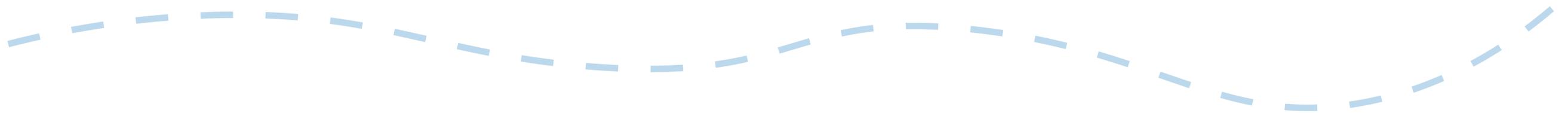




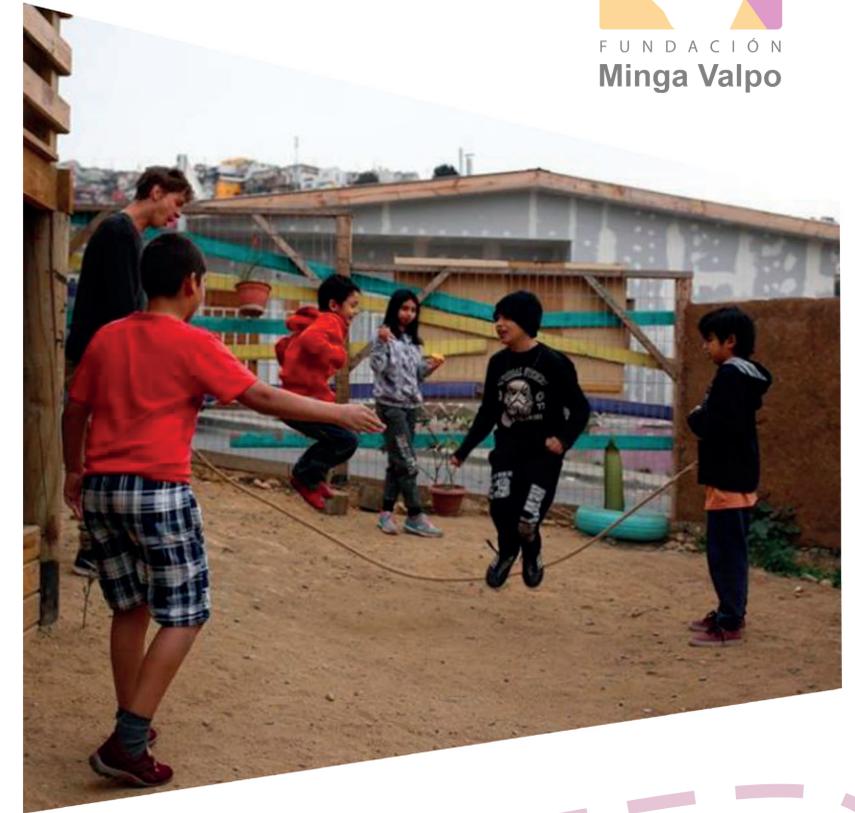
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PROJECT "MAKE THE LUDOTECA SUSTAINABLE"



"Make the Ludoteca sustainable"

