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BETTER BUILDING

Certifying VET teachers as Energy Saving Advisers
A transfer system into three different European societies

Implementation Concept – TURKEY



Implementation Concept



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1) Preface

The threats of climatic changes and the increment of energy prices are just two of the most recent aspects of the acknowledged need to reduce energy consumption and to apply ecologic aspects also in the construction of buildings. Without energy, a variety of things wouldn't be possible and no one would be able to manage his daily routine. Without energy, transportation and economy would come to a dead stop. Because of this we all must be aware of how privileged we are to have energy, that unburdens our everyday life and keeps things moving. As it is not infinite, people need to understand about the right way of consuming energy and other precious materials.

Unfortunately, throughout Europe, there is no homogenous awareness of these requirements and therefore the ecological balance is rather poor in a large number of EU member states, among which Italy, Slovenia, and Turkey. This is especially true for building activities carried out by Small and Medium Enterprises and the private building sector. Because of those facts, "Better Building – Certifying VET teachers as energy saving advisers - A transfer system into three different European societies" was brought into being. The project started in winter 2007 and will be finalised in the year 2011.

This European project involves partners from 7 countries and is supported by a couple of strategic multipliers. The partners are committed to raising the awareness and the understanding of the ecological value of energy-saving construction, particularly through the improvement of vocational teaching contents in this field which may lead one step closer to attaining the goals of the Kyoto protocol.



The main objectives of this transfer project are

- to raise the awareness of ecological issues among VET teachers for technical subjects, especially construction, and to supply learning contents and training materials that show how to use energy-saving materials and to reduce energy consumption in building construction
- to transfer, adapt and validate a modular curriculum for VET teachers and to qualify them as European Energy and Building Material Advisers in three European languages, i.e. in Italian, Turkish, and Slovenian

The main project outputs are

- a “Modular Curriculum with teaching materials” for acquiring additional competences in energy consulting, especially for the renovation of existing buildings and heating and insulation rehabilitation in Italian, Turkish and Slovenian.
- didactic “Guidelines” on how to introduce these materials within the framework of existing teaching schemes, with relation to the specific demand and need of individual users and to the specific learning cultures of the above mentioned countries and to the requirements of vocational training providers
- this “Implementation Concept” which aims at raising the interest of educational policy makers and the respective organisations vis à vis the project topics.

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Key objective of the implementation concept

The **implementation** is assisted by a **National Strategic Advisory Committee** in each target country, consisting of major stakeholders in the field of education and labour market policy as well as social partners.

The key objective of this document is to further create an implementation concept for each target country which describes how to put these collected materials into the mainstream learning practice, i.e. how to raise the interest of educational policy makers as well as the building industry and their training organisations.

The Implementation Concept provides a structured action plan for the localisation and organisation of putting the project results into practice in the deployment phase after the LLP funding. It offers organisational models, suggests training delivery structures and provides a basis for assessing the potentials of introducing the Better Building ideas in various sectors.



PART I

Introduction



2) The situation and problems

The global situation in relation to energy seems to be changing dramatically, in a very negative way. As billions of people still do not have direct access to electric current, the consumption of electricity and energy in general, in the more developed parts of the world, is constantly rising. The increasing demand for fossil fuels and the dependency on oil also can be seen as the cause of more and more greenhouse gas, which is slowly destroying our environment. If we damage ecosystems, harming ourselves is the direct consequence of our actions. It may not be seen immediately, but negative consequences are certain. Through the problem of climatic change, different people from different countries are brought together, to work on solutions and a certain ecological balance, which helps to stop the constant damage of our environment.

Italy, Slovenia and Turkey are three European countries in which the ecological balance is still at a lower level than in other parts of Europe. Therefore Better Building focuses on improving the countries understanding and appreciation of the importance of saving energy.

Those three different countries struggle with a variation of environmental problems such as water shortage, danger of fires, floods etc. Through "Better Building" they will be given the chance to improve the handling with building materials, energy, combustibles and limited resources, which indicates a reduction of energy consumption which, on the other hand, helps protecting the valuable environment. The application of the projects outputs guarantees a large amount of benefits, on different sectors, for each country and its citizens.



The current situation in Turkey

This chapter describes the situation concerning environment, energy prices, energy consumption etc. in Turkey.

As we can see, the whole world is struggling with energy costs and the uninterrupted increase of energy consumption these days. Our environment suffers and we all are able to experience the enormous impacts our inconsiderate behaviour towards our environment entails. More and more countries in the south of Europe have to deal with water shortages and summers way too hot for decent agriculture. On the other hand, autumn and winter are often adumbrated by numerous floods that destroy villages and areas.

Therefore, we all need to become active in energy saving. This starts with switching off the light if you are not in the room, separating waste and reusing the paper bag you brought your groceries home with. Better Building gives citizens the chance to completely change their behaviour in regard to energy consumption. Through this project they may learn to value and save energy.

As Turkey has a population of 72 million and a developing economy, the production and use of energy is a highly debated subject in the country. Turkey depends on importing about 70% of its needed energy for a vast amount of money every year. In 2008, for example, the country will pay 40 billion USD to import energy.

A really good example for the terrific amount of imported energy sources is petroleum. Turkey consumes 30 million tons of petroleum annually. 2.5 million tons of this are produced in the country.

