

Standard Summary Project Fiche – IPA decentralised National programmes
(maximum 12/15 pages without the annexes)

1. Basic information

1.1 CRIS Number: TR080203

1.2 Title: Improving Emissions Control

1.3 Sector: 27- Environment

1.4 Location: Turkey/ Ankara

Implementing arrangements:

1.5 Implementing Agency:

The CFCU will be Implementing Agency and will be responsible for all procedural aspects of the tendering process, contracting matters and financial management, including payment of project activities. The director of the CFCU will act as Programme Authorizing Officer (PAO) of the project.

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1.6 Beneficiary (including details of SPO):

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1.7 Overall cost: 2,050 M Euro

1.8 EU contribution: 1,910 M Euro

1.9 Final date for contracting: 2 years after the signature of the Financing Agreement

1.10 Final date for execution of contracts: 2 years following the end date for contracting

1.11 Final date for disbursements: 3 years following the end date for contracting

2. Overall Objective and Project Purpose

2.1 Overall Objective:

The overall objective of the project is to improve the environmental conditions in Turkey by implementation and enforcement of the EU environmental acquis in the frame of ambient air quality.

2.2 Project purpose:

The project purpose is to establish the necessary capacity within Ministry of Environment and Forestry to transpose and implement National Emission Ceilings Directive (2001/81/EC) in Turkey.

2.3 Link with AP/NPAA / EP/ SAA

The Accession Partnership(AP):

Council Decision of 18 February 2008 on the principles, priorities and conditions contained in the Accession Partnership with Republic of Turkey and repealing Decision 2006/35/EC. (2008/157/EC)

In the short term those priorities for environment are:

- Adopt a comprehensive strategy for the gradual transposition, implementation and enforcement of the *acquis*, including plans for building up the necessary administrative capacity at national, regional and local level and required financial resources, with an indication of milestones and timetables
- Continue transposition, implementation and enforcement of the *acquis*, in particular horizontal and framework legislation, such as the environmental impact assessment, including transboundary aspects, as well as strengthening of administrative capacity

In the medium- term the priorities for Environment are;

- Continue to transpose and implement the *acquis* related to the framework legislation, international environmental conventions and legislation on nature protection, water quality, chemicals, industrial pollution and risk management and waste management
- pursue integration of environmental requirements into other sectoral policies,

The National Programme (NP):

In the National Programme for the Adoption of the Acquis dated July 2003, Under Environment Chapter Priority 22.3. “Improving Air Quality” title, it is stated that;“Air Quality has been designated as a priority. Considering that beginning to transpose and implement the *acquis* is a short term priority and completing the transposition of the *acquis* and strengthening institutional, administrative, and monitoring capacity, including data collection, to ensure environmental protection are medium term priorities in the 2003 Accession Partnership Document.

There is a need for eliminating the differences between Turkish and the EU air quality legislation. In this framework, The Ministry of Health (MoH) contributes to harmonization efforts carried out by the Ministry of Environment and Forestry (MoEF)”.

Regarding to this priority, project entitled “Support to Turkey in the Field of Air Quality, Chemicals and Waste Management Project TR03-IB-EN-01 Component-1 Air Quality” has been initiated in 2004 and completed at the end of 2006 to strength of the administrative capacity for harmonizing and implementing Air Quality Directive (96/62/EC) (ANNEX-4-3). Furthermore, in the scope of the support to Turkey in the field of Air Quality “Institution Building on Air Quality in The Marmara Region” was submitted to 2007 Financial Cooperation Programme, for strengthening of administrative capacity for harmonizing and implementing Air Quality will be studied.

2.4 Link with MIPD

“Main Priorities” under headline “Transposition and implementation of the acquis” for Environment includes that “Adoption of a revised programme for transposition and implementation of the acquis; Transposition of framework legislation, international environmental conventions, and legislation on nature protection, water quality, air quality, Integrated Pollution Prevention Control and waste management, environmental impact and strategic impact assessment, chemicals and GMOs, climate change.”

2.5 Link with National Development Plan (where applicable)

The Ninth Five-Year Development Plan Strategy has been prepared within the framework of the Long-term Strategy and is the basic document setting out Turkey’s approach for the solution of its main medium-term economic and social problems. Thus, the main objectives and priorities of Turkey are based on the medium-term strategy set forth by the Ninth Five-Year Development Plan Strategy.

The European Commission also requested from Turkey in October 2001, as with other candidate countries, to prepare a Preliminary National Development Plan (pNDP) covering the period 2004-2006 which would be treated as an annex to the NPAA and would establish a strategic framework for programming pre-accession financial assistance for Turkey’s economic and social cohesion with the EU. Subsequently, this has also been underlined in the Regular Reports on Turkey’s Progress Towards Accession in 2002 and 2003. In these documents, it was stated that the pNDP would be a step in the process of preparing the development plan as required for Objective 1 regions in the EU member states. Moreover, it was indicated that the pNDP would need to be in conformity with the planning and programming documents and should be applicable in the EU and should be updated in line with the developments in Turkey’s strategy for economic and social cohesion with the EU.

Turkey’s first pNDP is prepared to form the basis for the use of the financial assistance towards economic and social cohesion to be provided by the EU within the framework of Turkey-EU relations, during the 2004-2006 period. The legal bases of the preaccession financial assistance for Turkey are Council Regulation (EC) No 390/2001 of 26 February 2001 and Council Regulation (EC) No 2500/2001 of 17 December 2001.

It is aimed that during the pNDP period, pre-accession financial assistance shall be used in an effective way and establishment of the necessary infrastructure shall be initiated for the utilization of structural funds after accession. The pNDP attempts to set out a strategic framework towards formulating an economic and social cohesion policy for the country and achieving convergence to the EU, taking into account, inter alia, the issues put forward in Regular Reports on Turkey’s Progress Towards Accession and Accession Partnerships.

In this context/frame work, regarding “Air Quality” under in pNDP Strategy, it is defined as; “The feasibility study dated 2002 revealed that the majority of existing air quality measurement stations need to be supported in terms of infrastructure, equipment, measurement methods and personnel”.

2.6 Link with national/ sectoral investment plans(where applicable)

EU Integrated Environmental Approximation Strategy (UÇES) covering the period 2007-2023 contains the information on pertaining to the technical and institutional infrastructure,

the environmental improvements that are required to be performed as well as the mandatory arrangements which are necessary to establish complete harmonization for compliance with EU Environmental Acquis Communautaire and the effective implementation of the legislation which are the two pre-conditions for Turkey to join European Union. This main strategy document is the basic source of the project proposal named as “Strengthening the Capacity Building in NEC Directive”.

