

Energy efficiency in the construction industry

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Educational Level: Secondary school (age 16 – 19)



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I will implement my scenario in: Secondary school 4th grade

The duration of the implementation is: 8 lessons

My scenario goals are:

1. Discussion with students about their attitude energy efficiency in building industry.
2. Introducing the principles of sustainable construction and economical energy use.
3. Students explore sustainability issues and think how they can change it.
4. Evaluate and reflexion lesson.

How will I achieve my educational goals?

educational goals

Through 8 lessons I will address the design principles of energy efficiency in building operation.

1st -2nd lesson: asking students about their opinion on sustainable development in the construction industry, explanation a basic principle.

3rd – 6th lesson: each student works on his own family house project, he develops a proposal to reduce energy consumption that he can apply in his own home.

Measures concern: building design, heating system, cooling system, lighting, energy management and user behavior.

7th – 8th lesson: discussion with student about their attitudes and comparing their design

In the end the students can say which technologies lead to reducing energy consumption.



This activity links to the Sustainable Development Goals:



7 AFFORDABLE AND
CLEAN ENERGY



6 CLEAN WATER
AND SANITATION



The green competences that promoted from
my scenario are:

Please keep the green competencies you want
and delete the remaining

Embodying Sustainable
Values

Embracing Complexity
in Sustainability

Envisioning Sustainable
Futures

Acting for Sustainability

Valuing
Sustainability

Systems Thinking

Futures Literacy

Political Agency

Supporting
Fairness

Critical Thinking

Adaptability

Collective
Action

Promoting
Nature

Problem
Framing

Exploratory
Thinking

Individual
Initiative

I will collaborate with:

- External company by doing a workshop about renewable source of energy.
- External architect by doing a workshop about sustainability in a construction industry.

Here is my plan for integrating this scenario in my school this year:

I will do this scenario during teaching subject with name Energy performance of buildings, which I teach in a last grade at a Secondary school of civil engineering.

Example of user behavior when heating buildings:

- **Do not overheat the rooms**

Example of user behavior when lighting buildings:

- **Turning off lights when there is enough sunlight**

Example of user behavior when operating air conditioning:

- **Regulating operation system in unused rooms**

