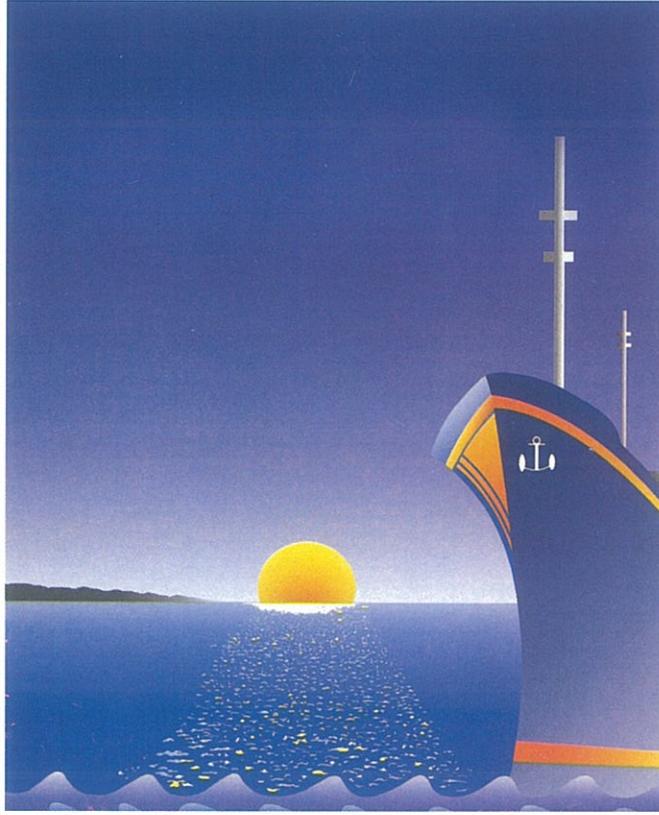




TURKISH INDUSTRIALISTS' AND BUSINESSMEN'S ASSOCIATION



**ENVIRONMENTAL
NON-TARIFF TECHNICAL BARRIERS TO TRADE
and
AN ACTION PLAN FOR TURKISH INDUSTRY
(Executive Summary)**



TURKISH INDUSTRIALISTS' AND BUSINESSMEN'S ASSOCIATION

**ENVIRONMENTAL
NON-TARIFF TECHNICAL BARRIERS TO
TRADE
and
AN ACTION PLAN FOR TURKISH INDUSTRY
(Executive Summary)**

**March 1999
(TÜSİAD Publication No-T/99-3-253)**

Meşrutiyet Caddesi, No.74 80050 Tepebaşı/İstanbul
Telefon: (0212) 249 54 48 - 249 07 23 • Telefax: (0212) 249 13 50

*Any part of the report may be published wholly or
in partly without permission if an appropriate
reference to TÜSİAD “Environmental Non-Tariff Technical Barriers to
Trade and an Action Plan for Turkish Industry (Executive Summary)”
is made in the text.*

ISBN: 975-7249-80-7

Lebib Yalkın Yayınları ve Basım İşleri A.Ş.

FOREWORD

TÜSİAD (Turkish Industrialists' and Businessmen's Association), which was founded in 1971, according to rules laid down by the Constitution and in the Associations Act, is a non-governmental organisation working for the public interest. Committed to the universal principles of democracy and human rights, together with the freedoms of enterprise, belief and opinion, TÜSİAD tries to foster the development of a social structure which conforms to Atatürk's principles and reforms, and strives to fortify the concept of a democratic civil society and a secular state of law in Turkey, where the government primarily attends to its main functional duties.

TÜSİAD aims at establishing the legal and institutional framework of the market economy and ensuring the application of internationally accepted business ethics. TÜSİAD believes in and works for the idea of integration within the international economic system, by increasing the competitiveness of the Turkish industrial and services sectors, thereby assuring itself of a well-defined and permanent place in the economic arena.

TÜSİAD supports all the policies aimed at the establishment of a liberal economic system which uses human and natural resources more efficiently by means of latest technological innovations and which tries to create the proper conditions for a permanent increase in productivity and quality, thus enhancing competitiveness.

TÜSİAD, in accordance with its mission and in the context of its activities, initiates public debate by communicating its position supported by scientific research on current issues.

"Environmental Non - Tariff Technical Barriers to Trade and an Action Plan For Turkish Industry" was prepared by Dr. Caner Zambak, Mustafa Bağan, Prof. Dr. Ekrem Ekinci, Dr. Hulusi Barlas, Prof. Dr. Ayşe Erdem Şenatar and Llm. Halil Ünlü under the auspices of Environmental Working Group of Industrial and Company Affairs Commission. English version is the executive summary of the report authentic in Turkish.

AUTHORS

Dr. Caner ZANBAK - Project Coordinator

Dr. Zanbak, a 1971 graduate of Mining Engineering Department of the Istanbul Technical University, completed his Ph. D. at the University of Illinois, USA. His academic experience includes Istanbul Technical University until 1981, Kent State University, Ohio, South Dakota School of Mines, Rapid City, South Dakota as an associate professor and Illinois Institute of Technology, Chicago, Illinois as an adjunct full professor until 1994.

Dr. Zanbak worked as a consultant to the USEPA and numerous industry facilities on hazardous waste management, remedial investigations, feasibility studies and design for superfund projects during the 1984-1994 period.