In the preparation of UÇES, outputs from the following documents were made use of; “National Environmental Strategy and Action Plan” that was prepared as a basis beforehand and the “Integrated Approximation Strategy Project” that was realized with the EC funds and the “Environmental Heavy Cost Investment Planning Project”. Furthermore, care was taken to make sure that the strategy paper was prepared in line with the Development Plan, Annual Programs, and the strategies and policies of the National Program.

Under the Air Quality title of UÇES (ANNEX 4-4), it is mentioned that on National Emission Ceilings (2001/81/EC) technical studies and infrastructural investments are needed in order to strengthen technical capacity. It is also mentioned as the directive on National Emission Ceiling has not yet been reflected into our legislation yet.

The main responsible institution on the subject is the Ministry of Environment and Forestry. But Turkish Statistical Institute and Ministry of Energy and Natural Resources and Electricity Generation Corporation (EÜAŞ) will be the beneficiaries in the collection of the data.

3. Description of project

3.1 Background and justification:

Background:

Increase in population has resulted in urbanization, industrialization and inconvenient city planning according to the topographical and meteorological conditions causing air pollution in Turkey. Although various factors are involved, causes of air pollution can be divided into three main categories: urbanization, industrialization and motor vehicles. In urban areas in Turkey, industrial emissions and traffic combine with emissions from residential heating and power generation to cause major air pollution episodes. There is little information on air quality in industrial areas though some major environmental impacts have been observed. It is known that areas where road traffic is intense and there are large stationary combustion facilities (such as power stations and refineries) are properly affected by photochemical pollution, However, due to the absence of air quality data relating to NO_x, VOCs and ozone, the scale of the problem is not known. According to the research carried out in metropolitan areas, the harmful exhaust gases released by the ever increasing motor vehicles play an important role and air pollutants originated from motor vehicles have already exceeded all combined emissions that the overall resultant concentrations of pollutants are above limits. Motor vehicles are estimated to contribute about 46% of NO_x emissions and undoubtedly a significant source of lead, CO, HC and PM.

In the past, some indicative air quality measurements and investigations were already done in Turkey. A national network system has been built up for measuring SO₂ and PM₁₀ parameters by the MoEF and Refik Saydam Hygiene Centre (RSHC). The fully automated air quality measurement stations were established in 81 provinces by the Ministry of Environment and Forestry in 2006. The national network of the MoEF measures only two parameters, namely

the components of sulphur dioxide (SO₂) and particulate matter (PM₁₀). Gölbaşı Reference Laboratory as a related institution of the MoEF, is responsible for the evaluation of the air quality data and management of the National Air Quality Network. In addition, Turkish Statistical Institute has responsibility in collection of emission data.

At legal bases, an amended Environment Law has passed in the Parliament in May 2006, in which the responsibilities of ministries and institutions involved in air quality were redefined. The Environment Law introduces methods about the determination, monitoring and measurement of air quality and air quality limit values and measures to be taken to prevent exceeding of limit values. Also, the Environment Law determines the MoEF as the primary responsible authority for environmental issues, such as increasing public awareness and providing access to related information. With the purpose of harmonization of EC legislation on air quality to national legislation, a Twinning Project named “Support to Turkey in the field of Air Quality, Chemicals and Waste Management” was started in the year 2004, and with the first component of this project, the Air Quality, it is aimed to transpose Air Quality Framework Directive into Turkey’s National Air Quality Legislation and into the activities for measuring the air quality and the transposition of the provisions of the Large Combustion Plants Directive to our legislation. The project is completed in 2006. Draft By-law on Air Quality Assessment and Management (BAQAM) and Draft By-Law on Large Combustion Plant, to limit emissions arising from large combustion plants, were prepared. Those drafts were submitted for approval to the related authorities of Turkey.

The Draft By-law on Air Quality Assessment and Management covers four daughter directives (99/30/EC, 2000/69/EC, 2002/3/EC and 2004/107/EC) besides Air Quality Framework Directive, 96/62/EC. The new draft by-law sets the implementation calendar for the implementation and harmonization of 13 pollutants that are defined under the framework directive and the daughter directives. By-law also aims to strengthen the monitoring, sanctioning and institutionalization in the area of controlling the pollution and air quality. BAQAM is planned to be taken into force in the year of 2008.

After the transposition of the Air Quality Framework Directive and its daughters into the national legislation, the implementation of these directives is the second step that should be taken. Therefore, it is necessary to strengthen the institutional capacity for the implementation of other directives about air quality. Furthermore, in case the new air quality limit values which are indicated in BAQAM, are exceeded, a strategy is required to reduce ambient air pollution concentrations. In this framework, Strategy For the Implementation and Enforcement of the By-Law on Air Quality Assessment and Management requires a new structure both at the national and regional level. Some new working units are needed to fulfill the new tasks. In this regard, the capacity of MoEF should be increased for the implementation of the Air Quality Framework Directive and daughter directives as a first step. Within this context, the establishment of the necessary technical infrastructure, its operation and inspection and the training of the personnel to be employed in these areas carry great importance for the effective implementation of the directives generally in the country. Measurement devices are required for both effective monitoring of the air quality and for reaching the necessary standards. The establishment of the monitoring systems is also considered to be important for full implementation of Air Quality Framework Directive and the other directives on air quality such as the Fuel Quality, the Emissions Arising from the Vehicles and NEC Directive.

Because of the needs stated above and all these studies on air quality addressed a new project which will give opportunity to establish necessary capacity for the implementation of EU Acquis on air quality in a region. Particularly, Strategy Paper prepared under Twinning Project has revealed the necessities of Turkey in field of air quality and determined related technical and financial requirements on regional base. Results of the project will be the example and experience and this region will serve as a model region for the other regions to implement the EU Air Quality Framework and Daughter Directives.

