

UN Economic Commission for Europe

TSKB - Environmental Impact Assessment of Projects –  
Case Study of Turkey

Workshop on Case Studies on overcoming barriers to  
investments in energy efficiency and renewable energy  
projects through policy reforms

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Kiev, November 10.-11., 2009

## General description of the case study

**The aim of the case study was the adoption of a distinct evaluation process for projects proposed for financing by TSKB and TKB**

- The case study refers to processes and procedures by TSKB (Türkiye Sınai Kalkınma Bankası) and TKB (Türkiye Kalkınma Bankası) aiming at screening each project proposed from a financial, technical, and environmental point of view
- These procedures and requirements incorporate the Republic of Turkey's regulatory requirements for Environmental Review (Regulation on Environmental Impact Assessment (EIA)) and safeguard policies issued by the World Bank

### Country

- The case study has been implemented in Turkey
- No regional focus has been applied

### Timeframe

- The Environmental Impact Assessment procedures were implemented in 2004 in line with the World Bank's Renewable Energy Project in Turkey

### Objective

- Key objective of the Case Study is to strengthen environmental sensibility of project developers when willing to develop and realize sustainable projects in the field of renewable energy
- Through screening procedures projects are prioritized and only co-financed when meeting bank requirements

### Financing Institution

- All costs were carried by TSKB and TKB (implementation of new screening procedures as internal project)

## Removed barriers to investments in EE and RES

**The case study contributes in removing barriers to the provision of loans for projects achieving objectives in terms of social, financial, and environmental benefits, and is recommended for many countries in the project region**

Albania

Bosnia and  
Herzegovina

Kazakhstan

Moldova

The former  
Yug. Rep. of  
Macedonia

Ukraine

- The following recommendations are applicable to each country listed here
  - In each country, an authority should be identified to introduce and monitor the administration of national EIA programs
  - The screening of projects might result in optimizing the financing of projects by donors (optimal projects portfolio) and helps to overcome barriers related to the lack of procedures and standards for financing of renewable energy projects
  - The implementation of the case study ensures the sustainable use of natural resources and minimizes the risks of negative environmental impacts, since through the review procedure, donors ensure only financing of projects that comply with national environmental regulation
  - The implementation of Environmental Impact Assessment (EIA) procedures of projects proposed for bank financing helps to ensure that these projects are environmentally sound and sustainable, and thus helps to improve decision making

