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Technical Assistance for Capacity Building on European Pollutant Release and Transfer Register (E-PRTR) in Turkey

TR2013/0327.06-01-02/001

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Case Study of RIA of IPPC in Turkey (2013)



Peter Futo

Workshop: 5-9 March, 2018



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Aims and outcomes of the IPPC / IED Project of MoEU



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What is the IPPC / IED Directive

Major Pillars of IPPC / IED:

- Integrated approach,
- Use of Best Available Techniques as laid down in BAT Reference Documents (BREFs) and so called „BAT conclusions”.
- BAT conclusions are the reference for setting permit conditions.
- Control of IPPC / IED Installations by inspections
- Public Participation.

Integrated approach: Permits must take into account the whole environmental performance of the plant, covering e.g.

- emissions to air, water and land,
- generation of waste and noise
- use of raw materials,
- energy efficiency,
- prevention of accidents,
- and restoration of the site upon closure.



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The IPPC / IED Project of MoEU 2012-2014

- Parallel T.A. and Twinning Components
- Included activities such as
 - Legislative drafting,
 - IPPC Facility Inventory,
 - RIA,
 - Consultation at Workshops
 - Training Courses
 - Website
- Implemented by international consortium led by NIRAS



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Cover page of the RIA Report.

Length: 190 pages (with 4 Annexes)



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The RIA Report





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Policy context: Linkages to other policy areas

- Turkey-EU negotiations
- Industrial strategy of Turkey: Environmental considerations and competitiveness
- Innovation policy and clean production
- SME policy
- Social awareness to environmental issues.



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The Options

Open alternatives regarding:

- ✓ Deadlines – transition time – graduality offered or not, their extent
- ✓ Range of administrative simplifications granted or not, their extent
- ✓ Incentives offered or not, their extent



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Fieldwork:

Business survey of industrial companies of Turkey

Sampling: 57 big companies from 5 regions of Turkey and 5 sectors

Interviewing: with the help of TOBB member associations

Structure of the Questionnaire:

- ✓ Compliance of industry with environmental regulations
- ✓ Environmental costs and revenues
- ✓ Environmentally motivated social and institutional contacts of companies
- ✓ Awareness of the Industrial Emissions Directive
- ✓ Potential impacts of the introduction of IED on the company
- ✓ Regulatory consultation



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Analysis:

Compliance costs of companies estimated by bottom-up method

- ✓ Data from a Spanish IPPC impact assessment survey used. Combining survey-based Spanish cost data with Turkish IPPC inventory data
- ✓ Result: During the first decade of IPPC coming into force in Turkey, the cumulated costs attributable to IPPC will be somewhere between 20 and 40 billion EUR.



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Analysis: Econometric calculation of adaptation costs

Aim: to estimate

- IPPC / IED adaptation costs to industry
- IPPC / IED adaptation time-frames

Cost assessment method: Under the hypothesis of IPPC / IED implemented in Turkey, to calculate

- the reduction of pollution load
- the necessary investment incl. capital expenditures & operating costs over the period of 2012-2025

by applying

- international sector-specific benchmark multipliers
- to Turkish sector-specific production data.

Result:

- IPPC / IED adaptation takes 13 years and costs approximately 46 Billion EUR.
- Approximately half of the total costs of adopting the Acquis in Turkey can be attributed to IPPC / IED



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Analysis: Assessing impacts based on experiences of other countries

- Best practices of assessing the impacts of pollution reduction policies
- Implementation of IPPC and IED in some countries



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Sectoral Analysis:

Description and expected impacts for 5 selected sectors

- Energy industry
- Cement industry
- Chemical industry
- Food and beverages industry
- Textile and clothing industry



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Conclusions of the RIA Report



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Regulatory issues

- Integrated licensing has the potential of becoming the most important driver of pollution avoidance
- During the decade following the introduction of integrated licensing, there is a potential of reducing industrial pollution load by one third.
- Benefits to society greatly surpass the costs to companies.



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Competitiveness issues

- ✓ Pollution abatement and preventive costs are substantial, but do not reduce substantially the competitiveness of Turkish industry.
- ✓ In a wide range of companies environmental requirements will drive innovation and efficiency.
- ✓ Environmental investments integrated into the technological process have a much deeper positive impact on productivity than end-of pipe solutions.



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Recommendations of the RIA



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Recommendations to Deadlines

- ✓ The deadlines of transposition and the schedule of enforcing the requirements is determined by consecutive agreements among the Government, the EU and the representatives of the operators.
- ✓ Deadlines may be different across sectors, but may not be determined on a case by case basis.



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Recommendations to Administrative Simplifications

- ✓ A simplified integrated permitting procedure is established, whereby a single administrative procedure is established which satisfies the requirements of several environmental regulations.
- ✓ Offered only for small and medium sized firms with a registered Environmental Management System and with a good record of environmental compliance.



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Recommendations to Financial Incentives

Offer financial incentives for companies investing into clean technologies

Finance these incentives from

- ✓ National and European funds,
- ✓ Preferential credits and credit guarantees
- ✓ Research and development supported by non-returnable subsidies.



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Recommendations to Awareness Raising

- ✓ The Government and NGOs – as well as chambers of commerce, industrial associations and institutions - should play a crucial part in preparing and managing the adaptation process.
- ✓ Conferences, seminars, guidelines, translation & dissemination of BAT documents.
- ✓ Embracing specific local and sectoral environmental issues.
- ✓ Awareness raising not only for companies, but also for the public.