As a result, the project concerning “Institutional Building on Air Quality in Marmara region” was taken under the IPA 2007 Programme. This project will be carried out under the supervision and patronage of the MoEF as the main administrative body for the air quality issues. However, this work will be carried out in cooperation with the municipalities of the selected region (Istanbul/Bursa for the Marmara region), the RSHC, the Gölbaşı Reference Laboratory and TUBITAK. The Provincial Directorates of the MoEF in the region, metropolitan municipalities, universities, chambers etc. are the other beneficiaries of the project. Such a project will be started in the third quarter of 2008 and be ended at latest in 2012 in order to provide for the implementation of its results (Clean air plans, action plans) in the remaining zones and agglomerations of Turkey by 2014. In the framework of this project, there is a supply component regarding the procurement of software for emission data base and modeling. In order to conduct an emission inventory, all data relating the air quality in the region will be collected with the help of the stakeholders of the project and these data will be used for the modeling purposes.

In addition, the gaps in this rather incomplete system need to be filled in Marmara region. The system should be built in the region fulfilling all the technical and administrative requirements of the AQFD and the reporting requirements of the LCPD. In this regard, the “Marmara Air Quality Project” is a good model for monitoring of all sources of air pollution such as industry, traffic and heating. In this framework, it is essential to establish a comprehensive air quality-monitoring network for defining the scale of the air pollution problem and minimizing the problem. The project will bring a new assessment and management approach in line with EU Ambient Air Quality Directives for solving air pollution problem and its potential effects on human health.

This project would also enable the decision makers and local authorities to evaluate the effectiveness of air pollution minimization strategies and clean air plans / action plans. For this purpose Regional Centre for Clean Air includes Regional Ambient Air Network, Regional Calibration Laboratory (RCL), Regional Data Centre (RDC) and Regional Maintenance Centre(RMC). RCL should ensure the use of the national calibration standard in the respective regional network. RDC also need to be established in the region, which transmits the data to the National Data Centre. RMC should be established for maintenance of equipment and to provide system operating properly.

In Regional Ambient Air Monitoring Center, 23 Turkish technical experts from different disciplines will take responsibility in monitoring network operation, regional calibration laboratory, regional data center, analytical laboratory, regional unit for analysis and modeling action. The project enables to fulfill the AQFD in the region and will be a model for the other regions. In addition to the administrative requirements; in order to increase the technical capacity of the ambient air quality monitoring system in the Marmara region, 39 air quality measurement stations have to be installed and to ensure the fulfilment of the Framework Directive 96/62/EC and its daughter directives. From these stations 19 of them will be

established in intensive residential areas, 7 will be established in the areas where the industry is intensive, 9 will be established in the areas where the traffic is intense and 4 will be located in the rural areas.

EU IPPC Directive (2008/1/EC), which has been referred to in NEC Directive is also being studied in Turkey. So far two bi-lateral projects have been successfully done between 2003 and 2008 in order to assist Turkish Ministry of Environment and Forestry with implementation of the Integrated Pollution Prevention Control (IPPC) Directive. Project outputs include a roadmap towards full implementation of the IPPC Directive in Turkey. Implementation of IPPC Directive in Turkey will lead to significant reduction in emissions of acidifying, eutrophying and ozone forming substances. Two Directives also are interrelated in information exchange and reporting. This project is intended to facilitate implementation of IPPC while IPPC studies serve Turkey in achieving targets set out in NEC Directive.

At international area for controlling air pollution, Turkey has ratified the Convention on Long Range Transboundary Air Pollution (CLRTAP) in 1979 and EMEP Finance Protocol in 1984. Turkey has fulfilled responsibility in terms of financial contribution regularly under the Convention. Turkey could not be a party to the various UN-ECE Protocols aimed at limiting emissions of SO₂, NO_x and VOC_s due to several reasons. Full implementation of UN/ECE Protocols necessitates modification of technologies applied in a number of sectors, establishment of new treatment plants, use of new technologies and upgrading the fuel quality etc. Turkey is doing her utmost to convert into clean technologies that would enable her meet the targets specified in the mentioned protocols. Although Turkey fully associates herself with the objectives of Protocols, because of the limitations in technological transformation, bottlenecks in financing such transformation as well as the inadequacy of its environmental monitoring infrastructure and lack of proper emission inventories, she was not be able to sign the Protocols. As known, NEC Directive and Gothenburg Protocol of The Long-Range Transboundary Air Pollution Convention (CLRTAP) have same policies and principles for controlling emissions of SO₂, NO_x, VOCs and ammonia. The implementation of the NEC Directive will facilitate application the Gothenburg Protocol Provisions. Furthermore, this project will provide capacity increase in the Ministry.

Justification:

Turkey is not yet a member of the European Union (EU), but has formally been accepted as an candidate country to join the EU and has begun a process of screening and approximation to establish the readiness of its legislation. The Long-Range Transboundary Air Pollution Convention (CLRTAP), Gothenburg Protocol, Air Quality Framework Directive and its daughter directives, and IPPC Directive are parts of the EU's *acquis communautaire* and the adoption of those is a part of the approximation process. Turkey has ratified the CLRTAP, but it has not adopted any of the protocols that impose limitations on emissions on transboundary pollutants. The NEC-Directive (2001/81/EC) and the Gothenburg Protocol of CLRTAP set specific national ceilings for emissions for four air pollutants (SO₂, NO_x, VOC and ammonia) that cause acidification and the formation of ground-level ozone. According to the NEC Directive, Member States must prepare and annually update national emission inventories and emission projections for SO₂, NO_x, VOC, NH₃ and draw up programmes.

In this scope, Turkey, as a candidate country, infrastructural investment and technical study in order to strengthen technical capacity are needed. In UÇES, which defines comprehensive coordination role for the MoEF on Air Quality for adaptation and implementation of EU

Directives, NEC Directive has taken into consideration under the air quality sector. Detailed and thorough strategies for the implementation and enforcement of NEC Directive, with institutional strengthening and methodological support are necessary to establish infrastructure for providing and assuring the protection of environment and improving the air quality in Turkey. This situation addresses the needs for the transposition of NEC Directive, besides other directives under air quality sector. The transposition of NEC Directive is necessary to set out emissions data base (especially focused on SO₂, NO_x, VOC, NH₃ which are stated in NEC), to develop a national emission inventory which should be sectoral and pollutant based, and to include information on the spatial distribution of the emissions all over Turkey and in the further stages, to develop abatement strategies.

