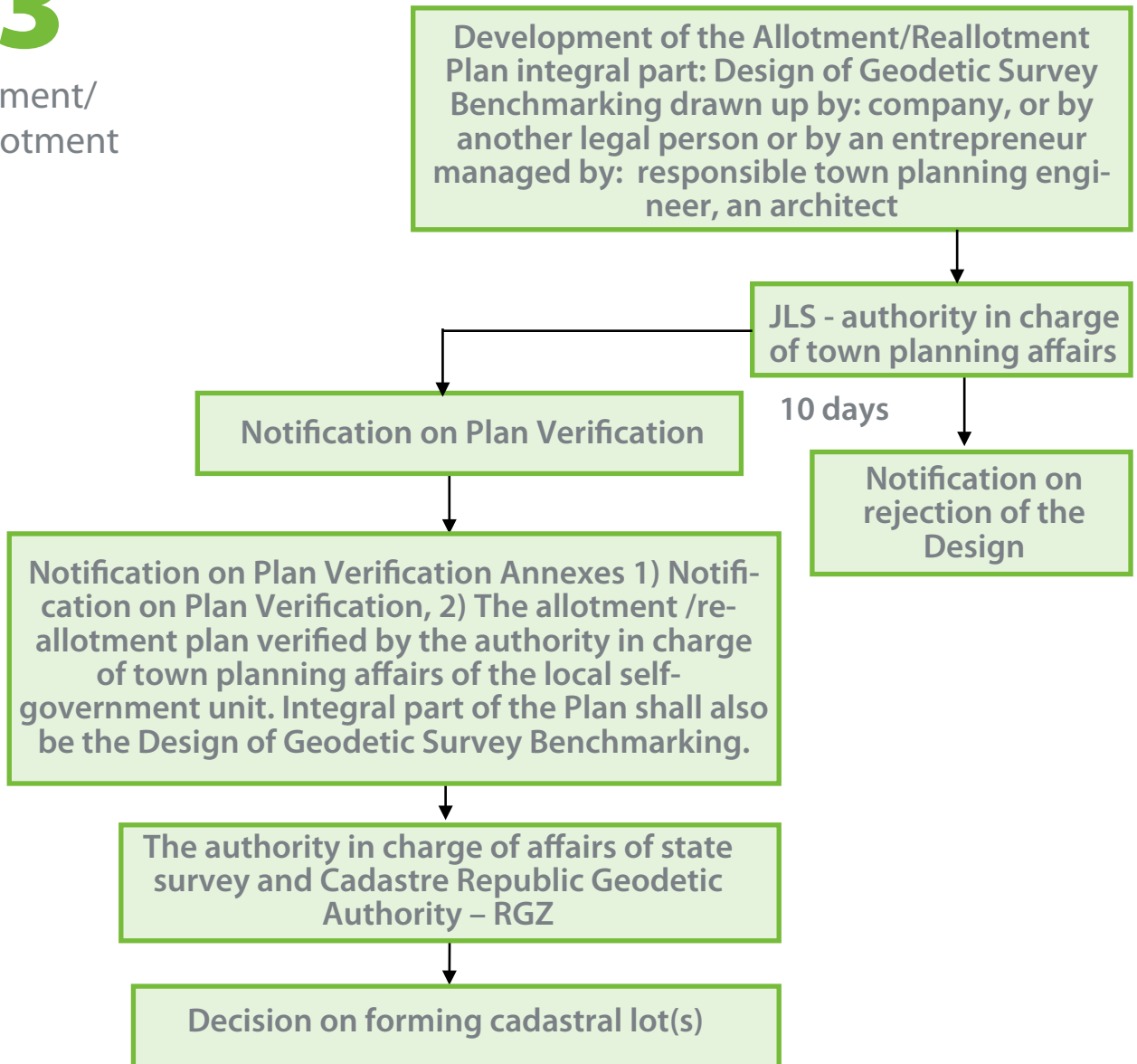
I-3

Forming the Building Plot



I-3

Allotment/ Reallotment



Basic Steps from the Idea to the Operation of a Plant
Acquiring the Right to Construct the Plant



• **Water documents**

- The water requirements (I-3)
- The water approval (I-4)
- The water permit (I-5)
- The water order

• **Competence**

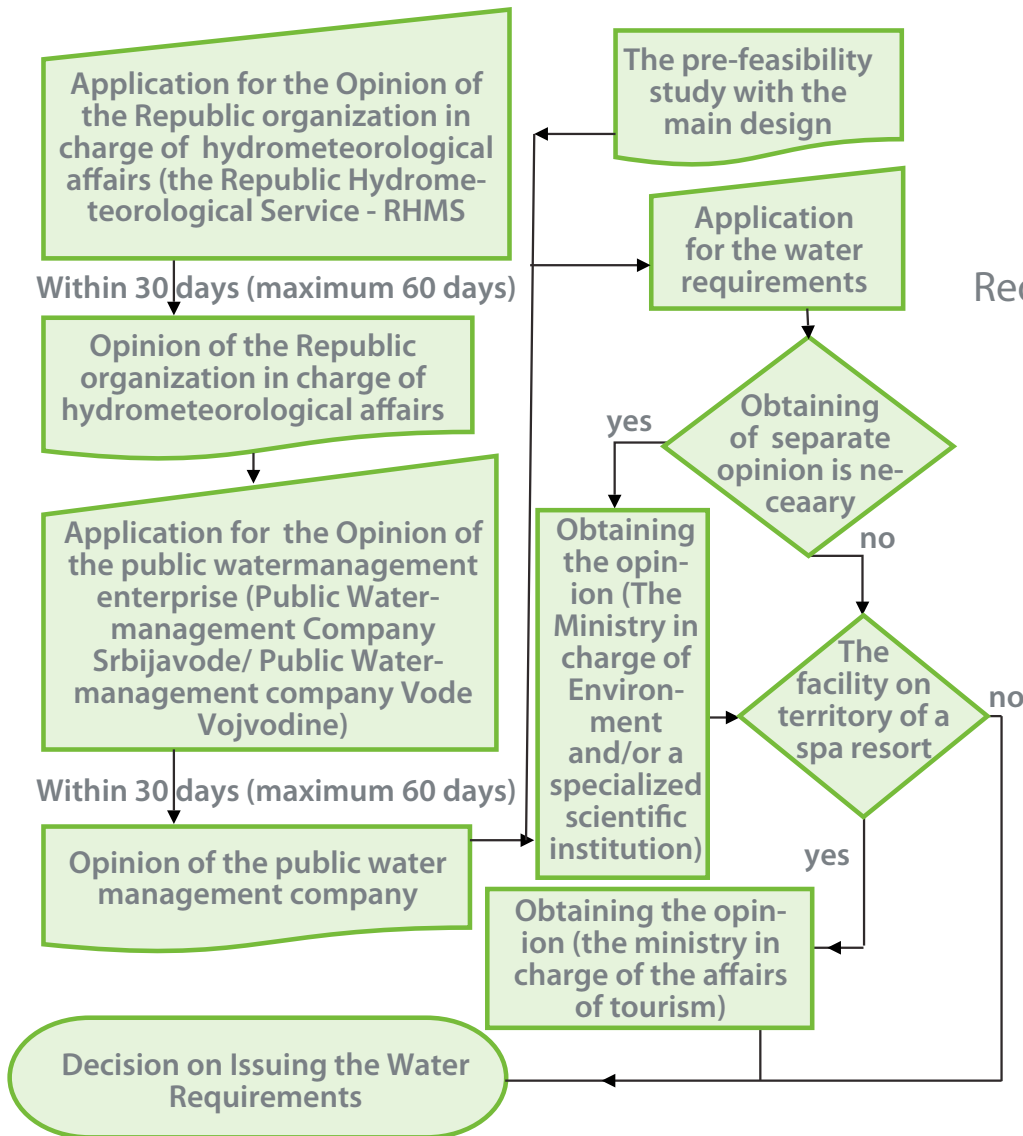
- Ministry in charge of water
- competent authority of the Autonomous Province (If the structure is located in the territory of the Autonomous Province)
- competent authority of the City of Belgrade (for structures located in the territory of the City of Belgrade)

I-3

Water Documents

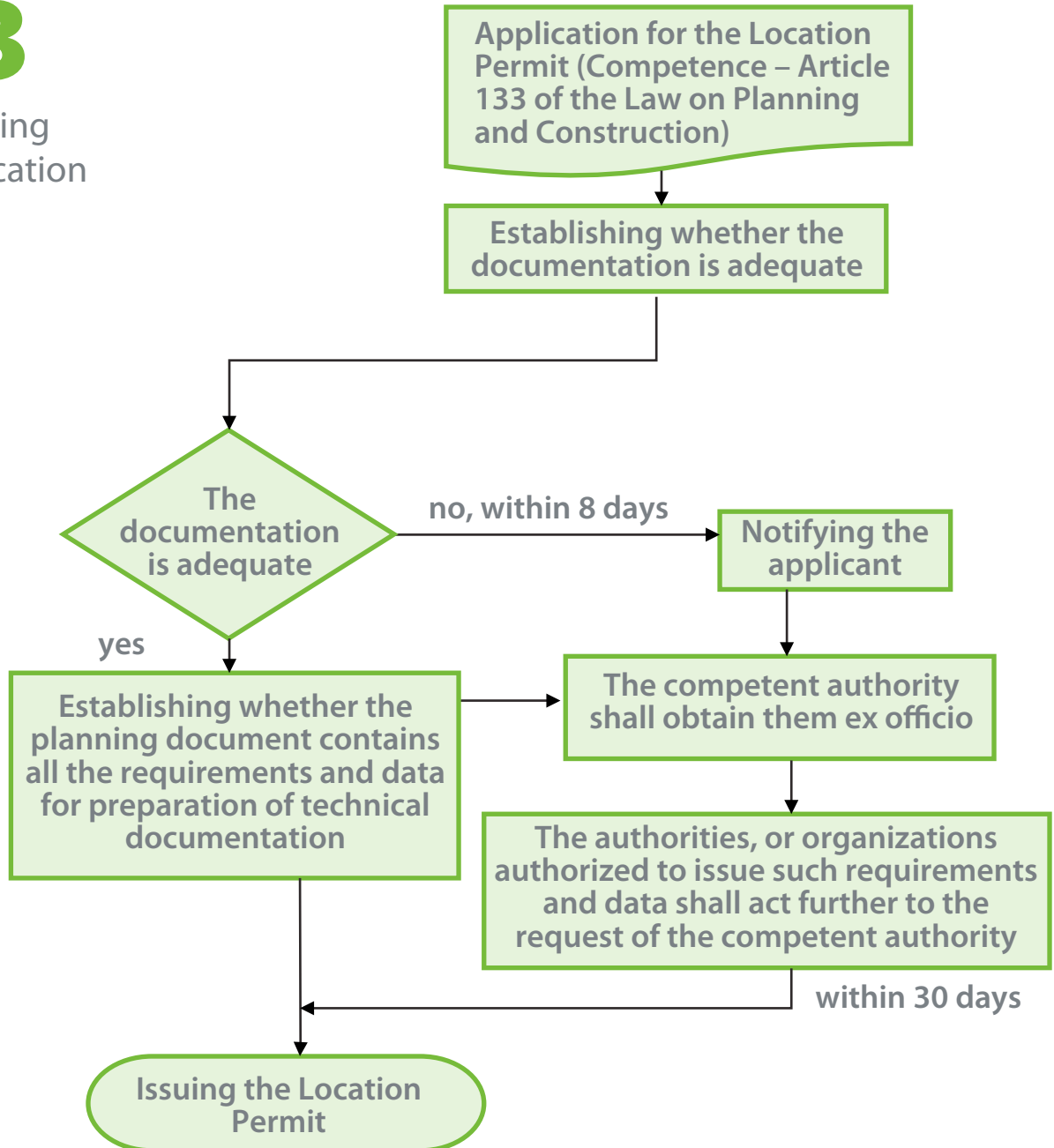
I-3

The Water Requirements

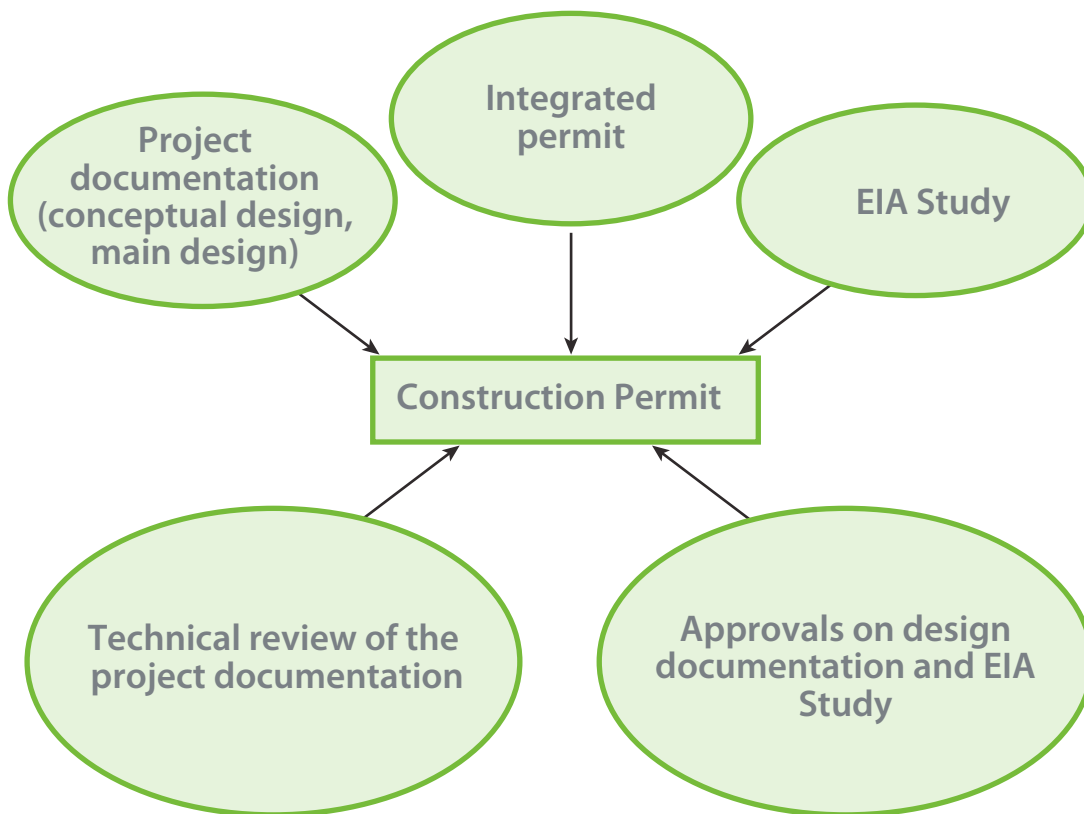


I-3

Obtaining the Location Permit



Basic Steps from the Idea to the Operation of a Plant
Acquiring the Right to Construct the Plant



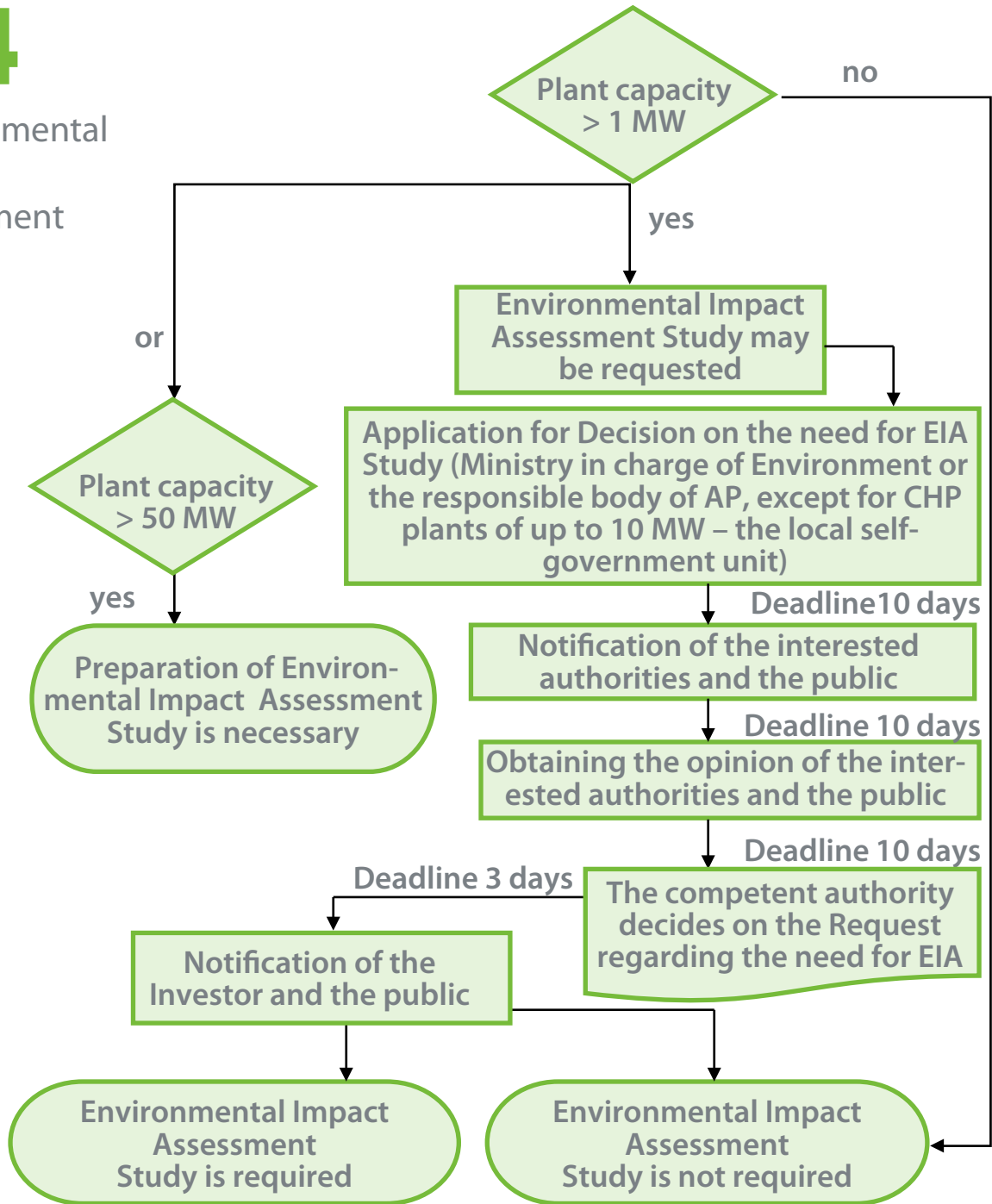
I-4
Construction Permit

After completion of the review of the main design and a positive report on the completed review, the Application for the Construction Permit shall be submitted to the competent authority referred to in the Article 133 of the Law on Planning and Construction :

- all electricity generating plants and heat producing plants ⇒ Ministry in charge of construction affairs /competent authority of the Autonomous Province, except
- combined heat-and-power plants of a capacity below 10 MW ⇒ unit of local self-government in charge of construction affairs , if their height does not exceed 50 MW or If they are constructed within the boundaries of outstanding immovable cultural assets and of cultural assets registered in the Lists of the World Cultural and Natural Heritage, of facilities in protected environs of outstanding cultural assets with clearly defined borders of cadastral lots and of facilities in protected environs of outstanding cultural assets in the Lists of the World Cultural and Natural Heritage of facilities in protected areas in compliance with the decision on protection of cultural assets (except conversion of common space into a residential area-flat, or business premises, in the protected environs of outstanding cultural assets and the cultural assets registered in the Lists of the World Cultural and Natural Heritage), as well as of facilities within the boundaries of a national park and of facilities within the boundaries of protection of a protected outstanding natural asset, (except individual houses, agricultural and economy structures and their pertaining infrastructural facilities, built in villages)

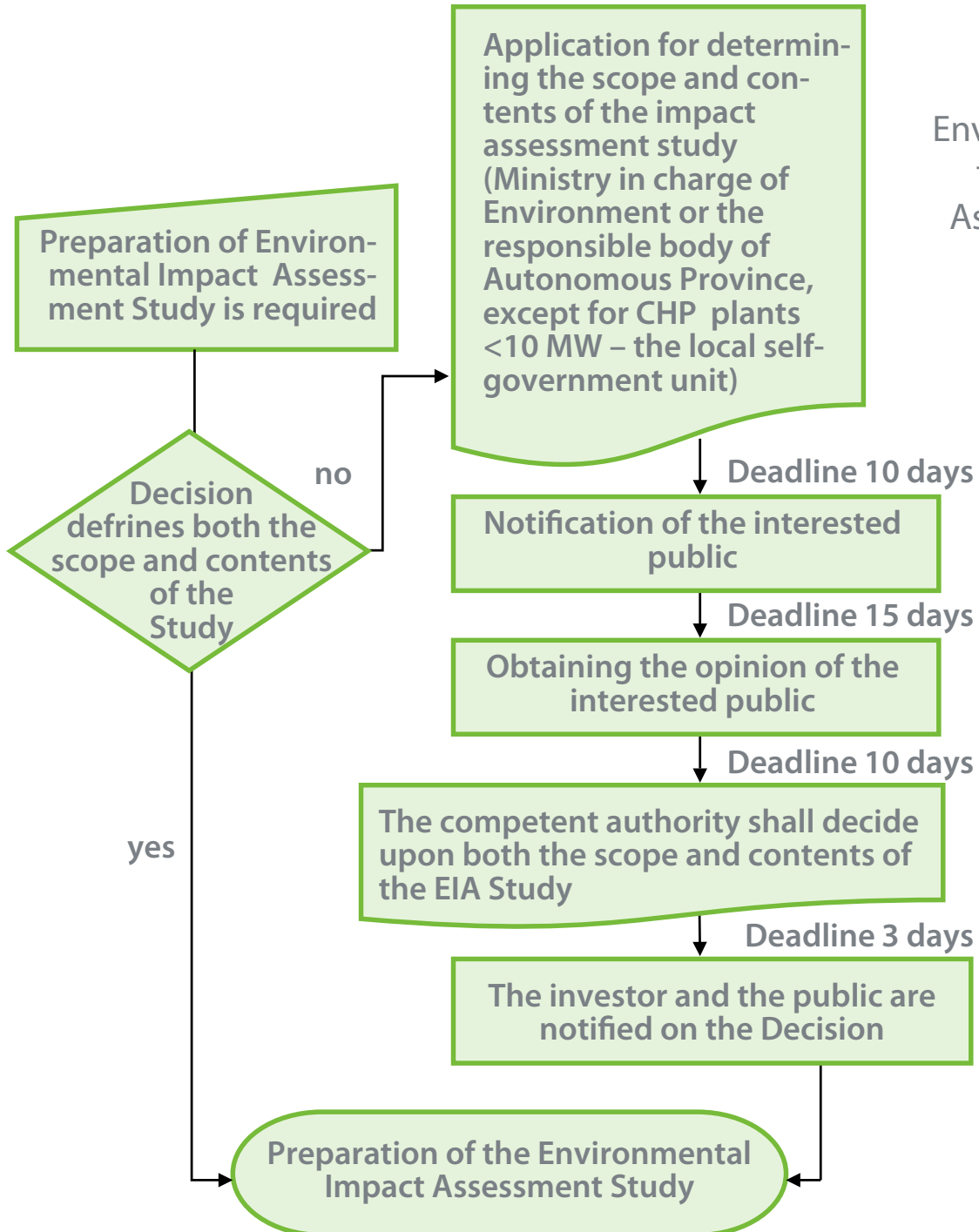
I-4

Environmental Impact Assessment (1)



