NEWSLETTER 2

Lifelong Learning Programme

SUSTAINABLE DEVELOPMENT – A 'GREEN' FUTURE FOR EUROPE

LATVIA PORTUGAL CZECH REP. SPAIN LITHUANIA GREECE ROMANIA

Rigas 9. vakara (mainu) vidusskola
RIGA
(LATVIA)

Colegiul Tehnic Energetic “Dragomir Hurmuzescu”
DEVA
(ROMANIA)

Šiauliu Jaunimo Mokykla
SIAULIAI
(LITHUANIA)

1.Esperino Epal Trikalon
TRIKALA
(GREECE)

Escola Secundaria Augusto Cabrita
BARREIRO
(PORTUGAL)

Instituto Enseňanza Secundaria Maria Pacheco
TOLEDO
(SPAIN)

Obchodní akademie
KARVINÁ
(CZECH REPUBLIC)

Foreword:

This project started in September 2013 and it will last until June 2015. Seven participating schools from Latvia, Lithuania, Romania, Greece, Spain, Portugal and the Czech Republic have been working and will work on tasks connected with the topic of sustainable development and ecology.

Seven meeting are scheduled for the period of 2013 – 2015:

1st meeting	LATVIA	November 4-8, 2013
2nd meeting	CZECH REPUBLIC	February 3-7, 2014
3rd meeting	PORTUGAL	March 24-28, 2014
4th meeting	LITHUANIA	September 29 – October 3, 2014
5th meeting	GREECE	December 8-12, 2014
6th meeting	ROMANIA	March 2-6, 2015
7th meeting	SPAIN	April 20-24, 2015

In the first newsletter you could read about the first steps in our project, now let´s take a look at what the students and teachers from all participating schools have done since January 2014!

Here are the stories from the partner schools about their new project activities

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Our School:

Obchodní akademie KARVINÁ

Who we are:

Teachers: Martin FROLÍK, Jiří JANÍK, David HOLZBAUER, Iva VRBOVÁ, Zdeňka PARCHANSKÁ, Irena MORÁVKOVÁ, Miroslav HRUŠKA

Students: Kateřina Kiššová, Hana Látová, Dominika Václavíková, Dominika Pipreková, Anna Vaňková, Denisa Valentová, Lucie Holbová, Mirka Švendová, Marie Amanatidu, Kateřina Miklášová, Kamila Wicherková, Lenka Kučerová, Kamila Teichertová, Natálie Feiková, Jana Válková, Nikola Jančová, Monika Uhlíková and Denisa Piačková.

Our activities:

Since the beginning of the year we have been working hard to prepare the second meeting in Karvina. In cooperation with several partners we arranged the programme of the meeting……..

Lifelong Learning Programme

PROGRAMME OF THE 2nd MEETING

KARVINÁ (Czech Republic), 2-8 FEBRUARY 2014


LATVIA


PORTUGAL


CZECH REP.


SPAIN


LITHUANIA


GREECE


ROMANIA

SUSTAINABLE DEVELOPMENT – A „GREEN" FUTURE FOR EUROPE

Sun FEB 2	12.00 – 23.00	Arrivals of the delegations	Karvina
Mon FEB 3	09.00 09:30 12:00 14:00 16:00 18:00	Meeting at school Opening ceremony Country presentations, National quisine Lunch Meeting in the town hall Sightseeing Karvina Dinner with host families / teachers - bowling	School Town hall Town centre
Tue FEB 4	09.00 09:30 14:00 16:00 18:00	Meeting at school Excursion to the Detmarovice power station Excursion to the Landek Mining Museum Visiting Ostrava Free time with host families	School Detmarovice Ostrava Karvina
Wed	09.00	Departure from school	Karvina

FEB 5		Ecological Excursion to the Beskydy mountains	Roznov pod Radhostem
	16:30	Visiting Havirov – the youngest town in Czech Rep.	Havirov
	18:00	Visiting ice-hockey match Havirov-Mlada Boleslav	
	21:00	Arrival back in Karvina	Karvina
Thu	09.30	Meeting at school	school
FEB 6	10:00	A lecture about Czech educational system	
		Lunch	
	12:00	Presentations of work about global warming	
	13:00	Students - Workshop at school	
		Teachers – planning the 3rd meeting	
		Free time with host families / teachers - dinner	
	16:30		
Fri	09.00	Visiting lessons	school
FEB 7		Teachers – evaluation of the run of the project	
	11.30	Lunch	
	13:00	Free time in Karvina	

…and it started with an interesting presentation of our cultures – the Day of National Quisine. I am sure we all enjoyed it and some of us even appeared in the local newspaper!