There is currently no capability (in the form of trained staff and methodology) in the MoEF to transpose and implement NEC Directive except for the software programme for air quality dispersion modelling. It is not easy to transpose NEC Directive and prepare emission inventory for Turkey without EU expertise. In this view, EU support is needed in order to initialize the related studies in this field. By using methodologies referred in the NEC Directive, emission inventories for the pollutants defined in the directive were prepared and from the data obtained from the project, air quality model should be used to determine the dispersion of pollutants NH₃, VOC, SO_x and NO_x in Turkey.

This project will be the determining factor for the overall national air quality policy of Turkey in line with EU air quality policies. The main output of this project will affect the investment plans of Turkey considering all air pollution sources namely industrial, motor vehicles, domestic heating etc. Also This project will bring a new assessment and management approach in line with EU air quality policies for solving air pollution problem and its potential effects on human health. In addition, it would enable the decision makers and local authorities to evaluate the effectiveness of air pollution minimization strategies and action plans/programs drawing emission reduction roadmap. The UÇES Document defines comprehensive coordination role for the MoEF in Air Quality field for adaptation and implementation of EU Directives. Furthermore, UÇES and other EU funded projects on, Air Quality, addresses a new project proposal which will give opportunity to strength the capacity for the implementation and enforcement of National Emission Ceilings Directive.

The staff from the departments of the MoEF that are responsible from control, management and monitoring of air quality, will attend whole steps of the project activities with full time support. The proposed project for “Strengthening the Capacity Building on NEC Directive” should be carried out under the supervision and patronage of the MoEF as the main administrative body for the air quality issues. This work needs to be carried out in cooperation with the Ministry of Energy and Natural Resources and Turkish Statistical Institute. Furthermore, universities, chambers and NGOs are the other stakeholders of the project.

Such a project would need to be started in 2009 and be ended at latest in 2011 in order to establish a baseline for the national emission ceilings of mentioned pollutants for Turkey. The total budget of the Project is estimated to be 2,050 M Euro, of which 140,000 Euro will be supported by Turkish Government. Furthermore, expenses related with the software of modeling programme will be financed within the MoEF.

Regarding Directive on National Emission Ceilings 2001/81/EC, infrastructural investment and technical study in order to strengthen technical capacity, are needed. Enforcement date will be designated by the legislation prepared according to the result of the technical studies.

Furthermore, it is the initial step that the Directive on National Emission Ceiling Limits should be reflected on our national legislation. However, for Turkey, it is not easy to overcome bottlenecks both in the transposition and implementation of NEC Directive requirements in Turkey without EU expertise.

The most crucial reason to propose such a project is to gradually improve, through a stepwise reduction of the four pollutants, the protection both of human health and the environment throughout the Turkey. By means of specific strategies to combat acidification and ground-level ozone, it is important to establish interim environmental quality targets that are to be attained. These targets constitute the first step towards the achievement of the long-term objectives of not exceeding the critical loads and of effective protection of human health against risks from air pollution. It is well known that NEC directive is the key legislation for the achievement of those environmental objectives, as well as for attaining the EU air quality standards for a number of pollutants, including SO₂, NO₂, fine particles (PM₁₀), and ozone.

Total budget of the Project is 2,050 Million Euro, out of which 750,000 Euro will be expended in Technical Assistance for the preparation of emission inventory, cost benefit analysis and preparation of Regulatory Impact Assessment Report and workshop arrangements . Detailed budget calculation could be followed from Annex 5-2

3.2 Assessment of project impact, catalytic effect, sustainability and cross border impact (where applicable):

Project Impact:

The project is expected to produce mainly five outcomes:

1. Transposition of NEC Directive into Turkish Air Quality Legislation
2. Development of national emission inventory and emission projections for SO₂, NO_x, VOC and NH₃
3. Preparation of Regulatory Impact Assessment for the implementation of NEC Directive
4. Adoption of an agreed long-term comprehensive strategy for the improvement of air quality in line with the NEC Directive
5. Establishment of institutional structure, technical capacity and related procedural arrangements
- 6.

Catalytic Effect:

This project will bring long-term catalytic effects in terms of estimating emission projections, identifying technical measures and possible financial instruments to reduce emissions. This project will also enhance the selection of possible additional measures into the national strategic plan, the adaptation of clean technologies into industrial sectors and use of better fuel quality both in transportation and heating.

Sustainability:

Since the NEC Directive enforces the emission projections for four certain pollutants, in case of whole consistency with the directive, it would be obligatory to obey the ceilings via an acceptable emission reduction plan through the years. The fact that the average age of trainers is below 40, will ensure long-term commitment to their career and availability of their services to the Government. Furthermore, the development of the emission inventory would readily be available for the usage of decision-makers in the reporting to the EU and other international authorities.

Cross-border impact:

This Project will determine long range transboundary effect of the pollutants that defined in the NEC Directive. According to the result of the scientific research, the pollutants that have an effect on air quality , transported from Europe to Turkey . This project will give a chance to make an analysis in determination of sources pollutants and their transboundary effects.

3.3 Results and measurable indicators:

The results expected from the project are as follows;

Results	Objectively Verifiable Indicators
<p>1. Legal transposition of National Emission Ceilings Directive was fulfilled.</p> <p>2. National emission inventory and emission projections with various scenarios for four pollutants (SO₂, NO_x, VOC, NH₃) were developed.</p> <p>3-Regulatory Impact assessments for the implementation of different NE Ceilings were done.</p> <p>4- An agreed long-term comprehensive strategy to improve</p>	<p>1.1- Legal gap analysis in the framework of other international agreements was studied by the end of 2011.</p> <p>1.2- A Draft Agreed By-Law on National Emission Ceilings was prepared by the end of 2011.</p> <p>2.1- National emissions inventory for four pollutants on the basis of sources namely industrial, heating and motor vehicle was used within EMEP's integrated assessment modelling by the end of 2011.</p> <p>2.2- National emission projections prepared according to at least 2 different ceiling values for four pollutants were reported by the end of 2011.</p> <p>2.3- 35 staff from MoEF, MoENR and Turkish Statistical Institute were trained on data analysis, source analysis, modelling, emission data base, reporting by the end of 2011</p> <p>2.4- 20 MoEF staffs were trained in air quality modeling by the end of 2011.</p> <p>2.5- At least 4 Workshops were done with all stakeholders to share emission inventory until the end of 2011.</p> <p>2.6- Web-site of the project was prepared within three months after the project started.</p> <p>3.1- Regulatory Impact assessment was prepared in coordination with related sectors in order to increase the public/sectoral awareness by the end of 2011.</p> <p>3.2- Cost-benefit analysis from implementation of NEC directive, prepared in sectoral basis by the end of 2011</p> <p>3.3- 3 seminars were done together with related sectors.</p> <p>4.1- Strategic action plans and programmes drawing an emission reduction roadmap</p>