Current pictures of Ludoteca

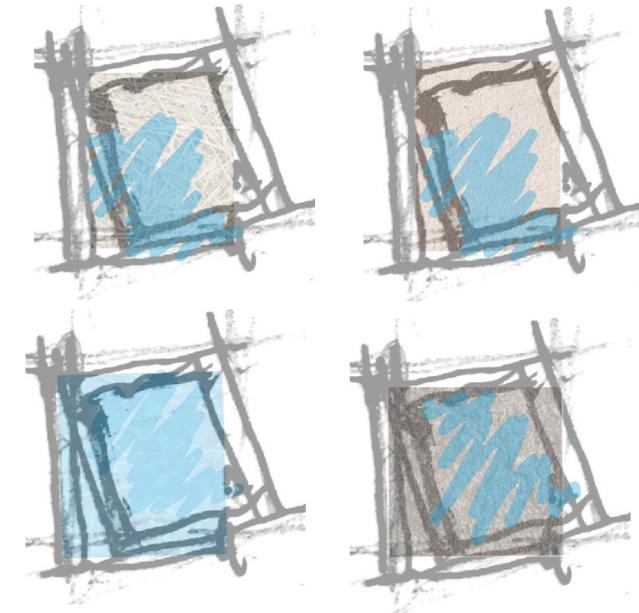


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Thermal energy

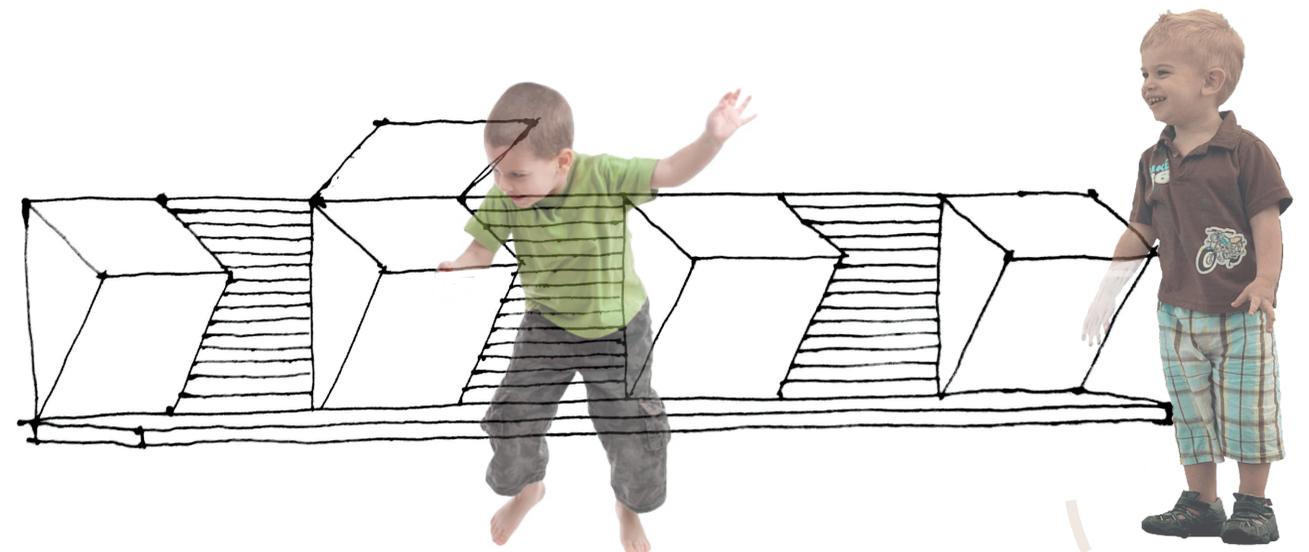
Currently.

Ludoteca already has two strong and thick adobe's walls, which point to the south. In addition, the rest of the walls are made with adobe, but these are thinner. This material is highly sustainable, therefore is recognized as a great virtue of this space since it is a tremendously sustainable material. The challenge responds to how children can be part of the constructions, so they are able to learn about material's properties.



Adobe's panel

It is suggested to install an expositive and interactive panel at the front adobe's wall, so the kids have the possibility to learn more about the material. The idea is to form 4 transparent bowls with different materials to made adobe in. Sand, straw, water and clay. The children would be able to touch and feel the material's texture. Furthermore, they could use and mixed them in a table that will be placed in the low part of the panel. Finally, they could place the mud on the "junquillos", which are between the bowls. In this way, the children would be part of the hole experience with this material.



