

Spread of Innovative Solutions for Sustainable Construction

Handbook

7

Legal Regulations



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7

Legal Regulations

The aim of this chapter is to outline the legal framework related to construction and renovation in each country who has participated at the compilation of the handbook (Hungary, Italy and Finland). Although we mention some legislation and authorities, they provide a framework in force at the time of writing this handbook (2020-21), and without claiming to be exhaustive.

7.1 Legal regulation in Hungary

a. General legal framework for construction in Hungary

In Hungary the so-called **Building Act**⁶⁸ defines the basic requirements, tools, rights and obligations related to the shaping and protection of the built environment, as well as the related duties and authorities. We can call it as the general legislation of construction.

This Building Act contains, among other things, the duties and competences of state-, municipal- and authorities related to construction and town planning, as well as the basic regulations of the construction process (e.g. general requirements towards construction works, building authority approval, construction authority inspection, the construction fine). We can also find some rules about the protection of the architectural heritage in the Building Act.

The other important legislation is the **OTÉK**⁶⁹, which contains, among other issues, the range of buildings and structures that can be placed in the areas, the conditions for the construction and placement of buildings within the site, the requirements for the placement of buildings and public utilities, the conditions for the construction of buildings and existing buildings.⁷⁰

68 1997 LXXVIII. Act on the Shaping and Protection of the Built Environment

69 253/1997. (XII. 20.) on the national settlement planning and construction requirements

70 <https://epitesijog.hu/magyarazatok/epitesugyiengedelyezes/140-az-epitesugyi-igazgatas-jogszabalyai>

The capital and county government offices perform the tasks regarding general construction authority, construction supervision and heritage protection. The local governments/municipalities perform settlement development and settlement planning tasks in order to create and protect the built environment.

Building permissions

The new system of building authorities has been in force since 2013, and at the same time the Code of Conduct for Building and Construction Supervision Procedures has also entered into force. Based on that the in general construction activities can be carried out either:

- a) without a permit (legally),
- b) on the basis of a simple notification,
- c) on the basis of a building permit,
- d) on the basis of a verified notification (corona virus outbreak norm in 2020)

Construction without a permit

Since January 1, 2017, the range of construction works that can be performed without a building permit has significantly expanded. Of these, the areas relevant to our handbook are:

- Modification, renovation, restoration, modernization, change of the facade of a building (except in the case of a closed or twin-built building, if these activities also affect the foundation or supporting structure of the adjoining building)
- Subsequent thermal insulation of an existing building, replacement of facade doors and windows, painting of the facade surface, modifying the surface of the facade
- Construction of a new chimney in an existing building
- Construction of a new, independent (fixed to the facade wall or free-standing) chimney with a height not exceeding 6.0 m
- Construction of the canopy, protective roof, umbrella structure connected to the facade of the building, or renovation, transformation of the existing one
- Changing the number of functional units in a building
- Construction of private garden water source, swimming pool, garden pond
- Fence, garden structure, terrain staircase, sidewalk and slope, household furnace, meat incense, ice stack and vegetable stack construction, plant support qualifying as a structure, construction of a plant-raising grid, or renovation, transformation of the existing one
- Solar collector, ventilation, air conditioning, alarm system, lightning protection equipment
- Construction of a utility connection and utility replacement structure within the plot
- Construction, renovation, restoration, conversion of a cellar with a depth of up to 2.0 m and an air space of up to 20 m³

Constructions with simple notification

The construction of residential buildings not exceeding 300 m² of total useful floor area has been possible since 2016 with a simple notification.

The construction supervisory authority remains responsible for handling and verifying the simple notifications. They are checked by the authority and in case of incomplete documentation they inform the builder and the Chambers of Architects and Engineers within 8 days. It is worth noting, however, that the authority sends a notification only about the incompleteness of the notification, but it does not necessarily check the content of the documentation.

Building permit

Where a construction cannot be subject to simple notification, the construction or expansion activities can begin only with a definitive building permit. The main rule is that the permit must cover all construction activities carried out on a plot at the same time. Various documents have to be attached to the application.

During an on-site inspection the construction authority checks whether the planned construction complies with the legal and professional requirements and the submitted documentation.

