"European support network for green jobs innovations – GREENET"
Workshop 2 - Zagreb

Example of good practice: IPA projects implemented

Goran Nuskern, "Ruđer Bošković" Technical School, Zagreb,

26 February 2015

IPA projects implemented

APPLICATION OF NEW CURRICULA
improving the knowledge and information on renewable energy sources

Strengthening the adult education sector in order to increase the competitiveness of the participants on the labour market

INVESTING IN THE FUTURE

This project was co-financed by the European Union from the European social fund

APPLICATION OF NEW CURRICULA
improving the knowledge and information on renewable energy sources

The Secondary School in Oroslavje and "Ruđer Bošković" Technical School prepared in 2009 a project for teacher training, preparation of materials, and pupil education in the field of renewable energy sources. The third partner was the Town of Oroslavje.
The project officially started by signing the agreement on 27 September 2010 and lasted for 12 months. The value of the project is EUR 278,684.36, out of which the European Union contributed 82%.

PROJECT AIM

The wider aim of the project is to create a critical mass of educated young people with applicable knowledge in the field of RES.

The basic aim of the project is a comprehensive elaboration of the didactic materials for an efficient study of RES, with emphasis on **solar** energy sources, adapted for high school pupils.

APPLICATION OF NEW CURRICULA
improving the knowledge and information on renewable energy sources

ACTIVITIES

1. Submitting a proposal for an amendment of the learning materials in vocational programmes and professions to sectoral councils, the Agency for Vocational Education, and the Ministry of Science, Education and Sports

2. Project team member training:
   - courses in the designing, installation and maintenance of photovoltaic systems in Ljubljana;
   - seven two-day lectures in the field of RES;
   - visits to the manufacturers of solar systems equipment.

3. Procurement and creation of didactic and written materials in cooperation with experts.

ACTIVITIES

4. Training of 60 vocational school teachers in the use of the didactic materials in September 2011

5. Training of 60 vocational school pupils in the use of the didactic materials in September 2011

6. Refurbishment of classrooms for classes in both schools.

7. A media campaign on the use of RES, and project promotion (website, brochure, poster, leaflet, radio broadcasts, fairs, open house,...).

APPLICATION OF NEW CURRICULA
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RAZVOJ LJUDSKIH POTENCIJALA

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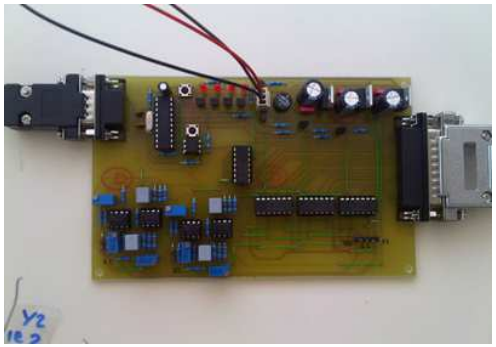

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APPLICATION OF NEW CURRICULA
improving the knowledge and information on renewable energy sources

ASSOCIATES

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mr. sc. Marko Krejči, dipl. ing.; MBA, Saxum d.o.o.

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APPLICATION OF NEW CURRICULA
improving the knowledge and information on renewable energy sources

PERMANENT RESULTS OF THE PROJECT

- Potential application of RES materials in the existing professions:
  - energy technician,
  - electrical engineering technician,
  - computer technician for mechanical engineering,
  - mechatronics technician – elective courses.
- Preparation and implementation of the courses.
- Creation of the lesson plan / curriculum and training of renewable energy sources specialists.
- Creation of a new curriculum for *energy technicians* , subject to sectoral councils.

OIE
Za svjetliju budućnost

Strengthening the adult education sector in order to increase the competitiveness of the participants on the labour market

The "Ruđer Bošković" Technical School and its partner, the Secondary School in Oroslavje, prepared in 2012/2013 a project for teacher training, preparation of materials, and pupil education in the field of renewable energy sources.

Following partners were also included in the project during the preparation phase:
the City of Zagreb, Horvatić d.o.o., Mariomont d.o.o., Rimac Automobili d.o.o.

