TWINNING FINAL REPORT

EUROPEAN COMMISSION

TWINNING PROJECTS

FINAL REPORT

Project Title: "Improvement of Energy Efficiency in Turkey"

Partners: France: ADEME (Agency for Environment and Energy Management),

with SENTER*NOVEM (The Netherlands)*

Turkey: EIE (General Directorate for Electric Power Resources Survey & Development Administration) of the Ministry of Energy & Natural Resources.

Date: 14 December 2007 / 05 April 2008

Twinning Contract number: TR03 - EY – 01 notified on July 1st 2005

General instructions

1. Overview

The **Final Report** for the project comprises the following parts:

Section 1 Basic data on the project
Section 2 Content: Achievement of mandatory results
Section 3 Expenditure: final financial report

2. General guidance

- Final report shall be submitted no later than three months after the implementation period as defined in article 2 of the General conditions of the Twinning Contract (Annex II).
- Final report covers both substance and Finances. The final financial report must be accompanied by an audit certificate from a recognised, independent auditor, following the template in Annex VI to the Twinning contract.
- The MS Project Leader in co-operation with the BC Project Leader will jointly prepare, co-sign and submit the final report to the concerned authority (see 6.4 of the Twinning manual).
- **One copy of the Report** must be sent at the same moment to the relevant Twinning Team in the Commission Headquarters, as a matter of information. Please see exact requirements for submission of the Final Report in section 6.4 of the Twinning Manual.
- The Report must be submitted in one of the **following three languages: English, French or German.**

3. Notice

- The views expressed in this report do not necessarily reflect the views of the European Commission

Section 1: Project data

Twinning Contract Number	**TR03-EY-01 Project N0 TR 0303.06**
Project Title:	**Improvement of Energy Efficiency in Turkey**
Twinning Partners (MS and BC)	**ADEME, Agence de l'Environnement et de la Maîtrise de l'Energie (FR)** **With** **SenterNovem (NL)** **DG EIE under the MENR (General Directorate of Electrical Power Resources Survey and Development Administration under the Ministry of Energy & Natural Resources) (TR)**
Duration of the project:	**29 MONTHS of IMPLEMENTATION (as per Addendum 1 notified by ECD on 31/05/2007)**
MS Project leader:	**Bruno CHRETIEN (ADEME)**
BC Project leader:	**Mehmet CAGLAR (EIE)**

Section 2: Content

This section describes the activities of the project. It is divided in nine sub-sections.

2A - EXECUTIVE SUMMARY

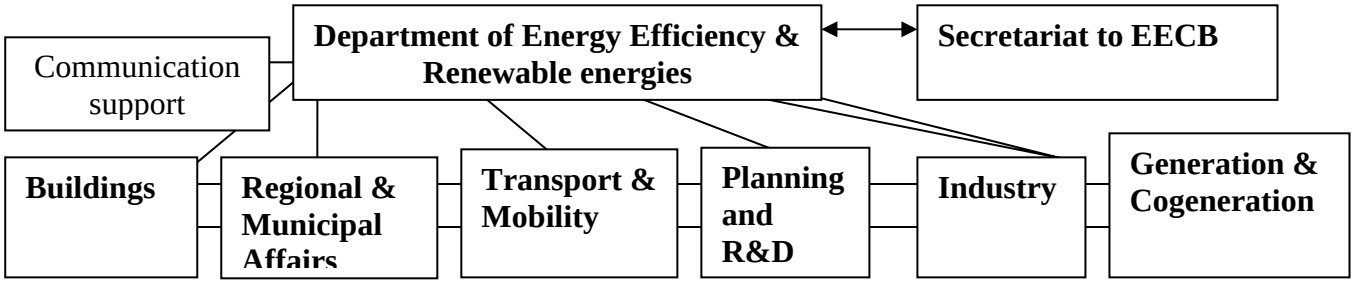
The purpose was the establishment and/or strengthening of the legislative and institutional framework in accordance with the EU rules and best practices for better design & implementation of Energy Efficiency programs for the 3 sectors of the Turkish economy.

During the course of the activities, the organisation of the administration directly in charge of EE was slightly amended through the creation of 2 new divisions within the DG EIE, entrusted with cross-sector activities (such as planning and database, communication).
Beside this, neither the overall number of staff (about 30), nor their professional background (mostly engineers), nor the budget devoted to EE (staff costs mainly) did not increased significantly, at least not in proportion with the tremendous increase of the international oil price, who rose from about 50 to 100 $/barrel, while the price of electricity has been kept unchanged[1], despite of current inflation (about 10-8% a year).

Meanwhile through numerous trainings, lectures, meetings, workshops and study visits, the EIE staff considerably extended its networks of proactive contacts with public, municipal and professional stakeholders, and gained in visibility as the core active administrative part for promoting EE.
Although attempts were repeatedly made to promote the status of EE policy, options and measures within the overall energy and environmental policy of Turkey, the interactive connections with the real decision makers for key energy issues (tariffs, privatisations, financial mechanisms to support transitions and EE investments) were not established by the project team and by the EIE management.
The primary target of the government seemed to be the control of inflation, without looking in due time to the potential of substituting costly energy imports by rehabilitation works and EE investments, as generating local activities and jobs.

A new Law dealing with Energy Efficiency has been finalised and enacted (O. Gazette 2/05/2007), positively upgrading the representation and role of the EECB (EE Coordination Board), lowering the ceilings for compulsory measures (energy mangers, audits), opening the ways to voluntary agreements and to the operation of authorised ESCOs (energy service companies), but still devoting less attention to the building and transport sectors, and neither setting targets nor establishing general supporting mechanisms. Secondary legislation has been drafted and is under public consultation process (www.eie.gov.tr). A database of EE indicators is now in operation, although it requires additional efforts to get data and to use it at policy level.

It is recommended to restructure the relevant department as below, to increase the staff to about 70-80 within 3 years, to allocate a significant budget for supporting actions & programmes and to devote more efforts to join EU projects and networks.



[1] From January 2008, electricity prices have been increased by 15% (residential) or 10% (industry) and prices of gas by 7,4% and 6,4%. The government announced that he will promote EE measures. The Prime Minister has participated to the regular Energy Week in Feb. 2008.

2B - BACKGROUND

Starting Point

(Briefly describe the original situation in the relevant area of the BC administration before the project, indicating the gaps that the project had to address.)

Within the Ministry of Energy & Natural Resources (MENR www.enerji.gov.tr), the DG EIE was one of about 26 DGs or departments; one department ("energy resources surveys") had 2 sections dealing with energy efficiency: one for the industry sector (about 1+16 persons), one for building and transport sectors (about 1+7 persons). The section for EE in industry was directly involved in the performance of energy audits and in 2-weeks training sessions for energy managers (about 4/year + one international session), including theoretical aspects and practices at the well equipped training centre (provided during a 5 years-long JICA supported project). EIE was keeping a database of the trainees who had to prepare and report about an "EE project" at their own plant. The second section was about to terminate a GTZ supported project about EE in buildings, which included many internal training sessions (with documents translated in Turkish), 2 demonstration sites (at Erzurum Campus and Ankara-Yenimahalle orphanage), the innovative design and on-going construction of a training centre at the EIE site. The action for EE in transport was indeed limited to technical aspects about fuel efficiency of motors. A report made in 1990 under a World Bank project included the audit of 3 transportation companies (Ankara municipal bus company, an intercity bus company, a small freight company) but no follow-up was traceable.

The EE legislative corpus was limited to a 1995 regulation on EE in industry (compulsory energy managers certified, and energy audits and monitoring for companies consuming more than 2000 toe/year, but only part of energy managers was implemented) and to the TS825 (issued in 2000) concerning insulation of new buildings, and then under revision. In line with the recommendations of the Energy Efficiency Strategy (agreed April 2004) based on a Needs Assessment Study, a draft Energy Efficiency law was already in consultation among the public and professional stakeholders. The EE Conservation Board had regular meetings at a non executive level, mainly dealing with the preparation of the annual *energy week* (usually in January). This communication action existed since the early 80ies but had a quite limited impact as it was run in Ankara only, mobilising a small number of usual speakers and positively a large number of schools for a national award of children drawings and recently contests among energy efficient projects of industry.
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After the electricity & natural gas market laws (2001), the regulatory authority EMRA (www.epdk.gov.tr) was very busy issuing licenses for the extension of the gas networks and for new hydraulic power plants.

Turkey economy was gradually recovering from a very severe financial & budgetary crisis (2001-2), inflation rate being lowered to 1.5% **per month**, bank loan rates still being in the range of 16-18% per year. Growth rates were high compared to EU levels but salary increases were rather strictly controlled by the government in view of reducing the public deficit. Energy demand was growing by around 7% a year. The international oil price had increased in the year 2004 from around 25 to around 50$/barrel at mid 2005.

There were neither systematic auditing programmes, nor any targeted subsidy scheme for EE investment; the legal & institutional framework was rather weak. The public budget for

EE being limited nearly to the gross salaries of about 30 persons was a very small fraction of the energy import bill of Turkey (over 15 billions €/year), the policy therefore having nearly no leverage. Meanwhile the heavy excise levied on automotive fuels (higher than in any of the EU25+2) was a major source of the public budget resources. The activity of the EIE engineers was mainly technical and in direct contact, not really geared to policy proposals and monitoring of implementation.

Objectives

(List the objective, purpose and mandatory results of the project (as stated in the Work Plan and / or amended during implementation), addressing the gaps identified above.)

The initial Project fiche was proposing two components only but ADEME' proposal and the preparation of the Twinning contract led to add a third component dealing with implementation issues, and, for practical reasons, to gather all short activities as a fourth component.

Overall Objective:	Improvement of the energy efficiency in Turkey.
Project Purpose:	Establishment and/or strengthening of the legislative and institutional framework in accordance with the EU rules and best practices for better design & implementation of EE programmes
Mandatory Results (Components)	1- Strengthening of the legal and institutional framework
	2-Assessment of the energy saving potential
	3- Identification of barriers & support to implementation
	4- Events, Study Visits, Internships, Workshops

2C - IMPLEMENTATION PROCESS

Developments outside the project

[(a) What were the key developments in the relevant policy area in the Beneficiary Country during the implementation of the project? Which of the original assumptions of the project (Article 3 of the Work Plan) were fulfilled?]

The Turkey Progress Report (Nov. 2007, p.49-50) provides an overview on the policy developments for the energy chapter.

In the more specific field of energy efficiency and pricing policy the policy development are contrasted. The EE law has been for many months finalised as a draft, circulated among stakeholders, discussed, voted at GANT, and published on May 2nd, 2007, meanwhile with very limited financial instruments, and no specific national targets for EE; articles about the building and transportation sector are much less developed than those for industry. The Electricity market law has been amended in spring 2006, introducing a principle of equalisation of the retail tariffs for a transition period. The 1st privatisation tender for 3 of 20 regional distribution companies has been launched at the end of 2006 but then postponed without a new firm date.

On the international markets the oil price has strongly increased, as well as coal and gas with some delay. Within Turkey, the electricity tariffs have been kept nearly unchanged since mid 2003; this decision is being controlled by the Prime Minister office. In contrast the prices of gas have been increased by several steps in 2005 and 2006. The prices of automotive fuels are fluctuating in relation with the price of oil, but the very heavy (except for LPG) excise level, have been kept nearly unchanged.

The Law of Road Transportation came into force in Feb. 2006, including a ban on very old vehicles (number estimated between 200 000 and 300 000) but no financial mechanism has been planned for supporting their replacement for freight or intercity passenger transportation.

Even if the general inflation is under control, the Ministry of Finance and Treasury are still under pressure of the IMF watch and then reluctant to any significant financial mechanisms able to support the implementation of the proposed EE policy. The initial proposals for supporting the voluntary agreements for EE in industry has been drastically downsized during the inter-ministerial consultations about the draft EE law, to a point that the resulting final subsidy scheme is not very attractive and even not backed in advance by a clear budgetary commitment. For the thermal rehabilitation of the most common existing buildings, the residential buildings, there are no financial scheme, as well as for the accelerated replacement of old inefficient home appliances or old fuel inefficient vehicles.

Additional financing for EIE and for contribution to R/D or demonstration projects in the fields of EE is not yet insured from the national budget, but, responding to efforts of EIE and the Twinning Project, more favourable conditions have been obtained for 2008, which can let expect a positive political decision of Turkey to join the IEE (Intelligent Energy for Europe) programme and pay the contribution, with serious expectations of proposals and accepted projects.

[(b) What external problems threatening smooth implementation of the project appeared and how were they solved?}]

Long delays for consultations and finalisation of the Law made it to be ready at a period of political crisis (1st round of election of the president). After the legislative elections (July 2007), EIE came under very strong and renewed pressure for preparing the secondary legislation. This led the DG EIE to cancel the participation of 4 division heads to the fully prepared internships.

Project developments

(a) Describe the key developments inside the project, such as change of key staff, re-orientation, completion of an important package of activities, other turning points. (NB: Do not make a detailed account of all activities here)

No key staff has changed on both sides, at least for EIE, ADEME, SENTERNOVEM and ECD. Few short term experts had to be replaced for various reasons (health, transfer to another department…) but new proposed experts have always been adequate and accepted. A very small proportion of the participants to one training and 3 study visits went after outside the reach of project activities (for instance, one METU scientist moved to TUBITAK).

(b) What internal problems threatening the implementation of the project appeared, and how were they solved?

The initial nominations for training and study visits have been in some parts questionable but after lot of discussions a final agreement could be found in due time.

The two required extensions of duration of the project have raised a lot of stress for the RTA and assistant.

Project visibility

(a) What steps were taken to ensure project visibility and EU visibility and what was the influence on the project implementation process?