Since 1994, Dr. Zanbak is the coordinator of the Responsible Care Program of the Turkish Chemical Manufacturers Association. He is also the vice-chairman of the Environmental Affairs Committee of Istanbul Chamber of Industry, a member of the Environmental Working Group of TUSIAD and a member of Hazardous Waste Commission of the Turkish Ministry of Environment. He is the principal author of "Hazardous Waste Management" section of the National Environmental Action Plan coordinated by the Turkish State Planning Organization and the "Environmental Non-Tariff Technical Barriers to Trade and an Action Plan for Turkish Industry" prepared for TUSIAD.

Dr. Zanbak is the General Manager of ABERSAN Corporation, a Turkish industrial waste management services company.

Prof. Dr. Ekrem EKİNCİ

Ekrem Ekinçi graduated from the Chemical Engineering Department of Robert College in 1971. He completed his MSc in 1972 and PhD in 1976 at the University of Newcastle Upon Tyne. He began working as a research assistant at the Istanbul Technical University (ITU) in 1977. He carried out research at the Universities of Leeds and Newcastle between 1979-1980. He became an associate professor in 1982 and a professor in 1988. He served as the Head of the Chemical and Food Engineering Departments at ITU between 1988-1992. He worked as the Head of the Chemical Research Department of the Scientific and Technical Research Council of Turkey (TUBITAK) between 1992-1994. He became the Dean of the Chemical-Metallurgy Department of ITU in 1997, and was elected as a member of the Scientific Council of TUBITAK in the same year. He is a member of the Board of Directors of the Marmara Research Centre at present.

He is presently teaching at the Chemical Engineering and Environmental

Engineering Departments at ITU and lectures on Chemical Engineering and Environment at Bosphorus University. He was a member of the ITU Senate. He holds the position of the Head of the Quality and Environment Board of the Union of Cement Producers for 1996-1999. He is a member of the Institute of Energy in England and the International Solid Waste Association and is one of the founding members of the Turkish National Committees on Waste and Air Pollution. He is a member of the editing boards of the Fuel and Fuel Processing Technology journals.

He conducts research on fluidised bed burning, air pollution, synthetic fields, carbon materials, energy and environment. He wrote over 50 articles for referenced journals in English and over 85 statements were published in international congresses. He also wrote 3 articles in Turkish journals and presented over 99 statements. He wrote 4 books and contributed to the writing of 16 others. He shares 6 national patents with other researchers.

Prof. Dr. Ayşe ERDEM-ŞENATALAR

She graduated from the Chemical Engineering Department of the Middle Eastern Technical University (ODTU) in 1976. She began her postgraduate studies at Bosphorus University and continued her studies at the Chemical Engineering Department of the Worcester Polytechnic Institute in Massachusetts, USA with a scholarship, and received her MSc in 1978. She began working as a research assistant in the Chemical Engineering Department of ITU that year. She was present at the University of Leeds with the scholarship of the British Cultural Delegation in 1982 for research purposes and received her doctorate in Chemical Engineering in 1984 at the Science Institute of ITU. She worked as a guest lecturer and a researcher at the University of Pittsburgh, USA, between 1986-88. She became an assistant associate professor in December 1988 and an associate professor in October 1989. She worked as a researcher and a project consultant at the University of Pittsburgh, USA, in summer 1990 and 1991, at the Delft Technical University, Holland, in summer 1993, and at the Lulea Technical University, Sweden, in summer 1995. She became a professor in April 1995. She was in charge of the ITU English Teaching Programme between 1990-1994, and was a member of the Board of Directors of the Faculty of Chemistry and Metallurgy.

She is a lecturer at the Chemical Engineering Department at ITU and is the Head of the Process and Reactor Design Branch. She is also a member of the ITU Senate Education Commission, the Chemical Engineering Chamber, the Thermal Science and Technical Association, the Solid Waste National Committee and the International Zeolite Commission.

Her areas of research include chemical reaction engineering and developing environmentally friendly materials and energy effective processes. She has conduct-

ed various projects in these areas and has published 37 articles in English referenced journals and congresses abroad and 29 in Turkish journals and congresses. She also contributed in part to the writing of an international and a Turkish book.

Dr. Hulusi Barlas

In 1975, Dr. Hulusi Barlas graduated from the Istanbul University where he received an M. Sc, degree in chemical engineering. He has been in charge in the same faculty as a research assistant since 1980. He received Ph. D. in environmental chemistry when he completed his doctorate studies in München Technical University in Germany during 1980 - 1985. As the same time in the projects of Bavaria Environmental Ministry for two years.

From 1986 - 1987 Dr. Barlas was assistant professor in Istanbul University, Faculty of Engineering. He was in charge as associated manager in Bayer Turk Chemical Industry Limited Company during 1988 - 1991. He was general manager in Okotek environmental Technologies and Chemical Industry Limited Company from 1991 to 1993. Afterwards, he was lecturer in Istanbul University, Department of Environmental Engineering. Consequently, he received the degree of associate professor in environmental chemistry. He has been lecturer in the same institution and associate department director since 1996.

Alongside his main work, he continues under resources environmental impact and assessment/control, ecotoxicology, industrial pollution and advanced treatment technologies. He published 42 scientific articles and statements. He is a member of board of Director MESAEP (Mediterranean Scientific article Association of Environmental Protection), a member of İTKİB R & D Environmental Committee İTKİB Pentaklorfenol laboratory.

