Extensive transformation of a prefabricated building

Call for participation in market sounding

The pilot project to deliver replicable solution for external, internal, energy efficient and functional transformation of a building and implement the transformation of a prefabricated kindergarten

Croatia, City of Koprivnica

Market Sounding Prospectus

March 2018

NOTE

This is a market sounding exercise to provide advance information of requirements and open a dialogue with the supply chain. The results will be used to inform and develop our procurement specification and strategy to later carry out the tendering process for the requested solution and works. Consequently, it is not an evaluation of suppliers or a call for tenders.

Project is supported by

Content

Introduction

Across Croatia and neighbouring countries there are prefabricated buildings older than 25 years that are highly energy inefficient, with the associated cost and comfort implications. Moreover, the vast majority of which have had no renovation since they were built. Specifically there are at least 25 prefabricated kindergartens in this situation in Croatia alone which are still in use.

The City of Koprivnica has the intention to procure and deliver new kind of external, internal and functional building transformation solution to enable these kindergartens to enhance the learning and play environment and maximise energy efficiency in cost-effective way based on TCO[1]. This should improve conditions for modern childcare, extend the lifetime of assets and minimise their life-cycle costs.

The City has performed activities to determine possible market size. The focus of the market research has been put to prefabricated buildings used as kindergartens. For this specific purpose, representatives of 127 cities in Croatia have been interviewed. Research revealed that at least 25 similar buildings exist in Croatia and none of these buildings have gone through deep renovation process (see Annex 2: Non-exhaustive list of prefabricated kindergartens in Croatia).

[1] *Total Cost of Ownership*

The City of Koprivnica is committed to sustainable development. City's programme called Bold New Face of Koprivnica aims to hardwire sustainable development into all aspects of the city's urban planning and land use. This programme foresaw building and renovation of public buildings to achieve EU 2020 targets for energy efficiency. There are a number of policy and regulatory drivers behind this programme, for example the Energy Performance of Buildings Directive, National Energy Efficiency Action Plan and Sustainable Energy Action Plan. More information is included in Annex 4: Policies.

It is an opportunity for potential suppliers to develop and/or test new product or process within this project and later capitalise the effort on the market.

The City of Koprivnica with its partners and supporters is undertaking a pilot project for extensive transformation of its Kindergarten Loptica[2] with funding from Interreg MED programme and from own contribution in total amount of 300.000 EUR excluding VAT.

This 35 year old kindergarten is a prefabricated wooden, ground-floor building extended with smaller masonry annex. None of major renovation works were made, therefore its energy inefficient and is approaching the lifetime end. Water supply and drainage pipes leak and destroy some internal walls. The concept of indoor space is outdated. Narrow corridor is crowded with lockers and is hardly passable. Too many solid internal walls effect with the separation between children groups and offer no possibilities for remote children supervision. There is low level of natural light illumination and no cooling or ventilation system.

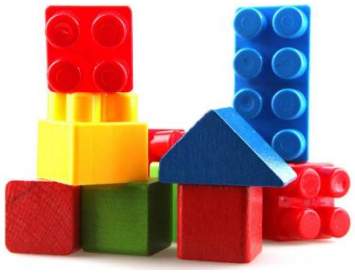
The City and partners have thoroughly examined the kindergarten building and analysed the stakeholders' and user needs to determine demands. The constructional tests and analyses also showed it is suitable for the transformation (see *Annex 1: Overview of the building*).

The City want to meet the project goals by designing and implementing deep transformation of the kindergarten that will result with significant improvement of the energy efficiency, indoor space functionality, childcare, learning and play environment quality.

This pilot project will serve as a proof of concept to the City and interested investors. It will be used as a model for the cost-effective transformation of similar buildings. As such, it has the possibility to become a special type of building renovation approach on the market. It is therefore in the interest of the supply side for the solutions to be replicable and scalable.

