

# 2011 Survey of resource efficiency policies in EEA member and cooperating countries

**COUNTRY PROFILE:**

# Turkey



Country information on resource efficiency policies,  
instruments, objectives, targets and indicators,  
institutional setup and information needs

**May 2011**

This country profile is based on the information provided by A. Çağatay Dikmen from the Ministry of Environment and Forestry. The information is current as of February 2011.

This country profile was prepared as part of the EEA-ETC/SCP 2011 survey of resource efficiency policies, which aims to collect, analyze and disseminate information about national experience in the development and implementation of resource efficiency policies in EEA member and collaborating countries. The work resulted in the following outcomes:

- **Short 'country profiles' (this document)** - self assessments prepared by countries, describing the current status of resource efficiency policies, including key strategies and action plans, policy objectives, instruments, targets and indicators used, institutional setup and information needs.
- **Summary report** - prepared by the EEA and ETC/SCP, the report reflects on trends, similarities and differences in policy responses, showcases selected policy initiatives from member countries and identifies information needs and knowledge gaps.
- A session on resource efficiency policies during the 2011 EIONET workshop to discuss further needs and to facilitate information sharing and experience exchange among EIONET members.

More information about resource efficiency policies, including an analytical report "Resource efficiency in Europe" and thirty one country profiles, can be found at:

<http://www.eea.europa.eu/resource-efficiency>

# 1. Resource use in Turkey – facts and figures

## 1.1 General Facts and figures about the country



Population (projected inhabitants for 2010) [1]	72,561,312
➤ Percent of total EEA-32	12.4%
Surface area (km <sup>2</sup> ) [2]	783,562
➤ Percent of total EEA-32	13.8%
GDP at market prices – Purchasing Power Standard – Current Prices (Million Euro, 2009) [3]	770,547
➤ Percent of total EEA-32 (minus Liechtenstein)	5.91%
GDP per capita in Purchasing Power Standards (PPS) [4] EU27=100 (2009)	47
Urban population (rate of pop., 2009) [5]	69.1%
Main economic sectors and their share in total GDP (2009 est.) [2]	
Agriculture	8.8%
Industry	25.7%
Services (2010 est.)	65.5%
EU accession date [6]	Application 14.4.87

Source:  
<https://www.cia.gov/library/publications/the-world-factbook/index.html>

Additional relevant background information on Turkey (and on 37 other EEA other member and cooperating countries) can be found at the SOER2010 website:

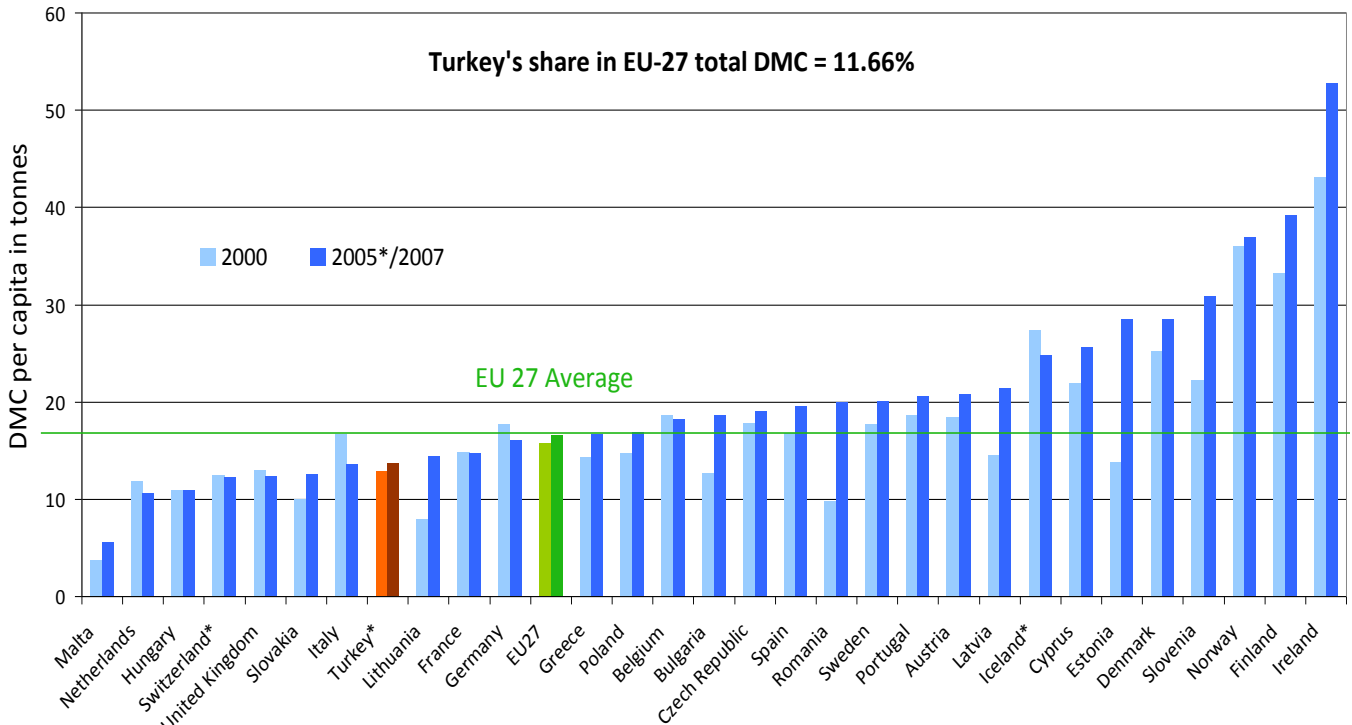
<http://www.eea.europa.eu/soer/countries/tr>

Factsheet on national waste policies for Turkey is available at:

[http://scp.eionet.europa.eu/facts/factsheets\\_waste/2009\\_edition/factsheet?country=TR](http://scp.eionet.europa.eu/facts/factsheets_waste/2009_edition/factsheet?country=TR)