In the afternoon we visited the Town Hall where we had a meeting with the local representatives and after that we continued with sightseeing the Chateau. Later the students could spend their time with host families while the teachers competed in bowling.

The next day was devoted to excursions. We started in Detmarovice power station and the second excursion took place in the mining museum in Landek.

Wednesday programme was focused on eco-tourism, the students and teachers from all participating schools were taken to the Beskydy mountains where we took a hike in the mountains. We also visited a famous cultural place in Pustevny. Later in the afternoon we shortly visited Havirov, the youngest town in the Czech Republic and in the evening we were supporters in an ice-hockey match in Havirov where some students were also interviewed by the local TV.

You can find the interviews for the local TV on the project website:
www.green-future-for-europe.webnode.cz

Project activities continued on Thursday. First there was a seminar about the Czech educational system led by the teachers from the Silesian University and in the afternoon the workshops about global warming continued. Other countries showed their presentations of global warming effects in their countries and after that the students worked out common outputs from the presentations.

And a few more interviews for the local TV were made! ☺

The second meeting finished on Friday morning when the students and teachers attended lessons at school.

Many thanks to everybody who participated in the project meeting in Karvina and see you in your countries again! ☺

<u>After the meeting:</u>

We continued in our project work – the website was updated, the project noticeboards brought the information about other meetings and the work on presentations for the next meeting began……

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Esperino Epal of Trikala

Comenius Partnership Lifelong Learning Project:

SUSTAINABLE DEVELOPMENT – A 'GREEN' FUTURE FOR EUROPE

1ο Εσπερινό ΕΠΑ.Λ. ΤΡΙΚΑΛΩΝ

1ο Εσπερινό ΕΠΑ.Λ. ΤΡΙΚΑΛΩΝ

2nd Newsletter by Esperino Epal of Trikala

This Newsletter describes and presents all the new activities made by the Greek Comenius team

Our Environmental Glossary

Our bilingual glossary started in early December and was ready by the end of January. The students shared letters of the two alphabets and for ten minutes during each IT and English class they searched the Internet and Dictionaries for Environmental terms.

They were finally able to make an English-Greek, Greek-English Glossary, 18 pages long, which includes basic terms concerning the Environment.

That was really hard work but with the help of the IT and English teachers the Glossary is now ready for use by the whole Comenius team.