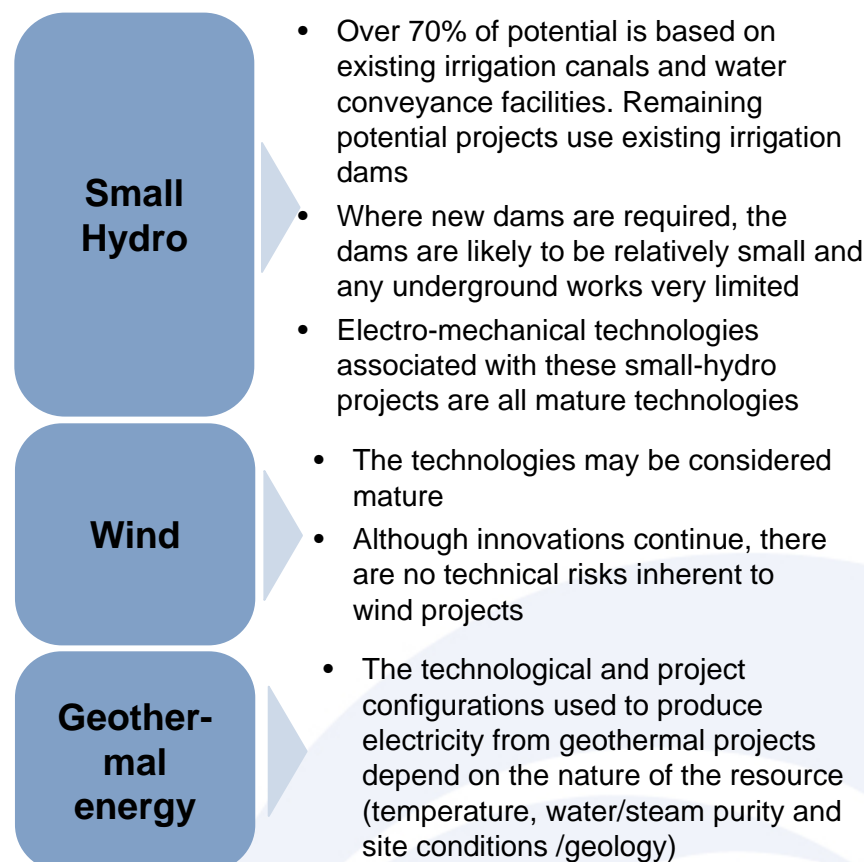
## Background to the case study

### **TSKB and TKB act as lending facilities for the World Bank's Renewable Energy Project – as such both are obliged to incorporate World Bank's procedures and Turkish regulations of the Electricity Market Law**

#### *Renewable Energy Project – World Bank (2004)*

- The EIA procedures described in the case study were implemented in line with the realization of the World Bank's Renewable Energy Project in Turkey in 2004
- The Renewable Energy Project's objective is to increase private power generation from renewable sources, without the need for government guarantees, and within the market-based framework of the Turkish Electricity Market Law (2001)
- The Renewable Energy Project has one main component: The Special Purpose Debt Facility (SPDF) for renewable energy financing
- Total investment in renewable energy under the project was expected to be around USD 500 mln which would include
  - Equity financing from private sponsors
  - Debt financing from export credit agencies
  - The World Bank Special Purpose Debt Facility
  - Commercial bank financing
- The SPDF is a term lending facility which is operated by two financial intermediaries (Fis)
  - TSKB - Turkish Industrial Development Bank (private)
  - TKB - the Turkish Development Bank (state-owned)

#### *Technologies eligible for financing under the Renewable Energy Project*



## Key players involved in the implementation of the case study

**TSKB / TKB and additional banks having active roles, while World Bank and the TMEF are responsible for the regulatory preconditions**

Key Player	Description	Role
<b>TSKB</b>	The Turkish Industrial Development Bank (private)	Responsible for incorporating the World Bank's regulations as well as the framework of the Turkish Electricity Market Law into one project evaluation process regarding newly proposed projects
<b>TKB</b>	Turkiye Kalkinma Bankasi - the Turkish Development Bank (state-owned)	
<b>Other banks</b>	Other turkish banks, forwarding the project proposals to the TSKB and TKB	
<b>World Bank</b>	The World Bank (no active role in the case study)	Responsible for defining safeguard policies on Environmental Impact Assessment (EIA), initiating the Renewable Energy Project, and financing investments approved by TSKB and TKB
<b>TMEF</b>	The Turkish Ministry of Environmental and Forest (no active role in the case study)	Responsible for the establishment of the regulation on the Environmental Impact Assessment (EIA)

## Approach for case study implementation

In 2004 the EIA procedure was setup in all participating banks and distinct roles to carry out the project evaluation process were assigned