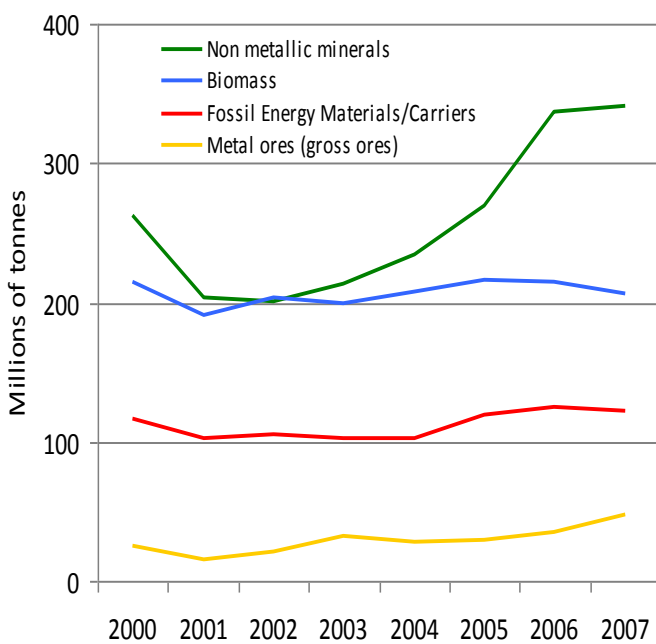
## 1.2 Facts and figures on resource efficiency for Turkey

### Use of resources per capita 2000 and 2007 [tonnes DMC/capita]



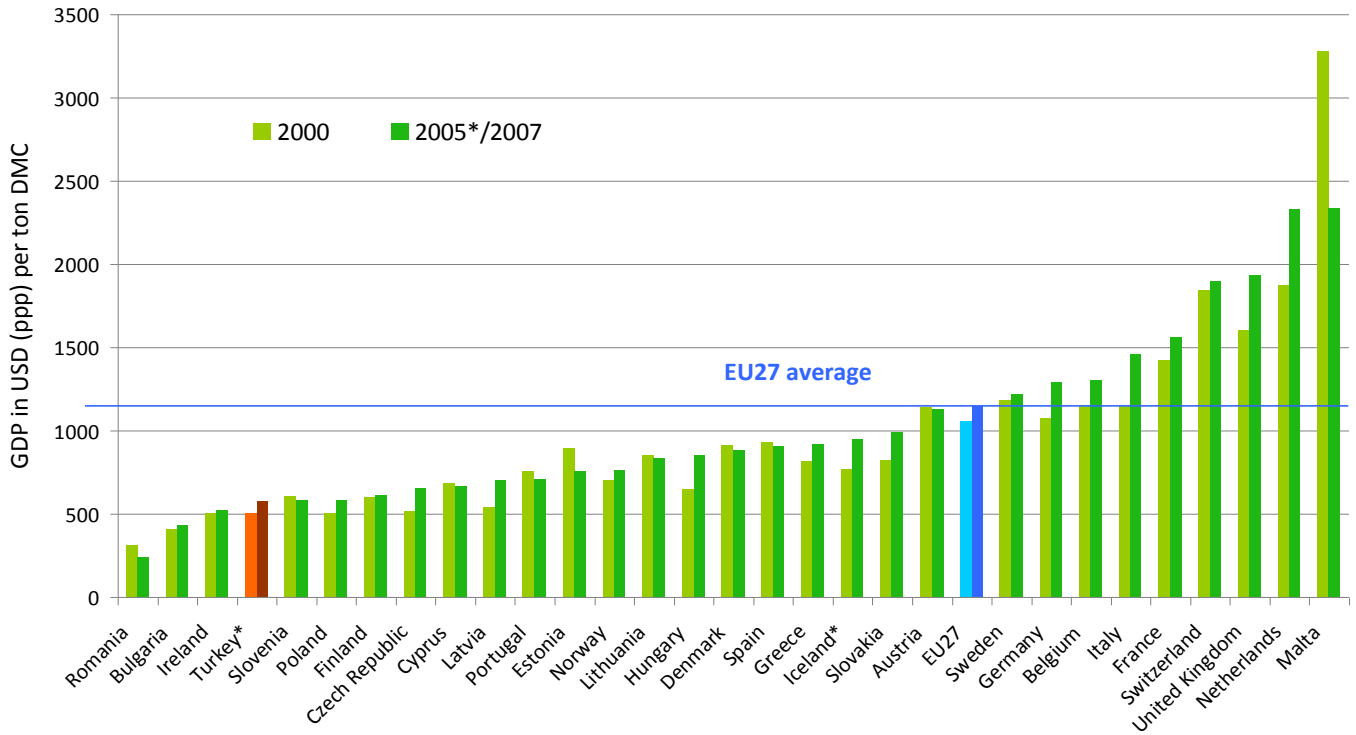
Source: Eurostat, OECD and Total Economy Database [7] \* = For these countries data is for 2000 and 2005.

