

## **RIGHT OF EARTH CITIZENSHIP**

### **Natural resources for sustainable development**

#### Abstract:

At the heart of the theme of the development of nations lies the problem of how to ensure, natural resources and energy to almost 9 billion people, most of whom live in poor countries, within a few decades, all the while respecting the biophysical limits of our terrestrial ecosystem .

This issue directly involves everyone. Poor nations that lack resources will require increasing amounts of energy to reach decent living conditions, while developed countries will have to change their lifestyles, consumption habits, technology and energy sources.

Humanity, as a whole, must learn to live in an ethically, socially and environmentally sustainable manner. The school, representative of a place of training and general expression of interest related to the future, is the main subject of this new planetary educational mission and therefore needs to update its knowledge and "internationalise" special relationships between students from different parts of world. The school must provide information concerning the state of the planet, reflect on future scenarios of nation development, and promote lifestyles and sustainable technologies, in the awareness that humanity has a single, common destiny.

This educational project leads a prime role as part of the Plan of "OffertaFormativa," for environmental education helps to create a social and ethical conscience in our students. Furthermore, it promotes attitudes and behaviours required to improve world we live in, to strengthen our sense of belonging to a European community, thus creating conditions for full participation in the life of democratic societies and open solidarity, to invest in knowledge and cultural exchange.

Generally, the project should be an opportunity to reflect on our lifestyle and consequently to implement greater awareness regarding critical consumption, in relation to our daily lives.

The project therefore derives from the need to encourage a maturation process based on sensitivity among younger generations, with regard to the protection, preservation and enhancement of environmental goods, bearing in mind that the educational work carried out by the school in this direction can prove decisive.

It is hoped that the implementation of this project will really raise awareness among the younger generation on the various issues related to the environment, and that every student will feel like a protagonist in his/her own territory, thus thinking and acting with total respect for others and the environment in which he/she lives, and understanding the need to generate alternative energy and implement procedures for sustainable development. In short, our wish is that that as students grow up, they will become informed adults and actively engage in actions to protect the environment.

#### Purpose:

The project focusses on involving pupils of the school, and aims to establish a collaboration between teams of teachers, classes and / or students and experts in different disciplines, for the development of teaching materials and educational experiences on issues related to the sustainable development of our planet .

In particular, the project has the following aims:

- Establishing new routes and multidisciplinary educational materials on issues of sustainable development
- Activating a work platform that will enable schools and experts to work even at a distance and disseminate materials
- Increasing awareness and informing the territory on the efficient use of renewable sources through the implementation of school projects geared towards adult education.

#### Related Goals:

- Introduce your country and cities with historical and cultural notes.
- Know and understand the dynamic balances that govern the environment.
- Developing the ability to observe the environment with a critical eye and new approaches geared towards attaining awareness of the fact that our future depends on our behaviour.
- Recognize the signs of environmental pollution (illegal dumps, odours, noises, fumes) and the negative effects that alter environmental equilibria
- Become familiar with issues and the technical terminology linked to them, such as environmental emergencies, global warming, the ozone hole, energy saving, waste disposal, waste differentiation, recycling, sustainable development.
- Contributing to form an ecological consciousness: to teach respect, the protection of the environment and biodiversity, saving resources and sustainable development
- To contribute to improving energy efficiency in public and domestic settings, as well as to spread awareness and knowledge of issues relating to energy use and improving the capacity of analysis, choice and action in light of introducing strategies geared to introducing more efficient use of energy in public and domestic environments

#### Formative experiences:

##### 1. Didactic Plan Exploring Sustainable Development

The first macro-objective of the project is to produce new routes and interdisciplinary teaching materials, within the school, on the various issues related to sustainable development of the entire planet, with the help of experts and researchers. These issues include: energy, environment, climate change, new technologies, north-south relationships of world, the fight against poverty, people's rights and world government. The most extensive promulgation of the work carried out will be guaranteed, including translations for educational exchanges with students from other nations.

