



Green
Building
Council
Italia



**HISTORIC
BUILDING**

**For a sustainable restoration
and refurbishment of historic
buildings**

GBC Historic Building®

Italy is the first country in the world in terms of cultural, historical and architectural heritage.

About 30% of Italian buildings are historic buildings, and many of these need sustainable restoration and refurbishment.

GBC Historic Building certification is a rating system aimed at evaluating sustainability level of restoration and refurbishment (that comes from the Italian experience in this scenario), combined with the skills of the LEED international protocols (the most widespread rating systems in the world). This is an innovative standard in which the recovery needs of the most precious and historical part of the national building set coexists with the indications of the European targets on environmental impact reduction and existing energy redevelopment. The GBC HB rating system evaluate the sustainability in overall refurbishment activities starting from the design phase, till the construction phase and the evaluation of the efficient operation and maintenance of the building.



When to use

GBC Historic Building applies to “historic buildings”, meaning construction that are worthy of consideration as “material witness having the force of civilization”.

Buildings that may fall within the scope of application of the GBC Historic Building protocol must be built before 1945 with artisanal and pre-industrial techniques or after 1945 if a pre-industrial building process is detached and there are historical and cultural recognized features.

It applies to conservation, rehabilitation or recovery/integration processes, which must implicate major renovations, defined as actions that involve significant elements of HVAC systems and the renewal or functional reorganization of interior spaces, evaluating the possibility of the building envelope performance improvement, consistent with preservation of the typological and construction features of the existing building.

GBC Historic Building® Internationalization process

GBC Italia is defining the GBC Historic Building internationalization process on projects promoted by a leading international partners.

The main objective of GBC Historic Building International Pilot Project submission is to ensure that this innovative rating system is feasible and guides the market in order to create a meaningful, fair and effective way to encourage green development of the historic heritage.

The internationalization process will be carried out in an inclusive way and GBC Italia is available to organize web-calls to deepen topics.

To participate, partners can register Pilot Project submitting the form INTERNATIONAL PILOT PROJECT XPRESSION OF INTEREST (asking by mail to certificazione@gbcitalia.org) Here follows the main information of the protocol in the version currently applied in Italy.

Rating system contents

When to use GBCHB? What are the certification fees? How to apply for certification? Scan the underlying QR code or visit our website:

<http://www.gbcitalia.org/registrazione-gbc-historic-building>



Become an ccredited professional GBC HB AP

Discover our course that allows you to obtain deep knowledge in the GBC HB protocol. You can become an expert in the rating system and work for sustainable redevelopment of historic buildings. Visit our website:

<http://gbcitalia.org/gbc-hb-ap>

Credit categories

The rating system is organized into environmental categories: Historic Value, Sustainable sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation, Regional Priority.

Sustainability in the restoration process is then measured through categories of analysis that translate into requirements applicable to the existing building.

Credit categories help projects to achieve improvements in energy and environmental performances.



Historic Value

This thematic area aims at preserving what is recognized as material witness having the force of civilization, encouraging high level of sustainability by taking advantage of the positive qualities of pre-industrial buildings.

The credits of this area concern:

Preliminary and advanced investigative analysis (energetic, diagnostic on materials and forms of degradation, diagnostics on structures and monitoring); project reversibility; compatible end-use, chemical and physical compatibility and integrated materials, sustainable restoration site, scheduled maintenance plan, Specialist in restoration of architectural heritage and landscape.



Sustainability of the Site

This topic concerns the environmental aspects related to the place where the historical building is situated, with particular reference to the relationship between the building itself, the surrounding environment and the potential impacts that the building is capable of generating.



Water efficiency

Through the credits of this topic, in addition to the reduction of water consumption for civilian use, it is possible to enhance the contribution of pre-industrial devices for stormwater collection and management, through their restoration or renovation.



Energy and Atmosphere

One of the innovative aspects of GBC Historic Building® is the consideration that energy efficiency and retrofit process represent a form of protection of the historical building and not necessarily a change in the building's original material consistency.



Materials and Resources

L'area tematica Materiali e Risorse ha l'obiettivo di garantire che l'intervento progettuale si ponga in continuità con l'edificio esistente, preservandone quanto più possibile la materia storica, nel rispetto dei principi di sostenibilità legati alla riduzione dell'estrazione di materie vergini e al consumo di suolo.



Indoor Environmental Quality

The area is structured into two possible paths: on the one hand the goal of conservation and preservation of historic architecture, on the other the fulfilment of occupants' conditions of comfort and indoor air quality. This dual approach allows user to respect the historic environment by protecting surfaces and high-quality materials and, at the same time, to achieve the highest levels of comfort and indoor air quality attainable taking advantage of the potential offered by the boundary conditions.



Innovation in Design

This area rewards aspects that are excellence in design in case of performance that greatly exceed those required by the protocol itself or the particular characteristics of the project which, although not related to any prerequisite or credit, guarantee documented benefits in terms of sustainability.



Regional Priority

The credit area Regional Priority aims to enhance the environmental aspects specific to the locality in which the building is situated, encourages design teams to focus on the aspects of regionalism.