The project was officially launched following the signing of the agreement on 18 October 2013, and lasted for 12 months. The value of the project is EUR 155,704.74, out of which the European Union funded 95 %.

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STRUKTURNI I INVESTICIJSKI FONDOVI

INVESTING IN THE FUTURE

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OIE
Za svjetliju budućnost

Strengthening the adult education sector in order to increase the competitiveness of the participants on the labour market

PROJECT AIM

Strengthening the adult education sector in order to increase the competitiveness of the participants on the labour market.

Establishing a cooperation with the labour market in order to create quality programmes that would enable significant employability.

Improving the capacity of adult education institutions in order to increase the employability of their learners.

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STRUKTURNI I INVESTICIJSKI FONDOVI

INVESTING IN THE FUTURE

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TARGET GROUPS

2 adult education leaders from partner schools

10 teachers from both schools
30 unemployed adult learners

END USERS

Employees and employers
Local authorities
Regional employment services
Non-governmental organisations
Unemployed persons

INVESTING IN THE FUTURE

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RESULTS ACHIEVED

1. Learning outcomes for programmes in the field of renewable energy sources, based on the requirements of the labour market, were set.
   - 1.1 Learning outcomes for new education programmes were set in two focus groups and working in groups.
   - 1.2. Based on the learning outcomes, the curricula for the two training programmes – small wind farm technician and biomass plant technician – were created.
   - 1.3. The field of energy storage was incorporated into other programmes (photovoltaics, wind farms...)

2. The capacity of partner schools for the implementation of new, innovative education methods was increased.

RESULTS ACHIEVED

2. 1. equipment procured:

- thermal cameras
- plant for the production of bio diesel from waste oils
- equipment for practical exercises in the field of fuel cells
- a wind farm for the "Ruđer Bošković" Technical School

2. 2. The following teacher education courses were implemented:

- basic andragogic education for 10 teachers, and all modules for the adult education leaders in both schools,
- training of two teachers as thermographers,
- training of one teacher as an energy certifier,
- training for the production of e-learning materials,
- a study trip to Austria and Germany.

INVESTING IN THE FUTURE

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RESULTS ACHIEVED

2.3. An e-learning programme was procured. The final uploading of the materials to the server is in progress.

2.4. A group of unemployed persons were educated in cooperation with the Croatian Employment Service.

2.5. The existing materials in the field of renewable energy sources were complemented and adapted.

2.6. For the duration of the project, the public could obtain information from the webpage at http://ipa-res.hr, posters, leaflets and the media.

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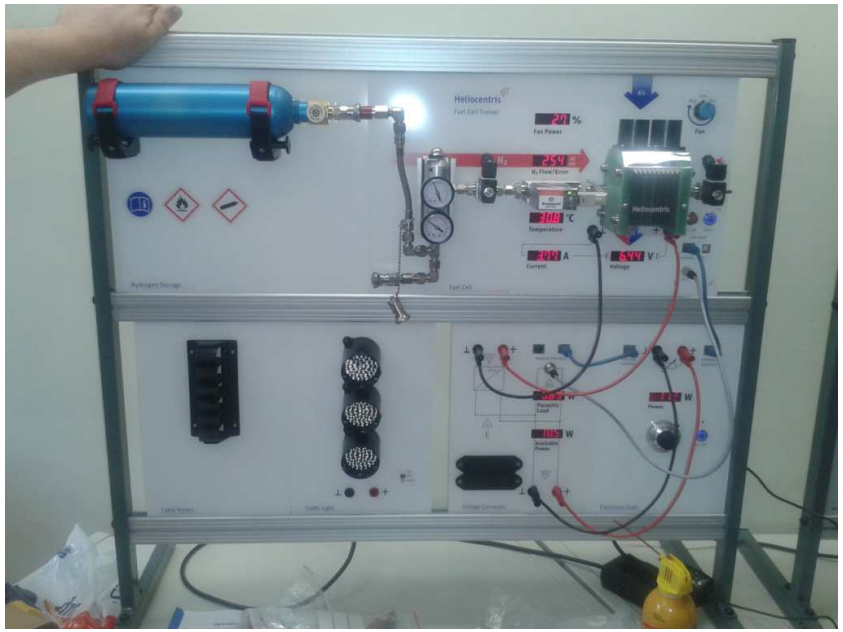

