

Tutorial for Teachers

Guidelines and tools
to develop your educational project



#01 Educational plan

A) Research fields

Educational activities with students will be carried out during **the academic years 2015/2016 and 2016/2017**.

The classes will address energy-related issues focusing on **two thematic areas**:

SOCIO-ECONOMIC
a.y. 2015/2016

**TECHNICAL
ENVIRONMENTAL**
a.y. 2016/2017

A list of **10 specific topics** will be proposed for each area. Students will be requested to work on one single topic.
10 international working groups will be composed involving students of all the participating schools.

#01 Educational plan

B) How to participate

Considering the **differences among the educational systems** of the participating schools, and in particular among the educational plans, the average number of students per class and the school calendars, the schools will be involved in different ways.

Hammerfest VideregåendeSkole (Norway)

2 different classes will be involved, each one composed of ca 20 students.

The first class will be involved in the project during a. y. 2015/2016, focusing on socio-economic issues, and will attend the first Pupils' mobility in Marsico Nuovo (Italy) in March 2016.

The second class will be involved in the project during a. y. 2016/2017, focusing on technical-environmental issues, and will attend the second Pupils' mobility in Zagreb (Croatia) in March 2017.

V.Gimnazija, Zagreb (Croatia)

1 single class will be involved, composed of ca 30 students.

This class will be involved in the project during both a. y. 2015/2016, focusing on socio-economic issues, and a. y. 2016/2017, focusing on technical-environmental issues and will attend both the first Pupils' mobility to be held in Marsico Nuovo (Italy) in March 2016 and the second Pupils' mobility in Zagreb (Croatia) in March 2017.

IIS G.Peano, Marsico Nuovo (Italia)

2 different classes will be involved, each one composed of ca 25 students.

Both classes will be involved in the project during both a. y. 2015/2016, focusing on socio-economic issues, and a. y. 2016/2017, focusing on technical-environmental issues, and will attend both the first Pupils' mobility in Marsico Nuovo (Italy) in March 2016 and the second Pupils' mobility in Zagreb (Croatia) in March 2017.

Drenthe College (The Netherlands)

1 single class will be involved, composed of ca 20 students

This class will be involved in the project during both a. y. 2015/2016, focusing on socio-economic issues, and a. y. 2016/2017, focusing on technical-environmental issues and will attend both the first Pupils' mobility to be held in Marsico Nuovo (Italy) in March 2016 and the second Pupils' mobility in Zagreb (Croatia) in March 2017.

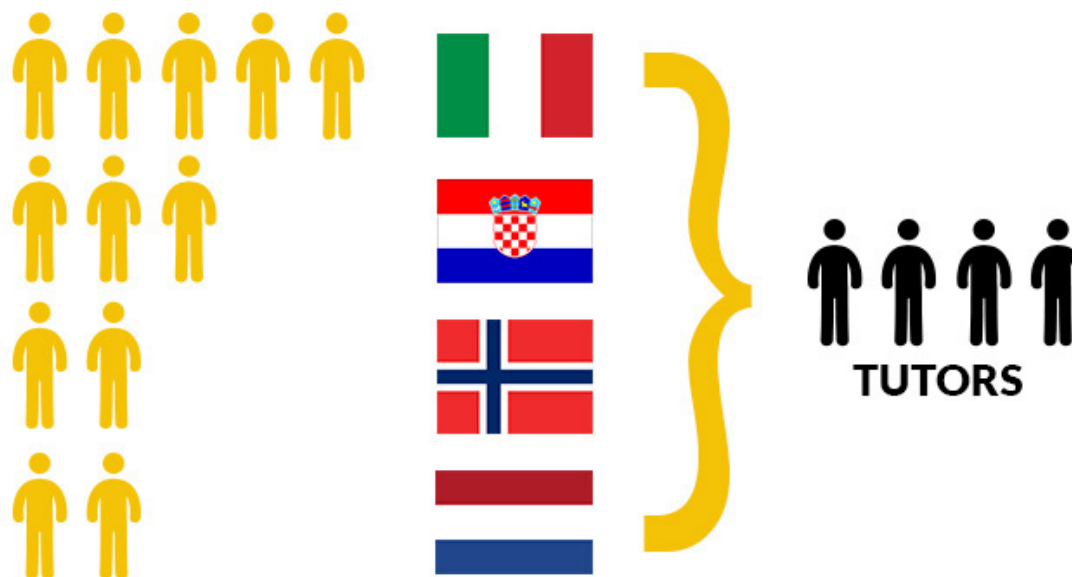
#01 Educational plan

C) Working Groups

In order to encourage the **collaboration between students** of different countries and to stimulate cultural exchanges, **10 transnational working groups will be set up for each thematic area**. Each group will be composed by **12 students and 4 tutors**.