A

Αβιοτικό περιβάλλον: Abiotic Environment

Αβιοτικά συστατικά ή Αβιοτικοί παράγοντες: abiotic factors

Άγρια ζωή: wildlife

Αγροτικό οικοσύστημα ή Αγρο-οικοσύστημα: agro ecosystem

Αγροτουρισμός: agritourism

Αγροχημικά: agrochemicals

Αειφορία ή Αειφόρος ανάπτυξη ή Βιώσιμη ανάπτυξη: Sustainable development

Αερόβιος: aerobic

Αιγιαλίτιδα ζώνη: Territorial waters, coastal zone

Αιθαλομίχλη: smog

Αιολική ενέργεια: wind energy

Αισθητικό δάσος: aesthetic forest

Ακραία καιρικά και κλιματικά φαινόμενα: extreme weather and climate conditions

Ακτή: coast

Αλατούχο έδαφος: salinized soil

Αναδάσωση: reforestation

Ανακύκλωση υλικών: recycling

Ανανεώσιμες πηγές ενέργειες (ΑΠΕ): Renewable Energy Sources

Αναπαραγωγή: reproduction

Αναπνοή: respiration

Ανθρωπογενές περιβάλλον: human environment

Ανομβρία: drought

Αντιπυρική ζώνη: firewall

Απόβλητα: waste

Αποίκηση: colonization

Απορρίμματα: waste

Απορρυπαντικά: detergents

Αποψίλωση δασών: deforestation

Αφαλάτωση: desalination

B

Βάλτος: marsh, swamp

Βιοδιάσπαση: biodegradation

Βιοδυναμική γεωργία: biodynamic agriculture

Βιοκοινότητα: biotic community

Βιολογικά προϊόντα: organic products

Βιολογική γεωργία: organic farming

Footprint of school building

The students of the Comenius team made an effort to calculate the footprint of our school building.

Initially they calculated the heated surface of the school.

With the help of the measure tape, they found the total surface.

Then recorded the consumption of the building for heating and lighting.

The only energy sources were the electricity power and the heating fuel.

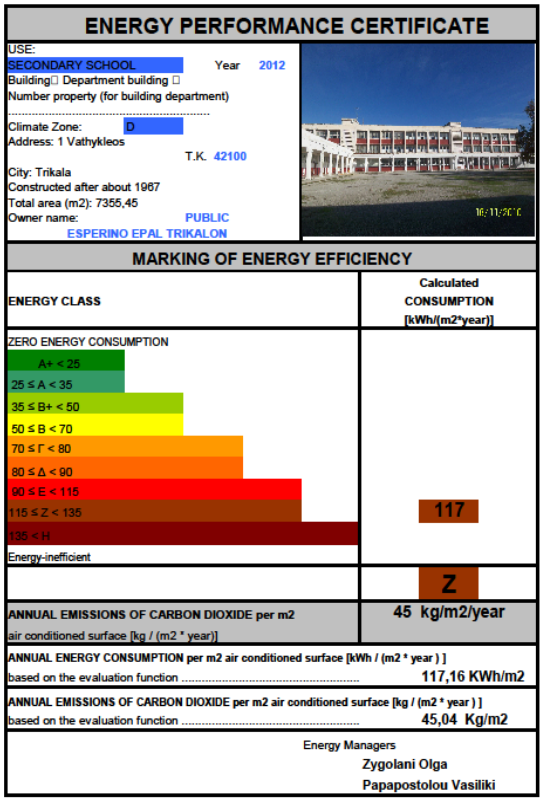
They summed up the total energy consumption for the year 2012 and through a form of calculation they managed to estimate the

Energy Performance Certificate

The Energy Efficiency Certificate of the School Building was completed and was issued with the help of the energy managers of the Secondary Education Office in Trikala, who showed students how to work with the calculation form of carbon dioxide.

A school building can be energy efficient, and does not pollute the environment, if the emissions do not exceed the 70 Kg/m2/year.

The building was finally announced as ‘energy inefficient’. According to the results of the energy audit, the building should reduce the consumption of energy. This of course will be achieved through the



ENERGY PERFORMANCE CERTIFICATE

USE:
SECONDARY SCHOOL Year 2012
Building☐ Department building ☐
Number property (for building department)
.....
Climate Zone: D
Address: 1 Vathykleos
T.K. 42100
City: Trikala
Constructed after about 1967
Total area (m2): 7355,45
Owner name: PUBLIC
ESPERINO EPAL TRIKALON

MARKING OF ENERGY EFFICIENCY

ENERGY CLASS	Calculated CONSUMPTION [kWh/(m2*year)]
ZERO ENERGY CONSUMPTION	
A+ < 25	
25 ≤ A < 35	
35 ≤ B+ < 50	
50 ≤ B < 70	
70 ≤ Γ < 80	
80 ≤ Δ < 90	
90 ≤ E < 115	
115 ≤ Z < 135	117
135 < H	
Energy-inefficient	
	Z
ANNUAL EMISSIONS OF CARBON DIOXIDE per m2 air conditioned surface [kg / (m2 * year)]	45 kg/m2/year

ANNUAL ENERGY CONSUMPTION per m2 air conditioned surface [kWh / (m2 * year)]
based on the evaluation function 117,16 KWh/m2