### Domestic Material Consumption by category over time, Turkey



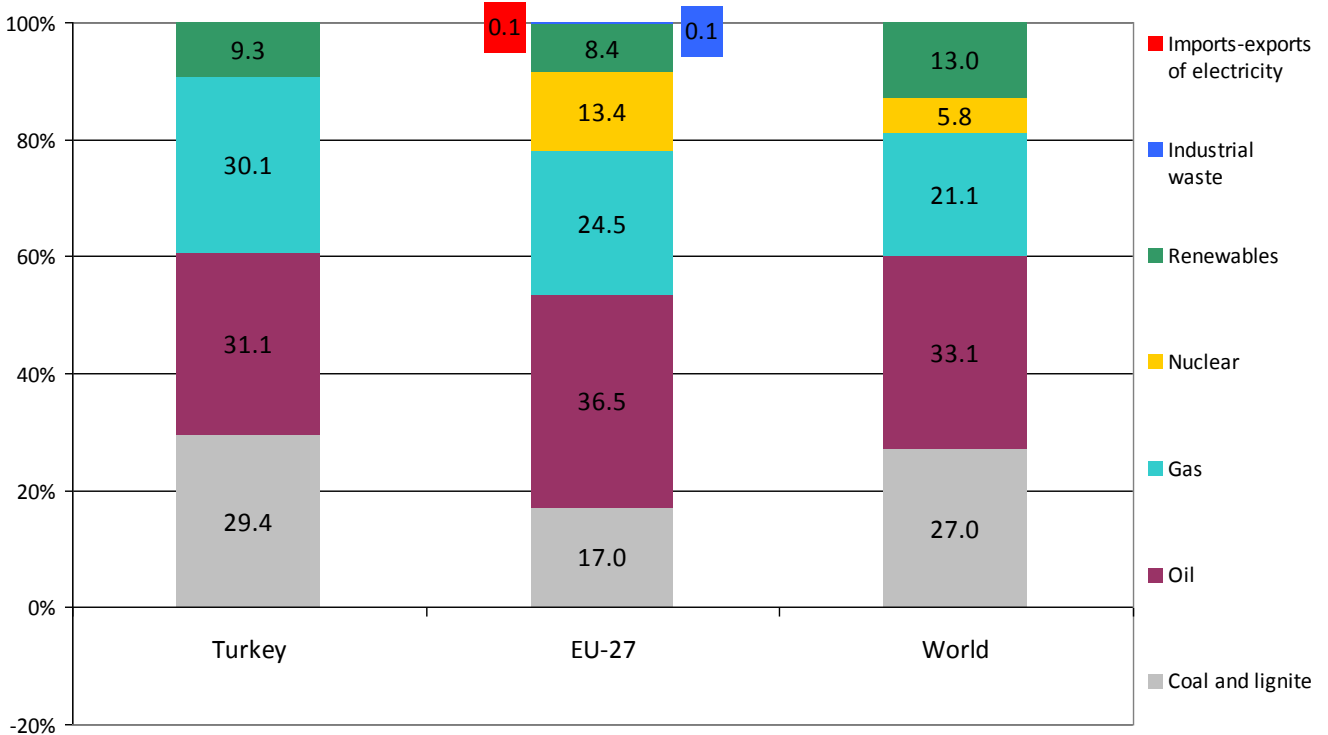
Source: Eurostat [8]

### Material productivity 2000 and 2007 [USD ppp/ton DMC]



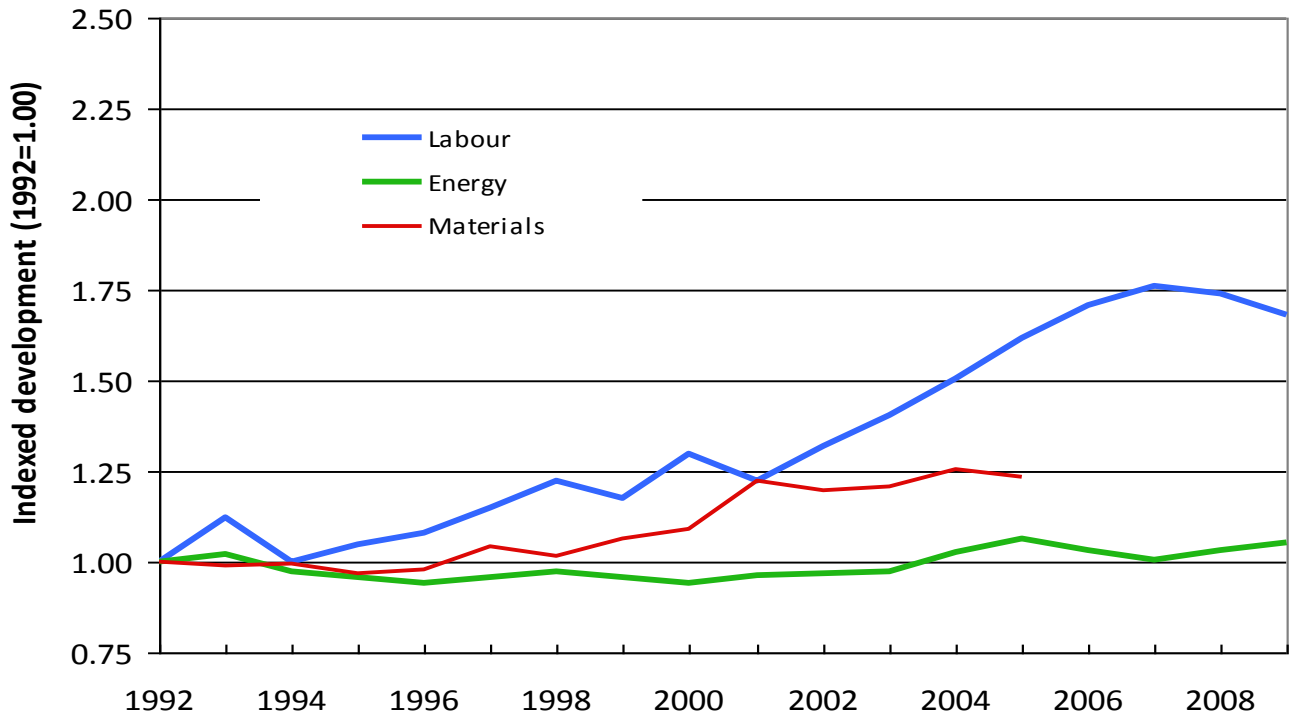
Source: The Conference Board, Total Economy Database, Eurostat [9]  
 \* = For these countries data is for 2000 and 2005.

### Primary energy consumption



Source: Eurostat [10]

**Trends in labour, materials and energy productivity, 1992-2008**



Source: Total Economy Database, IFF Database, WI Database, Eurostat, OECD, IEA Database [11]

## 2. Evolution and main drivers for the development of resource efficiency policies

The main driver of resource efficiency policies in Turkey is resource scarcity; 72% of energy is currently imported. Thus increasing energy utilization efficiency and increasing utilization of domestic renewable resources is a key policy.

Additionally, Turkey's annual water use per capita is 1500-1700 m<sup>3</sup>, which means Turkey lives in water stress. Thus, increasing water use efficiency is another key policy.