Phases	Phase 1	Phase 2	Phase 3
Timescale	2004		
Milestones	Establishment of Environmental Screening Categories	Establishment of Environmental Impact Assessment (EIA) Process	Implementation of screening procedures
Responsible Key Player	<ul style="list-style-type: none"> <li>Turkiye Sinai Kalkinma Bankasi (TSKB)</li> <li>Turkiye Kalkinma Bankasi (TKB)</li> </ul>	<ul style="list-style-type: none"> <li>TSKB</li> <li>TKB</li> <li>Other participating banks</li> </ul>	<ul style="list-style-type: none"> <li>TSKB</li> <li>TKB</li> <li>Other participating banks</li> </ul>
Results	<ul style="list-style-type: none"> <li>Definition of the environmental categories               <ul style="list-style-type: none"> <li><b>Category I (low risk):</b> Environmental impacts are negligible, no EIA required</li> <li><b>Category II (intermediate risk):</b> Projects with intermediate levels of regular and accidental emissions Environmental impact is certified as negligible by Limited Environmental Assessment (LEA) report.</li> <li><b>Category III (high risk):</b> Projects with significant, negative and/or long-term environmental impacts</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Establishment of EIA process comprising nine key steps:               <ol style="list-style-type: none"> <li>1: Preparation of project concept</li> <li>2: Bank screens project and applies EIA category</li> <li>3: Sub-borrower submits environmental analysis</li> <li>4: Review of environmental analysis</li> <li>5: Sub-borrower incorporates the recommendations</li> <li>6: Sub-borrower finalizes the loan application</li> <li>7: Sub-loan becomes effective upon verification of the approval and clearance</li> <li>8: Sub-borrower submits clearance letter</li> <li>9: Bank monitors implementation of the EIA mitigation plan</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Internal communication is established on new procedures</li> <li>In TSKB and TKB specific employees are in charge of project management, project implementation, financial reporting, document control</li> <li>All banks assign responsibilities for project appraisals to distinct departments.</li> <li>After approval by a designated credit committees, the project reports are submitted to the boards of directors of each bank for approval</li> </ul>
End result	EIA Procedure is setup in all banks involved and roles for project evaluation are assigned within each bank		

## Impact of case study implementation

**The main impact of the case study is the setup of EIA procedures in line with both the regulatory of the World Bank and the Government of Turkey**

### Economical Impact

- So far seven sub-projects have been finalized, four by TSKB and three by TKB. Four of these are smaller hydropower plants, two are geothermal and the last is wind power.
- As of 2009, another nine subprojects are under active preparation including several larger hydropower projects

### Environmental Impact

- The Renewable Energy Project enabled Turkey to add accessory non-polluting generating capacity to its current base of power plants

### Social impact

- Development of projects contributed to creating or securing employment in the construction sector

### Overall impact

- The Environmental Impact Assessment (EIA) procedures were implemented in 2004 in line with the World Bank's Renewable Energy Project in Turkey
- The implementation was successful in assisting the Government of Turkey in establishing a comprehensive framework for renewable energy development, and a credible financial intermediation mechanism, that enabled Turkey to attract grants, concessional and bilateral sources of funds for renewable energy resource development

## Costs of case study implementation

The costs for implementation of the new procedures were carried by TSKB and TKB and are estimated to be approx. 0.2-0.25 mln EUR

	Costs	Comments
Phase 1 Establishment of Environmental Screening Categories	0.2 – 0.25 mln EUR	<ul style="list-style-type: none"><li>• There are no data about detailed costs for the implementation of these Environmental Impact Assessment (EIA) procedures available</li><li>• Estimated costs could be around EUR 200'000 to 250'000 for reviewing, updating and implementing new screening procedures</li><li>• In particular, these costs include the following:<ul style="list-style-type: none"><li>• Categorization of projects (Phase 1)</li><li>• Update of procedures / Establishment of all new documents (Phase 2 / 3)</li><li>• Communication on new procedures (Phase 1-3)</li></ul></li><li>• All costs were borne by TSKB and TKB, the implementation of the new screening procedures was handled as internal project</li></ul>
Phase 2 Establishment of Environmental Impact Assessment (EIA) Process		
Phase 3 Implementation of screening procedures		

## Regulatory preconditions

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### **Regulation on environmental review standards, safeguard policies, and project monitoring policies are necessary for successful implementation**

#### **National law on environmental review standards**

- A set of national laws providing a minimum of environmental review standards and procedures regarding development and financing of environment projects
- In Turkey, such a regulatory was implemented within the Republic of Turkey's regulatory requirements for Environmental Review (Regulation on Environmental Impact Assessment (Regulation on EIA))

#### **Safeguard policies by international financing institutions**

- A set of safeguards policies issued by an international financing institution, such as the World Bank
- In the case study this was e.g. World Bank OP/BP 4.01

#### **Project monitoring policies**

- Policies for project monitoring (policies regarding adoption of monitoring systems, policies on monitoring and reporting methodologies, frequency of reporting)

