

The energy renovation of the Giannitsa Town Hall, implemented by the Municipality of Pella, is a practical and replicable example of how the principles of the New European Bauhaus can be integrated into conventional energy renovation measures and transformed into projects with high added value, tangible social impact, and strong upscaling potential.

The project was designed from the outset with a clear priority: to be replication ready.

It is accompanied by a structured methodology, standardized templates, and practical tools, enabling its direct adaptation and implementation in other public buildings and municipalities, regardless of size or level of technical maturity.

<https://pella-bauhaus.gr/>



## **Practical guide for energy efficiency upgrades based on New European Bauhaus principles**

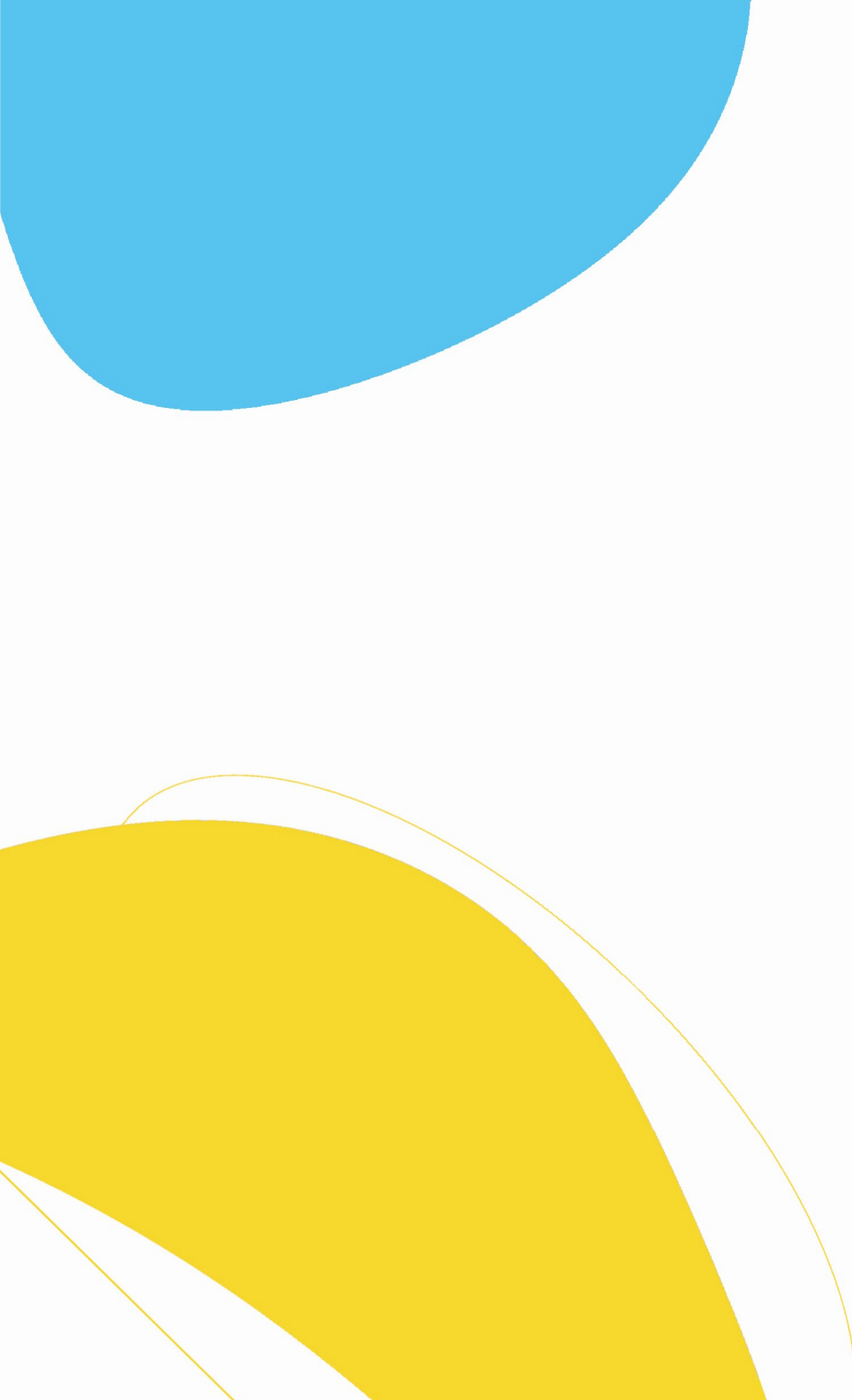
*This manual can help your municipality*