<p>the air quality for pollutants defined in NEC directive was developed.</p> <p>5- Required institutional structure, technical capacity and procedural arrangements defined and developed to implement NEC Directive</p>	<p>were developed and adopted by the end of 2011.</p> <p>5.1- Roles and responsibilities of related institutions are agreed and clearly defined in the Draft legislation at the end of the project.</p> <p>5.2- 35 Turkish Experts were technically trained for the application of NEC Directive by the end of 2011.</p> <p>5.3- At least 4 workshops and 8 seminars were done together with all stakeholders until the end of 2011.</p>
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Legal Transposition of National Emission Ceilings Directive was fulfilled: Adoption of a draft by-law on NEC Directive is the main core of the legal transposition of the NEC Directive, of which the indicator 1.1 covers. Moreover, all international agreements related with Turkey should be screened by means of NEC Directive.

National emission inventory and emission projections with various scenarios for four pollutants (SO₂, NO_x, VOC, NH₃) were developed. In order to determine the national emission ceiling values for four pollutants, at first stage it is necessary to have an emission inventory. National emissions inventory on the basis of sources namely industrial, heating and motor vehicles was used within EMEP's integrated assessment modelling by the end of 2011. After the determination of the present situation, on the bases of possible emission ceilings, emission reduction strategies and national emission projections which are prepared according to at least 2 different ceiling values for four pollutants on the basis of sources namely industrial, heating and motor vehicles were reported by the end of 2011. Emission inventory and projections can be verified from Modelling Outputs and National Emission Projection Reports respectively. Because of the reason that national emission inventories and emission projections should be prepared and annually updated, related staff was trained. Sharing of emission inventory and project activities, workshops between stakeholders were arranged and web-site of the project was developed.

Regulatory Impact assessments for the implementation of different National Emissions Ceilings were done: Regulatory Impact assessments which were developed according to different national emission ceilings were prepared in order to increase the public/sectoral awareness. Related sectors were informed via seminars. Cost-benefit analysis was done in order to set a basis for regulatory impact assessments.

An agreed long-term comprehensive strategy to improve the air quality for pollutants defined in NEC directive was developed. In order to reach the emission ceilings, required emission reduction roadmap including strategic action plans and programmes were erected.

Required institutional structure, technical capacity and procedural arrangements defined and developed to implement NEC Directive. To enhance the sustainability of the project, institutional building was developed by means of Directive specific training programmes and workshops. In addition, the roles and responsibilities of related institutions are defined and clearly stated in the Draft legislation at the end of the project.

3.4 Activities:

Under one Twinning and one TA Contract, five main results should be achieved, for which the main activities are listed below. Cofinancing source for all activities is the MoEF budget. **This budget will be available once it is nominated for the fiscal year, in which the activities are executed.**

1.1-Identification of present situation for the Implementation of the NEC Directive: In order to evaluate the institutional and technical capacity (existing structure/equipment) and to make the legal gap analysis, related studies were done for the implementation of the NEC Directive. This activity will be covered by Twinning

1.2- Investigation of roles and responsibilities of Turkey due to International Agreements such as Convention on Climate Change, Convention on Long Range Transboundary Air Pollution particularly Gothenburg Protocol and EU Directives on fuel quality: In order to implement the EU and other international legislation properly, the roles and responsibilities of the institutions and authorities of Turkey should be clearly defined in the national legislation. Therefore, the requirements of all agreements and conventions should be investigated and transposed. This activity will be covered by Twinning

2.1- Workshop arrangements in order to develop coordination and cooperation among stakeholders for the preparation of emission inventory: Since that the emission inventory and projections required for the implementation of the NEC Directive, the procedure for the preparation of emission inventory and for making projections should be learned by organizing workshops and seminars. In addition, these workshops and seminars should be arranged in order to develop coordination and cooperation among the stakeholders. This will be done by Technical Assistance.

2.2 – Preparation of emission inventory Using methodologies that are defined in the NEC Directive for the determination of emissions from point and area sources of Turkey:

In order to make projections on the air quality and determine the emissions from point and area sources, methodologies that are defined in the NEC Directive should be used. This will be done by Technical Assistance.

2.3- Comprehensive training of related personnel of MoEF, and Turkish Statistics Institute both in Turkey and in the Member States for the strengthening of personnel capacity and for the preparation of emission inventory and reporting: Because of the reason that the emission inventory and projections required for the implementation of the NEC Directive should be annually updated, the training of the personnel is vitally important for the sustainability of the project. This activity will be covered by Twinning

2.4- Sharing experiences by workshops, seminars, published papers, brochures, etc. Since the awareness of the decision makers should be raised to establish air quality policies, sharing experiences by workshops, seminars, published papers etc. for the implementation of the NEC Directive is necessary. This activity will be covered by Twinning

2.5- Preparation of Website: Website of the project should work in order to inform the stakeholders and the public about the activities and results of the project within three months after the project started. This activity will be covered by Twinning

3.1- Preparation of cost benefit analysis: Cost-benefit analysis for the implementation of NEC directive should be prepared on sectoral basis and for different possible emission ceilings by the end of 2011. This activity will be covered by TA

3.2- Preparation of Regulatory Impact Assessment Report: After the determination of the present situation, on the bases of emission reduction strategies and national emission projections which are prepared according to at least 2 different ceiling values for four pollutants on the basis of sources namely industrial, heating and motor vehicles were reported by the end of 2011. Using the results of cost-benefit analysis, the regulatory impact assessment should be prepared. This activity will be carry out by TA

3.3. Workshop arrangements in order to develop coordination and cooperation among stakeholders for the preparation of impact assessment analysis for the implementation of NEC Directive: Since that the preparation of impact analysis required for the implementation of the NEC Directive, the impact analysis should be prepared by organizing workshops and seminars. In addition, these workshops and seminars should be arranged in order to develop coordination and cooperation among the stakeholders. This activity will be covered by TA

4.1- Preparation of an agreed Strategic Action Plan for the achievement of National Emission Ceilings: After the determination of the present situation, the strategic action plan for the achievement of national emission ceilings should be developed according to the project results. An agreed long-term comprehensive strategy to improve the air quality for pollutants defined in NEC directive and strategic action plans and programmes drawing an emission reduction roadmap should be developed and adopted by the end of 2011. This activity will be covered by Twinning

4.2 – Preparation of emission abatement road map for four pollutants in sectoral basis (SO₂, NO_x, VOC, NH₃): To improve the air quality and the consistency with the NEC Directive, emission abatement road map should be drawn up on sectoral basis according to the national emission ceilings stated in the directive. This activity will be covered by Twinning

4.3- Preparation of guidelines for the effective usage of methodologies and models for the inventory and the projections : Because of the reason that the air quality projections required for the implementation of the NEC Directive should be annually updated, the guideline is needed for the usage of methodologies for the inventory and the projections for the sustainability of the projections. This will be done by Technical Assistance.

