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*Architecture & Heritage
Energy & Sustainable management*

Interregional project Page 45+
Recommendations

“Including architectural buildings
constructed after 1945
in the challenges of the 21st Century”.



LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG



Recommendations for the interregional project Page 45+ “Including architectural buildings constructed after 1945 in the challenges of the 21st Century”.

Harmonisation of two worlds

The aim of the interregional project Page 45+ is a harmonisation of two worlds: the architectural work after 1945 and the energy standard requirements of the 21st Century.

Renovating a heritage building whilst improving its energy performance requires special skills and enhanced knowledge on technical construction. The previous interregional projects, BAPE and ERFIN, have highlighted the importance of finding a balance between the conservation of the heritage building and the improvement of energy performances during the renovation project.

For buildings constructed after 1945, the observation is comparable and the interregional project Page 45+ provided specific advice as described below. It stems from exchanges maintained and comments made by the actors on the ground, over the duration of the project, in two parts.

The first step is dedicated to the characteristics of architectural work after 1945, and the recognition of examples built post-war. This part looked at the identification methods of the building and the regulatory conservation tools currently available in each region (Wallonia, Lorraine, The Grand Duchy of Luxembourg) and to propose different ways of thinking.

The second phase of the project looked at the balance between architectural qualities and the improvement of energy performances. In effect, in terms of energy and sustainable development, buildings built after 1945, and more specifically before the first oil crisis of 1973, were subject to concerns and standards below those imposed today. They are used today to improve the energy performance of the building and to revalue the level of comfort. For a building whose architectural value is recognised, this concern is combined with the respect of character of the architectural object and its building substance. The project is focused on identifying examples of good practice in renovating architectural buildings built after 1945. Fourteen projects and three interesting approaches were selected.



¹BAPE - Bâtiment ancien, patrimoine et énergie (Old building, heritage and energy)

The interregional project BAPE ran in 2010-2011. It put forward 25 practical cases of renovation, balanced between heritage and energy challenges and drew conclusions.

²ERFIN - Eco-rénovation patrimoniale : formation et innovation (Heritage eco-renovation: training and innovation)

More specifically, the ERFIN interregional project conducted in 2012-2013, dealt with the training and innovation in the pursuit of the conclusions of BAPE. The project established a panel of specific training devoted to the upgrading of energy efficiency of heritage buildings and to identify examples of renovation. 19 examples of renovation and 5 focus projects were selected for their innovative nature, on technical, constructive or managerial plans. 29 recommendations to authors of the project or public authorities concluded the project.

IDENTIFICATION OF THE ARCHITECTURAL QUALITY OF THE BUILDING AFTER 1945

Methodological approach for the identification

- 1/ **Define a specific framework** to identify the buildings built after 1945, which includes representative scientific parameters to give a meaning to the architectural object and objectify the choice of the edifice to be passed on to future generations.

Among those are, for example, the socio-economic context, urban development, adherence to an architectural style, the degree of heritage, technological innovations, internationalisation of the work, personality of the architect, citizen appropriation ...

The architectural objects identified are to be resumed in a list that we shall use, for further clarity, "List 45+", in the text below.

The framework will be common across a representative territorial entity, in this case the Grande Region.

- 2/ **For the identification of the architectural objects, it is suggested to initiate the following:**

- **Put together multi-disciplinary field teams responsible for the identification.**
Regroup experts from different backgrounds (specialist in architectural heritage, art historian, architect, engineer, urban-planner, sociologist...) to encourage the debate and exchange the points of view around architectural objects. This multi-disciplinary work takes into account the international scale of the work after 1945, the career of the developer and the mixture of referring techniques and aesthetics with the view of obtaining a relevant result where the different architectural styles are represented.
- **Adapt the method of observation to the architectural object.**
Each building will be considered in its entirety and the analysis can be conducted with a simple viewing of the public space. In effect, for buildings built after 1945, the spatial arrangement, bio-climatic design and the openness to daylight can be interesting decisive criteria.
- **Use cartography and investigation software tools and digital means of communication to make accessing network data and exchanging information easiers.**
- **Compare data from the observation and the searching through documents of the time, such as papers and specialist journals.**
Looking through journals of the time, can offer perspective on the philosophy of the project and its architectural qualities. These sources of information will be analysed with a critical mindset, all whilst considering their sometimes promotional or commercial nature. Their indexing will be part of the network.



