PROMETHEE and its Energy World Tour

Promethee - Mission statement : We wish to look for and provide high-quality scientific information on energies and the impact of their use on the environment. We will develop class materials for primary school pupils and put together a few best energy practices found along our Energy World Tour.

Outline

1. Motivations
2. Our goals
3. Information for primary schools
4. Our team
5. A few selected milestones

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In partnership with

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1. Why? Because sustainable development is strongly related to a thoughtful management of our energy resources

Sustainable development is **ecologically sustainable, socially equitable and economically viable**.
Among others it hence requires:
« - a political system that insures the **effective participation** of citizens in the decision making process,
- a social system capable of **finding solutions** to the tensions due to an unbalanced development,
- a production system that respects the obligation to preserve an ecological basis for (future) development,
- a technological system always on the look out for **new solutions**. »

Source - Le Rapport de la Commission Mondiale sur l'Environnement et le Développement, intitulé Notre Avenir à Tous (Oxford University Press, 1987 et Editions du Fleuve, Québec, 1988).

The present energy landscape:

- High dependency on fossil energies whose resources are limited : a non-sustainable situation
- A qualitatively diverse energy mix
  but high entrance barriers for new technologies
- Environmental impact/consequences : global warming is universally recognized as a result of human activity
- Legitimate wish for higher standards of life in emerging countries: which technologies should be chosen to take into account energy resources limitation and the environmental new deal?

⇨ **A transition is urgent** in order to avoid a major ecological and economical crisis due to global warming and the growing scarcity of fossil energy sources.

Collective concern for energy issues:

- Historical choices in energy policy are being challenged
- Discussions on the need for an energy transition take place but individual awareness on the challenges for the community is yet to arise.
- The youth's disinterest for science and technology contributes to the lack of technical understanding of the problem.
- Countries have taken severely different paths in their commitment to fight the global challenge –best practices can be identified, and should be spread more globally.

⇨ Due to limited understanding of the dreadful consequences of the status quo and of the available solutions, many do not feel the urge or know the possibility of changing their ways. Rapidly **raising awareness** on this issue is crucial.

We are convinced that the current social change can be accelerated.
With your help, let us give it a kick start!

2. Our goals

Leveraging our scientific background and academic partnerships, our objectives are to:

- **Help educate the pupils in our partner primary schools** on sustainable development and its specific energy implications (global warming and scarcity of fossil energy sources)

Educate

- **Report** with facts and concrete/practical examples in France, with the support of local media,
  - on the upcoming lack of fossil energy sources,
  - on alternative energy-generation options
  - on the environmental implications of our energy choices

  → so that citizens will **actively engage in solving the main challenge of this century**.

Encourage an active participation of the population

- **Collect best practices** around the world in order to demonstrate that:
  - this global problem cannot be solved without local and individual action
  - the awareness is shared across borders and continents
  - various actors at all levels of society are committed to solving the problem:
    - politicians,
    - public institutions (local, regional, national and international),
    - private companies,
    - non governmental organisations,
    - individuals.

Find solutions, together and today, for a sustainable tomorrow

Promote a way of life more respectful of the environment

- **Encourage an evolution** in energy consumption patterns by showing that such a change is possible, contributing to push this problem at the forefront of the public scene/civic debate and promoting every day acts that are more respectful of the environment with regards to its energy face.
- Make **scientific and technical jobs more attractive** to the largest number of people.

