

3 February 2006

# Screening report

# Turkey

## Chapter 25 – Science and Research

**Date of screening meetings:**

Explanatory meeting: 20 October 2005

Bilateral meeting: 14 November 2005

## I. CHAPTER CONTENT

The *acquis* in Chapter 25 – Science and Research – as laid down in Title XVIII of the Treaty requires the Member States to ensure the necessary implementing capacities to pursue the Community objectives and activities in the field of research and technological development, including adequate staffing. The Member States also need to adhere to and to implement specific Science and Research objectives and activities as developed by the open method of coordination. The *acquis* in this Chapter does not require transposition of EU rules into the national legal order.

The most important actions which the Candidate Countries have to implement are: (1) the Sixth Framework Programme (FP6) of the European Community for research, technological development and demonstration activities for the creation of the European Research Area and for innovation (2002-2006), the specific programmes and the rules for the participation of undertakings, research centres and universities and for the dissemination of research results, for the implementation of the FP6 and participation therein and (2) the EURATOM Sixth Framework Programme for nuclear research and training activities and contributing to the creation of the European Research Area (2002 - 2006) and the specific programme and the rules for the participation in the EURATOM Research Programme. As part of the research actions funded by the European Community, the Joint Research Centre (JRC) organises direct actions through its seven specialised institutions.

In March 2000, the Lisbon European Council set the objective for the EU to become the most competitive and dynamic knowledge-based economy in the world by 2010. Since then, a number of important Communications and Action Plans were adopted with the aim of designing and implementing an integrated research policy in support of economic development and creating European excellence and knowledge. In 2000, the Commission adopted the Communication ‘Towards a European Research Area’ covering a wide range of areas. Other relevant communications are the Recommendation on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers (Mobility Action Plan), the Action Plan Science and Society, the Commission Communication ‘Investing in research: an action plan for Europe’ (based on the decision of the Barcelona European Council in 2002 to raise the overall investment in research and development to 3% of GDP by 2010) and the Commission Communication ‘More research and innovation: a common approach’ (based on the renewed Lisbon Strategy).

With respect to both EC Research and EURATOM/Nuclear Research, candidate countries will have to adhere to the bilateral and multilateral agreements the European Community has concluded on respectively science and technology and nuclear research upon accession.

The FP6 programme committees assisting the Commission in implementing the FP6 specific programmes, the Scientific and Technical Research Committee (CREST) as well as the Standing Committee for Agricultural Research are the key bodies in this area.

Finally, a number of ad hoc decisions concerning research in specific areas need to be addressed, such as the European Research Fund for Coal and Steel and the creation of an Article 169 undertaking.

## II. COUNTRY ALIGNMENT AND IMPLEMENTATION CAPACITY

This part summarises the information provided by Turkey and the discussion at the screening meeting.

Turkey indicated that it can accept the *acquis* regarding Science and Research. Turkey indicated that it does not expect any difficulties to implement the *acquis* by accession.

### II.a. Research Policy

As regards Research Policy, the institutional framework for the implementation of EU Research Policy in Turkey is in place. Turkey provides a policy framework especially aiming at developing a substantial and strategic research policy, such as the ‘8<sup>th</sup> Development Plan’ (2001-2005), the ‘Medium-Term Programme’ (2006-2008), which converts the development plan into yearly policies, and the ‘National Science and Research Strategy 2005-2010’. In 2005, a total sum of EUR 544 million (of which EUR 408 million to the public sector) is provided by the State Budget for funding of these research policies, which constitutes an increase of about 113% in comparison to previous years.

### II.b. Framework Programmes

#### EC Framework Programme

Turkey already participated in the 4<sup>th</sup> and 5<sup>th</sup> Framework Programme on a project basis and is now an associated country to the 6<sup>th</sup> Framework Programme (FP6). As far as the national coordination system for all Framework Programmes is concerned, the Turkish Scientific and Technological Research Council (TÜBİTAK) ensures the national coordination of FP6, participates as observer in the programme committees, and is also the national contact point (NCP) organisation. In implementing the programmes, TÜBİTAK is assisted by more than 540 institutional contact points and by a Turkish R&D Liaison Office in Brussels. Turkey has taken numerous actions to increase its participation in FP6, such as FP6 Info Days (so far more than 200 events with approximately 13,000 attendees have been organised), providing grants for researchers, special actions for SMEs, publications, newsletters and web based instruments, such as databases for researchers and research centres.

Regarding the activities of the Joint Research Centre (direct actions), Turkey has also taken numerous actions to increase its participation in these activities (e.g. eleven local JRC information events since October 2004, a web portal for providing updated information on JRC opportunities and participation of Turkish experts in over 100 JRC workshops with participants from acceding and candidate countries). Moreover, 10 Turkish researchers are currently employed at the JRC for temporary stays.