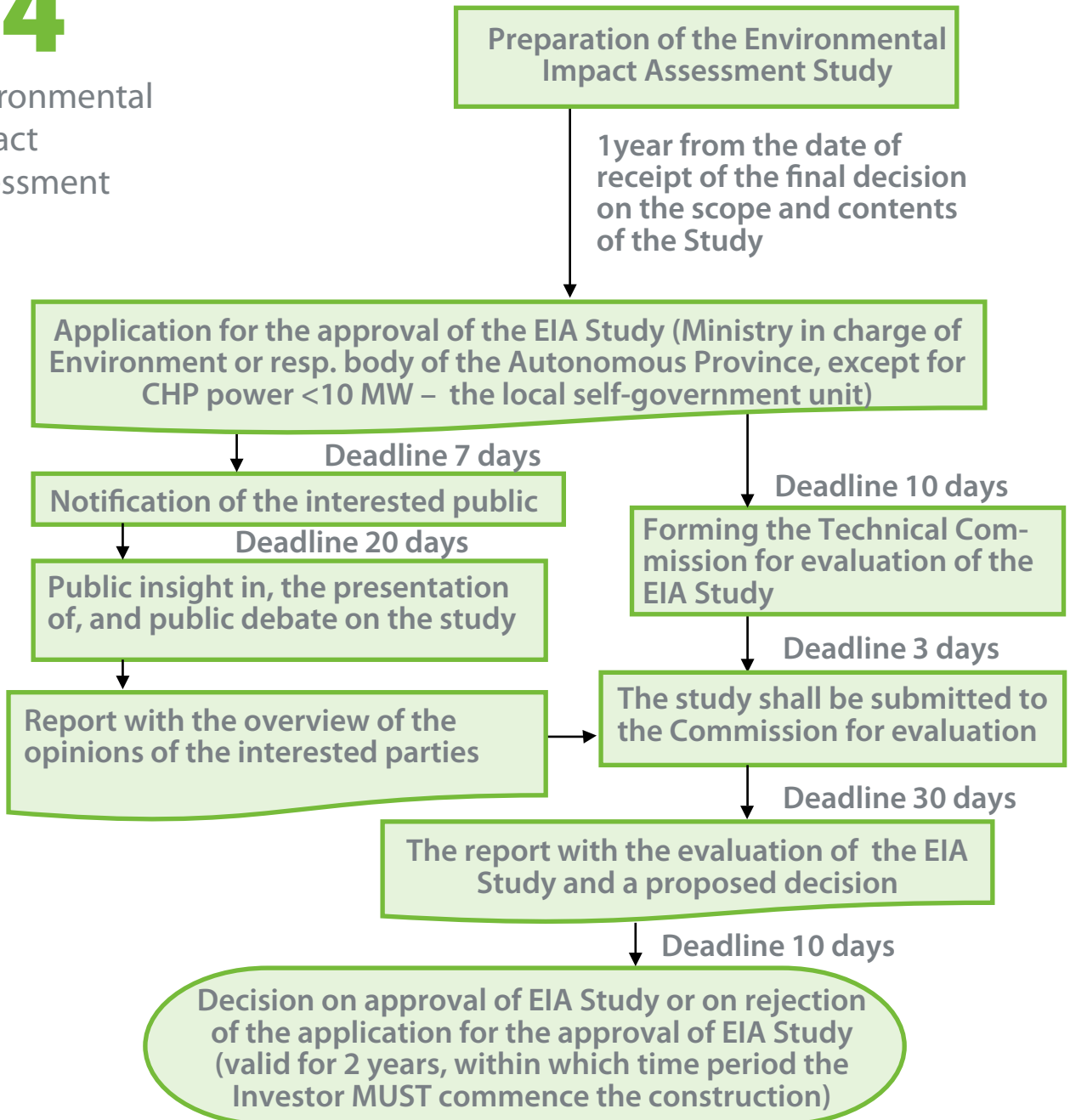
I-4

Environmental Impact Assessment (2)



I-4

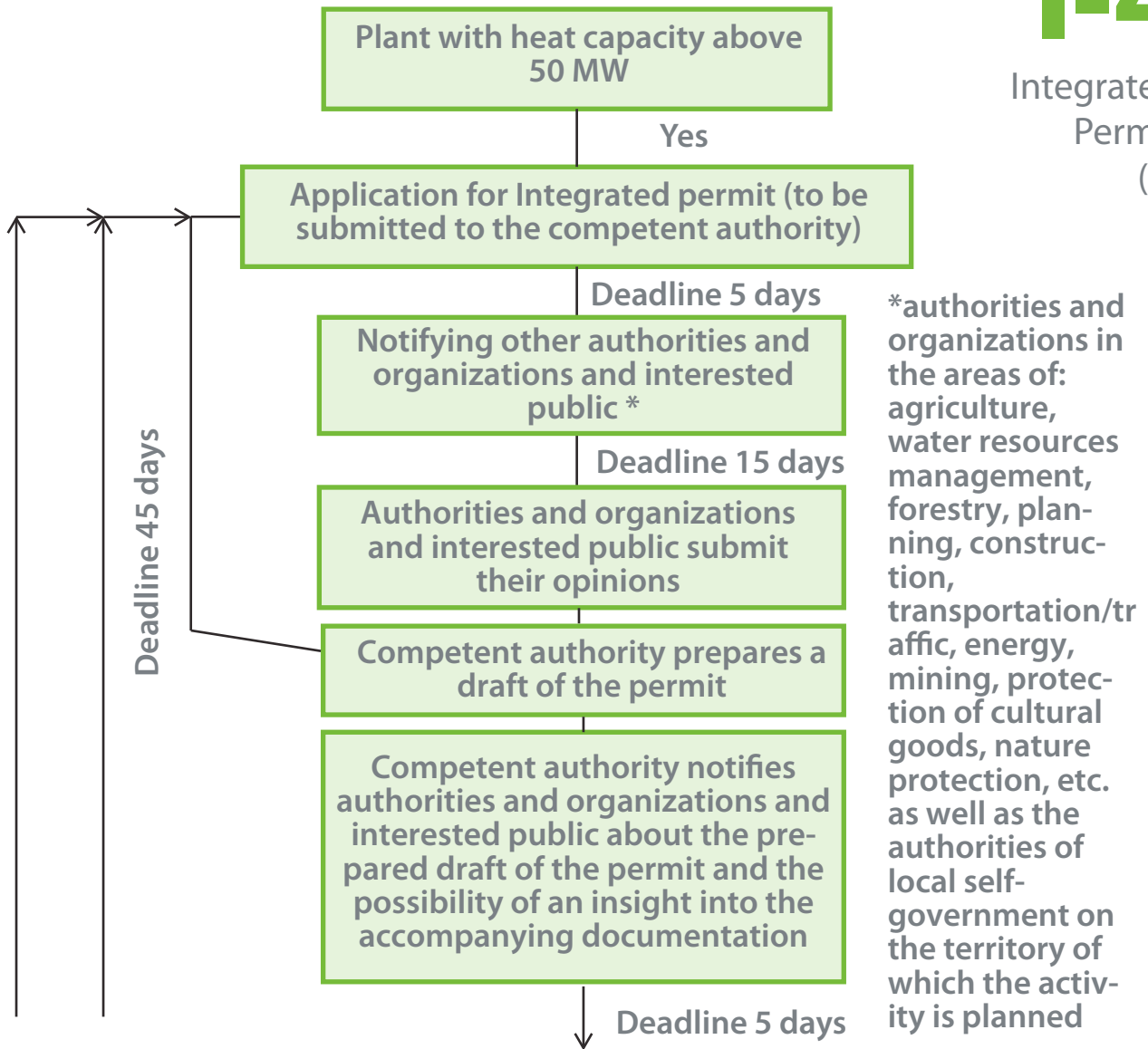
Environmental Impact Assessment (3)



Basic Steps from the Idea to the Operation of a Plant
Acquiring the Right to Construct the Plant

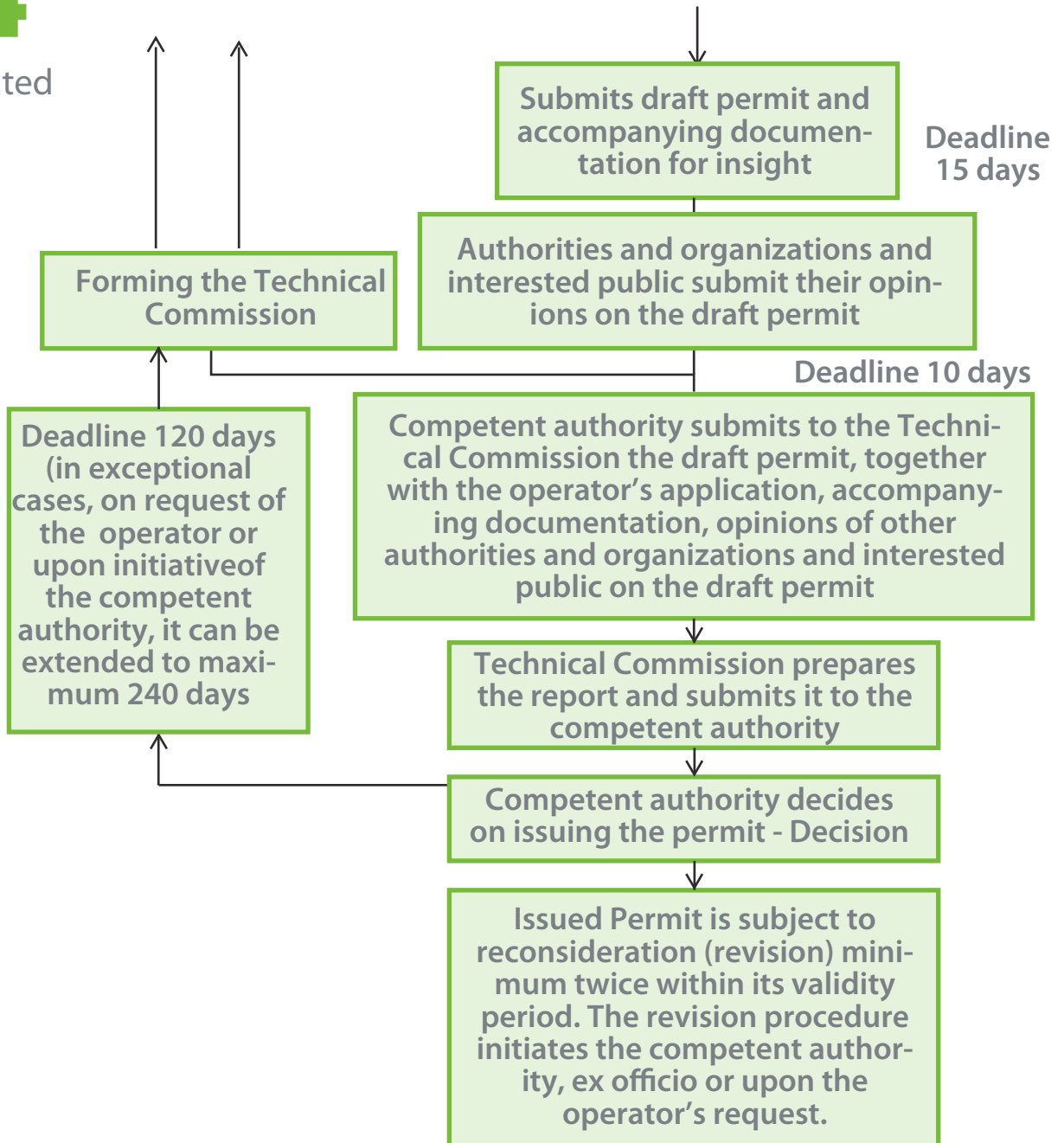
I-4

Integrated Permit (1)



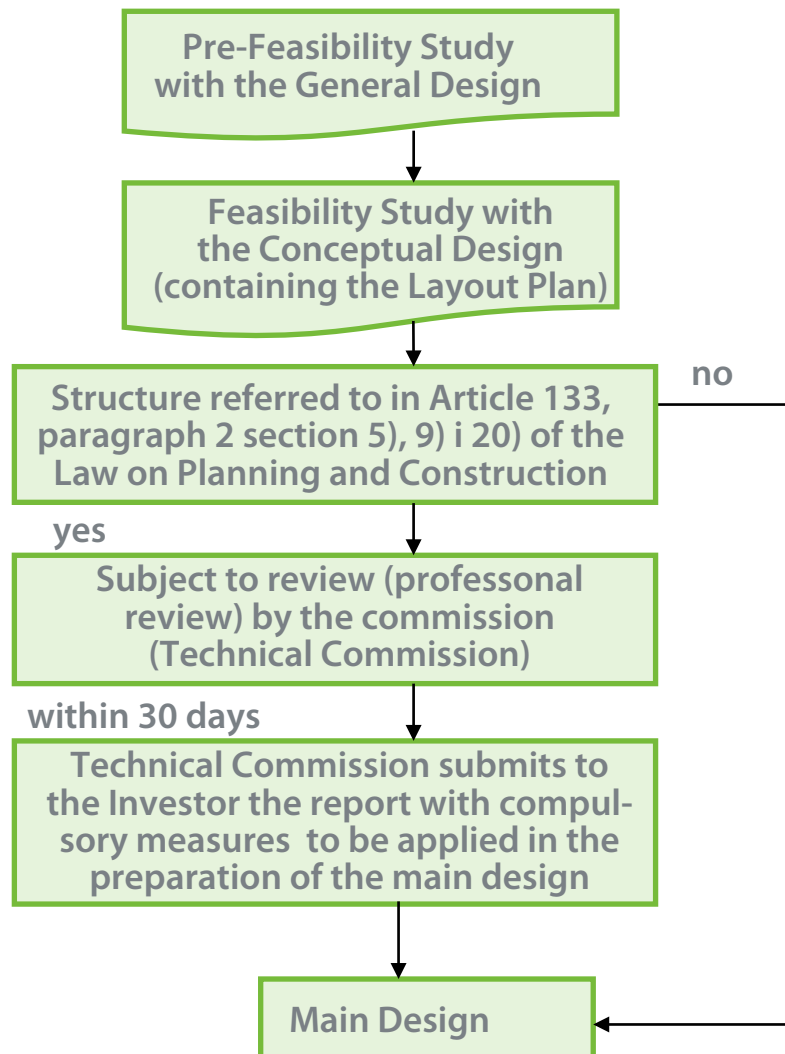
I-4

Integrated Permit (2)