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Wind energy



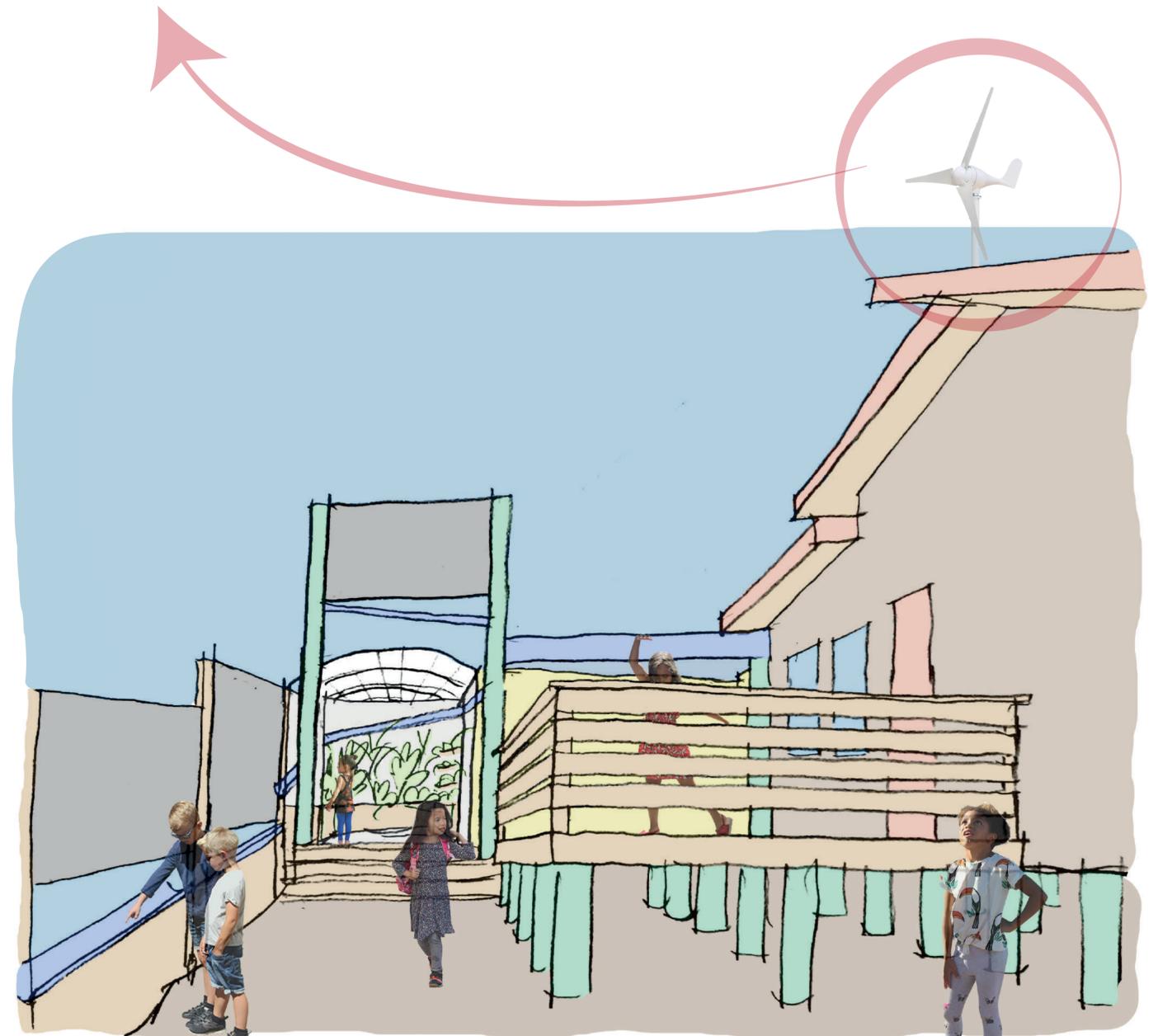
Relevant idea

Thanks to wind's energy it would be possible to provide electricity for a part of the Ludoteca. The idea is to install a moline in the highest part of the Ludoteca. With these two energies (wind and solar energy) Luxottica could eventually be fully autonomous.



Eolian turbine

It would be placed at the east part of the roof, where the wind blows hard. Some alternatives are been search in order to build the eolian turbine with recycle materials to reduce the costs.





Fundamental idea

The establishment of photovoltaic panels in the northeast part of the roof, that are capable to manage the electrical networks.

Colour for the conexions

Apart from providing energy to the Ludoteca, the instalation of these colours will be a way of teaching the children. Besides, cables and connection tubes will be shown with a particular colour, so the children will know through what cable the electricity flows. This, until the interior's bulbs, in this way the children understand the whole process of how electricity is conducted.



