

## The project Fifty/fifty

Fifty/fifty implements a system of financial incentives for energy-saving in schools. In this system, schools get refunded 50 % of the saved costs (by their efforts in energy-saving).

The fifty/fifty-scheme is the “mother” of other similar ones, with different sorts of incentives: Sometimes there are Competitions and sometimes the schools get a fixed amount of money, if they execute the projects.

In Berlin, there are 150 schools out of 800 taking part at this schemes. All over Germany about 4000 out of 35000. Fifty/fifty was started in 1994 in Hamburg, where all 450 schools are included.

### ► What

The project usually is carried out by one class or course. It consists of the Steps

- a) Getting to know the energy situation of the school building
  - a. Energy round tour
    - Visiting all parts of the building, e.g.
      - i. cellar with heating system and electrometer
      - ii. looking at the school from outside, analysing open windows isolation and the roof
      - iii. classrooms, gymnasium and specific rooms (Fachräume), analysing all sorts of energy consumption
      - iv. corridors and staircases
    - b. Measurements regarding the use of energy
      - i. course of the temperature during a Week, day and night (Temperaturverlauf)
      - ii. allocation of the temperature in the school building (Temperaturverteilung)
      - iii. Illumination level of the artificial light
      - iv. Energy consumption of different electrical device
  - b) Tracking of energy saving potentials
  - c) Creation of a catalogue of measures for energy saving
  - d) Asking the caretaker to do energy saving changes e.g. at the heating system and at the illumination
  - e) Information of the other pupils and teachers in the school to implement an energy saving behaviour

### ► Why

The incentives force the interest in the schools taking part at the project.

The Subject is a very good opportunity to combine education with a real-live aspect, as the energy is saved in reality and not only in theory.

### ► When

The projects taking place during the winter, when heat and more electricity is needed. The projects usually takes about 4 Weeks, using 3 school ours per week.

## ► Who

The projects are taking place within the school lessons, so the teachers are organising the biggest part of it but UfU (or other regional organisations, some of them are organised in the “Bundesverband Schule Energie Bildung” [www.schule-energie-bildung.de](http://www.schule-energie-bildung.de)) helping them by the realization of lessons, especially at the Energy round tour and at some of the measurements.

The projects are done on different level in the 4th and 5th class (End of Primary-school) in the 8th till 10th class (Secondary-School level I) or in the 11<sup>th</sup> class (Begin of Secondary-School level II)

## ► Examples - Real world situational examples – Best practices

The projects are imbedded in very different ways, regarding to the different ages and school-subjects they are taking place.

Very often they are arranged in the following courses.

- a) Primary school 4<sup>th</sup> class in technical or social studies (Sachunterricht)
- b) Primary school 5<sup>th</sup> class in “Science” (Naturwissenschaften), a school subject with a combination of biology and general knowledge and plasticising in scientific work.
- c) Secondary school 8<sup>th</sup> class in physics, embedded in the first steps of thermodynamics (Wärmelehre)
- d) Secondary school 8<sup>th</sup> class in computer science  
As the projects contain as well the analysis of measured data as producing information sheets and presentations for the other pupils. Both can be made at the computer.
- e) Secondary school 8<sup>th</sup> class in technical studies (Arbeitslehre)
- f) Secondary school 9<sup>th</sup> class in geography, at a practical respond to the issue “Global Warming”
- g) Secondary school 10<sup>th</sup> class in physics, as a projects that combines different parts of this subject (thermodynamics and electricity; Wärmelehre und Elektrizitätslehre)
- h) Secondary school, Level II, 11<sup>th</sup> class in physics, imbedded in thermodynamics and the science of conversion of energy (Energiewandlungen).

## ► Resources

Measuring-Equipment for

- a) Temperature,
- b) Illumination level and
- c) Consumption of electricity

Brochures with assignments of tasks, worksheets and protocol sheets for the pupils.

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