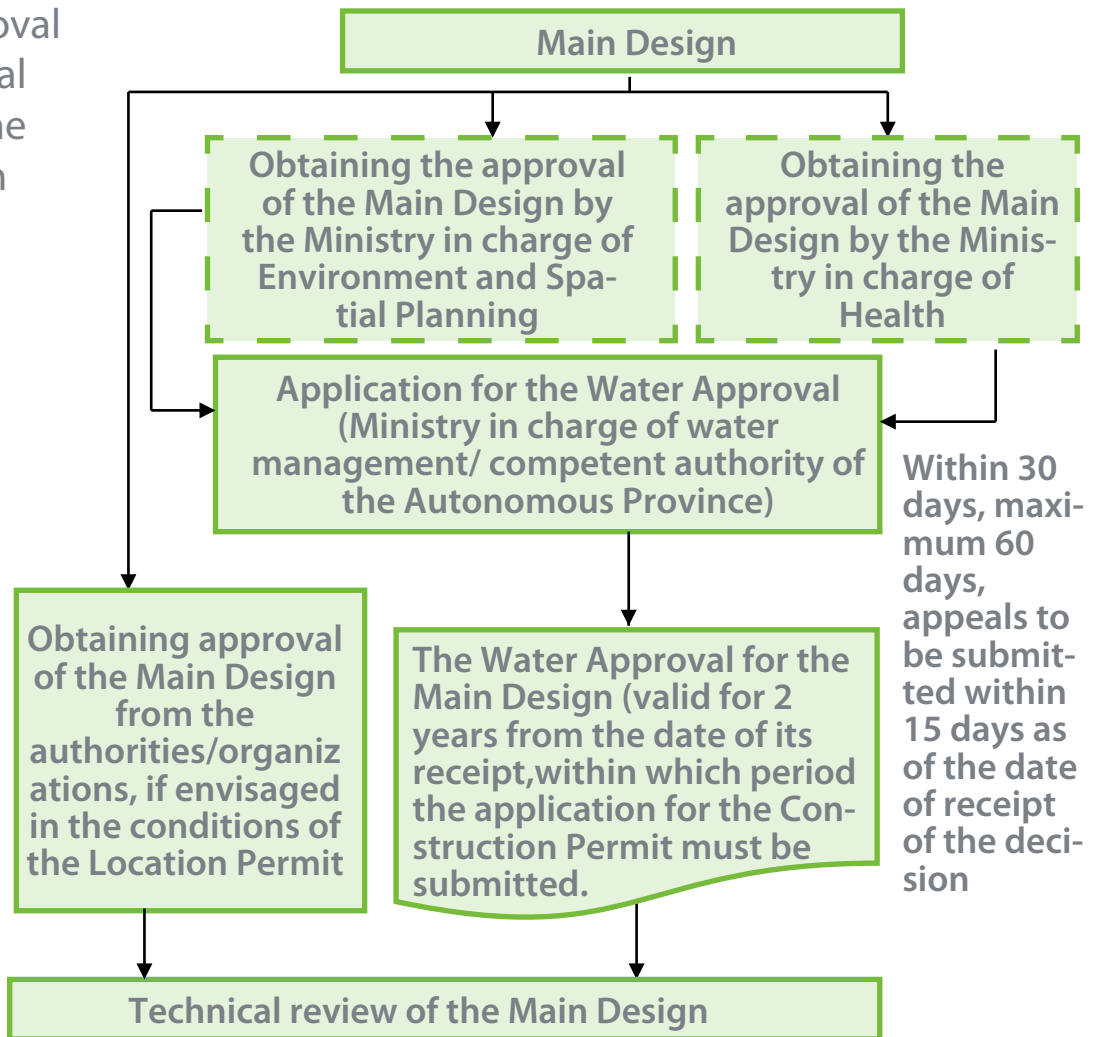
I-4

Technical Documentation



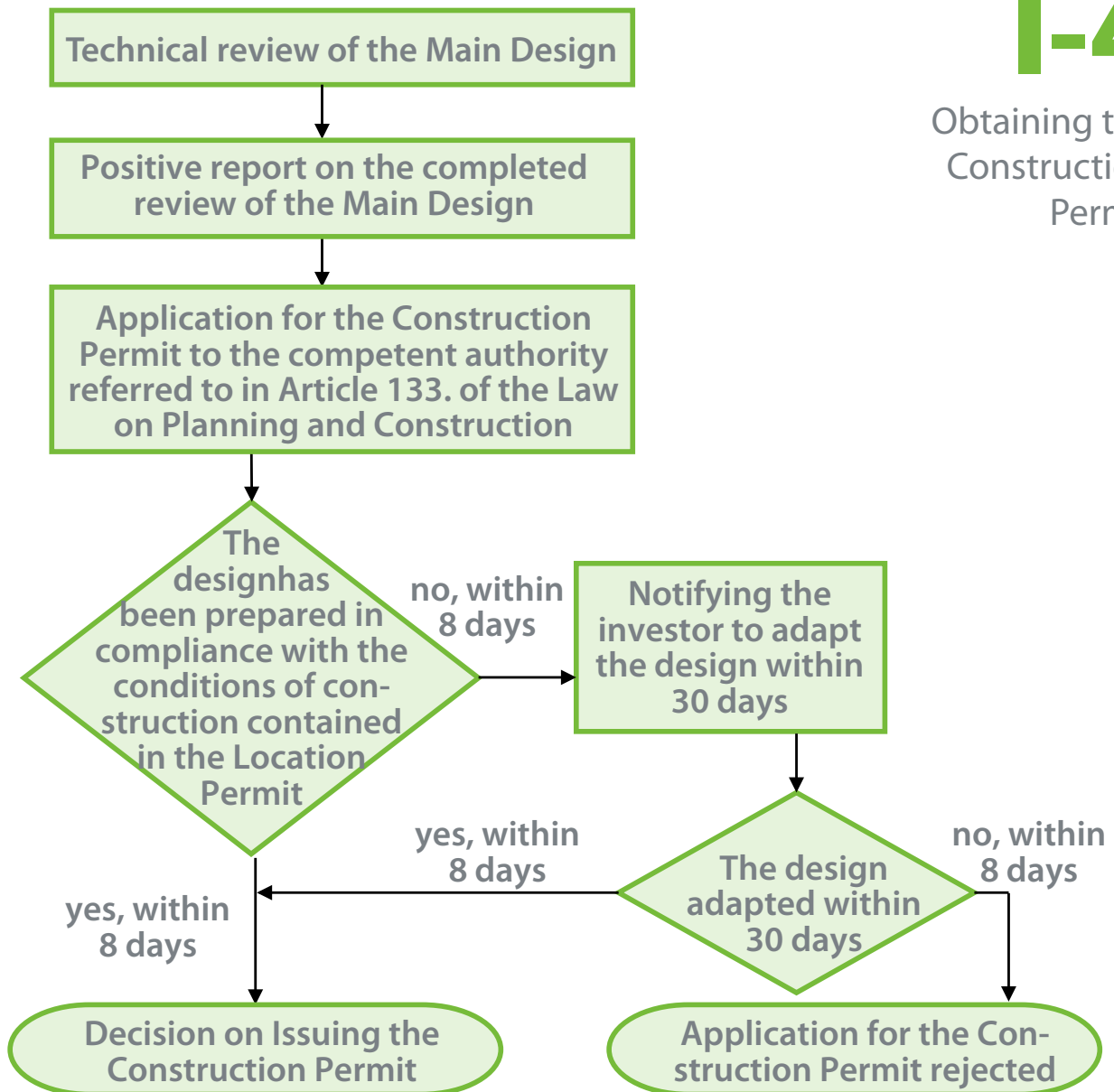
I-4

Water Approval and Technical Review of the Main Design



I-4

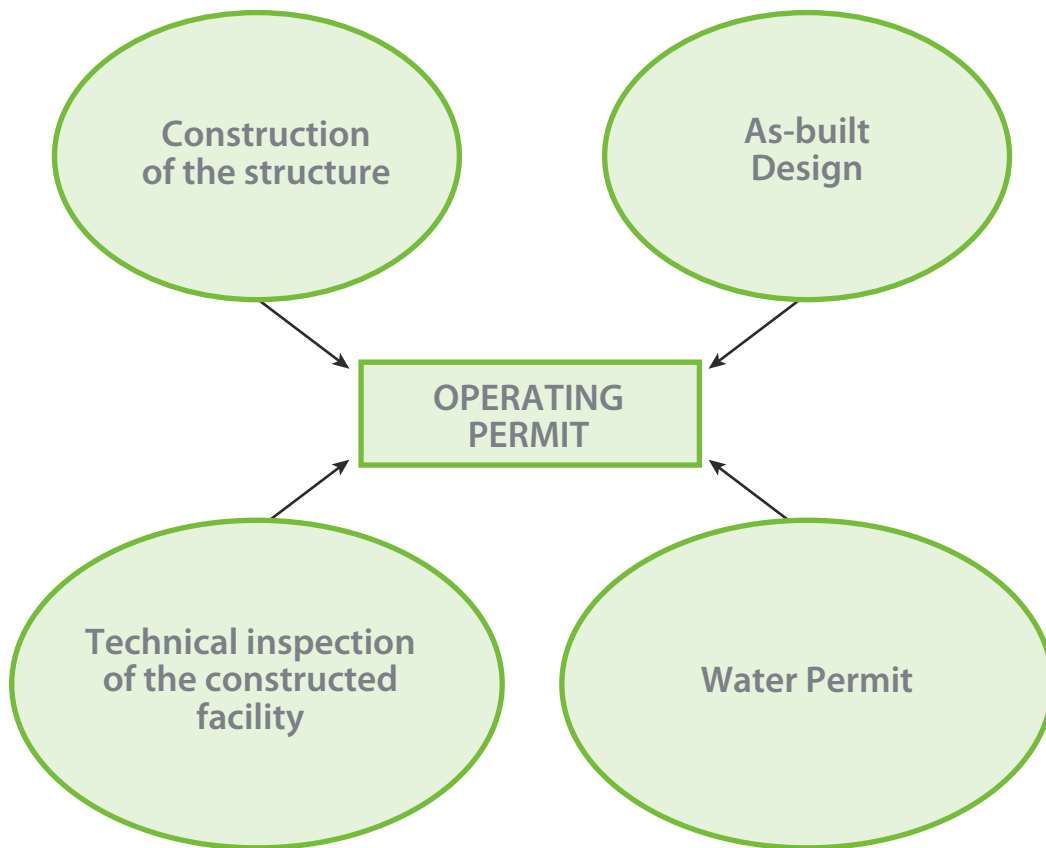
Obtaining the Construction Permit



I-5

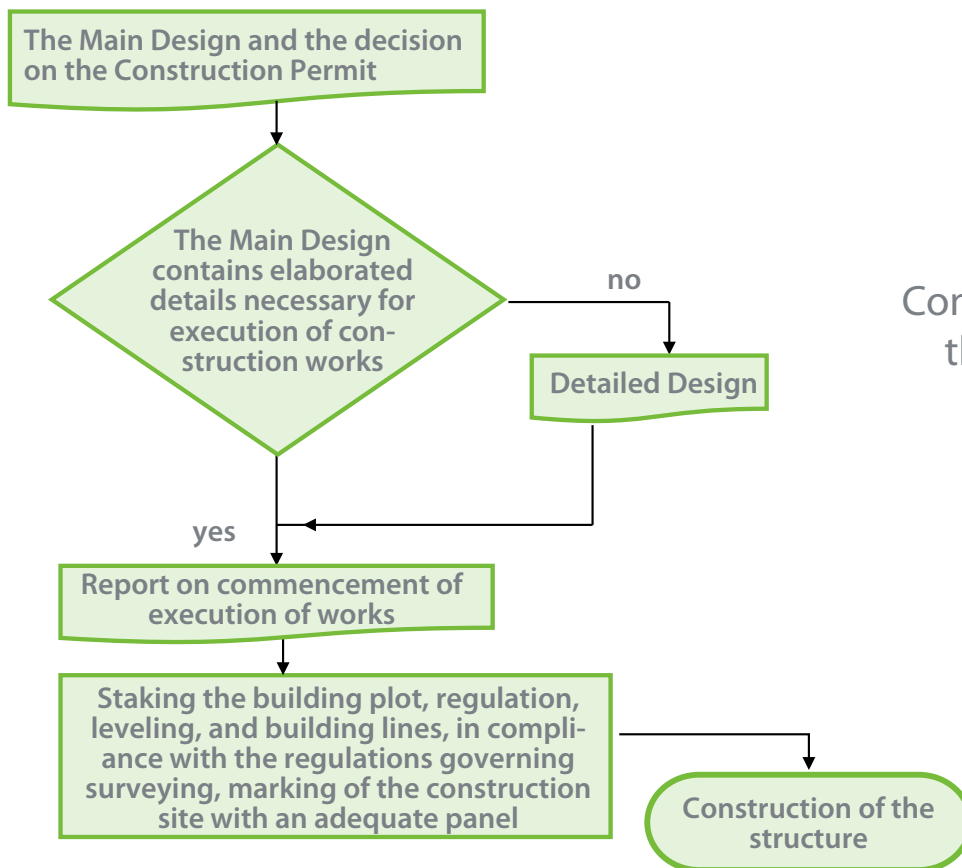
Operating Permit

- Fitness of the structure for operation is established through a technical inspection
- The structure may be used pursuant to previously obtained Operation Permit
- During the process of obtaining the Operation Permit the As-Built Design should be enclosed



I-5

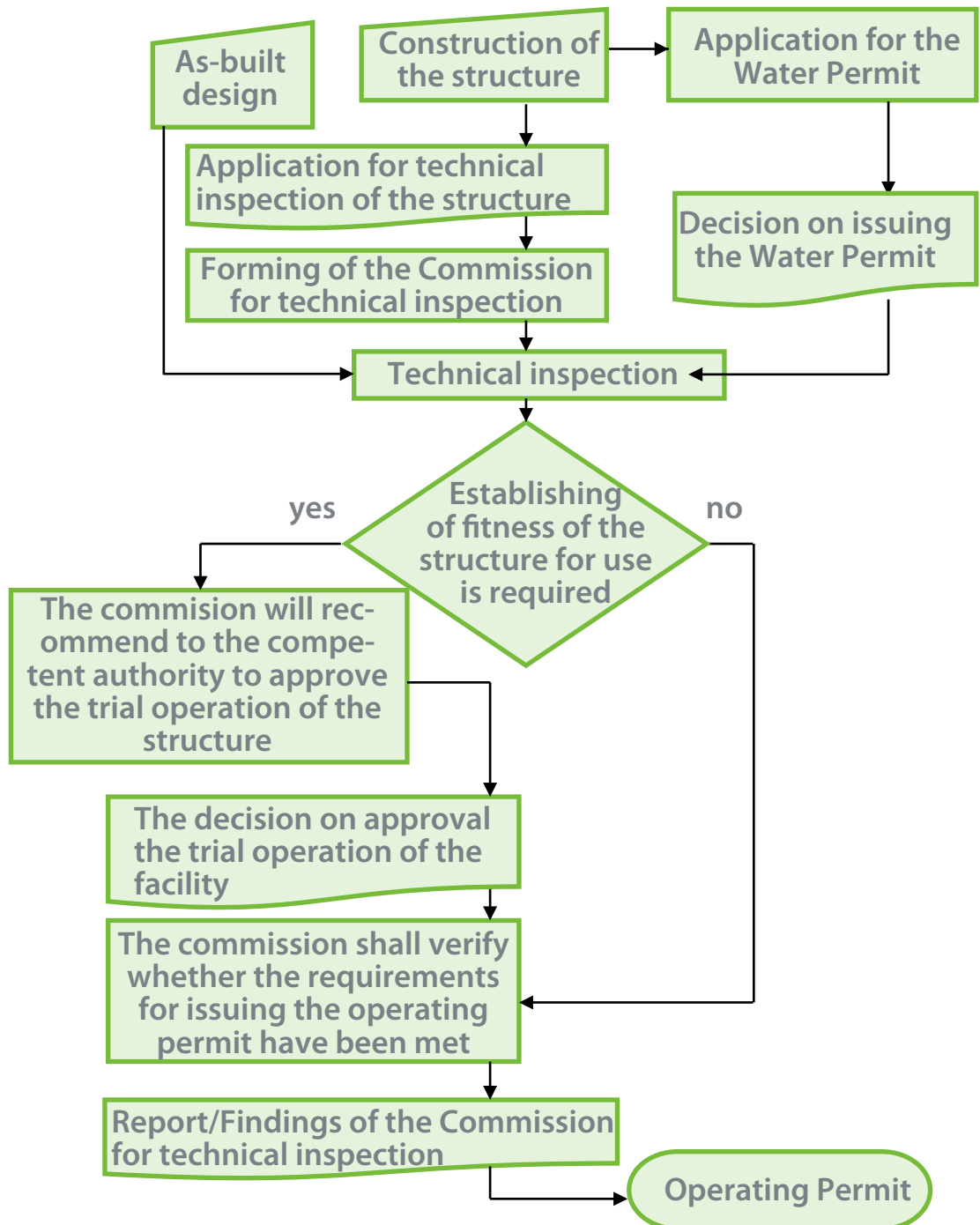
Construction of the Structure



- Construction of structures, or execution of works, can be carried out by an economic entity registered in the corresponding register for the construction of structures, or for the execution of works (the contractor)
- Contractor's obligations are: to sign the main design before the commencement of works, by a decision, to designate the responsible contracting engineer, to provide to the responsible contracting engineer the contract on construction and documentation on the basis of which the structure is being built, to ensure preventive measures for a safe and harmful work in accordance with the law, to execute works according to the documentation on the basis of which the Construction Permit was issued, to organize the building site in the manner that will ensure access to the location, ensure security of the structure and the persons at the building site and its surrounding, to provide evidence on the quality of executed works, to keep the building log, building diary and ensure the inspection book, to secure structures and environs in case of the discontinuation of works.
- The construction contract, decision on appointment of the responsible contractor on the site and the main design, i.e. documentation on the basis of which the structure is being built should be constantly kept at the building site
- Investor ensures the technical supervision during the construction of the structure or execution of works for which the Construction Permit was issued

I-5

Technical Inspection and Operation Permit



Basic Steps from the Idea to the Operation of a Plant



Acquiring the Right to Engage in the Activity of Electricity Generation

- Market Activities
 - Electricity generation
 - Combined heat-and-power generation
- Activity of Public Interest
 - Heat generation

II-1 Right to Engage in the Activities of Public Interest* and/or Concession for Exploiting Natural Resources**

II-2 License

II-3 Connection Approval

II-4 Privileged Power Producer Status

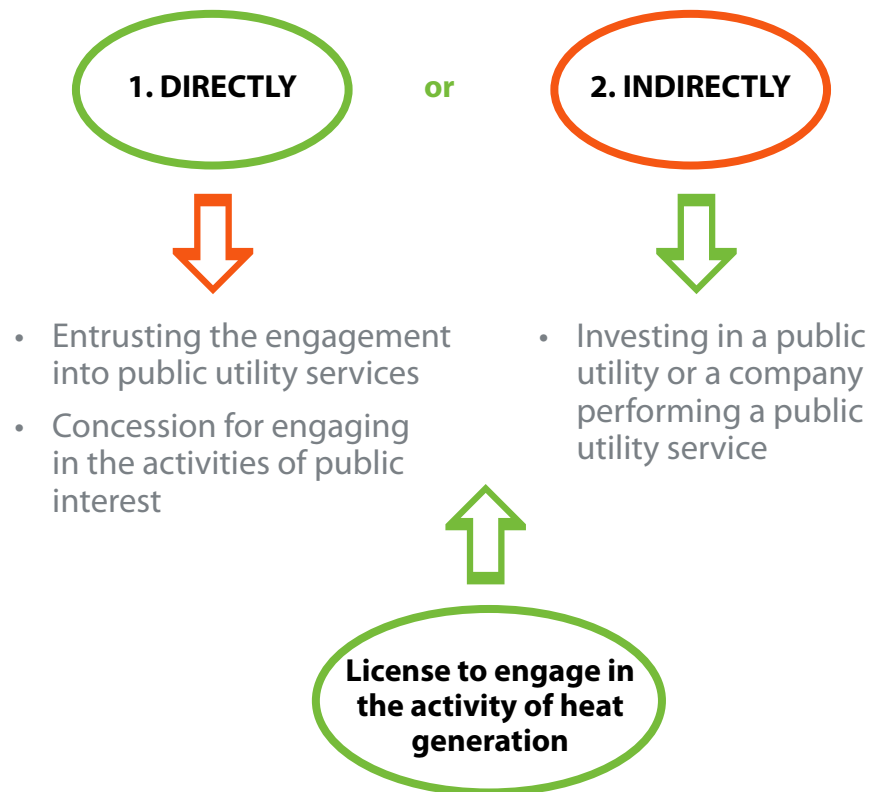
II-5 Power Purchase Agreement

**The right to engage in the activities is an obligation*

*** Concession is an option according to the law regulating Concessions*

II-1

Right to Engage in the Production of Heat - options



II-1

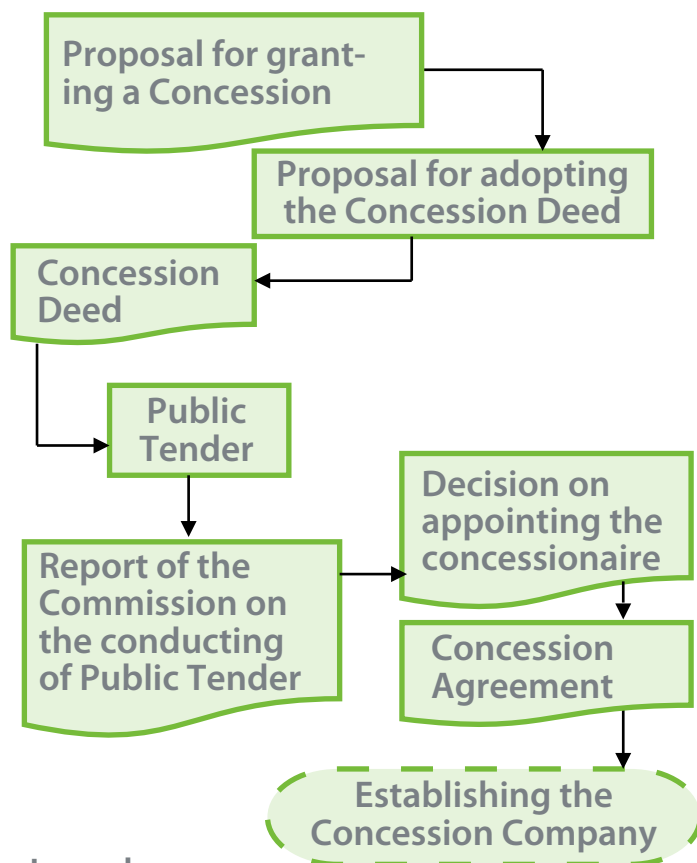
Entrusting the Right to Engage in Public Utility Services

- Entrusting is based on:
 - The decision of the assembly of the local self-government unit on the manner of providing public utility services
 - The agreement on entrusting the PU activities
- Financing of the public utility services is determined by the procedure of entrusting of that public utility service:
 - the contractor obtains the right to secure financing of providing the public utility services, in whole or in part, through the collection of a fee from the service users, and on that procedure stipulations of the law governing concessions are applied
 - performing of public utility services is financed from the budget of the local self-government unit, and on that procedure stipulations of the law governing public procurements are applied



II-1

Concession



Issued:

- For performing activities of public interest
- For exploitation of natural resources

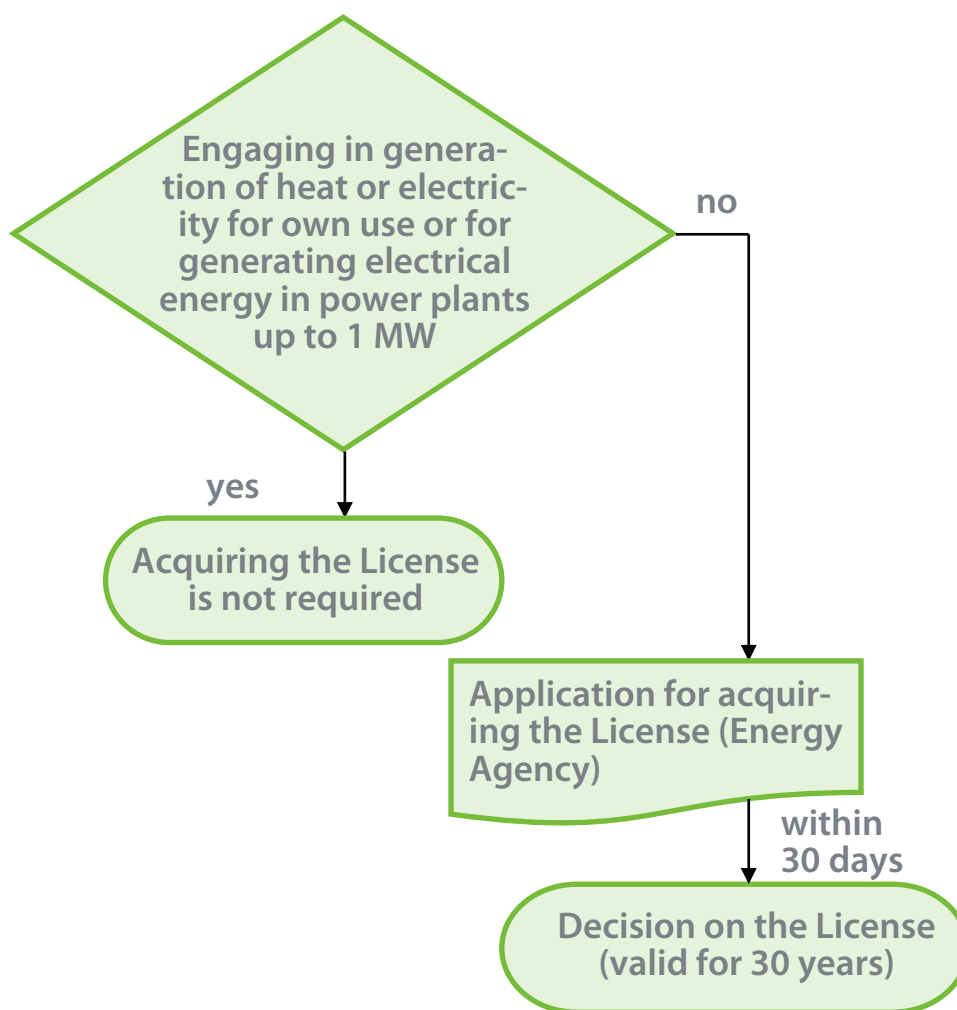
II-1

Concession, Contents of the Concession Agreement

- Parties to the agreement, subject matter of the concession, including description of structures, equipment and installations
- Validity period of the concession and conditions for its extension , duration of preparatory activities
- Distribution of risk between the public and the private partner and the scope of exclusive rights of the private partner
- Amount and the manner of providing guarantee for performance of concession commitment.
- Conditions of performing the concession –related activity and standards regarding products and services, transfer of technology
- Concession fee (amount, terms, conditions and the manner of payment)
- Rights and obligations regarding general safety, health protection and environmental protection , as well as the responsibility for the compensation of damages caused by jeopardizing the general safety and environment
- Rights to transfer the concession
- Time and manner of handing over the assets, structures, equipments and installations and the condition in which they have to be delivered
- Conditions of amendments of the agreement or its termination and their consequences, changed circumstances and the force majeure.
- Manner of resolving disputes and the application of the appropriate law
- Other provisions which are agreed by the parties to the agreement. The agreement also regulates the manner of mutual information on the execution of the agreement, manner of monitoring the implementation of the agreement and exercising of the rights and obligations of the parties to the agreement.