In order to understand the suppliers' appetite, capabilities, capacities and innovative options the City has launched the pre-procurement market sounding by publishing the prior information notice and this prospectus. The City is seeking for innovative solutions in design, materials, constructions, functionality, didactics, implementation and, for follow on projects, financing. The City welcomes suppliers' response and expressions of interest during this market sounding exercise. The specific needs are set down in section Requirements in outcome terms.

[2] *Meaning "a ball" in Croatian language*



"Energy renovations of public buildings have so far focused largely on exterior retrofitting and the interior has remained almost intact. Our goal is to carry out the internal reconstruction of the space, in addition to the energy retrofitting and thus improve the building in its entirety."
Ivan Šimić, managing director of Regional Energy Agency North

This document informs about outcome requirements, market opportunities and market engagement process intended to connect to supply side. The supply side will also learn about the procurement process and the credibility of this pilot project.

Outcome based requirements

Stakeholders have defined the following requirements in outcome terms for this project:

- Internal, external and functional transformation of the pilot kindergarten to maximise energy efficiency, enhance the childcare conditions and maximise the building's useful life
- Create a model for the cost-effective transformation in similar situations

Specifically

- Enhance the learning and play environment, including safety and comfort
- Introduce didactic and learning elements included as integral part of the solution
- Increase the daylight illumination within interior spaces
- Enable visual connection of carers to childcare rooms through interior space walls with dimming possibility while preserving as a minimum the current noise protection level
- Energy performance requirements: Achieve as a minimum nZEB standard
- Use natural, recycled and sustainable materials wherever possible
- Respect the principles of the circular economy in all aspects of the project
- Stakeholders have expressed a preference for works to be completed when the building is empty and ideally over the summer holidays (2 months) in order to minimise disruption and ensure safety of children and staff

Market opportunities

The results of this pilot transformation are expected to lead to further market opportunities.

- Almost 60 cities and municipalities, owning prefabricated or similar buildings, together with other public business entities and faculties have expressed the interest to be closely involved in the market engagement procedure and get a first-hand knowledge and information about possible solutions to their challenges with a view to adopting the transformation model created (see Annex 3: List of supporting parties).
- Furthermore, the Ministry of Construction and Physical Planning recognised the importance of the pilot project, expressed the support and appointed its project team member. The Ministry, being responsible for specific goals to be delivered with ESI Funds (*4c1 Reduction of energy consumption of the public sector buildings and 4c2 Reduction of energy consumption of the residential buildings*), will closely monitor this pilot to assess the possibility of replication of the transformation model.
- Since this pilot transformation will serve as a proof of concept and can become a special type of building renovation approach, future projects could later be supported by EU and national funds.
- It is reasonably to believe that all or part of the designed solution will be applicable not only to kindergarten buildings but also to similar ground level buildings or even smaller buildings (prefabricated or masonry one). There are substantial number of such buildings in Croatia and neighbouring countries.

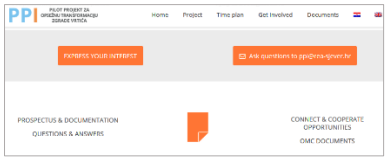
The City of Koprivnica hopes the supply side recognises above mentioned market opportunities as the possibility to capitalise the initial innovation effort for this pilot project on the wider market.

Market engagement

With this Market Sounding Prospectus the City started a pre-procurement market sounding pursuant to national Public Procurement Act (National gazette No. 120/2016) and Directive 2014/24/EU on public procurement.

To stress again, **the market sounding is not a tender announcement and potential suppliers are not expected to compete**, but to equally participate and express their interest.

This initiative is being carried out as part of the Prominent MED project (Proj.No. 1003, Ref.No. 1MED15-1.1-M12-070). It is an EU funded project under the Interreg MED Programme. It focuses on the adoption of public procurement of innovation in small municipalities in the Mediterranean area. In this context, Croatia, Italy, Spain and Portugal will simultaneously activate investments for the adoption of technological solutions aimed at the energy efficiency of public buildings.