Mustafa BAĞAN

Following his graduation at Institut Meurice Chimie-Peinture et Vernei (Brussels) with B.Sc. Chemical Engineer in 1976, he worked on pharmaceutical production quality control and cast iron industry product development until 1979. During his military service as an officer between 1979-1980, he instructed French at Bursa Işıklar Military Highschool. After completing his military service, he worked as production responsible in adhesives and paint industry between 1980-1981 and plant manager by Bufalo Button Co. between 1981-1986.

Since 1986, Mustafa Bağan is the General Secretary of "Turkish Chemical Manufacturers Association", 'Soaps and Detergents Industry Association' and

'Cosmetics and Toiletries Industry Association'.

He is a member of The Ministry of Environment Chemicals Commission, Waste Commission, İSGÜM Workplace Environment Limits for Chemicals Committee and TÜSİAD Environment Workgroup.

He is also the WTO - Non-preferential Trade Determination Consultant for Chemicals of Customs Secretary of State, UN/EEC Chemical Industry Workgroup Member and Focal Point of UN/EEC International Regulations Harmonization Committee for Chemicals in Turkey.

Under the scope of industrial training applications, he gives seminars on Dangerous Chemical Substances and Product Control Regulations, Material Safety Data Sheets, Chemical Accidents and Emergency Response in various Industry Chambers and Associations and international strategical and technical conferences.

Ulm. Halil ÜNLÜ

He graduated from the Faculty of Law at Istanbul University in 1976. He worked as a lawyer between 1968-1974 following his military service. He worked as a legal advisor for the Istanbul, Urban Development Project between 1974-77. He worked for the Marmara Union of Municipalities as a legal advisor, as a Deputy Secretary General and Secretary General between 1978-1990. He worked as an advisor to various municipalities. He is presently working as a legal advisor to the Environment Branch at the Istanbul Chamber of Industry. He attended and contributed to various working groups of the State Planning Organization and the Ministry of Environment.

He has published various articles on city planning, municipal work and the environment and has published three books entitled "Local Administrations and the Environment", "Co-operation Between Local Administrations" and "Relations Between Local Administrations".

ENVIRONMENTAL NON-TARIFF TECHNICAL BARRIERS TO TRADE and AN ACTION PLAN FOR TURKISH INDUSTRY

EXECUTIVE SUMMARY

INTRODUCTION

In recent decades, nations have exerted enormous efforts to assure successful trade relations in the context of globalization. While liberalization of international trade has been largely achieved under the GATT/WTO, the ultimate goal of dismantling all national and local barriers to trade has yet to be fully realized. Certain limitations to trade remain a part of tariff codes. In particular, where the environment is concerned, "non-tariff" applications constitute a significant part of such barriers. Increasing environmental awareness over the past several decades has played a major role in reshaping the liberalization efforts in terms of developing standards to regulate environmental quality. To a certain extent, such technical barriers to trade are allowed within the GATT/WTO, so long as they are in compliance with globally accepted principles of environmental protection.

In tandem with trade liberalization efforts, Non-tariff Technical Barriers (NTBs) related to environmental protection are gaining significant importance in international trade. NTBs unrelated to quotas and customs duties are being structured in accordance with accepted international standards related to product-based environmental, human health and safety concepts. Such NTBs, generally based on sound scientific principles, often constitute powerful instruments which limit trade liberalization and may even foster disguised protectionism in the international arena.

PURPOSE OF THE REPORT AND TECHNICAL APPROACH TAKEN

Rapid economic growth since the 1980s has placed Turkey among the world's fastest growing economies. Textiles and foodstuffs, where Turkey has a strong competitive edge, have been the leaders in terms of foreign trade. Over the past few years, the effects of an increase in NTBs based on environmental factors have been felt in the Turkish textile and foodstuff sectors. Turkey's strength in these areas has brought Turkish goods under increasing scrutiny by its competitors in the arena of international trade.

The purpose of this report is to identify potential environmental NTBs for the Turkish manufacturing sectors and to prepare an action plan in order to minimize interim trade losses and to mitigate factors which may have a negative impact on Turkey's international trade in general .

In the preparation of this report, complex issues related to trade and the environment, along with environmental legislation at the global, regional and national levels were reviewed. Due consideration was also given to emerging consumer initiatives in the European Union countries. Turkey's obligations under international agreements and treaties addressing environmental issues were also identified. Recent trade concerns of Turkey with EU Member States and domestic problems concerning environmental management were also highlighted. Finally, an action plan to identify short, medium and long-term approaches was proposed, along with a set of technical, institutional and legal initiatives.

The project team consisted of technical specialists with expertise in law and environmental management. A larger pool of experts from industry and specialists from the state institutions were also available to the project for consultation and peer review.

NON-TARIFF BARRIERS

Customs duties, which had shown a general increase between the two World Wars, decreased significantly following the eight GATT Rounds. Despite the general trend towards decreasing tariffs, however, an increase has been observed in non-tariff charges, which have had the effect of limiting the importation of highly competitive goods. Such charges have been imposed specifically by the developed countries under special variance clauses of the GATT. These exceptions to international trade liberalization were set forth during the Tokyo Round in 1979 with the "Technical Barriers to Trade Agreement".

Such non-tariff trade barriers open the way to unilateral protectionism if certain criteria and standards are met. Examples of such criteria are non-standard product specifications, subsidized pricing or syndicate distribution agreements, patent and licensing restrictions and prohibitive unilateral taxation policies, to name a few.

