PROCURA+
European Sustainable Procurement Network

Procura+ Case Study

# Procuring the first Nordic Swan ecolabelled pre-school in Finland

## Procura+ award winning tender

Image: Hyvinkää Municipality

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| **Procura+ Participant:** | Hyvinkää Municipality |
| **Contract:** | Kenttäkatu Kindergarten - New Building<br>Awarded: 2017 |
| **Savings:** | Energy Performance: estimated 123kWh/m2/year<br>Other: Nordic Swan ecolabel awarded August 2017 |


**SUMMARY**

- Hyvinkää Municipality set an ambition to procure the first ecolabelled pre-school in Finland.
- By building a pre-school to ecolabel standard, Hyvinkää was able to ensure a range of sustainable choices, including those promoting energy use, minimisation of chemicals,the use of sustainable building materials, and the creation of a healthy environment.
- Market dialogue was conducted to identify what innovative solutions are currently available on the market, and the extent to which suppliers were interested in attaining the Nordic Swan Ecolabel after the construction was complete.
- Medium-sized Finnish construction company Teijo-Talot Oy was awarded the contract to build the pre-school and ensure it achieved the Nordic Swan Ecolabel.



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# Background

Hyvinkää is a small municipality located in the south of Finland, home to around 46,500 people. Hyvinkää Municipality has committed to a range of Environmental Aims (in Finnish) which will guide it's strategy between 2013 and 2020, and include goals around eco-efficient construction and maintenance, effective energy use and climate protection, and public procurement.

As such, when Hyvinkää set out to procure a new pre-school building in 2015, it decided to set the goal that this should become the first ecolabelled pre-school in Finland, in order to make sure that the new building was healthy and comfortable for children and staff while also fitting-in with their wider environmental ambitions.

To qualify for the Nordic Swan ecolabel for small houses, apartment buildings and buildings for schools and pre-schools (Version 3.2), it is necessary to meet standards around the building's energy use, chemical products, building products/goods and a number of indoor environmental factors that are relevant to health and to the environment, as well as requirements around quality management in the construction process. To qualify for the ecolabel, buildings are assessed using a lifecycle perspective, and must achieve low energy consumption, fulfil high environmental and health requirements on building products, materials and chemical products, ensure a good indoor environment and low emissions, and use a quality-assured construction process.

As a result of this approach to the construction of the Kenttäkatu Kindergarten, Hyvinkää won the Procura+ 'Sustainable Procurement of the Year' award 2017.

# Procurement Approach

Hyvinkää engaged in an extensive market dialogue process prior to the procurement. The first step was to publish a Request for Information (RFI) on the national electronic tenders portal to assess whether there was an interest to establish a committed partnership with the municipality. Additionally, information on energy saving methods was sourced - especially solutions in lighting, heating, cooling, use of water, efficiency of energy consumption and air ventilation. Further information on new and innovative building materials, techniques and building methods was also of interest.

Four contractors responded to the RFI, and were then invited to a one-to-one meeting with the procurement personnel. Lengthy and in-depth dialogue around the possible obstacles and solutions to demanding criteria was the focal point of these discussions. Since it was known that the labelling process would demand a more intense involvement from the contractor, Hyvinkää also used the market dialogue to determine whether suppliers would be willing to commit to carrying out such a project in partnership with the municipality. For example, the human resources required to undertake the certification process would be more intense than a standard construction procurement. The results of this market dialogue was, however, very encouraging, and as a result the municipality decided to go ahead with their ambitions.

# Criteria used in the procurement process

## Subject matter of the contract

Kenttäkatu Kindergarten - New Building

## Selection criteria

Contractors were required to specify a member of staff who would be responsible for managing the ecolabel certification process. Bidders also had to present a plan on how they would ensure the construction process was carried out in line with Nordic Swan requirements, including among their subcontractors, and include proposals on how to ensure the building would ultimately meet Nordic Swan energy consumption requirements.

## Technical specifications

Sustainability requirements included:

- Overall energy consumption should be equal or less than 75% of the national upper standard level i.e. 127kWh/$m^2$ per year. This accounted for heating (including energy options additional to district heating, cooling, lighting and electrical equipment, control and automation, thermal insulation and heat recovery, windows and minimising hot water consumption).
- A proposal on how to achieve ecolablel requirements for energy consumption with regards to heating, ventilation and air conditioning (HVAC) systems, and how the controls of these systems can be adjusted.
- A proposal on how the energy consumption will be measured and data collected.

## Award criteria

The contract was awarded on the basis of the most economically advantageous tender (MEAT), with criteria weighted as follows:

- Price (50%): the lowest priced offer receiving a maximum 50 points, with other offers being calculated in proportion to this.
- Qualitative measures (50%) split between:
    - Layout/functional characteristics (50%) - plans presented in the offer are reviewed, with the most favoured functional design receiving 10 points, and others calculated proportionally.
    - Facade (15%) - most preferred receives 10 points, and others calculated proportionally.
    - Traffic arrangement (15%) - suggestions on delivery routes and parking for staff and visitors, and the position of these routes, with the most favoured receiving 10 points and the others being calculated proportionally
    - Personnel allocated to project (10%) - full-time member of staff with appropriate work experience and references to attend to the ecolabel process, with the highest score receiving 10 points and others calculated proportionally.
    - Plan on how the materials and construction is kept dry at all times(10%) - materials and components of the building protected during transportation and

installation/construction, with the highest score receiving 10 points and others calculated proportionally.