During most of the EU experts visits, it was requested from the expert to prepare lectures not only for the concerned staff of EIE, but also for outsiders (other Ministries & public organisations, professional chambers or associations, university specialists); therefore the Twinning team regularly prepared a list of proposed attendance, a programme and an introductory note, usually in both English & Turkish, for EIE to dispatch a formal invitation to the stakeholders, usually signed by the DG EIE or Deputy DG. The cumulated attendance represents several hundreds of persons (probably around 250), who received either a paper copy or an e-file of the technical presentations, or could download them few days after from the EIE website. Gradually the Twinning project at EIE acquired the reputation of being a source of useful, innovative and adapted knowledge in many fields, and furthermore a place of lively debate about both technical and economic issues.

Visiting the stakeholder organisations at their own premises for consultation, instead of requesting them to attend a group meeting at EIE, was a positive way to build confidence and to let emerge new ideas for policy proposals.

The room of the RTA and assistant were became well known having the most recent and accurate statistics, and a fast access to the most relevant EU documents, downloadable from the numerous EU websites!

As the Project deliberately proposed to the main Turkish partners to nominate candidates for the training session and 3 study visits due to occurred in France and/or the Netherlands, the Project and its EU support acquired a good reputation of sharing its financial resources & expertise with other relevant Ministries and professional organisations.

Within the networks of EU resident twinning advisers, the RTA of this project was very active in promoting working connection and convinced the ECD in Ankara to organise regular sector-wide meetings among RTAs for mutual sharing of experiences about procedures and important Turkish sources (legal & planning documents, statistics, translations….).

2D - ACHIEVEMENT OF MANDATORY RESULTS

(a) Describe the extent to which each of the mandatory results (measured against the benchmarks agreed in the Work Plan) was achieved.

(b) In case one or more mandatory results were not entirely achieved, explain why.

(c) Overview mandatory results achieved (See Annex 1).

Component 1: Strengthening of legal and institutional framework

Activity 1.1	Review & assessment of the related EE legislation
Activity 1.2	Guidelines for implementation practices & Review of organisational structure of EIE & the related public administrations and professional associations in Turkey
Activity 1.3	Working procedures, institutional capacity building and human resources devpt plan
Activity 1.4	Learning from European EE experience, know-how, programmes & adapting them to Turkish national conditions. Design and implementation of integrated and targeted EE programmes**.**
Activity 1.5	Strengthening EIE staff, training sessions
Activity 1.6	Raising public awareness & disseminating EE technological information. Assisting for PR & communication materials
Activity 1.7	Capacity Building for EE programs at local levels
Activity 1.8	Identification of additional training needs of all end-use sectors
Activity 1.9	Guide lines for selection of demonstration projects

Activities of component 1 were dealing for one part with the assessment and improvement of institutional energy efficiency measures like legislation and other forms of implementing energy efficiency measures toward the economical sectors: industry, building and transport.
For a second part, it was foreseen in the work plan to improve existing procedures and measures, with at a first extent reviewing the energy efficiency law under preparation and orientate its development, and to propose a new organisation and programming method in order to improve the effectiveness of energy efficiency measures in Turkey.
In order to succeed in the two previous goals, an important work of capacity building in programming, networking and managing from energy policy to concrete implementation was foreseen.
To these extents, benchmarks of the whole component 1 have been achieved.

a - Legal and institutional capacity of EIE and relevant institutions' staff strengthened and working knowledge increased through trainings by the end of the project implementation, in all sectors.

At a first stage it had been determined that reinforcement of Energy Efficiency legal framework had to be done in two major and complementary orientations:

- review and checking of legal basis at Turkish and EU level to determine gaps and main orientation;
- improving the state bodies' capacity in programming and implementation.

Energy Efficiency Law enactment was a key issue and a bottle neck to allow EE programmes to be set up and implemented.

Law has been enacted very late with comparison to the initial schedule. But if very relevant and famous item, it represent only the emerging part of the iceberg.
Indeed most important and hard work was to work on strengthening institutional capacity of EIE and other relevant institutions.

- Seminars, study visits and missions with reports for knowledge
- Trainings and internships, more capacity building and know how oriented

b - The financial and technical scheme for the management & supervision of the joint EE programs (such as audits, pilot projects, training, R/D, awareness campaign, monitoring) in cooperation with other public, private and municipal partners is in place

Actually, the management scheme is not right now in place in Turkey. It can be first explained by the novelty of the job for EIE which has met more difficulty than expected to set up this financial and technical scheme with the incontrovertible involvement and agreement of most stakeholders. It must be also taken into account that in the definition of the project, EIE was supposed to increase significantly its staff to support the normal increase of missions and tasks coming from a new kind of activity development while it hasn't been done. EIE surely needs important reinforcement of staff for being able to run the challenge of definitely boosting the energy efficiency in Turkey.
Nevertheless, EIE is now considered technically ready to present and set up a new energy efficient scheme and at the threshold of providing Turkey with very relevant programmes like auditing and long term agreements.
In addition, concerning final preparation and setting up of EE programme scheme, good enough contact were initiated between France and The Netherlands through ADEME and SenterNovem to maintain relationship and give support to Turkey through EIE and other bodies with bilateral cooperation or implementation of new EU supported projects in order to obtain concrete start of ambitious energy efficiency programme.

c - Improved visibility of the EE policy & active networking with decision makers in various Institutions.

All seminars organised, participation to technical or political events reinforced the visibility of EE policy and EIE as main actor in this field. Also, active networking with chambers of engineers, municipalities, ministries, trade associations, … were initiated and should be continued for the most benefit of all parties and EE.

<u>On activity 1.1, review and assessment of the related energy efficiency legislation:</u>
Turkish EE legislation and also legislation with connection with or impact on energy were reviewed and assessed in line with EU legislation and in line with the project plan by the RTA and by several experts on the fields of industry, transport and buildings. Priorities and new orientation or development were proposed in due reports. During the run of the project, a law on energy efficiency was passed by the Turkish parliament (Official Gazette: 2 May 2007, no. 5627). A number of recommendations found its way into the law, some did not. As the Energy law includes very precise regulatory measures, experts and RTA advises that it can limit the secondary legislation flexibility and therefore it is expected that the energy law is consisting in providing a starting point for the secondary energy legislation that will be passed in the year 2008. Currently the draft of the secondary energy legislation is being prepared by EIE. Detailed recommendations by the RTA and various experts on a draft can be found in benchmark 3 of activity 1.

On activity 1.2, Guidelines for implementation practices & Review of organisational structure of EIE & the related public administrations and professional associations in Turkey:
All stakeholders with an interest to energy conservation in Turkey were visited and interviewed and due reports were made containing assessment and recommendations on their organisation and practices. There is also a report that covers the organisational structure of EIE. The report relates to the organisational structures of ADEME and SenterNovem and their respective tasks in relation to government policy and provides options for a change in tasks, responsibilities and structure of EIE.

On activity 1.3, Working procedures, institutional capacity building and human resources development plan:
Assessment of the EIE organisation took place. The EIE has been confirmed to play the main role of energy efficiency in Turkey. The benchmark shows detailed recommendations for restructuring EIE, including need for (extra) staff and expertise. The recommendations were made on the premise that EIE meets the needs of an ambitious energy efficiency implementing agency.

Currently it is not foreseen that an increase in the budgetary allocation of EIE for energy efficiency will be provided thus limiting the capabilities of EIE to influence the energy efficiency effectively in Turkey. At least, this may influence compliance with EU regulations which is evaluated during the accession process to EU membership.

On activity 1.4, Learning from European EE experience, know-how, programs & adapting them to Turkish national conditions. Design and implementation of integrated and targeted EE programmes:
On the basis of a new or reinforced EE policy, a strategy of action was made based on the know-how of EU member states and on the evolution capacity of Turkish EE actors.

In this part, study visit and internships were very beneficial to give a concrete view and experience with persons and bodies who have to deal with setting up and running energy efficiency programmes or projects and their respective tasks, responsibilities and authorisations.

Another element with much impact on both capacity building for EIE and programme building were the Logical Framework Analysis sessions that were separately held for the departments of buildings and industry. In both cases also actors from the target groups were present and all participants could taste how an interactive and guided process (the logical framework) can lead to an increased mutual understanding of all parties present, and to realistic results that can be implemented. It also proved that the requirements for the proposed reorganisation of EIE that were studied in activity 1.2 and 1.3 may be crucial in achieving the goals.

After evaluation, information within seminars and workshops, EE programmes were drafted for all important (sub-) sectors, which reached all five benchmarks.

On activity 1.5, Strengthening EIE staff, training sessions:
The aim was to build up EIE capacity in order they can operate as creator and an implementing body of EE programmes. As written in the working plan, building capacity is an ongoing process which included in addition of formal training sessions, direct coaching, and other activities like study visits, internships, conferences and workshops.

As a result numerous training, know-how or knowledge sessions were organised. They dealt with all full range of competences that is needed for programme implementation, the understanding of economics, technical approaches as well as designing and monitoring programmes, tools and instruments. Although these activities are important and do have impact, it must be considered that day by day coaching is the most effective and beneficial way of capacity building with respect to this activity.

In addition to focus on the importance of networking, most of trainings and seminars were open to other bodies that are involved with energy efficiency. It appeared that these external bodies quickly adapted to this new way of interactive working and participated actively. As a result, new close connections of EIE with other private and public bodies, companies and associations were initiated. It is strongly recommended that this network should be maintained carefully.

On activity 1.6, Raising public awareness & disseminating EE technological information. Assisting for PR & communication materials:
Turkey's strategy is to improve the impact in the fields of energy efficiency mainly through EIE. To have national impact, it is essential to develop and run a well balanced and correctly targeted communication strategy. Conveying 'the message' is crucial not only for achieving awareness but also for results in all the different target groups. Because of the variety in target groups, each target group should have its own approach. Some target groups are: energy intensive industry, small and medium sized enterprises, households, young people, municipalities, owners of commercial buildings, public buildings, and users of transportation by road, rail, air and water.

Changing or adapting behaviour, promoting tools or techniques or stimulating the use of best practices, increasing knowledge at target groups, developing new services for a technical market (as with procurement) all rely heavily on the quality of communication. In this sense, specialised trainings and seminars were operated with the EIE communication team. Many tools, methods, organisation and examples were introduced during the study visits and internships because participants could see concrete development and application of awareness through communication. Main stakeholders were met and recommendations were made through the benchmarks.

Also a first step in communication strategy was made by EIE. As it is a time consuming process to obtain an effective organisation and clear communication programmes, a bilateral cooperation was sat up in which EIE was coached with a new communication development.

On activity 1.7, Capacity Building for EE programmes at local levels:
In order to promote energy efficiency and to extent action capacity towards the whole field, especially in buildings and transportation, local authorities and actors are to be trained and are to become deeply involved with EE policy implementation at local level. This idea is consistent with the typical quotation in the EU "Think global and act local."

This activity was used as an occasion to write guidelines for EE implementation strategies and an action plan for local level in the closest lines of visible options in Turkey (BM1&2). In order to accomplish this, informative meetings were held and very important and fruitful connections with municipalities as well as TBB (Turkish Union of Municipalities) were organised. These relationships are to be maintained by initiative of EIE. EIE depends on

these relationships in order to spread EE information and operation over the whole territory of Turkey which is very wide (BM3).

As relationships with local authorities and their representatives were enough developed, it was possible for the Twinning team to prepare and submit a project proposal in which municipalities of Turkey and France agreed on implementing common work that was targeting energy conservation (Programme Civil society Dialog managed by CFCU). EIE was committed to the project as national expert body to support the cities of SIVAS, ISTANBUL and PARIS common actions.

In activity 1.8, Identification of additional training needs of all end-use sectors:
Reports on additional training needs of the buildings, industry, transport and energy production sectors were made and cover the benchmark. In each case a number of essential stakeholders was determined and for each stakeholder appropriate elements of additional training were identified. For every element of the training there is a recommendation of the aim and of a party that could be suited to give the training. It is recommended that the training needs are fulfilled because it is necessary to increase knowledge and enhance capacity building in order to raise stakeholders' level of understanding and capacity for initiative and action in the field of energy conservation.

On activity 1.9, Guidelines for selection of demonstration projects:
Three sectors were chosen as the areas of interest for activity 1.9: buildings, industry and transportation. For each of the three sectors a separate set of guidelines is given (Benchmark 1) in order to develop demonstration projects with high visibility and maximum benefit. The guidelines were homologated with chosen members of EIE staff and the responsible short term expert. Although EİE's expectation was to develop a demonstration project for each sector but because of time, staff and money restriction during the project period, EIE chose to have presented three examples of demonstration projects, one for each sector, rather than actually setting up demonstration projects. To organise demonstration projects that fulfil a large number of the guidelines and to find partners and potential suppliers is time consuming and it was not feasible to expect finalisation within the time frame of the Twinning project. And, even more important, there were no funds available to perform neither the organisation of a demonstration project nor the actual implementation. The examples that are given in BM2 show the potential of demonstration projects in energy saving potential, visibility and impact.

Component 2: Assessment of Energy saving potentials

Activity 2.1	Development of energy prices/tariffs scenarios (in rel. w. MENR and EMRA)
Activity 2.2	Review of analytic studies & documents for initial evaluation of potentials
Activity 2.3	Methodology for assessing energy saving potentials
Activity 2.4	Specialized Training Session on Energy Savings Potentials, Indicators, Modelling
Activity 2.5	Organisation & follow-up of 3 sector field (Industry, Transportation, Buildings) studies groups
Activity 2.6	Field data survey by private sector consultants contracting
Activity 2.7	Benchmark data base & energy indicators
Activity 2.8	Assessing energy saving potentials for 3 sectors (Industry, Transportation and Buildings)

a- Team (# 10) trained on EE-data bank in France, able to run it.

Starting from zero in the field of economical study is a real challenge and need a huge work.

Even if the relevant persons were trained in France in one of the most competent institutes, creating a data bank being ready to use it is not enough Data collection needs a lot of efforts, also the evaluation of their relevance Expert estimate are needed in case of lack of data and EIE should continue to develop interactive relations with TÜRKSTAT and planners at MENR.

b- EE-Data bank started (tool for evaluation of energy saving potentials), and in operation.