## 3. Overall Policy Approach for Resource Efficiency

Turkey has various strategies in different fields of environmental policy. Yet, there is no specific plan targeting resource utilization in general. National policy documents which cover different aspects of resource efficiency are indicated below.

### **Resource efficiency and sustainable consumption and production in the Ninth Development Plan (2007-2013)**

Development Plans, which are normative for the public sector and guiding for the private sector have a strategic structure that lays down a macro framework, increases predictability, emphasizes the institutional and structural arrangements that will enable more efficient functioning of the system and focuses more on basic objectives and priorities. The multi-sectoral and integral structure of Ninth Development Plan, which has been prepared through a wide participation of public agencies and organizations as well as various sectors of the society including the NGOs, constitutes the main basis for the planning and programming work on many topics in the country. The Plan is a key policy document that lays down the transformations Turkey will undertake in economic, social and cultural areas with an integrated approach. In this respect, the Development Plan has a guiding function in the policy development and implementation process.

### **National Program of Turkey for the Adoption of the EU Acquis (2008)**

The National Program of Turkey for the Adoption of EU Acquis (National Program) covers the steps planned to be taken in the process of Turkey's accession to the EU in the short and medium terms. The National Program has been prepared to establish the key principles and elements of works to be carried out in this field.

The National Program includes a timetable for harmonization with the legislation outlined below with regard to SCP:

- By Law on Control of Waste Shipment
- By Law on Amending the By-Law on Control of Hazardous Waste
- Amendments to the Relevant By Laws, according to 2008/98 EC directive

- By-Law on Control of the Waste Electric and Electronic Equipment
- By-Law Amending the By-Law on Control of Used Batteries and Accumulators
- Legislations regarding Voluntary Participation of Organizations in Community Eco-Management and Audit Scheme (EMAS)
- By-Law on the Classification, Packaging and Labeling of Dangerous Substances and Preparations
- Legislation on Import and Export of Dangerous Chemicals
- By-Law on Eco-label
- Framework Water Law
- Law on Environmental Liability
- Legislation on the Eco-design Requirements for Energy-Using Products
- Law on the Extension of Use of Bio-fuels

#### **4. Strategies or action plans to improve resource efficiency for individual economic sectors, products or product groups**

Sustainability concept and resource efficiency strategies that have been adopted in the above mentioned strategies at national level are elaborated under sector-specific strategies. Industrial strategy and action plan for small and medium sized enterprises (SMEs) are ready; energy efficiency, waste and water strategies are still being improved. Additionally, there are various legislation to increase resource efficiency especially in energy sector, which will be explained in discussion of following questions.

##### **Turkish Industrial Strategy (Towards EU Membership) (2010)**

The basic goal of Turkish Industrial Strategy document prepared in 2010 include mobilizing the transformation of industrial structure towards increased competitiveness and efficiency; that takes increased shares form world trade; produces more high-tech and high added value products, uses highly qualified labor force and is sensitive to environment and society.

The Turkish Industrial Strategy explicitly states that one of the key elements of competitiveness will be utilization of environment-friendly technologies in the close future. Turkish industry needs to increase energy efficiency while sustaining high growth rate. Besides, increasing share of renewables in energy sector is another priority to ensure energy supply security. Transformation of industry towards cleaner production will provide resource use efficiency in many sectors. Turkey believes that approximation with EU Environmental Acquis will lay the fundamentals for cleaner production. Within this context, approximation and implementation of the Integrated Pollution Prevention and Control Directive will ensure the minimization of pollution at source and increasing efficiency by use of best available technologies (BATs).

Policies in the Strategy regarding resource use efficiency state that transformation towards low carbon economy and cleaner production will be supported and nationwide eco-efficiency



programs will be implemented. Those programs consist of the adaptation measures for the minimisation of climate change risks to industry.

### **SME Strategy and Action Plan (2007-2009)**

The SME Strategy and Action Plan states that the public opinion has become more sensitive regarding the prevention of environmental pollution and protection of natural resources all around the world, leading to the preference of enterprises producing and products produced without harming the environment, and in this direction, SMEs have to integrate an operational culture based on environment friendly production in order to preserve their competitiveness. Furthermore, the strategy suggests that the ability of enterprises to fulfil their environmental obligations requires the adoption of policies for environmental protection, production activities compliant with environmental standards and legislation and minimization of environmental impacts by using environmental friendly technologies. Priority fields are education and training, development of cheaper and faster processes for business start-ups, enactment of better legislation, improving online access and transactions via the internet, opening up the new markets, improvement of taxation and financial matters, development of technological and innovation capacity of SMEs, Informing SMEs on best practices via the internet and developing high level SME support schemes and more effective representation of SMEs on national and international platforms.

Under the provisions of **Energy Efficiency Law**, ( numbered 5627 dated May 2, 2007), the Ministry of Industry and Trade has enforced the regulation on "Eco Design of Energy Related Products" by issuing O.G. dated October 7,2010 covering refrigerators, lamps and electric motors.

A Draft "Energy Efficiency Strategy Paper 2010-2023" is also under preparation.

The Law on **Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy** No. 5346 dated 18.05.2005 is one of the important laws concerning energy resources.

## **5. Individual types of resources identified as priority for national or sector-specific resource efficiency policies**

### **Energy Efficiency**

Since Turkey is importing 76 % of its energy, increasing the energy use efficiency and using domestic resources (renewable and fossil) in sustainable manner is one of main priorities.

**Energy Efficiency Law** No. 5627 was published on 02 May 2007 for the purpose of increasing efficiency in the use of energy and energy resources in order to efficiently use energy, prevent extravagance, alleviate the burden of energy costs on the economy and protect the environment. The Law covers the principles and procedures applicable to increasing and supporting energy efficiency, developing a public awareness about energy and to the use of renewable energy resources in the energy generation, transmission, distribution and consumption stages, at industrial facilities, buildings, electricity generation facilities, transmission and distribution grids, and in transportation.

Measures intended to ensure efficient and effective use of energy at public agencies and institutions have been established through the Prime Ministry Circular No. 2008/2. The Circular has started a **National Energy Efficiency Movement**, declared the year 2008 as Energy Efficiency Year and served a Joint Movement Declaration to signature.