Chapel Saint Eloi in Dudelange (Luxemburg), recognized national heritage since 2004, build in 1963-1964 - architect: Norbert Mangen. ©SSMN

Using "List 45+" created during the identification phase

- 3/ **Recognise the identification as the first stage** toward an official protection and "List 45+" as a priority database.
- 4/ **Accentuate the information of «List 45+» with the owners and authors of the designated project** to create a renovation project for a listed property.
 Within the framework of such a project, and as early as possible, the parameters of interest of the listed property will be communicated and developed with those involved to draw their attention to the architectural qualities. This pragmatic approach aims at bringing attention to the challenges of renovation.
- 5/ **Accentuate the information of «List 45+» with the decision-makers and the advisory bodies in an administrative procedure for a listed property.**
 All information justifying the architectural qualities of a property is to be included in the dossier for the procedure for authorising work. This may include a listed property, a group of buildings or a district which includes one or more listed properties.

Implication of the research sector in the identification

- 6/ **Promote the work of «research laboratories in architecture».**
 Post-war architecture is today an area of research that has only been considered for the past twenty years. Further studies are still needed to safeguard this recent past. The creation of specialised laboratories is to be promoted, thanks to public and private funds, possibly in partner with schools of architecture.
- 7/ **Encourage synergies and networking** between such research entities at a European level and follow the development of the European Heritage Network by including this perspective.
- *The European Heritage Network (HEREIN)*
 - Upon the initiative of the Council of Europe, the European Heritage Network groups together the government departments of the forty-four countries. It acts as a system for exchanging information on heritage policies and the multilingual terminology on heritage.
 - The international association of the European Heritage Network is a restricted structure that "prolongs and reinforces the institutional and intergovernmental European cooperation by its action". Its objective is to promote the exchange of experiences and to encourage the exchange of information on the policies of cultural heritage.



THE TOOLS TO RECOGNISE AND PROTECT

«Post 1945 heritage» tools

8/ **Inform the authors of the project and the architects on royalties and rights regarding intellectual property.**

During a defined period, an architectural work, and an entire building, is legally protected. To effectively invoke its rights, may be considered a first barrier against a deformation or a deconstruction of an architectural object. Awareness-raising and work on communication must take place regarding these legal concepts with the authors of the project and the architects.

9/ **Respect the classification as a tool of protection and heritage of a property from another time, and reject its use as a safeguarding tool to avoid a rushed demolition of an architectural object.**

Establish, in the legislation concerned, a fixed transitional period to analyse the «threatened» architectural object under different criteria. This procedure can be based on the «safeguarding list» in Wallonia, which requires to draft a preliminary evaluation form essential for a justified decision for a classification, and an additional inventory such as practised in France and Luxembourg.

- Description of the «safeguarding list» in Wallonia:
- It distinguishes monuments, sites, archaeological sites and groups of architectural buildings that may be classified. Before starting the potential classification procedure and if necessary, these properties can be protected for a period of 1 year from the date of being included in the safeguarding list. The classification includes the official recognition of the heritage value of a property and the interest of its upkeep and conservation.

10/ **Develop a tool comparable to the French label "Patrimoine du XXe siècle" in Wallonia and The Grand Duchy of Luxembourg, and even on a European level.**

The label *Patrimoine du XXe siècle* in France:

In 1999, the French Ministry of Culture and Communication created the label *Patrimoine du XXe siècle* with the view of identifying and showing the public the buildings and urban developments which, among the realisation of the 20th Century, testify the architectural, technical, economical, political and cultural evolution of our society.

Without legal impact on the buildings or urban developments concerned, the attribution of the label is given to any building or area representative of the works of the 20th Century.

To identify and show the approved properties, a logo has been created. It carries the name of the building, the construction dates, the identity and quality of the contracting authority as well as the Ministry.

- Several measures of awareness-raising and publication are developed at the same time by the Ministry and its regional managers, CAUE and the Villes et Pays d'art et d'histoire association.
- In Lorraine, approximately ten monuments are labelled, including the postal sorting office and the Tour Marcel Brot in Nancy; their recent renovation is mentioned in the chapter dedicated to good practices.

11/ **Integrate and define the notion of architectural interest in the classification criteria, in the legislations concerned which do not reflect it.**

12/ **Develop heritage protection tools adapted to groups of architectural buildings** constructed after 1945 and their surroundings, getting inspiration from existing legal frameworks.

- Definition of *groups of architectural buildings* according to the Convention for safeguarding architectural heritage in Europe (Grenade, 3rd October 1985):
- Homogeneous grouping of urban or rural constructions considered remarkable for their historical, archaeological, artistic, scientific, social or technical interest and sufficiently coherent to be topographically definable.