ANNUAL EMISSIONS OF CARBON DIOXIDE per m2 air conditioned surface [kg / (m2 * year)]
based on the evaluation function 45,04 Kg/m2

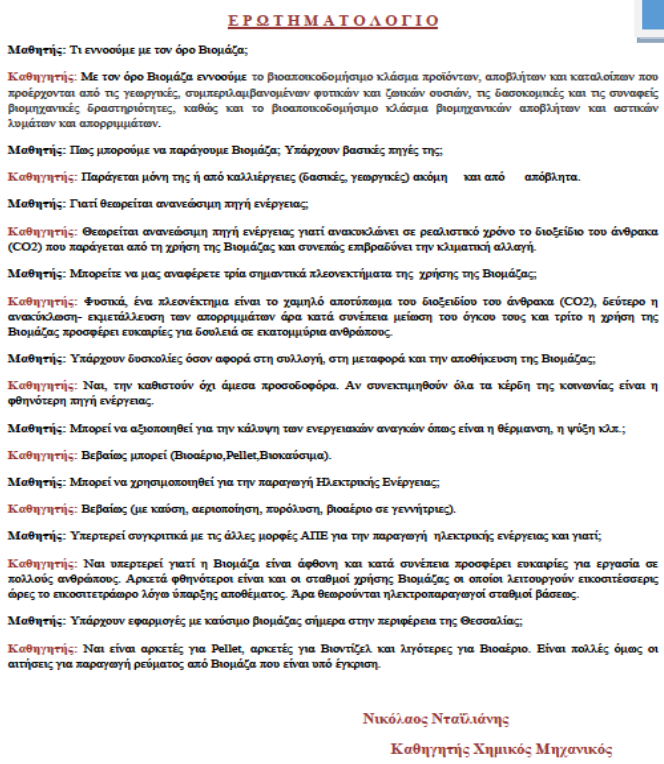
Energy Managers
Zygolani Olga
Papapostolou Vasiliki

A group of our Comenius team visited a photovoltaic park and were informed about the process of solar power being directly converted into electricity with the use of the photoelectric effect that causes certain materials to absorb photons of light and release electrons. When these free electrons are captured, electric current results that can be used as electricity.

Photovoltaic modules and arrays produce direct-current (dc) electricity. They can be connected in both series and parallel electrical arrangements to produce any required voltage and current combination. The students realised the benefits for the environment of producing electric power not from coal or lignite but from a natural source such as the sunlight.

Within the framework of our Comenius project, some participating students held an interview on Biomass. They prepared a questionnaire and met Mr. Nicholas Dailianis, teacher of Chemistry, who informed them of Biomass as a Renewable Source of Energy.

Interview



ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Μαθητής: Τι εννοούμε με τον όρο Βιομάζα;

Καθηγητής: Με τον όρο Βιομάζα εννοούμε το βιοαποικοδομήσιμο κλάσμα προϊόντων, αποβλήτων και καταλοίπων που προέρχονται από τις γεωργικές, συμπεριλαμβανομένων φυτικών και ζωικών ουσιών, τις δασοκομικές και τις συναφείς βιομηχανικές δραστηριότητες, καθώς και το βιοαποικοδομήσιμο κλάσμα βιομηχανικών αποβλήτων και αστικών λυμάτων και απορριμμάτων.

Μαθητής: Πως μπορούμε να παράγουμε Βιομάζα; Υπάρχουν βασικές πηγές της;

Καθηγητής: Παράγεται μόνη της ή από καλλιέργειες (δασικές, γεωργικές) ακόμη και από απόβλητα.

Μαθητής: Γιατί θεωρείται ανανεώσιμη πηγή ενέργειας;

Καθηγητής: Θεωρείται ανανεώσιμη πηγή ενέργειας γιατί ανακυκλώνει σε ρεαλιστικό χρόνο το διοξείδιο του άνθρακα (CO2) που παράγεται από τη χρήση της Βιομάζας και συνεπώς επιβραδύνει την κλιματική αλλαγή.