#### EURATOM Framework Programme

Although Turkey has a National Atomic Energy Authority (Turkish Atomic Energy Authority) and currently carries out several research activities funded either by the central budget, the EU or the International Atomic Energy Agency (IAEA), it is not associated to the 6<sup>th</sup> Framework Programme/EURATOM for research and training activities. Turkey announced that for the planned 7<sup>th</sup> Framework Programme it is considering its association to the EURATOM part.

## **II.c. European Research Area**

### European Research Fund for Coal and Steel

Since coal is Turkey's most important energy source and steel is one of its strategic industrial sectors, research activities in these two sectors are considered to be very important. In this context a noteworthy increase in research for coal and steel in recent years but also special research initiatives have taken place. Whereas steel research is mainly based on activities of private research institutions, coal research is mainly carried out by public companies.

Turkey is currently considering and making the necessary analytical studies with a view to participating in the European Research Fund for Coal and Steel (RFCS) by the date of accession.

### Agricultural Research

Since July 2005, Turkey has been participating in the Standing Committee for Agricultural Research. The Ministry of Agriculture and Rural Affairs (MARA) has established in collaboration with TÜBITAK the National Agricultural Research Strategy Plan for 2005-2014.

### International Scientific and Technological Cooperation

Turkey has around 220 scientific and technological bilateral cooperation agreements with 80 countries at inter-governmental and inter-institutional level (among these with 21 EU Member States), a diversified cooperation with regional and international structures (e.g. COST, EUREKA, ESA, ESF, EMBC, NATO, OECD, UNESCO) and two agreements with the European Community. Turkey stated that it will fully accept all existing EC cooperation agreements and that it is aware of the fact that some of these agreements are going to be dealt with also in other chapters of the *acquis*.

As far as Turkey's existing bi- and multilateral agreements in the field of Atomic and Nuclear Energy are concerned, Turkey confirmed its readiness to bring these into compliance with the *acquis* if incompatible with the EURATOM Treaty or to renounce them.

### Actions relating to 3% objective

With a view to ensure sustainable growth, the Turkish Supreme Council for Science and Technology (the main actor of policy making) has taken the decision to gradually increase the Gross Expenditure on Research and Development (GERD) as a percentage of GDP from 0.67% (2002) to 2% in 2010, to increase private expenditure on Research and Development as a percentage of GERD from 28.7% (2002) to 50% and to raise the number of full-time highly qualified scientists from around 24,000 (2002) up to 40,000, all within the same period of time.

In addition to this, Turkey has taken various actions in the scope of the Lisbon Strategy as means to sustain economic growth and employment, such as improving the efficiency of the protection of intellectual property, using public procurement to foster research and innovation, offering tax exemptions for R&D investments, intensifying various University-Industry Partnerships, improving SME access to finance and offering programmes to promote especially young entrepreneurship.

Turkey is currently an observer in the Scientific and Technical Research Committee (CREST). While it has not participated in the Open Method of Coordination carried out by CREST, Turkey plans to do so in the near future. Turkish research organisations have also showed their interest in the recent RTD OMC-NET call for proposals.

#### Article 169 Initiative

Together with other EUREKA Member States, Turkey is committed to the ‘Article 169 Research Performing SME Initiative’ and to take part in the Eurostar-proposal. Furthermore, Turkey is involved in the European Defence Agency and European Space and Technology Platform and would like to participate in the Security Research Sub-programme within the upcoming 7<sup>th</sup> Framework Programme (FP7) which is directly related to the activities of these organisations.

#### Actions relating to mobility of researchers

As regards the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, Turkey has taken numerous measures not only to support research careers but also to facilitate the mobility of researchers: Turkey launched several internal mobility activities such as Scientific Human Resource Development Programmes (opportunities for graduate students to study abroad, improving the quality of Turkish graduate programmes to attract more students, encouraging Turkish universities to establish sustainable multinational networks) and the Faculty (Human Resource) Development Programme (research assistants of partner universities are given the opportunity to enrol and complete their PhD studies at the host university). Other internal mobility activities include the Post-Doctoral Programme (young academics with PhD degrees are allowed to take paid leave from their universities to carry out research at another university for a period of 12-18 months), the Integrated National and International Projects (participation of researchers not only from universities but also from industry and SMEs) and the University-Industry Mobility (university researchers can spend their sabbatical leave at (companies in Technology Development Zones).

In addition, Turkey has launched several international mobility activities such as a sabbatical leave, grants and scholarships and participates in various mobility programmes of the EU (European Research Area) as well as of the Eurasian Research Area. It should also be noted that Turkey is an active participant in the European Researcher’s Mobility project, and is also taking part in the European Network of Researcher’s Mobility Centres ERA-MORE.

#### Actions relating to Science and Society

In Turkey, the highest level institution in charge of the ‘Science and Society’ dimension is the Supreme Council for Science and Technology, chaired by the Prime Minister. In recent years, several actions have been launched to raise awareness and to improve understanding of science by the citizens, either by the State Planning Organisation (in particular e-Government projects), by the Ministry of National Education (e.g. establishment of special Science High Schools) or by TÜBİTAK.