Prime Ministry Circular No. 2008/19 required all public agencies and institutions, municipalities and professional chambers having the status of public legal entity to replace the incandescent light bulbs at the places under their responsibility with energy saving bulbs in one month. Among the measures that may be implemented for rapidly and effectively increasing energy efficiency, priority is given to the replacement of incandescent light bulbs with the energy saving compact fluorescent lamps, which are approximately 5 times more energy saving.

Under the “**Hand-in-Hand ENVER (Energy Efficiency) Movement**”, a step of National Energy Efficiency Movement, energy saving lamps have been distributed and awareness raising activities have been performed at primary schools; 2,800,000 lamps were distributed in 23 provinces between December 2008 and January 2009. Distribution of 2,000,000 million more lamps started in April 2009.

As part of the efforts relating to Energy Efficiency, the Ministry of Energy and Natural Resources and the Ministry of Industry and Trade, Ministry of Justice and Ministry of Education have signed cooperation protocols involving joint action plans for the purpose of ensuring efficient and effective use of energy resources and energy, preventing extravagance, alleviating the burden of energy costs on the economy and protecting the environment. Within the framework of the cooperation plan and the action plan executed with the Ministry of Industry and Trade, efforts have been started for supporting SMEs regarding Energy Efficiency in industry. Small and medium sized enterprises (SMEs) are targeted.

Turkey has paid closer attention to the benefits of energy efficiency and use of renewables by setting up the legislative framework including Energy Efficiency and Renewables Laws.

### **Works Relating to Energy Efficiency in Buildings**

**The By-law on Energy Efficiency in Buildings, published by the Ministry of Public Works and Settlement**, provides that permits shall not be issued for the new buildings which do not satisfy the standards and minimum performance criteria regarding architecture, heat isolation, heating and cooling systems and electrification and that the practice of Energy Identity Certificate shall be introduced for buildings. Furthermore, some banks have started to provide loans with attractive conditions to expand the application of heat isolation in existing buildings.

The **TS 825 standard**, establishing the rules of heat isolation in buildings, has been revised and made compulsory as from 14 June 2000. Thus, it is possible to reduce the annual heat losses from building envelopes in the newly constructed buildings by one half. In line with the revised TS 825 Standard, the Regulation on Heat Isolation in Buildings has been amended and put into force in June 2000.

## Transportation Sector

The **By-law on Principles and Procedures Regarding Energy Efficiency in Transportation** was published on 9 June 2008. Practices intended for reducing the unit fuel consumption of domestically produced transport vehicles, increasing efficiency standards in vehicles, expanding the use of public transportation vehicles and establishment of advanced traffic signalization systems have been launched under the regulation issued by the Ministry of Transport and Communication.

Under the leadership of Ministry of Transport and Communication Directorate General of Civil Aviation (SHGM), a new project named “**Green Airport**” has been started. Where airport operators and service providers satisfy certain requirements, that airport will be qualified as Green Airport and the Directorate General of Civil Aviation (DGCA) will offer discounts in its Service Tariffs for the institutions and entities satisfying these requirements.

Firstly, in terminal luggage distinction areas of Atatürk, Adana, Adnan Menderes, Antalya, Dalaman, Esenboğa, Milas Bodrum and Trabzon Airports where the traffic is dense; the relevant instructions were given to the ground handling services to utilize electric power-operated vehicles for moving the luggage instead of those operating on fuel oil, and to accomplish 50% of such conversion to the end of 2009 and the rest of it by the end of 2010.

Besides, as a result of intensive studies for the last three years that are also followed up by our Directorate General, the works performed by Directorate General of State Airports Administration were put into practice with regard to ambient noise. Within this context, it has been stated that noise rating, noise mapping, action plans and relevant precautions will be performed by Directorate General of State Airports Administration.

In order to ensure that navigation assistants can be operated with cleaner, more reasonable cost and environment friendly systems, steps are being taken to benefit from renewable energy resources to the extent possible. The signalization systems running on old systems (with acetylene-butane gas, etc.) are converted into systems running on solar energy, and wind generators were used for the first time in 2003. While the rate of using renewable energy resources was 25% in 1997, it has reached 65% today.

Railway transportation is an environment friendly mode of transportation in that it uses less energy relative to road and airway transportation and that electrical energy can be used in railway vehicles. Therefore, every improvement and investment made in railways supports SCP.

In order to increase passenger and cargo transportation by railways, efforts are underway for railroad rehabilitation works and signalization and telecommunication systems that will increase line capacities and modernize lines; installation of electrification facilities that will increase line capacities and reduce the expenditures of diesel fuel which hold an important share in fuel costs; construction of high-speed railways and rehabilitation of commuter trains that will increase the capacity of passenger transportation; improvement of combined transportation and establishment of logistic villages that will boost cargo transportation; construction of railway connection roads to centres with high cargo potential, primarily including organized industrial zones; construction of double-line railways on the bottlenecked line sections; manufacturing of new cargo and passenger

wagons to respond to the increased capacity and demand; and procurement of more efficient new locomotives.

Directorate General of State Railways Administration supports SCP for energy efficiency through the practices of Block Train, by which locomotives and wagons are not changed from the station of loading till the station of unloading; the Boden Lubrication System which reduces corrosion and saves fuel by decreasing the friction between the wheels and rail; improvement of the fuel regulator systems of certain locomotives; enhancement of maintenance quality and replacement of battery groups with more efficient ones in order to reduce the idle running of locomotives; training of operators about efficient operation techniques; the use of APU (Auxiliary Power Unit), which has a smaller engine, to supply the energy need of locomotives during idle running; and production and use of locomotives with generators instead of generator wagons used for heating purposes.

Furthermore, the practice of power supply from solar panels and wind turbines has been introduced in regions where climatic conditions are suitable.