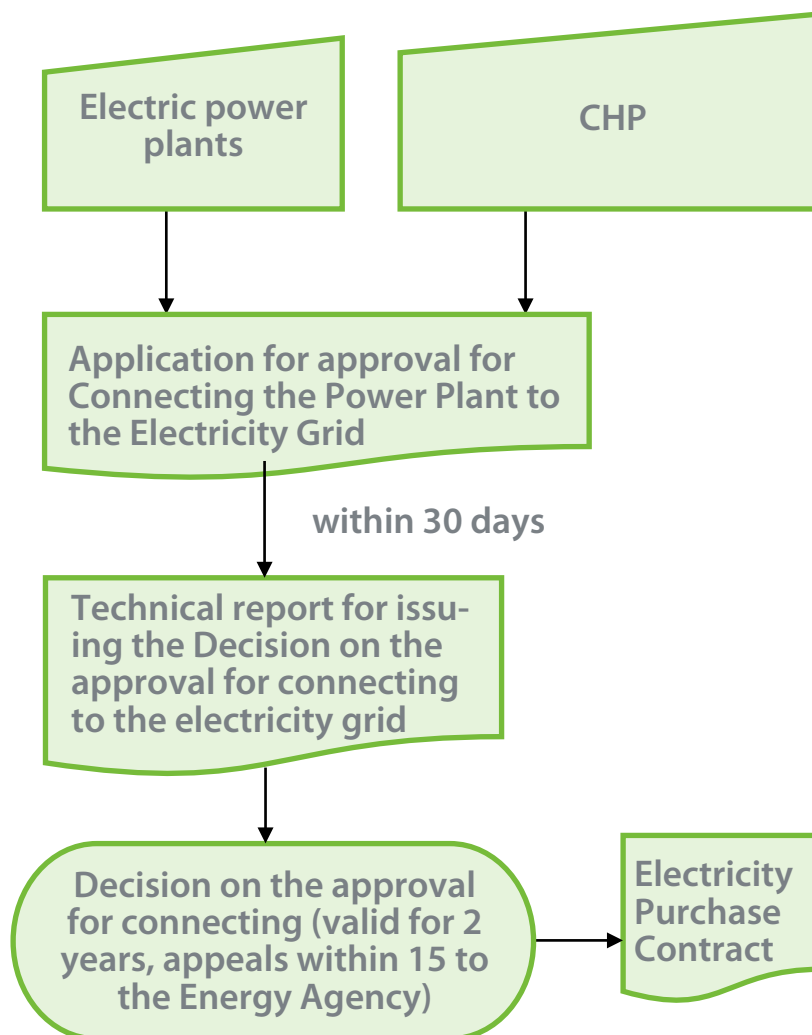
II-2

Acquiring the License



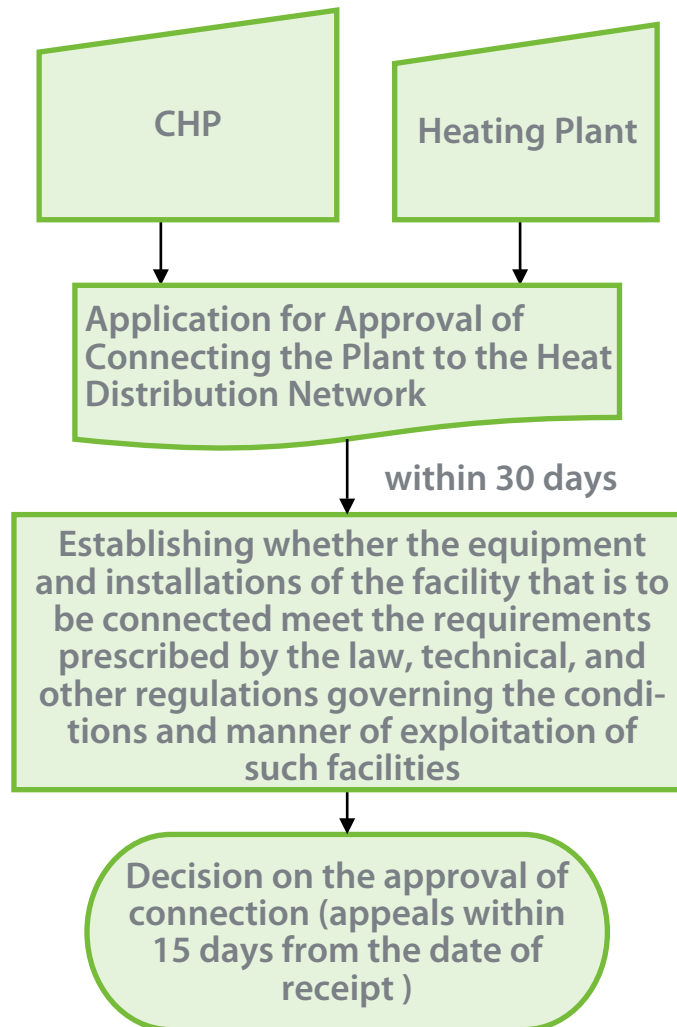
II-3

The Approval for Connecting the Power Plant to the Electricity Grid



II-3

Approval for Connecting the Plant to the Heat Distribution Network



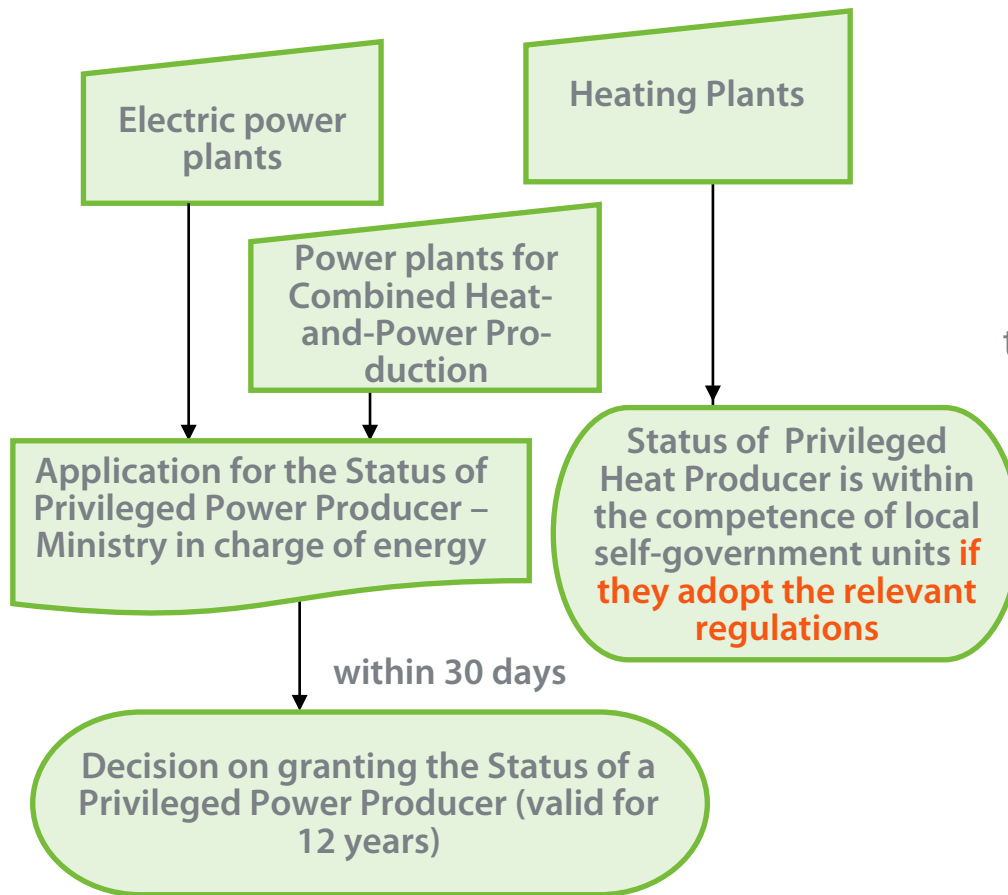
II-4

Privileged
Producer
Status

- Priority rights in the organized energy market with respect to other power producers offering electricity under the same terms and conditions
- They are entitled to subsidies, tax, customs, and other facilities
- Incentives: 1) incentive period; 2) undertaking balancing responsibility; 3) free reading of generated electricity 4) right to conclude a contract with the public supplier, upon expiry of the incentive period, at the price valid at the organized market; Feed-in Tariff:

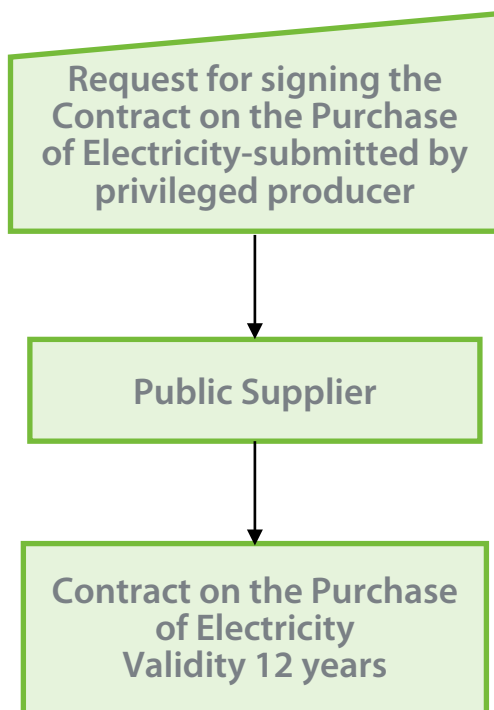
Item	Power Plant Type	Installed Capacity (P) (MW)	Incentive/Feed-in Tariff (cEUR/1 kWh)
1.	Biomass Power Plants	Up to 1	13.26
		1 - 10	13.82 – 0.56*P
		Over 10	8.22
2.	Biogas Power Plants	Up to 0.2	15.66
		0.2 - 1	16,498 – 4,188*P
		Over 1	12,31
3.	Power Plants using biogas of animal origin		12,31
4.	Coal fired CHP	Up to 10	8,04
5.	Natural Gas fired CHP	Up to 10	8,89

Basic Steps from the Idea to the Operation of a Plant
Acquiring the Right to Engage in the Activity of Electricity Generation



II-4

Obtaining the Privileged Energy Producer Status



II-5

Electricity Purchase Contract

Note

There are cases of Contracts on the Purchase of produced electricity signed before acquiring the status, made in order to facilitate connection to the grid

Commencing Generation (and Sale) of Heat and Electricity

Guarantee of Origin

- Document the exclusive function of which is to prove to the end buyer that the given share or quantity of electricity has been generated from renewable energy sources, as well as from combined heat and power production plants with a high coefficient of utilization of primary energy
- Guarantee of Origin shall be issued by the operator of the transmission system for the unit quantity of generated electricity of 1 MWh
- The Guarantee is a document in electronic form and it shall be valid for one year from the date of issuance
- Transferable
- When issued in other states, it shall also be valid in the Republic of Serbia under the conditions of reciprocity and in compliance with the ratified international agreement.



**IZGRADNJA POSTROJENJA I PROIZVODNJA
ELEKTRIČNE/ TOPLOTNE ENERGIJE
IZ BIOMASE U REPUBLICI SRBIJI**
Vodič za investitore

IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE/ TOPLOTNE ENERGIJE IZ BIOMASE U REPUBLICI SRBIJI

Vodič za investitore

Predgovor	51
Biomasa	53
Biogas	53
Postrojenja na biomasu/biogas	54
Klasifikacija postrojenja	55
Relevantni propisi	57
Nadležne institucije	57
Osnovni koraci od ideje do korišćenja postrojenja	58
I Sticanje prava na izgradnju postrojenja	59
I-1 Izbor lokacije, uvid u važeće planske dokumente i informacija i lokaciji	60
I-2 Energetska dozvola	61
I-2 Pribavljanje energetske dozvola	62
I-3 Lokacijska dozvola	63
I-3 Uslovi za priključenje	64
I-3 Formiranje građevinske parcele	65
I-3 Parcelacija i preparcelacija	66
I-3 Vodna akta	67
I-3 Vodni uslovi	67
I-3 Pribavljanje lokacijske dozvole	68
I-4 Građevinska dozvola	69
I-4 Procena uticaja na životnu sredinu	70
I-4 Integrisana dozvola	73
I-4 Tehnička dokumentacija	75
I-4 Vodna saglasnost i tehnička kontrola projekta	76
I-4 Pribavljanje građevinske dozvole	77
I-5 Upotrebna dozvola	78
I-5 Izgradnja objekta	79
I-5 Tehnički pregled i upotrebna dozvola	80
II Sticanje prava na obavljanje delatnosti proizvodnje električne energije	81
II-1 Pravo na obavljanje proizvodnje toplotne energije- način sticanja	82
II-1 Poveravanje obavljanja komunalne delatnosti	82
II-1 Koncesija	83
II-1 Sadržaj ugovora o koncesiji	84
II-2 Licenca	85
II-3 Priključenje elektrane na elektroenergetsku mrežu	86
II-3 Priključenje elektrane na mrežu za distribuciju toplotne energije	87
II-4 Status povlašćenog proizvođača električne energije	88
II-4 Sticanje statusa povlašćenog proizvođača	89
II-5 Ugovor o otkupu električne energije	89
Početak proizvodnje (i prodaje) električne/toplotne energije	90
Garancije porekla	90

Predgovor

Srbija ima značajan potencijal u obnovljivim izvorima energije koji je, na žalost, još uvek nedovoljno iskorišćen. Jedan od razloga za takvu situaciju je nedovoljna investiciona aktivnost u ovom sektoru. Očekuje se da će u narednih nekoliko godina doći do krupnih pomaka u tom pogledu, s obzirom na najnoviji korak Vlade Republike Srbije u smislu prihvatanja odluke Ministarskog saveta Energetske zajednice o promociji obnovljive energije kroz transpoziciju Direktive 2009/28/EC o obnovljivim izvorima energije. Ovom odlukom Srbiji je postavljen ambiciozni cilj da poveća učešće obnovljive energije u ukupnoj potrošnji finalne energije na 27% u 2020. godini sa 21.2% u referentnoj, 2009. godini

Program Ujedinjenih nacija za razvoj (UNDP) je tokom 2012. godine, na osnovu sporazuma o saradnji sa Ministarstvom energetike, razvoja i zaštite životne sredine Republike Srbije, sproveo projekat "Političko savetovanje u oblasti obnovljivih izvora energije" tokom koga su izrađena dva nova i izvršena revizija četiri postojeća, zastarela vodiča za investiture u postrojenja koja koriste obnovljive izvore energije:

- IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE/TOPLOTNE ENERGIJE IZ BIOMASE U REPUBLICI SRBIJI
 - IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE ENERGIJE U MALIM HIDRO-ELEKTRANAMA U REPUBLICI SRBIJI
 - IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE ENERGIJE U VETROELEKTRANAMA U REPUBLICI SRBIJI
-

-
- IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE/TOPLLOTNE ENERGIJE IZ HIDROGEOTERMALNIH IZVORA U REPUBLICI SRBIJI
 - IZGRADNJA POSTROJENJA I PROIZVODNJA ELEKTRIČNE ENERGIJE U SOLARNIM ELEKTRANAMA U REPUBLICI SRBIJI
 - IZGRADNJA SOLARNIH GREJNIH SISTEMA U REPUBLICI SRBIJI

Svi vodiči, izuzev jednog, su dvojezični i izrađeni u dve verzije. U šest detaljnih vodiča opisane su celokupne složene procedure za izgradnju postrojenja i obavljanje delatnosti proizvodnje energije iz konkretnih obnovljivih izvora, uz upućivanje na odgovarajuće propise i navođenje nadležnih institucija. Detaljni vodiči namenjeni su, pre svega, investitorima i stručnjacima koji rade na razvoju projekata, ali i zaposlenima u različitim nadležnim institucijama, s obzirom na međusektorski karakter procedura. U pet sažetih vodiča ova složena problematika prikazana je manje detaljno i na slikovit način, čime se tema približava i širem krugu zainteresovanih strana.

Cilj izrade vodiča je da se ohrabre i pomognu investitori da ulažu u obnovljive izvore energije u Srbiji, ali i da se, kroz detaljno sagledavanje složenih zakonskih procedura, uoč njihovi nedostaci, kao i da se podstaknu nadležni da kroz zakonodavne i institucionalne aktivnosti ove procedure pojednostave i unaprede. Nadamo se da će ovi vodiči pokrenuti konstruktivni dijalog mnogobrojnih zainteresovanih strana i time doprineti boljoj informisanosti i međusobnom razumevanju, što, u krajnjoj liniji, treba da rezultira povoljnim okruženjem za investicije u sektoru obnovljivih izvora energije.

Biomasa

- Biomasa je biorazgradivi deo proizvoda, otpada i ostataka biološkog porekla iz poljoprivrede (uključujući biljne i životinjske materije), šumarstva i povezanih industrija, kao i biorazgradivi deo industrijskog i komunalnog otpada.
 - Biomasom se ne smatraju fosilna goriva, treset, papir i karton, tekstil, delovi tela životinja, industrijski otpad, izuzev onog koji se podrazumeva pod biomasom, komunalni otpad, otpad iz postrojenja za tretman komunalnih otpadnih voda i komercijalni otpad.
-

Napomena

Potrebno je ukazati da e ovaj Vodič odnosi na sva postrojenja na biomasu/biogasu i da su u njemu opisane procedure pred nadležnim organima i institucijama, ali da pojedini elementi ovih procedura, kao i sprovođenje pojedinih procedura zavisi od veličine objekta, mesta na kome se gradi objekat, konkretne tehnologije za proizvodnju energije i drugih karakteristika samog objekta za korišćenje biomase/biogasa.

Biogas

- Biogas nastaje u anaerobnim postupcima od biomase i to:
 - ostataka biomase nastalih primarnom preradom poljoprivrednih proizvoda (koji ne sadrže opasne materije)
 - posebna kategorija: biogas životinjskog porekla nastao u postrojenjima za tretman sporednih proizvoda životinjskog porekla (materijal kategorije 2 i 3 - leševi životinja, trup, delovi trupa životinja, sastavni delovi tela životinja, proizvodi životinjskog porekla i hrana životinjskog porekla koji nisu namenjeni za ishranu ljudi), u skladu sa propisima koji definišu postupanje sa sporednim proizvodima životinjskog porekla, kao i sa drugim propisima iz oblasti veterinarstva

Zakon o energetici Biomasa je biorazgradivi deo proizvoda, otpada i ostataka biološkog porekla iz poljoprivrede (uključujući biljne i životinjske materije), šumarstva i povezanih industrija, kao i biorazgradivi deo industrijskog i komunalnog otpada

Slama i drugi neopasan poljoprivredni ili šumski materijal koji se nalazi u prirodi i koristi u poljoprivredi, šumarstvu ili za proizvodnju energije iz takve biomase postupcima ili metodama koje nemaju štetan uticaj na životnu sredinu i ne ugrožavaju zdravlje ljudi

Ne podleže odredbama Zakona o upravljanju otpadom

**Sve ostalo....
Podleže odredbama
Zakona o upravljanju
otpadom**

Postrojenja
na biomasu/
biogas

Investitor mora da stekne sledeća prava:



**I
Pravo na
Izgradnju objekta**



**II
Pravo na
obavljanje proizvodnje
električne/toplotne
energije**

Postrojenja na biomasu/ biogas

Investitor mora da stekne sledeća prava:



Klasifikacija postrojenja

- **Zakon o energetici**
 - postrojenja koje koriste obnovljive izvore energije – biomasu/biogas
 - postrojenja sa kombinovanim ciklusom
- **Pravilnik o kriterijumima za izdavanje energetske dozvole, sadržini zahteva i načinu izdavanja energetske dozvole**
 - objekti za proizvodnju električne energije nazivne snage od 1 do 10 MW
 - objekti za proizvodnju električne energije nazivne snage preko 10 MW
 - objekti za proizvodnju toplotne energije instalisane snage preko 1 MW

Klasifikacija postrojenja

- **Zakon o planiranju i izgradnji**
 - postrojenja za proizvodnju energije iz obnovljivih izvora – nadležnost ministarstva za poslove građevinarstva, odnosno autonomne pokrajine,
 - postrojenja sa kombinovanom proizvodnjom snage ispod 10 MW – nadležnost organa lokalne samouprave (izuzeci)
- **Uredba o uslovima i postupku sticanja statusa povlašćenog proizvođača električne energije**
 - postrojenja na biomasu i biogas (elektrane) koje koriste biorazgradivu materiju nastalu u poljoprivredi, šumarstvu i domaćinstvu, koja obuhvata: biljke i delova biljaka, ostatke biljaka nastale u poljoprivredi (slama, kukurozovina, ranje, koštice, ljuske), stajnjak sa farmi, ostatke biljaka u šumarstvu (ostaci pri seči šuma), biorazgradive ostatke u prehrambenoj i drvenoj industriji koji ne sadrže opasne supstance i separisanu biorazgradivu frakciju komunalnog otpada
 - postrojenja (elektrane) sa kombinovanom proizvodnjom koja u procesu proizvodnje istovremeno proizvode električnu i toplotnu energiju koristeći fosilna goriva (ugalj ili prirodni gas), otpadne tehnološke gasove sa organskom frakcijom ili fosilna goriva u kombinaciji sa nekim obnovljivim izvorom energije otpadom ili otpadnim tehnološkim gasovima sa organskom frakcijom.
- **Uredba o utvrđivanju Liste projekata za koje je obavezna procena uticaja i Liste projekata za koje se može zahtevati procena uticaja na životnu sredinu razlikuje sledeća postrojenja**
 - postrojenja sa snagom od 50 MW ili više (Lista I) – postrojenja za koja je obavezna izrada Studije o proceni uticaja i
 - postrojenja sa snagom od 1 do 50 MW (Lista II) – postrojenja za koja se može zahtevati izrada Studije o proceni uticaja. Izuzetno se i za postrojenja snage do 1 MW može tražiti procena uticaja ako se radi o postrojenjima koje će se graditi u zaštićenom prirodnom dobru i zaštićenoj okolini nepokretnog kulturnog dobra i u drugim područjima posebne namene

Napomena

Bitan element za funkcionisanje postrojenja na biomasu je ugovor o dugoročnom snabdevanju biomasom

Relevantni propisi

- Zakon o energetici ("Sl. glasnik RS" br. 57/11, 80/11, 93/12 i 124/12)
- Odluka o utvrđivanju Strategije razvoja energetike Republike Srbije do 2015. godine («Sl. glasnik RS» br. 44/05)
- Uredba o utvrđivanju Programa ostvarivanja Strategije razvoja energetike Republike Srbije do 2015. godine za period od 2007. do 2012. godine («Sl. glasnik RS» br. 17/07, 73/07, 99/09 i 27/10)
- Zakon o planiranju i izgradnji ("Sl. glasnik RS" br. 72/09, 81/09, 24/11 i 121/12)
- Zakon o prostornom planu Republike Srbije od 2010. do 2020. godine ("Sl. glasnik RS" br. 88/10)
- Zakon o zaštiti životne sredine ("Sl. glasnik RS" br. 135/04 i 36/09)
- Zakon o vodama ("Sl. glasnik RS" br. 30/10 i 93/12)
- Zakon o šumama ("Sl. glasnik RS" br. 30/10 i 93/12)
- Zakon o proceni uticaja na životnu sredinu («Sl. glasnik RS» br. 135/04 i 36/09)
- Zakon o integrisanom sprečavanju i kontroli zagađivanja životne sredine ("Sl. glasnik RS" br. 135/04)
- i ostali zakoni i podzakonska akta...