**Transforming Pella's Central Administration  
Building into a Near-Zero Energy Landmark  
with the New European Bauhaus principles**



**Co-funded by  
the European Union**





## **1. Why this handbook?**

The energy renovation of municipal buildings is no longer merely a technical or financial obligation. It is a [political choice](#) that can:

- reduce operating costs,
- improve the quality of public services,
- strengthen social acceptance of the green transition.

This handbook demonstrates how conventional energy upgrade interventions can be transformed into [projects of high added value](#), through the principles of the European initiative [New European Bauhaus](#).

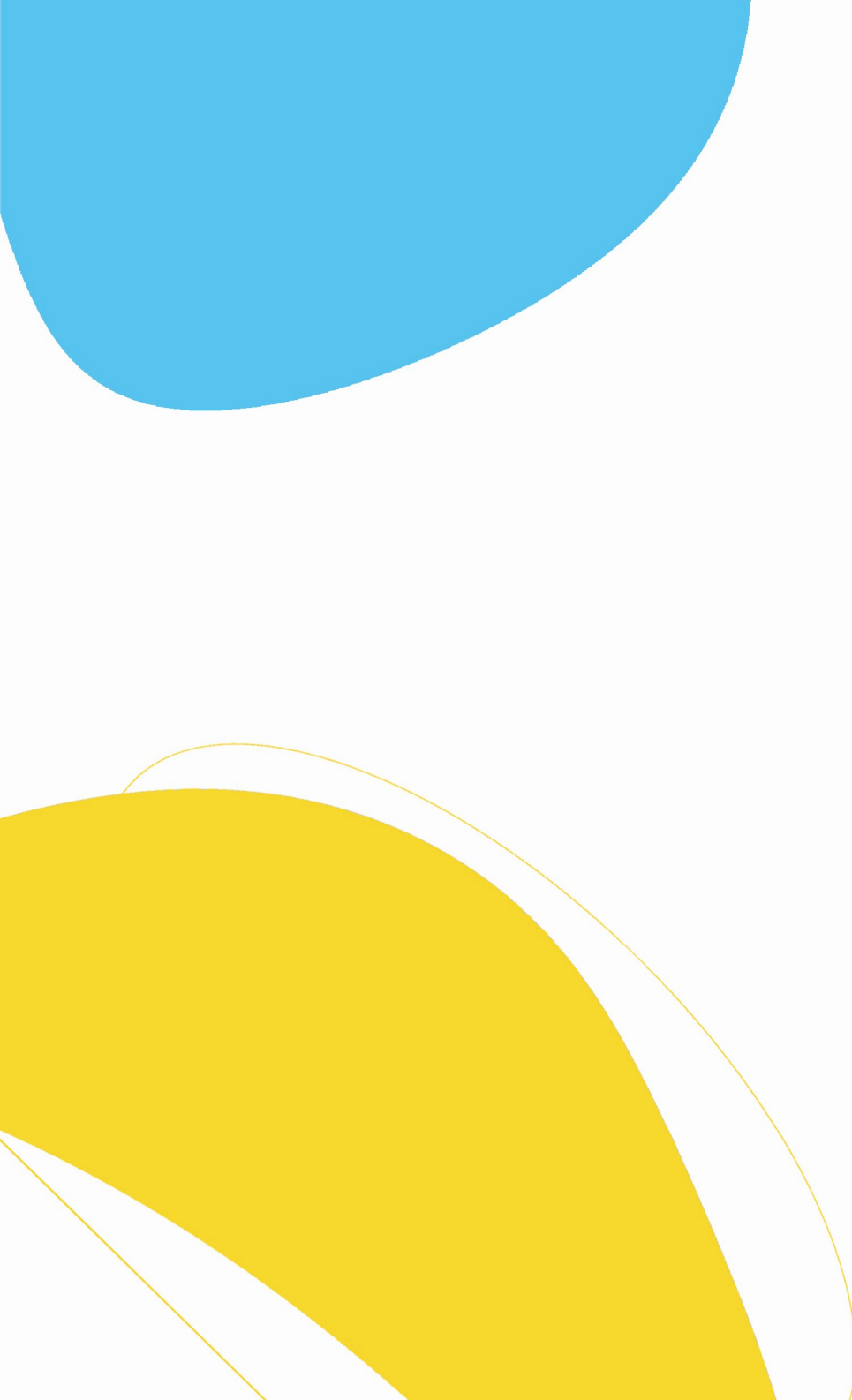
## **2. What changes compared to “traditional” energy upgrades?**