Church Notre-Dame des pauvres, Haut-du-Lièvre in Nancy (Meurthe-et-Moselle), built in 1963, architect: Louis Dominique. French label «Patrimoine du XXe siècle» in 2000. ©CAUE Meurthe-et-Moselle

“Energy” tools

13/ **In the texts defining the energy standards required in renovation, set more flexible rules for the properties identified in «List 45+» or as being classified.**

The properties built after 1945, which are listed or classified, are limited in number, especially when compared to the real estate properties of a region or a territory of a country. The impact of the improvement of the energy performance of these specified properties in the overall calculation of energy performances is small and is to be offset against a balance between the different field contributors. This argument is to be put to those in charge of the «energy» directives looking for a relaxation of the regulations for these properties.

14/ **Integrate the notion of grey energy in the energy performance calculation.**

Evaluation of conservation mechanisms

15/ **As for any new policy, an evaluation of its effects and negligences is to be envisaged to improve the content.**



AWARENESS-RAISING AND TRAINING

Coherent discourse

- 16/ **Develop communication around architectural work post 1945, using scientific evidence and material suitable for the intended audience and the objectives to be reached.**

As a starting point of an awareness of the cultural potential of quality architectural buildings built after 1945, raising awareness is important. The message ensures to replace the architectural object in its socio-economic context, to explain the innovations which have influenced its work, to comment on the architectural language or even understand the technical and constructive specialists. Among the intended audience, the users of this architecture are the first to meet and, convinced, become great ambassadors. .

- 17/ **Ease citizen involvement in the identification process for buildings built after 1945.**

This encourages a better appropriation of the architectural object by the population.

- 18/ **Encourage public officials to raise awareness of the post 1945 architectural work and to award public subsidies to associations specialised in this field.**

The awareness-raising concerns the post 1945 architectural work and also the different aspects of the upgrading of energy efficiency.

Specialised advisor

- 19/ **Develop training on the conservation challenges of the post 1945 architectural buildings and energy efficiency.**

This training covers the study of constructive techniques of architecture and also the energy aspects and sustainable development that qualifies buildings to be included in the challenges of the 21st Century. Training can lead to the title of «specialised advisor» in renovating architectural buildings built after 1945.



Mozin's house in Liège. Built in 1957-58 by architect Jules Mozin. National heritage in 2011. ©SPW Patrimoine

UPGRADING ENERGY EFFICIENCY COMBINED WITH THE RESPECT OF THE ARCHITECTURAL QUALITY

Master the challenges...

20/ **Starting a project with a complete diagnostic is imperative.**

The restoration scenarios and possible reassignments will follow logically. This process involves :

- realising an architectural and historical study of the building along with an analysis of the technical, constructive and energy aspects. This step also includes a review of the airtightness of the building which provides information on areas where loss of air needs to be dealt with.
- to take into account the space available and plan an accounting program.
- to work together with specialists from each sector. Multi-disciplinary team work (architect, planner, heritage specialist, energy engineer) is vital to evaluate all the aspects of the project.

21/ **Consider all parameters of the renovation including the value in use.**

Before considering the demolition or building from scratch, the question of re-using an existing building is asked, and analysed using several criteria, not only based on thermal and economic considerations. For buildings that are not identified in «List 45+», renovation may offer the opportunity for an architectural reclassification of the building.

...to outline the renovation scenarios

22/ **For classified buildings, respect the conservation requirements and include the compatible energy upgrades to optimise those already existing.**

On the energy plan, the requirements are a source of inspiration to achieve a balanced project with regard to protection requirements.

23/ **For buildings on «List 45+», to outline the renovation scenarios which balance the two challenges: respect the architectural quality and energy upgrades by including the pillars of sustainable development.**

Where appropriate, the ratios between the heritage indicators, the cost and energy efficiency will be calculated per scenario to evaluate the balance required and optimise the choices.

24/ **For groups of architectural buildings in «List 45+» with several owners, inform each owner of the architectural qualities of the group as a global unit of which their property is part and in respect of these.**

Write communal restoration requirements for the group of architectural buildings and ask all owners to respect them. Where applicable, impose a deadline for works and propose public financing to encourage the requirements to be respected.

25/ **Distinguish the concepts of energy efficiency and comfort.**

- propose the consideration of the practices of the occupants in the energy calculations.
- write instructions for the owners or tenants of renovated accommodation in passive or low-energy.