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ENERGY@SCHOOL

TEMPLATE FOR THE STUDY VISIT REPORT

D.T.3.3.1 Study visit

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Edited by :

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ENERGY@SCHOOL- ENERGY OPTIMIZATION AND BEHAVIUR CHANGE INTO SCHOOLS OF CENTRAL EUROPE<< CE744

Study visit Report

Theme of the study visit:

Presentation of the experiences obtained and Best Practices (BP) used by the host municipality SZOLNOK (Partner PP7) and its schools, resp., in the field of Energy Efficiency management and adaptation of adequate technologies of RES (Renewable Energy Systems).

Partner in charge of the organization:

Municipality of Szolnok City with County Rank, PP7

1. Venue of the study visit and general comments

- a. Aba-Novák Agóra Cultural Centre, in the City Szolnok
- b. ÉPFA Vocational School (Secondary and Secondary School of Architecture and Wood, belonging to the Technical Vocational Training Center of Szolnok), in the City Szolnok
- c. "Full Life" Nonprofit Public Benefit Ltd. („Teljes Életért” Nonprofit Közhasznú Kft.), in the City Szolnok
- d. Reformed Primary School and Kindergarten Primary School of Újszilvás, in the Village Újszilvás
- e. Solar Panel Field, in the Village Újszilvás
- f. Distillery Plant “Bolyhos”, in the Village Újszilvás

The institutions visited were excellent examples of some modern technologies of RES and EE-management, which allowed to see the operating energy supplying systems directly and in understandable form for the participants of the study visit program. In addition, some program elements allowed people to look at some specific educational practices and work activities which had rather unique features. The Local Government of the Village Újszilvás is PP8 Partner of the Project ENERGY@SCHOOL, hence its participation in the study visit program in Hungary is reasonable.



2. Purpose of the study visit:

- to achieve to task of the project described in A.T3.2, and D.T3.3.1, resp., as regards the role of PP7, Municipality of Szolnok, which relates to
- show the experiences and practice so the partner in the field of EE-management and use of RES in local educational institutions,
- completion this way the study visit programs of the project ENERGY@SCHOOL,
- dissemination of the BP-s available at the local institutions,
- to support the professional knowledge of the visitors from partner organizations, and
- to strengthen the co-operation and networking activities in line with the topics of the recent project.

3. Programme

The official agenda of the Study Visit Program on the day 21 March 2018 included:

21.03.2018 (Wednesday) Study visits

Time	Program
09.30	Visiting the ÉPFA Vocational School - This is one of the school, which involved in the project
10.30	Visiting the Aba-Novák Agóra Cultural Centre - Modern energy saving system in the new centre
11.45	Departure to Újszilvás
12.00	Visiting in Újszilvás the primary school - this school is also involved in the project
12.45	Visiting the solar panel field
13.00	Lunch
	Departure in the afternoon

This basic program was completed by the following additional elements:

11.15 Visiting the "Full Life" Nonprofit Public Benefit Ltd. in Szolnok

13.00 Visiting and Lunch in the Distillery Plant "Bolyhos", in the Village Újszilvás



4. Brief description (3000 characters) of the best practices adopted or in progress analyzed during the study visit (*contents description, please add also some pictures*)

Visiting Aba-Novák Agóra Cultural Centre, in the City Szolnok:

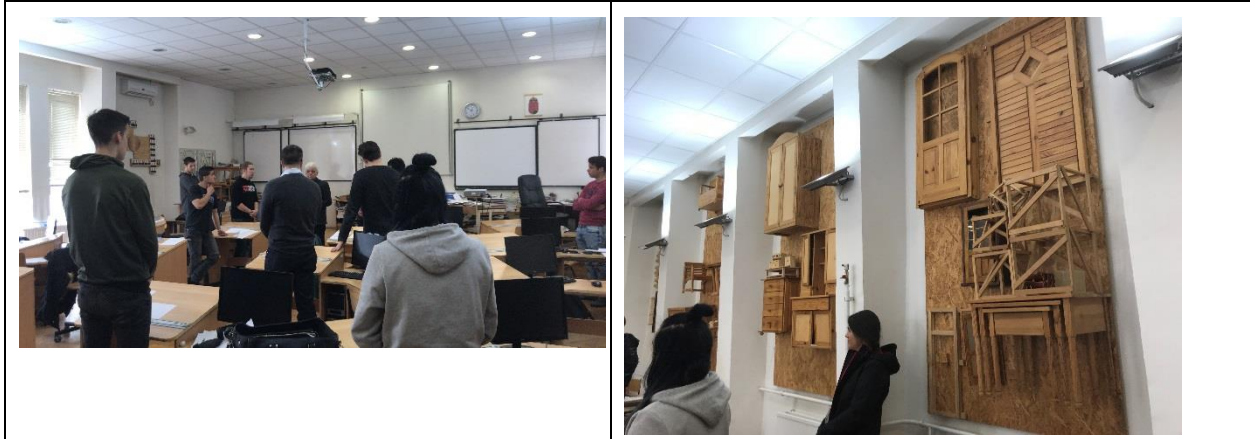
The modern building complex in the center of the city was built in 1978 and reconstructed in 2006. In its recent form it has become a real cultural center of the city and its agglomerate (16 villages). The energy management of the building is based on a strong and effective heat pump system, the technical elements of which are located on the highest floor, and the heat exchange is carried out via a number of pipes leading to the earth. The large concert hall has excellent soundproofing wall.



Visiting Secondary and Secondary School of Architecture and Wood:

The visitors saw the educational programs of the different vocational classes, such as woodworking, decoration/painting, military training, digitalized metalworking.





"Full Life" Nonprofit Public Benefit Ltd.