## Industry

Under the **UNIDO Eco-Efficiency Program** which is being executed within the framework of the United Nations Joint Program; capacity improvement for clean production and eco-efficiency in industry is being piloted and efforts are being made to expand these practices at the national level. The focus of the program is “reducing water consumption in production”. Under the pilot project, the priority industrial sectors have been determined as food and beverage, textile and leather, chemicals and products, metal coating and mechanical parts manufacturing, in line with economic and environmental criteria at the basin level. Under the program, training courses are organized towards related agencies, entities, sector representatives and project stakeholders, on the topics of “clean production” and “eco-efficiency”.

Under the **Project for Parallel Improvement of Industrial Efficiency and Environmental Performance at SME Level** – which was implemented between 2007 and 2009 for the purposes of spreading eco-efficiency practices, understanding the relationship between environment and efficiency and undertaking model works for enterprises, by bringing the concept of eco-efficiency on the agenda of enterprises and explaining the worldwide practices to the enterprises – an Eco-Efficiency Guide was prepared to help the enterprises minimize the materials, water and energy they use as well as the wastes they generate, through low-investment and easily applicable eco-efficiency practices. As part of this project, low-cost and easily applicable eco-efficiency opportunities that increase environmental performance and efficiency have been identified and implemented at five pilot enterprises. Metal coating, aluminium coating, repair and maintenance, protective maintenance and welding with different methods and food production.

At certain universities, the topics of clean production, pollution prevention and integrated pollution prevention and control have been included in the curricula.

Under the **Project for Integration of Eco-Efficiency into Production Industry**, the **Sustainable Development and Clean Production Application and Research Centre** was established under Bosphorus University in 2007. The objective of the centre is to evaluate the technical, environmental and economic aspects of clean production and products; the natural resources

used at the raw material, production and consumption stages of processes and their environmental impacts, within the framework of eco-efficiency in national and international cooperation environment, to perform interdisciplinary applied research and development activities in management, product and process categories, and to develop policies, action plans and recommendations on these matters.

### **Waste Management**

The work carried out across the country to ensure that package wastes are collected separately at source are being supported and incentivized by the MoEF. Educational materials, indoor boxes, accumulation bags and boxes, containers and similar equipment are distributed to encourage citizens to participate in the separate collection efforts.

The shops, markets, supermarkets, hypermarket and similar shopping places which engage in the wholesale and/or retail sale of packaged products and have an area of larger than 200 m<sup>2</sup> are responsible for establishing packaging wastes collection points to ensure the separate collection of packaging wastes and inform the consumers; give the packaging wastes to the licensed collection and separation facility with which they have signed a contract in line with the municipality's packaging wastes collection plan; and take necessary measures to minimize the use of plastic bags. Incentives are provided in order to ensure that the activities in this framework are carried out efficiently. The efforts for the recycling and recovery of hazardous wastes mainly focus on the wastes which require simple technologies for collection and recovery. Mostly waste oil, some kind of waste solvents, paint sludge and contaminated plastics are used as alternative fuel in cement factories by directly feeding to the rotary kiln. Waste solvents are regenerated by distillation processes. Acidic or basic waste is neutralized by physical/chemical treatment.

Recycling/reclamation of metals and metal compounds are most commonly being done in Turkey. As an example, contaminated barrels are cleaned and regenerated. Some metal scraps are used as secondary raw material in steel industry. Alumina slags are used in the production of aluminium ignots.

**Integrated Waste Management (IWM)** has been developed to incentivize the sustainable use of resources and change in the producer-consumer attitudes. IWM can be defined as the election and application of appropriate methodologies, technologies and management programs necessary to achieve a specific waste management goal. IWM also covers the compliance with the requirements in the applicable legislation. These arrangements include waste prevention, waste reduction, waste recycling, waste recovery and disposal principles for IWM.

For the preparation of waste inventory in our country, it has been targeted to identify production-waste relationship for each industrial activity. In line with this goal, the production, waste and hazardous waste data have been evaluated and inventories have been prepared in regions where industry activities and waste generation are intensive. In order to determine the hazardous waste potential from three provinces with heavy industry and production, the existing inventories already prepared have been compiled, and the quantities of hazardous wastes generated in provinces have been identified as against the registered industries. Using the hazardous waste/total waste ratios in these provinces, the statements of industrialists and the data reported by provinces within the framework of the waste management plans, inventory information have been produced. Currently, there is no reliable hazardous waste inventory in Turkey.

It is now possible to fill in the **Hazardous Waste Declaration Form** on the Internet. In 2008, pilot implementation of internet based waste declaration system was launched across the country. The real data are now available for 2009 and 2010. The inventory report for hazardous waste for 2009 is found at ([www.atikyonetimi.cevreorman.gov.tr](http://www.atikyonetimi.cevreorman.gov.tr)). It is also necessary to establish a strong-based data registry system in order to ensure sustainable management of packaging wastes. To this end, a web-based computer program is being used. The program users consist of the Ministry, market suppliers, package producers and licensed enterprises. Since 2008, the program has been open to 81 Provincial Environment and Forestry Directorates. Thus, the program will be implemented more efficiently, faster and in a decentralized manner, and the provincial directorates will be actively involved in implementation.

Training courses regarding the reduction at source, recycling and disposal of wastes are being implemented by the MoEF Waste Management Department within the framework of annually prepared training programs. Furthermore, training programs are also executed under the projects being implemented.

## 6. Strategic objectives, targets and indicators on resource efficiency

The National strategies mentioned above outline the main strategic objectives. Key objectives included in the ninth development plan regarding SCP and resource efficiency are outlined below:

1. The conditions for protection and utilization of natural resources will be determined by taking the needs of future generations into consideration. Environment management systems will be established in order to ensure equitable utilization of natural resources by everyone.
2. Fulfilment of international obligations will be realized in the framework of the principle of sustainable development and the principle of common but differentiated responsibility.
3. In the sectors sensitive to environment, especially agriculture and tourism, ecological potential will be utilized and protection-utilization balance will be considered.
4. More efficient production and less waste will be achieved by increasing the effectiveness in raw material use with the implementation of environment friendly techniques in industry.
5. Efficient use of water resources of the country will be ensured by reducing losses and illegal uses in existing water supply facilities.
6. Protection of ground and surface water resources from pollution will be ensured and use of treated wastewater in agriculture and industry will be encouraged.
7. The technical and financial assessment of separation at the source, collection, transportation, recycling and disposal stages will be done as a whole in domestic solid waste management. Landfills, which are solid waste disposal technology that have low investment and operation costs and is most suitable for the conditions of the country, will be preferred.
8. Production of non-domestic wastes will be reduced and collection, transportation, recycling and disposal systems that are suitable for the type of the waste and conditions of the country will be established.