NTBs may be classified according to three general categories :

1. **Quotas** - quantity limitations for imported goods;

2. **Cost-Increasing Factors** - special taxes, customs formalities, local regulations norms, etc.;

3. **Import Prohibitions** - local public procurement policies, domestic licensing requirements, special tax exemptions on domestic goods, local currency restrictions, special accreditation requirements and environmental, health and safety standards.

Environmental Non-Tariff Barriers to Trade

The GATT/WTO's Technical Barriers to Trade Agreement stipulates that standards applied to imported goods must be internationally accepted. In cases where no accepted standards exist, such standards are to be developed based on scientific knowledge and in a manner which serves to prevent discriminatory trade barriers.

In order foster competition and prevent unfair trade practices, import restrictions are generally "product-based" and "based on technical justifications regarding standards".

Within the context of this report, potential justifications for environmental NTBs are categorized in the two following groups :

- a - Negative impact of goods on human health;
- b - Negative environmental/ecological impact of natural raw material resource usage, production processes and product consumption.

Technical sources for product-based environmental NTBs are identified in Table 1.

The following are considered to be the most common forms of environmental NTBs as per the WTO's Technical Barriers to Trade Agreement:

- Technically demonstrated justification (environment and human health);
- Accepted international standards;
- Nonconformance with emerging standards,
- Nonconformance with international consumer initiatives.

While some of the criteria cited above can be scientifically evaluated, issues such as nonconformance with "emerging environmental standards" and "national

and international consumer initiatives" are subjective, controversial and may well constitute disguised protectionism.

Table 1 - Potential Technical Sources of Product-based ENVIRONMENTAL NON-TARIFF BARRIERS to TRADE

<i>Potential Trade Barrier Areas</i>	<i>POTENTIAL HUMAN HEALTH IMPACT</i>	<i>POTENTIAL ENVIRONMENTAL IMPACT</i>
PRODUCTION INPUT <ul style="list-style-type: none"> • <i>Raw Materials</i> • <i>Natural</i> • <i>Manufactured</i> 	Toxic/carcinogenic effects (Generally insignificant)	Extraction/agriculture Ecological and environmental
PRODUCTION PHASE <ul style="list-style-type: none"> • <i>Emissions to Environment</i> • <i>Waste Disposal</i> 	Atmospheric, wastewater and solid wastes Toxic/carcinogenic effects	Disposal - Ecological and environmental
PACKAGING, STORAGE and TRANSPORT <ul style="list-style-type: none"> • <i>Product Safety</i> • <i>Packaging, Storage and Transport Safety</i> 	Hazard potential - Toxic/carcinogenic effects	Accidental releases Ecological and environmental
CONSUMPTION <ul style="list-style-type: none"> • <i>Product safety</i> • <i>Recovery, Reuse, Disposal Safety</i> • <i>Waste Disposal</i> • <i>Final disposal of product</i> 	Accidents/misuse during consumption- Toxic/carcinogenic effects	Accidents/misuse during consumption Ecological and environmental
	Packaging materials- Toxic/carcinogenic effects	Disposal Ecological and environmental
	Disposal issues - Toxic/carcinogenic effects	Disposal Ecological and environmental

Potential product-based environmental NTBs may arise where there is:

- 1-Use of raw materials that are not considered "environment-friendly";
- 2-Inadequate environmental protection measures during manufacturing;

3-Inadequate environmental, human health and safety conditions in packaging, storage and transport of goods,

4-Potentially undesirable environmental effects during consumption of goods and post-use disposal.

Environmental NTBs may sometimes become disguised protectionism or political tools used to implement trade-limiting measures. If, however, such NTBs are found to comply with technical and regulatory requirements as defined by the WTO, the country against which they are being applied should examine its own technical and regulatory standards and practices. The best way to avoid disputes is to improve production technologies and environmental conditions through compliance with internationally accepted standards, international treaties and agreements. The logic of environmental NTB applicability is schematically presented in Table 2.