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Petrol and coal/wood are the most used energy sources in Turkey, each representing a share of 33%. Natural gas is another big sector with 29%, followed by hydraulic energy with 4% and renewable energy with only 1%.

If nothing is done to minimize and actually optimize the use of energy through different measures, this vast amount of money used for imports will rise constantly into extremes year after year.

Turkey is one of the richest countries in solar and hot water sources; however, these sources are not used sufficiently enough to provide hot water or a source for heating.

Nowadays specialists are in search of wind energy areas. The Çanakkale region, which is near the big canal next to the Marmara Sea, is a very good place for wind energy, a region in the south called Yumurtalık would also be a suitable location.

Construction of Buildings

Although institutional and legislative regulations about energy efficiency in buildings are made in Turkey; only 10% of buildings are constructed according to thermal insulation. The other 90% of buildings do not meet the new standards of thermal insulation. In the past, buildings in Turkey were constructed in a very traditional way without regarding insulation. After 1990 and especially after the heavy earthquake, the inhabitants of Marmara became aware of constructing good and isolated buildings.



Lately TOKI (Governmental Organization for constructing residents) started constructing houses especially for poor people with very good credit options. TOKI raised the construction standards and other companies had to be competitive and follow their example. [9]

There are no courses containing topics like energy efficiency neither in vocational schools nor in universities. Turkey will soon have to make the necessary arrangements compatible with decisions of the European Union on efficient use of energy. Better Building may be fundamental in this aspect and the whole country could benefit from it.



3) The Kyoto Protocol

The Kyoto protocol is a very important element of environment politics, because it aims at an international conscience about our environment and the protection of it. In this chapter we will shortly describe the protocol's history and goals, to give some short overlook about international sanctions set on this very important topic.

The Kyoto Protocol describes the agreement under the United Nations Framework Convention on Climate Change (UNFCCC). States that participate in this agreement commit to reducing their emissions of carbon dioxide and five other greenhouse gases, in order to protect our environment and prevent dramatic changes in our environment due to inconsiderate behaviour of the world population.

In December 1997, the participants of a meeting in Kyoto agreed on the development of the Kyoto protocol. In May 2008, over 180 parties agreed to fulfil the requirements of the protocol. In 2012, the first commitment period of the Kyoto protocol is going to end, meetings that discuss another period after 2012 have started in May 2007.

36 of those parties are developed countries (also known as Annex I), all of those parties are instructed to reduce the greenhouse gases to the terms that are individually defined for each country.

137 developing countries have agreed on the protocol, including such countries as India, China and Brazil. Unlike the developed countries (also known as



Annex I), they are not forced to do anything else than reporting and monitoring their countries emissions.

Among all the countries that agreed to protect the environment there is also one developed country that did not agree on the protocols terms – the United States of America. This country is known as one of the most polluting countries of the world. Nevertheless, the USA just signed the Kyoto protocol but did not ratify it yet.

To give a short overview of the goals and principles of the Kyoto protocol:

- The protocol is underwritten by governments and is governed by global legislation issued under the UN's aegis.
- There are two different types of governments:
 - Developed countries (Annex I) which agreed on the terms and have to annually report and monitor their emissions and also reduce the emissions.
 - Developing countries (Non – Annex I) which are not forced to reduce emissions, but they have to report and monitor their country's emissions, and may participate in the Clean Development Mechanism.
- If any Annex I country fails to achieve the goals of the protocol they are penalized.
- Annex I countries have to diminish their greenhouse gas emissions by a collective average of 5% below their 1990 levels.

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The EU and the Kyoto Protocol

22% of global greenhouse gas emissions are produced by the EU, therefore the EU has been one of the biggest supporters of the Kyoto protocol, always trying to convince other countries to participate in this long term project. The EU itself and its member states are participants of this project.

The member states of the EU all have individual obligations set in the treaty. The less developed countries do not have guidelines as strict as the more developed countries in the EU.



PART II

The target country – Turkey



4) Target groups, human and financial resources

To be able to spread the idea of Better Building we invite the readers to address needs and products to the accurate companies, organisations and people. Certainly, we are aware of the fact that this endeavour will ask for human and financial resources. The following chapter will therefore show some issues in this respect.

Interested parties – and target groups - in the project's outcome could be:

- Employers
- persons interested in AVT
- teaching staff
- interested parties
- VET providers
- educational policy makers
- social partners
- key actors for company training but also for active labour market in the respective ministries and the labour market administrations

HUMAN RESOURCES

Stakeholders are a very important factor since they have the influence to allow mainstreaming of the Better Building idea. The following list generally features potential stakeholders, which are involved in promoting the diffusion of energy efficiency and renewable energy sources in Turkey.



Possible stakeholders:

- Vocational training authorities representatives
- Public Authorities related to the energy/constructing sector
- Labour administration representatives
- University: department of continuing education for adult
- University: departments for engineering/ architecture/construction
- Consultants/experts of the energy sector
- Expert trainers in technical subjects in the construction area
- Vocational training designers
- Regional energy/environment related companies/agencies
- Local Development agency
- Professional associations of the energy/constructing sector
- Providers of services/products related to building construction and energy efficiency matters
- Other

These possible stakeholders are invited to read the other Better Building products and consider how these could be implemented into the daily practice of training and education oriented organisations and institutions. They could link the Better Building issues with their daily work and thus offer human resources.