9. Achieving food security and safety and sustainable use of natural resources will be taken into account in creating an agricultural structure that is highly organized and competitive.
10. It will be ensured that the operation and management of irrigation infrastructure is realized with participatory mechanisms, programs targeting producers will be implemented for efficient and sustainable utilization of soil and water resources.

#### **Strategic Objectives in the Draft Energy Efficiency Strategy Paper 2010-2023:**

- To decrease energy intensity and energy losses in industry and service sectors
- To decrease energy demand and carbon emissions of high energy efficiency buildings and promote sustainable environment-friendly buildings using renewable energy resources
- To provide Market Transformation of Energy Efficient Appliances
- To increase energy efficiency in power production, transmission and distribution and to decrease energy losses and emissions
- To reduce unit fuel consumption of vehicles, increase percentage of public transportation in road, marine and railway transportation and prevent the fuel waste in urban transportation
- To use energy efficiently and effectively in public sector
- To strengthen institutional structure, capacity and cooperation, increase use of advanced technology and increase awareness activities, establish financial mechanism other than public sources.

## **7. The institutional setup for the development and implementation of resource efficiency policies**

Ministry of Energy and Natural Resources, is the main responsible institution for the energy efficiency related issues. Ministries of Industry and Commerce, Economy, Interior, public Works and Housing, Transport, Environment and Forest, State Planning Organisation and some other institutions are also working on the energy issue.

In March 22, 2004 Turkish Government established “**National Commission for Sustainable Development-NCSD**” under the coordination of State Planning Organization. The main objectives of the Commission are to ensure utilization of economic, social and environmental resources in a sustainable manner; integration of sustainability concept to plans, programs and strategies in a participatory manner, and preparation of sustainable development indicators set for Turkey and monitoring the relevant progress. The permanent members to the Commission are State Planning Organization, Ministry of Environment and Forestry, Ministry of Foreign Affairs and Ministry of Interior. Yet, the organizational structure envisages including related partners (NGO, academia and other institutions) according to the subject. The NCSD coordinated implementation of the “**Integration of Sustainable Development into Sectoral Policies (ISDSP) Project**”. The project provided a discussion of sustainable development strategies in selected five sectors (fisheries,

forestry, energy, urbanization, and science & technology) and preparation of a draft set of sustainable development indicators set.

Under **Energy Efficiency Law** enforced in May 2, 2007, an Energy Efficiency Coordination Board has been established to carry out energy efficiency studies within all relevant organizations all over the country, monitor its results and coordinate efforts. The General Directorate of Electrical Power Resources Survey and Development Administration (EIE) monitors the implementation of decisions made by the Board, and secretariat services.

The Board, under the chair of the assistant undersecretary in charge of the General Directorate, consist of a senior representative from each of the Ministries of Interior, Finance, National Education, Public Works and Housing, Transport, Industry and Commerce, Environment and Forests, the Ministry, the Undersecretariat of the State Planning Organization, the Undersecretariat of Treasury, the Energy Market Regulatory Authority, Turkish Standards Institute, Turkish Scientific and Technological Research Institution, Turkish Union of Chambers and Commodity Markets, Turkish Union of Chambers of Engineers and Architects, and Turkish Association of Municipalities.

## **8. Selected policy instruments or initiatives on resource efficiency presented in more detail**

### **Incentives Provided by the Small and Medium Industry Development and Support Administration (KOSGEB)**

A subsidy program has been prepared to provide KOSGEB's support for the training, study and consultancy services to be received by SMEs regarding energy efficiency. Pursuant to the Energy Efficiency Law No. 5627 and within the framework of the By-law on KOSGEB Subsidies; a subsidy of maximum 2,000 TL (approx 900Euro) is provided for preliminary energy study service fees, maximum 20,000 TL (approx 9000Euro) for detailed energy study service fees, and maximum 10,000 TL (approx 4600 Euro) for the consultancy services received for Efficiency Increasing Project (EIP) preparation, realization and/or operation for the first two years to SMEs.

### **Incentives Provided by Turkish Scientific and Technical Research Institute (TÜBİTAK)**

The Environment, Atmosphere, Ground and Sea Sciences Research Group (ÇAYDAG) and the Basic Sciences Research Group (TBAG) under TÜBİTAK provide support on sustainable production within the framework of various support programs. These programs include; the Program for Supporting Scientific and Technologic Research Projects, Fast Support Program, Program for Supporting the Research and Development Projects of Public Agencies, Patent Application Incentive and Subsidy Program, Universal Researcher Program, Program for Participation in International Scientific Research Projects, Program for Supporting the Initiatives for Establishing Scientific and Technologic Cooperation Networks and Platforms and the National Young Researcher Career Development Program.

Furthermore, TÜBİTAK's Technology and Innovation Support Programs Department (TEYDEB) is executing support programs for increasing the research-technology development skills and



innovation culture as well as competitive power. The rate of support can be increased by 20 percent for projects with environmental technology themes.

### **Incentives Provided by Technology Development Foundation of Turkey (TTGV)**

TTGV provides repaid financing support for the R&D activities at technology development level, by which products with commercial value are developed. The support covers R&D projects in the fields of environment friendly products, sustainable production technologies, renewable energy, etc.

The Environmental Supports financed by TTGV provide repayable funding support to the “implementation projects” of industrialists in the fields of environmental technologies, energy efficiency and renewable energy.

In addition, TTGV provides support for both the technologic innovation projects in Turkey and the initiatives for the protection of ecology.