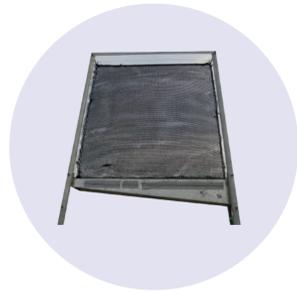
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Rain water recycling and fog catcher



Fundamental idea

And idea is to place a water collector that receives water from the canals and uses it to irrigate the vegetable garden and plants. Added to this are fog catchers to collect the waters of the coastal trough

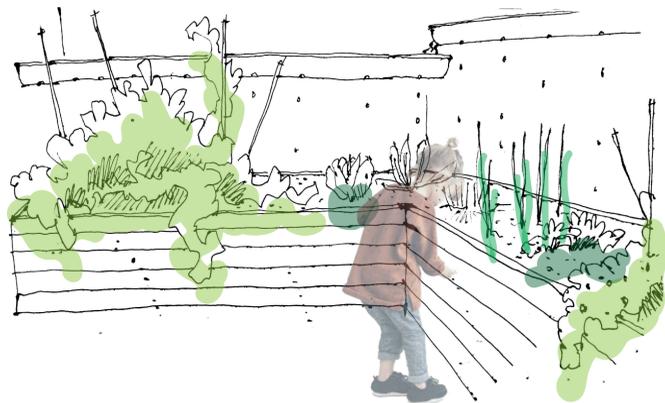


Stormwater tank

The tank will be located almost at the height of the ceiling, as a continuation of the "tunnel" behind Ludoteca. This will accumulate the water coming from the roof and the fog catcher. On the garden side it will have a key, which can be opened in case you want to water the garden through the gutters. These will surround the vegetable garden giving it an envelope of natural waters that will exit through the east side of Ludoteca

Vegetable garden

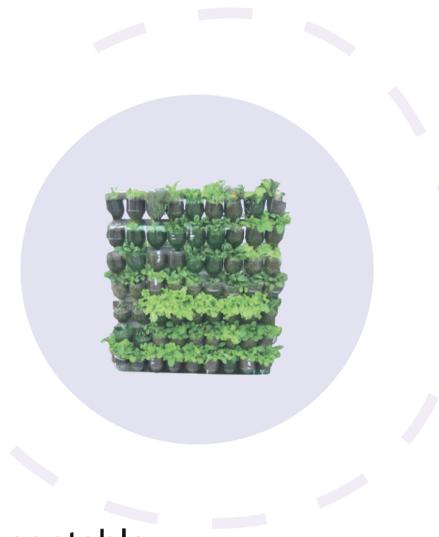
It is planned to build the existing garden, but with a larger shape. The surrounding water of the gutters will give a surrounding condition to the garden. Thus the plants and their soil will be arranged in the same way, surrounding the body. In this way, the garden will have two parts: an "L" for the plants with the largest volume and a vertical garden for the smallest plants. See reference (the children could each plant a can in a bottle and put it themselves).



Fog catcher

Fog catchers will be installed in the eastern contour and on the vegetable garden, which will supply water to the garden. The others will carry their waters to the Corridor Garden.

This idea arises in view of the scarcity of rains and as an opportunity to taking advantage of the large amount of fog that occurs in Valparaíso.



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Grey water recycling, Biofilter



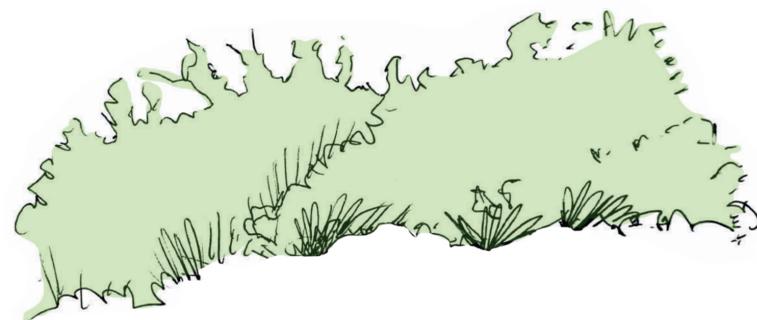
Biofilter

In this place will be located the auriferous plants that clean the fats and toxic wastewater from gray water. A green tube will come from the cook and deposit the waters here. Subsequently, the clean water will be sent through another green tube that will cross the corridor until the bottom corner. Where will begin the distribution over the entire length of the fence, generating an extensive garden.