Present how science is committed to solving environmental issues

3. Information for primary school pupils

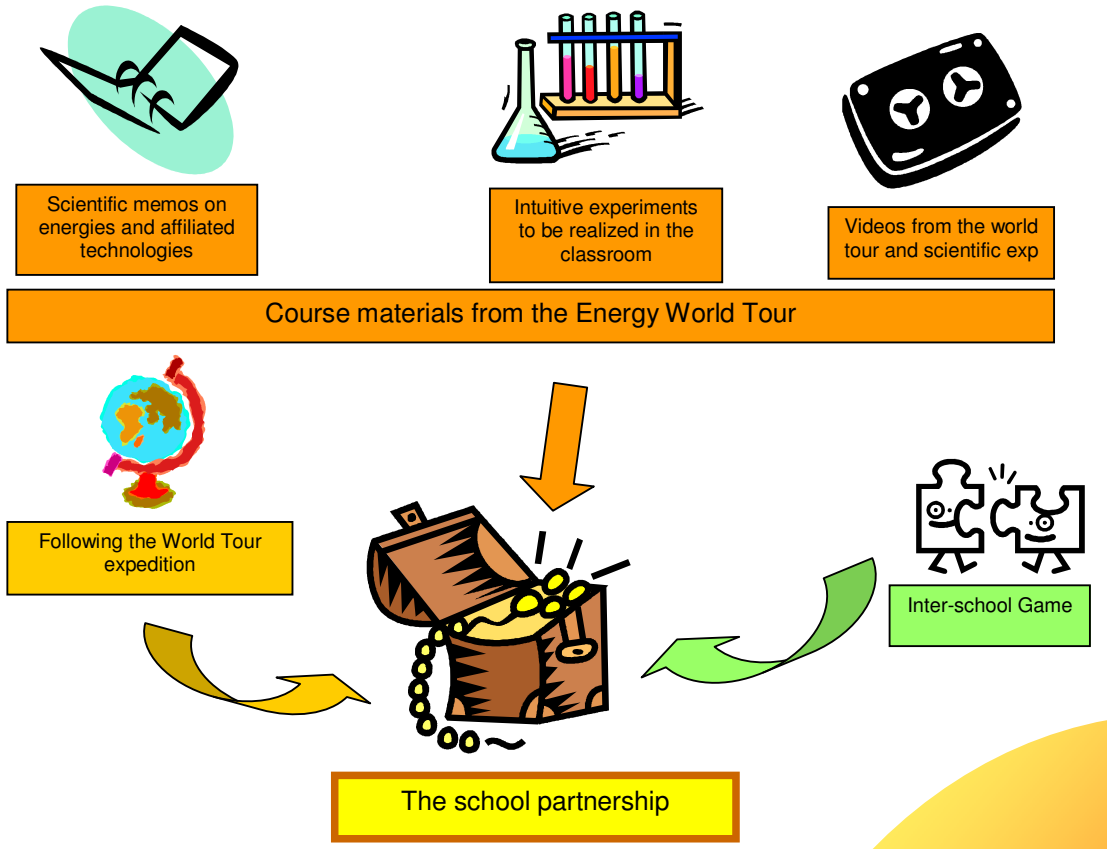
Engage classes of CM1-CM2 (French 10-11 year olds) in an exciting new learning project from February to July 2007

- Communicate frequently with our partner schools during the World Tour.

- Introduce the pupils to energy issues and their impact on the environment, using course materials specially designed by our team with the help of researchers and primary school teachers. These course materials could be used in the following years depending on its success and its added value to the teachers' instruction in the classroom, as evaluated by the teacher.

- Contribute to develop interest for science, to transmitting its ethics and its drive.

- Make the partner classes interact with one another in the game "La Chasse au Gaspi" ("Chasing waste"). The seven classes come from schools in different areas of France and with pupils from various social backgrounds.



4. The team

Our team spent a substantial amount of time both in France and out of France studying energy problems. This international experience gave us an opportunity to get in touch with some of the future participants in the World Tour and helped us orientate our selection of projects.

As students, we complemented our **technical training** by experiences in policy making and the learning of foreign languages. Furthermore, we benefit from the **logistic support** and advice of many a fiend to our cause.

Blandine is full of energy. Of Middle-Eastern descent, she travelled as a teenager in Vietnam, Syria, Central Asia and Canada before doing internships in the United States, Russia and Japan. She studied physics at the Ecole Polytechnique and specialized in nuclear engineering at the University of California at Berkeley. She enjoys teaching and chose to enroll in the French civil service (Corps des Ponts et Chaussées). She coordinated the writing of the reading materials for the schools and our relationship with public institutions and the media.

Elodie likes to travel. A pianist and a semi-long distance runner, she used every opportunity available to explore the French Caribbeans, Russia and Colorado while a student at the Ecole Polytechnique, where she was elected on the student board. After working for a year at EDF in Moscow, our Russian- and Spanish-speaking adventurer added to her undergraduate education a joint graduate degree between the French Institute of Petroleum (Institut Français du Pétrole) and the Colorado School of Mines. Her multilinguism and her knowledge in energy resources make her an ideal reporter for the Wolrd Tour. She is also in charge of our contacts with partner universities and putting together our budget.

Christophe is working towards his PhD degree at Stanford University after having completed his undergraduate degree at the Ecole Supérieure d'Electricité in France. While president of the non-profit organization "Forum Social de Supélec", he developped his talents of entrepreneur and manager. His professionalism, his passion for well organized work and his managerial culture, which he developed in the non-profit management track at the Graduate School of Business at Stanford, are excellent assets to realize a useful, realistic and ambitious World Tour. His experience in China and Japan will help us access information in Asia.