### Contract performance clauses

Bidders had to provide both:

- Plans for quality management in the production process and management of the production process, which includes work safety and environmental policy of the company; and
- Project plan, which includes planning, management and quality assurance of building work.

## Results

The four contractors which had taken part in the market dialogue process - plus one additional contractor - submitted bids, all of which met the compulsory requirements and the specified standards.

Offers made in the bids were lower than expected. It was anticipated that the building would cost around €7 million, however the winning bid was only €4,850,000 (and the highest bid was still lower than estimations at €6,595,000). It is thought that bidders were encouraged to be competitive in their bidding by the additional incentive of the finished building being awarded an ecolabel, and the potential this has for the company to demonstrate good practice (which could be advantageous when bidding for other contracts).

In the end, the building cost around €6 million (including all final modifications executed during the building process). Building was started in autumn 2016 and completed in august 2017, which is when the school was also awarded the Nordic Swan ecolabel.

### Sustainability impacts

The building has been constructed using ecolabel approved chemical free materials and products only, which ensures that the emissions to both indoor and outdoor environment are minimal.

Building processes were also carefully monitored and managed during the construction phase in order to ensure no environmental or structural risks appear later in the building's lifecycle.

The materials used are either recyclable or can be safely eliminated at the end of the building's lifecycle. The building has also been constructed so that if necessary, it can be dismantled, and either reconstructed elsewhere or have modules safely dismantled and recycled at the factory.

The outdoor play equipment also fulfils the Swan Ecolabel standards, and has been manufactured from untreated wood or certified FSC timber, and climbing ropes are made from natural fibres.

The building process also required innovative material sourcing, which required the building constructor to develop close-knit partnerships with suppliers in order to determine the origin of materials and find replacements for components that did not meet the ecolabel requirements (for example replacing standard MDF panels for low formaldehyde ones).

The total weight of the building is approximately 1,400,000kg and all materials are environmentally better options than conventionally used, lowering the carbon footprint of the building. In addition, while around 10-15% of building material normally ends up as waste, in this project, this was limited to 5%. This as in large part due to the production of building parts in modules which were pre-cut.

The resulting building offers a pleasant indoor environment in terms of lighting, noise and ventilation. Through smart architectural design, the daylight factor is at least 2.5% in common rooms, which is difficult to achieve in the Nordic region. The noise environment also presented challenges, due to the fact that the building houses 200 children, but by following ecolabel criterion, the resulting noise is noticeably lower than in a standard pre-school building. In addition, the ventilation is demand controlled and automatically adjusted according to readings from moisture and $CO_2$ monitors (i.e. reading devices which automatically prompts actions in ventilation), thus creating a comfortable atmosphere for all.

Green electricity is also provided by the local energy company, which produces electricity from biodegradable household waste. The district heating company buys energy from the waste disposal plant, which produces energy by incinerating domestic waste (which excludes metal, glass, paper, cardboard and biodegradable waste).

### Social considerations

In order to ensure the building's accessibility to all children, rooms were also built to cater to disabled children's' needs, including wider doorways and extra space within rooms to increase manoeuvrability. There is also a separate hall entrance, which is spacious enough to allow users of wheelchairs and other aid equipment to enter and store equipment.

Children were also at the centre of design choices. For example, during the final interior design stage, a group of children who will be cared for at the kindergarten were involved in choosing the colour scheme, as well as involved in the point scoring of the tenders for pre-school furniture.

Finally, pre-school personnel employed by the municipality across Hyvinkää who have strong allergies or asthma were also offered the opportunity to be relocated to the new Kenttäkatu Kindergarten, thereby providing them with a safer work environment which is better suited to managing their conditions.

## Lessons learned

By conducting market dialogue, the quality of the bids were undoubtedly improved, with each displaying an appreciation of the goals of the municipality, and a well constructed consideration of sustainability criteria and requirements. Each managed to clearly present their plans for achieving the required energy consumption and achieving Nordic Swan ecolabel certification, and showed an appreciation of the work which would be involved in this process.

The expertise of ambitious procurement staff was also invaluable in the setting of initial ambitious aims and providing direction. By setting clear targets, and taking time to get to know the market, as well as the possible standards and ecolabels which align with ambitions, it is possible to procure safe, healthy and green buildings which can also lead to savings over the longer term.

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# About Procura+

Initiated and co-ordinated by ICLEI, Procura+ is a network of European public authorities and regions that connect, exchange and act on sustainable and innovation procurement.

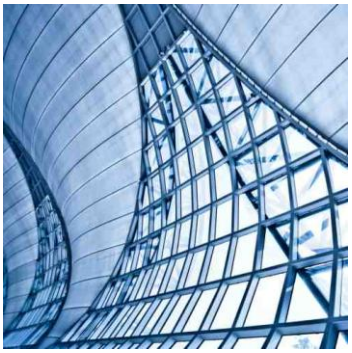
## Connect.

We are a network of European public authorities that connect, exchange and act on sustainable and innovation procurement.

## Exchange.

Our combined knowledge and experience allows us to provide advice, support and publicity to any public authority that wants to implement sustainable and innovation procurement.

## Act.



The Procura+ Network joins forces to champion sustainable and innovation procurement at the European level.

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