FINANCIAL RESOURCES

In order to realize the goals of the project, besides human resources, financial resources are a very important factor. Support can be found inside a company or organisation itself or on the outside. As Better Building is a project which

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aims at saving money and protecting the environment, there is a variety of financial resources:

- Public incentives - such as ministries and organisations on governmental levels (department of environment, department of education, department of agriculture, department of health, etc.) and organisations on international levels (EU, UNEP, OECD, etc).
- Private incentives – any company that is interested in saving money due to efficient energy use and new construction methods, or NGOs that are interested in protecting the environment etc.



5) Target groups and human resources in Turkey

Particularly in Turkey, this document should help the educational sector and in particular VET high school teachers and managers and VET college instructors, since training teachers and managers is the first and most important point in energy management and energy savings. Turkish law requires a compulsory certification in the energy sector, thus, different persons in the educational sector have already shown interest in the Better Building outcomes.

For the Ministry of Education

- It is very important to increase the quality of the curriculum for energy related courses
- To find solutions to the energy problem in Turkey
- To give certificates to people and make them professional in their job

For employers

- it will be much more economic
- employees will be more professional
- costs for employers will be minimized

During the project the partnership decided to involve several stakeholders who should be able to contribute to the project's success in terms of time and human resources. These stakeholders can be found in:

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- Vocational training representatives
- Public Authorities related to the energy/constructing sector
- Labour administration representatives
- University: department of continuing education for adults
- University: departments for engineering/ architecture/construction
- Consultants/experts of the energy sector
- Expert trainers in technical subjects in the construction area
- Vocational training designers
- Regional energy/environment related companies/agencies
- Local Development agency
- Professional associations of the energy/constructing sector
- Providers of services/products related to building construction and energy efficiency matters

Key actors have been involved during the project lifetime in meetings, focus groups and single interviews but their involvement will be even more fundamental after the funding of the project will end.



6) Financial resources in Turkey

Regarding financial resources, all the organisations and strategic advisory members involved have contributed through the representatives' availability in working on Better Building tasks.

The time dedicated to Better Building staff and activities has been substantial. These organisations are working in different ways on environmental protection, on energy efficiency promotion and/or on building sector development, therefore several financial resources are available. To be precise, the financial sources arrive from public authorities who publish calls for proposals and calls for tenders.

Thus, the project partnership hopes to find further interest in implementing the Better Building products into mainstreaming practices supported by this variety of stakeholders.



7) Trainings

Trainings are a very important factor of the project and its continuation. To convince stakeholders/people/companies/organisations etc. that Better Building is a brilliant project for them the numerous positive effects should be presented very well. A few issues, which show the benefits of general better building possibilities, are listed as follows:

- **Helps saving money:** through the use of new building materials heating and energy cost will decrease, which means enormous savings for big companies, organisations etc. but also for each individual household.
- **Future for children:** our environment is very precious and as we do not want our children to live in a harmful future, we should start to protect the environment right now.
- **Protection of environment:** human beings and the environment are interrelated, therefore we need to change our behaviour to stop pollution and start protecting the environment
- **Education:** life long learning is a very important topic in companies, it helps improving skills and thereby the company itself
- **Incentives:** if companies allow their employees to visit a training, they often receive public incentives etc.
- **Bonus agreement:** as an employee attends trainings he or she learns new things that will be important and helpful for the whole company or organisation, therefore some of them might receive a bonus for making an effort.



Training duration

The duration of the trainings will depend on whom the trainers are working with, and what the goals of the involved parties are. Since this “Implementation Concept” wants to address anybody from VET providers to educational policy makers, social partners, key actors for company trainings, ministries and the labour market administrations, who will have a different previous knowledge and interest, you can distinguish between two different options of training duration:

- **Intense crash course:** this training is a shorter version provided for people who do not have much time to be taught, e.g. managers, chief executive officers, etc.; this kind of intense crash course could be held during a breakfast or a lunch, or like Franklin D. Roosevelt’s famous fireside chats. The training should give a brief summary about the theory, the practice and important facts why it is profitable.
- **Extra occupational:** this kind of training is perfect for people who are very busy with their job during day time. One teaching unit could last for two and a half hours, with a little break in between; the unit could be held early in the morning, before students go to work or afterwards. As pupils are very busy, teaching units could take place biweekly. To be sure that all the information of those units are not forgotten by the end of the training, handouts of each unit should be provided by the trainer, or pupils could be invited to create their own handouts to share with their colleagues.



Training contents

The training content will be different in each country and has to be customized to various different needs. In general the training should contain the most important facts about the project and the benefits for the company or organisation to help arouse interest for Better Building.