The work of handicapped people was seen in different workshops: assembly of small parts of toys, dressmaking. -The aim of the company is to provide opportunity of work for disabled people. The firm realises work rehabilitation this way that suits in rehabilitation process. Its aim is achieving working experience, regaining working ability again, which is organically connected to complex rehabilitation.

(No picture was allowed to be done.)

Primary School and Kindergarten Primary School of Újszilvás

Thanks to the Norwegian Fund, 90% of the local governmental institutions are heated by geothermal energy. The system uses the 33 Celsius degree water gained from wells, and by using heat exchange technology, heating of the public institutions like the Mayor's Office, the primary school, the kindergarten and the community house. Two public services are combined in the investment: drinking water supply and the heating of municipal institutions. The source of drinking water is a 445 m deep well which provides 33 °C water. The heat energy of this water is taken away step by step in several public buildings in a cascade system of heat pumps, then the 15-16 °C cold water is conducted to the water works for treatment to drinking water quality. Surplus water is pumped back into the earth.



Solar Panel Field, in the Village Újszilvás

The photovoltaic solar plant was financed by a tender of the Structural Funds, won by the town Újszilvás in 2010. The construction was built on a free field of 2 acres, and it supplies power to the local self-government and its institutions and the public lighting in Újszilvás. The electricity generating power of the plant is 400kW, and the yearly production of the 1632 pieces of solar cells mounted on 68 tracking units surpasses 630.000 kWh. The gross expense of the investment took 2,2 million euro. The local government expects that the investment first cost will be recovered in 10 years. The complete system was designed as a national model for the professional higher education institutions, and, respectively, be viewed as a model for other municipalities.





Distillery Plant “Bolyhos”, in the Village Újszilvás

The aim of the family business is to make the brandy (*‘pálinka’*) a popular national drink, which can be consumed regularly and culturally. The distillery plant represents modern technology which serves quality products.



5. Topics discussed during the study visit in line with the project objectives

“The project aims at promoting Energy Smart Schools in the partner Regions, in other words, to improve the EE and to increase the use of RES in the school sector, with an integrated approach strongly characterized by education and training.”

- The various examples showed during the visit in some institutions stressed and modeled the importance of the general approaches to improve EE and use RES in schools.

“Boosting progressive change towards energy smart schools”

- The new technologies applied demonstrated the benefits of the change towards smart solutions.

“To strengthen competences and skills in the field of energy saving and renewable energy use in public buildings with reference to schools”

- The presented Best Practices might be useful for the energy experts dealing with EE development of the schools.

“Favor cultural change on energy matters in order to increase the amount of energy saved and decrease of CO2 produced thanks to behavioral changes”

- The human relations presented and discussed during the visits gave supports to carry out further cultural changes in other partner institutions as well.



6. Target groups of the study visit

- Visitors from the Project Partners (9 partner organizations, 25 persons), including also SEGs and energy experts.

7. Brief description of the participants (*please include some pictures*)

- Project related participants were from 9 partner organizations: PP1, PP3, PP4, PP6, PP7, PP8, PP10, PP11 and PP12.
- 12 people were from abroad, and 13 local persons (see the Attendance sheet).





Please answer to the following questions as partner in charge of the study visit organization:

1. How the study visit contributed to the exchange of experiences between the participants
 - Concrete examples of energy supply systems were presented during the visit, and the beneficial effects of the renewable technologies were explained in detail by experts. The participants got opportunity to ask questions and professional discussions were exercised as much as needed.
2. How the study visit supported the Senior Energy Guardians - if already identified - to the successful dissemination of experiences
 - Clear and definite forms of RES technologies were presented for the visitors, and some brochures were also distributed which help to understand the procedures.
3. How the study visit improved the know-how of the participants, thanks to the presentation of the best practices made by the visited companies/schools/others and the open discussion on a topic linked to the project
 - The main categories of the renewable energy systems are known by the participants, e.g. solar, wind, geothermal energy, but the concrete engineering solutions vary from one situation to another. Hence the heat pump system in Szolnok, the geothermal water system and the solar panel plant represent specific solutions which are used for direct/specific energy supply task, and the involved know-how can be taken over by the participants for their own purposes, too.
4. Feedback collected from the target groups:
 - a. did the study visit meet your expectations?
 - The study visit program of the Hungarian meeting was in line with the planned program; every element was accomplished. The programs were executed with the proper timing.
 - b. The focus of the study visit was in line with the project main topic?
 - The study tour was in line with the topic of the project, as we could see operating renewable energy systems, such as the solar panels, and the geothermal heating



system in Újszilvás, and the heat pump system in the Cultural Centre, as well as the energy saving solution in Szolnok high school to maintain the modern carpentry workshop.

- c. The participants have been actively involved during open discussion sessions and in a feedback?
 - Yes, the themes proved interesting for the participants, and occasionally there was a lively exchange of ideas during the open discussions. The study visit has provided a varied experience for all participants.
5. Suggestion for the next study visit (organization, contents, timing, etc.)
 - The program should be varied as far as possible, and then the interest of the participants is maintained.

EVALUATION FROM THE PARTICIPANTS

Please ask to one of the participants to fill in the following questions:

1. Did the study visit meet your expectations?
 - The whole program proved me very interesting and gave me a concise information about some relevant RES solutions.
2. The visits have been in line with the project topics?
 - The different topics covered a rather wide range of the energy consumption theme, and they gave a lot of useful information as regards the topics which are in the focus of the project.
3. The best practices can be transferred also in your country?
 - Any best practice model can be subject of further adaptation and targeted implementation.
4. Suggestions for the improvement of the next study visit?
 - We were pleased with the last program, just like the previous ones.