

## Cheap and Sustainable Energy

### A Greenhouse – Solar Energy in Our Garden

**1<sup>st</sup> and 3<sup>rd</sup> graders** – students take turns in learning on/offline every week

Project work is aimed on the power of the Sun. Children are going to explore current possibilities in gathering solar energy. They have already discovered that there is a big difference in temperature measurements when the thermometer is placed on a sunny wall or on the one in shades.



Pupils are going to focus on practical aspect of using the power of the Sun without complicated and expensive devices. They are going design and build a small greenhouse to grow plants since the tradition of homemade greenhouses is part of the Czech gardening culture.

To build small greenhouses children will use recyclable materials or/and they are also going to reuse some materials such as plastic and glass bottles, plastic boxes, and wood scraps.

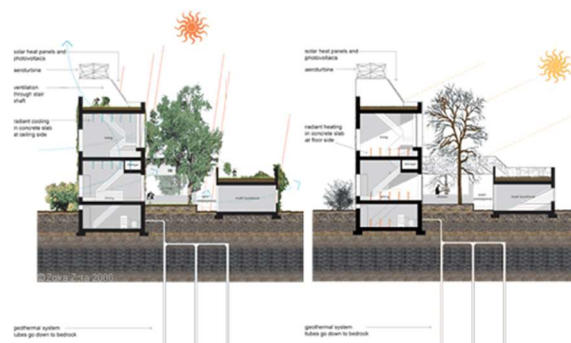
Some of the greenhouses will be put on sunny places other once will be stationed on places in shades. Children will grow plants, take care of them, and observe their growth. Using greenhouse will also give us the opportunity to explain the greenhouse effect more.

The process of designing and building of greenhouses and growing plants will be documented by taking photos and shooting shot videos.

### A Sustainable House – Let's Combine Alternative Energy with Saving Energy

**6<sup>th</sup> graders** – online learning only

Making energy sustainable and cheap means cutting the consumption of energy from the common grid (which is currently mainly fossil fuel based in the Czech Republic) on one side and involving alternative sources of energy as part of our everyday life.



We decided to follow modern trends in architecture and design a zero-energy house. Designing the house our students are going to explore small scale sources of alternative energy – private wind power stations, solar panels, and geothermal energy in consideration with modern sustainable technologies in building materials, insulation, and energy recovery. They are going to look up for examples of such architecture in the Czech Republic one of which was build in Čabárna <https://www.nsev-kladno.cz/> (environmental education centre near Kladno).

Since our older students are not expected to return to school any time soon, we plan the work as an online project. Students are going to do some theoretical research first. After gathering materials, they are going to draw pictures. Constructing a model of e zero-energy house will be, hopefully, possible after students return to school.