## Critical success factors

**The assigned human resources, their general awareness on the topic, and their capacity to handle the project evaluation process are most important**

	<i>Description</i>	<i>Comment</i>
<b>Awareness</b>	<p><b>Awareness in the banks of the relative importance of Environmental Impact Assessment screenings need to already exist or need to be raised</b></p>	<p>To put enough emphasis on the topic and place it on the top of the decision-maker's agendas, awareness need to be raised (if not already existing)</p>
<b>Capacity</b>	<p><b>For the setup of financing mechanisms for renewable energy projects capacity (already existing or to be build up) is needed to balance several aspects</b></p> <ul style="list-style-type: none"> <li>• Marketing, project development and technical design to assist in preparing a pipeline of good projects</li> <li>• Financing of product development and loan origination skills</li> </ul>	<p>Evaluation of projects and recognizing of less suitable projects needs the according knowledge, e.g. achieved by cooperation with engineers or utility experts</p>
<b>Human resources</b>	<p><b>In order to review project documentation and assessments the necessary resources must be allocated sufficiently to the Environmental Impact Assessment process</b></p>	<p>For fast processing of the projects according to the EIA, a defined number of qualified personnel should be assigned to this task</p>
<b>Applicability of EIA</b>	<p><b>For the sake of effectiveness and the optimum allocation of financial and human resources, EIA should particularly be applied where anticipated activities are likely to cause significant environmental impacts, in particular those with a long-term or irreversible character</b></p>	<p>Since the EIA procedure is rather complex and involves a high amount of administration, certain thresholds for application should be defined (e.g. size of the project, impact of the project)</p>

**Most critical among the success factors are the assigned human resources and their capacity to handle the project evaluation process → As such evaluation standards are defined and applied for renewable energy projects (EIA procedures)**

# Risks

**Main risks to the successful implementation lie within the choice and training of staff implementing the process and the acceptance of the policies by the project developers**

Risk factors	Risks	Possible effects	Comments / Recommendations
Education / training	<ul style="list-style-type: none"> <li>Neglect of education and training while implementing the EIA procedures</li> <li>Concerned staff members in involved banks are not adequately skilled and experienced to handle the Environmental Impact Assessment process</li> </ul>	<ul style="list-style-type: none"> <li>People involved are overstrained and are not able to handle the the defined procedures properly</li> <li>The procedure is spoiled by incomplete formulars to be provided, incorrect advice given to the subborrowers / project developers etc.</li> </ul>	<ul style="list-style-type: none"> <li>Set up mandatory training courses involving internal and external experts for the knowledge transfer</li> <li>Chose staff members carefully and make sure that they either receive the training needed or have the appropriate background</li> </ul>
Acceptance of policies	Project developers might be unwilling to follow safeguards policies	Due to administrative complexity of the EIA procedure, project developer do not cooperate	Get actively involved with the project developers and handle the project evaluation process as service oriented as possible, without too much emphasis on rules and regulations
Missing requirements	Other donors do not have additional requirements beyond Turkish law	Time consuming development of requirements	Find international standards on project evaluation and take these as a basis for the process requirements, setup cooperations with TSKB / TKB

## General recommendations for replication

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### **When replicating the EIA implementation, the ongoing project development should be included in the monitoring to ensure the project's compliance with the EIA requirements**

- Depending on the nature and degree of the assessed impacts, EIA should continue during the construction, operational and decommissioning phases of project activities in order to
  - Monitor compliance with the agreed conditions set out in construction permits and operating licenses
  - Review environmental impacts for the proper management of risks and uncertainties
  - Modify the activity or develop mitigation measures in case of unpredicted harmful effects on the environment
  - Verify past predictions in order to transfer this experience to future activities of the same type
- By considering environmental effects and mitigation early in the project planning cycle, environmental screening might result in particular in reducing project costs and delays

## Recommendations for replication: concrete actions

**Concrete recommendations for replication include the setup of bank internal, and inter-bank processes, assigning responsibilities within the assessment process, and quality control for the assessment process**