Nadležne institucije

- Ministarstvo energetike, razvoja i zaštite životne sredine – MERŽS
- Jedinica lokalne samouprave - JLS
- Agencija za energetiku - AE
- Republički geodetski zavod - RGZ
- Ministarstvo poljoprivrede, šumarstva i vodoprivrede – MPŠV
- Ministarstvo prirodnih resursa, rudarstva i prostornog planiranja - MPRRPP
- Republički hidrometeorološki zavod - RHMZ
- Elektromreža Srbije - EMS
- Elektroprivreda Srbije - EPS
- i ostale nadležne institucije u konkretnom slučaju

Osnovni koraci od ideje do korišćenja postrojenja

I Sticanje

- prava na izgradnju postrojenja

II Sticanje

- prava na obavljanje proizvodnje električne/toplotne energije

Osnovni koraci od ideje do korišćenja postrojenja



Sticanje prava na izgradnju postrojenja

I-1 Pribavljanje informacije o lokaciji

I-2 Pribavljanje energetske dozvole

Izrada Prethodne studije opravdanosti sa generalnim projektom

Rešavanje Imovinsko-pravnih odnosa / Parcelacija i preparcelacija

Prikupljanje uslova za projektovanje

I-3 Pribavljanje lokacijske dozvole*

Izrada Studije opravdanosti sa idejnim projektom / Glavni projekat

Izrada studije o proceni uticaja na životnu sredinu

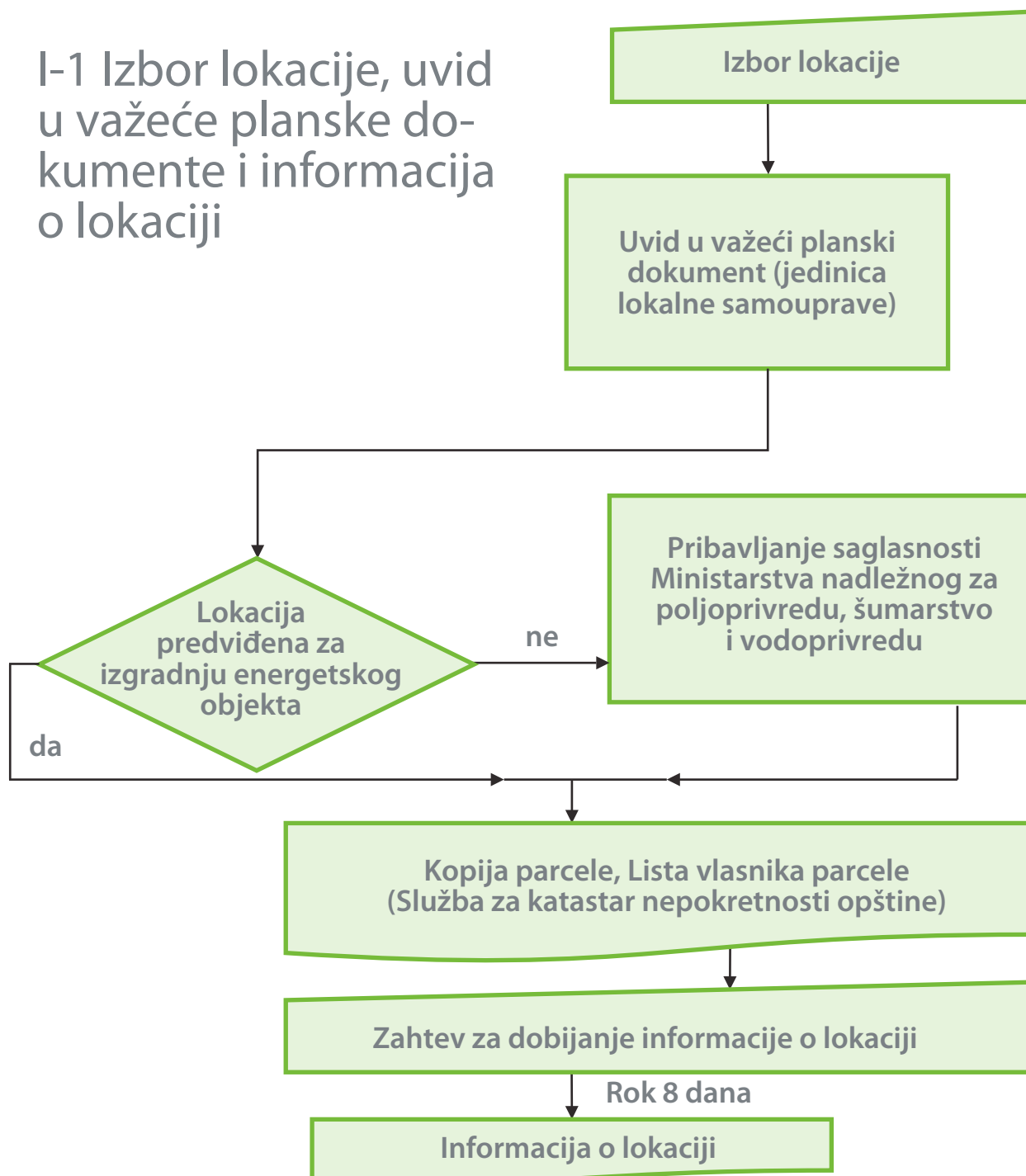
I-4 Pribavljanje građevinske dozvole

Izgradnja objekta

I-5 Pribavljanje vodne dozvole i upotrebne dozvole

** može se sprovesti pre ili posle pribavljanja energetske dozvole*

I-1 Izbor lokacije, uvid u važeće planske dokumente i informacija o lokaciji

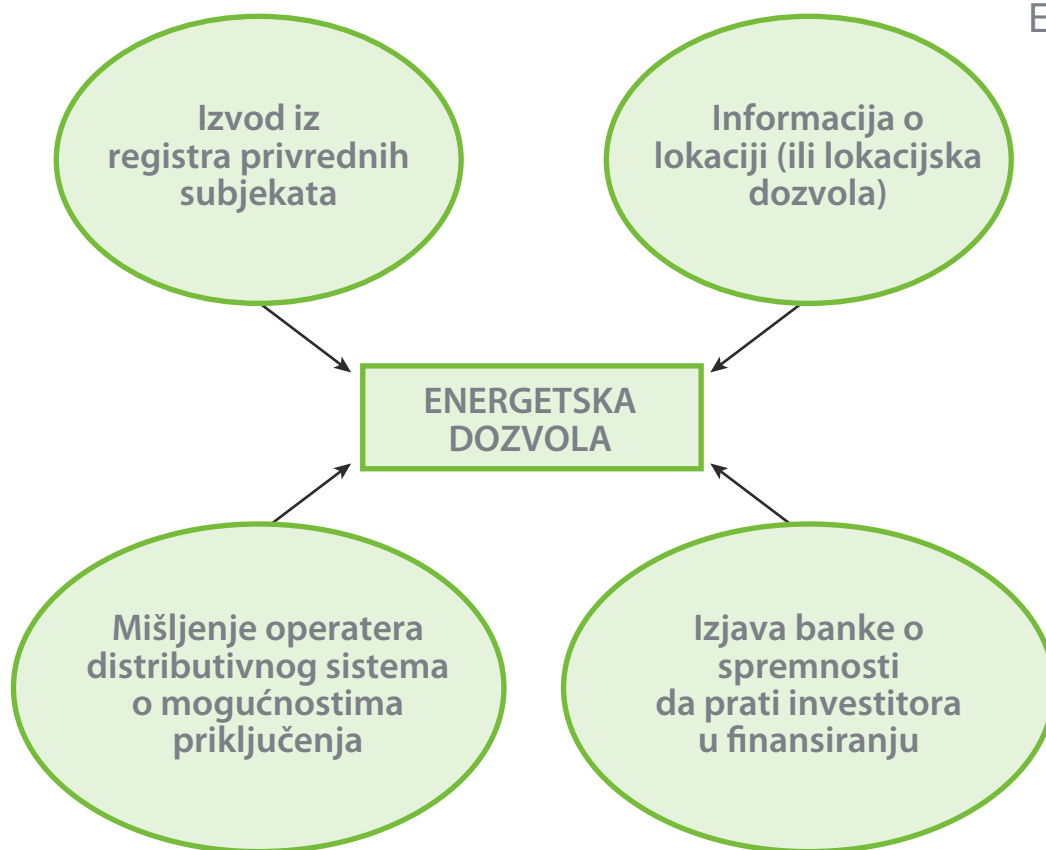


Napomena

Analiza i izbor potencijalne lokacije za izgradnju postrojenja i njen izbor su prvi korak, koji u značajnoj meri opredeljuje izradu tehničke dokumentacije za izgradnju postrojenja

I-2

Energetska dozvola



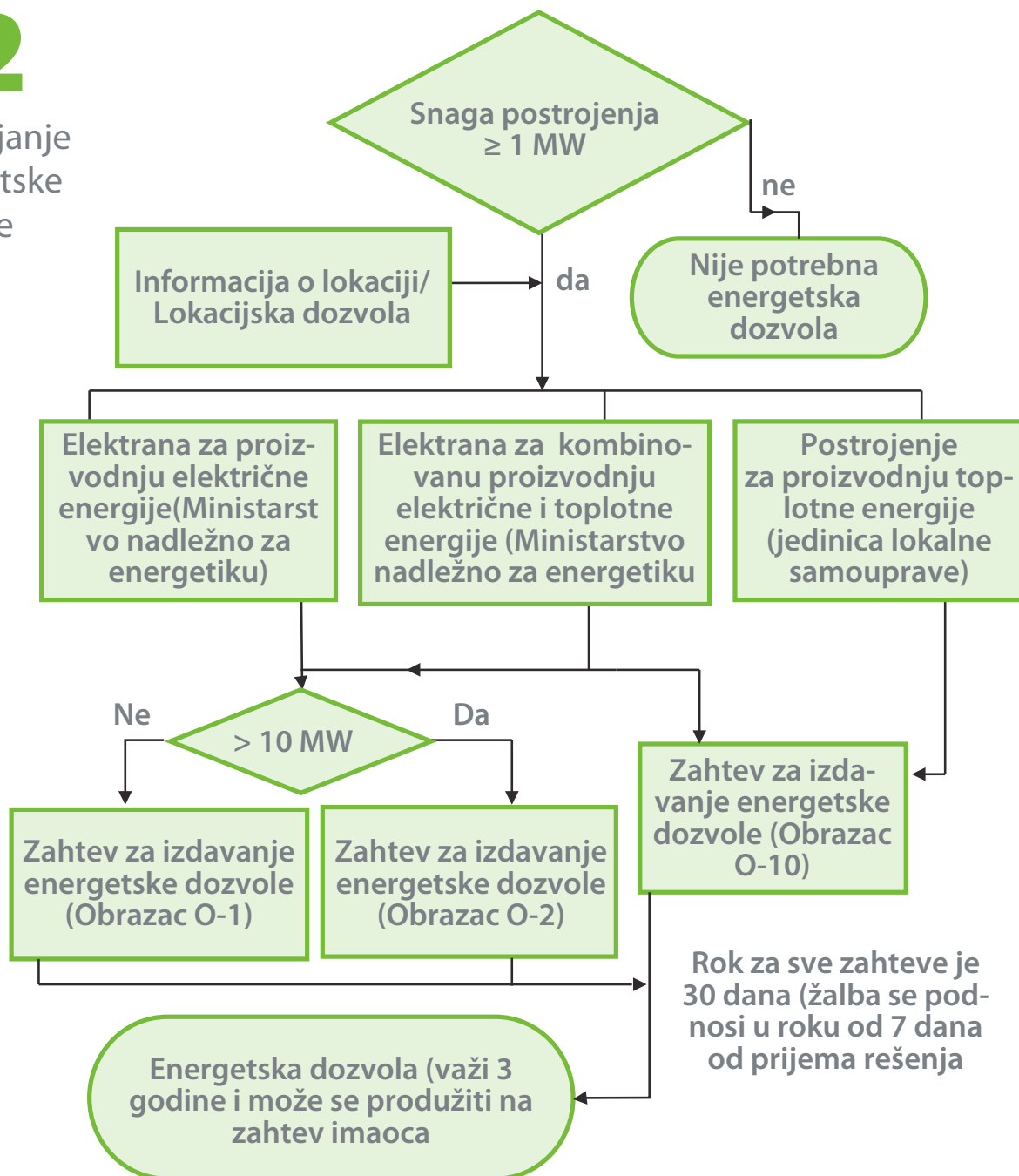
Energetska dozvola je akt neophodan za pribavljanje građevinske dozvole propisan Zakonom o energetici

Za postrojenja snage do 1 MW nije potrebna energetska dozvola

Napomena

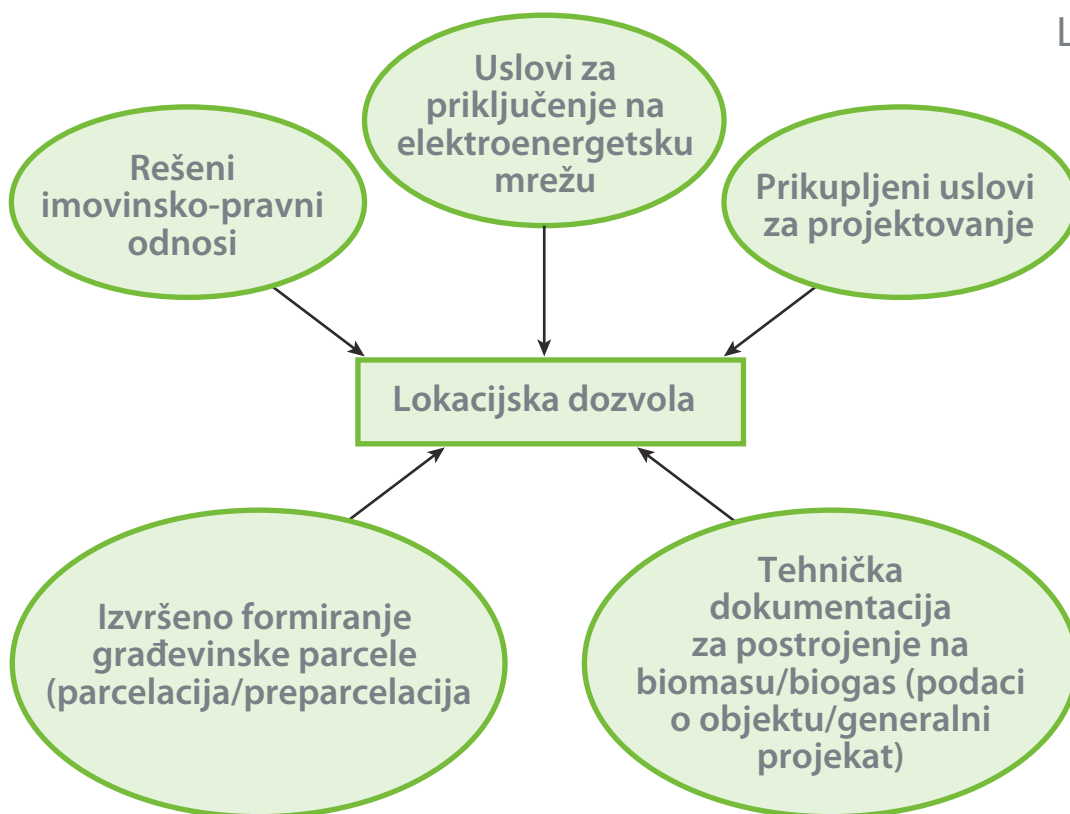
I-2

Pribavljanje energetske dozvole



I-3

Lokacijska dozvola

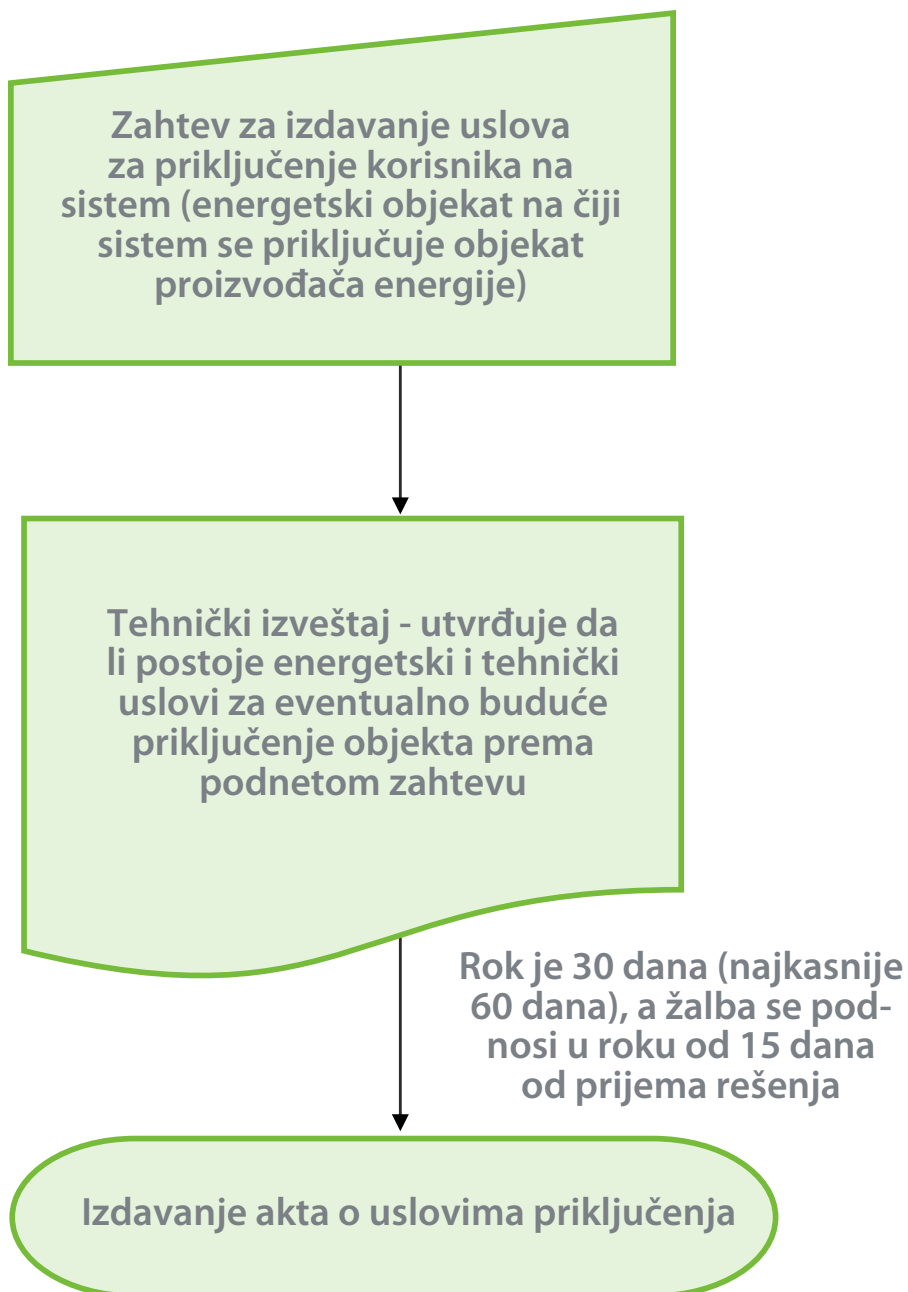


Lokacijska dozvola sadrži sve uslove i podatke potrebne za izradu tehničke dokumentacije, glavnog projekta, a u skladu sa važećim planskim dokumentom

Napomena

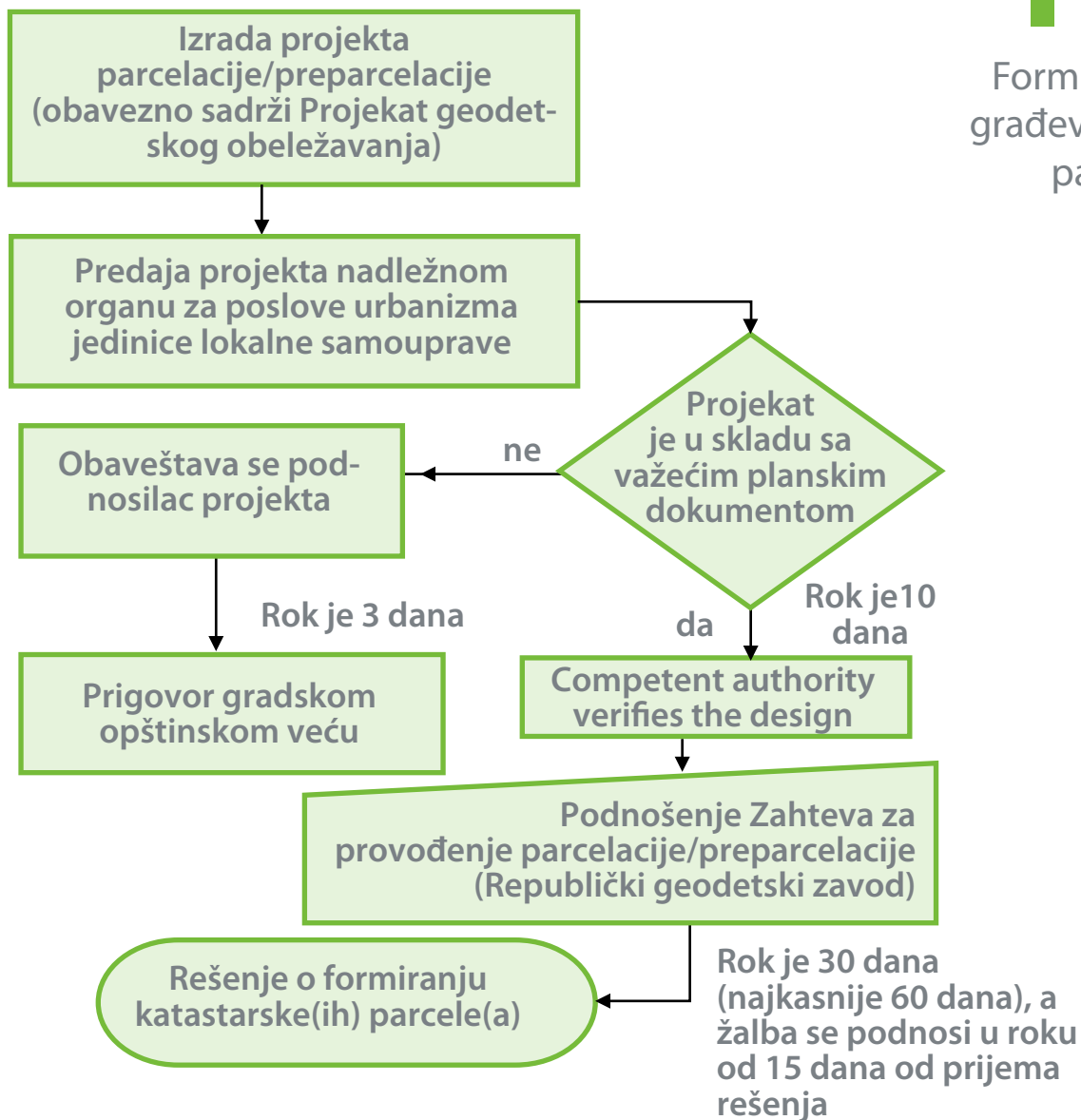
I-3

Uslovi za priklučenje



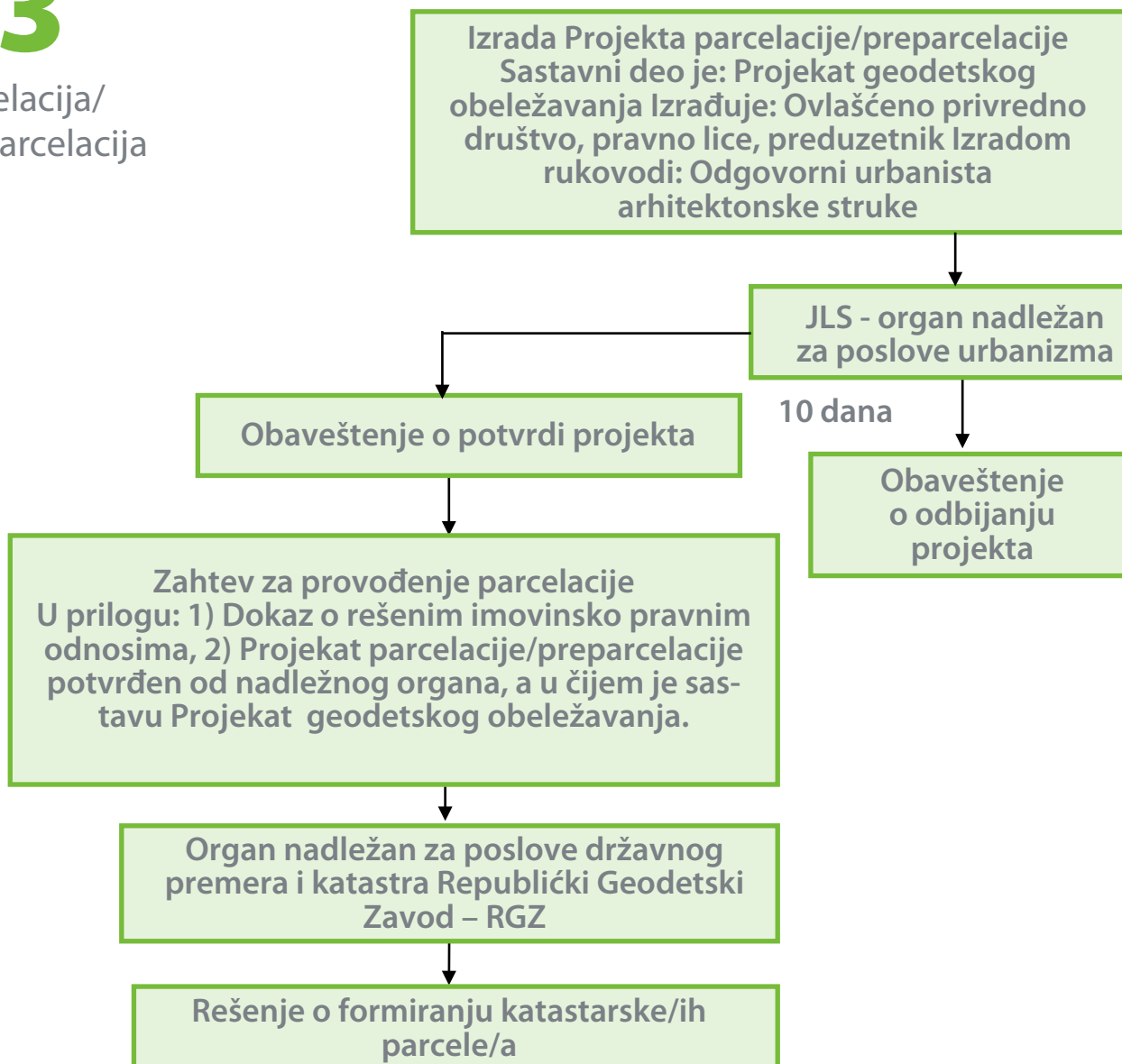
I-3

Formiranje građevinske parcele



I-3

Parcelacija/ preparcelacija



Osnovni koraci od ideje do korišćenja postrojenja
Sticanje prava na izgradnju elektrane