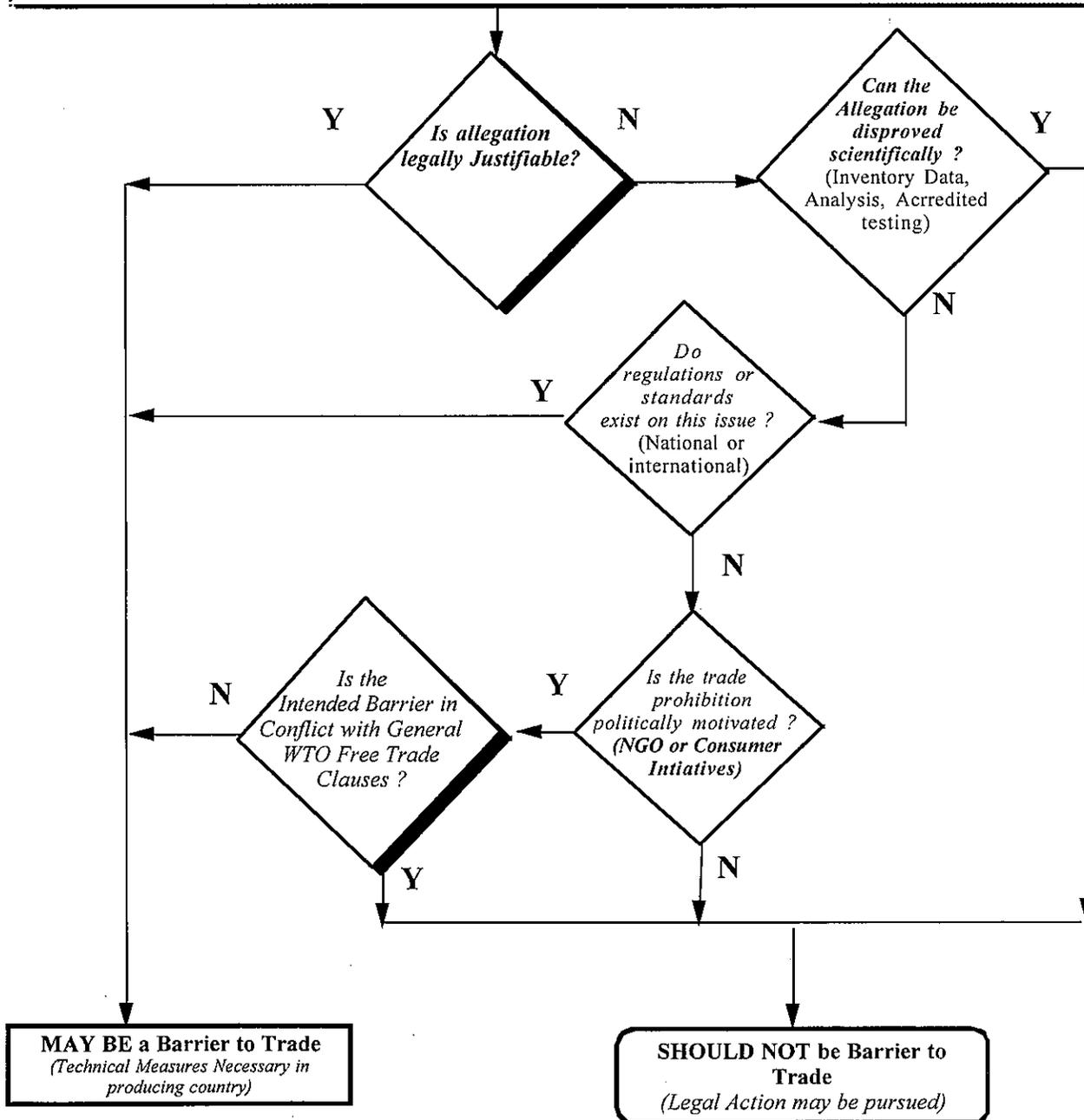
Table 2
LOGIC for APPLICABILITY of
ENVIRONMENTAL NON-TARIFF TECHNICAL BARRIERS TO TRADE

OBJECTIVE :
To Prohibit Importation of Goods

JUSTIFICATION:
The PRODUCT has a Negative Impact on Human Health and/or the Environment

Justification Concerns :

- Raw Materials • Waste Management During Production • Packaging, Storage, Transport
- Product Safety • Waste Product Recovery and Disposal • Disposal of Packaging and Wastes



OVERVIEW OF CURRENT STATUS

Turkey's Foreign Trade

During the 1993-1996 period, Turkey's foreign trade volume showed an average annual increase of 14%. Even though this period, which included a major financial crisis in 1994, witnessed a \$21 billion increase (from \$45 billion to \$66 billion), exports stagnated, increasing only 4%, from 34% to 38%, of total foreign trade.

The total foreign trade volume for the 1993-1996 period was approximately \$209 billion. Sectoral distribution of export and import values are presented in the following table:

	General SECTOR GROUPS	1993-1996 Export Totals	1993-1996 Total Foreign Trade
<i>Foreign Trade Surplus</i>	<ul style="list-style-type: none"> • textiles • fruits, food • leather goods • glass, ceramics, tiles • marble, cement • sea produce 	\$17,8 billion	\$29 billion
<i>Foreign Trade Deficit</i>	<ul style="list-style-type: none"> • industrial products • fuel • petroleum derivatives • rawhide, textile fibers • forestry products 	\$60,5 billion	\$180 billion
	TOTAL	\$78,3 billion	\$209 billion

An evaluation of foreign trade data for the 1995-1996 period reveals that approximately 50% of Turkey's foreign trade was with the EU countries. This data, as summarized below, also reveals that the majority of the total foreign trade deficit was with the EU countries, the U.S and Japan, excluding the fuel items.

<i>Foreign Trade Ranking</i>	<i>1995+1996 Export Totals (billion \$)</i>	<i>Import Deficit Ranking</i>	<i>1995+1996 Import Deficit (billion \$)</i>
1 Germany	10,2	1 Italy	4,5
2 U.S.A.	3,1	2 U.S.A.	3,8
3 Italy	2,9	3 Germany	2,8
4 Russian Federation	2,8	4 France	2,6
5 England	2,4	5 Japan	2,4
6 France	2,1	6 Saudi Arabia	2,2
7 The Netherlands	1,5	7 England	1,9
8 Belgium-Luxembourg	0,9	8 Switzerland	1,4
9 Saudi Arabia	0,9	9 Russian Federation	1,2
10 Spain	0,7	10 S. Korea	1,1

The annual foreign trade data for the above countries reveals that trade volumes remained unchanged, whereas the foreign trade deficit showed an increasing trend. It is therefore clear that any technical barrier to Turkey's exports will have a definite negative impact on the trade deficit considering the increasing trend of Turkey's imports.

Legal and Regulatory Environment

Regulatory status of Turkey is comparable to developed countries in terms of being a signatory to all human health and environment-related international treaties and agreements, with the exception of those few which are currently being debated in the international arena. Domestic regulatory harmonization is underway pursuant to Turkey's Customs Union with the EU. Although, there are currently problems concerning full-compliance with some international agreements due to the domestic technical, administrative and financial constraints, such technical circumstances are not specific to Turkey but are shared by all developing countries.

