

Dato:15.06 2009



ENVIRONMENT & INNOVATION:

Theme 2007/2009

climate change:

let's save energy!

Final Project Report

Environment and Innovation

1. Delegation Identification

Country:	NORWAY
Organisation:	Stiftelsen FEE Norway
Project Name:	Environment & Innovation - A project to promote schools' innovative environmental problem-solving By International Eco-Schools Programme (FEE) in partnership with Toyota Motor Europe
Activity Name:	Grønt Flagg
Date:	08.07.2009

2. School Identification

School Name / Group of Schools Name:	Vollen skole
Address:	Håkavikveien 45 1390 Vollen
Region:	Asker
Telephone:	66754100
Fax:	66754141
E-mail:	Vollen.skole@asker.kommune.no
Website or Project website:	http://www.asker.kommune.no/Organisasjon/Oppvekst/Skole-og-utdanning/Oversikt-over-grunnskolene/Ungdomsskolene/Vollen-ungdomsskole/
Contact person for this project:	Ragnar Vadseth
- Position	Senior consultant, Asker municipal
- Direct email	rvadseth@asker.kommune.no
- Direct telephone	00 47 98 26 44 59
Type of school (kindergarten, primary,	Primary school

secondary, etc..) :	
Age of students involved in the project:	13-16 years old
Number of students directly involved in the project:	See section 3
Total of students in the School:	351
Number of staff/teachers directly involved in the Project:	2 in the construction phase. But this number will increase rapidly now that the project is finished and ready to be used by students.
Total of staff/teachers in the School:	60
Other participants involved (individuals and/or organizations) and the number of them:	Within the school 5 Outside the school 15
The other participants role:	Municipal employees have done the project management and parts of the installation work. The contractors have done most of the construction/installation work.
Rural / Urban setting:	Urban
Other relevant information: (maximum 100 words)	As soon as the students have been trained in the educational program, another phase of this project will be started. In this phase the school will establish sunlight collectors on the school roof, which will be connected to the existing installation. Hopefully this work will be started already in the autumn, so that it can be ready to use in the spring when the energy in the sun again can be utilized.

3. Project Identification

Project Title	Energy-project Vollen skole
Project keywords	Renewable energy, energy saving, environmental education.
Project Summary (maximum 100 words)	The aim of this energy-project is to make an educational programme about the themes renewable energy and energy saving. The installation is made in such a way that the students can touch the equipment, and measure and calculate data that shows how much energy the installation is producing. The installation makes use of two bore holes (energy-wells) close to the school. The energy-

	<p>well is equipped with a collector that utilizes the energy in the rock ground. The heat is produced in a heat-pump. The energy is stored in a buffer tank with water. In this tank, the energy flux can be measured and demonstrated by/to the students. This buffer storage is used to produce heat to the school's sports centre at 1000 m².</p>
<p>Introduction and outline of the challenge addressed by your schools or group of schools.</p> <p>(Please submit a description of the problems that your project addressed. How was the situation prior to the project?)</p> <p>(maximum 1 page)</p>	<p>Asker municipal has in a formally agreed "to ensure sustainable development" through the introduction of "The Natural science School rucksack" (Den naturvitenskaplige skolesekken).</p> <p>The aim is to raise knowledge and spread awareness that later leads to good environmental behaviour, especially when it comes to children and young people.</p> <p>Vollen school is a national demonstration school, and is therefore suitable to show new technology. The plan is to make a local centre for demonstrating renewable energy. The project is intended to be used in the teaching process by the schools in the region.</p> <p>A centre for renewable energy is new in this municipality. This project emphasizes equipment with a simple and educational design, so that the students can understand the process. The students will be able to follow the energy flow from production, to where it is used, in the sports hall. In addition to this, the project will focus on the environmental profits, by comparing the heating system used previously.</p> <p>In the second phase of this project, equipment that takes use of solar energy will be connected to the installation. The installation is already prepared for exploiting solar panels that will be placed on the roof of the building.</p>

4. Project Description

<p>Project description</p> <p>Please include also the following points:</p> <ul style="list-style-type: none"> . Phases of the project; . Calendar/timing of the school project; . Financial information / budget needed. <p>(maximum 2 pages)</p>	<p>The period of time from when the school got information about receiving the grant, till the project was to be finished, has been limited. The construction period on the technical installations has been long (because of delivery time etc).</p> <p>The installation is now finished and test-driven,</p>
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	<p>but the data logging is still not completed. The school has therefore not yet implemented the student testing, which was the plan.</p> <p>The project has been carried out with three main installations. Energy-wells with collectors and outside pipelines, the building of the heat pump with buffer tanks, and fan coils for distribution of heat in the gymnasium.</p> <p>Because of purchasing regulations for public purchasing, there has been held bidding rounds on all deliveries. Also, some of the equipment was delayed from the factory. The sum in total is that the project is one month delayed according to the planned time plan.</p> <p>Because the project is not completed, the last invoices are not received yet. For this reason, a cost accounts has not been made.</p>
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5. Project Implementation