Students will work in groups, **cooperating at a distance**, using the free of charge and user-friendly electronic technology available, such as:

- **Skype** (to organise virtual meetings);
- **Google Drive** (to exchange information and documents);



#01 Educational plan

D) Methodology

To implement properly the activities and to ensure efficient collaboration among the students of the transnational working groups, all participating schools will comply with **the same working plan**, abiding by the set of activities and **deadlines** described below. In particular, during each academic year the students' activities will be organised around **four steps**:

LEARNING

The learning activity will be carried out in the classes, under the supervision of the teachers. Students will gain general information and knowledge on energy-related issues by viewing the web seminars (video-lessons on energy held by experts selected by the partners).

Period: September-October-November

RESEARCH

The students will carry out research activities on the topics assigned, focusing on their local context.

To ensure comparability and accuracy of data collected, the students will use the same methodology and tools provided through the web seminars "Guidelines" and "e-journalism" (video-lesson held by experts selected by the partners).

Period: December-January

#01 Educational plan

COLLABORATION

The students will work in group at a distance using the available web and media tools.

Students within the group will share with each other the data and information collected, and will compare and evaluate data from different contexts. Finally, based on the methodology gained through the web seminar “e-journalism”, each group will develop a journalistic digital report, presenting the results of the joint research.

Each group will be supported by a teacher who will monitor and supervise the activities and outputs produced.

Period: February

MEETING

Each working group will present the results of the work carried out during the two Pupils’ Mobility to be held in Marsico Nuovo (Italy) in March 2016 and in Zagreb (Croatia) in March 2017. In particular, each group will have a slot of approximately 15 minutes. A representative of the group will make the presentation with the support of PowerPoint or other ICT technology.

During the meeting students will be involved in many other group-training activities.

Period: Marsico Nuovo (Italy) 7th/11th March 2016 – Zagreb (Croatia) 20th/24th March 2017

#02 Thematic Areas

Here below is the **list of topics** collected around the **two thematic areas**: **socio-economic issues** and **technical-environmental issues**.

Each topic presents **4 sub-questions**, in order to suggest a sort of grid for the research.



#02 Thematic Areas

01) Socio-economic topics (a.y. 2015/2016)

1) How much does the area you live in (district, region) contribute to the overall energy production of your country?

What types of energy production exist in:

- a) Your district/region
- b) Your country

Present graphically the share (percentage) of each type of energy production in:

- a) Your district/region
- b) Your country

Make a timeline of data (the last four censuses?)

What are the positive/negative aspects of energy production in:

- a) Your district/region
- b) Your country

2) What is the strategic importance for your country of the energy produced in the area where you live?

Define the initial situation. For example:

What is the strategic importance? What is your area?

What is the ideal situation: energy produced for the country of each area on its own?

Is there energy production in your area? Or close to your area? Give an explanation.

Are there plans for the future to locally provide energy? How is that defined?

What is the role of your area and (local) government in the energy supply?

#02 Thematic Areas

3) The energy basket: on which countries does your country rely on in terms of energy supply?

Which countries do you export energy to, and which do your country import from?

What kind of energy is imported/exported?

How does the energy your country imports/exports affect the environment?

What can the consequences be if the import/export ends (politically/economically)?

4) Timeline: how did energy production develop in your country?

Which was the first source of energy exploited in your area/country?

When were new sources of energy discovered in your area/country and by whom?

Where were the local energy production plants located?

What is the present-day situation of energy production in your area/country?

5) Which are the effects on employment of the energy production plants located in the area where you live?

How many people are employed in each energy production sector in:

a) Your district/region

b) Your country

Compare with general employment data in:

a) Your district/region

b) Your country

Make a timeline of the data (the last four censuses).

