

Kindergarten Slavuj

- Location: Obrtnička 12, Strmec, Sveta Nedjelja, Croatia
- Use of the building: Kindergarten
- Year of construction: 2021
- Heated gross floor area: 764,48 m²
- Primary energy consumption: 28,59 MWh/a
- Primary energy per heated surface area: 37,41 kWh/m²/a
- Share of energy delivered from renewable sources (%): 47,89%

Description of the pilot project:

- *Short description of the building (use and purpose): The new nZEB building is the addition to the existing kindergarten Slavuj which will accommodate up to 100 children, 9 teachers and 1 technical staff. The building is of modular design and one more building will be added in the future.*
- *What was the state before: To address the growing demand for public nursery and educational services the City of Sveta Nedelja had to construct a new, modern nZEB kindergarten building in accordance with national educational standards.*
- *EE measures implemented: high-quality external thermal insulation composite systems, high performance aluminum and wood joinery, heat recuperation system, modern LED indoor lighting*
- *RES measures: a 10 kW solar power plant was installed on the roof of the kindergarten, primarily for iown needs while the surplus energy will be delivered into the grid. Solar thermal collectors were also installed for preparation of hot water.*

Quick summary



Main work-steps/milestones:

- Preparation of feasibility study with cost benefit analysis
- Peer review meeting with key stakeholders
- Creation of building's main design
- Issuing of building permit
- Preparation of tender documentation
- Contracting and start of works
- Commissioning of the building

Results:

- Expected energy costs: **1.500 EUR per year**
- Primary energy savings vs minimum nZEB: **13,44 MWh/year**
- Emissions: **6,29 tCO₂ per year**
- Energy performance classification: **A**

Stakeholder involvement:

Lead: building designers, energy experts, workers from the existing building

Other: citizens, ESCOs

Investment and financial model:

Investment cost: EUR 1,6 million

Financial model: traditional



Lessons learnt



Biggest milestones:

- Preparation of main design
- Construction and commissioning of the building

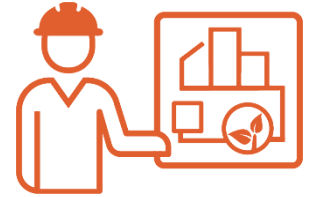
Biggest obstacles:

- Choosing the most suitable heating solution for reaching nZEB standard
- Very few examples of public nZEBs
- Investment costs higher than expected



What could've been done different?

- Construction of two kindergarten buildings at the same time, instead of just one



What would we recommend?

- Cooperation with municipalities which have constructed a public nZEB should be explored in the preparation phase
- Going beyond minimum nZEB standard is optimal solution for the future
- To use consider using innovative financing models for larger investments (above EUR 3 million)

• For more info: (institution website, e-mail from a relevant contact person...)