GBC HISTORIC BUILDING® - CHECK LIST

YES	?	NO	Historic Value	Maximum score:	20
YES			Prereq. 1 Preliminary analysis	Mandatory	
			Credit 1.1 Advanced analysis: energy audit	1 - 3	
			I Level Analysis	1	
			Advanced analysis: thermography	2	
			Advanced analysis: thermography and thermic conductance	3	
			Credito 1.2 Advanced analysis: diagnostic tests on materials and degradation	2	
			Credito 1.3 Advanced analysis: diagnostic tests on structures and structural monitoring	1 - 3	
			Diagnostic tests on structures	1 - 2	
			Diagnostic tests on structures and structural monitoring	2 - 3	
			Credit 2 Project reversibility	1 - 2	
			Credit 3.1 Compatible end-use	1 - 2	
			Credit 3.2 Chemical and physical compatibility of integrated materials	1 - 2	
			Compatibility evaluation with fulfillment of the basic requirements	1	
			Compatibility evaluation with fulfillment of the basic requirements and at least two complementary requirements	2	
			Credit 3.3 Structural compatibility	2	
			Credit 4 Sustainable restoration site	1	
			Credit 5 Scheduled maintenance plan	2	
			Credit 6 Specialist in restoration of architectural heritage and landscape	1	

SI	?	NO	Sustainable Sites	Maximum score:	13
YES			Prereq. 1 Construction activity pollution prevention	Mandatory	
			Credit 1 Brownfield redevelopment	2	
			Credit 2.1 Alternative transportation: public transportation access	1	
			Credit 2.2 Alternative transportation: bicycle storage and changing rooms	1	
			Credit 2.3 Alternative transportation: low-emitting and fuel-efficient vehicles	1	
			Credit 2.4 Alternative transportation: parking capacity	1	
			Credit 3 Site development: open spaces recovery	2	
			Credit 4 Stormwater design: quantity and quality control	2	
			Credit 5 Heat island effect: non-roof and roof	2	
			Outdoor paved surfaces	2	
			High reflectance roofs	2	
			Vegetated roofs	2	
			Combination of high reflectance roofs and vegetated roofs	2	
			Credit 6 Light pollution reduction	1	

YES	?	NO	Water Efficiency	Maximum score:	8
YES			Prereq. 1 Water use reduction	Mandatory	
			Credit 1 Water efficient landscaping	1 - 3	
			Outdoor or irrigation water consumption reduction 50%	1	
			Outdoor and irrigation water consumption reduction 50%	2	
			No irrigation required	3	
			Credit 2 Water use reduction	1 - 3	
			Credit 3 Water metering	1 - 2	
			Mixed use building separated water meter	1	
			High efficiency appliances and process water systems	1	

YES	?	NO	Energy & Atmosphere	Maximum score:	29
YES			Prereq. 1 Fundamental commissioning of building energy systems	Mandatory	
YES			Prereq. 2 Minimum energy performance	Mandatory	
YES			Prereq. 3 Fundamental refrigerant management	Mandatory	
			Credit 1 Optimize energy performance	1 - 17	

Procedura semplificata per la determinazione della prestazione energetica dell'edificio 1 - 3
 Simulazione energetica in regime dinamico dell'intero edificio 1 - 17

			Credit 2 Renewable energies	1 - 6
			Credit 3 Enhanced commissioning	2
			Credit 4 Enhanced refrigerant management	1
			Credit 5 Measurement and verification	3

Materials & Resources Maximum score: 14

YES	?	NO	Materials & Resources	Maximum score:	14
YES			Prereq. 1 Storage and collection of recyclables	Mandatory	
YES			Prereq. 2 Demolition and construction waste management	Mandatory	
YES			Prereq. 3 Building reuse	Mandatory	
			Credit 1 Building reuse: maintaining existing technical element and finishing	3	
			Credit 2 Demolition and construction waste management	1 - 2	
			Reduction of 75%	1	
			Reduction of 95%	2	
			Credit 3 Materials reuse	1 - 2	
			Reused materials for the 15%	1	
			Reused materials for the 20%	2	
			Credit 4 Building product environmental optimization	1 - 5	
			Third part certification	2	
			Multicriteria certification	1 - 3	
			Credit 5 Regional materials	1 - 2	

Indoor Environmental Quality Maximum score: 16

YES	?	NO	Indoor Environmental Quality	Maximum score:	16
YES			Prereq. 1 Minimum indoor air quality performance (IAQ)	Mandatory	
YES			Prereq. 2 Environmental Tobacco Smoke (ETS) control	Mandatory	
			Credit 1 Air monitoring	2	
			Credit 2 Outdoor air delivery monitoring	2	
			Credit 3.1 Construction IAQ management plan: during construction	1	
			Credit 3.2 Construction IAQ management plan: before occupancy	1	
			Credit 4.1 Low-emitting materials: adhesives and sealants	1	
			Credit 4.2 Low-emitting materials: paints and coatings	1	
			Credit 4.3 Low-emitting materials: flooring systems	1	
			Credit 4.4 Low-emitting materials: composite wood and agrifiber products	1	
			Credit 5 Indoor chemical and pollutant source control	1	
			Credit 6.1 Controllability of systems: lighting	1	
			Credit 6.2 Controllability of systems: thermal comfort	1	
			Credit 7.1 Thermal comfort: design	1	
			Credit 7.2 Thermal comfort: verification	2	

Innovation in design Maximum score: 6

			Credit 1 Innovation in design	1 - 5
			Credit 2 GBC Accredited Professional	1

Regional priority Maximum score: 4

			Credit 1 Regional priority	1 - 4
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Total Maximum score: 110

GBC Historic Building® - 2016 Edition

100 points; 10 bonus points for Innovation in Design and Regional Priority
 Certified 40 - 49 points Silver 50 - 59 points Gold 60 - 79 points Platinum 80 and more