As said, even if the data base has been set up and started to run, it represents only the first step and then must start a long and complex process of data collection and analysis in order to being able to obtain a first assessment of energy saving potential.

Today, as required as mandatory result benchmark, tools are in operation. Nevertheless we also noticed that to reach concrete and accurate energy saving potential in all sectors, a quite long run remains.

However, this will lead ADEME and EIE to continue the collaboration on this purpose.

Energy Conservation must be a key part of all energy policy of a country; then it is needed to finance setting up and implementation of EE programmes.

Furthermore, as all country, Turkey is in need of information on energy savings potentials in order to define the adequate policy, programmes and financings.

Mainly, it is necessary to assess energy saving potential in line with the technical means and economical conditions to achieve this saving potential and at the same time, Turkey must be in position to simulate economical scenarios of Turkey evolution in which will step in options of actions toward energy savings. Briefly, this is why setting-up and always improving system of energy saving assessment is so crucial.

In this component, most benchmarks were achieved; the operation of the database has been started and a first assessment realised.

It remains to improve the database running with the more accurate data and to perform energy saving assessment in all the sectors.

Activity 2.1, Development of energy prices/tariffs scenarios (in relation with MENR/EMRA):
This present activity is very connected to activity 3.2 which gives an energy tariffs analysis. As energy prices are one of the most important criteria that influence energy efficiency savings or consumption models, it leads only to work out on the future governmental actions on tariffs.
Anyway an energy pricing note has been written trying to explain the possible or desirable evolution in Turkey and a joint paper with activity 3.2 (Analysis of energy tariffs). One benchmark out of one is completed.

Activity 2.2: Review of analytic studies and documents for initial evaluation of potentials:
As some studies had already been realised in the field of energy savings in Turkey, this activity has consisted in gathering results and sources of these studies in order to make useful basis background information for ADEME, SenterNovem and EIE experts.

The work initiated contacts with experts in main national bodies and at local administrations. The reports obtained (BM1) state a crucial lack off data for operating the database used by the economical scenario model in an optimal way. It became clear which data are available from the Turkish statistical system. One benchmark out of one is produced.

Activity 2.3: Methods for assessing energy saving potentials:
Energy saving potential assessment methods that are already in use in the EU were transferred to EIE and other relevant Turkish bodies. This is a necessary condition in order for them to begin accurate work under Turkish conditions. A first step was done in presenting the whole energy savings assessment process, in order to define with counterparts the most suitable persons (in and outside EIE) to attend the specialised training in France.

After training, EIE and other Turkish trainees were considered to possess enough capacity to develop their own assessing methods, in particular concerning modelling. French experts have coached EIE staff during the progress of adapting and using one specific model that is currently widespread over Europe and was developed by Enerdata. Enerdata participated to the Twinning project on bilateral cooperation basis (paid by ADEME). Two benchmarks out of two have been written.

Activity 2.4: Specialised training session on energy saving potentials, indicators and modelling: It was held on two days in January and February 2006 at the offices of ENERDATA in Grenoble, France. The specialised training covered long term energy demand forecasting model and tools to evaluate energy efficiency and CO_2 emissions. The models “Med-Pro” and “POLES” were introduced during the course. After the training the participants were able to understand the different elements of energy demand depending on the sector and to investigate potentials and evaluate energy efficiency policies. They learned to know possible measures on a policy level for each sector, energy intensity accounting and the use of the energy efficiency index in an industrial context with alternatives for both the buildings and transportation sectors.

The trainees have been selected among EIE and other public bodies and associations like for example the State Planning Organisation. Two benchmarks out of two have been prepared.

Activity 2.5: Organisation and follow-up of sector (Industry, Transportation and Building) studies groups:
This activity was planned in order to define and organise the data collection required to feed the MEDPRO model and especially to get information about the current state of efficient technologies and the diffusion of energy efficient practices into the different sectors that are being studied: industry, energy production and cogeneration, transportation, housing and the tertiary sector.

Terms of references, guide for data collection and interpretation for estimating energy saving potential, results and data represent the benchmarks of this activity. In addition, the process of selection of consultants required for activity 2.6, has been initiated, but that has not been achieved because EIE oriented the data collection and interpretation to be made by themselves. Three benchmarks out of four have been produced; BM4 has not been completed.

Activity 2.6: Fields data surveys by private sector consultants:
The surveys had been planned to be made by private consultants because it is always a long and heavy process that was appreciated as not relevant to be made by EIE. In this perspective EİE would have liked to haveget some field analyses to be conducted by private sector consultants, but because of some procedurales delays it could have not been achieved. However EIE, in the wish of being able to manage the process afterward, insisted to perform the field data surveys themselves in order to understand them better. Then, data collection was made by EIE and MS experts, as well as analysis and interpretation of the results. Three out of three benchmarks have been completed.

Activity 2.7: Benchmark data base and energy efficiency indicators:
In Europe the actual data on energy use are processed under a well established method, resulting in “energy efficiency indicators” which can be compared among countries and can be used for benchmarks, such as the European average, or a best available technology reference or a preset goal (for example, related to an officially agreed strategy).
With limited time and means as in the twinning project, it was not conceivable to obtain all relevant and accurate data and indicators. Then to fill the gap and obtain a first approach of energy saving potential, it has been necessary to make a mix between different sources like expert views, available indicators and interpretation or extrapolation of existing studies or technical audits. In order to refine experts view, technical-economical visits onsite were organised when possible. One benchmark out of one has been written.

Activity 2.8: Assessing energy saving potentials for 3 sectors (industry, transportation and buildings):
The data base could be run by EIE staff that has been able to deliver partly relevant indicators on energy efficiency despite the partial lack of data. Then, considering the views on the different sectors, a trial was made to give a first pool of figures for energy saving potentials. One benchmark out of one has been completed and this contains the first insights in this respect in the form of a presentation. It explains socio economic drivers and their effect on the prognosis of energy consumption in the future. The energy saving potentials of the sectors are very high, from 22 to 47% until the year 2030.

Component 3 - Identification of barriers & support to implementation

Activity 3.1:	Analysis of budgetary resources at central administration (incl. provincial) and municipal level; proposals for key-modifications
Activity 3.2:	Analysis of energy tariffs. Coordinating energy & environmental approaches; recommendations for structural linkages to environmental impacts & policies, fiscal incentives
Activity 3.3:	Inventory of barriers outside of the direct influence of the main technical Ministries, opportunities for Energy Efficiency from a cultural/social point of view. Recommendations
Activity 3.4:	Mobilising & involving Turkish partners for joint European programs (6thR/DT Framework program, Intelligent Energy, GEF, FFEM)

a- Plan for the gradual removal of the key structural barriers (budgetary, regulatory, tariffs, social, specifically in financing systems for all sectors). Prepared and submitted to MENR.

Concerning barriers and support, lot of information has been disseminated through seminars, workshops and reports are now to the disposal of EIE and other stakeholders of Turkey.
Working on all subjects at the same time would need to multiply at least by ten EIE staff (but why not??). Actually, the most important is that barriers and possible support are now clearly identified. Then in function of implementation priorities that will be taken by Turkey, setting up programmes or actions will be possible as well as removing barriers relying on the right supports and partnerships.

b- Development of the networks on EE in TR, of their connections with EE-European networks. Available schemes identified for increased access to European and international funding.

We assume that since the beginning of the project, more and more stakeholders are touched and convinced by the necessity to commit themselves in supporting Energy Efficiency policy and programmes in Turkey. Also, many connections at EU level were made in order to make Turkey being deeply involved in all relevant networks and programmes or projects dealing with energy efficiency.

Turkey and especially EIE is now participating in three new EU projects. This shows a good realisation of networking and improved European collaboration from Turkish side. Two of the projects run at the Intelligent Energy for Europe programme: EuroTopTen and Motor Challenge.
The third one runs at the Civil Society Dialog programme tendered by Turkish CFCU and proposes networking between the cities SIVAS, ISTANBUL and PARIS on energy efficiency purpose. In this project, EIE is committed as Turkish EE expert body.

This is an encouraging start and leads us to remind that our recommendation is that Turkey should sign the IEE programme memorandum in order to become eligible to EU funds.

Component 3 addresses non-technical barriers for energy efficiency. There was special focus on economic, organisational and behavioural barriers. The objectives of component

3 were ambitious, especially in activity 3.3, which subject was to identify barriers that would have no direct influence of the main Ministries. Please note that the influence of non-technical barriers even has only been acknowledged recently in member states that already have had energy policies for 30 years!

The implementation of the activities in this component was delayed due to a number of reasons:

- During the execution of the activities, there was a very strong focus on the development of the energy efficiency law;
- There appeared to be relatively little political interest for energy efficiency;
- The law was passed in a much later stage of the project than originally planned, which meant that some of the analyses and proposals were no longer valid;
- A problem of staff: both ADEME and SenterNovem faced the problem of replacing experts, and EIE staff consists mainly of technically oriented engineers with a large workload.

Despite these difficulties results have been obtained in this component. This was partly thanks to the extra efforts of the RTA in this component, especially in the area of financial proposals and networking with stakeholders. The progress per activity is described below.

<u>On activity 3.1, Analysis and proposals for key modifications:</u>
The initial fact finding and follow-up missions resulted in an analysis of the budget resources and the position and attitude of key stakeholders such as the SPO, the Union of Municipalities and the İller Bank. This analysis may be no longer valid because of the changes as a consequence of the new Energy Efficiency law, but the knowledge of the current budgetary structures and contacts with relevant stakeholders and the experience of EIE with this activity (capacity building) will make follow-up activities and an update of the situation easier.
Two benchmarks out of four have been completed. Suggestions for the direction of possible future activities are described in a combined document BM1 and BM3. One of the issues dealt with in the benchmarks is how to create local budgets and special requirements as an incentive for increasing energy efficiency. Very valuable was the achievement of cooperation with the Union of Municipalities, a cooperation that seems to last. Since the start of the project they have gotten and accepted several invitations for workshops, conferences and discussion.

<u>Activity 3.2: Analysis of energy tariffs. Coordinating energy & environmental approaches; recommendations for structural linkages to environmental impacts & policies, fiscal incentives:</u>
The experts have made an analysis of the tariff and fiscal system. The analysis shows that the Turkish financial infrastructure needs to be changed drastically and quickly in order to be supportive for energy efficiency, and to fulfil an important prerequisite for the decrease of Turkish energy intensity. It is recommended that cost based pricing is going to be introduced. One barrier that has been identified is the fact that the taxes on energy consumption provide an important source of income for the government. This would imply that saving energy is not in the interest of the government.
Three out of three benchmarks have been completed.

<u>Activity 3.3: Social and cultural aspects:</u>
Based on experiences in France and The Netherlands, the project team performed an activity to assess barriers and support for energy efficiency from a social and cultural point of view. The idea was to review existing research material, formulate assumptions,

execute a small-scale research in at least 1 neighbourhood, and debate the results with experts from different disciplines (for example: marketing, sociology, history and art). We made efforts in at least 2 missions, but both in- and external factors made this activity aimless. Internal factors were shortage of local staff and the low priority of this activity within the project. This low priority played a role because the large number of other activities and benchmarks. External factors were the lack of research results (also outside Turkey there was virtually no information available about the influence of cultural factors on energy efficiency), and it appeared to be impossible to identify a university or a neighbourhood for cooperation in this field. Some progress was made however by the RTA who interviewed both types of institutions about their opinions and ideas. His cross-cultural experiences were described in a short report. This forms the one benchmark out of three that has been completed.

Activity 3.4, Mobilising and involving Turkish partners for joint European programs (6th (now 7th) Framework program, Intelligent Energy Europe, GEF, FFEM):

In this objective the project has been very successful. The involvement of Turkish partners into the main stream of European and international cooperation toward EE and environmental protection is strengthened directly by the project because Turkey has gained an understanding of European funding schemes and has learned how to build and participate in networks in Europe with the aim to play an active role in European projects on energy efficiency. Examples are the involvement of Turkey in the Concerted Action for EPBD, participation in the IEE programme (for example in the Dutch coordinated exBESS project), a project proposal for municipalities and ongoing bilateral activities between the partners. Five out of five benchmarks were produced and put into use.

Component 4- Events, Study Visits, Internships, Workshops

Activity 4.0	Kick off event for the project
Activity 4.1	Study visit "EE in industry, EE in energy production, CHP"
Activity 4.2	Study visit "EE & Renewable in building sector, district heating"
Activity 4.3	Study visit "EE in transportation and urban planning"
Activity 4.3	Internships in FR and/or NL, on "EE in industry, EE & renewable in energy production, CHP", "EE in building, transportation & urban planning"
Activity 4.5	Workshop 1: EE project funding (Int. Energy for Europe, GEF, FFEM…)
Activity 4.6	Workshop 2 on "program development & implementation"
Activity 4.7	Workshop 3 on "energy audits & services: methods and support for a new market"
Activity 4.8	Closure event for the project

Knowledge exchange is very important in a twinning project, but to achieve correctly the capacity building, integration of new know how is needed, among other things. Then in this matter of capacity building, of course involvement of beneficiary country and true collaboration with member state organisations is the basis, however, we could noticed how efficient can be well prepared and organised study visits, internships or workshops.

a - the study visits, the internships and the workshops have lead to a larger network of which EIE immediately benefits

Many contacts were made during the study visits and the internships. This directly enlarged the network of EIE by the people they met and indirectly enlarged their network by the networks they learned about during those visits and internships. More details can be found in the description of the activities.

b - Events, study visits, internships and workshops are essential for knowledge exchange but insufficient for capacity building purposes.

As already said, it is essential to realise that knowledge exchange is very important in a twinning project; it would, on its own, never achieve correctly the purpose of capacity building. One of the aspects of capacity building is the *integration* of new know how. This needs more close involvement in the matters at hand, meaning actually apply the elements that have been learned during the various activities of this component. Involvements of a beneficiary country and true collaboration with organisations of member states are a very strong basis for capacity building, and the above mentioned elements of component 4 are a very effective way to learn to know each other and to appreciate each others experiences, knowledge and problems.