It is acknowledged that non-fulfillment of the technical aspects of environmental regulatory schemes may constitute grounds for NTBs against goods from Turkey in the international trade arena.

Technological and Financial Support Issues

Improvement in enforcement of domestic environmental regulations related to raw material quality control and in environmental conditions during production and consumption is necessary if Turkey is to avoid the application of NTBs to its

exports. In addition, technological and financial support and incentives to local government enforcement agencies as well as to the industries in question are also necessary in order to achieve full compliance.

Environmental technology can be improved through R&D support, and through facilitation of access to cleaner technologies and the establishment of regulated industrial waste recovery and disposal facilities. Financial support can be provided in the form of monetary and investment tax incentives for use in obtaining cleaner technologies. The GATT/WTO allows such incentives and even permits subsidies on environmental improvements.

There are, however, important concerns in Turkey about the applicability of environmental NTBs justified mainly on the grounds of deficiencies in technical environmental protection infrastructure. Significant efforts are being expended by local governments and industry to minimize environmental pollution sources pursuant to current regulations. These efforts need to be accelerated through the increased availability of international financial instruments.

CONCLUSION

Turkey is a signatory to virtually all international environmental agreements currently in force, with the exception of those currently being discussed at the international level for clarification of technical details, such as the Framework Convention on Climate Change. Turkey has shown full compliance with all international obligations undertaken and is engaged in constant efforts to implement the requisite environmental management strategies both domestically and internationally.

Turkey is also a party to numerous regional trade and environment agreements. Environmental regulations and standards of the EU are of utmost importance to Turkey for two reasons. First, more than 50 percent of Turkey's international trade is with the EU countries. Turkey has committed itself to fulfilling all obligations designed to achieve full integration as set out in the Customs Union Decision. Secondly, because environmental regulations and standards in the EU tend to be more structured and rigorous than global standards in general; by harmonizing its laws and practices with those of the EU, Turkey is assured of compliance with the full range of global regulations and standards.

One of the conclusions of regulatory and standards review is that signs of emerging global environmental regulations can be found within the EU

instruments, and that the regulatory activities of the EU will continue to significantly influence global applications. Additionally, those norms, which will potentially be incorporated into global environmental standards are increasingly originating in NGOs, consumer groups and private institutions. It is clear that the currently voluntary ecolabels, for example, as well as ISO standards have the potential of becoming "green passports" which will enable goods to overcome environmental NTBs in the international arena.

Based on these observations, it is clearly in Turkey's best interest to observe and adapt to the current and emerging EU environmental standards if it is to minimize or avert the negative economic effects of any potential environmental NTBs. While Turkey's fulfillment of legal obligations arising from international agreements are priority issues in the short term, adaptation to the EU legislation and standards should be the ultimate goal in the long term.

A significant conclusion of this study is that the major obstacles to Turkey's fulfillment of international obligations are internal. It is clear that Turkey will suffer the financial and social consequences of environmental NTBs if technical and institutional problems are not overcome. Major concerns in this respect are: inadequate attention to the need for appropriate policy strategies on issues associated with NTBs; inadequate national and regional coordination; lack of necessary revision of administrative, institutional and legal structures; and insufficient provision of information and infrastructure services to industry. Adopting an effective nation-wide environmental management policy and implementation strategy is a "must" if Turkey is to overcome potential environmental NTBs in years to come.

The responsibility for achieving effective environmental management and succeeding in efforts to avoid the application of environmental NTBs to Turkish goods lies with government authorities and voluntary initiatives of the relevant industrial sectors. In this regard, the Government is expected to identify such responsibilities and to coordinate planning and activities pursuant thereto. Industrial and sectoral associations, universities, research institutes and NGOs need to get involved in every phase of environmental management policy formulation. These bodies also need to assist each other in defining targets and to participate in follow-up and monitoring activities. Some encouraging developments in industrial involvement in these areas are summarized in the report.

Turkey must also take an active role in discussing and determining the parameters of environmental NTBs in the international arena. With a population of over 60 million consumers, Turkey not only has a considerable stake in

international trade but is also an important market. It should therefore take a leading role in the struggle to balance inequalities fostered by the dominant role of developed countries in international trade. Overcoming technical and institutional problems related to environmental management in the short term will no doubt provide Turkey with a long-term competitive edge in international trade.

Tools to Alleviate Environmental NTBs

Pursuant to technical and regulatory evaluation of potential sources of environmental NTBs being applied to Turkey's exports, technical issues that require special attention in order to avoid such barriers to trade are to be avoided are presented in Table 3.