Μαθητής: Μπορείτε να μας αναφέρετε τρία σημαντικά πλεονεκτήματα της χρήσης της Βιομάζας;

Καθηγητής: Φυσικά, ένα πλεονέκτημα είναι το χαμηλό αποτύπωμα του διοξειδίου του άνθρακα (CO2), δεύτερο η ανακύκλωση- εκμετάλλευση των απορριμμάτων άρα κατά συνέπεια μείωση του όγκου τους και τρίτο η χρήση της Βιομάζας προσφέρει ευκαιρίες για δουλειά σε εκατομμύρια ανθρώπους.

Μαθητής: Υπάρχουν δυσκολίες όσον αφορά στη συλλογή, στη μεταφορά και την αποθήκευση της Βιομάζας;

Καθηγητής: Ναι, την καθιστούν όχι άμεσα προσοδοφόρα. Αν συνεκτιμηθούν όλα τα κέρδη της κοινωνίας είναι η φθηνότερη πηγή ενέργειας.

Μαθητής: Μπορεί να αξιοποιηθεί για την κάλυψη των ενεργειακών αναγκών όπως είναι η θέρμανση, η ψύξη κλπ.;

Καθηγητής: Βεβαίως μπορεί (Βιοαέριο,Pellet,Βιοκαύσιμα).

Μαθητής: Μπορεί να χρησιμοποιηθεί για την παραγωγή Ηλεκτρικής Ενέργειας;

Καθηγητής: Βεβαίως (με καύση, αεριοποίηση, πυρόλυση, βιοαέριο σε γεννήτριες).

Μαθητής: Υπερτερεί συγκριτικά με τις άλλες μορφές ΑΠΕ για την παραγωγή ηλεκτρικής ενέργειας και γιατί;

Καθηγητής: Ναι υπερτερεί γιατί η Βιομάζα είναι άφθονη και κατά συνέπεια προσφέρει ευκαιρίες για εργασία σε πολλούς ανθρώπους. Αρκετά φθηνότεροι είναι και οι σταθμοί χρήσης Βιομάζας οι οποίοι λειτουργούν εικοσιτέσσερις ώρες το εικοσιτετράωρο λόγω ύπαρξης αποθέματος. Άρα θεωρούνται ηλεκτροπαραγωγοί σταθμοί βάσεως.

Μαθητής: Υπάρχουν εφαρμογές με καύσιμο βιομάζας σήμερα στην περιφέρεια της Θεσσαλίας;

Καθηγητής: Ναι είναι αρκετές για Pellet, αρκετές για Βιοντίζελ και λιγότερες για Βιοαέριο. Είναι πολλές όμως οι αιτήσεις για παραγωγή ρεύματος από Βιομάζα που είναι υπό έγκριση.

Νικόλαος Νταϊλιάνης

Καθηγητής Χημικός Μηχανικός

A short conclusion in English:

By Biomass we mean the biodegradable fraction of products, waste and residues from agricultural, including vegetal and animal substances, forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste and waste water treatment. It is self-produced or by crops (forestry, agriculture) and even from waste. It is considered a renewable energy source because it recycles carbon dioxide (CO2) produced by the use of biomass in realistic time and thus it slows down climate change. One advantage is the low footprint of carbon dioxide (CO2), secondly the recycling or use of waste which results in reducing the volume of waste and thirdly the fact that the use of Biomass offers job opportunities to millions of people. There are difficulties in the collection, transfer

LOGO COMPETITION

and storage of biomass. That makes Biomass non-profitable at once. But if you take into account all the possible benefits, it is the cheapest source of energy. It can be used to meet energy needs such as heating, cooling (Biogas, Pellet, and Biofuels). It can be used for electricity production (with combustion, gasification, pyrolysis, biogas in generators). It is superior compared with other forms of renewable energy for electricity generation because biomass is abundant and therefore it offers job opportunities to many people. Even biomass stations are much cheaper because they operate 24 hours a day due to the existence of stock. So, they are considered base stations for production of electricity.

Each country took part in this competition with two candidate logos. The Greek school created a voting platform which could be accessed by ten students from each country who voted for the best logo.