Component 4 and its activities were beneficial for the execution of the other activities in components 1, 2 and 3. Although the types of activities in component 4 had a general character, like workshops and study visits, the subject or the content of the activities were closely linked to actual subjects and key areas of attention within the project.

Component 4 per activity

<u>On activity 4.0, Kick-off event for the project:</u>
It took place at the conference facility of EIE in Ankara on July 13th 2005. The conference succeeded in bringing together the Turkish Ministries of Interior Affairs, Finances, Tourism & Culture, Public Works & Settlements and Energy & Natural Resources; furthermore

representatives from EU, TOBB, CFCU and the partners EIE, ADEME and SenterNovem. During the ceremony lectures were given concerning the energy situation in Turkey, the outlines and the purpose of the Twinning project. Some presentations went into details about 'green financing', roles of various institutions and legal issues. Two benchmarks out of two have been completed.

On activity 4.1, Study visit "EE in industry, EE in energy production, CHP":
The study visits were able to show EIE both theory and examples from practice. Both ADEME and SenterNovem gave presentations about relevant subjects such as long term or voluntary agreements, general mechanisms to support the improvement of energy efficiency, the embedding of the attention for energy efficiency in legislation, auditing and CO_2 emission reduction. Also the essential roles of "implementing" agencies were explained. During the discussions, for which ample time was reserved, both in France and in the Netherlands, the Turkish delegation appeared to be very keen on understanding the matters at hand in great detail and trying to discover if the knowledge could be used in Turkey and how it could be modified to a suitable Turkish model. Excursions were made to several factories were the results of LTA's was shown and were the benefits of keeping energy efficiency audits were illustrated. Also a centre of testing electrical appliances with respect to energy efficiency was visited. For energy production, a site with a wood boiler was visited, and for sustainable energy demonstration plants for various types of sustainable energy. Three out of three benchmarks were completed.

On activity 4.2, Study visit EE & Renewable in building sector, district heating": was very successful in showing the Turkish delegation many examples of best practices in energy efficiency in various types of buildings and supporting mechanisms. Some highlights are a visit to a EU funded project concerning several hundreds of flats, villa's that have special techniques implemented to become highly energy efficient and become able to use solar energy, houses with high environmental quality and monitoring systems build in, a EU funded project on monitoring of residential buildings, a large office building with heat pumps and energy storage (both heat and cold) in aquifers and an energy efficient school. A number of organisations were visited e.g.: the International Energy Agency, the Laboratory of Habitat Sciences and a certifying office for appliances in buildings.

Both ADEME and SenterNovem have held elaborate presentations and discussions about the programmes that are aimed at improving energy efficiency in the building sector. Three out of three benchmarks were completed. The study visits resulted in an understanding by the Turkish participants of European approaches towards energy efficiency in the build up environment and an appreciation of what can be accomplished in that field.

Activity 4.3, Study visit "EE in transportation and urban planning": was held in May 2006. Both the Netherlands and France were visited. A highlight in the Netherlands was a visit to a so called Vinex location named Leidse Rijn. Vinex locations receive special attention to quality of life, energy efficiency and sustainability. Furthermore SenterNovem explained the following programmes that are aimed on transportation: Eco Driving, Energy Efficiency in Logistical Transport, and a programme that is focused on the optimisation of spatial planning with respect to transportation. In Groningen, the city council was visited, prior to attending a two-day European conference on mobility management.

In France a valuable contact was made with the Union of Transportation City Authorities (GART). GART is very active and the Turkish delegation was shown that it is possible to influence transportation issues structurally and from a high level. In Paris there were visits to the Parisian Public Transportation Agency, the association for PT independent

management. At ADEME there was information exchange and discussions on air pollution monitoring, transportation policy and intermodality. In Lyon and Marseille there were visits to the Research Centre on Urban Transportation and the Authorised Air Quality Monitoring Association.

Three out of three benchmarks were completed. The two most important elements that were conveyed during the study visits are the following. First, the study visits resulted in a clear understanding by EIE of the correlation between urban planning and the energy and the emissions caused by transportation. Second it became evident modal shift is a powerful method to increase the efficiency of transportation movements and an essential tool to reduce energy consumption by traffic.

On activity 4.4, Internships in FR and/or NL, on “EE in industry, EE & renewable in energy production, CHP”, “EE in building, transportation & urban planning:
The internships were held at the end of the project and that helped in establishing fruitful knowledge transfer and more intense discussions between the interns and the tutors. This demonstrated the increase of the level of understanding of the various energy efficiency issues and approaches by EIE staff, compared to the beginning of the project. Two out of two benchmarks are produced, although the report of the internship on transport & building has not been delivered by EIE.

For the sector industry, in France the main areas of attention were implementing and monitoring energy efficiency programmes. Apart from the offices of ADEME, several industrial regions have been visited to have extra training and discussion. The interns produced an interesting summary of their work in the form of a table stating what had been learned, the barriers for Turkey, and recommendations.

For the industry sector, in the Netherlands the main area of study were the Long Term Agreements with all the associated aspects such as setting up, maintaining momentum, budgets, tasks for agencies, monitoring and results. The internship builds forth on the previous study visit. It was very encouraging to see that much of the material that was assimilated during study visits and internships was presented at the closing ceremony of the Twinning project.

In France there has been an internship on data bases and surveys on energy saving potential. Special attention was paid to making various energy efficiency scenarios and forecasts. It was concluded that Turkey needs dedicated means, like software and access to third party assistance, in order to be able to perform energy saving potential studies by themselves or in coaching consultants.

On activity 4.5, Workshop 1: EE project funding (Int. Energy for Europe, GEF, FFEM:
The workshop was held in two sessions in April 2007, at the offices of the EIE in Ankara. The presenters informed the attendees about funding in general, and specific means of funding like FP7, IEE2 and FFEM. Tübitak has a national coordination office on FP7 and presented the ways it can offer assistance to EIE. Time was devoted to a hand on session concerning how to set up a project that is strong enough in order to apply for European funding. Three out of three benchmarks are finished with the result that EIE staff is now capable of recognising opportunities for setting up, or participating in existing projects that (can) have European funding.

On activity 4.6, Workshop 2 on “programme development & implementation”: was held two times. Both in April 2007. One workshop was aimed at the sector industry, the other at

buildings. The workshops were moderated by SenterNovem staff who were specialised in Logical Framework Analysis also known as Goal Oriented Planning. The main object of the workshops in this activity was to make EIE aware of the existence of LFA, what it means and how it can be applied for programme building. The preparations were very careful, so EIE got a good understanding of what to expect, and what the elements of a Logical Framework Analysis session are. An essential element in LFA is the participation of all stakeholders around an issue. For industry the stakeholders were associated with a possible Voluntary Agreement in the tiles and bricks industry, and the overall objective was: 'Bricks and Tiles industry, together with EIE realise 10% energy efficiency improvement via Voluntary Agreements by 2010´. For buildings they were associated with commercial buildings in the hotels sub sector and their objective was: 'X % reduction in energy consumption in large (> 100 rooms) hotels by 2015'. Three out of three benchmarks were produced.

On activity 4.7, Workshop 3 on "energy audits & services: methods and support for a new market": was held in the Içkale hotel in Maltepe on December 20th 2006, Ankara. Starting with information on a high level concerning the energy situation in Turkey and the EU action plan on energy efficiency, the workshop gradually focused on details such as countries experiences and the approach for industrial sub sectors. The attendees were from various, very different organisations e.g.: Ministries, chambers, universities and associations. During the afternoon there were separate sessions focussed on end users and auditors respectively. Three out of three benchmarks are ready. The number of participants was large and thus this initiative has resulted in wide spread attention for audit aspects.

On activity 4.8, Closure event for the project:
The closure event was held in the conference room of the offices of the EIE in Ankara on November 20th, 2007. The programme was full and representatives from all levels from Turkey, France and the Netherlands commented on the project and future possibilities. Amongst the lecturers were the DG of EIE, the deputy head of the Dutch Embassy, the RTA and his counterpart, the project leader, a representative of TBB Union of Municipalities, the deputy director of international affairs from ADEME and a representative from the EU delegation in Turkey.

Furthermore, remarkable lectures were made by the Ambassador of France and the Deputy of the Grand Assembly of Nation Turkey, President of the Commission on energy, Industry and Natural Resources of whom participation was very appreciated by the whole attendance.

The achievements of the projects were in fact summarised in all the presentations of the closing event. Two out of two benchmarks have been finished. The result of the closing event is that feedback has been given to all parties involved in setting up, financing and executing the project; and the execution phase of the project is finished.

2E - IMPACT

(a) Specify to what extent the achievement of the results led to the achievement of the purpose of the project and the overall objective (measured against the benchmark(s) specified in the Work Plan).

The overall objective to which the project contributes is the improvement of the energy efficiency in Turkey. The sub-goal and the purpose of the project were to establish or strengthen the legislative and institutional framework. The EU rules and methods were the basis for the strengthening of the legislative framework. The best practices in European countries, especially those of the participating member states France and the Netherlands were the starting point for improving the design and the implementation of energy efficiency programs in Turkey.

Country-wide improvement of the energy efficiency is a difficult, lengthy and a multidisciplinary task. It will take some years before any effect of improvement of the energy efficiency in Turkey becomes evident. And then only when a number of prerequisites is fulfilled! Especially the benchmarks that cover capacity building of Turkish institutions are very clear in their recommendations in respect to the essential conditions that have to be fulfilled to evolve and implement a stronger EE policy.
The components, reports and the benchmarks present a clear and unambiguous view on the current energy situation in Turkey. They form an extensive analysis on how to adapt the current situation, with respect to the organisation and the management of the national approach towards energy efficiency, into an effective one that deals with the energy problems Turkey faces. For details: see benchmarks.

The Twinning project laid a basis for a *potential* impact (the overall objective) by realising the project's goals:

- Strengthening EIE staff in legal and institutional capacity;
- Improved knowledge of current EIE staff;
- Participation of EIE in European networks and projects;
- Improved networking of EIE with decision makers and stakeholders in Turkey;
- Making clear the prerequisites for optimal effective functioning of EIE with respect to the ability to play the national key role towards energy efficient Turkey.

This *potential* can become reality if the budgetary, managerial and personnel requirements for EIE are - as recommended in the benchmarks - fulfilled.

2 F - FOLLOW-UP AND SUSTAINABILITY

(a) In what way will the results of the project / recommendations be utilised by the BC administration?
(b) How is the BC administration going to continue with the work started under the project?
(c) In case of failure to achieve the mandatory results in their entirety, what future actions should the final BC administration take in order to achieve them?

(a) Obviously the influence of a Twinning Project is deeply embedded in the Turkish staff who has directly participated in the activities and discussions, at both the management and operational levels. The changes in attitudes and actual behaviours in the working environment, although not easily measurable, are as important as the new legal articles, new institutional structures and new knowledge. The capacity of adapting to the rather fast tempo set by both the EU Commission and by the Turkish authorities relies on the presently limited human resources available in the public sector. Motivation of the medium ranking staff is essential and this would need altogether better salaries, more transfer of responsibilities and more valorisation of the individual initiatives, along with the gradual diversification of the professional profiles. Policy elaboration and monitoring of implementation need a continuous 2-ways stream of interactions between the ministerial level, the top management level and the staff. The Project has sown of lot of knowledge and horizontal connections among the staff who has directly participated to the activities, but the upstream linkage via the EIE top management should be improved, in view of consolidating the full insertion of energy efficiency into the energy policy as a key aspect which is absolutely necessary to make politically and socially acceptable the long expected reform of energy tariffs.

(b) Some practical modern tools are now available to EIE in line with the EE law and the proposed secondary legislation: voluntary agreements, database of energy efficiency indicators and projection models, simulation models for evaluation of thermal rehabilitation and for new electricity tariffs etc. These tools should be used by the EIE staff to test and internally discuss various hypotheses and to evolve at least one consistent and well justified mix of policy options, which needs to be fully introduced and understood by the EIE top management in order for them to be a force of proposition at the ministerial level. All these tools need to be the instrument of EIE to demonstrate at the ministerial and even at prime ministerial levels that EE options are required at the heart of the energy policy, not after the key conventional decisions are taken (on production capacities, on fiscal policy and tariffs) on the sole basis of observed trends.

The key tool, the data base of EE indicators, should be simultaneously:

- promoted to both the MENR planning level (DG of Energy Affairs) and the SPO, as a more powerful and modern tool than the old and rigid MAED model in use at MENR since over 20 years…
- and also gradually improved by more interactions with TURKSTAT, to get existing data and to get new set of relevant data by regular surveys.

(c) The full understanding of the barriers hindering the elaboration and implementation of an adequate EE policy, and their gradual removal, can not be achieved without the diversification of the profiles of the staff in charge of EE at EIE: economists, statisticians, social scientists should work with the engineers in order to cope with the socio-economic reality in a more comprehensive and realistic way.

2G - CONCLUSIONS

Overall Assessment

Make a one-paragraph evaluation of the project, its progress and impact.

The position at the beginning of the project was vague and complex. The overall ambitions and the expected results of the project were clear. The results of the project show that we have been able to unravel the complex situation into a set of unambiguous recommendations to EIE, its mother organisation and EU.

An essential basis for future work has been laid down by improving the level of collaboration between Turkey and EU member states, introducing EIE to several networks and strengthening the institutional capacity of EIE. Turkey was able to learn out of first hand about creating and running large energy efficiency programs in France and the Netherlands. These results were the outcome of the progress that has been obtained in all four components of the project.

On theoretical level Turkey represented by EIE is ready for ambitious national programs on energy efficiency. The presentations by EIE at the closing event were an evident demonstration thereof. And it is repeated again, that on a practical level the prerequisites are not fulfilled. EIE will only be able to run national programs if and when budgetary, managerial and personnel requirements for EIE are fulfilled.