Source:

<https://epitesijog.hu/8874-2014-oktober-24-teljes-atalakulason-esett-at-az-egyszeru-bejelentes>

<https://epitesijog.hu/8874-2014-oktober-24-teljes-atalakulason-esett-at-az-egyszeru-bejelentes>

b. Energy performance requirements

The minimum energy performance requirements of buildings are regulated by the 7/2006 (V.24.) TNM regulation⁷¹ in Hungary. The requirements are compulsory for all new buildings and there are also requirements for retrofits aimed at saving energy. The regulations have been gradually strengthened in recent years, any new construction must be “nearly zero energy building”. Six types of requirements exist:

71 7/2006. (V. 24.) Ministerial decree about the determination of the energy performance of buildings

1. The maximum thermal transmittance of the envelope components determines how much insulation shall be applied on external walls, roofs or cellar floors etc. The requirements are around $0.17 - 0.24 \text{ W/m}^2\text{K}$, i.e. approx. 16-24 cm insulation is necessary (see chapter 5.2).
2. The *specific heat loss coefficient* shows the energy quality of the building itself without the technical systems. This includes the heat losses of the whole building envelope and also the incident solar gains in the winter. The shape, size and orientation of the building matter. An average, relatively compact and well oriented building generally complies with this requirement with minimum insulation thicknesses. However, a very complex building with unfavourable orientation may need additional insulation.
3. The *total primary energy use* of the building includes the energy use of the space and hot water systems, cooling and mechanical ventilation if these exist, but does not consider household appliances nor lighting systems in a residential building. This indicator is expressed as non-renewable primary energy, which is different from the delivered or final energy use specified on the electricity or gas bill. Primary energy also considers the efficiency of energy transformation, for example the weighting of electricity is 2.5 in Hungary, while natural gas is 1. For nearly zero energy buildings, the maximum allowed primary energy use is $100 \text{ kWh/m}^2\text{yr}$.
4. The indicator of *summer overheating* describes the risk of the overheating in the building. The requirement can be usually fulfilled if the building has effective external shading devices. Also, night ventilation has a favourable effect.
5. The requirements on the *technical building systems* define the quality of boilers, control systems etc.
6. The *minimum renewable energy share* is 25%. This requirement is usually fulfilled if heating is supplied with heat pump or biomass boiler, and in many locations also with district heating. In case of gas heating, installing photovoltaics or solar collectors is necessary for compliance. An alternative compliance path is

enhanced energy efficiency if the possibilities for renewable energy utilization are limited. In this case, max. 76 kWh/m²yr primary energy use is allowed. For example, in a densely built city, solar energy utilization or biomass heating is usually limited or not possible, but energy efficiency can be increased with heat recovery ventilation or improved insulation.

The architect and the building service designer must ensure that the building complies with the energy requirements and prove this with a calculation. The energy certificate of the building shall be issued based on this calculation before the building gets the permit for occupancy. Nearly zero energy buildings belong to category BB or better.

When existing buildings undergo energy renovation or get an extension, the requirements depend on the extent of the intervention. In case of a major renovation when more than 25% of the surface undergoes renovation and in case of large extension when the floor area of the extension exceeds the floor area of the existing building, several requirements must be met. Obviously, components undergoing renovation must comply (e.g. part of the building envelope where insulation is added or part of the technical system being exchanged). Beyond this, also the specific heat loss coefficient and the primary energy demand requirement of the whole building must be met, but the latter is less strict than for new buildings. These encourage thorough, deeper renovations with several interventions applied at the same time and with high energy saving. Renewable energy utilization is not compulsory for renovation but it is expected that funding schemes will prefer renovated buildings reaching the level of nearly zero energy buildings.

Related literature

<https://epitesijog.hu/magyarazatok/epitesugyiengedelyezes/140-az-epitesugyi-igazgatas-jogszabalyai>

<https://epitesijog.hu/8874-2014-oktober-24-teljes-atalakulason-es-ett-at-az-egyszeru-bejelentes>

<https://epitesijog.hu/185-az-epitesi-es-egyszer-sitett-epitesi-engedelyezesi-eljaras>

7.2 Legal regulation in Italy

In Italy, in order to proceed with construction works, to ensure that construction works are performed in compliance with national and local regulations and to provide local administration with detailed information or main reference for compliance check, different administrative procedures exist. The administrative procedure to be followed depends on the type of construction works. More in details, construction works can be performed either:

1. Building permit
2. Certificated notification of activity start (SCIA)
3. Simple notification (CILA) or without notification

This section provides a brief description of procedure in place in Italy and related steps for each of them. Type of cost and procedure time are also described. Guide is provided on which procedure it has to be followed, based on the type of construction works.

DISCLAIMER: This section is intended to provide a general overview, without claiming to be exhaustive. Thus, it is suggested to local administrations and/or professionals for a complete and more updated guide.

a. Building permit

When:

- New building
- Building renovations affecting:
 - o Volumes and/or shape
 - o Functional destination (only for building in the old town area)
 - o Elevations, in case of building subjected to “protection” in the frame of Culture and Landscape protection code
- Recovery of attic (under roof) space

The applicant and the person submitting the document:

Building permit is released to the building owner or to the one entitled to receive it. It can be presented even by the representative of a company of the professional (architect, engineer) as far as that person is delegated to perform as such by the owner.