• **Vodna akta**

- vodni uslovi (I-3)
- vodna saglasnost (I-4)
- vodna dozvola (I-5)
- vodni nalog

• **Nadležnost**

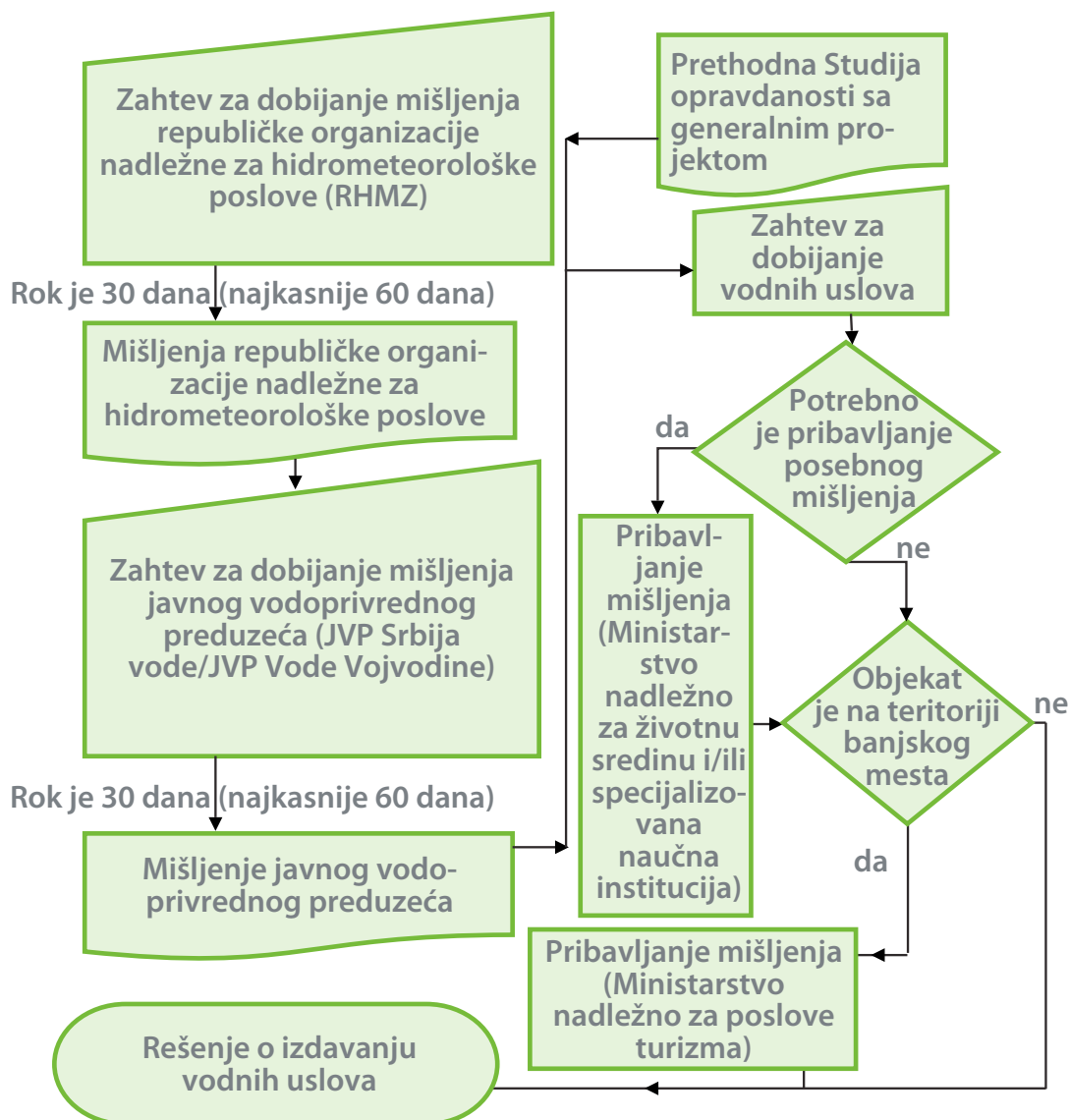
- Ministarstvo nadležno za vodoprivredu
- nadležni organ autonomne pokrajine (za objekte na teritoriji autonomne pokrajine)
- nadležni organ grada Beograda (za objekte na teritoriji grada)

I-3

Vodna akta

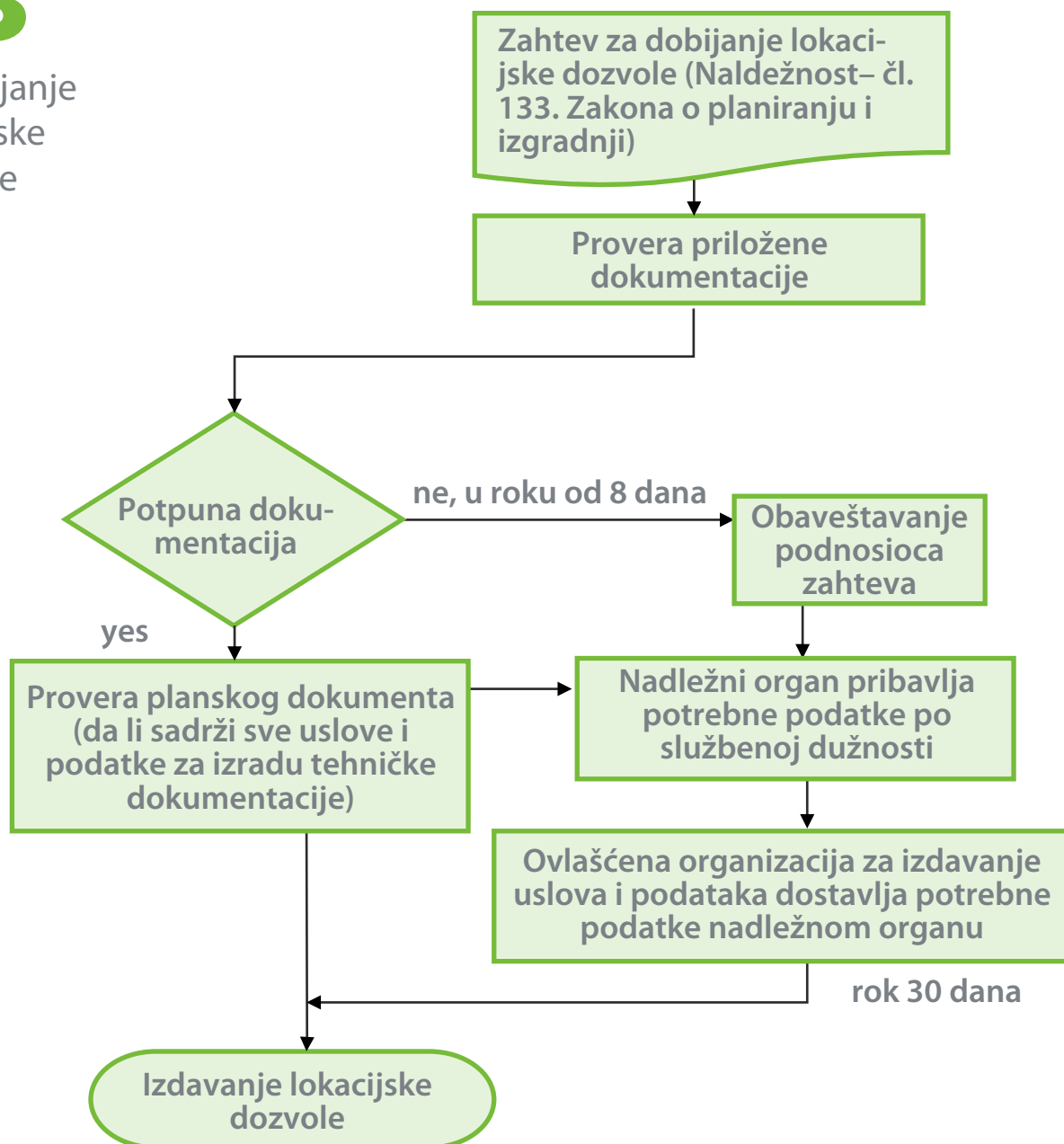
I-3

Vodni uslovi



I-3

Pribavljanje lokacijske dozvole



I-4

Građevinska dozvola

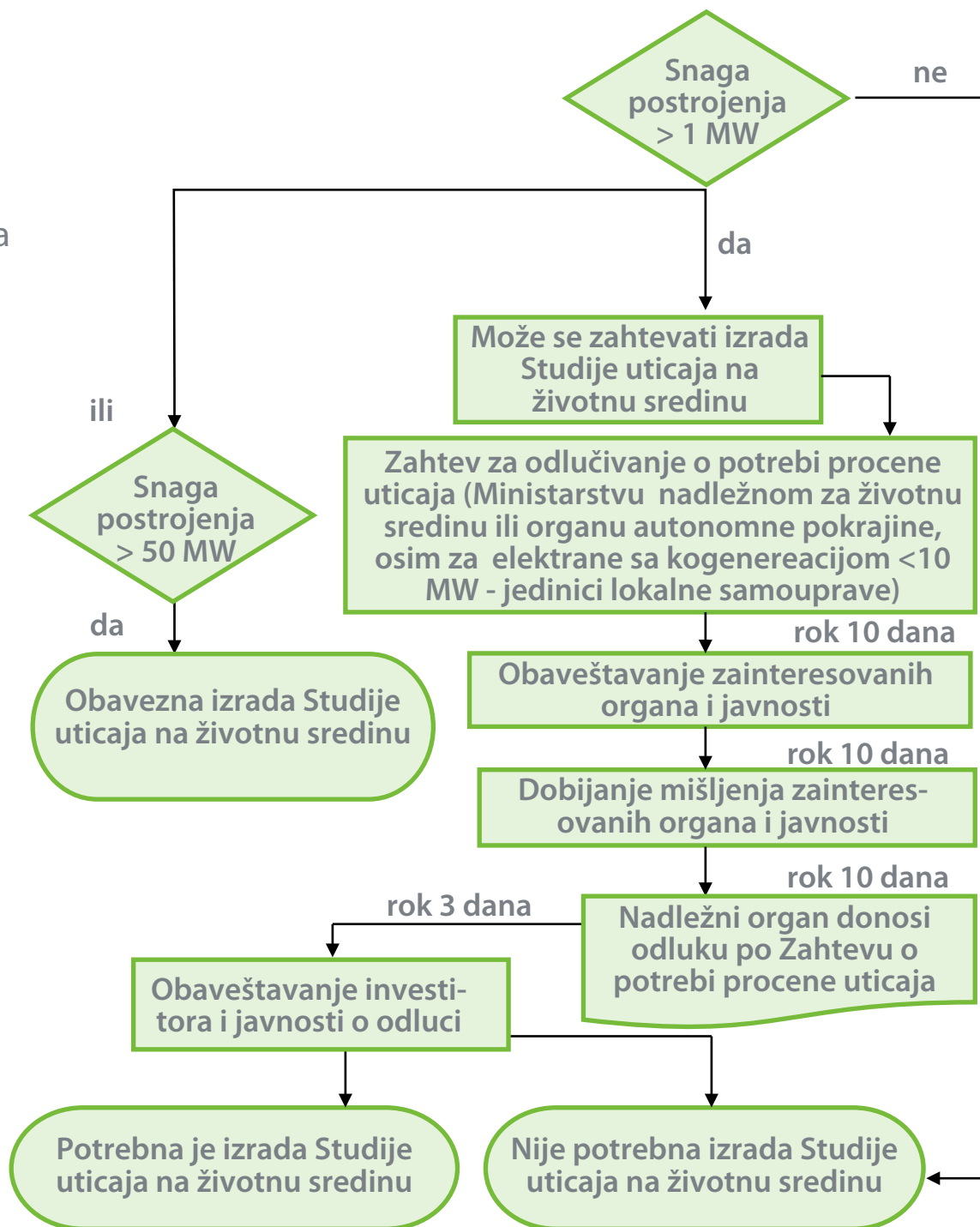


Po izvršenoj tehničkoj kontroli glavnog projekta i pozitivnom izveštaju o izvršenoj tehničkoj kontroli, podnosi se Zahtev za izdavanje Građevinske dozvole nadležnom organu iz člana 133. Zakona o planiranju i izgradnji:

- sve elektrane za proizvodnju električne energije i postrojenja za proizvodnju toplotne energije ⇒ Ministarstvo/sekretarijat autonomne pokrajine nadležni za poslove gradjevinarstva, osim
- CHP elektrane snage manje od 10 MW ⇒ organ jedinice lokalne samouprave nadležan za poslove gradjevinarstva, ukoliko nisu višlje od 50 MW, ili se grade u granicama nepokretnih kulturnih dobara od izuzetnog značaja i kulturnih dobara upisanih u Listu svetske kulturne i prirodne baštine, objektu u zaštićenoj okolini kulturnih dobara od izuzetnog značaja sa određenim granicama katastarskih parcela i objektu u zaštićenoj okolini kulturnih dobara upisanih u Listu svetske kulturne i prirodne baštine, objekata u zaštićenim područjima u skladu sa aktom o zaštiti kulturnih dobara (osim pretvaranja zajedničkih prostorija u stan, odnosno poslovni prostor u zaštićenoj okolini kulturnih dobara od izuzetnog značaja i kulturnih dobara upisanih u Listu svetske kulturne baštine), kao i objektu u granicama nacionalnog parka i objektu u granicama zaštite zaštićenog prirodnog dobra od izuzetnog značaja (osim porodičnih stambenih objekata, poljoprivrednih i ekonomskih objekata i njima potrebnih objekata infrastrukture, koji se grade u selima)

I-4

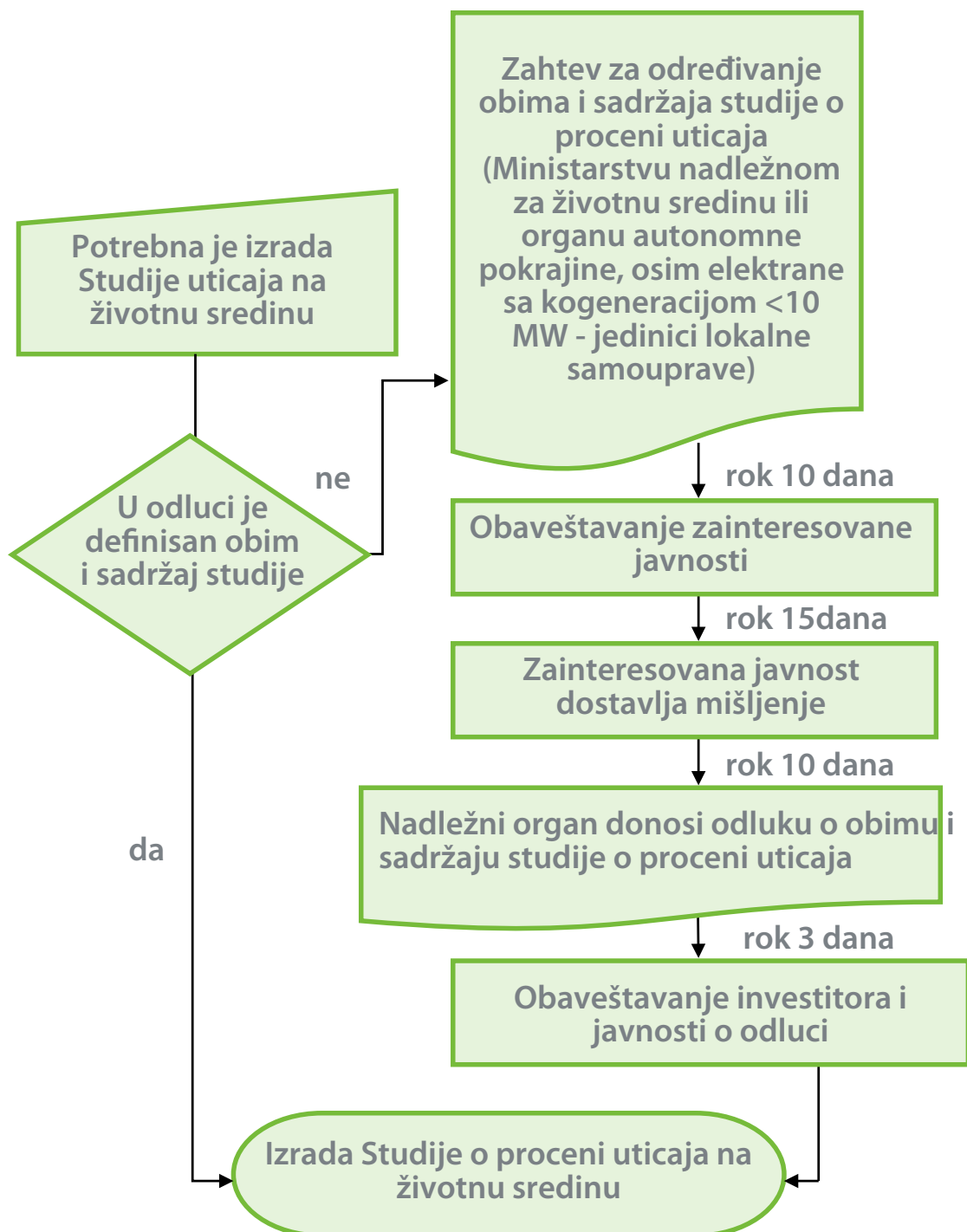
Procena uticaja na životnu sredinu (1)



Osnovni koraci od ideje do korišćenja postrojenja
Sticanje prava na izgradnju elektrane

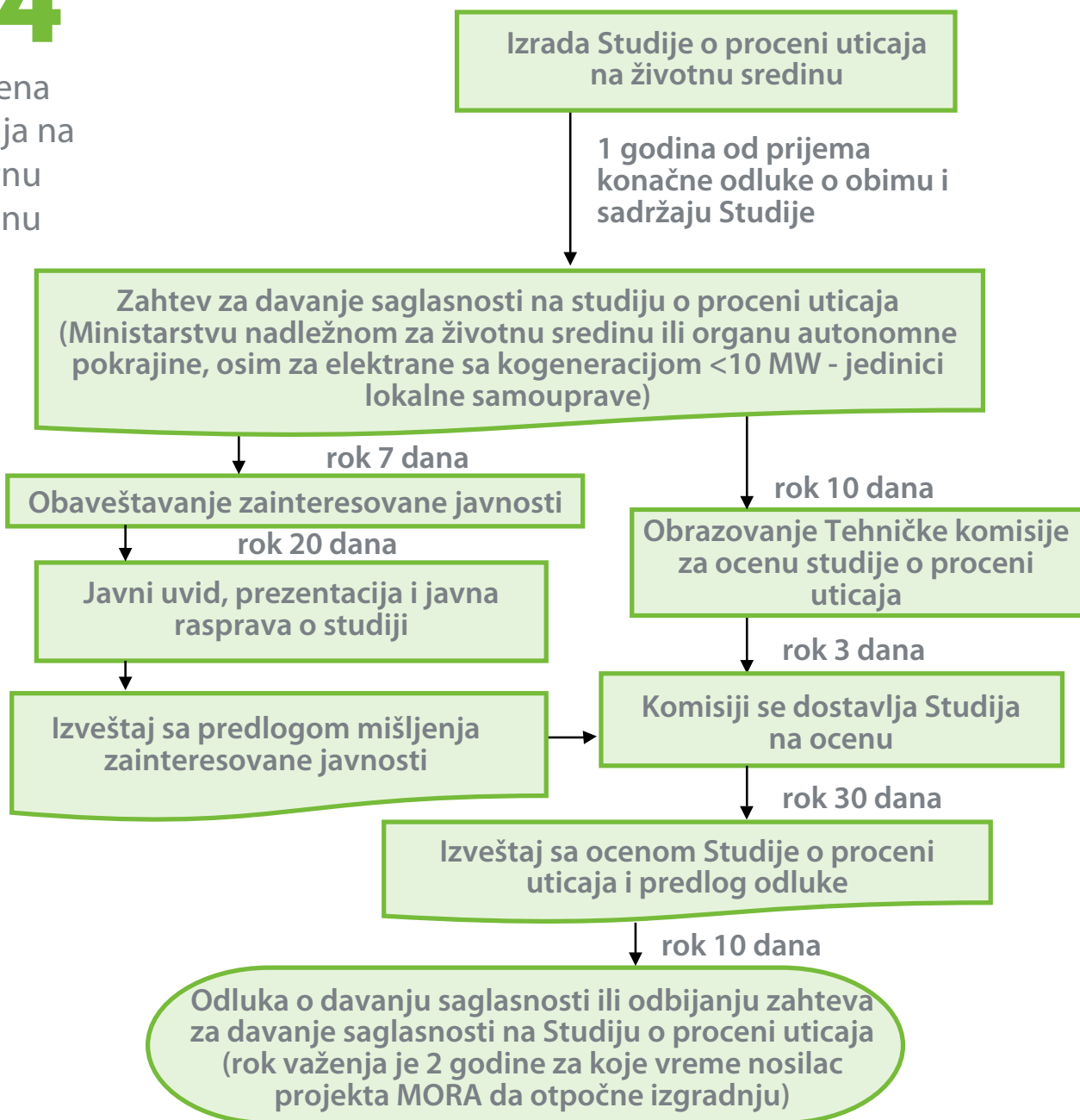
I-4

Procena uticaja na životnu sredinu (2)