From:

- isolated technical interventions,
- low-visibility projects,
- limited social acceptance

To:

- [holistic interventions](#),
- [public, highly visible projects](#),
- [political added value and social benefit](#).



### **3. Which is the role of the New European Bauhaus initiative?**

The New European Bauhaus acts as:

- a bridge between technical and social objectives,
- a quality filter for decision-making,
- a framework that links technical choices to socially accepted and high-quality solutions.

Each energy intervention is evaluated not only in terms of:

- how much energy it saves, but also:
- how it is experienced,
- how it is understood,
- how it belongs to its place.

### **4. What a Municipality gains?**

- ✓ Reduction of energy costs
- ✓ Improvement in the quality of public services
- ✓ Strengthening of local identity
- ✓ Political visibility and recognition of projects
- ✓ Easier access to European funding

## ***5. How can the idea be replicated?***

It does not require a “large municipality” or a high level of technical maturity.

What is required is:

- political will,
- the strategic selection of at least one pilot building,
- the application of a five stage methodology\*,
- the enrichment of interventions with New European Bauhaus criteria.

***Energy renovation can remain a purely technical project - or it can become a political tool for sustainable development.***

***This handbook shows the second path.***

### ***\* Five Steps Methodology***

*Step 1 - Systematic Survey and Technical Assessment*

*Step 2 - Selection of Technological Solutions*

*Step 3 - Integration of the Principles of the New European Bauhaus*

*Step 4 - Self-assessment of Interventions*

*Step 5 - Implementation Methodology and Project Governance*



## "DO / DON'T"

### by Category of Intervention

#### DON'T

Apply standard insulation solutions "blindly" ❌

Treat façades as a purely technical issue ❌

Apply strong or incompatible colour schemes ❌

Completely hide the transformation ❌

#### The example of Pella:

Energy efficiency meets local identity, as the thermal envelope evolves into a visual statement of sustainability, blending ecological materials, refined textures, and colors that reflect the natural and cultural landscape of the region. By integrating interactive elements such as QR codes and "before-after" energy insights, the Town Hall becomes an open educational platform—making sustainability visible, understandable, and part of everyday civic experience.

## Building Envelope

#### DO!

✓ First analyse the local architecture and scale

✓ Use thermal insulation as an opportunity to redesign façades

✓ Select colours and materials compatible with local identity

✓ Make sustainability visible in the public realm



## "DO / DON'T"

### by Category of Intervention

#### DON'T

- Oversize systems unnecessarily ❌
- Copy studies without adapting them ❌
- Treat LED lighting only as an energy saving measure ❌
- Leave systems "invisible" and incomprehensible ❌

#### DO!

- ✓ Design with user comfort as the main priority
- ✓ Take operating hours and real patterns of use into account
- ✓ Emphasise lighting quality after specifying the lighting zones
- ✓ Make system operation understandable to users

#### The example of Pella:

The integration of heat pumps combines high energy efficiency with discreet architectural design, ensuring that sustainable technology is seamlessly embedded into the building's identity and public space.