In practice, owners or delegated persons are the formal applicant, whereas the physical submission of the request is always performed by the professionals.

Content and validity:

The building permit is realised in max. 60 days from the day of the request submission. In case of no answer from the receiving local administration, the request is intended as “approved”.

It has to include the date of start and end of the construction works. The former, no later than 1 year from the date of the permit release, the latter no later than 3 years. After 3 years from the date of permit release, it expires unless an extension is required before the expiring. The extension last 1 year and extension request has to be motivated.

Costs

The building permit is not free of charge. Indeed, it requires the payment of the following:

- ▶ Infrastructure costs
- ▶ Construction contribution.

Infrastructure costs are intended as contribution to the costs of construction and maintenance the local administrations have to afford. The cost depends on the specific location and is calculated per m²

Construction costs are calculated as % of the whole construction works. The % is in the range of 5 – 20%.

Information and references to calculate costs are often accessible at the website of local administrations, at the section on buildings and construction.

The payment has to be done by the applicant.

Other costs associated to construction works to be done under the frame of a building permit are:

- ▶ Costs of professionals
- ▶ Costs of construction companies, namely of materials, processing and labour
- ▶ Costs of administrations fee and secretariats

b. Certificated notification of activity start (SCIA)

When:

- Extraordinary maintenance affecting structural parts of the building or elevations
- Restoration
- Renovations different from those one requiring the building permit
- Variations to the building permit, within certain limitation and in compliance with prescriptions stated in the building permit

Examples of works which can be done under SCIA: roof renovation, floor substitution and renovation, placement of new windows, new external doors or skylights

The applicant and the person submitting the document:

As for the building permit, the SCIA is released to the building owner or to who is entitled to receive it. It can be presented even by the representative of a company or by the professional (architect, engineer) as far as the one delegated to this by the owner.

In the practice, owners or delegated persons are the formal applicants, whereas the physic submission of the notification is always performed by the professionals. The SCIA has to be submitted on paper, it cannot be submitted online.

Content and Validity:

The SCIA does not require the answer/response of the receiving local administration. Indeed, does require a notification. The notification submission gives the right to start the works. However, the local administration has 60 days to verify the compliance of declared works to the national and local regulations and in case of not compliance or missing information it can ask for the works interruption. If the interested building is subjected to special protection, e.g. under the frame of Culture and Landscape protection code, the owner (or the delegated) has to acquire the authorization from the body responsible for the related protection program.

The SCIA is valid for 3 years. If construction works are not finished within this time-frame, a new SCIA has to be submitted and justifications provided.

Costs

Costs associated to the SCIA can include or not the infrastructure costs. Indeed, is not due for all type of construction works which can be implemented under the frame of a SCIA.

Other costs associated to construction works to be done under the frame of a SCIA, as in the case of the building permit, are:

- ▶ Costs of professionals
- ▶ Costs of construction companies, namely of materials, processing and labour
- ▶ Costs of administrations fee and secretariats

c. Simple notification (CILA) or without notification

When:

CILA

- **Extraordinary** maintenance not affecting structural parts of the building or elevations
- Restoration not including structural works
- Works to satisfy temporary needs, to be removed when needs finish and in any case within 90 days

Works without notification

- Ordinary maintenance, which means all construction works concerning only repair, renovation and substitution of finishings or needed to integrate and maintain the efficiency of existing technic systems (e.g. heating systems)
- Installation of heat pump with power until 12 kW
- Works to eliminate architectonic barriers (e.g. installation of elevators) as far as they do not affect building volume and/or shape
- Finishing (e.g. tiles) of external area
- Installation of solar and PV panels, if outside from the “old town”.

For CILA, the owner or the delegated party is the formal applicant. It can be submitted online by a professional. It is valid from the submission date and has not an expiring date. As for the SCIA, the local administration has 60 days to verify the compliance of declared works to the national and local regulation and to ask for work interruption in case of missing information or not compliance.

Costs

CILA requires the payment of the administration fee and secretariats, whereas no fees are due for works not requiring the notification. As for SCIA and building permit, the cost of construction works have to be considered by the owner, i.e.:

- ▶ Costs of professionals
- ▶ Costs of construction companies, namely of materials, processing and labour

d. Legal requirements – Energy rating

In Italy, in compliance to the EU Directives (2002/91/CE first and 2010/31/UE concerning the energy performance of buildings), the Energy Performance Certificate of buildings has to be developed and provided in each buying/selling operation as well as in renting operation.