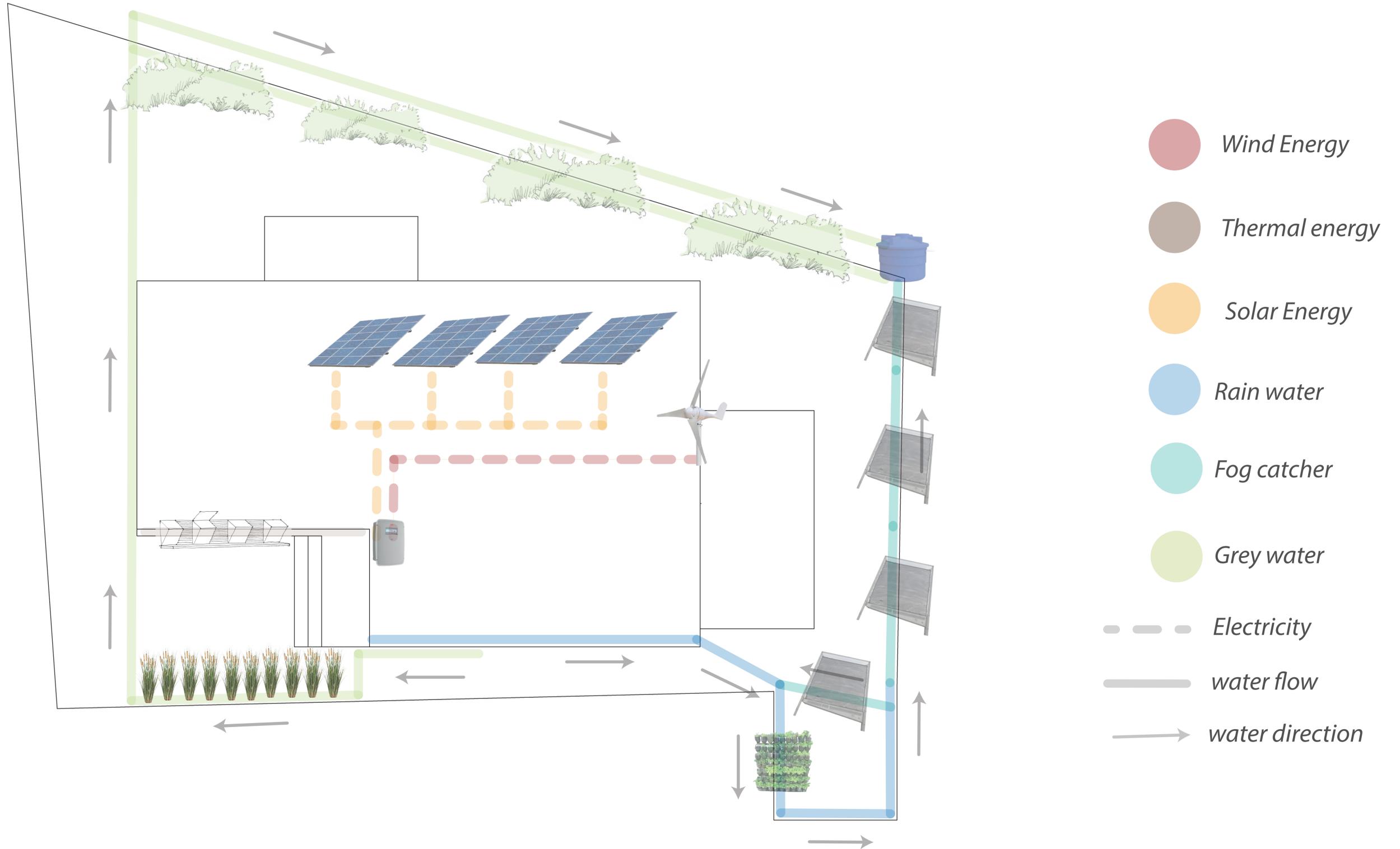
Added to this are fog catchers to collect the waters of the coastal trough.