2H – RECOMMENDATIONS: lessons learned

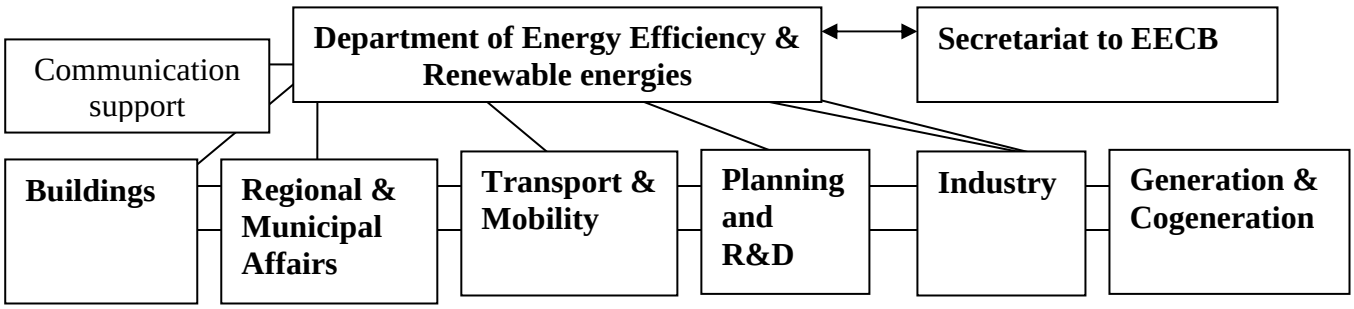
(Recommendations for future actions necessary to be undertaken in the area the twinning operates in.)

a - More bottom-up interaction: Acquired knowledge and tools should be fully explained and adopted at the EIE management level in order to be fully used for elaborating EE policy options and for inserting them into the energy policy at the ministerial level because of the top management could not attend most of the expert lectures and workshops.

b - Linking long awaited reform of energy tariffs and energy efficiency policy package: obviously relatively low prices of energy are supportive of low efficiency behaviours; the fiscal and energy pricing policies must be considered at the ministerial level as a key component and tool of the energy efficiency policy, not only a political decision. The political level should be made precisely aware of the potential for energy savings and of the conditions and steps to realise it. The decision makers should understand that the EE policy (incl. a mix of regulations, adequate fiscal and pricing, time-limited supportive measures etc) also is a tool to facilitate difficult but necessary political decisions about energy tariffs in the transition period. The regular accession report released in Nov. 2007 notes p.49: "Electricity tariffs do not reflect costs".

c - Strengthening, restructuring and staffing a department for "Energy efficiency & renewable energies":

For an easier identification and more integrated relations with the stakeholders and target groups, the existing department "Energy resources surveys" could be renamed "Energy efficiency & renewable energies" and furthermore restructured by creating a specific division for "EE in Transport and mobility", redistributing the present "renewable energies" division to the "Buildings" division and to a new division "Generation & cogeneration", adding a division "Regional & municipal affairs". Altogether, and within 3 years, the staff should be increasing to about 70-80.



d - A budget consistent with the huge potential of energy savings:

The administration in charge of EE must have sufficient budget not only for staff but also:

- for their operational costs, including their travels within the country and abroad
- to financing or co financing studies and R/D actions, at its own initiative
- to providing financial support to demonstrative projects, monitoring campaigns, new training packages, as part of EU programmes and projects, at the initiative of other stakeholders and within clear, transparent and agreed procedures.

The overall public budget allocated to support EE (internal for public staff + external budget for distribution) should be consistent:

- with the huge and increasing bill of energy imports (nearly 20 billions €),
- with the major contribution of the taxes levied on the energy sector to the national budget (nearly 20%)
- with the large potential of energy savings in all sectors
- with the need of financial mechanisms, limited in time but non marginal, to support the transitions and investment toward a more energy efficient economy;
- with the need to decentralise at the local level (provinces and municipalities) the technical and financial support to implementation, as Turkey is a very large country with highly diversified local situations which reflect on the energy uses (climate, density of population and urbanisation, size of household, types of economic activities, income levels...).

e - Transition from doing directly to policy proposals and programme monitoring:

The EE law has started a move to reduce its direct involvement as *auditor* and *trainer*, as EIE and Universities will gradually authorise ESCOs and auditing companies to operate in the market, subject to confirmation by the EECB. The role of EIE should be more in policy preparation, key decisions being made by the Ministry, in preparation of action plans (with adequate targets and budgets) and in the monitoring of their implementation. This would be a deep change in the role of EIE, which should go with the increase of budget and staff, and with the full integration of EE & RES within the energy policy at the government level, with a higher status and more visibility.

f - Promoting energy efficiency under sustainable development and better environment:

Energy efficiency can not be easily understood by the general public, who meanwhile is more and more concerned with climate change and environmental issues. The EE policy and the communication should be related to environmental justifications.

As an example, promoting thermal rehabilitation of existing buildings can not refer only on energy efficiency, as households can rather understand “lower gas bills, lower electricity bills” and also “less pollution”; municipalities would insist on local jobs development and less financial drain to pay for imported gas. Promoting modal shift to public transportation can not refer to energy efficiency only, as households will rather perceive “less traffic jams, less fuel costs, less air pollution...”.

It is not easy for engineers and for a DG bearing since several decades a title mentioning “*studies for electric works*…” to promote a larger vision about energy efficiency and environmental issues for all sectors, but it seems nowadays necessary. The set-up of 2 new divisions in Sept. 2006 dealing with awareness/communication and with planning issues is a step toward this change of vision and approach.

g - Diversification of the professional backgrounds:

For similar reasons it seems necessary to arrange for the recruitment of professionals to cover a more diversified range of backgrounds and experiences; economists, statisticians, social scientists, as well as mobility specialists, architects, urban planners, are needed to gradually complement the electrical and mechanical engineers who are making till now the core of the staff dealing with EE.

h - On job internal development of human resources:
Still having limited contacts with the scientific community and the private sector, the staff dealing with EE at EIE is not frequently exposed to new methods, new softwares and new technologies emerging everywhere else. This should be compensated by a well adapted internal training programme, to be delivered by professional trainers, to which every staff should participate for at least a quota of 5 working days per year. This could be done partly within EIE, partly within the MENR or another public institution and eventually with any agreed training organisation. Of course this internal training policy has to be defined by EIE after consultation with the staff and the management; the offer could be a mix of joint courses for several staff and of individual participation to ready made training packages. For example it would be useful that within the whole of staff dealing with EE, there should be someone experienced with Logical Framework matrix sessions, GIS geographical information systems, urban planning basics, database processing tools, data transmission systems, modern management tools, statistical analysis tools, business plan and economic feasibility studies, website design and management, etc.

i - Practice of foreign languages:
Although training for English was organised in the past years within EIE, only few staff can really and fully benefit from reading and listening in English, and even fewer can contribute to write a significant part of proposals for EU programmes. The regular practice is a must for progress for more staff. It should involve fast screening from web sites and fast reading from e-files in order to extract the most relevant items for the daily works. It must be encouraged by the management, probably by premiums and more responsibilities and opportunities given to those able to work in English or another European language. Efforts could be made for recruiting staff with a good command of foreign languages, as it will increase the capacity of EIE to be involved in EU projects.

j - Involvement in R/D and European programmes:
Progress has been made during the Twinning project in networking with EU potential partners and for involvement in EU projects. Meanwhile efforts should be developed, probably within a division in charge of planning & R/D, for a permanent and organised watch on the main relevant websites, but many staff within the other divisions could receive the newsletters and alerts signalling the coming calls. Advance preparation and early actions are essential to actively build and maintain adequate networks and partnerships, within Turkey and within the EU27.

2I – ANNEXES

Annex 1: *Overview mandatory results achieved*

Component	ACTIVITY	expected MANDATORY RESULTS (Components)	Dead line	Delay +/- [months]	expected BENCHMARKS (Activities)	ASSESSMENT to date	Self-assessment Rate HS (Highly satisfactory), S (Satisfactory), U (Unsatisfactory)
1) Strengthening of legal and institutional framework		a- Legal and institutional capacity of EIE and relevant institutions' staff strengthened and working knowledge increased through trainings by the end of the project implementation, in all sectors. b-.The financial and technical scheme for the management & supervision of the joint EE programs (such as audits, pilot projects, training, R/D, awareness campaign, monitoring) in cooperation with other public, private and municipal partners is in place c- Improved visibility of the EE policy & active networking with decision makers in various Institutions.					
	1.1 Review and assessment of the related legislation		n.a.	n.a.	B1. Report: Overview/assessment of EU-EE Directives & Programmes (websites/consultations with the Commission) B2. Report: Overview/assessment of the Turkish legal framework related to EE for adoption of the acquis (NPAA) B3. Report: Priority needs for adoption-adaptation of additional legal framework.	Fulfilled	S

	1.2 Guidelines for implementation practices & Review of organisational structure of EIE & the related public administrations and professional associations in Turkey		n.a.	n.a.	B1. Guidelines for implementation practices. B2. Review of European legal and institutional framework. B3. Evaluation of the present organisation for EE in Turkey, B4. Recommendations for restructuring/institutional capacity building.2	Fulfilled	HS
	1.3 Working procedures, institutional capacity building and human resources devpt plan		n.a.	n.a.	B1. Recommendations and implementation for new Organizational structure, capacity building, action plan & human resources development, for improving EE.	Fulfilled	S
	1.4 Learning from European EE experience, know-how, programmes & adapting them to Turkish national conditions. Design and implementation of integrated and targeted EE programmes.		n.a.	n.a.	B1. Overview of EU- Energy Programmes (websites & proceedings of training day) B2. Design and preparation of guidelines for implementation of EE programme for Industry in Turkey (enlargement and increase of effectiveness of current programme), with the following chapters (as provisional): situation analyses; objectives (main goals/targets on the basis of the adopted strategy), strategy, financing needs, ways and means for implementation, international aspects with particular reference to appropriate EU instruments, human resources, budgetary allocations, monitoring. B3. Draft EE programme for the subsector of Energy production (power generation) B4. Draft EE programme for Building (output of GTZ-supported project could be beneficial) B5. Draft EE programme for Transport (enlargement & increase of effectiveness of current programme)	Fulfilled	HS
	1.5 Strengthening EIE staff, training sessions		n.a.	n.a.	B1. Training module on EU Energy acquis, programmes and monitoring B2. Training module for the sector of Industry and Energy production	Fulfilled	HS

					B3. Training module for the sector of Residential &Tertiary buildings B4. Training module for the sector of Transport B5. Training module on communication, positioning, knowledge & relation management		
	1.6 Raising public awareness & disseminating EE technological information. Assisting for PR & communication materials		n.a.	n.a.	B1. Overview of current mechanisms and of available knowledge B2. Overview of main stakeholders and target groups B3. Communication Strategy B4. Incorporated management of knowledge, and relation management	Partly Fulfilled B4 not fullfilled	U
	1.7 Capacity Building for EE programs at local levels		n.a.	n.a.	B1. Development and preparation of guidelines for implementation of EE strategies/action programmes at local level within the framework of national energy policy/adopted EE strategy B2. Analysis and assessment of feasible options for Turkey B3. Organization of 2 Informative Meetings at Ankara & Istanbul, dissemination of documents. B4. Developing a demonstration project by two Grand Municipalities in cooperation with the related ministries through technical/financial assistance of EU	Fulfilled	HS
	1.8 Identification of additional training needs of all end-use sectors		n.a.	n.a.	B1. Report on additional training needs per sector	Fulfilled	HS
	1.9 Guide lines for selection of demonstration projects		n.a.	n.a.	B1. Guidelines for demonstration projects B2. Designed demonstration projects for selected sectors.	Fulfilled	S
2) Assessment of Energy saving potentials		a- Team (# 10) trained on EE-data bank in France, able to run it. b- EE-Data bank started (tool for evaluation of energy saving potentials3), and in operation.					
	2.1 Development of energy prices/tariffs scenarios (in rel. w. MENR and EMRA)		n.a.	n.a.	B1. Energy pricing policy note.	Fulfilled	S

[3] Tool including energy efficiency data and indicators as well as means and measures for exploiting the identified potential savings, so as to induce saving on oil-imports, to raise cost competitiveness, and to contribute to the reduction of CO2 emissions.