- **Introduction** (presentation of the project, its goals and positive impacts: saving money is very important and should be presented in a very positive way in conjunction with protection the environment)
- **Theory** (the specific measures of Better Building are described in this part; interested parties can be integrated in the learning process by interactive learning methods such as flipcharts, videos, audio, develop ideas on their own etc.
- **Practical** experience (if there is enough time local inspections of houses, working sites etc. can be very useful to show them the projects achievements)
- **Following up** (after the introduction of the project to interested parties, be sure to provide information in the form of a website, flyer, handouts etc., possibilities to contact the project partners in the country should also be given, if there are any pending questions left)



8) Educational Status Quo in Turkey

Talking about trainings, the objective of this document is not only to raise awareness among readers and to suggest ways of how to spread the idea of Better Building in Turkey but it also should help in implementing the Better Building products into training and educational policies. Since the target group of this document may come from different educational angles, this chapter will deliver some facts regarding the current situation within the education and training systems in Turkey. They focus on contents like providing technical competences related to construction, with a particular attention to energy efficiency matter.

- There are courses for heat transfer-, heat isolation- and building materials at vocational schools or in universities, but these courses are not directly energy efficiency courses.
- Electrical Power Resources Survey and Development Administration (EIE) have been giving energy efficiency courses for many years.



PART III

Environmentalism



9) Creating environmentalism

As news show us more and more frequently, our environment is endangered. Through the thoughtless use of natural resources and the lack of “green thinking” many negative consequences can be seen.

Those consequences may not affect us to a great extent right now, but if you look closely you can see that our future and our children’s future is ill fated. If we continue living like this the ozonosphere will be destroyed, forest and glaciers will become smaller year by year and there will be more unbearably hot summers, which will cause water shortages and erosions all over the planet. Other consequences of such a lifestyle could be floods and the end of limited resources like oil, which apparently would indicate abnormally high energy costs.

In order to protect the environment, we have to change our lifestyles and become involved with the idea of green thinking. Through this, we all will be able to kill two birds with one stone: protecting our environment for us and following generations and saving money! This could be achieved through several laws, act and programmes in the three partner countries.

This chapter will feature the most important different laws, acts and programmes in the countries and describe them briefly. As Turkey is applying for the European Union membership, EU programmes, laws and acts are also very important for this country. First, there will be laws, acts and programmes described, that are based on the EU level, and afterwards a country specific description of laws etc. follows.

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EU LEVEL

Laws, acts and programmes developed in the EU are a very important factor for protecting the environment. We will briefly describe the current and most important ones, which try to create a conscience about protecting the environment, among citizens, companies and other parties. European environmental policy takes shape by means of regulations, directives, decisions, communication and recommendations.

- **Communication from the Commission to the European Council and the European Parliament of 10 January 2007, "An energy policy for Europe"**

This paper represents the Energy Policy for Europe to commit the European Union to a low consumption economy based on more secure, more competitive and more sustainable energy. It highlights priority energy objectives to be shared by all the Member States. The energy Package is part of the movement begun by the Green Paper on a European Strategy for Sustainable, Competitive, and Secure Energy in March 2006.

The purpose of the paper is to introduce a complete set of European Energy Policy measures, which applies to:

- The Energy Market
- The supply for oil, gas and electricity
- Greenhouse gases and Emissions Trading System
- Energy efficiency measures
- Renewable energy
- Energy Technology



- Nuclear energy

Through this paper, different targets should be reached:

- an EU objective in international negotiations of a 30% reduction in greenhouse gas emissions of developed countries by 2020 compared to 1990, or at least achieve a 20% reduction of greenhouse gases by 2020
- increasing the level of renewable energy in the EU from less than 7% today to 20% by 2020

The main aspects of this programme are to give a strategic review of the European energy situation and shall introduce a complete set of European Energy Policy measures – The Energy Package.

- **Communication from the Commission of 19 October 2006 entitled: Action Plan for Energy Efficiency: Realising the Potential**

In its Green Paper on the European Energy Strategy, the Commission underlines the need to strengthen its energy efficiency policy. In addition, the target for a 20% reduction in energy consumption set in this Action Plan is part of the measures requested by the European Council in March 2006 to ensure the environmental feasibility of European Energy Policy.

Its purpose is to mobilise the general public, policy-makers at every government level, citizens and market actors, and to transform the internal energy market in a way that provides EU citizens with the most energy-efficient infrastructure, products, and energy systems in the world.

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In particular, it applies to:

- energy performance requirements for energy-using products, buildings and energy services
- Improving energy transformation
- Moving on transport
- Financing energy efficiency, economic incentives and energy pricing
- Changing energy behaviour

Through these measures, energy demand should be controlled and reduced by 2020; 20% of annual primary energy consumption should be saved. In sectors like residential and commercial buildings, manufacturing industry and transport the chances of saving energy are very high. The reductions of energy consumption in those fields could save about 390 million tonnes of oil, which also indicates reducing gas emissions.

The main aspects of the programme are presented in the six-year Action Plan, which presents the best measures on a cost-efficiency ratio:

- Improving energy performance
- reducing heat loss in buildings (passive houses)
- Improving energy transformation
- Limiting the costs linked to transport
- Financing, incentives and fares
- Changing behaviour
- Adapting and developing international partnerships



- **Commission Green Paper of 8 March 2006: "A European strategy for sustainable, competitive and secure energy"**

This Green Paper marks an important milestone in developing a common energy policy by regrouping the disparate range of energy policies into a common strategy for Europe. Its target is to reduce the energy consumption until 2020.