This procedure is backed up by the City's partner Regional Energy Agency North, international and national procurement and technical experts.

This market sounding is an opportunity for potential suppliers to inform the City of Koprivnica of the options and solutions available to address introduced challenge. The City of Koprivnica will define the framework of the future procurement based on this market sounding and exchanged information with the supply side.

We are interested to hear ideas, information, new concepts and innovation that could:

- Contribute to achieving improvements in one or more aspects of the requirement
- Contribute to a total transformation
- Provide a total transformation

The City of Koprivnica will organise **Site Visits** to enable suppliers to visit the pilot project location and will run a **Market Consultation Workshop**. The workshop will be held to enable potential suppliers to hear more about the pilot project, customers' needs, expectations and about public procurement of innovation, but also to enable suppliers' feedback. It will also provide a networking opportunity for potential partners.

Potential suppliers can register for visits and workshop and submit their Express of Interest by returning the **Market Sounding Response form** available under this link:

https://ppi.koprivnica.hr/

under ***EXPRESS YOUR INTEREST***

The City welcomes Expressions of Interest from all parts of the supply chain, especially manufacturers and their representatives, innovators, renovators, various SMEs, designers, architects, educators, NGOs.

The City will carefully analyse all suppliers' responses sent before the workshop and compile them into the briefing document. All registered suppliers will receive the briefing document prior to the workshop. After the workshop will be held, all potential suppliers who have expressed their interest or have participated in the workshop will receive a report on the results of the workshop.

The potential suppliers are also invited to ask questions by sending an e-mail to:

ppi@rea-sjever.hr

Answered questions will be regularly collated and published (without the suppliers' details) under this link:

https://ppi.koprivnica.hr/

under ***QUESTIONS & ANSWERS***

The potential suppliers are also invited to join the MED PPI Network of interested parties and suppliers under these links:

http://tiny.cc/med-ppi-network

http://tiny.cc/med-ppi-linkedin

Procurement process and timeline

During this market sounding The City of Koprivnica will take appropriate measures to ensure that participation of potential suppliers will not have the effect of distorting competition and will not result in a violation of the principles of non-discrimination and transparency.

Prior information notice

In March 2018, the City of Koprivnica published a Prior Information Notice (PIN) in the Official Journal of the European Union to provide advance notice and launch a period of market sounding and consultation with supply side in advance of the formal tender process. Its purpose is also to inform the supply chain about the City's intentions and demands for the pilot project and about the preparation of procurement.

Market consultation workshop and Expressions of interest

During the market sounding site visits of Kindergarten Loptica are available to supply side by prior appointment, at least three days before the planned date.

This market sounding phase will end with the Market Consultation Workshop on 25 April 2018.

Site visits are also possible after the market sounding, until the end of June 2018.

Expressions of Interest will be collected until the end of June 2018.

Next steps

After the market sounding the City intends to determine and define all the details of procurement process. The tender will be launched in August 2018, the competitive dialog will be carried until December 2018 and contracts will be places in January 2019. The contractor will have 5 months to design the solution and prepare for the transformation works. The proposed period for works to be completed is over the summer holidays, between 1 July and 31 August 2019.

Indicative timeline

March 2018	**Prior information notice**
March – April 2018	**Market sounding**
Till end of June 2018, by prior appointment	**On-site Visits (Koprivnica, Croatia)**
Till end of June 2018	**Expressions of Interest (response form)**
25 April 2018	**Market Consultation Workshop (Zagreb, Croatia)**
August 2018	**Tender launch date**
September 2018	**Invitation to participate in procedure**
September – December 2018	**Competitors' participation in procedure**
January 2019	**Contracts placed**
February – June 2019	**Design and preparation of transformation works (contractor)**
1 July to 31 August 2019	**Proposed period for construction works**

Annex 1: Overview of the building

Examination of conditions and needs

The City has determined the user needs and thoroughly analysed, examined and tested the building.