Equipment for exercises on the application of hydrogen with fuel cells and the production of bio diesel

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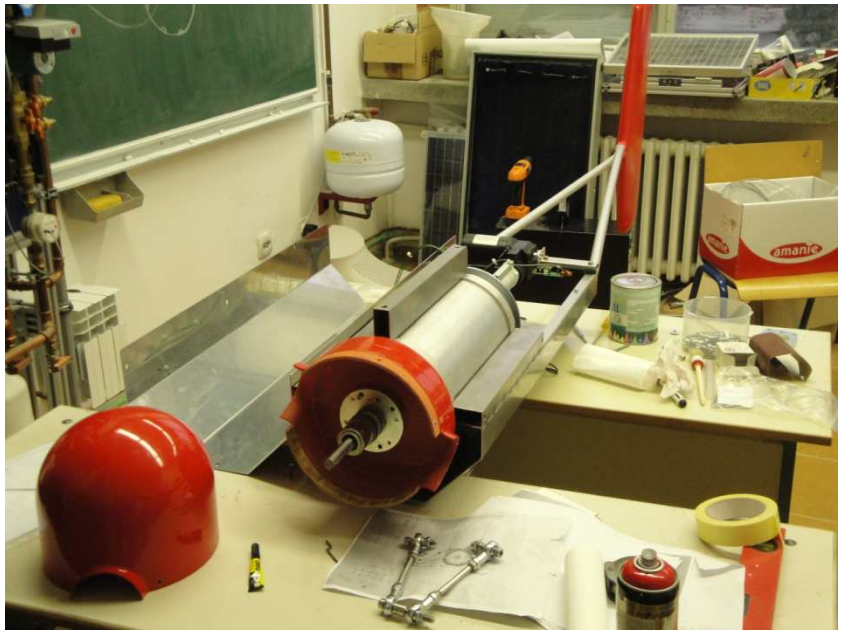

A 2.5 kW wind turbine

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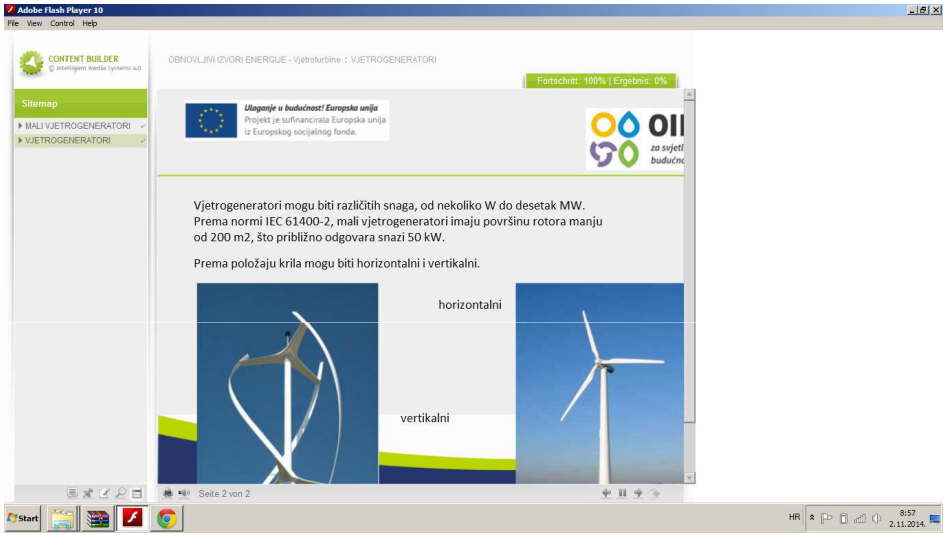