##### 2. Territorial projects for the promotion of technologies and sustainable lifestyles

The second macro-goal is to promote synergetic initiatives between schools, institutions and enterprises for the extension of renewable energy and energy efficiency on the territory. With respect to this aim, in agreement with the local educational policies, the environment and energy, we want to achieve:

- Citizens forums with institutions, schools, experts and businesses to provide information and raise the citizens' awareness of the economic, environmental and employment benefits related to the development of this sector
- Demonstrative territorial projects for installing solar thermal systems in sports facilities, schools, hospitals and homes to be built and / or renovated
- Training courses for solar thermal and photovoltaic installers care of the technical institutes and professional courses or post-school training for designers of solar thermal and photovoltaic systems

## Theme-based study plans by grades:

### Biennio

- The environmental impact of different forms of energy
- State of the art energy technologies in place
- "The State of the Planet": regulatory aggregate of scientific information and issues on global forests, glaciers, atmosphere, temperature, climate change, rivers, pollution, population.
- Pollution and human health: facts on our territory and comparison with other territories

### Triennio Liceo

- A new international law for the sharing of natural resources: people's UN
- Literature-history-science study plan: current future and forgotten wars contesting the energy and natural resources of our planet
- Literature-philosophy study plan: ethics of future generations; consumption and conscious lifestyles

### Triennio ITIS

- Courses for designers and installers of solar thermal and photovoltaic systems
- Sample design of a photovoltaic system-solar heat for a home, a hospital, a sports facility, a prison, a school of my town
- Environmental chemistry: provision of an itinerant laboratory (ARPA and collaboration with local authorities) for the analysis of water and air, available to the schools on the territory
- Sustainable Mobility: Case Studies of Europe's most innovative cities

## Related Activities:

The project-based study plan addresses the issue of energy efficiency demonstrating the correlation on various local / global levels. First, the school and home as areas of study will be carefully examined through study activities concerning the environment and the daily habits of the project target schools. Namely, the uses, daily habits of users, and structural features of buildings, and suggestions for possible improvement in energy, waste reduction, use of renewable sources. Local territorial references are necessary to understand the broader issues deriving from the area's immediate surroundings: the province's potential and criticism in the production and use of energy. Finally, the global context will be introduced to enable the understanding of the complex nature of the topic: environmental problems such as global warming, depletion of sources, the increase in consumption and risk of blackouts.

- Develop a questionnaire on the use of energy aimed at families and subsequent data analysis
- Research on the European countries having the most favourable requisites for the use of natural resources (eg: wind) for the production of alternative energies
- Research on historical sources of energy used in various countries before the advent of ecology
- Views on the territory to identify places of production of present energy (hydropower) and collecting data on daily habits of energy on local, provincial, regional and national scales in relation to the global context
- Laboratory testing for the use of solar energy through the use of materials. Design of a photovoltaic system
- Meetings with the representatives of companies which produce energy in the territory, during which the activities and results of the project will be illustrated and discussed.

The data collected and compared in the different domestic realities from the point of view of the characteristics and uses of energy will be added to a website and compared with each other.

The description of the activities and materials will be collected for the promulgation of brochures,

posters, and the school magazine on media as CD-ROM and DVD, including the construction of hypertexts and Power Point presentations.

### Resources and Tools

- Lessons during the hours of all curricular disciplines.
  - Reading of anthological excerpts by national and foreign authors who have dealt with environmental issues and text development.
  - Reading books, magazines, newspapers, sources that will bring genuine news about the environment.
  - Vision of websites, documentaries, movies, video, television programmes and advertisements.
- It will be used in school laboratories, and in particular the multimedia classrooms to enrich educational experiences.

### Tests and evaluation:

Testing will be executed through guided talks, with the drafting of brief reports that summarise and comment on experiences undergone. Ongoing dialogues will evaluate the level of interest, participation and learning for students. In a plan aimed at the assimilation of knowledge and values, and the maturation of attitudes ethically oriented towards justice and respect for the reality that surrounds us, evaluation necessarily loses its traditional role of profit measurement; rather it assess the overall performance of the student. In addition to knowledge, therefore, students will be rewarded on the basis of their socio-cultural behaviour, namely in terms of interest, commitment and social awareness reward.