5.1 Evaluation of the institutional and technical capacity for the implementation of NEC Directive in Turkey: In order to evaluate the institutional and technical capacity (existing structure/equipment), the present situation of Turkey should be evaluated for the implementation of the NEC Directive. This activity will be covered by Twinning

5.2. A comprehensive training programme implemented covering trainings both in Turkey and Member States: Training of the personnel is important for the sustainability of the project. 55 Turkish Experts were technically trained for the application of NEC Directive by the end of 2011 and at least 4 workshops and 8 seminars were done together with all stakeholders until the end of 2011. This activity will be covered by Twinning

5.3 Dissemination workshops on the implementation of NEC Directive in Turkey:For the implementation of the NEC Directive in Turkey, the workshop and seminar organizations are

important for the involvement of all stakeholders by means of coordination, cooperation and sharing experiences. This activity will be covered by Twinning

3.5 Conditionality and sequencing:

N/A

3.6 Linked activities

There is a need for strengthening of the institutional structure to ensure the full and effective implementation, monitoring and inspection of the existing legislation as well as the related EC Directives. Many of the EU funded projects have been completed in Ministry of Environment and Forestry. These projects provided a base for improving at institutional level.

“Air Pollution Measurement and Monitoring Systems”: It is a national project, which has been finalized in 2002. In this project, generally, locations and number of measurement stations were determined in 81 cities, and financial analysis was made according to EU requirements.

“Analysis of Environmental Legislation in Turkey”: This project was completed in 2002. An analysis of Turkish environmental legislation and the gaps according to EU legislation were given.

Within the framework of the MATRA Pre-Accession Projects Program (MAT02/TR/9/2), “Strengthening of the implementation of the Council Directive 96/62/EC and Council Decision 97/101/EC on ambient air quality assessment and management, and reciprocal information exchange in the RSCH, MoH, Turkey” Project has been carried out in the period of January 2003-December 2004. This project consists of the preparation for reporting of Turkish air quality information to EU, the development at institutional level of RSCH and MoEF in air quality, the preparation of preliminary assessment and basis air quality monitoring and policy, introduction of a quality system according to ISO17025 in the RSCH-air quality and research laboratory

“Capacity Building (Human Resources Aspect) on the adoption of Integrated Pollution Prevention and Control Directive (IPPC-96/61/EC)”: The project was supported by the Dutch PSO Program. The objective of the project was to develop in-depth understanding of the IPPC Directive and design an action plan for adoption and implementation in Turkey. The project was finalised in 2004.

”Integrated Harmonisation Strategy Project” project defined the programme through which the necessary changes in legislation and implementation will be achieved in Turkey. The strategy covers a period of 20 years, starting in 2003, in order to ensure that all long term investment needs are included. The strategy covers all nine sectors of the environmental acquis. The environmental approximation strategy was prepared at three levels: Firstly, a series of Directive Specific Implementation Plans (DSIP) was prepared. Secondly, a Sector Approximation Strategy (SAS) was prepared for each of the nine sectors including air sector. Finally, a single Integrated Approximation Strategy (IAS) for Turkey was prepared based on the nine sectors’ Approximation strategies. This project was completed in April 2004.

“Environmental Heavy Cost Investment Planning Project” The project was launched in the framework of 2002 European Union Financial Cooperation Programme and finished by the end of 2005. Among others, the consequences of implementation of the air quality framework directive were evaluated and estimated in terms of necessary investment costs. The inception report for the project has already been prepared.

EU-Twinning Project Air Quality, Chemicals, Waste, Component 1: “Air Quality” was completed in 2006. The main aims of the project were reached. The transpositions of the Council-Directive 96/62/EC (Air Quality Framework Directive) including the 4 Daughter Directives and the Directive 2001/80/ EC (Large Combustion Plant Directive) into Turkish Legislation were drafted and agreed. Under the Project the following studies were completed. Preparation of Draft regulation on ambient air quality assessment and management; Preparation of Draft regulation on large combustion plants, Designation of zones and agglomerations with a view of the ambient air quality assessment, Determination of the number of stations necessary and regional network structure, Preparation of a Strategy for the implementation and enforcement of the regulation on air quality assessment and management in Turkey, Preparation of a Strategy paper on the implementation of the large combustion plant directive, Calculating the cost of ambient air quality monitoring and use of EURAD model for air quality forecast

The MATRA programme “IPPC Implementation in Turkey” was started in January 2006. The project purpose is to assist the Turkish Ministry of Environment and Forestry with the implementation of the IPPC Directive. More specifically, the project should lead to the preparation of a roadmap towards full implementation of the IPPC Directive in Turkey. The project will end in January 2008.

3.7 Lessons learned

All projects mentioned above have highlighted a number of weaknesses such as;

- Weakness in collection of data and the transformation of data into an inventory,
- Absence of adequate planning system and sectoral strategies,
- Weakness in demands analysis,
- Absence of methodology for data collection and use of this data in a correct manner,

Currently, it is clear that effective implementation of the air quality strategy and legal programme will require;

- Reliable data collection system,
- Effective system and institutions for monitoring and reporting of emissions and environmental quality and inspection,
- Procedures and tools for raising environmental awareness of industry and public in order to secure understanding, cooperation and support of environmental measures,
- Institution procedures facilitating public participation and environmental management,
- Administrative and judicial resource relation to (actual and threatened),
- Violation and Environment Law accompanied by appropriate systems of adequate and dissuasive fines and penalties including provision for liability under criminal jurisdiction for serious violations ,
- Training of staff and susceptible sector of society,
- Adequate funding of implementing and enforcement institutions

All the above remedial actions to avoid identified problems have been addressed in the project design and need to be addressed during the project implementation.