#02 Thematic Areas

6) What skills and competencies were developed within the area as a consequence of the establishment of the local energy production plants?

Define the initial situation.

What is your definition of skills and competencies?

Which local production plants are there in your area?

Which activities need to be done on the production plants?

How is it organized to have good educated employees?

7) What energy production-related professional expertise is suitable also for other sectors?

Which professions are energy-production related in your area?

Which other sectors are in your area?

In which way will the energy-production related professions suit other sectors?

Are there products made related to energy production that can suit other sectors?

8) Are there common features among the employees working in local energy production plants?

What are they (age, gender, education, etc.)?

List the energy production plants in your district/region.

What is the structure of employees working in local energy production according to age, gender, education, years of work, place of residence, work position in company?

Compare the results of your research.

Make a timeline of the data (4 censuses?)

#02 Thematic Areas

9) How are royalties distributed within the area you live in (district, region)?

What are royalties?

Who decides on the distribution of royalties?

How are royalties used in your area/country?

How many royalties have been assigned up to now?

10) What degree of transparency is ensured by the energy production plant in communicating?

What is the nearest production plant in your area?

Analyse the available information

In what way are inhabitants informed about energy production? For example: can you think about an available safety-plan?

Are inhabitants fully informed about the advantages, the risks etc.?

#02 Thematic Areas

02) Technical-environmental topics (a.y. 2016/2017)

1) How is energy transferred within your country?

What kind of energy is produced in your country?

Where will the energy be transferred?

What kind of transport possibilities is available?

What does your country choose, and why?

2) What monitoring systems are in place in the local energy production plant?

What data are recorded and how are they communicated?

Who manages the monitoring system in your area/country?

Have there been any complaints about communication transparency?

3) What activities are carried out locally to protect water?

What are the biggest water pollutants in your district/region?

What is the quality of water in your district/region?

What activities to protect water are carried out in:

a) your home

b) your school

c) your community/energy production plant

d) your city/district

Research the importance of water protection for the future.

#02 Thematic Areas

02) Technical-environmental topics (a.y. 2016/2017)

4) What activities are carried out locally to reduce emissions?

What activities are there?

Who is involved?

How are rules being maintained? And who is responsible for the rules enforcement?

5) How are waste and waste products managed locally?

What kind of energy is produced locally in your area?

What kind of waste and waste products does your energy production plant generate?

What are the management opportunities (disposal technologies) available?

What do the companies choose, why do they prefer this method and is it the best option for the environment?

6) What local activities are carried out to protect the biodiversity?

What are the damages to biodiversity in your area?

What are the major pollutants of biodiversity?

7) Are there different oil qualities and what are their effects on the environment?

What are the characteristics (features) of different types of oil?

How does each oil type influence the environment (water, air, soil, flora, fauna...)?

How does the method of oil exploitation (drilling, extraction...) of different oil qualities influence the environment?

#02 Thematic Areas

02) Technical-environmental topics (a.y. 2016/2017)

8) What safety measures are in place locally to protect the health of the plant employees and of the local inhabitants?

What safety measures are in place locally for plant employees?

What safety measures are in place locally for local inhabitants?

Who is involved?

How are safety rules being maintained? And who is responsible for the rules enforcement?

9) What energy production plants does your country have and how much of the national energy demand do they cover?

What kind of energy does your country produce and how much does your country consume?

How is the energy consumption spread in various areas?

What do you have to do in your country to assure that you will be self-sufficient on energy?

Compare the production and consumption of energy throughout the history. What does your country do to keep up with the demands of energy?

10) What are the storage problems of wind and solar energy sources?

Where are the wind and solar energy plants located?

When did they begin operating?

Who takes care of the storage?

#03 Local overview

This **preliminary phase** is addressed to all students, regardless of the group and topic of assignment. In fact, it aims at providing all students with an overview of their country's energy context.

After examining the learning tools published on the Learn area of the Platform, each class will be invited to collect country-specific energy information and to fill in the **digital questionnaire** available in a tutorial area.

Local data collected will then be developed into a synthetic comparative report that will be published on the Platform.



#04 Assignments

This section is to be completed online!