### **Incentives Provided by the Undersecretariat for Foreign Trade**

Within the framework of the Program for Supporting Environmental Costs being executed by the Undersecretariat for Foreign Trade, the costs of companies for ISO 9000 series quality assurance system certificates, ISO 14000 environmental management system certificates, CE mark and other international quality and environmental certificates are covered by the Undersecretariat for Foreign Trade.

### **Incentives for Sustainable Production and Consumption under Legal Arrangements**

#### **Energy Efficiency Law No. 5627**

Energy efficiency projects with a budget of maximum 500,000 TL and recovery period of maximum 5 years are subsidized at the rate of 20 percent, with maximum subsidy level of 100,000 TL per project.

Industrial facilities can sign “voluntary agreement” with Electricity Affairs Survey Administration (EIE) by committing to reduce their energy intensities by minimum 10 percent within a period of 3 years. For the entities which fulfill their commitment, 20 percent (maximum 100,000 TL) of their energy expenditures in the year when the agreement is signed is subsidized.

The energy efficiency projects to be implemented at industrial facilities (with investment size above the amount determined by the Council of Ministers) and cogeneration investments (depending on fuel and technology) are entitled to benefit from the incentives provided by the Undersecretariat of Treasury.

#### **Law No.5346 on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy**

The Law guarantees that the electricity generated from renewable energy resources will be purchased by the electricity distribution companies at the price of 5-5,5 Euro Cent/kWh for a period of 10 years and the generation companies are given the right to sell their electricity above the threshold of 5,5 Euro Cent/kWh in the free market. Through Council of Ministers decree,

incentives are also provided for energy generation facility investments, procurement of domestically manufactured electromechanical systems, R&D and manufacturing investments to be made within the framework of electricity generation systems using solar cells and focusing units, and R&D and facility investments for electricity or fuel production using biomass resources.

In case of utilization of property under the possession of Directorate General for Forestry or Treasury or under the rule and disposition of the State for the purpose of generating electrical energy from the renewable energy resources; the Ministry of Environment and Forestry or the Ministry of Finance grant a permit, lease, establish easement right or usage permission in exchange for their fee for the lands to be used for the facility, access roads and energy transmission lines up to network connection point.

An 85 percent discount shall be applied for permission, lease, easement right and usage permission in the first 10 year of investment and operation periods of facilities, access roads and energy transmission lines up to network connection point, which will be commissioned by the end of 2012.

In the scope of **Law No.5627 Energy Efficiency** and secondary legislations provide the legal basis and measures to promote and support energy efficiency increases, including establishing energy service companies (ESCOs), such as developing energy management system and Efficiency Improvement Project (EIT) and Voluntary Agreement schemes to encourage energy saving investments, energy efficiency increase in building and transport sectors, ban on sale of electrical appliances which do not meet energy efficiency requirements, and increase awareness.

Under the energy management scheme introduced in the industry, building sectors, the number of certified energy managers has presently reached approximately 3500. In order to spread training, energy surveys and efficiency-increasing projects nationwide, universities, professional chambers and energy efficiency consultancy firms since 2009 have been authorized. Until now 3 institutions and 29 consultancy companies have already been authorized. Every year, international energy manager courses have been organized for region and neighbor countries. So far, nine international courses have been organized and 176 energy managers from 25 countries have been trained.

Financial support to efficiency-increasing projects and voluntary agreements undertaking to reduce energy intensity have been provided. In this scope, projects having energy saving in electrical energy are supported with priority. Until now, 32 energy efficiency projects have been decided to be supported and implementation of 13 projects have been completed. On the other hand Voluntary Agreements have been made by 22 industrial establishments so as to reduce their energy intensity.

**"Regulation on Energy Performance in Building"**, enforced by the Ministry of Public Works and Settlement, will require buildings to meet the minimum performance criteria and standards concerning architecture, heat insulation, heating and cooling systems and electrification. According to this regulation "Building Energy Identification Certificate" is awarded and communicates energy expenses of houses or buildings to buyers or tenants. Energy performance Certificate will not be granted to the new buildings having less than "D" class. Furthermore, central heating will be compulsory for the buildings having area of more than 2000m<sup>2</sup> and the buildings that have central heating systems have to use central or local heat/temperature control

equipment as well as systems enabling the distribution of heating costs on the basis of heat utilization quantities.

In transportation, practices oriented to reduce unit fuel consumption in nationally produced motor vehicles and increase their efficiency standards, spread public transportation and install advanced traffic signaling systems have been included under the scope of the regulation enforced by the Ministry of Transport and Communication.

On the other hand, the measures to be taken in public agencies and organizations were determined with a Circular issued by the Prime Ministry in early 2008, the "National Energy Efficiency Movement" was launched and 2008 declared the "Energy Efficiency Year". Under this scope, awareness activities will be continued in cooperation with public and private organizations and NGOs.

## **9. Topics of interest and information needs for follow up work**

Effectiveness of Energy Efficiency Policies

## 10. References

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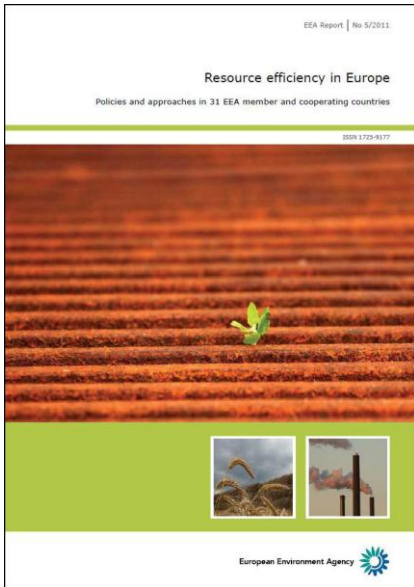
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# Resource efficiency in Europe

## Policies and approaches in 31 EEA member and cooperating countries

Further information about resource efficiency policies, including the analytical report and thirty-one detailed country profiles, are available on the EEA website:

<http://www.eea.europa.eu/resource-efficiency>

### Selected examples of resource efficiency policies, instruments or targets presented in the thirty one detailed country profiles