4. Indicative Budget (amounts in €) (Detailed budget calculations in Annex 5)

	<u>TOTAL PUBLIC COST</u>	<u>SOURCES OF FUNDING</u>										
		<u>EU CONTRIBUTION</u>				<u>NATIONAL PUBLIC CONTRIBUTION</u>						<u>PRIVATE</u>
		<u>Total</u>	<u>% *</u>	<u>IB</u>	<u>INV</u>	<u>Total</u>	<u>Type of cofinancing (J / P) **</u>	<u>% *</u>	<u>Central</u>	<u>Regional</u>	<u>IFIs</u>	
<u>Activities</u>												
<u>Activity 1</u>												
Twinning	1,300,000	1,235,000	%95	1,235,000		65,000		%5	65,000			
Technical Assistance	750,000	675,000	% 90			75,000		%10	75,000			
TOTAL	2,050,000	1,910,000				140,000			140,000			

** compulsory for INV (minimum of 25 % of total EU + national public contribution) : Joint cofinancing (J) as the rule, parallel co financing (P) per exception

* expressed in % of the Total Public Cost

5. Indicative Implementation Schedule (periods broken down per quarter)

Contracts	Start of Tendering	Signature of contract	Contract Completion
Twinning	QR1 2009	QR4 2009	QR1 2012
Technical Assistance	QR2 2009	QR1 2010	QR2 2011
.....			

Duration of the project : 24 months

All projects should in principle be ready for tendering in the 1ST Quarter following the signature of the FA

6. Cross cutting issues (where applicable)

6.1 Equal Opportunity

The project is running on the environmental field, rehabilitation of which increases life standards, and chance of every party for taking part in the society. Environmental administration in Turkey is one of the sectors with the highest rate of women employed. Thus, the project is believed to have quite a positive impact on equal opportunity creation.

6.2 Environment

The project itself is focused on the achievement of long-term improvements in Turkey in the environment sector. It will improve the environmental conditions in Turkey and some activities like transportation can also be improved in terms of environmental standards.

There are important cross-cutting issues with implementation of other relevant air pollution legislation (not just LCP and fuel quality, but also By-Law on Air Quality Assessment and Management) which need to be properly addressed, as these legislation is taken in by TK in the following years. In addition, climate change which is an important EU policy is partly covered in the integrated “clean air” programme (if we understood properly one of the pillars of this activity), almost as a side-issue to the air quality and fuel quality measures.

6.3 Minority and vulnerable groups

According to the Turkish Constitutional System, the word minority encompasses only groups of persons defined and recognized as such on the basis of multilateral or bilateral instruments to which Turkey is a party. This project has no negative impact on minority and vulnerable groups.

ANNEXES

- 1- Log frame in Standard Format
- 2- Amounts contracted and Disbursed per Quarter over the full duration of Programme
- 3- Institutional Framework
 - * Role and responsibilities of the SPO
 - * frequency of project management meetings,
 - * who chairs, who attends and in what role
 - * coordination mechanisms for multi-beneficiary projects
 - * monitoring (roles, responsibilities of all actors)
- 4 - Reference to laws, regulations and strategic documents:
 - Reference list of relevant laws and regulations
 - Reference to AP /NPAA / EP / SAA
 - The Latest Acession Partnership 18.02.2008 (2008/157/EC)
 - Reference to MIPD
 - Reference to National Development Plan
 - Reference to national / sector investment plans
- 5- Details per EU funded contract (*) where applicable:
 - For *TA contracts*: account of tasks expected from the contractor

For *twinning covenants*: account of tasks expected from the team leader, resident twinning advisor and short term experts

For *grants schemes*: account of components of the schemes

For *investment contracts*: reference list of feasibility study as well as technical specifications and cost price schedule + section to be filled in on investment criteria (**)

For *works contracts*: reference list of feasibility study for the *constructing works* part of the contract as well as a section on investment criteria (**); account of services to be carried out for the *service part* of the contract

(*) non standard aspects (in case of derogation to PRAG) also to be specified

(**) section on investment criteria (applicable to all infrastructure contracts and constructing works):

- Rate of return
- Co financing
- compliance with state aids provisions
- Ownership of assets (current and after project completion)

ABBREVIATIONS

BAQAM	By-Law on Air Quality Assessment and Management
CFCU	Central Finance and Contracting Unit
CLRTAP	Convention on Long-Range Transboundary Air Pollution
EC	European Commission
EU	European Union
IPPC	Integrated Pollution Prevention and Control
LCP	Large Combustion Plant
MATRA	Funding Program of the Government of the Netherlands for Candidate Countries
MoEF	
MoENR	
MoARA	Ministry of Environment and Forestry
Ministry of Energy and Natural Resources	
	Ministry of Agriculture and Rural Affairs
MoH	Ministry of Health
NOx	
VOCs	Nitrogen Oxide
	Volatile Organic Compounds
PM	Particulate matter
RSHC	Refik Saydam Hygiene Centre
TÜBİTAK	The Scientific and Technological Research Council of Turkey
TUIK	Turkish Statistical Institute
UÇES	
TOBB	EU Integrated Environmental Approximation Strategy
	The Union Chambers And Commodity Exchanges of Turkey
EUAS	
DSIP	
SAS	
IAS	

———Electricity Generation Corporation
Directive Specific Implementation Plan
Sector Approximation Strategy
Integrated Approximation Strategy

ANNEX 1: Logical framework matrix in standard format**ANNEX 1: Logical framework matrix in standard format**

LOGFRAME PLANNING MATRIX FOR STRENGTHENING THE CAPACITY BUILDING ON NATIONAL EMISSION CEILINGS DIRECTIVE		Programme name and number:	EU IPA – Component I – 2008 Programming
		Contracting period expires : 2 years after the DATE signature of the Financing Agreement	Disbursement period expires: 3 years following the end date for contracting
		Total Budget: 2,050 M Euro	IPA budget: 1,910 M Euro
Overall Objective	Objectively verifiable indicators	Sources of Verification	
To improve the environmental conditions in Turkey by the implementation and enforcement of the EU environmental acquis in the frame of ambient air quality.	Turkey will improve the capacity to meet the requirements of the environmental acquis in air quality by 2011.	<ul style="list-style-type: none"> • Accession Partnership Document Chapter Environment • National Program for the Adoption of the Acquis • EU Regular Progress Reports for 2008, 2009, 2010 and 2011. • State of Environmental reports for 2009, 2010,2011 	
Project Purpose	Objectively verifiable indicators	Sources of Verification	Assumptions
To establish the necessary capacity within the Ministry of Environment and Forestry to transpose and implement the	Draft By-Law for the transposition of the NEC Directive was prepared by the end of 2011.	<ul style="list-style-type: none"> • EU Regular Reports • State of the Environment reports • Turkish National statistics 	<ul style="list-style-type: none"> • By law on Air Quality will come into force • Governmental interest on reducing and controlling air pollution