	2.2 Review of analytic studies & documents for initial evaluation of potentials		n.a.	n.a.	B1. Overview of Recent Studies on EE and Saving potentials	Fulfilled	S
	2.3 Methodology for assessing energy saving potentials		n.a.	n.a.	B1. References, methodology & recommendations for assessing energy saving potentials in TR. B2. Guidelines for the surveys on energy data for estimating energy saving potentials in Turkey.	Fulfilled	S
	2.4 Specialized Training Session on Energy Savings Potentials, Indicators, Modelling		n.a.	n.a.	B1. Setting-up of a team (#10) of specialists from complementary organisations (From EIE and other relevant and qualified institutions such as EIE, MENR, SIS as needed). B2. Report & Trained team (#10) of specialists able to jointly develop a data base & model	Fulfilled	HS
	2.5 Organisation & follow-up of 3 sectoral field (Industry, Transportation, Buildings) studies groups		n.a.	n.a.	B1. Terms of references and work programme for field studies, for 3 sectors B2. Selection of local consultants and guidance for the field studies for 3 sectors B3. Guide for data processing & interpretation for estimating energy saving potentials. B4. Results and data from field studies on 3 sectors	Partly Fulfilled	Partly S
	2.6 Field data survey by private sector consultants contracting		n.a.	n.a.	B1. Selection of Samples for Surveys for identified Sectors B2. Methods & Questionnaires for identified Sectors B3. Filled Surveys, Data processing and draft reports per sector	Partly Fulfilled	Partly S
	2.7 Benchmark data base & energy indicators		n.a.	n.a.	B1. Provisional compatible database on benchmarks and EE indicators for TR, according to a sectoral approach: Industry (Inc. energy intensive sub sectors), Building (inc. categorising of buildings stock), Transport	Partly Fulfilled	Partly S
	2.8 Assessing energy saving potentials for 3 sectors (Industry, Transportation, Buildings		n.a.	n.a.	B1. Energy saving potentials, scenarios & policy options, ways and means to improve & monitor energy efficiency (report in 5 chapters): Housing Sector and Tertiary sector; Transportation sector and Industrial Sector;	Partly Fulfilled	Partly S
3) Identification of barriers & Support to Implementation		a- Plan for the gradual removal of the key structural barriers (budgetary, regulatory, tariffs, social, specifically in financing systems for all sectors). Prepared and submitted to MENR.					

		b- Development of the networks on EE in TR, of their connections with EE- European networks. Available schemes identified for increased access to European and international funding.					
	3.1 Analysis of budgetary resources at central administration (incl. provincial) and municipal level; proposals for key-modifications		n.a.	n.a.	B1. Note on the territorial organisation for energy in Europe (mainly FR & NL), responsibilities and resources of the Municipalities and Regions. B1. Overview on the structures of budget (resources & expenditures) in Municipalities & Public Administration (incl. Provinces) B2. Note on energy related responsibilities of Municipalities & Central Administrations in TR. B3. B4. Diagnosis and proposals for reforms & modifications, including in the local fiscal policy.	Partly Fulfilled B2 not fulfilled B4 not fulfilled	U
	3.2 Analysis of energy tariffs. Coordinating energy & environmental approaches; recommendations for structural linkages to environmental impacts & policies, fiscal incentives		n.a.	n.a.	B1. Analysis of energy tariffs of Turkey in relation to EE and environment. B2. (Joint) position paper on EE and environmental policy. B3. (Joint) proposals about energy tariffs.	Fulfilled	Partly S
	3.3 Inventory of barriers outside of the direct influence of the main technical Ministries, opportunities for Energy Efficiency from a cultural/social point of view. Recommendations		n.a.	n.a.	B1. Draft expert's views on non technical aspects for energy demand sector in Turkey. B2. Survey report with recommendations for the development of EE programmes B3. Proceedings debate	Partly Fulfilled B2 not fulfilled	U
	3.4 Mobilising & involving Turkish partners for joint European programs (6thR/DT Framework program, Intelligent Energy, GEF, FFEM)		n.a.	n.a.	B1. Overview of EU- Financial instruments. Useful web-sites & sources B2. List of potential Turkish partners for EE, with index per topic and location B3. List of Potential European partners, details for FR & NL scientific partners. B4. Training material of a Workshop: 6th FPRDT, GEF & FFEM procedures	Fulfilled	HS

					B5. Proposals (1 or 2) prepared by TR partners for EU programs with assistance of EIE+MSP.		
4) Events, Study Visits, Internships. Workshops		a- Fulfilment of sectoral objectives set in advance for events in relation to the multisectoral Mandatory results 1-2-3. b- Development of interactive relations among stakeholders within TR & with MS stakeholders, with scheduled events & production of innovative policy recommendations.					
	4.0 Kick-Off Event for the Project		n.a.	n.a.	B1. List of about 20 official attendees and experts and media attendance and reports B2. Joint Statement about the key issues for a stronger private/public partnership for EE in TR and Public commitment of the official authorities toward more Energy Efficiency.	Fulfilled	Partly S
	4.1 Study Visit "EE in Industry, EE in Energy production, CHP"		n.a.	n.a.	B1. Draft program with list of proposed participants B2. Program as done, with list of Participants and Contacts B3. Report after the Study Visit, incl. main lessons/experiences & recommendations	Partly Fulfilled	HS
	4.2 Study Visit "EE & Renewable in Building Sector, District heating"		n.a.	n.a.	B1. Draft program with list of proposed participants B2. Program as done, with list of Participants and Contacts B3. Report after the Study Visit, incl. main lessons/experiences & recommendations	Fulfilled	HS
	4.3 Study Visit "EE in Transportation & Urban Planning"		n.a.	n.a.	B1. Draft program with list of proposed participants B2. Program as done, with list of Participants and Contacts B3. Report after the Study Visit, incl. main lessons/experiences & recommendations	Partly Fulfilled	HS
	4.4 Internships in FR and/or NL, on "EE in Industry, EE & Renewable in Energy production, CHP", "EE in Building, Transportation & Urban Planning"		n.a.	n.a.	B1. Mutual letter of intents, agreed by proposed Intern and Tutor B2. Report after the internship, incl. main lessons/experiences & recommendations.	Partly Fulfilled	HS
	4.5 Workshop 1: EE Project Funding (Int.Energy for		n.a.	n.a.	B1. Draft programme and list of invited persons B2. Program as done; list of Participants; list of distributed documents	Fulfilled	HS

	Europe, GEF, FFEM…)				B3. Set of the distributed documents		
	4.6 Workshop 2 on "Program Development & Implementation"		n.a.	n.a.	B1. Draft programme and list of invited persons B2. Program as done; list of Participants; list of distributed documents Set of the distributed documents	Fulfilled	HS
	4.7 Workshop 3 on " Energy Audits & Services: methods and support for a new market"		n.a.	n.a.	B1. Draft programme and list of invited persons B2. Program as done; list of Participants; list of distributed documents B3. Set of the distributed documents	Fulfilled	HS
	4.8 Closure Event for the Project		n.a.	n.a.	B1. List of about 30 official attendees and experts and Media attendance and reports B2. Joint statement about the achievement of the project and overview on expected developments	Fulfilled	HS

Section 3: Expenditure

Provide total figures of disbursement for key groups of costs

Actions to be undertaken under the Twinning project	Original budget			Budget after side letters/addenda	Amount paid in Euros								
	Unit cost	No of units	Total MS cost		Qtr 1 01.07.05 30.09.05	Qtr 2 01.10.05 31.12.05	Qtr 3 01.01.06 31.03.06	Qtr 4 01.04.06 30.06.06	Qtr5 01.07.06 30.09.06	Qtr 6 01.10.06 31.12.06	Qtr 7 01.01.07 31.03.07	Qtr 8 01.04.07 30.06.07	Qtr 9 01.07.07 30.09.07
1. Resident Twinning Advisor Remuneration													
Mr Bernard CORNUT (29 months)													
Basic salary and non wage labour costs (as from Dec. 2004)	7001	20	140 020	174 135,00	0,00	33 060,73	18 019,02	18 019,02	18 092,76	18 104,64	18 218,04	18 257,70	18 257,70
6% of salary and non-wage labour costs			8 401	10 448,10	0,00	1983,64	1081,14	1081,14	1 085,57	1 085,57	1 093,08	1 095,46	1 095,46
Total RTA remuneration			**148 421**	**184 583,10**	**0,00**	**35 044,37**	**19 100,16**	**19 100,16**	**19 178,33**	**19 190,21**	**19 311,12**	**19 353,16**	**19 353,16**
2. Resident Twinning Advisor Allowances													
Daily allowances (50% of the per diem at start)	50	600	30 000	43 250,00	4 300,00	4 600,00	4 500,00	4 550,00	4 600,00	4 600,00	4 500,00	4 550,00	4 600,00
Allowances for RTA for first 30 days	100	30	3 000	3 000,00	2 200,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Health and accident insurance for RTA	200	20	4 000	3 169,00	191,58	287,37	301,74	301,74	301,74	301,74	310,80	310,80	310,80
Accommodation (see appropriate ceiling for each BC)	1100	19	20 900	30 587,00	2 200,00	3 300,00	3 300,00	3 300,00	3 300,00	3 300,00	3 300,00	3 300,00	3 300,00
Estate Agent's Fee	1100	0,5	550	550,00	550,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Excess Luggage (up to 50kg), to & from (Paris-Ankara) (unit cost in €/kg)	12	100	1 200	1 200,00	150,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
One-Way Travels to and from place of duty – RTA	350	2	700	700,00	529,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Monthly allowance for special economically priced return trips.	500	19	9 500	13 903,00	1 000,00	1 500,00	1 500,00	1 500,00	1 500,00	1 500,00	1 500,00	1 500,00	1 500,00
Total RTA Allowances			**69 850**	**96 359,03**	**11 120,66**	**9 687,37**	**9 601,74**	**9 651,74**	**9 701,74**	**9 701,74**	**9 610,80**	**9 660,80**	**9 710,80**
3. RTA Training													
Return fare Brussels (here, from Paris)	137	1	137	137,00	137,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
per diems BE (as it was during session on 24-25 june 04)	150	1	150	150,00	150,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Total RTA Training			**287**	**287,00**	**287,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
4. RTA Assistant													
Assistant salary (gross, including employer's contributions, CFCU contract, no VAT)	2000	20	40 000	57 613,00	5 599,00	5 733,33	6 000,00	6 000,00	6 000,00	6 000,00	6 000,00	6 000,00	6 000,00
Total RTA Assistant Costs			**40 000**	**57 612,90**	**5 599,00**	**5 733,33**	**6 000,00**	**6 000,00**	**6 000,00**	**6 000,00**	**6 000,00**	**6 000,00**	**6 000,00**
5. Project Preparation													
RTA + PL Leader + Junior PL fees	350	30	10 500	4 550,00	4 550,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
'Project Management Costs'		1,5	15 750	6 825,00	6 825,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems (to be adapted to actual dates of trips)	100	36	3 600	1 800,00	1 800,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	9	5 580	1 341,49	1 341,49	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Total Preparation Costs			**35 430**	**14 516,49**	**14 516,49**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**

6. Project Co-ordination Costs												
Participation of PL and Junior PL in PSC meetings												
Fees (8 missions - 27 days PL and 7 missions - 15,5 days JPL)	350	35	12 250	19 600,00	700,00	1 750,00	1 400,00	1 400,00	1 225,00	2 450,00	2 800,00	2 100,00	1 050,00
'Project Management Costs'		1,5	18 375	29 400,00	1050,00	2 625,00	2 100,00	2 100,00	1 837,50	3 675,00	4 200,00	3 150,00	1 575,00
Per diems	100	49	4 900	8 896,00	440,00	770,00	630,00	840,00	495,00	792,00	1 280,00	1 024,00	572,00
Travel Cost (Intercity Train if any + Airfares) Note:PSC might be combined in several cases with Activities involving PL and/or JPL: the number of Travels actually charged to this Section 6 might be decreased much below 14, if planning and circumstances	620	14	8 680	11 780,00	0,00	994,36	878,30	1 115,15	1 110,91	1 053,51	1 055,09	994,66	624,25
Steering Committee venue							0,00	0,00	0,00	0,00	0,00	0,00	0,00
Visibility costs			5 000	5 000,00	0,00	214,90	0,00	0,00	0,00	1 287,00	0,00	0,00	0,00
Audit certificate cost			5 000	5 000,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Total Project Co-ordination Costs			**54 205**	**79 676,00**	**2190,00**	**6 354,26**	**5 008,30**	**5 455,15**	**4 668,41**	**9 257,51**	**9 335,09**	**7 268,66**	**3 821,25**
Actions to be undertaken under the Twinning project	**Original budget**												
	Unit cost	**No of units**	**Total MS cost**										
7. PROJECT ACTIVITIES													
Component 1: Strengthening of the legal & institutional framework													
1.1 Activity: Review & assessment of EE related legislation													
1 MS expert (TABET - 6,5 days)													
Expert fees	350	12	4 200	4 200,00	875,00	0,00	0,00	0,00	0,00	0,00	0,00	1 400,00	0,00
'Project Management Costs'		1,5	6 300	6 300,00	1 312,50	0,00	0,00	0,00	0,00	0,00	0,00	2 100,00	0,00
Per diems (number of overnights in the BC)	100	18	1 800	2 192,00	440,00	0,00	0,00	0,00	0,00	0,00	0,00	640,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	3	1 860	1 240,00	766,08	0,00	0,00	0,00	0,00	0,00	0,00	492,53	0,00
Translation of relevant documentation(after checking non-availability from EU)(xx pages at xx €/std page 170-200words)	15	50	750	574,92	0,00	0,00	0,00	0,00	0,00	0,00	0,00	574,92	0,00
SubTotal for Activity			**14 910**	**14 506,92**	**3 393,58**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**5 207,45**	**0,00**
1.2 Activity:Guidelines for implementation practices & Review of organisational structure of EIE & the related public administrations and professional associations in Turkey													
2 MS experts (BRUEL - 6,5 days and CHRETIEN - 5 days)													
Expert fees	350	15	5 250	5 250,00	2 975,00	350,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
'Project Management Costs'		1,5	7 875	7 875,00	4 462,50	525,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems	100	21	2 100	2 352,00	1 100,00	220,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	3	1 860	1 860,00	1 767,53	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	600,00
SubTotal for Activity			**17 835**	**17 937,00**	**10 305,03**	**1 095,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**600,00**