I-4

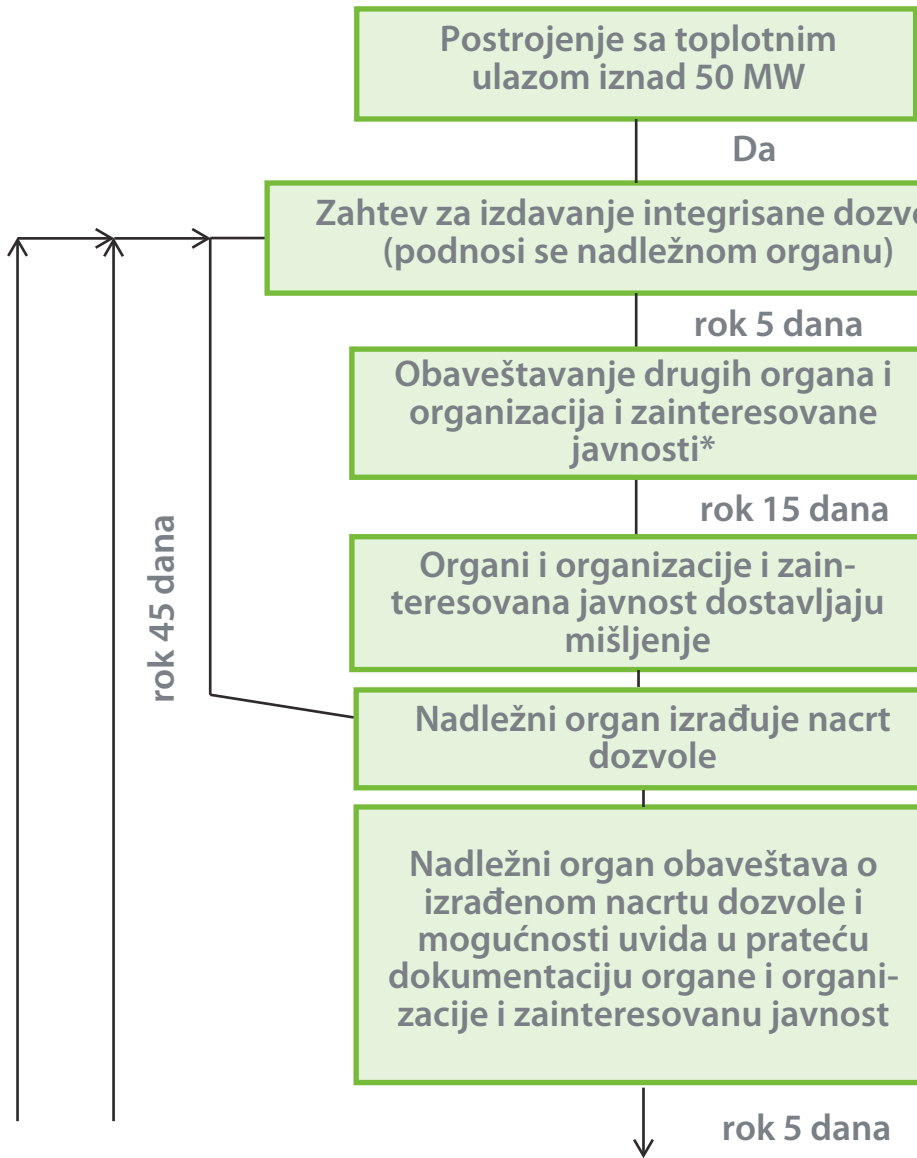
Procena
uticaja na
životnu
sredinu
(3)



Osnovni koraci od ideje do korišćenja postrojenja
Sticanje prava na izgradnju elektrane

I-4

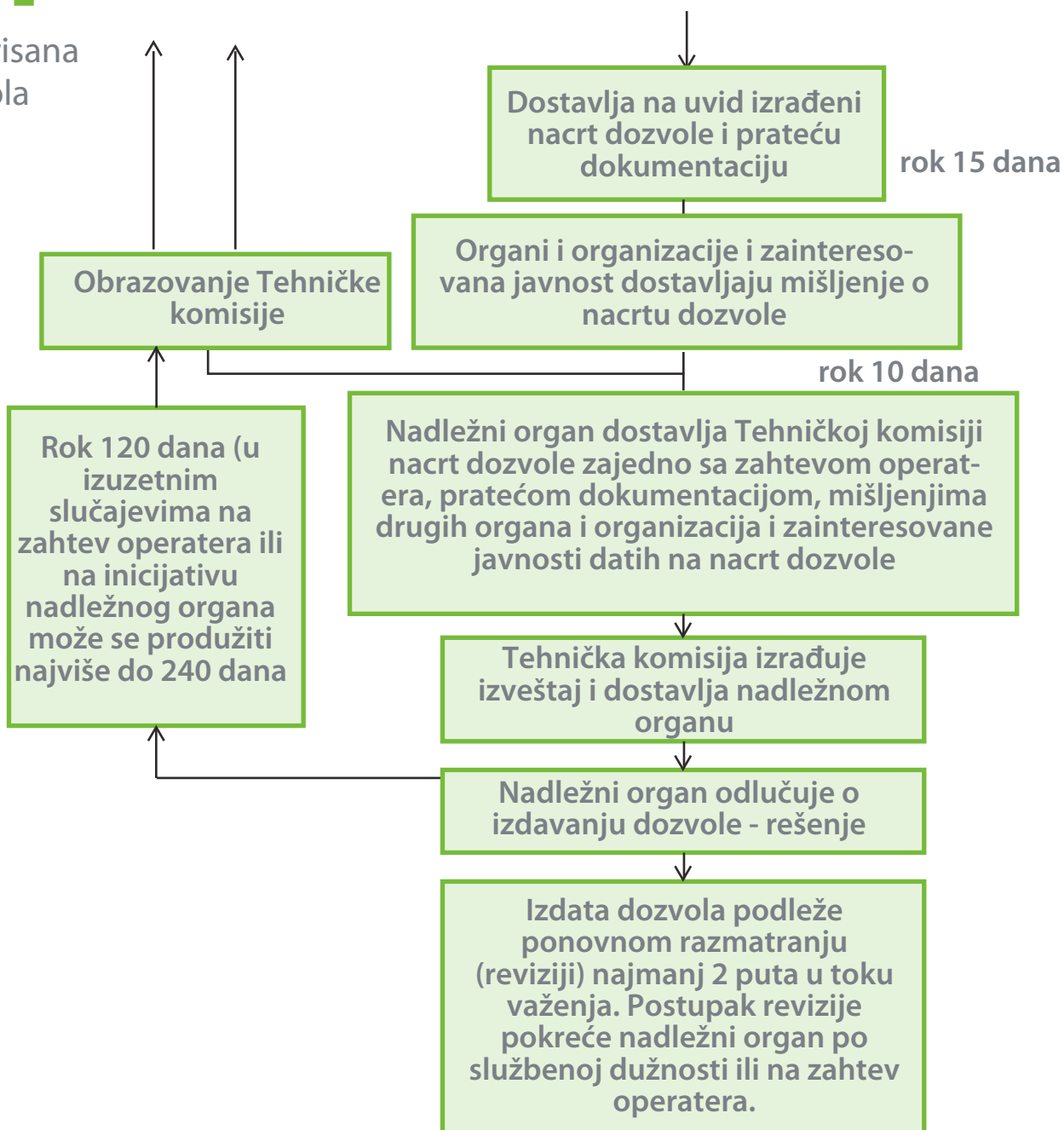
Integrirana dozvola (1)



*organi i organizacije su iz oblasti poljoprivrede, vodoprivrede, šumarstva, planiranja, izgradnje, saobraćaja, energetike, rudarstva, zaštite kulturnih dobara, zaštite prirode i dr. I organa lokalne samouprave ne čijoj teritoriji se planira aktivnost.

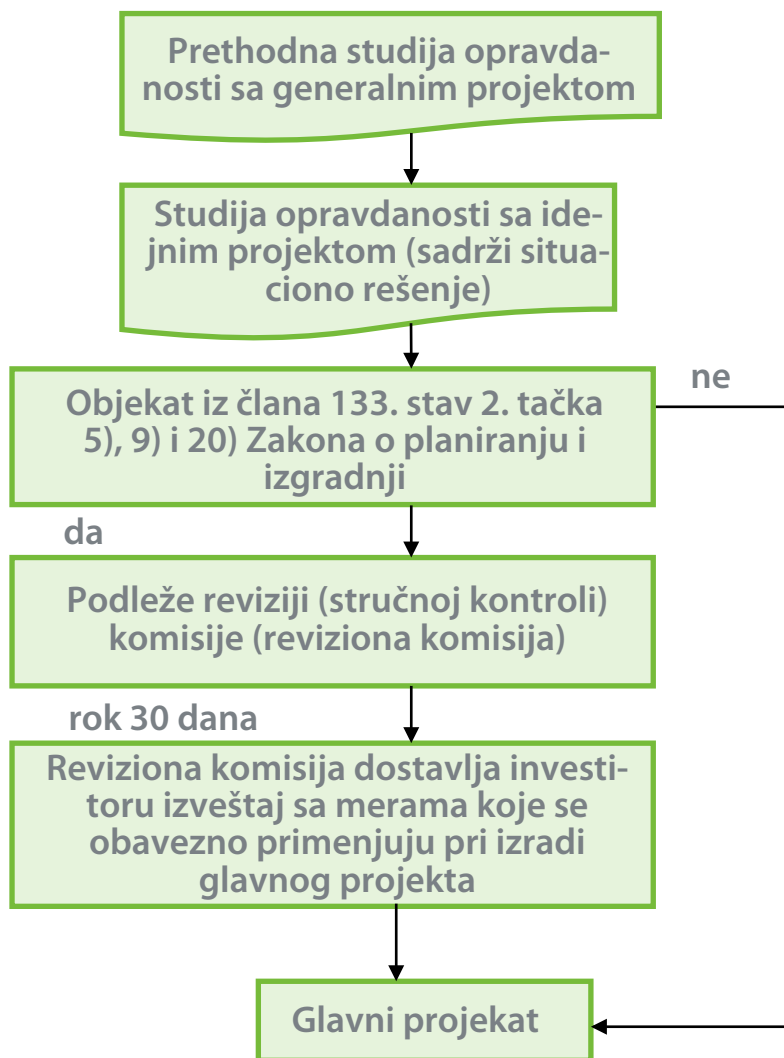
I-4

Integrirana
dozvola
(2)



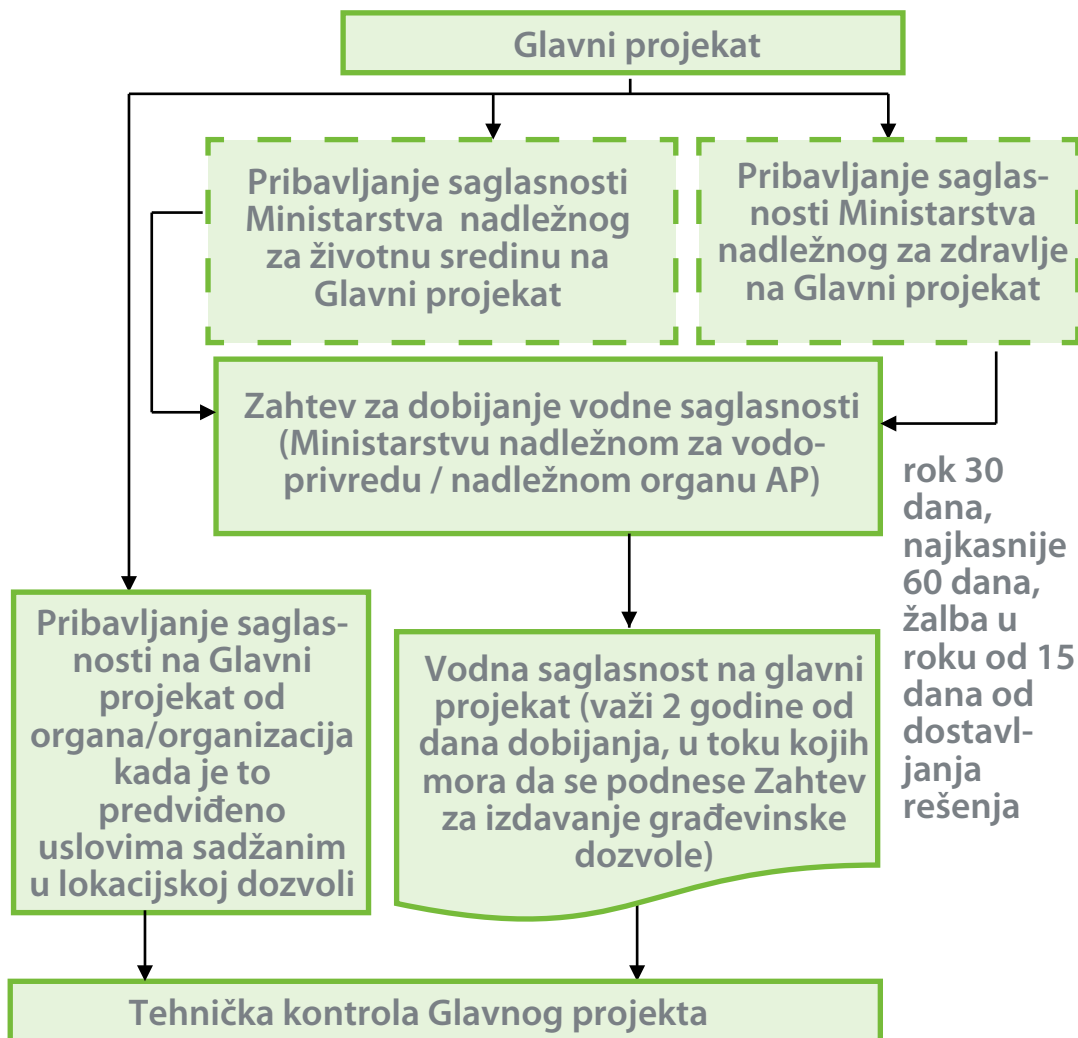
I-4

Tehnička dokumentacija



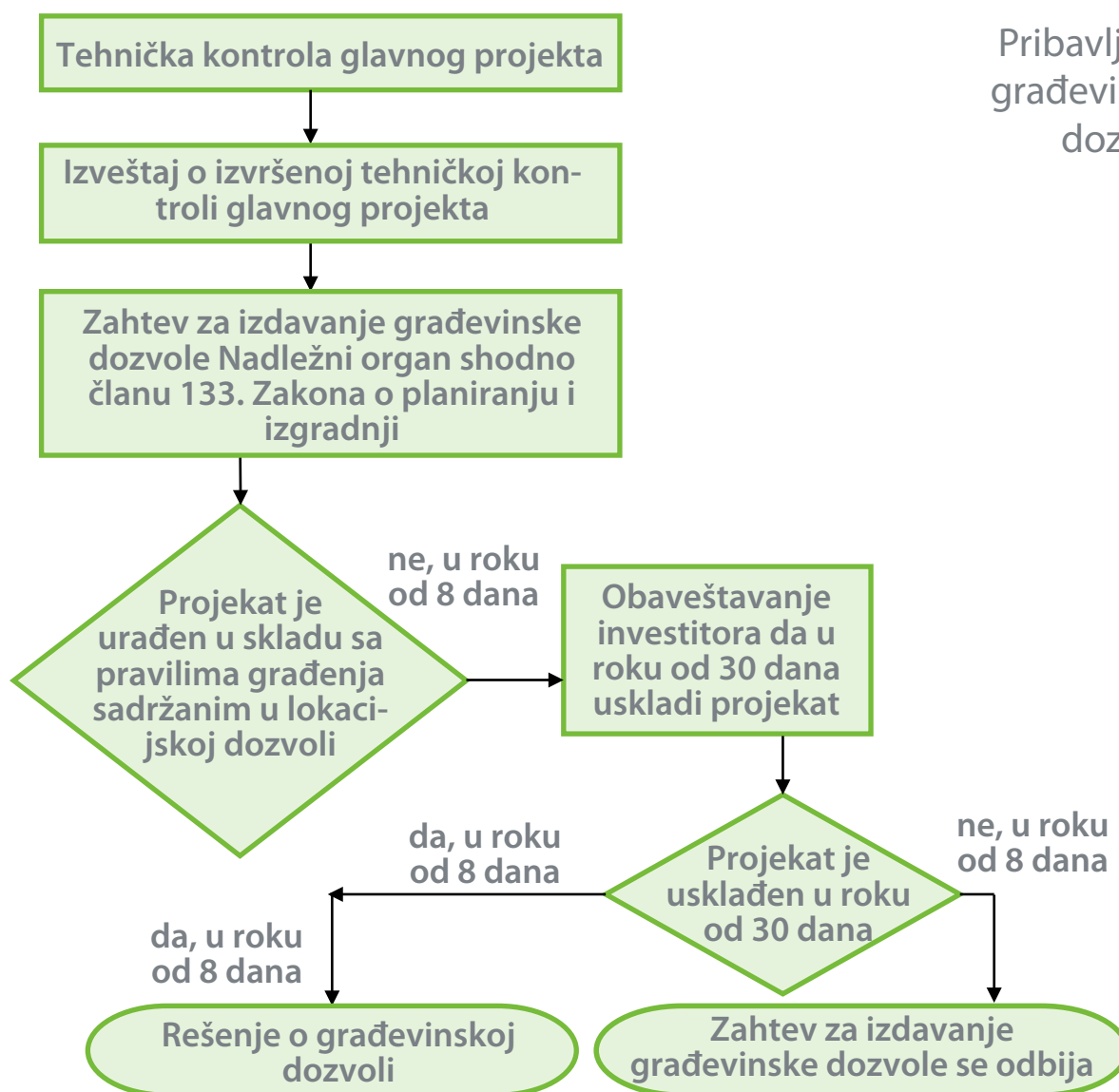
I-4

Vodna saglasnost i tehnička kontrola glavnog projekta



I-4

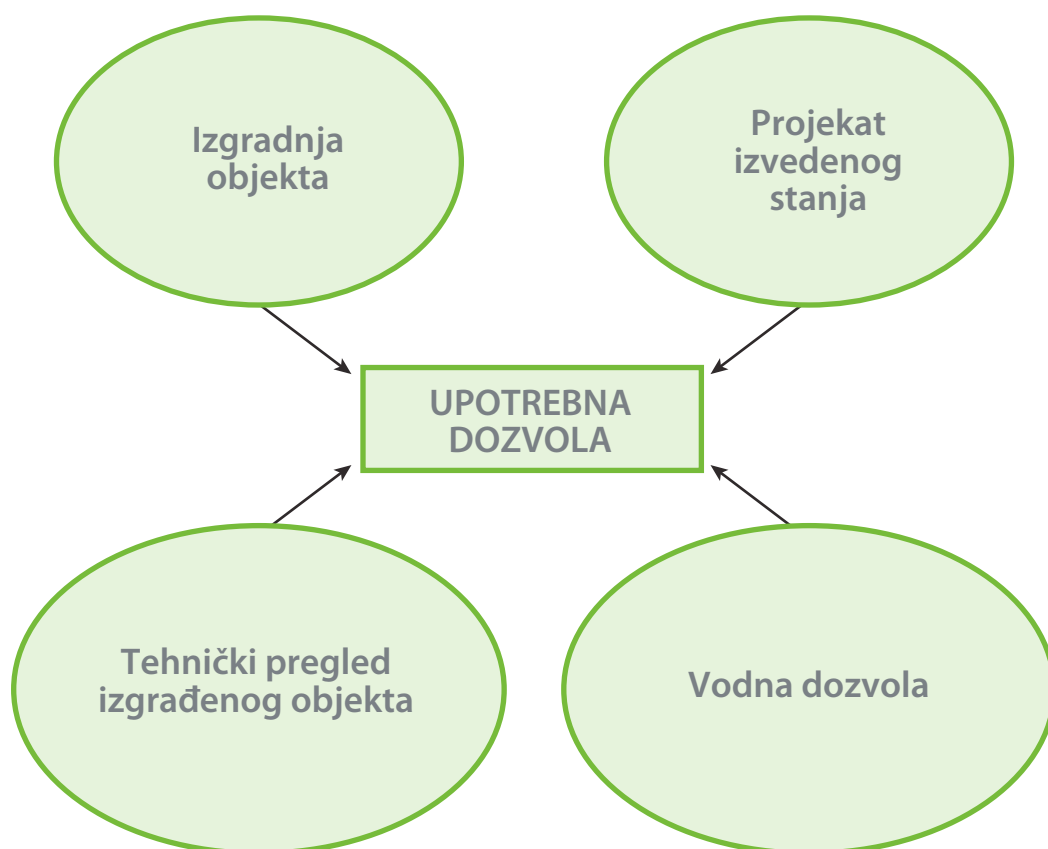
Pribavljanje građevinske dozvole



I-5

Upotrebna dozvola

- Podobnost objekta za upotrebu utvrđuje se tehničkim pregledom
- Objekat se može koristiti po prethodno pribavljenoj upotrebnoj dozvoli
- U procesu dobijanja Upotrebne dozvole potrebno je priložiti Projekat izvedenog stanja



I-5

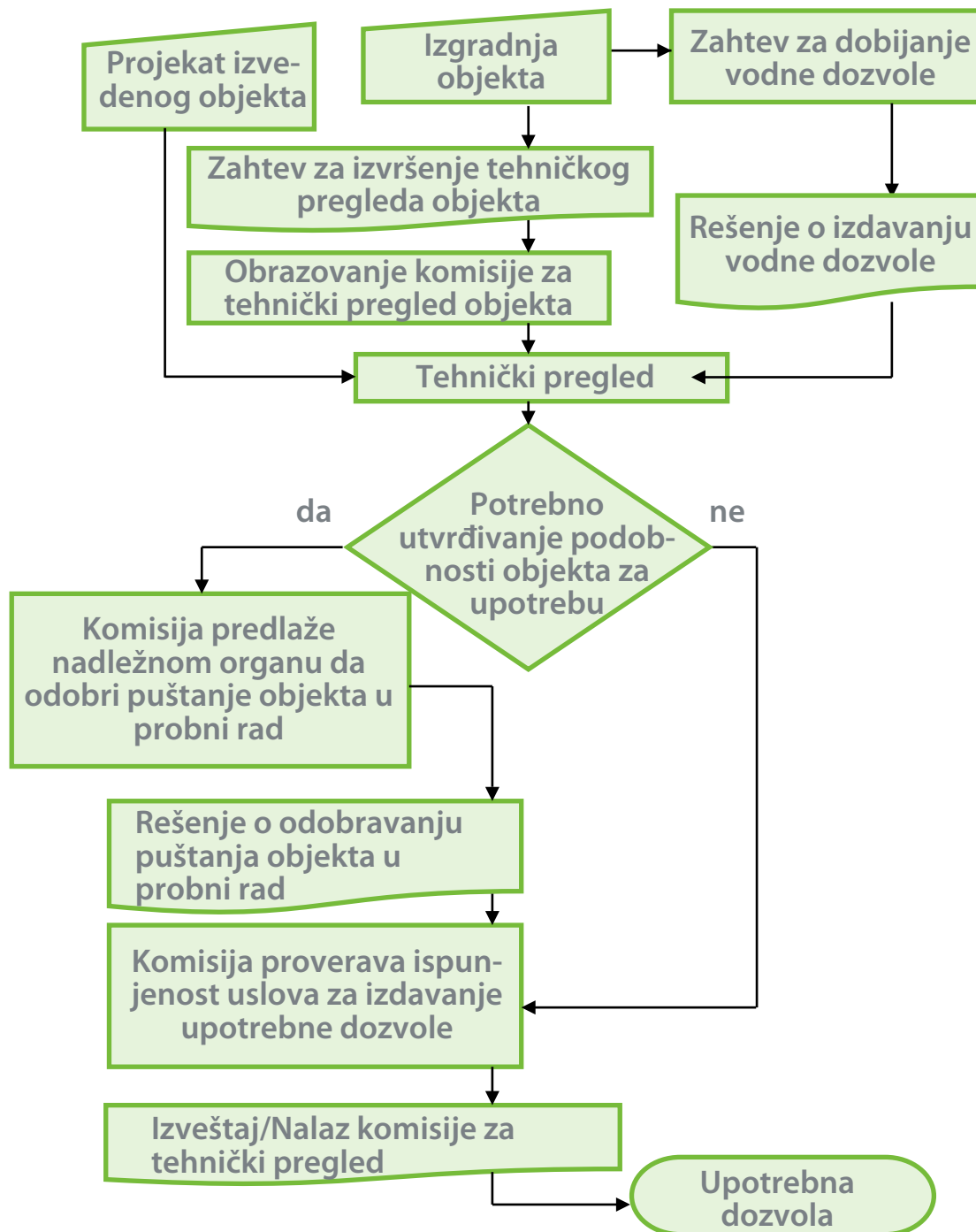
Izgradnja objekta



- Građenje objekata, odnosno izvođenje radova, može da vrši privredni subjekat upisan u odgovarajući registar za građenje objekata, odnosno za izvođenje radova (izvođač radova)
- Obaveze izvođača radova su da: pre početka radova potpiše glavni projekat, rešenjem odredi odgovornog izvođača radova, odgovornom izvođaču radova obezbedi ugovor o građenju i dokumentaciju na osnovu koje se gradi objekat, obezbedi preventivne mere za bezbedan i zdrav rad u skladu sa zakonom, da izvodi radove prema dokumentaciji na osnovu koje je izdata građevinska dozvola, organizuje gradilište na način kojim će obezbediti pristup lokaciji, obezbeđuje sigurnost objekta i lica na gradilištu i okoline, obezbeđuje dokaz o kvalitetu izvršenih radova, vodi građevinski dnevnik, građevinsku knjigu i obezbeđuje knjigu inspekcije, obezbeđuje objekte i okolinu u slučaju prekida radova
- Na gradilištu je potrebno da se stalno nalazi ugovor o građenju, rešenje o određivanju odgovornog izvođača radova na gradilištu i glavni projekat, tj dokumentacija na osnovu koje se projekat gradi
- Investitor obezbeđuje stručni nadzor u toku građenja objekta, odnosno izvođenja radova za koje je izdata građevinska dozvola