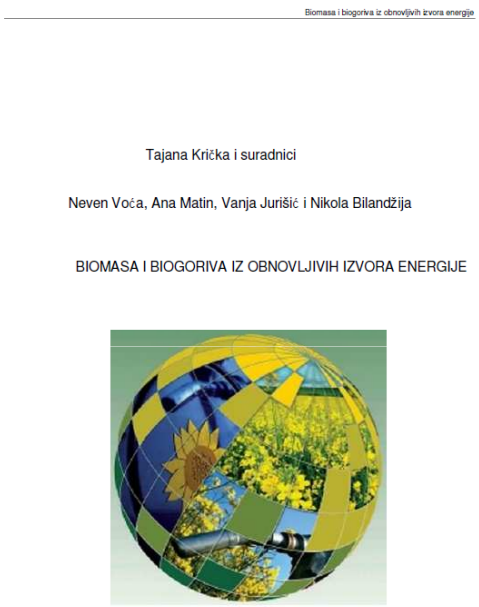

E-learning materials and a textbook on biomass

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Teacher training

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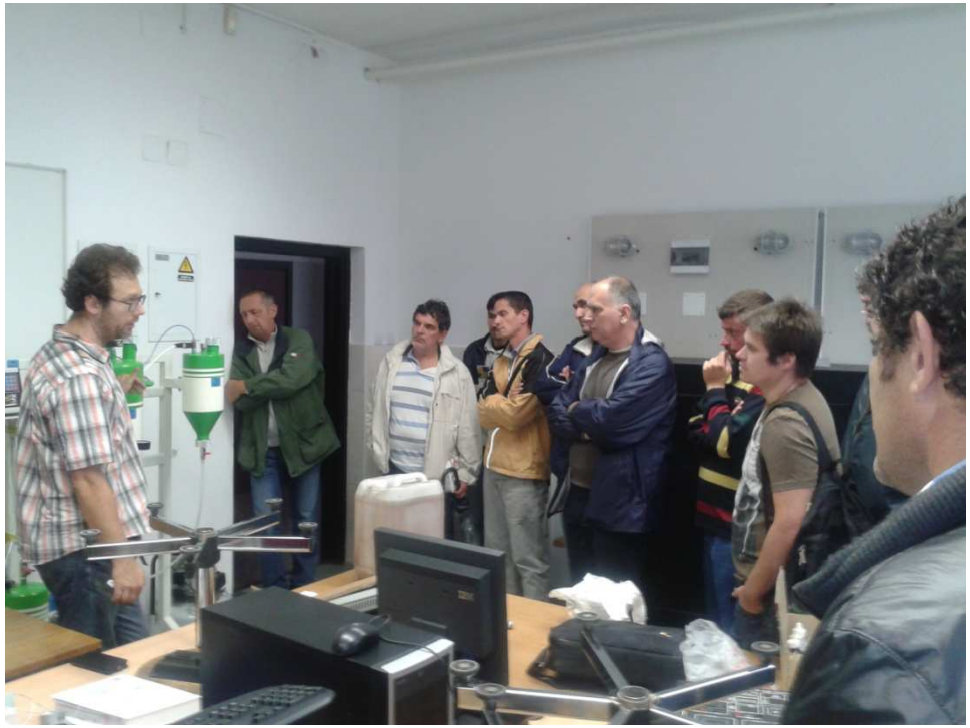

Training of unemployed persons – the pilot group

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ASSOCIATES – persons

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Dragutin Horvatić, Horvatić d.o.o.

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doc. Milan Kostelac, PhD, dipl. ing., and mr. sc. Nedeljko Ćular, dipl. ing., ,
University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture

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ASSOCIATES – institutions and companies

"Hrvoje Požar" Energy Institute

Faculty of Electrical Engineering and Computing,

Croatian Employment Service, regional offices in Krapina and Zagreb,

"Končar" Institute – Renewable Energy Sources,

Vivo Somnia d.o.o.,

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PERMANENT RESULTS OF THE PROJECT

- Creation of the lesson plan / curriculum and training of renewable energy sources specialists.
- Implementation of courses and specialist education
- Creation of a new curriculum for *energy technicians*, subject to sectoral councils.

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An example of good practice: IPA projects implemented

THANK YOU FOR
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