An engineer by training (Ecole Navale), **Riaz** has a passion for geopolitics and international strategy, which raised early on his awareness of energy issues and encouraged him to learn Arabic. In love with his homeland of La Réunion, he follows with a great deal of interest the development of the South Asian peninsula. As part of his graduate thesis at the Ecole Nationale Supérieure d'Electricité, he worked as a trader on emissions quota. In charge of the IT and the "political checks" of the visited counties, his kiss of the blarney stone and his dynamism are precious assets for our team.

5. Some thirty preselected « milestone projects »

With the support of the non-travelling part of the team,
Blandine and Elodie will leave at the end of January 2007
for 7 months of visiting and analysing projects around the world,
to meet inspiring entrepreneurs in about 30 pre-selected milestone projects.

We will meet entrepreneurs committed to solving the energy challenges of this millennium, respecting the environmental constraints such as global warming, who either :

- Produce energy
- Spread access to energy sources (rural electrification …)
- Improve energy efficiency

in order to collect the best practices,
share the entrepreneurs' thoughts and motivations,
better understand the challenges,
and participate to the diffusion of such examples and models in France.

Examples of milestone projects, which could have their scope extended, provided that their assets and consequences are correctly understood:

- Carbon sequestration projects such as the Castor or K-12B projects
- Low energy consumption houses:
  German example of housing complexes using less than 15 kWh/m^2 (to be compared with 80 for new housing in France)
- Energy autonomy on the islands of Gotland and Vlieland (respectively in Sweden and the Netherlands)
- Use renewable and abundant natural resources: biomass power plants on the islands of La Réunion and Madagascar to produce electricity and heat at a low cost, individual heating with wood, use of thermal solar energy

A few examples - Role models for tomorrow ?

Date	Pays	Ville	Focus
January-February 2007	France	Igon, St Germain en Laye, Les Ulis	Visit of the partner classes
	Norway	Hammerfest Stavenger	Underground tidal power plant: what future for the energy from the tides? Visit of an off-shore platform: Off-shore innovations for the ***oil*** sector
	Germany	Kassel (Hessen) Francfurt	***Solar thermal*** system for heating Energy policy of a town
	Spain	Santona, Cantabria	***Tidal wave*** energy, PowerBuoy: pilot project and commercial export
February-April 2007	Morocco	Casablanca	Solar energy, Temasol: rural decentralised electrification
	Angola	Dalia	Deep offshore oil extractionl: how to postpone the end of fossil energies?
	South Africa	The Cap Sasolburg	***Coal exploitation*** **-** 1st refinery transforming coal into oil derivatives Designated National Authority, overseeing the application of the Kyoto protocol
	France, La Réunion	Saint-Denis	Energy independence project: the challenge of energy supply for remote areas ***Geothermic energy*** Visit of the partner school
	Kenya	Nairobi	Fabrication and use of ***biofuels***, UN programme: limit the fossil energy bill
April-Beginning July 2007	Pakistan	Lahore Islmamabad, Karachi	**Use of *solar energy* in gas stations …** Interviews with state officials and industrials in charge of energy efficiency policies
	China	Tsinghua Peking Bhutan	Demo of the nuclear power plant of the future, reactor with gas as the heat carrier: what future for ***nuclear energy*** in China and in the world ***Hydraulic energy***: the dam of the Three Gorges, mixed conclusions? Energy policies in cities of high demographic pressure The first ***eco-city***: build a sustainable city
	Japan	Tokyo	Energy conservation centre, tidal wave energy through the Mighty Whales ***Photovoltaic*** cells development
	Chile	Santiago	Developing technologies more energy-efficient Submarine windmills / hydraulic energy management Public transport
	Venezuela	San Diego de Cantubrica	Heavy oil extraction, Sincor project: what future and what impact for non conventional hydrocarbons?
	Brazil	Porto Alegre Sao Paulo	Rural area electrification: access to electricity for rural populations Transport: a large-scale development of biofuels?
Mid-August-Beginning September 2007	United States	San Francisco Denver New York	Sustainable development at the regional level A cheap solar cell: a revolution for solar energy? International Energy Studies Laboratory, University of California, Berkeley Rocky Mountain Institute World Bank, UN, IMF: what world policies to tackle the energy challenges?

Would you know of any such technological accomplishment, be it in the research or development stage, which you would like to share with us ?
We would be delighted to report on it !
Please get in touch with us by filling the form on this