The transition to LED lighting introduces a holistic lighting strategy that enhances energy performance while improving user well-being, spatial quality, and the overall architectural experience. Through a carefully designed system of lighting zones and human-centric principles, the building transforms into a functional, aesthetically refined, and educational environment.

## Mechanical & Electrical Systems (Heating – Cooling – Lighting)





## "DO / DON'T"

### by Category of Intervention

## Renewable Energy Sources (RES)

### DON'T

Install RES without spatial planning **X**

Create visual disturbance **X**

Reduce RES to a purely "accounting" tool **X**

Ignore the NEB dimension **X**

### DO!

✓ Assess visibility and social acceptance

✓ Integrate photovoltaic systems architecturally

✓ Present RES as a public good

✓ Combine RES with green infrastructure choosing between a green roof or green pots in case of structural limitation of the building.

### The example of Pella:

The proposed intervention transforms the roof of Giannitsa Town Hall into a hybrid solar green roof by combining photovoltaic panels with low-maintenance plants placed in lightweight containers. For structural reasons, a full green roof is not recommended, so planter boxes with drought-resistant native plants are used to avoid adding extra load while still offering environmental and aesthetic benefits. This approach allows technology and nature to work together—improving energy production, supporting biodiversity, and turning the roof into a visible and easy-to-understand example of sustainability.



## "DO / DON'T"

### by Category of Intervention

#### DON'T

Restrict it exclusively to technical staff **X**

Assume users "are not interested" **X**

Present complex technical data **X**

Limit use to passive monitoring **X**

## Digital Systems & Building Management Systems (BMS)

#### DO!

✓ Use the BMS as a transparency tool

✓ Train staff and users

✓ Display simple consumption indicators

✓ Strengthen energy awareness



#### The example of Pella:

A Building Management System (BMS) at Giannitsa Town Hall will monitor and control all main building systems in a smart and efficient way. The system uses sensors to track temperature, air quality, lighting, and energy use, and automatically adjusts heating, cooling, and lighting to improve comfort while reducing energy consumption. It is based on an open and flexible platform. A simple and user-friendly dashboard helps staff manage the building in real time, while a public screen and online platform share key information with citizens.





## "DO / DON'T"

### by Category of Intervention

#### DON'T

See it only as an administrative machine **X**

Consider NEB "non essential" **X**

Ignore social parameters **X**

Design solely around energy indicators **X**

## The building as biophilic public space

#### DO!

✓ Treat the building as a public place

✓ Combine greenery, light and comfort

✓ Improve the citizen experience

✓ Make spaces friendly and inclusive



### The example of Pella:

Biophilic design brings natural elements such as plants, light, and natural materials into the interior spaces. Greenery is placed in key areas like the entrance, waiting areas, offices, corridors, and staircases to create a calm, welcoming, and human-centered environment that improves well-being and reduces stress. The use of low-maintenance and locally adapted plants ensures easy care while strengthening the connection with the local landscape. Overall, the building becomes more pleasant, healthy, and engaging, turning everyday public services into a more positive and nature-connected experience.



## "DO / DON'T"

### by Category of Intervention

#### DON'T

- treat accessibility as only a technical requirement ❌
- design neutral, impersonal spaces ❌
- separate aesthetics from function ❌
- ignore the local cultural and environmental context ❌

## Inclusivity and accessibility

#### DO!

- ✓ Design for social interaction, not just function
- ✓ integrate local identity into materials and design
- ✓ Adopt a multi-sensory approach
- ✓ Involve users in the design logic



#### The example of Pella:

In Pella, the design approach focused on creating a more inclusive and meaningful public building by applying three complementary strategies. First, waiting areas were rethought as welcoming social spaces, encouraging interaction and making everyday visits to the Town Hall more comfortable and engaging. Second, natural and locally inspired materials were introduced through multi-sensory wooden elements that improve acoustics while connecting users with the region's landscape. Third, the rich ceramic tradition of the area was integrated into the interior design, linking contemporary architecture with local culture and craftsmanship.