Table 3

<p>POTENTIAL JUSTIFICATIONS for NON-TARIFF BARRIERS</p>	<p>Tools for Alleviating POTENTIAL TECHNICAL BARRIERS</p>
<p><i>Raw Materials NOT produced in environment-friendly manner</i></p>	<ul style="list-style-type: none"> • Inventory data bank for raw materials • Accredited testing laboratories • Standards for raw materials • Information center for sustainable production processes • Tax incentives and technical support for environment-friendly raw material supplies • Rehabilitation following exploitation of natural resources • Raw material monitoring and control mechanisms • National "Raw Material Risk and Crisis Management Plans • "Non-Tariff Barriers Committee • Quality control and monitoring mechanisms for export raw materials
<p><i>Emissions and Discharges during Manufacturing Activities and Waste Disposal Create Pollution</i></p>	<ul style="list-style-type: none"> • Sectoral emission, discharge and waste inventories • Accredited emission, discharge and waste analysis laboratories • Information Center for Environment-Friendly Production Technologies for use in waste minimization • Waste exchanges • Regulated waste recovery facilities • Regulated waste disposal facilities • Adherence to ISO 9000 and 14000 Standards • Improved effectiveness of environmental monitoring and control mechanisms • "Non-Tariff Barriers Committee • Nationwide Emergency Information and Response Centers • Compatibility of environmental regulations with the international ones • National policy fulfilling international environmental commitments • Quality control and monitoring mechanisms for export raw materials
<p><i>Packaging, Storing and Transport NOT Protective of Human Health, Safety and Environment</i></p>	<ul style="list-style-type: none"> • Mandatory material safety data sheets for goods • Production inventory data compiled on sectoral basis • Accredited product testing and analysis laboratories • Testing and information centers for product packaging • Data bank for internationally banned or restricted product types • Monitoring and Information Center for International Environmental Label and Trade Marks • Monitoring international regulatory developments and harmonization of domestic regulations • Up-to-date product information at "Poison Information Centers • Nationwide emergency information and response centers • "Non-Tariff Barriers Crisis Committee • Quality control and monitoring mechanisms for export goods
<p><i>Product Usage Safety, Waste Product Recovery, Reuse and Disposal NOT Protective of Human Health, Environment and Safety</i></p>	<ul style="list-style-type: none"> • Clear product usage directions on labels for consumer protection purposes • Informing public on effective usage of goods • Regulated disposal facilities for product waste and packaging • "Non-Tariff Barriers Crisis Committee • Monitoring international regulatory developments and harmonization of domestic regulations • Nationwide emergency information and response centers

ACTION PLAN

The following are the major plans for action designed to alleviate application of potential NTBs to Turkey's goods in international trade:

- Establishment of information centers for raw materials and production standards and technologies
- Improvement of effectiveness of environmental enforcement and monitoring programs
- Preparation of production, raw materials and environmental pollution inventories
- Establishment of accredited analytical and testing laboratories
- Establishment of waste recovery and disposal facilities
- Preparation of community information and industry training programs
- Establishment of national emergency information and response centers
- Incentives and technical support for environment-friendly production
- Coordination of national policies in order to comply with international environmental obligations
- Monitoring of export raw materials and goods for compliance with international environmental regulations and standards
- Establishment of risk and crisis centers for international trade

An action plan to identify and quickly and efficiently resolve potential product-based environmental NTBs is summarized in the following tables. Realization of the goals outlined above may be achieved through fulfillment of technical, administrative and institutional requirements by effective involvement of identified stakeholders set out in these tables. The time frames for achievement of these action plans are classified as short- (less than one year), medium- (one to two years), or long-(three years) term.

Concluding Remarks

Due to the complex nature of NTBs, this study can by no means be considered exhaustive. Given the vital importance of environmental NTBs for Turkey's growing economy, however, the report is expected to serve as a basis for future detailed studies in this field.