The candidate logos from the participating countries were:

Greece

Greece

Spain

Spain

Latvia

Latvia

Lithuania

Lithuania

Portugal

Romania

Romania

Czech Republic

Czech Republic

And the winner was .....

Czech Republic

Congratulations……!!!!!!!!!!!!!!!!

……

Our School:

Rigas 9. vakara (mainu) vidusskola RIGA

Project activities: Year, 2014 – January, February

We are:

- **Teachers – Ilze Dupate, Ineta Viksna, Jana Strautmane, Kristine Abele, Una Anaite, Ingrida Cilite, Santa Berzina, Olga Voronova, Anna Bunetova, Julija Sipovica, Inara Jankovska**
- **Students – Nadezda Volkova, Valerija Bane (grade 8), Gunita Bataraga, Viktorija Dubrovska (grade 9), Santa Skrabe and Uldis Saukums (grade 12), as well all Primary School Students**

We are still ascertaining and visiting places in connection with

saving energy and green ways of producing energy

- **On January 17th ,went to Latvenergo (the largest electricity trader in Baltics) to find out how to save recources of electricity!**

- **On January 31st, went to Institute of Physical Energetics, to find out about renewableenergies in Latvia**

- **Before going to Czech Republic made some bird houses for our birds and as a present to our partners**

- **On Ferbruary, 3ed we went to Chech Republic to meet other project participants and**
  Speak about Global Warming and the agenda for further activities.

Czech Republic – comments and pictures from Ineta Viksna!

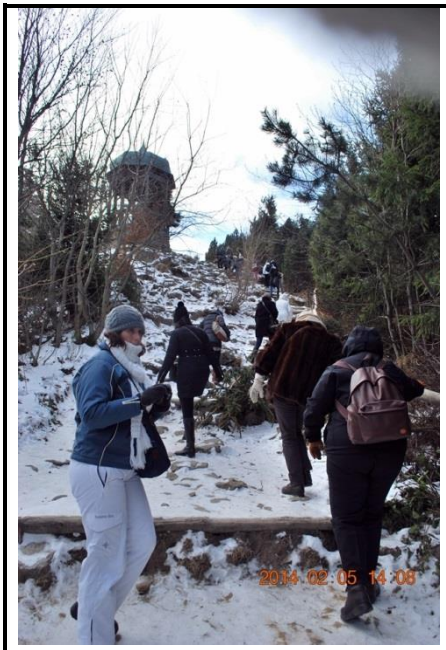
Arrived in Karvina, Czech Republic. We are happy although we had long 14 hour journey!

Just as we arrived the official part has begun and we were ready to present our country, Riga and presentation about Global warming in Latvia. We prepared national cuisine; rye – bread with honey, national cheese, as well our chocolate. Gunita Bataraga and Santa Skrabe presented presentations, and after that we could taste all prepared food from all seven countries. That was delicious.

At the same day we visited the vice mayor of Karvina. Acknowledge more about city economics and history and future prospects.

The next day we went on an excursion to Detmarovice power station and museum of coal mining.

We also climbed up to the Beskydy mountines.



We also had an opportunity to watch Czech National hockey game – we were great supporters.

At last, presentations about Global Warming in each country, our girls Santa Skrabe and Gunita Bataranga preparing for presentations.

We were also mantioned in the local newspaper! ☺


EVROPŠTÍ STUDENTI PŘIJELI PRO ZKUŠENOSTI DO KARVINÉ

Delighted from the meeting our team came back from the meeting

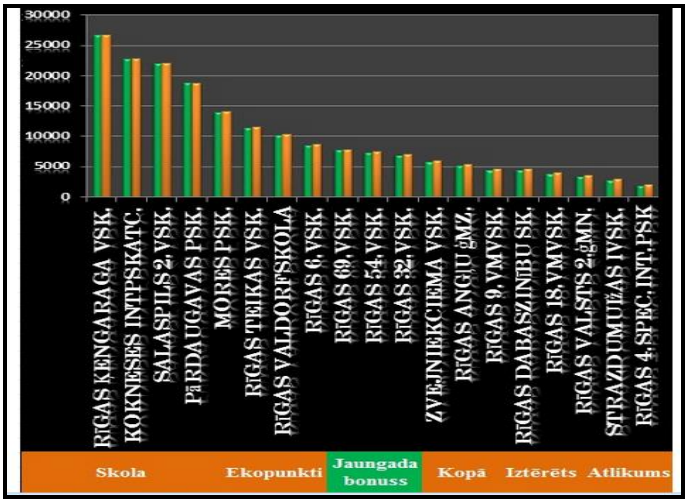
- **<u>We created the Comenius stand!</u>**