	Recommendation
Precondition	1 Establish a set of national laws for standards on environmental reviews and procedures
	2 Identify a set of safeguard policies issued by an international financing institution (e.g. the World Bank)
	3 Identify international project for financing of loans later on assigned to project developers (e.g. World Bank)
	4 Define policies for project conduct and project monitoring (incl. Supported technologies, reporting structures )
	5 Find financing institutions (banks), which have contact to renewable energy, infrastructure etc. project developers
Recommendation for implementation	6 Create environmental screening categories for projects according to environmental risks associated with the project
	7 Create an environmental assessment process (comparable to the EIA process) and assign personnel to carry out the assessment on each individual project
	8 Establish a bank internal process and the according internal communication to handle the EIA
	9 Define personnel to handle each form and step in the process, assign responsibility for project approval to the board of directors
	10 Create inter-bank communication processes, since projects applying for loans will be handled by several banks at different stages of assessment in the overall process
	11 Setup the IT infrastructure (e.g. databases) for the handling of the processes
	12 Inform project developers who are willing to apply for loans about the new process, the documents, and forms they have to handle, support them in handling the paper work
	13 Establish quality control for the assessment process
	14 Monitor the results of the projects, for which loans are assigned and make sure, that they are conducted according to the requirements of the programme, in which the loan was granted

## Conclusions

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**The establishment of EIA for renewable energy projects facilitate transparent decision making on financing and allows to assess a project's possible outcome and alternatives before a financing decision is made**

- **The case study describes the establishment of standard procedures for screening projects considering financial, technical and environmental aspects. Environmental Impact Assessment (EIA) is a tool used for facilitating decision making regarding the significant environmental consequences of projects.**
- **EIA helps the stakeholders with the identification of the environmental, social and economic impacts of a proposed development before a decision is taking on whether or not to proceed. This normally includes consideration of the need for the project as well as possible alternatives (i.e. siting, designs and layout), and the no-development option.**
- **EIA should, be applicable to a wide range of activities including urban development, agricultural and industrial development, and energy generation and transportation, the development and operation of physical infrastructures, natural resources exploitation, treatment, storage and disposal of waste**
- **Through screening procedures, projects are prioritized and only co-financed when answering all requirements. As such the application of an Environmental Impact Assessment (EIA) will lower the risks associated with provisioning of loans to projects which do not achieve targeted objectives and may significantly harm their environment.**
- **To increase effectiveness and the optimum allocation of financial and human resources, EIA should particularly be applied where anticipated activities are likely to cause significant environmental impacts, in particular those with a long-term or irreversible character**

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The background of the slide features a close-up, artistic photograph of a green plant stem with a small globe of the Earth resting on it. The lighting is dramatic, highlighting the textures of the plant and the globe. At the bottom of the slide, the word "PÖYRY" is written in a large, bold, light-colored sans-serif font, with a double slash symbol above the 'Y'.

PÖYRY

## Annex: Sources

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### List of sources used for case study elaboration

- **The World Bank (2003, March). Safeguard Review Procedures. Retrieved September 27, 2009, from [http://www-wds.worldbank.org/servlet/WDSServlet?pcont=details&eid=000094946\\_02050204345036](http://www-wds.worldbank.org/servlet/WDSServlet?pcont=details&eid=000094946_02050204345036)**
- **The World Bank (2004, February). Project Appraisal Document (PAD), Vol.1, retrieved September 27, 2009, from [http://www-wds.worldbank.org/servlet/WDSServlet?pcont=details&eid=000090341\\_20040309095924](http://www-wds.worldbank.org/servlet/WDSServlet?pcont=details&eid=000090341_20040309095924)**
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- **EIA Training Resource Manual (2002). Principles for the Implementation of Environmental Impact Assessment. Retrieved, September 28, 2009, from [http://www.unep.ch/etu/publications/EIA\\_2ed/EIA\\_E\\_top2\\_hd.PDF](http://www.unep.ch/etu/publications/EIA_2ed/EIA_E_top2_hd.PDF)**