- Two focus groups were organised to learn about user needs.
- An architect specialised in kindergarten architecture and childcare studied the kindergarten and delivered the study case of possible innovative solutions with improvement proposals.
- Through a number of visits accompanied by external energy experts and head of technical service the City has acquired deep knowledge about the condition of the building and maintenance history.
- A thermographic analysis was conducted to determine the energy losses and possible structural damages.
- A detailed static analysis of the construction and the quality of building material was performed. The procedure was partly invasive to convince the evidence. The test showed that the building construction and material is in very good shape.

Function of the building

The childcare process in kindergarten includes about 170 children and takes part daily from 6:00 to 16:30 (18:00 including cleaning) all year long except weekends, July and August. After 16:30 occasional activities like meetings and workshops take part in the kindergarten. Total of 20 employees work in the building.

The building

The kindergarten building was built in 1982 as a prefabricated wooden ground floor building with solid foundation (75 % of gross area). In 1995 it was expanded with masonry (walled) ground floor building annex with solid foundations (25 % of gross area). The building shape is elongated and along the southern part are terraces built.

Total construction gross building area equals to 950 m^2 (net area 820 m^2). Building interior consists of seven daily childcare rooms, offices, kitchen and laundry, all connected by long and narrow corridor. No major renovation activities took place on building envelope or in the interior.

Audit outcomes

Energy performance audit, conducted in 2012, classified the building in energy class D. Actual annual energy consumption average measured in five consecutive years amounts to 145.000 kWh/a for natural gas, 57.000 kWh/a for electricity and 1.400 m^3/a for water, which gives 177 kWh for natural gas, 70 kWh for electricity and 1,7 m^3 for water per net square meter per year. The heating system consists of gas boiler room installed in 1995 (boiler power 160 kW), classic radiators and hot consumer water supply which in total consume 97 % of gas. Kitchen and laundry consume about 80 % of electricity. Lighting total power is 7,7 kW and it consists mainly of fluorescent light bulbs. There is no mechanical ventilation or cooling system in the building.

Documentation

The City has secured enough documentation to enable supply chain to get relevant details about the building. Documentation consists of:

- Original investment master project design documentation (available only in paper form, during the site visit)
- Current architectural, construction, mechanical and electrical design documentation
- Analysis of material and construction static performance of the Kindergarten Loptica
- Identification of innovative solution contents – study case Kindergarten Loptica
- Energy audit report, Energy Performance Certificate
- Electro-mechanical assessment report of Kindergarten Loptica

Almost all documentation is in Croatian language. You can download the documentation from this link:

https://ppi.koprivnica.hr/
under ***PROSPECTUS & DOCUMENTATION***

Annex 2: Non-exhaustive list of prefabricated kindergartens in Croatia

There are at least 25 prefabricated kindergartens in Croatia built between 1975 and 1989 which are still in use.

City	Building	City	Building
Belišće	Kindergarten Maslačak	**Sisak**	SISAK NEW/ Kindergarten Radost
Duga Resa	Kindergarten Maslačak	**Sisak**	SISAK OLD/ Kindergarten Pčelica
Glina	Kindergarten Bubamara	**Sisak**	SISAK OLD/ Kindergarten Bubamara
Jastrebarsko	Kindergarten Radost	**Split**	Kindergarten Rusulica
Klanjec	Kindergarten Kesten	**Varaždin**	Kindergarten Varaždin, Gortanova
Koprivnica	Kindergarten Tratinčica, Loptica	**Varaždin**	Kindergarten Varaždin, Koprivnička
Koprivnica	Kindergarten Tratinčica, Pčelica	**Vinkovci**	Kindergarten Pčelica
Ogulin	Kindergarten Bistrac	**Vinkovci**	Kindergarten Budućnost
Otočac	Kindergarten Ciciban	**Vinkovci**	Kindergarten Lenije
Rijeka	Kindergarten Đurđice	**Vinkovci**	Kindergarten Vladimir Nazor
Rijeka	Kindergarten Morčić	**Vrgorac**	Kindergarten Pčelica
Senj	Kindergarten Travica	**Zaprešić**	Kindergarten Maslačak
Sinj	Kindergarten Bili cvitak Sinja	**Zlatar**	Kindergarten Uzdanica

Annex 3: List of supporting parties

City of Koprivnica received almost 60 letters of support for this project from cities, municipalities, other public business entities and faculties.