I-5

Tehnički pregled i upotrebna dozvola



Osnovni koraci od ideje do korišćenja postrojenja



Sticanje prava na obavljanje proizvodnje električne/toplotne energije

- Tržišna delatnost
 - Proizvodnja električne energije
 - Kombinovana proizvodnja električne i toplotne energije
- Delatnost od opšteg interesa
 - Proizvodnja toplotne energije

II-1 Pravo na obavljanje delatnosti od opšteg interesa* i/ili Koncesija za korišćenje prirodnog bogatstva**

II-2 Licenca

II-3 Odobrenje za priključenje

II-4 Status povlašćenog proizvođača

II-5 Ugovor o otkupu električne energije

**pravo na obavljanje delatnosti obaveza*

***koncesija mogućnost shodno zakonu koji uređuje koncesije*

II-1

Pravo na obavljanje proizvodnje toplotne energije – način sticanja

1. NEPOSREDNO

ili

2. POSREDNO



- Poveravanje obavljanja komunalne delatnosti
- Koncesija za obavljanje delatnosti od opšteg interesa
- Ulaganje u javno (komunalno) preduzeće odnosno privredno društvo koje obavlja komunalnu delatnost



Licenca za obavljanje proizvodnje toplotne energije

II-1

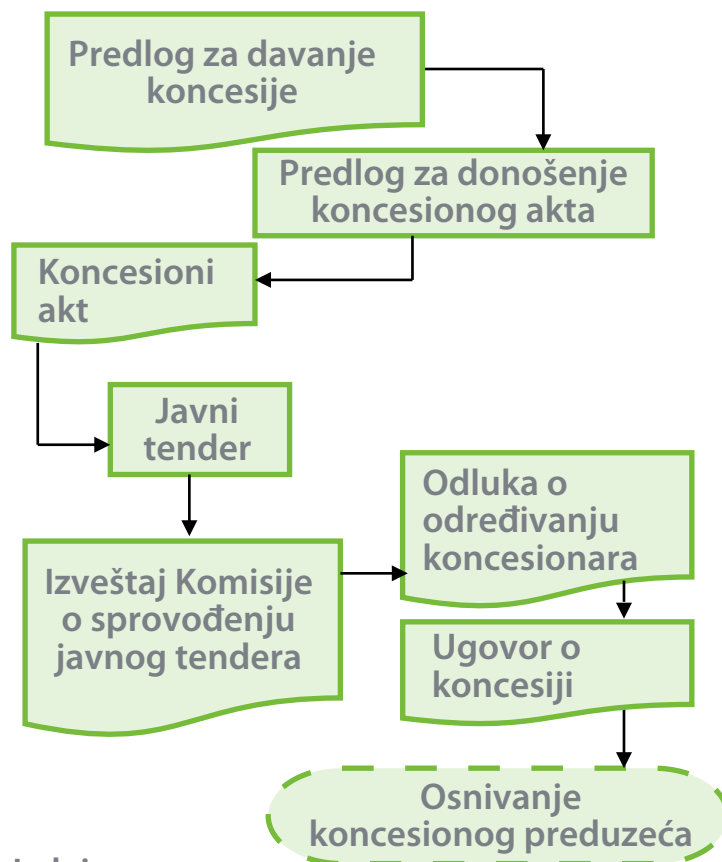
Poveravanje obavljanja komunalne delatnosti

- Poveravanje se vrši na osnovu:
 - odluke skupštine jedinice lokalne samouprave o načinu obavljanja komunalne delatnosti
 - ugovora o poveravanju
- Finansiranje obavljanja komunalne delatnosti određuje postupak poveravanja njenog obavljanja:
 - vršilac dobija pravo da finansiranje obavljanja komunalne delatnosti obezbeđuje u celosti ili delimično naplatom naknade od korisnika usluga, na koji postupak se primenjuju odredbe zakona kojim se uređuju koncesije
 - obavljanje komunalne delatnosti finansira iz budžeta jedinice lokalne samouprave, na koji postupak se primenjuju odredbe zakona kojim se uređuju javne nabavke



II-1

Koncesija



Izdaje se:

- za obavljanje delatnosti od opšteg interesa
- za korišćenje prirodnog bogarstva

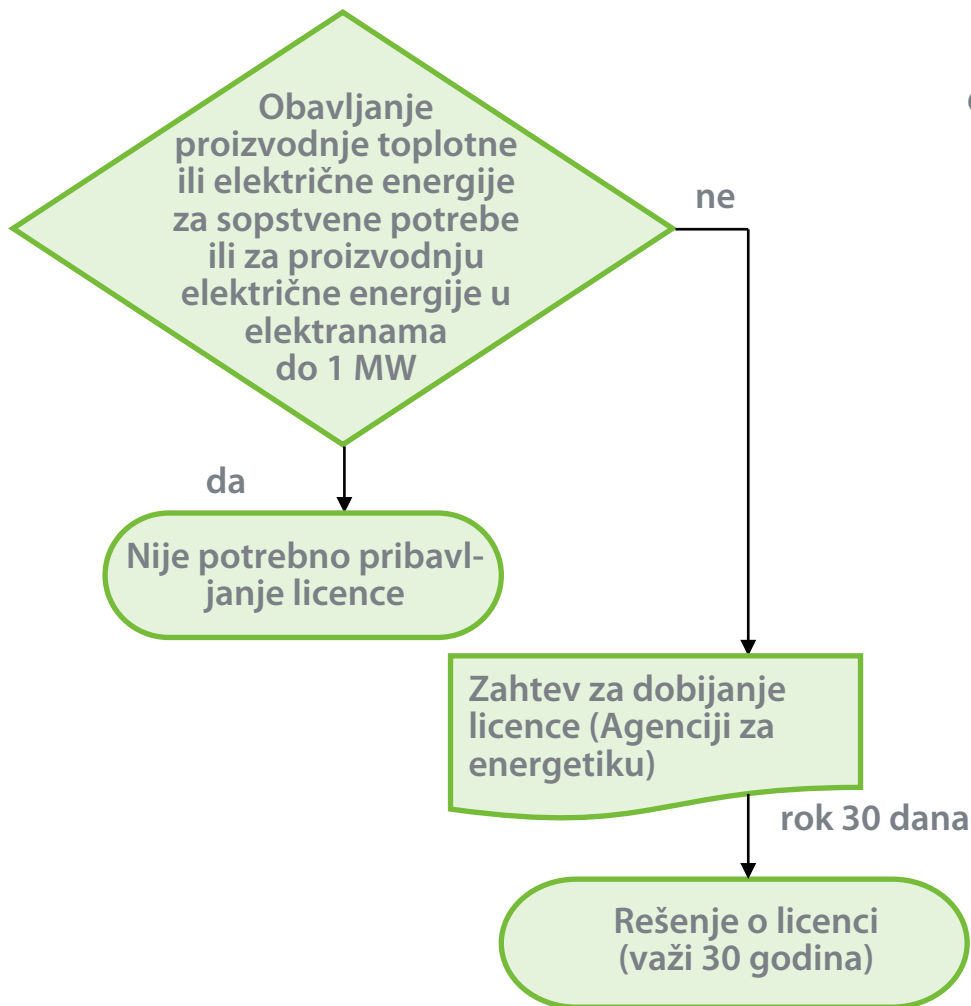
II-1

Koncesija –
sadržaj ugovora
o koncesiji

- Ugovorne strane, predmet koncesije, uključujući opis objekta, uređaja, postrojenja
- Rok trajanja koncesije i uslovima pod kojim se taj rok može produžiti, dužini trajanja pripremnih radnji
- Raspodela rizika između privatnog i javnog partnera i obim isključivih prava privatnog partnera
- Visini i načinu obezbeđenja garancija za izvršavanje koncesione obaveze.
- Uslovi obavljanja koncesione delatnosti i standardi proizvoda i usluga, transferu tehnologije
- Koncesiona naknada (visina, rokovi, uslovi i način plaćanja)
- Prava i obaveze u pogledu preduzimanja mera obezbeđivanja opšte sigurnosti, zaštite zdravlja i zaštite životne sredine kao i odgovornosti za naknadu štete prouzrokovane ugrožavanjem opšte sigurnosti i zaštite životne sredine
- Prava na prenos koncesije
- Vreme i način predaje nepokretnosti, objekta, uređaja ili postrojenja i stanju u kome se oni moraju predati
- Uslovi izmena ili raskida ugovora i njihovim posledicama, promenjenim okolnostima i višoj sili.
- Način rešavanja sporova i primena merodavnog prava
- Druge odredbe o kojima se sporazumno dogovore ugovorne strane. Ugovorom se određuje i način međusobnog obaveštavanja o izvršenju ugovora, načinu vršenja kontrole izvršenja ugovora i ostvarivanja prava i obaveza ugovornih strana

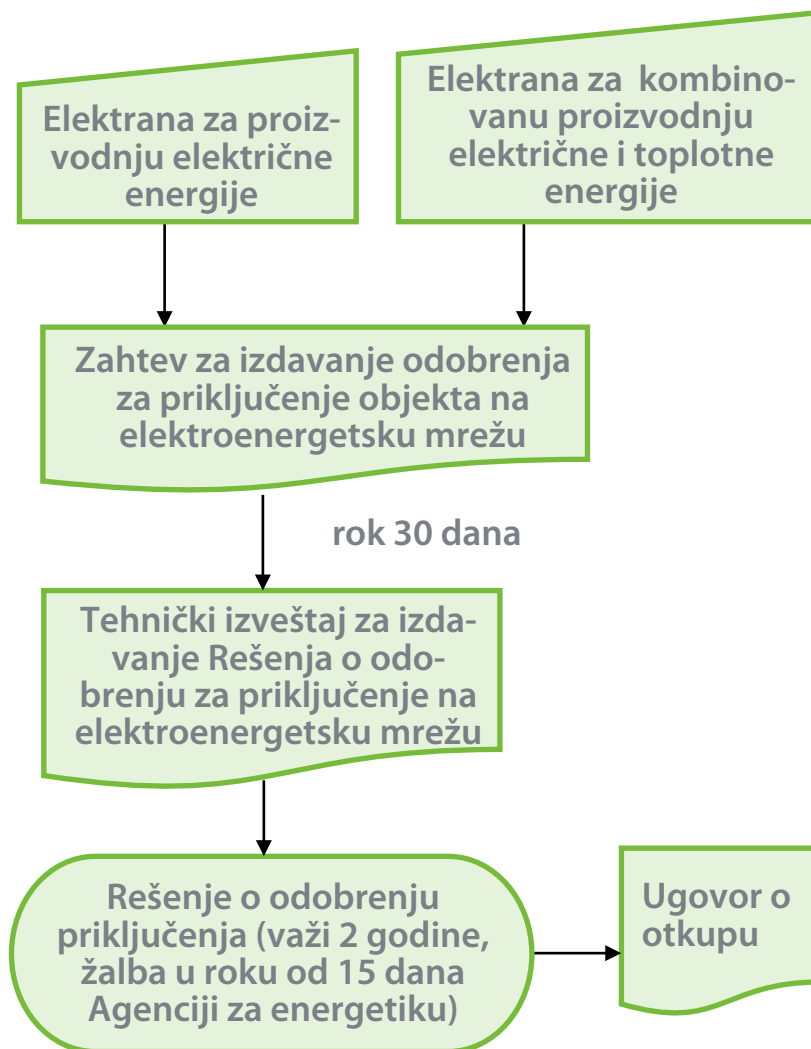
II-2

Licenca za obavljanje energetskih delatnosti-



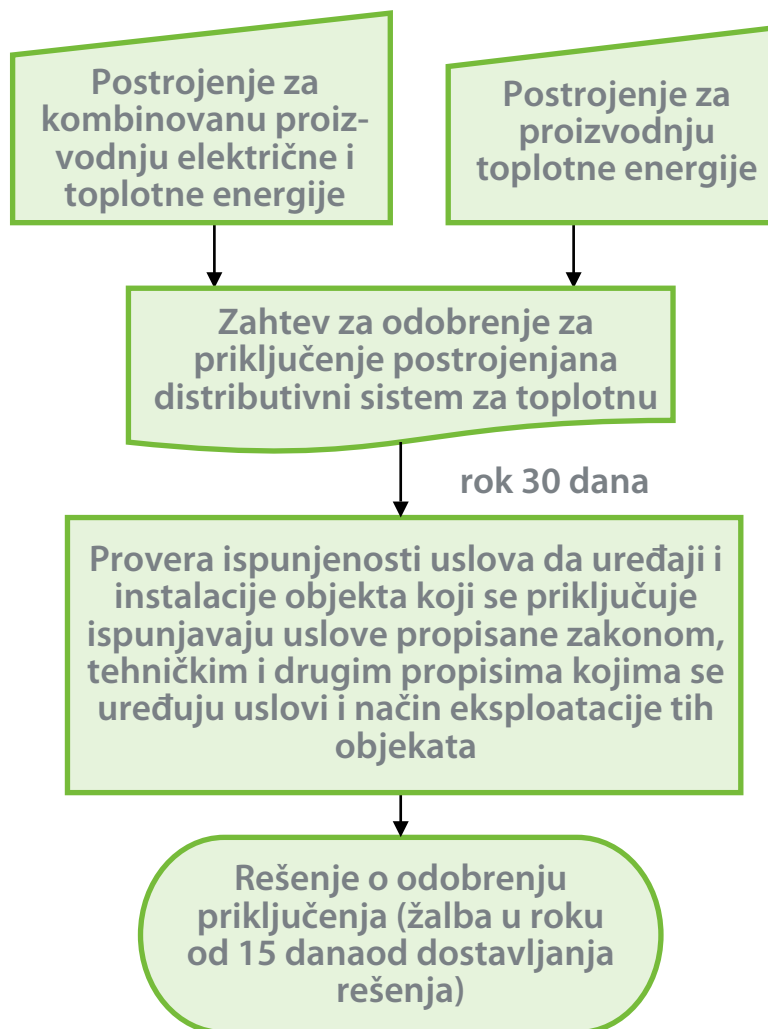
II-3

Odobrenje za priključenje elektrane na elektroenergetsku mrežu



II-3

Odobrenje za priključenje postrojenja na mrežu za distribuciju toplotne energije



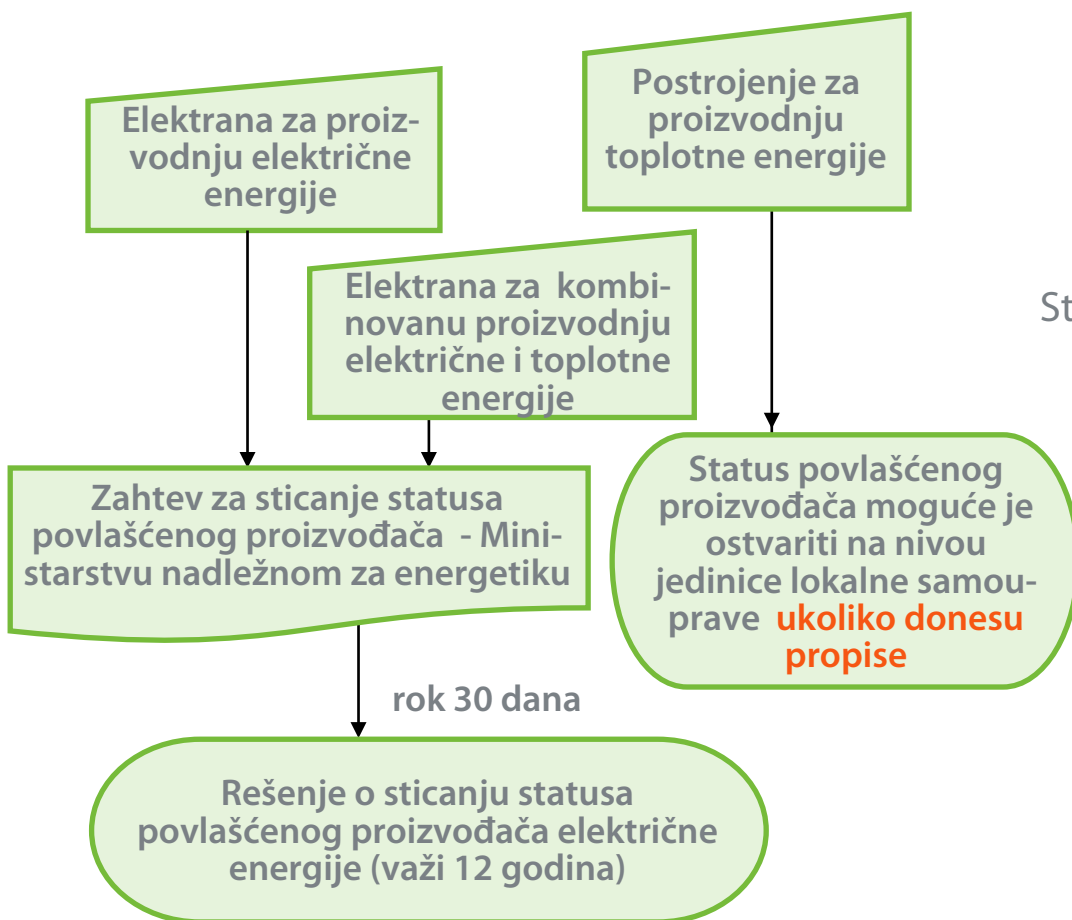
II-4

Status povlašćenog proizvođača

- Pravo prvenstva pri preuzimanju ukupno proizvedene električne energije u prenosni ili distributivni sistem, osim u slučaju kada je ugrožena sigurnost rada tih sistema
- Pravo na subvencije (poreske, carinske i druge olakšice)
- Mere podsticaja: 1) podsticajni period; 2) preuzimanje balansne odgovornosti; 3) besplatno očitavanje proizvedene energije 4) pravo da nakon prestanka podsticajnog perioda zaključi ugovor sa javnim snabdevačem po ceni na organizovanom tržištu; 5) Feed-in tarife:

Redni broj	Vrsta elektrane	Instalisana snaga P (MW)	Podsticajna otkupna cena (c€/kWh)
1.	Elektrane na biomasu	Do 1	13.26
		1 - 10	13.82 – 0.56*P
		Preko 10	8.22
2.	Elektrane na biogas	Do 0.2	15.66
		0.2 - 1	16,498 – 4,188*P
		Preko 1	12,31
3.	Elektrane na biogas životinjskog porekla		12,31
4.	Elektrane sa kombinovanom proizvodnjom na ugalj	Do 10	8,04
5.	Elektrane sa kombinovanom proizvodnjom na prirodni gas	Do 10	8,89

Osnovni koraci od ideje do korišćenja postrojenja
Sticanje prava na obavljanje proizvodnje električne/toplotne energije

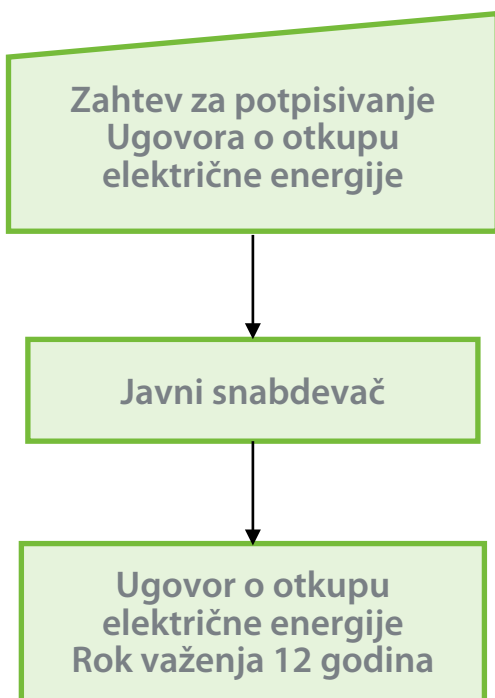


II-4

Sticanje statusa povlašćenog proizvođača

II-5

Ugovor o otkupu električne energije



Postoje i slučajevi ugovora o otkupu proizvedene električne energije, pre sticanja statusa, radi realizacije priključenja na mrežu

Napomena

Početak proizvodnje (i prodaje) električne/toplotne energije

Garancija porekla

- Dokument koji ima isključivu funkciju da dokaže krajnjem kupcu da je dati udeo ili količina energije proizvedena iz obnovljivih izvora energije, kao i iz kombinovane proizvodnje električne i toplotne energije sa visokim stepenom iskorišćenja primarne energije
- Garanciju porekla izdaje operator prenosnog sistema za jediničnu količinu proizvedene energije od 1 MWh
- Garancija je dokument u elektronskom obliku i važi godinu dana od dana izdavanja
- Prenosiva je
- Garancija porekla izdata u drugim državama važi pod uslovima reciprociteta i u Republici Srbiji i u skladu sa potvrđenim međunarodnim ugovorom