ACTION PLAN FOR TURKISH INDUSTRY on ENVIRONMENTAL NON-TARIFF TECHNICAL BARRIERS

PROPOSED ACTIONS	PROPOSED TECHNICAL ACTIONS	PROPOSED INSTITUTIONAL ACTIONS	PROPOSED REGULATORY ACTIONS	STAKEHOLDERS	ACTION TERMS (Short, Medium, Long)
A.1 ESTABLISHMENT OF INFORMATION CENTERS FOR RAW MATERIALS and PRODUCTION STANDARDS and TECHNOLOGIES	<ul style="list-style-type: none"> Establishment of: <ul style="list-style-type: none"> Internet Website Data bank and support of related technical publications 	<ul style="list-style-type: none"> Establishment of a Management Center 	<ul style="list-style-type: none"> Legal foundation for establishment of a Management Center 	TUBITAK, Turkish Standards Institute (TSE), Ministry of Industry and Trade, Turkish Chamber of Industry and Commerce (TOBB), Industry Associations.	SHORT
A.2. IMPROVE EFFECTIVENESS OF ENVIRONMENTAL ENFORCEMENT and MONITORING PROGRAMS	<ul style="list-style-type: none"> Establishment of: <ul style="list-style-type: none"> Environmental Reporting System Procedures to monitor activities by voluntary industrial associations Private testing laboratories Compilation of inventory data on a sectoral basis 	Establishment of: <ul style="list-style-type: none"> Sectoral associations and Improving existing ones, Sectoral monitoring committees, Strengthening of local Ministry of Environment offices 	<ul style="list-style-type: none"> Appropriate statutory amendments 	Ministry of Environment, Turkish Scientific Research Institution (TUBITAK), TSE, State Planning Organization (DPT), Municipalities, Universities, Professional Engineering Associations.	MEDIUM
A.3. PREPARATION OF PRODUCTION, RAW MATERIALS and ENVIRONMENTAL POLLUTION INVENTORIES	<ul style="list-style-type: none"> Upgrading university and research laboratories Establishment of accredited private testing laboratories 	Establishment of: <ul style="list-style-type: none"> Inventory Data Management Center 	<ul style="list-style-type: none"> Appropriate statutory amendment for establishment of Inventory Data Management Center 	TOBB, Ministries of Environment, Industry and Trade, State Statistical Institute, Universities, TUBITAK	MEDIUM
A.4. ESTABLISHMENT OF ACCREDITED ANALYTICAL and TESTING LABORATORIES	<ul style="list-style-type: none"> Establishment of: <ul style="list-style-type: none"> Regional service facilities Activation of waste exchanges 	Establishment of: <ul style="list-style-type: none"> National Accreditation Center Certification of laboratories Support mechanism for establishment of laboratories 	<ul style="list-style-type: none"> Legislative action on National Accreditation Law 	Ministries of Environment, Industry and Trade, TSE, DPT, Universities, TUBITAK, Industry Associations.	SHORT
A.5. ESTABLISHMENT OF WASTE RECOVERY and DISPOSAL FACILITIES	<ul style="list-style-type: none"> Establishment of: <ul style="list-style-type: none"> Public information centers for environmental reports, continuing training programs Establishment of emergency info. and response centers Local and regional offices 	Establishment of: <ul style="list-style-type: none"> Regional waste management authorities, Local waste monitoring and tracking units 	<ul style="list-style-type: none"> Legal amendments to support : <ul style="list-style-type: none"> Use of regulated waste management facilities, Enforcement for use of licensed Transport system 	Ministries of Environment, Industry and Trade, Undersecretariat of Treasury (DTM), DPT, TOBB	SHORT - MEDIUM
A.6. PREPARATION OF COMMUNITY INFORMATION and INDUSTRY TRAINING PROGRAMS	<ul style="list-style-type: none"> Establishment of emergency response centers 	Institutionalizing information centers <ul style="list-style-type: none"> Establishment of Internet Website. 	<ul style="list-style-type: none"> Appropriate statutory Amendment for establishment of information centers and repositories 	Ministries of Environment, Industry and Trade, TUBITAK, TOBB, Universities, Prof. Engr. Assoc., NGOs	SHORT- MEDIUM
A.7. ESTABLISHMENT OF NATIONAL EMERGENCY INFORMATION AND RESPONSE CENTERS	<ul style="list-style-type: none"> Establishment of emergency info. and response centers Local and regional offices 	<ul style="list-style-type: none"> Establishment of emergency response centers 	<ul style="list-style-type: none"> Appropriate statutory amendments for establishment of centers 	Ministries of Environment, Internal Affairs, Labor, Transport, TOBB, TUBITAK, Universities, Prof. Engr. Assoc.	SHORT - MEDIUM

ACTION PLAN FOR THE TURKISH INDUSTRY on ENVIRONMENTAL NON-TARIFF TECHNICAL BARRIERS
(Continued)

PROPOSED ACTION ITEMS	PROPOSED TECHNICAL ACTIONS	PROPOSED INSTITUTIONAL ACTIONS	PROPOSED REGULATORY ACTIONS	STAKEHOLDERS	ACTION TERMS (Short, Medium, Long)
B.1. INCENTIVES AND TECHNICAL SUPPORT FOR ENVIRONMENT-FRIENDLY PRODUCTION	<ul style="list-style-type: none"> Establishment of: <ul style="list-style-type: none"> Website to announce available clean technologies and available financial support programs No-cost consultancy service mechanism to access available financial support and tax incentives, Increase financial incentives for international trade fair attendance 	<ul style="list-style-type: none"> Encourage industrialists to take active role in government organizations coordinating financial support programs 	<ul style="list-style-type: none"> Appropriate Statutory Amendments for improved financial support of environmental programs 	Ministries of Finance, Environment, Industry and Trade; Undersecretariat of Treasury, DPT, TUBITAK, Universities, TOBB	MEDIUM
B.2. COORDINATION OF NATIONAL POLICIES FOR COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL OBLIGATIONS	<ul style="list-style-type: none"> Preparation of up-to-date sectoral foreign trade projections Establishment of Information Exchange System to monitor WTO cases and rulings 	<ul style="list-style-type: none"> Establishment of a "National Foreign Trade Coordination Committee 	<ul style="list-style-type: none"> Appropriate Statutory Amendments for establishment of "National Foreign Trade Coordination Committee 	Ministries of Foreign affairs, Environment, Industry and Trade; DTM, DPT, TOBB, Universities, TUSIAD	SHORT-MEDIUM-LONG
B.3. MONITORING OF EXPORT RAW MATERIALS AND GOODS FOR COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL REGULATIONS	<ul style="list-style-type: none"> Establishment of adequate number of "Expert Laboratories and Expertise Customs Points Improve effectiveness of "Standardization in Foreign Trade Program Further detailing of Customs Tariff Statistical Positions List 	<ul style="list-style-type: none"> Encourage industrialists to take active role in the present and future Monitoring Commissions 	<ul style="list-style-type: none"> Appropriate Statutory Amendments to allocate adequate technical and financial resources 	Ministries of Industry and Trade, Environment; Undersecretariat of Customs, DTM, TOBB	SHORT
B.4. ESTABLISHMENT OF RISK and CRISIS CENTERS for INTERNATIONAL TRADE	<ul style="list-style-type: none"> Establishment of authority to evaluate Non-Tariff Trade Barriers on Turkish goods in international trade on an emergency basis 	<ul style="list-style-type: none"> Establishment of a "National Foreign Trade Coordination Committee to address Risk and Crisis issues in international trade 	<ul style="list-style-type: none"> Appropriate Statutory Amendments for establishment of "National Foreign Trade Coordination Committee 	Ministries of Foreign Affairs, Environment, Industry and Trade; DTM, DPT, TOBB, Universities, TUSIAD	SHORT