It is planned to rearrange the plants located to the north next to the fence. The idea is that one continuity in them taking advantage of the slope and the running of the gray waters. This Garden corridor is presented as a possibility of interaction for children with nature, so they will be able to learn from different ornamental and native plants, by taking care of them and making them own from the beginning (some activities about the relocation of the existing and planting new plants could be carried out with them).



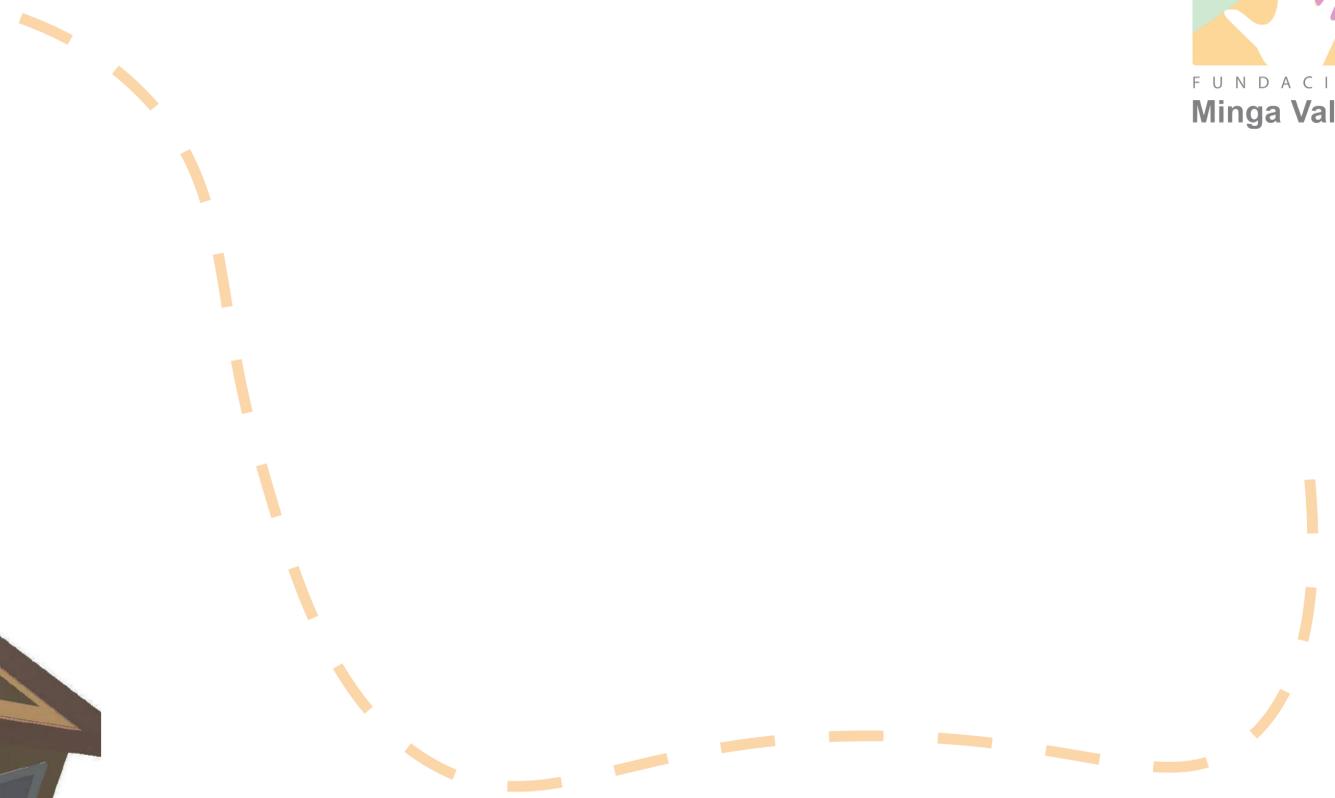