The Energy Performance Certificate (APE), which in the past was called Energy Certificate (ACE), as said by its same name, overall reports the information on the building performance, its energy consumption during the operation stage, the energy efficiency of systems and the possible improvement options which can be implemented to further save energy and improve the performance. Italian national guidelines on APE have been recently revised, with major aims to fulfil the new and more stringent objectives established at EU level (Directive 2010/31/UE and its amendment) and to foster a more homogeneous application and implementation on the national territory.

In the following lines the classification scale and the main content of the APE used in Italy is briefly described.

At a general level, the energy performance of buildings is defined on a scale running from G (less performing) to A4 (highly performing), as represented in the figure 26.

Figure 49:
*Energy performance scale
for building classification in Italy*⁷²



⁷² Source: National guidelines for Energy Performance Certificate of Buildings, Annex I

The classification of such scale is based on a parameter which is called Index of energy non-renewable global performance ($EP_{gl,nren}$). The parameter, with specific reference to the residential buildings, takes into account the non-renewable primary energy demand for the following energy services: heating, cooling, hot water and ventilation⁷³. It is measured in kWh/m²year and the surface to be taken into account for the calculation is basically the net floor area heated, cooled and ventilated.

While the $EP_{gl,nren}$ is the parameter used to classify the building and is the main parameter reported in the APE, the APE, for sake of transparency, has to report also the contribution of the different energy services installed in the buildings as well as additional information on building characteristics affecting the final demand of the primary energy, namely:

- ▶ The envelope capacity of limiting the energy demand for winter heating and summer cooling (e.g. the ratio S/V)
- ▶ The performance of the heating system and of the cooling systems (i.e. the yield of the systems).

As far as the calculation method is concerned, the is calculated in compliance to the standard UNI/TS 11300. More in detail, the calculation method in the UNI/TS 11300 has to be applied to new buildings and can be applied to all buildings (new and existent). However, simplified calculation method can be also applied for existent buildings.

As far as the rating method, the scale is defined with the reference standard building method. The reference standard building, against which the real building is scored, has:

- ▶ The same location and context of the building to be scored as well as the same S/V
- ▶ Predefined Heating, cooling, air conditioning and ventilation systems, compliant to the minimum requirements defined for the year 2019/2021 by the so-called “Minimum requirements decree” (D.Lgs. 192/2005 and following integrations/modifications)

⁷³ Other two energy services are included in the calculation of the $EP_{gl,nren}$, which however are mandatory only for non-residential buildings.

- Predefined characteristics of the building envelope (U-value) according to the minimum requirements defined for the year 2019/2021 by the so-called “Minimum requirements decree” (D.Lgs. 192/2005 and following integrations/modifications). Such requirements are different according to the specific climatic zone

Based on the above bullet points, the $EP_{gl,nren,rif, standard}$ (i.e. the $EP_{gl,nren}$ of the reference standard building) is calculated and the classification scale (from G to A4) defined. In the second step, based on the comparison between the $EP_{gl,nren}$ and the $EP_{gl,nren,rif, standard}$, the energy class is assigned.

	Energy class	
	A4	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 0,4
0,4 $EP_{gl,nren,rif, standard}$ (2019/2021) <	A3	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 0,6
0,6 $EP_{gl,nren,rif, standard}$ (2019/2021) <	A2	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 0,8
0,8 $EP_{gl,nren,rif, standard}$ (2019/2021) <	A1	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 1
1 $EP_{gl,nren,rif, standard}$ (2019/2021) <	B	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 1,2
1,2 $EP_{gl,nren,rif, standard}$ (2019/2021) <	C	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 1,5
1,5 $EP_{gl,nren,rif, standard}$ (2019/2021) <	D	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 2
2 $EP_{gl,nren,rif, standard}$ (2019/2021) <	E	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 2,6
2,6 $EP_{gl,nren,rif, standard}$ (2019/2021) <	F	$\leq EP_{gl,nren,rif, standard}$ (2019/2021) 3,5
	G	$> EP_{gl,nren,rif, standard}$ (2019/2021) 3,5

Figure 50: Energy performance scale and values for building classification in Italy⁷⁴

The APE has basically a validity of 10 years.

As required by the Directive, starting from January 2021, all new buildings have to be Nearly Zero Energy Building (NZEB). Such performance corresponds to the separation value between the class B and A1.