The paper applies to:

- sustainability - to actively combat climate change by promoting renewable energy sources and energy efficiency
- competitiveness - to improve the efficiency of the European energy grid by creating a truly competitive internal energy market
- security of supply - to better coordinate the EU supply of and demand for energy within an international context

The main aspects of the paper are split into six different areas:

- Energy for growth and jobs: completing the internal energy market
- Security of supply: solidarity between Member States
- Towards a more sustainable, efficient and diverse energy mix
- The EU at the forefront of tackling climate change
- Research and innovation at the service of Europe's energy policy
- Towards a coherent external energy policy

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- **Commission Communication of 10 January 2007:**
"Renewable Energy Road Map. Renewable energies in the 21st century: building a more sustainable future"

The Road Map provides each Member State with mandatory targets and action plans in line with its potential. It aims at reducing emissions and increasing the security of energy supply, and creating a legislative framework to enhance the promotion and use of renewable energy. These action plans must include specific measures and objectives for the three following sectors: electricity, bio fuels, heating and cooling.

The main aspects of this programme are:

- proposing measures to improve the internal market and remove the barriers to developing renewable energy in the electricity sector, the heating and cooling sector
- proposing measures to support, encourage and promote renewable energy sources, including an incentive/support system for bio fuels and the use of public procurement, particularly in the transport sector
- continuing to cooperate closely with those involved in the renewable energy sector
- encouraging optimal use of the existing financial instruments
- ensuring the continued exchange of best practices and the inclusion of the external costs of fossil fuels in their price encouraging Member States and local and regional authorities to make maximum use of the instruments
-



available to them and promote the development of renewable energy sources

- **Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings**

This programme promotes the improvement of the energy performance in new and existing buildings; it ensures the certification of their energy performance and requires the regular inspection of boilers and air conditioning systems in buildings.

Targets to be reached:

- a common methodology for calculating the integrated energy performance of buildings
- minimum standards on the energy performance of new buildings and existing buildings that are subject to major renovation
- systems for the energy certification of new and existing buildings and, for public buildings, prominent display of this certification and other relevant information.
- regular inspection of boilers and central air-conditioning systems

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Laws, programmes and acts in Turkey

In Turkey, the Ministry of Energy and Natural Resources is responsible for energy management. Besides them, different ministries cooperate in energy management. This suggests the collaboration in environmental protection and prevention of environmental pollution caused by energy wastes with the Ministry of Environment and Forestry, in energy use of industrial enterprises with the Ministry of Industry and Commerce, in educational issues with the Ministry of National Education, in implementation of thermal insulation projects and street illumination with the Ministry of Public Works and Settlement and with energy related offices in these ministries.

The Electricity Market Regulatory Authority (EMRA) is established by law where its authority and mission are clearly defined in order to coordinate energy production, distribution, sale and control issues between ministries and concerned organizations.

The Energy Efficiency Law aims at the improvement of energy resources and energy efficiency for effective energy use, the prevention of energy waste, the shortening of energy costs for economy and environmental protection. The law entered into force on 02 May 2007 after being published in the official journal.

2008 was announced as the Energy Efficiency Year with a circular letter of the Prime Ministry.



On 22-23 November 2007 TAIEX Workshop 25625 on Demand Side Management in Energy Efficiency was held in EIE (General Directorate of Electrical Power Resources Survey and Development Administration) with cooperation of EIE and TAIEX where presentations on energy efficiency were held.

Efficient Use of Energy in Buildings Project: A project in the field of Effective Use of Energy in Buildings called “Efficient Use of Energy in Buildings – Application in Province of Erzurum” was implemented in 2002 within the framework of Technical Cooperation between Turkey and Germany. The project which was conducted by EIE/UETM, the German Technical Cooperation Organization (GTZ) and the Municipality of Erzurum includes activities such as building studies, educational programs, determining needed regulations and opening consultancy centres in municipalities.

Standard for Thermal Insulation Rules in Buildings, TS 825: Since in Turkey the energy spent in buildings per unit area or volume for heating is 2-3 times higher than in European countries, the TS 825 Standard regulating Thermal Insulation Rules in Buildings which dates back to 1985, was revised by EIE in cooperation with other institutions and organizations. The new standard became obligatory on 14th June 2000. Thus, annual thermal loss will be halved in buildings to be constructed.

Precautionary Measures To Be Taken by Public Institutions to Reduce Energy Consumption: According to the 11th November 1997 circular letter of the Prime Ministry on “Precautionary Measures To Be Taken by Public Institutions to Reduce Energy Consumption”, public institutions throughout the

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country prepare annual reports about energy consumption in their buildings and send them to the Ministry of Energy and Natural Resources where they will get examined and evaluated by EİE.

Seminars Aimed at Schools and Public Institutions: Seminars are organized to raise consciousness about Energy Conservation among students and documents are provided for students and teachers. Moreover, seminars on energy conservation are given in public institutions as part of in-service training programs.

Publication Activities: Various booklets and leaflets about energy conservation in buildings and transportation are prepared and distributed to public institutions, universities, municipalities, governorships, and to participants in activities about energy conservation.

ENERGY CONSERVATION ACTIVITIES IN BUILDINGS

There are approximately 18 million buildings in Turkey and 10% of these buildings have the desired level of thermal insulation. Turkey needs 300 000 extra homes for new couples and people. 55 % of the existing buildings have no governmental permission, nevertheless people use these houses.