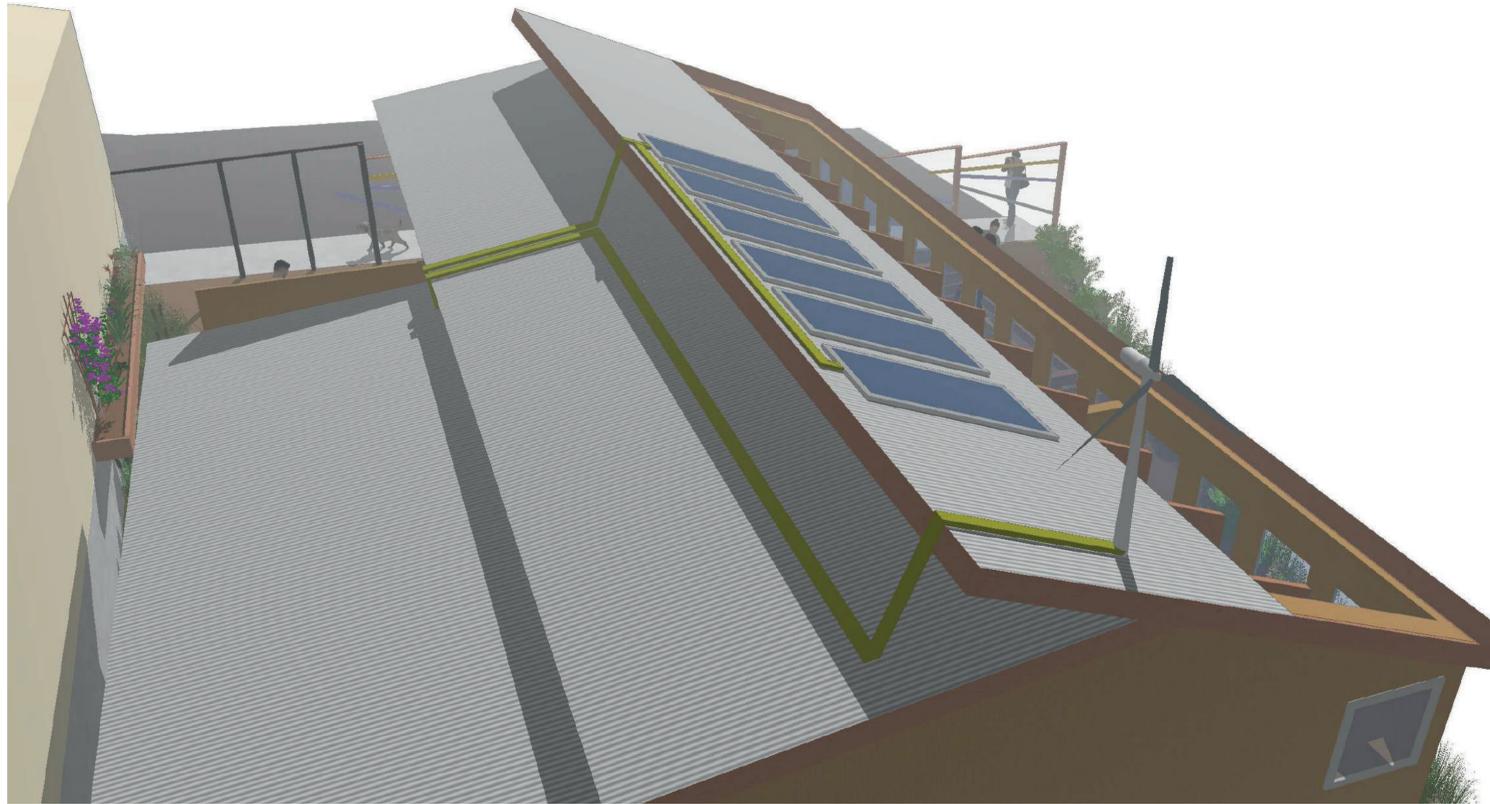
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schematic drawing of connections



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Viewing 3D



implementation of solar panels and eolian turbine

fog catcher in the Ludoteca





Gray water extraction from the kitchen to the biofilter



Gray water tank in biofilter / entrance garden



Water transport from biofilter to corridor garden



Used of already clean water in the corridor garden



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