<p>Project Implementation:</p> <p>Please include also the following points:</p> <p>Innovation: How was your project was innovative and unique in solving the problem or challenge mentioned?</p> <p>. Implementation outcome- Which were the results obtained? What are the major differences between before and after implementation of your project?</p> <p>Teamwork Did your project involve a wide range of stakeholders? Who/what organisations were involved in what? Did your project create or improve teamwork?</p> <p>Effectiveness – How effectively was your project implemented? Was your project implemented within the planned budget? If not, how did you compensate? Please attach a financial report (expense breakdown) Was your project implemented according to the planned time schedule? If delayed, why?</p>	<p>The project was officially started by the mayor of Asker municipal at the World Environment Day 05.06.2009. Vollen primary school has at this a unique educational concept/model for renewable energy. This concept will also be accessible and available for schools in the municipality and the region.</p> <p>The building project was completed and ready to use at the same time as the exams for the 10th grade were held. Because of this, the student testing was postponed, and will be completed this autumn.</p> <p>The installation is working as planned and will supply the schools' sports hall with 150 000 kWh. This is 70-80 % of the sports centre heat demand through a year.</p> <p>As a part of a greater whole, this contributes to reduce Asker municipals "carbon footprints". It says, in the municipals' new Energy and climate plan, that Asker shall reduce its own greenhouse gas emission with 80 %, and its energy consumption with 30 % within 2020 compared with the 2007 levels. These goals are ambitious, and they presuppose that all inhabitants contribute. Good environmental behaviour and knowledge among the youth is</p>
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<p>.Environmental and societal impact - Which were the benefits to the environment, or the local community?</p> <p>. How can this project be used by other Eco-Schools? Any advise to schools which would be interested in implementing a similar project?</p> <p>. How sustainable is the solution found? How will it be maintained in the future?</p> <p>. What were the main difficulties found during the implementation process?</p> <p>You may annex illustrations, maps, charts, etc..</p> <p>(maximum 4 pages)</p>	<p>perhaps the most important contribution this project can create.</p> <p>The cooperation between suppliers, municipal agencies, the school and other recourse people has worked very well and has contributed in such a way that the project has maintained inside its planned economic frame.</p>
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6. Dissemination Strategy

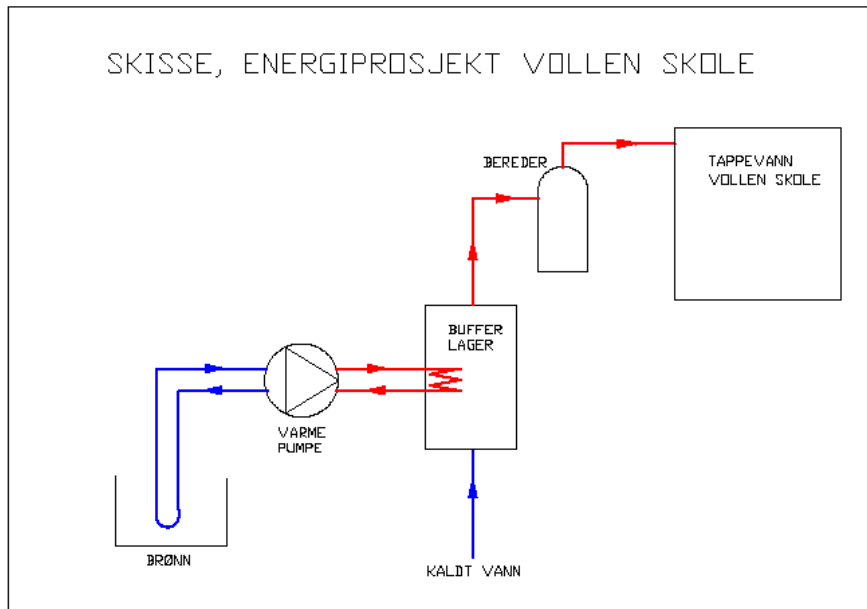
<p>Dissemination Strategy:</p> <p>Please include also the following points:</p> <p>. How was the project communicated to the wider community?</p> <p>. Which means of communication did you use?</p> <p>. What was the communication /disseminations plan?</p> <p>. Were there any training actions?</p> <p>(maximum 1 page)</p>	<p>Press and all contributors were invited to the official opening at the World Environment Day 05.06.2009. The mayor Lene Conradi carried out the formally opening of the installation by starting the heat pump.</p> <p>Press releases are sent to all different media and information about the project is published on the municipality's web-site.</p>
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Signature/name of the project responsible:

Place:

Date:

Outcast of the installation



The mayor, at the official opening of the project.



The installation indoor, heat pump etc.