Current thermal insulation regulation and the TS825 Standard which came into force have also contributed to development in the insulation sector. In Turkey,



attempts regarding regulation, standard and revision of energy performance of buildings and insulation products are still continuing.

Structural and institutional Regulation:

Local authorities are responsible for energy conservation actions in buildings. The control of practices about energy in buildings is the duty and responsibility of local authorities and it has to be handled by the mediation of professional and experienced staff.



PART IV

Drivers



10) Drivers for Turkey

Some other drivers besides legal regulations could be activities which may help to raise the public awareness vis à vis the Better Building and environmental topics. One way could be to offer services such as advice, another could be to offer trainings and courses. The Better Building project has developed a “Modular Curriculum and teaching materials” to sensitise the public on energy saving possibilities and the use of renewable and ecological energies. The following is included in the documents:

INFORMATION FROM OWNERS OF PREFABRICATED BUILDINGS:

According to materials used and the climatic conditions the heat loss of buildings changes.

DATA PROCESSING:

The data used in the calculation differs according to the location of the country. Therefore the solar map of Turkey and the thermal areas of Turkey are shown in the document. Different isolation materials are used and accordingly different isolation coefficients.

OUTER ISOLATION OF THE FACES PRACTICAL EXAMPLE:

A practical example is included

MATERIALS AND SOLUTIONS FOR THERMIC REHABILITATIONS OF BUILDINGS:

Various materials are used in new isolation techniques. There are some companies that provide those materials, but most of them are imported from EU countries.

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LAWS AND MEASURES FOR OLD AND NEW

PREFABRICATED BUILDINGS:

As it is known, Turkey experienced a heavy earthquake in 1999. After this event the construction measures have been much stricter.

RECYCLING OF THE MATERIALS AFTER RENEWATION OF BUILDINGS:

In Turkey, recycling is not very common, waste materials after construction are dumped to empty areas of municipality therefore recycling issues are included in the Better Building documents.

NEW ENERGY SOURCES:

Solar energy is becoming more and more important in Turkey which offers very good locations for solar collectors. Those installations could be used to produce hot water or lightening. Other energy sources: With hot water provided by geothermal sources even a complete village could be heated cheaply. And wind energy is also another source for Turkey.

FINANCE MODELS:

Finally, financial models for the Turkish situation are included in the documents.



THE GUIDELINES

The Better Building project elaborated didactic “Guidelines” for VET providers and their teachers and trainers. The document is split into different chapters. They should help interested parties regarding training and learning processes and inform about didactic methods and other important processes.



11) Tools and Instruments

Tools and instruments are used to spread the idea of Better Building. Those tools and instruments have a very important function and it is not possible to imagine the project without them. Thus even after the project funding will end, it is recommended to continue using such instruments. Here is a list of the most common tools:

- Websites
- Handbooks
- Leaflets
- Bills

Through distributing those tools and instruments, the idea of Better Building is presented.

Another important tool presented in this chapter is the press release. With the help of journalists, reporters etc. the idea of the project can be presented to a large amount of people.



Press Release

To publish and distribute a press release about your topic you need to follow three important steps, which will be described underneath.

Three steps:

- 1) First you have to find a topic related to the Better Building project you want to publish about.
- 2) After your topic was found you have to search for different mediums into which your topic fits (print, radio, TV, online, news agency,)

Print:

It will always be easier to get your topic published in a daily regional newspaper, than in a weekly national newspaper. The regional papers have to fill their pages and are happy to receive interesting input from you.

If you want to contact a newspaper always be aware that editorial meetings are set in the morning, thus the best time to call a journalist or reporter is between 12 and 14 o'clock.

News agency: (e.g. Associated Press Agency in New York)

To bring a news agency to publish your press release would be very helpful. News agencies provide every medium with information about certain topics, if the editor is interested in your story your press release will be in the data base of the agency and journalists of all mediums have access.

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Radio:

Be sure that your topic is interesting for a large group of people.

Private radio stations will not air your topic, be sure to contact public radio stations that are interested in education and science.

You may be invited as a guest or an expert for a short interview, or you are asked to send the station some interviews with experts, so they can produce a short feature about your project.

The radio is a very fast medium; therefore listeners are not able to get through the material once again. If you are invited as a guest, make sure to speak clearly and to follow the “cinema in your head” method, which means to create images in your interview or story.

TV:

TV is again a different medium because it needs to have pictures. Be sure to be on the spot if journalists ask you for an interview etc... Do not be afraid of being on television, focus on the reporter and speak clearly.

Online:

Online media are again a very fast medium, journalists have to be very fast and are under much pressure, and therefore they do not have any time for you. You have to be sure to prepare your press release including everything (pictures, recordings, links, etc.)

Once you decided in which medium you want to be released you can start to write your press release, regarding the requirements.



3) How to write a good press release:

In order to get published, your topic needs to be interesting for journalists, media and their readers. The text you write has to be very well written, thus online magazines or newspapers can copy it and put it online/into the paper without changing very much.

To be sure to produce a very good press release that draws the attention of a journalist, always be sure to follow the **AIDA** formula:

- **A** – Attention: the journalist recognizes that a press release comes in
- **I** – Interest: he or she is reading the press release
- **D** – Desire: he or she wants to publish an article about the topic
- **A** – Action: he or she copies the release into the editorial system, copies or recopies it or gets in touch with the author, to arrange a meeting, an interview etc.

