



**A report discussing ways in which didactic teaching methods can be adapted in vocational educational training across Europe to make students more energy efficient and environmentally aware**

A European school should be an aesthetically vibrant and environmentally friendly place- an environment for communities to work together to build a strong force against excess energy consumption. It is easier to educate younger children in primary schools who are learning new things about the world and life everyday; nevertheless it is often teenagers and adults in vocational educational training (VET) who can make the biggest changes. These students will be accustomed to a set school routine, but through simple didactical changes, training and education a positive attitude towards an energy saving lifestyle can be formed through out schools in Europe.

*“Europe is now committed to cutting overall greenhouse gas emissions to at least 20% below 1990 levels by 2020, a commitment that will rise to 30% if other industrialized countries agree to do the same.”*

**(<http://ec.europa.eu>)**

These targets are not realistic expectations if the whole of Europe does not focus on developing didactic teaching methods in relation to energy efficiency and environmental awareness. To put this into practice, changes need to be made to all schools on a horizontal level throughout Europe so change and adjustment is permanent. The aim of this report is to initially identify how to develop, implement and improve energy efficiency horizontally within a school environment. This will be supported through examples of best practice which is already taking place in some schools in Europe.

Students need to realise that saving energy is a moral issue, which will affect them and other family members for many years to come. For students to make daily changes they have to be results orientated but also educated



about targets and budgets which they can relate to. The curriculum within a VET school is fundamental in this situation and didactic teaching about environmental awareness is a decisive first step. The education process needs to be created in an interesting and appealing manner to which young people can relate to, but also generating the underlying message “energy efficiency” throughout.

Allowing students in European VET schools to use the often already existing technology in a proficient and responsible manner is very important. VET should teach students the best way to use electronic equipment efficiently i.e. switching off the electronic device in classrooms or workshops when it is not in use, only use it as much as is necessary. The encouragement for students to keep electronic devices longer plus educating them about where machinery, technical equipment and appliances and computers end up after they have been disposed of is crucial.

A cost effective and easy way of educating students of VET would be to allow students to create their own petitions again excess energy consumption on websites such as: [www.care2.com](http://www.care2.com). This can be incorporated in many schools throughout Europe. The internet has allowed schools from different countries to work together and compare results and targets they have met. An example of how the internet has enabled students to work together in a multinational educational partnership is the “Comenius Project” that is taking place from 2008 to 2010. This project represents students from Germany, Italy and Spain working together to disuses the shortage of natural resources through scientific experiments. These students share their discoveries through the internet and then discuss their results when they meet up in Bavaria. This type of partnership is proof that students invest time and interest into energy efficient research if they have an aim to work towards.

A further good example of what other projects VET schools around Europe have introduced to play their part in energy efficiency is in Italy, Slovenia and



Turkey where a “Better Building – Certifying VET teachers as energy saving advisers. A transfer system into three different European societies” project has been specifically designed so that these countries develop a better understanding of energy efficient building construction and energy efficiency. It is an excellent example how Europe can work together to meet targets of reduced carbon emissions and improve energy efficiency.

When discoveries through these types of projects are made and processes and procedures have been changed; it is imperative to remember that change is something which everyone will not always find easy. It is not possible to address one part of an organisation and hope that everything else will be satisfactory in other areas. Any radical change will impact the rest of the school and therefore all other areas of the school need to be monitored closely.

The non-electricity using sides of the VET school environment must also have changes made to them. If each classroom had a monitor to show actual energy use, students could see for them selves exactly how much energy they are using up each day. Another form of self monitoring which can be done internationally is to calculate the amount of CO<sub>2</sub> that can be reduced by entering the [www.mycarbonfootprint.eu](http://www.mycarbonfootprint.eu) website and using the online carbon calculator. Further cost effective ways that can be introduced throughout Europe, to reduce energy consumption is to implement initiatives to develop brighter classrooms. By painting classroom walls with bright colours students will feel more respect towards their classroom, their school and this consequently will lead to more respect for their general environment. In addition it will brighten the classroom in a natural way and will reduce the demand for electrical light when natural light is available.

Further more, placing reflective material behind radiators to use the energy already produced more efficiently is a cheap and viable investment. The creation of a ‘swap board’ would allow students to post advertisements about



secondhand items they would like to swap or sell. Showing documentaries such as: Al Gore's "An Inconvenient Truth", a documentary about global warming that explains how society can change the process of climate change (with a Companion Educational Guide) could be included in English lessons so students can simultaneously learn English and become more environmentally aware. Another option, "Unsere kleine Welt - Der Klimafilm" ([www.rz.fh-augsburg.de](http://www.rz.fh-augsburg.de)) a short film produced through a project by a high school in Augsburg documenting how the world uses up energy, this could be applied to German lessons. These types of documentaries are available in many different languages and can therefore be adapted to each countries needs and requirements. The concept of using documentaries for further VET education can be used throughout European schools but must be adapted to meet each schools curricular need.

It is also evident that collaborations do take place within European schools but not to a large enough extent. More sponsoring and work with charities, environmental NGO and experts needs to be undertaken so that projects can be introduced. Further relationships need to be formed and well publicised so that the message: "energy efficiency", is spread and schools can take further advice from each other. European schools need to be seen to be able to recognise that energy efficiency has so far not been every persons priority and improve on these aspects accordingly. There are many different didactical changes which can take place throughout a VET and general school systems if the necessary commitment is present.

If environmentally intelligent practice is introduced through all or some of the systems previously mentioned it will be an improvement. It is crucial that records are kept in all European schools to display progress and show what impact each change has upon each individual school; ultimately this will provide the possibility of drawing comparisons between different European educational environments. Questionnaires, blogs, reports and essays should be introduced and become part of the curriculum to keep track of progress.



These records can subsequently be used for further developments within VET and encourage all students to play their part in making the world a more energy efficient place to live in- now and in the future.

This report has been written by a research assistant who works for BEST (BEST- Institute of Continuous Vocational Qualification Training and Personnel Training Ltd, Vienna/ Austria) and also works in the VET field of education. The research was carried out on a scientific basis but personal experiences and discoveries were also included. The 'Better Building – Certifying VET teachers as energy saving advisers. A transfer system into three different European societies' project is only one of many international projects which BEST organises and coordinates. Many more can be found on their official website ([www.best.at](http://www.best.at)) with detailed information towards each project.

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### **Resources:**

Better Building. 2009. *Better Building – Certifying VET teachers as energy saving advisers. A transfer system into three different European societies.* [online] Accessed 11<sup>th</sup> November 2009, Available at: <<http://www.better-building.eu/en/products>>



My Carbon Footprint. 2009. *Calculate your carbon footprint*. [online] Accessed 11<sup>th</sup> November 2009, Available at: <<http://www.mycarbonfootprint.eu/index.cfm?language=en>>

Take Action. 2009. [online] Accessed 11<sup>th</sup> November 2009, Available at: <<http://www.care2.com/take-action/>>

Unsere Kleine Welt. 2009. *Film*. [online] Accessed: 11<sup>th</sup> November 2009, Available at: <<http://www.rz.fh-augsburg.de/hosting/klima/>>

What are the EU doing? 2009. *Recycle*. [online] Accessed: 11<sup>th</sup> November 2009, Available at: <[http://ec.europa.eu/environment/climat/campaign/actions/whatiseudoing\\_en.htm](http://ec.europa.eu/environment/climat/campaign/actions/whatiseudoing_en.htm)>