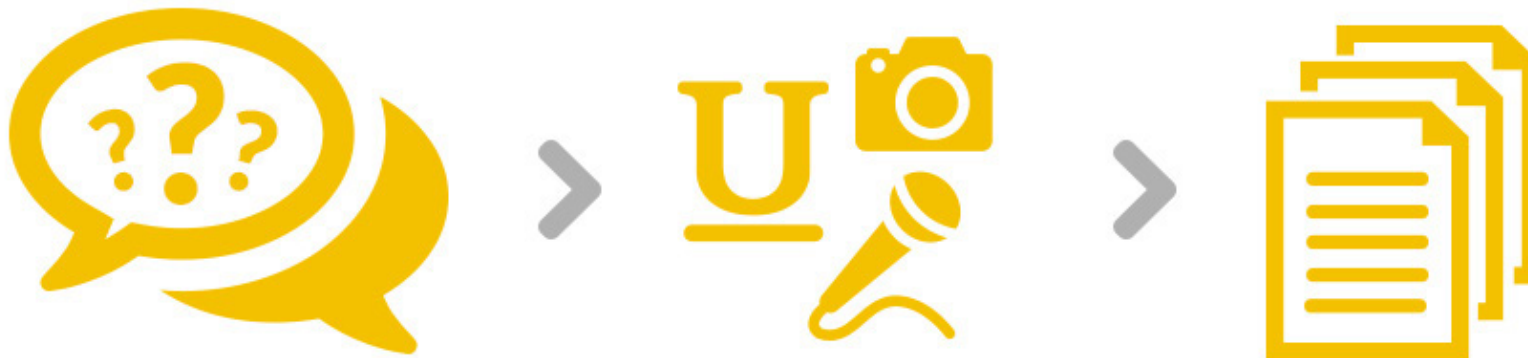
Each group, linked to a topic, is composed by **12 students** and **4 tutors**, from the different schools.



#05 Data collection

Depending upon the topic, the teachers of each group shall firstly agree on the methodology for data collection. To this aim, each group shall define a common set of questions, aimed at providing **comparable local information**.

Each question shall be accompanied by a **short description of the objectives** and, whenever possible, of the collection procedure. Each student shall collect the same type of data. This will allow for the comparison of country-specific data and for the aggregation of such country-specific data into a journalistic digital report.



#06 Collaboration and comparison



Local data and working steps will be discussed within the group.

Students will meet in video conference at the beginning of the work with a **Skype call**, then they will share ideas and comments with the **dedicated forum** in the Meet area. They will also upload documents and their gradual work in progress using **Google Drive**.

Tutors will support the students in organising their work, in particular in setting the deadlines of both national and joint activities.

#07 Digital report

For each group, the **students of the same school** will produce a **digital output in journalistic format** (a reportage, a video interview, a whitepaper in pdf, a short movie, etc) representing what they have learned and discovered in their district about the topic assigned.

As a guideline for the development of the journalistic output, students will be supported by the **web seminar “e-journalism”** published on the Platform.

Then they will enter the **Meet Area**, select the proper folder created for the specific topic and upload their digital output. Any folder, representing a topic, will become a showcase for the 4 digital output produced by the group.

After sharing and comparing the country-specific data, each group will finally draft a **shared Power Point presentation, summing up the outcomes and specially the pros&cons of the research work carried out.**

The students will upload their presentation in the Meet area, so that the project tutors could check it in advance and help the group for the next step of refinement during the meeting.



#08 Presentation

By the end of the academic year, all groups will meet face to face to present the outcomes of the research work carried out. The project tutors firstly will help students, group by group, to **improve** their short digital report, giving also some usefull communication **advices**, in order to manage an effective presentation.

Then each group will have a slot of approximately 15 minutes to present the digital report produced with the support of a PowerPoint presentation. During the first meeting (**scheduled in Marsico Nuovo, Italy, from the 7th to the 11th of March 2016**) reports focusing on the **socio-economic topics** will be presented.

Students will also **visit a energy production plant** during that week. Any group will be asked to produce a brief presentation of what they have seen, discovered, photographed during the visit. In the second meeting (**scheduled in Zagreb, Croatia, from the 20th to the 24th of March 2017**) reports focusing on the **technical-environmental topics** will be presented.





Thank you for your attention and

**GOOD LUCK WITH
YOUR WORK**