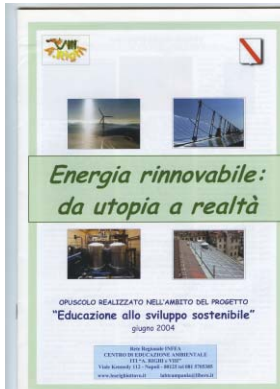


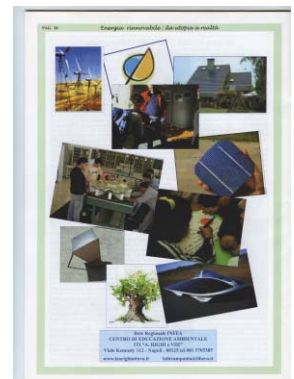


RESIS – Renewable Energetic Sources in Schools AGEAS, ITALY

Summary



The project started out at the beginning of 2004 and stopped at the end of May 2004 with an Energy Fair where the best pilot project, realized by 7 high schools based in the province of Salerno, was awarded. The training seminars (including the possibility to have knowledge of renewable energetic sources both through the sensitization of the rational use of energy and through the development of 1 type of renewable energetic source) were promoted by AGEAS Salerno and teaching material was collected and put together in a CD Rom diffused in 2005. The CD was distributed to each secondary and high school class so to prepare students from a theoretical point of view and disseminate the results of the training session of 2004. The good Italian habit of the "bottega" (little artisan laboratory), ideal place to put theory into practice, understanding the electronic and technical part, permitted the realization of



prototypes of renewables with poor materials, was the conclusion for professional institutes. On May, 29th 2004 a videoconference was organized and the winner was proclaimed. In the brochure of the net INFEA (Centres of Environmental Education) an article was published with the results of the experience.

End-user area

- New buildings
- Refurbishment of buildings
- Transport and mobility
- Financial instruments
- Industry
- Legal initiatives (regulations, directives, etc)
- Planning issues
- Sustainable communities
- User behaviour
- Education
- Other

Target Audience

- Citizens
- Households
- Property owners
- Schools and universities
- Decision makers
- Local and regional authorities
- Transport companies
- Utilities
- ESCOs
- Architects and engineers
- Financial institutions
- Other

Technical

- Energy efficiency
- Heating
- Cooling
- Appliances
- Lighting
- CHP
- District Heating
- Solar energy
- Biomass
- Wind
- Geothermal
- Hydro power
- Other

Context

The project is part of an educational training seminar which the Agency carried out by using a method according to the students' age, interest and future perspectives. The aim of the project was to demonstrate that in the field of renewables working perspectives are more and more possible and that it's possible to concretize theoretical apprehension in practical examples.

The competition between the third classes of the 7 high schools and the videoconference were organized so to permit to exchange experiences, positive and negative impressions, share problems and satisfactions. The 7 schools were: IPSIA "De Vivo" of Agropoli, IPSIA "Ferrari" of Battipaglia, Scientific High School "Rescigno" of Roccapiemonte, ITI "Pacinotti" of Scafati, Convitto Nazionale "Tasso" of Salerno, ITIS "G. Gatta" of Sala Consilina and ITI "Righi" of Naples (out of competition).



The location for the conference was the ITIS "G. Gatta" of Sala Consilina because of its innovative technological preparation and of its experience.

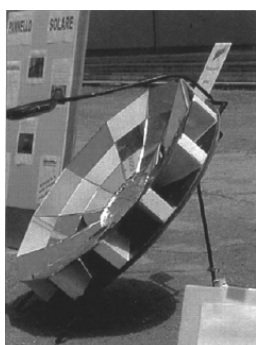
Objectives

The objectives of the "Renewable Energetic Sources In Schools" project, were two:

1. to train and educate students to make suitable choices in study and work matters and to produce a conscious awareness of environment by spreading knowledge of RES and RUE activities;
2. to make students pay attention to energy policies and technologies.



Process



The project was addressed to scientific High-schools, Technical and Professional Institutes. The adopted methodology associated interactive lessons (with the help of video-conference), to guided discussion, to individual or group work-card and to laboratory activity. Students received didactic material consisting in lecture notes about the lessons. (A CD Rom collected all the materials of this lessons, so to permit a dissemination between secondary schools and high schools). Each school realized one or more initiative/s, compatible with its own territory, to be presented through a net which connected them all, to the other adherent schools.



The rational use of energy was analyzed between the following steps:

1. training and information connected to didactic activities;
2. acquisition of dates;
3. organization of didactic activities;
4. typology of interventions;
5. utilization and dissemination of results (energy fair and CD Rom)

The renewable energetic sources were developed as follows:

1. training and information connected to didactic activities;
2. analysis/compatibility with the territory;
3. research activities;
4. development of prototypes on a basic level;
5. utilization and dissemination of results(energy fair and CD Rom)

Each training proposal included four didactic units:

The first unit (same for all proposals) introduced problems connected to the change of climates and the consequent environment crisis to students. The causes of this specific crisis which produced an exponential emission of climate-changing gas was discussed and analyses. Considering the aspect of exhausting fossil resources, advantages and limits of renewable energetic sources were introduced.

The second unit was dedicated to the presentation of technologies of the renewable sources or the rationalization of energy. Beginning from an historical outline of the creation of these technologies the attention was put to present applications and future development. In the field of renewable energy sources physic processes for each technology and device was analysed; guidelines for a correct use of energy in every-day life through a sensitive and rational behaviour was proposed in the field of rational use of energy.

The third unit conducted students through laboratory experiences and with using calculation sheets to the real comprehension of the examined devices.





Financial resources and partners

Schools have supported the initiative with financial resources deriving from the POF (Programme of Formation for Italian schools) for a total of Euro 10.000,00. This amount was used for research material, put it together and prepare lessons about RES and RUE, teaching activity of AGEAS Human Resource, transport to reach schools and the organisation of the videoconference. The realization of the CD (graphical design, printing of CD cover, etc.) was afforded by AGEAS Salerno with Euro 7.000,00.

Results

The results have showed that the training session was well equilibrated for Scientific High Schools, but too theoretical for Professional Institutes which were more interested in the practical realisation and technological aspect. The laboratory was a great success and demonstrated the enthusiasm of teacher and students for the argument. Future working perspectives were interesting, but perhaps it's more useful to close each of the two modules with the direct involvement of students of professional institutes in projecting and installation phase of a thermic-solar or photovoltaic implant, or involving them in the planning of rational use of energy in a school-building.

Lessons learned and repeatability

This training and education seminar was quite successful and should be easy to replicate. The interactive lessons were successful because of the innovative touch given by the AGEAS Salerno. In future this initiative should be replicated and enlarged to primary schools with a game about RES and RUE.

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