National Emission Ceilings Directive (2001/81/EC)	National emission inventory and emission projections were prepared. MoEF staff trained in data quality management and air quality modelling by the end of the project.	<ul style="list-style-type: none"> • Annual reports of MoEF • Monitoring reports of the project 	
Results	Objectively verifiable indicators	Sources of Verification	Assumptions
<p>1. Legal transposition of National Emission Ceilings Directive was fulfilled.</p> <p>2. National emission inventory and emission projections with various scenarios for four pollutants (SO₂, NO_x, VOC, NH₃) were developed.</p>	<p>1.1- Legal gap analysis in the framework of other international agreements was studied by the end of 2011.</p> <p>1.2- A Draft Agreed By-Law on National Emission Ceilings was prepared by the end of 2011.</p> <p>2.1- National emissions inventory for four pollutants on the basis of sources namely industrial, heating and motor vehicle was used within EMEP's integrated assessment modelling by the end of 2011.</p>	<ul style="list-style-type: none"> • Inception Report • Quarterly Report, Mission Reports, Final Report. • Certificates of training issued by supplier (education evaluation forms) • Statistical data base on emissions. • Spatial distribution of the air emissions. • National emission projection reports. 	<ul style="list-style-type: none"> • Good cooperation and coordination among MoEF and other institutions.

	<p>2.2- National emission projections prepared according to at least 2 different ceiling values for four pollutants were reported by the end of 2011.</p> <p>2.3- 35 staff from MoEF, MoENR and Turkish Statistical Institute were trained on data analysis, source analysis for the pollutants that are covered under NEC Directive, modelling, emission database in the member states reporting by the end of 2011</p> <p>2.4- 20 MoEF staff was trained in air quality modeling by the end of 2011.</p> <p>2.5- At least 4 Workshops were done with all stakeholders to share emission inventory until the end of 2011.</p> <p>2.6- Web-site of the project was prepared within three months after the project started.</p>	<ul style="list-style-type: none"> • Clean air plans, action (alarm) plans for emission reduction • Website, published reports. 	
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<p>3-Regulatory Impact assessments for the implementation of different National Emissions Ceilings were done.</p> <p>4- An agreed long-term comprehensive strategy to improve the air quality was developed.</p> <p>5- Required institutional structure, technical capacity and procedural arrangements defined and developed to implement NEC Directive</p>	<p>3.1- Regulatory Impact assessment was prepared in coordination with related sectors in order to increase the public/sectoral awareness by the end of 2011.</p> <p>3.2- Cost-benefit analysis from implementation of NEC directive, prepared in sectoral basis by the end of 2011.</p> <p>3.3- 3 seminars were done together with related sectors.</p> <p>4.1- Strategic action (alarm) plans and programmes drawing an emission reduction roadmap were developed and adopted by the end of 2011.</p> <p>5.1- Roles and responsibilities of related institutions are agreed and clearly defined in the Draft legislation at the end of the project.</p>		
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	<p>5.2- 35 Turkish Experts were technically trained for the application of NEC Directive by the end of 2011.</p> <p>5.3- At least 4 workshops and 8 seminars were done together with all stakeholders until the end of 2011.</p>		
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Activities	Means	Cost	Assumptions
<p>1.1-Identification of the present situation for the implementation of the NEC Directive.</p> <p>1.2- Investigation of roles and responsibilities of Turkey due to International Agreements such as Convention on Climate Change, Convention on Long Range Transboundary Air Pollution particularly Gothenburg Protocol and EU Directives on fuel quality</p> <p>2.1- Workshop arrangements in order to develop coordination and cooperation among stakeholders for the preparation of emission inventory.</p> <p>2.2 –Preparation of emission inventory Using methodologies that are defined in the NEC Directive for the determination of emissions from point and area sources of Turkey.</p> <p>2.3- Comprehensive training of related personnel of MoEF, and Turkish Statistics Institute both in Turkey and in the Member States for the strengthening of personnel capacity and for the preparation of emission inventory and reporting</p> <p>2.4- Sharing experiences by workshops, seminars, published papers, brochures, etc.</p> <p>2.5- Preparation of Website</p>	<p>Twinning</p> <p>Technical Assistance</p>	<p>1.300.000 EUR</p> <p>750.000 EUR</p>	<ul style="list-style-type: none"> • Preparation of proper working conditions and supplying the necessary equipments (building, room, computers etc.) for the success of the project • Good cooperation among MoEF , Turkish Statistical Institute and Ministry of Energy and Natural Resources. • Good cooperation and training activities among working groups • Good cooperation among stakeholders in terms of collection of data (e.g Chambers, NGO etc.) • Elaboration of qualified and willing staff • Training and study tours regarded as key learning opportunities by the participants.

Activities	Means	Cost	Assumptions
<p>3.1- Preparation of cost benefit analysis</p> <p>3.2- Preparation of Regulatory Impact Assessment Report</p> <p>3.3. Workshop arrangements in order to develop coordination and cooperation among stakeholders for the preparation of impact assessment analysis for the implementation of NEC Directive.</p> <p>4.1- Preparation of an agreed Strategic Action Plan for the achievement of National Emission Ceilings.</p> <p>4.2 – Preparation of emission abatement road map for four pollutants in sectoral bases (SO₂, NO_x, VOC, NH₃)</p> <p>4.3- Preparation of guidelines for the effective usage of methodologies and models for the inventory and the projections</p> <p>5.1 Evaluation of the institutional and technical capacity for the implementation of NEC Directive in Turkey</p> <p>5.2. A comprehensive training programme implemented covering trainings both in Turkey and Member States</p> <p>5.3 Dissemination workshops on the implementation of NEC Directive in Turkey</p>			

Pre conditions