1. 3 Activity: Working procedures, institutional capacity building and human resources development plan														
2 MS experts (RAATS - 4,5 days and CHRETIEN - 5 days)														
Expert fees	350	10	3 500	3 500,00	0,00	2 625,00	0,00	0,00	0,00	700,00	0,00	0,00	0,00
'Project Management Costs'		1,5	5 250	5 250,00	0,00	3 937,50	0,00	0,00	0,00	1 050,00	0,00	0,00	0,00
Per diems	100	14	1 400	1 456,00	0,00	880,00	0,00	0,00	0,00	396,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	2	1 240	1 240,00	0,00	1 191,45	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**11 390**	**11 446,00**	**0,00**	**8 633,95**	**0,00**	**0,00**	**0,00**	**2 146,00**	**0,00**	**0,00**	**0,00**
1. 4 Activity:Learning from European EE experience, know-how, programs & adapting them to Turkish national conditions. Design and implementation of integrated and targeted EE programs.														
8 MS experts,(BRUEL - 4,5 days, BOLDER - 17,5 days, SMITS - 3 days, VAN DEN HEUVEL - 5 days, CHRETIEN - 14 days, MOURTADA - 5 days, ASSAL - 4 days, CICILE - 10 days)														
Expert fees	350	70	24 500	24 500,00	0,00	6 825,00	1 750,00	1 050,00	0,00	2 800,00	0,00	5 950,00	0,00
'Project Management Costs'		1,5	36 750	36 750,00	0,00	10 237,50	2 625,00	1 575,00	0,00	4 200,00	0,00	8 925,00	0,00
Per diems	100	98	9 800	11 200,00	0,00	2 640,00	735,00	525,00	0,00	1 217,00	0,00	2 816,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	14	8 680	8 680,00	0,00	1 766,55	337,50	0,00	0,00	172,30	0,00	2 439,74	0,00
Translation of relevant documentation	15	100	1 500	882,00	0,00	0,00	0,00	0,00	0,00	0,00	1 461,27	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	8	2 400	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**83 630**	**82 012,00**	**0,00**	**21 469,05**	**5 447,50**	**3 150,00**	**0,00**	**8 389,30**	**1 461,27**	**20 130,74**	**0,00**
1. 5 Activity:Strengthening (knowledge and experience) of EIE staff; training sessions.														
7 MS Experts (SMITS - 7 days, BOLDER - 12 days, VAND DEN HEUVEN - 5 days, MOURTADA - 5 days, CHRETIEN - 1 day, CICILE - 5 days, MOHANTY - 10 days)														
Expert fees	350	55	19 250	19 250,00	0,00	0,00	0,00	5 250,00	0,00	350,00	6 300,00	2 100,00	0,00
'Project Management Costs'		1,5	28 875	28 875,00	0,00	0,00	0,00	7 875,00	0,00	525,00	9 450,00	3 150,00	0,00
Per diems	100	77	7 700	8 596,00	0,00	0,00	0,00	2 100,00	0,00	198,00	2 688,00	896,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	11	6 820	6 820,00	0,00	0,00	0,00	1 741,17	0,00	0,00	1 318,31	517,10	0,00
Translation of relevant documentation	15	100	1 500	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	8	2 400	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**66 545**	**64 141,00**	**0,00**	**0,00**	**0,00**	**16 966,17**	**0,00**	**1 073,00**	**19 756,31**	**6 663,10**	**0,00**
1. 6 Activity:Raising public awareness & disseminating EE technological information. Assisting for Public Relations & communication materials.														
3 MS Experts (SMITS - 10 days, LEYMARIE - 4 days, LEERS - 10 days)														
Expert fees	350	30	10 500	10 500,00	1 050,00	3 150,00	0,00	0,00	0,00	700,00	1 750,00	1 750,00	0,00
'Project Management Costs'		1,5	15 750	15 750,00	1 575,00	4 725,00	0,00	0,00	0,00	1 050,00	2 625,00	2 625,00	0,00
Per diems	100	42	4 200	4 704,00	330,00	1 320,00	0,00	0,00	0,00	297,00	768,00	896,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	6	3 720	3 720,00	444,56	882,56	0,00	0,00	0,00	0,00	439,02	676,57	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	600,00
Consecutive Interpretation (days at xx €/day)	300	2	600	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**35 520**	**35 274,00**	**3 399,56**	**10 077,56**	**0,00**	**0,00**	**0,00**	**2 047,00**	**5 582,02**	**5 947,57**	**600,00**

1. 7 Activity:Capacity Building for EE programs at local level (Municipalities + provinces).													
4 MS Experts (SCHELLEKENS - 4 days, BOLDER - 4,5 days, MOURTADA - 10 days, CICILE - 4 days)													
Expert fees	350	32	11 200	10 500,00	0,00	0,00	0,00	0,00	2 800,00	2 800,00	0,00	1 575,00	700,00
'Project Management Costs'		1,5	16 800	15 750,00	0,00	0,00	0,00	0,00	4 200,00	4 200,00	0,00	2 362,50	1 050,00
Per diems	100	48	4 800	5 256,00	0,00	0,00	0,00	0,00	1 002,00	990,00	0,00	896,00	429,00
Travel Cost (Intercity Train if any + Airfares)	620	8	4 960	4 960,00	0,00	0,00	0,00	0,00	1 281,37	835,00	104,03	392,43	354,20
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	600,00
Consecutive Interpretation (days at xx €/day)	300	4	1 200	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0
Per Diem for RTA and Assistant for works outside Ankara	100	5	500	640,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	572,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	900,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	225,00
SubTotal for Activity			**41 110**	**38 606,00**	**0,00**	**0,00**	**0,00**	**0,00**	**9 283,37**	**8 825,00**	**104,03**	**5 225,93**	**3 930,20**
1. 8 Activity:Identification of Additional training needs to all end-use sectors.													
3 MS Experts (BOLDER - 8 days, MOURTADA - 4 days, CICILE - 4 days)													
Expert fees	350	20	7 000	5 600,00	0,00	0,00	0,00	0,00	1 400,00	1 050,00	3 150,00	0,00	0,00
'Project Management Costs'		1,5	10 500	8 400,00	0,00	0,00	0,00	0,00	2 100,00	1 575,00	4 725,00	0,00	0,00
Per diems	100	30	3 000	2 300,00	0,00	0,00	0,00	0,00	495,00	495,00	1 664,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	5	3 100	1 211,64	0,00	0,00	0,00	0,00	388,25	0,00	823,39	0,00	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	600,00
Consecutive Interpretation (days at xx €/day)	300	4	1 200	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	5	500	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**26 950**	**18 111,64**	**0,00**	**0,00**	**0,00**	**0,00**	**4 383,25**	**3 120,00**	**10 362,39**	**0,00**	**600,00**
1. 9 Activity:Guide lines for selection of demonstration projects.													
3 MS Experts (BOLDER - 8 days, SMITS - 4 days, CHRETIEN - 4 days)													
Expert fees	350	16	5 600	5 600,00	0,00	0,00	0,00	0,00	0,00	0,00	4 200,00	1 400,00	0,00
'Project Management Costs'		1,5	8 400	8 400,00	0,00	0,00	0,00	0,00	0,00	0,00	6 300,00	2 100,00	0,00
Per diems	100	24	2 400	2 568,00	0,00	0,00	0,00	0,00	0,00	0,00	2 304,00	768,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	4	2 480	2 480,00	0,00	0,00	0,00	0,00	0,00	0,00	1 413,48	392,39	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	3	300	384,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	900,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**20 830**	**20 932,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**14 217,48**	**4 660,39**	**0,00**
Total Component 1			**318 720**	**302 966,56**	**17 098,17**	**41 275,56**	**5 447,50**	**20 116,17**	**13 666,62**	**25 600,30**	**51 483,50**	**47 835,18**	**5 730,20**

Component 2: Assessment of Energy Saving Potentials													
Actions to be undertaken under the Twinning project	**Original budget**												
	Unit cost	**No of units**	**Total MS cost**										
2.1 Activity:Development of energy prices/tariffs scenarios (in relation w. MENR&EMRA)													
1MS expert (BEEKER - 0,5 day)													
Expert fees	350	5	1 750	1 750,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	175,00	0,00
'Project Management Costs'		1,5	2 625	2 625,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	262,50	0,00
Per diems	100	7	700	896,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	128,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	1	620	620,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**6 445**	**6 491,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**565,50**	**0,00**
2.2 Activity:Review of Analytic Studies & documents for initial evaluation of potentials													
2 MS experts (MOERKERKEN - 4,5 days, BOUCHEREAU - 4,5 days)													
Expert fees	350	12	4 200	3 150,00	0,00	3 150,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
'Project Management Costs'		1,5	6 300	4 725,00	0,00	4 725,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems	100	18	1 800	1 400,00	0,00	1 540,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	3	1 860	1 405,08	0,00	1 405,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	600,00
SubTotal for Activity			**14 910**	**11 280,08**	**0,00**	**10 820,08**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**600,00**
2.3 Activity:Methodology for assessing energy saving potential, selection & preparation of local team													
2 MS experts (BOSSEBOEUF- 7,5 days, BOUCHEREAU - 3 days)													
Expert fees	350	16	5 600	3 675,00	0,00	0,00	1 225,00	1 400,00	0,00	1 050,00	0,00	0,00	0,00
'Project Management Costs'		1,5	8 400	5 512,50	0,00	0,00	1 837,50	2 100,00	0,00	1 575,00	0,00	0,00	0,00
Per diems	100	24	2 400	1 600,00	0,00	0,00	630,00	630,00	0,00	396,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	4	2 480	1 443,61	0,00	0,00	499,02	548,53	0,00	358,06	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	6	600	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	100	1 500	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**21 880**	**12 231,11**	**0,00**	**0,00**	**4 191,52**	**4 678,53**	**0,00**	**3 379,06**	**0,00**	**0,00**	**0,00**
2.4 Activity:Specialised Training Session for assessing energy saving potentials & Modelling													
2 weeks Specialised & Intensive Training Session in France (Campus of Grenoble) on "Energy Demand Forecasting & Energy Efficiency Evaluation", for an													
Air tickets Turkey -Grenoble (France) for BC participants	pm	10											
Air Ticket Ankara-Grenoble for RTA Assistant as Interpreter	650	1	650	650,00	0,00	0,00	424,94	0,00	0,00	0,00	0,00	0,00	0,00
Training Fees (public rate for official sector), incl. PC stations	1870	10	18 700	20 570,00	0,00	0,00	20 570,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems for Turkish participants (10+1) x 14 days	170	154	26 180	28 560,00	0,00	0,00	28 560,00	0,00	0,00	0,00	0,00	0,00	0,00
Small incidental costs (at 10 per participant per working day)	10	110	1 100	1 200,00	0,00	0,00	1 200,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**46 630**	**50 980,00**	**0,00**	**0,00**	**50 754,94**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**

2.5 Activity:Organisation &follow-up of the sectoral field studies groups(Industry, Transportation, Buildings)													
5 MS experts (BOSSEBOEUF- 3,5 days, CHRETIEN - 9 days, CICILE - 5,5 days, MOURTADA - 8 days, MOHANTY - 4 days)													
Expert fees	350	40	14 000	11 200,00	0,00	0,00	0,00	0,00	1 750,00	0,00	2 800,00	0,00	5 075,00
'Project Management Costs'		1,5	21 000	16 800,00	0,00	0,00	0,00	0,00	2 625,00	0,00	4 200,00	0,00	8 400,00
Per diems	100	60	6 000	5 948,00	0,00	0,00	0,00	0,00	729,00	0,00	1 408,00	0,00	2 860,00
Travel Cost (Intercity Train if any + Airfares)	620	10	6 200	4 960,00	0,00	0,00	0,00	0,00	951,48	0,00	876,95	0,00	1 971,60
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	6	1 800	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	10	1 000	640,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	10	1 500	1 500,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	413,98
SubTotal for Activity			**52 250**	**41 648,00**	**0,00**	**0,00**	**0,00**	**0,00**	**6 055,48**	**0,00**	**9 284,95**	**0,00**	**18 720,58**
2.6 Activity:FIELD DATA SURVEYS BY PRIVATE SECTOR CONSULTANTS CONTRACTING													
On basis of ToR prepared by the team after the Training session (Act. 2.4), request for quotations and contracting will be done by ADEME for the data survey on energy use and savings potentials of a limited sample of end-users in the various sectors.													
SubTotal for Activity			**80 000**	**80 000,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
2.7 Activity:Benchmark data base & energy indicators													
2 MS experts (MOERKERKEN - 9,5 days, BOSSEBOEUF - 8,5 days)													
Expert fees	350	30	10 500	8 750,00	0,00	0,00	0,00	0,00	1 750,00	0,00	0,00	1 225,00	1 750,00
'Project Management Costs'		1,5	15 750	13 125,00	0,00	0,00	0,00	0,00	2 625,00	0,00	0,00	1 837,50	2 625,00
Per diems	100	42	4 200	4 284,00	0,00	0,00	0,00	0,00	693,00	0,00	0,00	512,00	715,00
Travel Cost (Intercity Train if any + Airfares)	620	6	3 720	3 100,00	0,00	0,00	0,00	0,00	646,99	0,00	0,00	418,95	677,33
Translation of relevant documentation	15	100	1 500	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	4	1 200	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**36 870**	**29 859,00**	**0,00**	**0,00**	**0,00**	**0,00**	**5 714,99**	**0,00**	**0,00**	**3 993,45**	**5 767,33**
2.8 Activity:Assessing energy saving potentials for sectors (Industry, Transportation, Buildings)													
4 MS experts (MOERKERKEN - 4 days, BOUCHEREAU - 7,5 days, CICILE - 5 days, MOURTADA - 4 days)													
Expert fees	350	36	12 600	7 700,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1 575,00	0,00
'Project Management Costs'		1,5	18 900	11 550,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2 362,50	0,00
Per diems	100	54	5 400	4 224,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	640,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	9	5 580	4 340,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	493,48	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**43 230**	**28 414,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**5 070,98**	**0,00**
Total Component 2			**302 215**	**260 903,19**	**0,00**	**10 820,08**	**54 946,46**	**4 678,53**	**11 770,47**	**3 379,06**	**9 284,95**	**9 629,93**	**25 087,91**