7.3

Finnish building regulations and upcoming alignment with the Finnish climate policy

In the Finnish government's climate policy, it is stated that Finland is to be carbon-neutral by 2035⁷⁵, which drives the construction sector along with other sectors to decrease their emissions drastically during the oncoming years. As a part of the national climate targets, Finland has developed a roadmap to low-carbon construction. The roadmap to low-carbon construction has put in place the general guidance to the regulations under development⁷⁶. The road map was published in 2017 and it stated that the whole carbon assessment of buildings must be incorporated in the building regulations by the mid-2020s.

In Finland, the regulatory framework for construction sector is driven by the Environmental Ministry of Finland. The regulatory framework does not yet recognize the need for climate impact assessments. However, the regulation for land use and construction is bound to change during the oncoming years and the proposal for the new regulation is expected to come out by the end of 2021⁷⁷ in order to drive construction into a more carbon neutral direction by providing limit values for different building types.

75 <https://ym.fi/en/carbon-neutral-finland-2035>

76 <https://ym.fi/vahahiilisen-rakentamisen-tiekartta>

77 https://mrluudistus.fi/wp-content/uploads/2021/01/MRL_ilmastovaikutusten_arviointi_raportti_taitettu_150121.pdf

According to the upcoming regulation, a climate impact assessment for a new building project is needed to get a building permit. This includes calculations done by the Finnish Environmental Ministry Methodology. These requirements are not likely to impact small scale buildings, such as row houses and detached houses.

The roadmap and the Finnish methodology are currently concentrating on new buildings and refurbishments and are not taking a stand on the impacts of larger infrastructure projects. The building life cycle assessments are done using the Environmental ministry's method for the whole life carbon assessment of buildings. The methodology is heavily based on the European Commission's Level(s) methodology and the EN -standards.

The view the methodology⁷⁸ brings out is that a low carbon building has a small carbon footprint and a large carbon handprint and its whole point is thus to bring about the whole life cycle of a building under assessment. In the methodology the carbon footprint includes the whole lifecycle of the building, whereas the carbon handprint considers the net benefits that wouldn't be happening without the building being built, including for example the carbon sinks and storages (e.g. carbon stored in wooden materials) and the benefits given by recycling. Still, the Finnish government is expected to update this methodology in 2021.

Finnish regulation on energy performance of buildings

Today buildings are responsible for approximately 40 % of the Finnish total energy usage¹. The aim of the regulation around energy usage in buildings is to improve the energy efficiency of buildings, to enhance usage of renewable energy and to decrease the amount of energy used and the emissions that come from energy usage⁷⁹.

78 https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161796/YM_2019_23_Method_for_the_whole_life_carbon_assessment_of_buildings.pdf?sequence=1&isAllowed=y

79 <https://ym.fi/rakennusten-energiatehokkuus>

The Finnish legislation is based on the European Union's Energy performance of buildings directive. The legislation for land use and construction brings out the requirements for nearly zero-energy buildings and energy performance certificates⁸⁰. The new regulations ensure the implementation of Directive 2010/31/EU.⁸¹

Where the energy performance certificate is mandatory for all the new buildings as well as old ones that are being sold or rented out, the nearly zero-energy building regulation affects all new buildings with some exceptions such as buildings under 50 m² and residential buildings that are not used as permanent residences².

In terms of energy efficiency, the project owner must account to the building being designed as energy efficient as possible, and so that energy and natural resources are used as little as possible. The energy efficiency must be proved by performing calculations on the energy performance of the building. In order to get a building permit, the energy performance certificate is often needed and needs to be presented whenever asked for.

The National Building Code of 2017 specifically sets maximum values for total energy consumption, which vary by building type and, for single-family houses, also on the area of the building. The new building code encourages the use of district heating and renewable energy sources. Calculations also account for thermal comfort, indoor-air quality and infiltration, thermal bridges and shading devices.⁴¹

On the monetary side, according to national report that was submitted to the European Commission in 2013, the cost-optimal level of energy efficiency is in average 7% more efficient than the regulations set in the Ministry of the Environment Decree 2/11 (2011), and, for existing buildings, 8% more efficient than requirements set by Ministry of the Environment Decree 4/13 (given in 2013)⁴¹

80 <https://finlex.fi/fi/laki/ajantasa/1999/19990132#L17P117g>

81 <https://epbd-ca.eu/wp-content/uploads/2018/08/CA-EPBD-IV-Finland-2018.pdf>

Additionally, the Finnish government has introduced a range of incentives to encourage energy-efficient renovations, including financial subsidies for investments regarding energy efficiency and energy auditing for both public and private sector. For households, some renovation works are tax deductible, motivating so private house owners to engage professionals to support them to improve energy efficiency⁴¹.