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Recommendations to improve impact assessment activities

- Support research on country level monitoring and evaluation
- Develop and publish installation-level pollution inventory according to European standards.
- Participate on international forums where impact assessment methods and findings are exchanged.
- Introduce environmental expenditure statistics according to EU standards.



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Annex: Best Practices of Assessing the Impacts of IPPC / IED





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Ireland: Environmental Impacts of Integrated Licensing (2006)

Source: Emissions from IPPC Industry: Quantifying Pollution Trends & Regulatory Effectiveness Final Report for the ERTDI-funded project: 2006-FS NE-38-M4. ERC Report 16 - David Styles and Michael B. Jones.

Milestones

- ✓ 1992 EPA Act established EPA and integrated permitting
- ✓ Integrated Pollution Control (IPC) licences issued since 1994; licensed installations submit emission reports to EPA annually, including 28 parameters.
- ✓ Waste Management Act 1996 established waste permitting
- ✓ Protection of the Environment Act 2003 transposed and fully met requirements of IPPC Directive



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Business survey of firms with IPPC installations

Survey of four IPPC-regulated sectors:

- ✓ Food & Drink manufacturing (n = 32 installations observed),
- ✓ Power Generation (n = 9 installations observed).;
- ✓ Pharmaceutical manufacturing (n = 27 installations observed).; and
- ✓ Non-pharmaceutical chemical manufacturing (n = 27 installations observed).

Some results

- ✓ Integrated licensing was the most important driver of pollution avoidance.
- ✓ IPPC compliance costs in the Pharma sector: 1.6 million EUR per responding installation.
- ✓ Benefits to the companies: environmental licence requirements drive innovation, help companies to identify production efficiencies.



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UK: An Impact Assessment of IPPC (2007)

Source: Mid-term review of the UK's implementation of the Pollution Prevention and Control Regulations. April 2007. Department for Environment, Food and Rural Affairs.

Milestones

- ✓ Environmental Protection Act (1990) introduces an integrated permit system
- ✓ Pollution Prevention and Control (England and Wales) Regulations 2000 (“the PPC Regulations”) and similar regulations for Scotland and Northern Ireland transpose IPPC (96/61/EC) and includes additional operators into integrated permitting.



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Method

Comparative research

- ✓ The study compared costs of pollution prevention with hypothetical costs under the counterfactual scenario, i.e. costs calculated under the false hypothesis that the regulation of 2000 has not been issued.
- ✓ The same comparison was made for benefits.
- ✓ The study compared two groups of operators:
 - ✓ **firms under integrated permit system already before 2000**
 - ✓ **and “first-time entrant” firms, i.e. for whom integrated permitting has begun first after 2000.**

Monetisation

- ✓ Costs expressed in money terms
- ✓ Benefits not converted to money



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Data sources

Use of official **Pollution Inventory** data

- ✓ Calculation of some components of benefits, e.g. improvements in environmental quality since the introduction of IPPC

Use of data obtained from a business survey of 250 operators. Assessed indicators

- ✓ Capital and operating costs for operators (application costs and fees, capital costs, costs of management time, monitoring and reporting, etc.).
- ✓ Innovation and resource efficiency.
- ✓ Other impacts, e.g. regulatory burdens of firms, impacts on small businesses and on environmental industries.



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Results: Costs

- ✓ **Average application cost** (including application fees) £50,000 per operator.
- ✓ **Median one-off compliance cost** associated with the improvements required by the permit (including capital costs) was £32,000 per operator, but varied significantly between operators.
- ✓ **Most operators/respondents said:** IPPC application costs in the UK were unnecessarily high, it reduced their competitiveness with rivals in the UK, Europe and more widely.
- ✓ **Most SME respondents said:** they are at relative disadvantage compared with larger sites.
- ✓ **Regulatory agencies said:** Average annual ongoing implementation costs of regulation per operator was £43,000.



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The EU's Impact Assessment of the IED Directive (2007)

Source: Impact Assessment. Accompanying document to the
Proposal for a Directive of the European Parliament and of the
Council on industrial emissions. Brussels, 21.12.2007

In 2007 the EU has implemented an Impact Assessment of the IED
Directive which in that year was only at the stage of a proposal.



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Aim of the EU's Impact Assessment of IPPC / IED

to achieve the environmental and health objectives in a cost effective way, i.e.

- Reduce administrative burdens,
- Minimize distortions of competition within the EU
- Retain the competitive position of European industry.



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Impacts revealed by business survey

Survey results on how emission prevention and control affect competitiveness:

- ✓ Environmental investments integrated into the technological process have a positive impact on productivity and plant performance...
- ✓ ...but „end-of pipe solutions” had a mixed impact on plant performance.
- ✓ Companies with strong BAT / environmental performance are not economically disadvantaged.
- ✓ **Administrative** costs were found to be insignificant.
- ✓ Countries differ in levels of stringency and regulatory quality. This leads to distortion of competition.



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Cost estimation by case study research

- ✓ **Method:** Estimation of administrative burdens of IPPC based on observations in 15 installations and applying the Standard Cost Model.
- ✓ **Results:**
 - ✓ For companies: The cost of IPPC-related information obligations were estimated to be only a small fraction of the administrative burden of the total of environmental legislation.
 - ✓ For authorities: Average cost to authorities 10.000 Euro per new permits and 7000 Euro for a review of an existing permit.
 - ✓ Total costs: Estimated costs were multiplied by the number of IPPC installations in the EU: 46,000 existing installations (2007).



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Thank you for your attention