

## EMOH TEEWS EMOH

This is going to be a family tale where everyone has his role:

- Dad (**from now PAPI**), the engineer who designed a space with no energy use;
- mother (**MAMI**), a modern housewife who is trying to think about what and how we can consume less and better;
- the girls (**CAROLA and FEBE – 3 and 5 years old**) who live and color their house.

Everything starts in via Bosco – Campogalliano (MO): a house between the nature reserve of Secchia's river and the town, when you turn the corner you find a house of three floors little, old, but we know that is ours home!

**PAPI: “The house it's definitely an energy class G!”**

**MAMI: “I like it ... but if you buy it, you could restore it by raising the energy class and so... it can be more efficient, peace of mind” (Photo 1).**

And after we received the deeds the work starts ...

Our idea was to build a house that allows us to achieve four important results:

1. eliminate the costs of heating, cooling and electricity
2. improve the house conditions, our comforts
3. transform the house into a source of income
4. protect the environment by eliminating the use of fossil fuels (non renewable energy).

How to make all this possible? **How much energy I would I like to use to run my house?**

**PAPI: “What a question? The answer is energy valuation! We have to start from what result we desire to achieve and, with the little money we have available, identify the steps to be made”**

**FEBE: “I am very good at putting things in order, in line!”**

**MAMI: “So what you're saying is that we need to think backwards? Then you will not be a HOME SWEET HOME but a EMOH TEEWS EMOH!”**

We then proceeded with all the necessary checks to:

- identify the causes of energy waste and heat loss
- define all possible measures to improve
- determine the actual economic benefit resulting from each intervention we need to consider the conditions to knowingly, understand and make the correct decision.

**PAPI: “According to my calculations to start to «activate» the reduction of this house emission it should be:”**

- install efficient windows,

- insulate the roof, the floor and the walls;

**PAPI: “To have a house with no gas, powered only by electricity, provide it with a photovoltaic system” (Photo 2)**

And here is the solution that we have chosen:

- thermal and acoustic insulation of walls and roof
  - **FEBE: “The house is made of bricks and wood: wood in the inside, bricks on the outside”**
- PVC frames (windows)
- heating system fuelled by pellet to reach all three floors
  - **FEBE: “Pellets are small pieces of wood. If you stand near the radiator (burner) we can also dry our hair in the winter”**
  - **CAROLA: “Let's turn on the light on the burner”**
- the system, heats as well as cooling the rooms
- photovoltaic system
  - **FEBE: “Our solar panels are used to make things work that have a plug”**
- electric (magnetic induction) hobs
  - **FEBE: "Our oven does not work with a flame: I don't know how it works but it needs a plug! I like it more than the flame so we can help you, mam”**
  - **CAROLA: “I like it because I can touch it, it is so cold!”**
- electric boiler for hot water
- energy “Class A” domestic appliances
- fluorescent light bulbs / L.E.D.

After a few months of work and economising...

**“The are only finishing touches left... but we have time!”, PAPI and MAMI (Photo 3) say.**

**MAMI: “You didn't only think about the energy? What do you propose for water and waste management?”**

**PAPI: "Wait! Let me finish! I just thought: "**

- for the water consumption (annual reduction to 82 m<sup>3</sup>):
  - flow reductor on all the taps
  - dual flushing system for the WC
  - garden, car wash, etc.. with not drinking water

- for waste reduction (**MAMI: “I think it's the most difficult aspect to be able to achieve (zero waste)!”**)
  - waste management
  - using re-usable cotton diapers for **CAROLA and FEBE**
  - weaning of the girls with use of fresh organic food (not processed)
  - wine in “bag in box” (wine stored in no glass boxes)
- and we could not forget:
  - a organic vegetable patch in our garden for fresh organic food and cooking
    - **FEBE: “I like the garden because it grows so many good things!”**
  - many of our girl's drawings hanging on the walls.

**MAMI: “And what about traveling in the car?”**

**CAROLA: “The car uses petrol and we have to drive to where the petrol is!”**

**FEBE: “If the world runs out of petrol we need to change the engine that will go by using solar panel. But how long do we have to wait?”**

**PAPI: “As soon as the Ministry will issue the Decree laying down rules for the transformation of motor vehicles (Article 17 DL 22/06/12) with electric motor we will convert one of our two old Fiat 500. And all this is not a joke!”**

A house that produces energy more than it consumes is now a reality for everybody. It's a real possibility, which not only frees us from having high bills but makes us self sufficient.

We can significantly improve our quality of life and protect the environment in which we live.

Seizing this opportunity means to invest for a more peaceful and better future.

Document written in Garamond font, lighter and more delicate than others: the printing required on average of 24% less ink.