- **<u>Regularly cleaned schools environment!</u>**

- **Still collecting wasted paper to help animal shelter!**
- **In January we gathered 132 kg of wasted paper!**

- **We activilly collected PET bottles**

- **These are our latest results – we are on 14th place among other schools in Riga**



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<u>Our School:</u>

Instituto Enseňanza Secundaria Maria Pacheco TOLEDO

<u>Who we are:</u>

Teachers: Consuelo Martínez, Eusebio Torrejón, Mª Carmen Rescalvo, Carmen Guijarro, Carlos Gómez, Laura Santiago, Pedro Leal, Nuria Cuevas , Gregorio Guillén Y Carmen Fernández..

Students: María Espinosa, Marta Gamero, Marina Sánchez, Sofía Sánchez, Andrea Figueroa, Elena Sáez, Paola Díaz, Ana Alonso, Sofía Barbado, Sandra

Blanco, Teresa Cabezas, Ana María Hernández, Ana Martín, Marta Vizuete, Clara Marín, Marta Fernández, Víctor Criado, Pablo López, Violeta Calvo, Carlos Atalaya, Inmaculada Vizuete, Rubén Balmaseda, Sergio Alonso, Daniel Díaz y Arturo Pareja.

What we have done

- We planted almond trees in the court yard.

- Water Day celebration

  Power point presentation about how to recycle and the consequences of not doing it

  Watching The Day After Tomorrow film and getting conclusions.

Mobile with water drops. In every drops the students wrote a sentence about how to save water.

- Recycling materials: Flowers made with plastic bottles.

- A walking by the riverbank with a group of French students. Study of the native and foreign plants.

- Visit to a wind farm.

- And we are also going on recycling.

.....

Our School:

Colegiul Tehnic Energetic "Dragomir Hurmuzescu" DEVA

Who we are:

Teachers: Beata KOSS, Ina MATEIU, Mirela GHERMAN, Laura DANC, Angela GIURGIVEANU, Corin ALBU, Alexandru BADOI

Students: Andrei STANUS, Laurentiu HOCKL, Bogdan PREDA, Susana BONI, Diana DEVIZA, Mihai POMOIA, Roberto HURUBEAN

The students from our school are getting more and more involved in the activities of this project.

After returning from Karvina, the place of our second project meeting, the three participant students: Bogdan, Roberto and Mihai disseminated their experiences and what they've learned in front of our students and professors. They've presented the daily activities of the meeting by showing them a lot of pictures. They've stressed out the importance of this meeting in more than one area: cultural, social, linguistic.

We would like to collaborate with all of our students in this project, that's why we asked them to take part in a recycling process. The aim is to recycle paper and thus to make them conscious about the importance of nature. This way every classroom could be cleaner and the students could start thinking "green" for their future. These activities will continue till the end of the school year.


Banane
DE GUADELOUPE
& MARTINIQUE

We were talking about saving energy to our students, so we asked them to fill out a survey on the internet, and also we posted in every classroom near the switch an image showing the importance of saving electricity and in the school bathroom images about not wasting water.

Many thanks to all participating schools for their narrations, photos about their project activities! It is clear that our project is working very well and the students and teachers are enjoying the cooperation! Good luck with your future work!

Martin Frolík
Obchodní akademie Karviná
Czech Republic

This newsletter is based on narrations and photos from the teachers and students from all participating schools!

Lifelong Learning Programme

DECLARATION

This project has been funded with support from the European Commission. This newsletter reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.