The Press release:

- Who?
- What?
- When?
- Where?
- How?
- Why?

Always be sure to focus on those very important questions and answer them in your written release. Be sure to answer those questions as accurately as possible, because facts are very important in a press release – detailed information makes a topic even more interesting. The structure of the press

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release is very important; to be sure that a journalist does not lose interest in it, after the first few sentences. The most important parts are presented here:

Headline: find a very good headline for your topic, in which an explicit statement can be seen. The headline should be very interesting for the reader.

Sub headline: this line explains the headline

Introduction: this lead sentence should arouse the readers' interest, after this lead sentence you can start to answer the W questions in the main part.

Main part: In this main part you have to use short sentences, active verbs, avoid shortcuts, express yourself gender-neutrally, refer to names and employ a very good layout with numerous breaks and line spacing 1.5. Do not write more than two pages and just print on one side.

Contact details: Always be sure to add your whole contact details! This is very important for the journalists, if they have any questions or requests.



Example for a press release

Renewable energy progresses in Europe

Source: New Zealand Government
Published Oct. 21, 2008

The European Wind Energy Technology Platform (TPWind) has predicted that more than a quarter of the EU electricity could be provided by wind by 2030. TPWind was formed in 2006 to research and reduce the social, environmental and technological costs of wind energy and involves the expertise of more 150 wind experts. In its newly released Strategic Research Agenda (SRA), TPWind says wind energy could account for 12-14 percent of the EU electricity consumption by 2020 (representing a total capacity of 180 gigawatts), and this could increase to 22-28 percent of consumption and 300 gigawatts by 2030.

However, the SRA points out that this vision poses major industrial and technological challenges and investment in wind energy needs to be coordinated at national and European levels.

Meanwhile, Opel International Inc is forging ahead with solar energy in Spain.

The company, which is an international developer and supplier of concentrating photovoltaic panels, has applied, along with its partners, for consent to build a solar grid field.

The field would be capable of more than 700kW with Opel supplying the project with its Mk-I high efficiency concentrator panels and dual axis trackers. The combination of products would ensure the grid field yields the maximum number of kilowatt hours possible.

Following its completion, the field would be owned by a third-party group acting as power suppliers.

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The plan for a grid field is attributable to upcoming changes in Spain's solar feed-in tariff structure. These changes are expected to result in a favourable operating cost structure for the eventual operators of the grid field.

(<http://www.environmental->

expert.com/resultEachPressRelease.aspx?cid=28058&codi=38894&idproducttype=8&level=0)

Specific issues with press releases in Turkey

Copyright law is also a big issue in Turkey. In order not to harm anyone or break a law, always be sure to mention all sources of your work.



12) Impacts and positive effects

Through Better Building two main goals will be achieved:

- **Protecting the environment and saving money on various sectors!**

To be able to profit ministries, big organisations and companies have to be the messenger for all men, women and their households.

Better Building is a one time opportunity to save money for everyone from one household to a big company. Through the renovation and regeneration of buildings expenses regarding energy costs can be minimized, e.g. if you isolate an old building, the costs for heating or air condition will only be a small percentage of usual costs.

The outcome of Better Building can be seen if we take a close look at the insulation topic. Households spend about three quarters of energy costs on heating. If you start renovating and exchanging your old materials you can be sure to save up to 20% of your usual energy consumption.

Therefore every big company, factory, organisation should start thinking on how to create buildings that save energy. The bottom line of all those energy saving measures is saving MONEY!



13) Evaluation

The outcomes of the Better Building long term impact could be evaluated through different indicators such as

The outcomes of the project could be evaluated through different indicators such as

- number of stakeholders involved
- kind of stakeholders involved
- number of contact (new/old) to ask for deeper information about the project
- implementation of a training course including part of the didactical curriculum developed within the project
- feedback of the trained people
- improvement of existing training courses thanks to tools developed within the project connection with other EU projects on similar subjects to multiply the effects and results

Here, the respective stakeholders have to think of more indicators and milestones related to their organisations and institutions as well. The above mentioned could be seen as prompts to start thinking of the most important ones in your organisation.