Turkey has adopted a National Science and Technology Strategy (2005-2010). Actions planned under this strategy include the establishment of Science and Society Parks and of Science Museums, increasing the size and the number of Science and Technology Centres, strengthening science communication in media, organising science weeks in schools and increasing the number and quality of scientific publications. Beside the Turkish Government, other major actors include the university sector, industry, NGOs and the media.

Regarding the ethical dimension of science, publicly-funded research in Turkey is subject to several specific ethical rules (e.g. Articles 10 and 11 of the Medical Deontology Regulations, Part 6 of the Ethics of the Medical Profession of the Turkish Medical Association, Articles 32-35 of the Regulations on Patient's Rights and Articles 1 and 8 of the Regulations on Pharmaceuticals Research).

Regarding gender issues in science, around 37% of the total number of researchers in higher education are women.

### **III. ASSESSMENT OF THE DEGREE OF ALIGNMENT AND IMPLEMENTING CAPACITY**

Overall, Turkey has reached a good level of alignment with and capacity to implement the *acquis*. In order to prepare for the full application of the *acquis*, Turkey will need to ensure and demonstrate scientific freedom regarding all relevant scientific institutions and continuous as well as adequate availability of budgetary resources. Turkey will also have to encourage participation of industry in research projects, to create the necessary conditions to stimulate investment in research by the private sector, to undertake actions to increase human resource capacities and to streamline research actions among universities. In addition, Turkey needs to improve capacity building on participation in EU funded research programmes and ensure full association to all Framework Programmes (including 7<sup>th</sup> Framework Programme/EURATOM).

#### **III.a. Research Policy**

While Turkey faces a number of weaknesses such as a comparably low number of researchers, a need for improving skills and research infrastructure, the problem of brain drain and an insufficient private sector involvement, Turkey has already started to address the targets set in the European Research Area. Beside regular consultation of stakeholders, very ambitious targets have been set such as to increase gross expenditure on R & D as percentage of GDP from 0.67% in 2002 to 2% in 2010 and to increase the related industry's participation to 50% in the same period. Progress towards these targets will be monitored.

No legal adjustments are currently necessary for applying the Communication "Towards a European Research Area".

#### **III.b. Framework Programmes**

##### EC Framework Programme

While Turkey is fully associated to FP6, the participation rate of Turkish research entities is still rather low, with a success rate of around 15% for Turkish participants, and 260 accepted projects with 330 Turkish partners. Numerous actions have been taken to improve Turkey's participation rate. The Commission will continue to closely monitor Turkey's administrative capacity.

Regarding the activities of the Joint Research Centre (direct actions), Turkey can already fully participate in specific actions organised for acceding and candidate countries and thus no further actions/initiatives are necessary.

##### EURATOM Framework Programme

Turkey is encouraged to consider positively its association to the EURATOM part of the 7<sup>th</sup> Framework Programme.

### **III.c. European Research Area**

#### European Research Fund for Coal and Steel

As an EC policy instrument, participation in the European Research Fund for Coal and Steel is obligatory for all new Member States. Given the eligibility from accession for research funding, a financial contribution from Turkey to the Fund will be required. The precise calculation of this contribution will need to be covered at a later stage under chapter 35 'Other'.

#### Agricultural Research

With Turkey actively participating in the Standing Committee for Agricultural Research, no difficulties are expected in this area.

#### International Scientific and Technological Cooperation

Due to their complementary status, the Commission does not expect any problems of implementation of the Community's Scientific and Technological Cooperation Agreements. Concerning EURATOM related agreements, Turkey provided relevant information and will have to bring them into conformity with *acquis* if required.

#### Actions relating to 3% objective

Turkey's targets and concrete actions are in compliance with those of the Lisbon Strategy and will help to increase Turkey's GERD as a percentage of GDP (currently of 0.67% in comparison with EU average of around 1.93%). Sustained government funding and adequate monitoring of the effectiveness of the newly introduced measures is necessary.

Turkey has declared its intention to participate in the Open Method of Coordination under CREST and Turkish research organisations have shown interest in the OMC NET call for proposals.

#### Article 169 Initiative

It is welcomed that Turkey intends to participate in this particular field.

#### Actions relating to mobility of researchers

Turkey's measures and actions in this field are in compliance with relevant EU policies (laid down especially by the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers). There is nevertheless a need for further improvement of the legal framework to enhance the mobility of researchers which will be monitored by the Commission. Turkey actively participates in the Steering Group on Human Resources and Mobility (SGHRM) in the European Research Area.

#### Actions relating to Science and Society

General targets comply with EU policies. Although representation of women in science in Turkey is relatively satisfactory and public opinion about science and technology in general is quite optimistic and positive, continuing efforts of all relevant actors of Turkish society are needed in pursuing the targets and objectives of 'Science and Society' as an integral part of FP6 and of the Action Plan on Science and Society, including an exchange of information with the Commission.