City of Biograd	City of Buje	City of Čakovec
City of Daruvar	City of Donja Stubica	City of Donji Miholjac
City of Duga Resa	City of Ivanić Grad	City of Jastrebarsko
City of Karlovac	City of Kastav	City of Kaštela
City of Knin	City of Križevci	City of Lepoglava
City of Ludbreg	City of Novi Marof	City of Novigrad
City of Novska	City of Osijek	City of Otok
City of Pazin	City of Ploče	City of Rijeka
City of Senj	City of Sisak	City of Slatina
City of Split	City of Sveti Ivan Zelina	City of Šibenik
City of Varaždin	City of Virovitica	City of Vrbovec
City of Vukovar	City of Zadar	City of Zlatar
Drnje Municipality	Đelekovec Municipality	Gola Municipality
Kalnik Municipality	Kloštar Podravski Municipality	Koprivnički Ivanec Municipality
Legrad Municipality	Novigrad Podravski Municipality	Sokolovac Municipality
Sveti Ivan Žabno Municipality	HAMAG-BICRO	Croatian Association of Cities
Croatian Chamber of Economy	Croatian Green Building Council	Faculty of Civil Engineering
Intelligent Energy Cluster	Istrian Regional Energy Agency	Medjimurje Energy Agency
Ministry of Construction and Physical Planning	Polytechnic of Medjimurje	Regional Energy Agency Kvarner
Regional Energy Agency Of Northwest Croatia		

Annex 4: Policies

Context

Buildings are responsible for 40 % of energy consumption and 36 % of CO_2 emissions in the EU (43 % and 43 % respectively in Croatia). While new buildings generally need fewer than three to five litres of heating oil per square meter per year, older buildings consume about 25 litres on average. Some buildings even require up to 60 litres.

Currently, about 35 % of the EU's and approximately 40 % of buildings in Croatia are over 50 years old. By improving the energy efficiency of buildings, a total EU energy consumption can be reduced by 5-6 % and lower CO_2 emissions by about 5 %.

Energy Performance of Buildings Directive

The 2010 Energy Performance of Buildings Directive (EPBD) and the 2012 Energy Efficiency Directive (EED) are the EU's main legislation covering the reduction of the energy consumption of buildings. According to EPBD, as of 31/12/2018 all new buildings owned or used by public institutions need to be nearly zero energy buildings. Although EPBD does not define any obligations to renovate existing building stock according to the nZEB standard, only deep renovation can lead to achieving ambitious goals set by the EU.

National Energy Efficiency Action Plan

According to the 3rd National Energy Efficiency Action Plan (NEEAP) for Croatia and draft of the 4th NEEAP, increasing the number of nZEB buildings is defined as one of the measures to achieve national energy reduction goals. Although NEEAP does not foresee any financial subsidies for nZEB buildings in the period from 2017 to 2019, the responsible Ministry has initiated creation of the *Program for subsidising construction of the new and renovation of existing buildings according to the nZEB standard* that should pave the way for uptake of nZEB.

Sustainable Energy Action Plan

City of Koprivnica is a Covenant of Mayors signatory since 2010. City council has adopted Sustainable Energy Action Plan (SEAP) in July 2011 with a goal to reduce CO_2 emissions by more than 20 % until 2020. To achieve this ambitious goal, City needs to significantly reduce energy consumption in public buildings. Because most of the public building stock is going to be used in the future, deep energy renovation is deemed as the only way to meet the goals.


City of Koprivnica
Regional Energy Agency North
DJEČJI VRTIĆ Tratinčica KINDERGARTEN
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