PART V

Bibliography



14) General Links and Literature

- <http://www.environmental-expert.com/resultEachPressRelease.aspx?cid=28058&codi=38894&idproducttype=8&level=0>
- Andreas Lutz/Isabel Nietzsche: Praxisbuch Pressearbeit, Wien, 2007, Linde international Verlag
- Dış Ticaret Müsteşarlığı , Dış Ticaret Değerleri (18 Mart 2008)
www.dtm.gov.tr/dtmadmin/upload/EAD/IstatistikDb/eko02.xls
- "Enerji Raporu", Mühendis ve Makine, Cilt 48, Sayı 570, sayfa15-18
www.mmo.org.tr/muhendismakina/arsiv/2007/temmuz/04_rapor.pdf
- İpek, N. "Tasarruf ve Enerji verimliliği" Enerji Dergisi, Sayı 1, Ocak 2008, sayfa 4-5
www.emo.org.tr/yayinlar/dergi_goster.php?kodu=500&dergi=13
- Buyruk, H. "Türkiye ve Dünyada Genel Enerji Durumu, Binalarda Enerji Tasarruf Potansiyelleri ve Mevzuatlar" yayınlana kabul edilmiş makale
http://www.eie.gov.tr/turkce/en_tasarrufu/uetm/uetm_index.html
- Oral, G. K., "Binalarda Isı Yalıtımı ve Enerji Verimliliği" 25. Enerji Verimliliği Haftası Etkinlikleri , 23-24 Şubat 2006, Hacettepe Üniversitesi, Ankara
http://www.eie.gov.tr/duyurular/EV/EV_etkinlik/2006_bildiriler/en_ver_haftasonrasi_2006.html
- Elektrik İşleri Etüt İdaresi İnternet Sitesi "Kuruluş ve Görevleri"
www.eie.gov.tr/turkce/ozet/ozet.html
- EIE –TAFEX işbirliği ile " Talep Tarafı "Çalıştayı, 22-23 Kasım 2007, Ankara
www.eie.gov.tr/duyurular/EV/TAIEX/taiex_sunular.html
- Enerji Verimliliği Haftası Konferans ve Fuarı, 10-13 Ocak 2008, Ankara
www.eie.gov.tr/duyurular/EV/EV_etkinlik/2008_bildiriler/EV_Hafta_program2008.html
- Enerji Ortak Akıl Toplantısı , 21-22 Mart Zaman Gazetesi , Bakan H.Güler'in açıklaması
www.zaman.com.tr

Implementation Concept



- T.C Bayındırlık ve İskan Bakanlığı
Republic of Turkey, The Ministry of Public Works and Settlement (English)
www.bayindirlik.gov.tr
- T.C Enerji ve Tabii Kaynaklar Bakanlığı
Republic of Turkey ,The Ministry of Energy and Natural Resources (Turkish)
www.enerji.gov.tr
- T.C. Çevre ve Orman Bakanlığı
Republic of Turkey, Ministry of Environment and Forestry (Turkish)
<http://www.cevreorman.gov.tr>
- Elektrik İşleri Etüt İdaresi Genel Müdürlüğü
Electrical Power Resources Survey and Development Administration (EIE)
(English)
www.eie.gov.tr/turkce/en_tasarrufu/konut_ulas/bina_ulas.html
- EİE Enerji Verimliliği Çalışmaları (Turkish)
EIE The Studies for Energy Efficiency
http://www.eie.gov.tr/turkce/en_tasarrufu/uetm/uetm_index.html
- İstanbul Teknik Üniversitesi, Enerji Enstitüsü
The Energy Institute at Istanbul Technical University
<http://www.energy.itu.edu.tr/EN/about.htm>
- İstanbul Büyükşehir Belediyesi Şehir Aydınlatma ve Enerji Müdürlüğü
Istanbul ,Directorate of City Lighting and Energy Directorate of City Lighting and Energy
http://application2.ibb.gov.tr/aydinlatmaenerji/pages/enerji_verimlilik.asp
- TMMOB İnşaat Mühendisleri Odası (Turkish)
Union of Chambers of Turkish Engineers and Architects Chamber of Civil Engineers,
Ankara
<http://e-imo.imo.org.tr/Portal/Web/IMOindex.aspx>
- İnşaat Mühendisliği Paylaşım Platformu (Turkish)
Sharing Platform of Civil Engineering
<http://www.inaatmuhendisligi.net/index.php/board,94.0.html>



- TMMOB Elektrik Mühendisleri Odası
The Chamber of Electrical Engineers (EMO)
<http://www.emo.org.tr/>
- Temiz Enerji Vakfı
Clean Energy Foundation
<http://www.temev.org.tr/yayinlar.htm>
- Enerji Teknolojileri ve Mekanik Tesisat Dergisi
The Journal of Energy Technologies and H.V.A.C System
<http://www.tesisat.com.tr>
- Türk Tesisat Mühendisleri Derneği
Turkish Society of HVAC & Sanitary Engineers
<http://www.ttmd.org.tr>
- TES İnşaat Eğitim Merkezi (Turkish)
TES Building and Construction Training Centre, Ankara
www.tes.org.tr/index2.html
- Enerji Ekonomisi Derneği
The Turkish Association for Energy Economics (TRAEE) (English)
www.traee.org/index.html
- İZODER, Isı Su Ses ve Yangın Yalıtımcıları Derneği (Turkish)
IZODER , Association of Isolation of Heat, Water, Suond and Fire
<http://www.izoder.org.tr/hakkimizda.asp>
- İMSAD İnşaat Malzemesi Sanayicileri Derneği
İMSAD, the Association of Turkish Building Material Producers
<http://www.imsad.org/eng/index.asp?sid=2>
- ISKID, İklimlendirme Soğutma Klima İmalatçıları Derneği
Association of manufacturers of Air Conditioning and Refrigeration Systems
<http://www.iskid.org.tr/tr.htm>
- IZOCAM Firması (Bina Yalıtım malzemesi Üreten Özel Kuruluş)
IZOCAM insulation Company (Private Isolation Company)
<http://www.izocam.com.tr> (English)

Implementation Concept

- SOLEN Enerji (Yenilenebilir Enerji Sistemleri Üzerine Çalışan Özel Kuruluş)
SOLEN Energy (Private Energy Company)
<http://www.solenerji.com.tr>





Better Building



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