Component 3: Identification of barriers & Support to Implementation													
Actions to be undertaken under the Twinning project	**Original budget**												
	Unit cost	**No of units**	**Total MS cost**										
3.1 Activity:Analysis of budgetary resources at central administration (incl. provincial) and municipal level; proposals for key-modifications.													
2 MS experts (SCHELLEKENS - 5 days, SMITS - 6 days)													
Expert fees	350	12	4 200	4 200,00	1 750,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
'Project Management Costs'		1,5	6 300	6 300,00	2 625,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems	100	18	1 800	2 164,00	550,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	2	1 240	1 240,00	444,56	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	3	900	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	3	300	384,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	900,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**16 390**	**15 788,00**	**5 369,56**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
3.2 Activity:Analysis of energy tariffs. Coordinating energy & environmental approaches; recommendations for structural linkages to environmental impacts & policies, fiscal incentives.													
3 MS experts (DUIJNHOUWER - 8,5 days, TABET - 4,5 days, - BEEKER - 3 days)													
Expert fees	350	16	5 600	5 600,00	0,00	2 975,00	0,00	0,00	0,00	0,00	0,00	1 050,00	0,00
'Project Management Costs'		1,5	8 400	8 400,00	0,00	4 462,50	0,00	0,00	0,00	0,00	0,00	1 575,00	0,00
Per diems	100	24	2 400	2 736,00	0,00	1 320,00	0,00	0,00	0,00	0,00	0,00	384,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	4	2 480	2 480,00	0,00	924,08	0,00	0,00	0,00	0,00	0,00	547,29	0,00
Translation of relevant documentation	15	50	750	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	356,39
Consecutive Interpretation (days at xx €/day)	300	3	900	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**20 530**	**19 816,00**	**0,00**	**9 681,58**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**3 556,29**	**356,39**
3.3 Activity: Inventory of barriers outside of direct influence of the main technical Ministries, opportunities for Energy Efficiency from a cultural point/social of view. Recommendations.													
1 MS experts (SMITS - 10 days)													
Expert fees	350	20	7 000	6 300,00	700,00	0,00	0,00	0,00	0,00	1 225,00	0,00	350,00	0,00
'Project Management Costs'		1,5	10 500	9 450,00	1 050,00	0,00	0,00	0,00	0,00	1 837,50	0,00	525,00	0,00
Per diems	100	28	2 800	3 032,00	220,00	0,00	0,00	0,00	0,00	396,00	0,00	128,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	4	2 480	2 480,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	100	1 500	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	4	1 200	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	5	500	640,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	900,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Survey by Questionnaries for producing knowledge about behaviours			3 000	3 000,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**29 880**	**26 402,00**	**1 970,00**	**0,00**	**0,00**	**0,00**	**0,00**	**3 458,50**	**0,00**	**1 003,00**	**0,00**

3.4 Activity: Mobilising & involving Turkish partners for joint European programs (6thR/DT Framework program, Intelligent Energy, GEF, FFEM)													
7 MS experts (COCARD - 5 days, PHILIPPS - 3 days, CHRETIEN - 4 days, DE BOHAN - 1 day, ANGIOLETTI - 2,5 days, LEFEBVRE - 1,5 days, LARSONNEUR - 2,5 days)													
Expert fees	350	32	11 200	11 200,00	0,00	1 050,00	0,00	0,00	0,00	0,00	2 800,00	700,00	0,00
'Project Management Costs'		1,5	16 800	16 800,00	0,00	1 575,00	0,00	0,00	0,00	0,00	4 200,00	1 050,00	0,00
Per diems	100	48	4 800	6 032,00	0,00	440,00	0,00	0,00	0,00	0,00	1 408,00	512,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	8	4 960	4 960,00	0,00	452,11	0,00	0,00	0,00	0,00	900,94	0,00	0,00
Translation of relevant documentation	15	100	1 500	600,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Consecutive Interpretation (days at xx €/day)	300	2	600	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per Diem for RTA and Assistant for works outside Ankara	100	5	500	640,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Local Transportation costs (STE, RTA, RTA Assistant)	150	6	900	900,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**41 260**	**41 132,00**	**0,00**	**3 517,11**	**0,00**	**0,00**	**0,00**	**0,00**	**9 308,94**	**2 262,00**	**0,00**
Total Component 3			**108 060**	**103 138,00**	**7 339,56**	**13 198,69**	**0,00**	**0,00**	**0,00**	**3 458,50**	**9 308,94**	**6 821,29**	**356,39**
Component 4: Events, Study Visits, Internships, Workshops													
Actions to be undertaken under the Twinning project	**Original budget**												
	Unit cost	**No of units**	**Total MS cost**										
4.0 Activity : Kick off Event (1/2 day coordination at EIE + 1/2 event it self)													
CHRETIEN as PL - 1,5 days, SMITS as JPL - 1,5 days, up to 1 ST Experts (TABET - 1 day)													
Expert fees	350	6	2 100	2 100,00	1 400,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
'Project Management Costs'		1,5	3 150	3 150,00	2 100,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems	100	6	600	660,00	660,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares) (here for 2 experts only, others are charged under PSC or activity 1.1)	620	2	1 240	1 231,55	1 231,55	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Translation of relevant documentation	15	100	1 500	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Interpretation (days at xx €/day) (Simultaneous En-Tr-En -> 2persons)	450	1	450	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**9 040**	**7 141,55**	**5 391,55**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
4.1 Activity: Study Visit to MS on "EE in INDUSTRY, EE & renewables in Energy production, CHP"													
Two-weeks study visit for 4 Turkish participants to the Ministries of Industry of FR & NL, ADEME & SenterNovem, Industrial Federations, Demonstration													
Air tickets for BC participants	pm	4	pm										
Air tickets for RTA Assistant as Interpreter	620	1	620	456,25	0,00	0,00	0,00	0,00	456,25	0,00	0,00	0,00	0,00
Travel costs for Turkish Participants within France and within Netherlands	400	5	2 000	3 273,37	0,00	0,00	0,00	0,00	3 273,37	0,00	0,00	0,00	0,00
Per diems for Turkish participants (4 +1 p. x 8 days in FR)	170	40	6 800	7 990,00	0,00	0,00	0,00	0,00	7 990,00	0,00	0,00	0,00	0,00
Per diems for Turkish participants (4+1 p. x 5 days in NL)	210	25	5 250	7 980,00	0,00	0,00	0,00	0,00	7 980,00	0,00	0,00	0,00	0,00
Incidental costs (at 10 per participant/working day)	10	50	500	740,00	0,00	0,00	0,00	0,00	740,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**15 170**	**20 439,62**	**0,00**	**0,00**	**0,00**	**0,00**	**20 439,62**	**0,00**	**0,00**	**0,00**	**0,00**

4.2 Activity: Study Visit to MS on "Energy Efficiency in Building Sector, District Heating"														
Two-weeks study visit for 3 Turkish participants to the Ministries of Housing of FR & NL, ADEME & SenterNovem, Building Federations, Demonstration														
Air tickets for Turkish participants	pm	3	pm											
Air Tickets for RTA Assistant as Interpreter	620	1	620	413,70	0,00	0,00	0,00	0,00	0,00	413,70	0,00	0,00	0,00
Travel costs for Turkish Participants within France and within Netherlands	400	4	1 600	2 000,00	0,00	0,00	0,00	0,00	0,00	2 446,24	0,00	0,00	0,00
Per diems for Turkish participants (3 +1 p. x 8 days in FR)	170	32	5 440	7 990,00	0,00	0,00	0,00	0,00	0,00	7 990,00	0,00	0,00	0,00
Per diems for Turkish participants (3 +1 p. x 8 days in B)				3 618,00						3 618,00	0,00	0,00	0,00
Per diems for Turkish participants (3+1 p. x 5 days in NL)	210	20	4 200	5 040,00	0,00	0,00	0,00	0,00	0,00	5 040,00	0,00	0,00	0,00
Incidental costs (at 10 per participant/working day)	10	40	400	680,00	0,00	0,00	0,00	0,00	0,00	680,00	0,00	0,00	0,00
SubTotal for Activity			**12 260**	**19 741,70**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**20 187,94**	**0,00**	**0,00**	**0,00**
4.3 Activity: Study Visit to MS on "Energy Efficiency in Transportation & Urban Planning"														
Two-weeks study visit for Turkish participants Transportation of FR & NL, ADEME & SenterNovem, Municipalities and Transportation Federations,														
Air tickets for Turkish participants	pm	3												
Air Tickets for RTA Assistant as Interpreter	620	1	620	398,78	0,00	0,00	0,00	398,78	0,00	0,00	0,00	0,00	0,00
Travel costs for Turkish Participants within France and within Netherlands	400	4	1 600	2 463,71	0,00	0,00	0,00	2463,71	0,00	0,00	0,00	0,00	0,00
Per diems for Turkish participants (3 +1 p. x 8 days in FR)	170	32	5 440	6 630,00	0,00	0,00	0,00	6630,00	0,00	0,00	0,00	0,00	0,00
Per diems for Turkish participants (3+1 p. x 5 days in NL)	210	20	4 200	5 250,00	0,00	0,00	0,00	5250,00	0,00	0,00	0,00	0,00	0,00
Incidental costs (at 10 per participant/working day)	10	40	400	470,00	0,00	0,00	0,00	470,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**12 260**	**15 212,49**	**0,00**	**0,00**	**0,00**	**15212,49**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
4.4 Activity: Internships for EE in all sectors														
2 weeks Internships for EE in Industry, EE & Renewables in Energy production, CHP, for up to 10														
Air tickets for Turkish participants	pm	10	pm											
Per diems for Turkish participants: 10 pers x 14 days (average) in FR	170	140	23 800	17 680,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	12 070,00
Per diems for Turkish participants: 10 pers. x 10 days (average) in NL	210	100	21 000	13 440,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	5 460,00
Incidental costs (at 10 per participant/working day)	10	170	1 700	1 360,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	750,00
Travel costs for Turkish Participants within France and within Netherlands			0	2 000,00									213,90
Translation of relevant documentation	15	200	3 000	400,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**49 500**	**34 880,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**18 493,90**

4.5 Activity: Workshop 1: EE Project Funding (Intelligent Energy Europe, GEF, FFEM...)													
2 day information & training workshop in Turkey about "EE Project Funding (Int.Energy Europe, GEF, FFEM...)". Target 60 persons													
2 MS Experts (COCARD - 3 days, DE BOHAN - 3 days)													
Expert fees	350	9	3 150	2 100,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2 100,00	0,00
'Project Management Costs'		1,5	4 725	3 150,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3 150,00	0,00
Per diems	100	15	1 500	1 280,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1 280,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	3	1 860	1 159,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1 159,08	0,00
Workshop venue incl.interpretation equipment (cabins headphones…)													
Translation of relevant documentation	15	100	1 500	1 200,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Interpretation (days at xx €/day) (Simultaneous En-Tr-En -> 2persons)	450	4	1 800	646,34	0,00	0,00	0,00	0,00	0,00	0,00	0,00	646,34	0,00
SubTotal for Activity			**14 535**	**9 535,42**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**8 335,42**	**0,00**
4.6 Activity: Workshop 2 on"Program Development & Implementation"													
2 day information & training workshop in Turkey about" EE Program Development". Target 40 persons													
2 MS Experts (HEINZE - 3 days, MACLAGAN - 3 days)													
Expert fees	350	9	3 150	2 100,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2 100,00	0,00
'Project Management Costs'		1,5	4 725	3 150,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3 150,00	0,00
Per diems	100	15	1 500	1 024,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1 024,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	3	1 860	1 468,45	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1 500,20	0,00
Workshop venue, incl. interpretation equipment (cabins headphones…)													
Translation of relevant documentation	15	100	1 500	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Interpretation (days at xx €/day) (Simultaneous En-Tr-En -> 2persons)	450	4	1 800	1 290,46	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1 290,46	0,00
SubTotal for Activity			**14 535**	**9 032,91**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**9 064,66**	**0,00**

4.7 Activity: Workshop 3 on"Energy Audits & Services: Methods & Support for a new market"													
1 day Workshop for professionnal information in Turkey about" Energy Audits & Services". Target 40 persons													
3 MS Experts (BOLDER - 2 days, CHRETIEN - 2 days, ASSAL - 2 days)													
Expert fees	350	6	2 100	2 100,00	0,00	0,00	0,00	0,00	0,00	2 100,00	0,00	0,00	0,00
'Project Management Costs'		1,5	3 150	3 150,00	0,00	0,00	0,00	0,00	0,00	3 150,00	0,00	0,00	0,00
Per diems	100	9	900	1 152,00	0,00	0,00	0,00	0,00	0,00	1 152,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares)	620	3	1 860	1 645,51	0,00	0,00	0,00	0,00	0,00	1 645,51	0,00	0,00	0,00
Workshop venue, incl. interpretation equipment (cabins headphones…)													
Translation of relevant documentation	15	100	1 500	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Interpretation (days at xx €/day) (Simultaneous En-Tr-En -> 2persons)	450	2	900	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**10 410**	**8 047,51**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**8 047,51**	**0,00**	**0,00**	**0,00**
4.8 Activity: Closing Event (one full day: achievements & perspectives)													
CHRETIEN as PL - 3 days, SMITS as Junior PL - 1 day, ST 3 Experts (BOLDER - 3 days, BOSSEBOEUF - 3 days, CICILE - 3 days)													
Expert fees	350	5	1 750	5 250,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
'Project Management Costs'		1,5	2 625	7 875,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Per diems	100	5	500	2 560,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Travel Cost (Intercity Train if any + Airfares) (here for RAATs, CICILE, others are charged under PSC or activity2.8)	620	2	1 240	1 240,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Workshop venue incl.interpretation equipment (cabins headphones…)													
Translation of relevant documentation	15	100	1 500	1 200,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Interpretation (days at xx €/day) (Simultaneous En-Tr-En -> 2persons)	450	2	900	700,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
SubTotal for Activity			**8 515**	**18 825,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**
Total Component 4			**146 225**	**142 856,20**	**5 391,55**	**0,00**	**0,00**	**15 212,49**	**20 439,62**	**28 235,45**	**0,00**	**17 400,08**	**18 493,90**
PROJECT SUB-TOTAL			**1 223 413**	**1 242 898,48**	**63 542,43**	**122 113,66**	**100 104,16**	**80 214,24**	**85 425,19**	**104 822,77**	**114 334,40**	**123 969,10**	**88 553,61**
Provision for changes in prices (at maximum 2.5% of sub-total) See note below.*			26 587	7 101,52									
PROJECT TOTAL			**1 250 000**	**1 250 000**	**63 542,43**	**122 113,66**	**100 104,16**	**80 214,24**	**85 425,19**	**104 822,77**	**114 334,40**	**123 969,10**	**88 553,61**

For the administration of the Member State

M. Bruno CHRETIEN
ADEME
Project Executive Manager
Twinning Project Leader

Date:

For the administration of the Beneficiary Country

M. Mehmet CAGLAR
EIE
Deputy General Manager
Twinning Project Leader

Date: