

Present Status of Pollution Charge and Finalization of Rules

Mahmood A. Khwaja

Policy Brief Series # 14

All rights reserved. No part of this paper may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or information storage and retrieval system, without prior written permission of the publisher.

A publication of the Sustainable Development Policy Institute (SDPI).

The opinions expressed in the papers are solely those of the authors, and publishing them does not in any way constitute an endorsement of the opinion by the SDPI.

Sustainable Development Policy Institute is an independent, non-profit research institute on sustainable development.



PB-014-001-050-2001-012

© 2001 by the Sustainable Development Policy Institute

**Mailing Address: PO Box 2342, Islamabad, Pakistan.
Telephone ++ (92-51) 2278134, 22278136, 22277146, 22270674-76
Fax ++(92-51) 22278135, URL:www.sdpi.org**

Table of Contents

List of Abbreviations	i
Executive Summary	1
1 Background	1
2 Recommendation of Environmental Standards Committee (ESC)	1
3 Environmental Standards Committee Final Report on Determination of Pollution Charge for Industry	2
4 Decisions of Pakistan Environmental Protection Council (PEPC)	3
Recommendation	3
Annex-A Prohibition of Certain Discharges or Emission (PEPA-97, Section II)	4
Annex-B Formulae for Pollution Charge	5
Annex-C Pollution Units for Effluents and Gaseous Emissions	6
Annex-D Proposal to Avoid Impact of Dilution on Pollution Charges.....	7

The Sustainable Development Policy Institute is an independent, non-profit, non-government policy research institute, meant to provide expert advice to the government (at all levels), public interest and political organizations, and the mass media. It is administered by an independent Board of Governors.

Board of Governors:

Dr Amir Muhammad

Chairman of the Board

Mr. Javed Jabbar

President, MNJ Communications Pvt. Ltd

Mr. Irtiza Husain

Director, Pakistan Petroleum Ltd

Ms Khawar Mumtaz

Coordinator, Shirkat Gah

Mr. Shamsul Mulk

Minister For Irrigation, NWFP

Dr Abdul Aleem Chaudhry

Director, Punjab Wildlife Research Centre

Mr. Mohammad Rafiq

Head of Programme IUCN, Pakistan

Dr Zeba A. Sathar

Deputy Country Representative, Population Council

Mr. Malik Muhammad Saeed Khan

Member, Planning Commission

Dr. Pervez Hoodbhoy

Professor, Quaid-e-Azam University

Karamat Ali

Director, PILER

Dr Shahrukh Rafi Khan

Executive Director, SDPI

In the Policy Briefs series, the SDPI publishes solicited briefs on practical policy issues in the sphere of development. The briefs are written by SDPI's regular or affiliated staff and are meant to provide clear-cut policy outlines which would promote just and sustainable development.

List of Abbreviations

DG	Director General
EAC	Expert Advisory Committee
ESC	Environmental Standards Committee
FPCCI	Federation of Pakistan Chambers of Commerce and Industry
IC	Implementation Committee
MELG&RD	Ministry of Environment, Local Government and Rural Development
NEQS	National Environmental Quality Standards
NGO	Non-Governmental Organization
OICCI	Overseas Investors Chamber of Commerce and Industry
PC	Pollution Charge
PEPA	Pakistan Environmental Protection Act-1997
PEPC	Pakistan Environmental Protection Council
PSDF	Provincial Environmental Protection Council
SDPI	Sustainable Development Policy Institute

Present Status of Pollution Charge and Finalization of Rules

Mahmood A. Khwaja

Executive Summary

In this paper background, information is provided with regard to decisions made by the Environment Standards Committee (ESC) for establishing a "Pollution Charge" (PC) system for industrial units not complying with National Environmental Quality Standards (NEQS) in the country. The ESC was constituted by the Pakistan Environmental Protection Council (PEPC) in 1996, to rationalize NEQS and to work out detailed modalities for their implementation. PEPC designated Sustainable Development Policy Institute (SDPI) as the secretariat of ESC. Members of the ESC included representatives from government, industry and public interest organizations.

The concept of pollution charge, based on the "Polluter Pays Principal" is a key element of the implementation of the NEQS program in the country. The modalities for the determination and implementation of pollution charge were evolved through extensive discussions in several consultative roundtable meetings among representatives of industry, government, environmental non-governmental organizations, academic researchers and the private industrial sector. Pakistan Environmental Protection Act 1997 (PEPA-97) provides the legal basis for it. Pollution charges are to be applied, uniformly across all industry, initially on ten effluent and four gaseous emission parameters. The base rate per pollution unit for calculating the pollution charge has been agreed to be Rs.50/- during the first and second year, and thereafter, the base rate will be Rs. 75/-. The amount would be collected at a progressively increasing rate of 10%, 20%, 40%, 60%, and 80% of the base rate respectively, on a period of five years.

1. Background

Pakistan Environmental Protection Act (PEPA-97) section 11, sub-section (2) provides the legal basis for the application of the pollution charge. (Annex-A) It states:

The Federal Government will levy a pollution charge on any person who contravenes or fails to comply with the provisions of PEPA-97 section 11, sub-section (1), to be calculated at such rate and collected in accordance with such procedures as may be prescribed.

The concept of pollution charge, based on the "polluter pays principle," is a key element of the implementation of NEQS program in the country. This was one of the most difficult areas of work for the Environmental Standards Committee (ESC), in view of the different proposals submitted by the Sustainable Development Policy Institute (SDPI), Pak-EPA and FPCCI, using different criteria of linking it with the cost of (a) effluent clean up (b) environmental damage caused and (c) pollution load, depending on the size and type of industry.

2. Recommendations of Environmental Standards Committee (ESC)

The modalities for the determination and implementation of pollution charge were evolved through extensive discussions, in several consultative roundtable meetings, among representatives of industry, businesses, government, environmental NGOs, academic researchers and the private

industrial sector. The consensus was finally reached on the proposal based on pollution load measured in "pollution unit" in excess of NEQS, as determined by an agreed formulae (Annex-B). The consensus of all stakeholders was also on adopting a market based approach, i.e. a pollution charge combined with fiscal incentives to industries, rather than a "command and control" approach through regulations to ensure compliance with NEQS. The application of NEQS and the levy of pollution charges will be applied uniformly across all industry. Initially, pollution charges are to be applied on ten effluent and four gaseous emission parameters (Annex-C).

The base rate per pollution unit for calculating the pollution charge has been agreed to be Rs.50/- during the first and second year and thereafter, the base rate will be Rs.75/-. The amount would be collected at the rate of 10%, 20%, 40%, 60% and 80% of the base rate respectively over a period of five years. The underlying approach was that one needs to start with a slap on the wrist, but make it cheaper later on to institute pollution control, via preventive and other measures, rather than continue to pay the pollution charge. This, eventually, would ensure that those who introduce cleanup activities do not suffer relative to those who persist with dirty production methods. This approach also meets the dire need for real progress towards making the industry environmentally friendly without jeopardizing a progressively increasing economic growth in the country.

The above recommendations, accepted by ESC and Pakistan Environmental Protection Council (PEPC), for the base rate and the progressive escalating payment schedule, were established by the industry representatives (ESC sub-committee, headed by Vice-President, FPCCI) after weeks of negotiations among themselves. This was an unprecedented achievement in Pakistan, and perhaps anywhere, because industry voluntarily agreed to a charge to be applied to themselves for generating pollution in excess of national environmental quality standards (NEQS).

The ESC sub-committee also proposed changing the term "pollution charge" to "environmental improvement contribution." However, since this requires an amendment in PEPA-97, the existing provision remains in force until such an amendment takes place.

It has been agreed upon by all stakeholders and strongly recommended by ESC that the money collected as pollution charge would be made available for collective environmental services to benefit industry. It would be used primarily for activities that will help in the abatement of environmental pollution such as soft loan for purchase of pollution control equipment, installation of combined treatment plants, research and development of indigenous pollution control technology, roundtable conferences, workshops in support of pollution abatement, training and advisory service for industry.

3. Environmental Standard Committee (ESC), Final Report on Determination of Pollution Charge for Industry.

Pakistan EPA and SDPI jointly developed guidelines for the determination of a pollution charge for industry. The proposal was discussed by the ESC during its meeting on September 23, 1997 and referred to the ESC Expert Advisory Committee (EAC) for consideration and feed back. It was circulated to Provincial EPAs, Federation of Pakistan Chambers of Commerce and Industry (FPCCI) and Overseas Investors Chamber of Commerce and Industry (OICCI) for comments, discussed during two roundtable meetings held in Peshawar and Lahore, and also thoroughly debated in the EAC meetings. On the recommendation of the EAC, the proposal was approved by ESC on March 10, 1998.

The ESC sub-committee, formed to recommend the base rate per pollution unit, and the escalation schedule during the next 4 – 5 years presented its report to the ESC on August 6, 1998. ESC approved the final draft of the guidelines for determination of a pollution charge for industry, as approved by EAC, after incorporating some changes agreed upon during the ESC meeting.

In the same meeting on August 6, 1998, the ESC sub-committee, formed to develop a workable proposal, within the provisions of PEPA-97, for calculation, collection and disbursement of pollution charge money, also presented to the ESC, draft rules (see Box 1 below) and regulations for the same. ESC recommended these for consideration by the Pakistan Environmental Protection Council (PEPC).

Box 1

Rules for Implementation of Pollution Charge

- Industrial Pollution Charge (Calculation and Collection) Rules 1998
- Provincial Sustainable Development (Procedure) Rules 1998.
- Provincial Sustainable Development Fund (Utilization) Rules 1998.

4. Decisions of Pakistan Environmental Protection Council

In the minutes of the 8th Meeting of Pakistan Environmental Protection Council (PEPC) held at Islamabad on August 26, 1999. Agenda Item No. 4 was the “presentation of the Environmental Standards Committee” report. The ESC report containing recommendation, “Levy of pollution charge in accordance with the agreed formula,” was adopted by the Council. PEPC also directed the ESC to continue its functions and to monitor the implementation of its recommendations. Draft rules for levy of pollution charges were circulated for views/comments to the provincial governments. NWFP, Punjab and Sindh have conveyed their concurrence.

In the minutes of the 9th Meeting of Pakistan Environmental Protection Council held at Islamabad on February 03, 2001, Agenda Item No.4 was the “Status of Implementation of National Environmental Quality Standards (NEQS) and Constraints. The following decisions were taken in this regard.

1. Collection of Pollution Charge, as per agreed formula, shall commence with effect from July 1, 2001. The rate of pollution charge from polluting industries shall be gradually increased to equal the cost of clean up. The charge so collected shall be deposited in the Provincial Sustainable Development Funds (PSDF). The administration of the levy of the pollution charges shall be overseen by Tripartite Committees comprised of representatives of industrial associations, EPAs and non-governmental organizations. Provincial Sustainable Development Funds shall be available for investment in environmental friendly projects. Necessary notifications in this regard shall be issued by the Ministry of Environment, LG & RD.

In the last PEPC meeting, Pakistan Institute for Environment Development Action Research (PIEDAR) submitted a proposal for avoiding possible dilution of industrial effluents to reduce the pollution charges. The proposal is attached as (Annex-D).

The proposal may be reviewed through consultation with all stakeholders. Pollution Charge for Industry (Calculation and Collection) rules 2001 have been notified. However, so far the implementation has not occurred.

Recommendations

The issue of institutional arrangement for the collection and disbursement of pollution charge funds has remained unresolved. The government should take initiatives in this matter and resolve the issue through negotiated settlement with all staked holders.

Annex-A

Pakistan Environmental Protection Act 1997 (PEPA – 1997)

Section II Prohibition of certain discharges or emissions – (1) Subject to the provisions of this ACT and the rules and regulations made thereunder no person shall discharge or omit or allow the discharge or omission of any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the National Environmental Quality Standards or, where applicable, the standards established under sub-clause (l) of clauses (g) of sub-section (1) of section 6.

(2) The Federal Government levy a pollution charge on any person who contravenes or fails to comply with the provisions of sub-section (1), to be calculated at such rate and collected in accordance with such procedure as may be prescribed.

(3) Any person who pays the pollution charge levied under sub-section (2) shall not be charged with an offence with respect to that contravention or failure.

(4) The provisions of sub-section (3) shall not apply to projects which commenced industrial activity on or after the thirtieth day of June, 1994.

Annex-B**Formulae for Pollution Charge**

$$\text{Pollution Chare (Rs)} = \frac{(C-S) \times R \times D}{U \times 1000} \times F$$

Where:

C = Pollutants Concentration (mg/L) in Effluent/Emission**S = NEQS for the pollutants****R = Flow Rate (m³ / Day)****D = Total number of operating days/year****U = Pollutant Unit (kgs)****F = Fee (Rs) per Pollution Unit**

TOAL PAYABLE POLLUTION CHARGE BY AN INDUSTRY WOULD BE SUM TOTAL OF POLLUTION CHARGES FOR ALL POLLUTANTS PRESENT (IN EXCESS OF NEQS) IN EFFLUENTS / EMISSIONS BEING DISCHARGED BY THE INDUSTRY

Recommendations: - Pollution to be re-named as “Environmental Improvement Contribution”

Annex-C

Pollution Units for Gaseous Emissions

Carbon Monoxide (CO)	=	400 kgs
Particulates (from coal & other sources)	=	250 kgs
Oxides of Nitrogen (NO _x) and Sulphur (SO _x)	=	200 kgs
Particulates (from oil)	=	150 kgs
Particulates (from cement)	=	100 kgs

Pollution Units for Effluents

COD, TSS	=	50kgs
Oil and Grease	=	3 kgs
Copper	=	1000 gms
Chromium, Nickle, led	=	500 gms
Cadmium, Pesticides, Herbicides	=	100 gms
Merury	=	20 gm

Annex-D

Proposal to Avoid Impact of Dilution on Pollution Charges

Under the exemption section;

The exemption for each parameter is equivalent to the pollution load within the NEQS during the determination period. For each parameter, the exemption is expressed in terms of *exemption per unit output*. This is calculated as the total exempted pollution load for the parameter divided by the production during the determination Period.

Under the. calculation section

For each parameter the exemption is calculated as the exemption per unit output multiplied by the production of the unit during the previous six months.

Net quantity of pollutant is defined as the total quantity of pollutant minus the exemption.

Effects of this modification

Subsequent to the determination period, dilution of the effluents has no effects on the net quantity of pollutant, in other words, dilution does not reduce the pollution charges.

Pollution charges example reformatted

Production rate 100% (same)
 Effluent/ton output 100% (same)
 Pollution level 100% (same)

NEQS parameters		Recorded			One pollution unit equals
		Year 1	Year2	Year 3	
COD	150	5200	5200	5200 mg/l	50 kg
TSS	150	500	500	500 mg/l	50 kg

Annual operating days 160 160 160 days
 Production rate/days 6,000 6,000 6,000 tons
 Effluent flow rate 5,300 5,300 5,300 m3/day or
 Per year 848,000 848,000 848,000 m3/year
 Effluent/ton production 0.88333 0.88333 0.88333 m3/day

Calculation of Pollution Charge Year 1

Actual pollution level		Annual Pollution load			Chargeable units
		Gross	Discount	Net	
COD	5200 mg/l	4,409,600	127,200	4,282,400	85,648
TSS	500 mg/l	424,000	127,200	296,800	5,936
Total					91,584 units

Calculation of pollution charge Year 2

Actual Pollution level		Annual pollution load			Chargeable units
		Gross	Discount	Net	
COD	5200 mg/l	4,409,600	127,200	4,282,400	5,648
TSS	500 mg/l	424,000	127,200	296,800	5,936
Total					91,584 units

Calculation of pollution charge Year 3

Actual pollution level		Annual pollution load			Chargeable units
		Gross	Discount	Net	
COD	5200 mg/l	4,409,600	127,200	4,282,400	85,648
TSS	500 mg/l	424,000	127,200	296,800	5,936
Total					91,584 units

Base rate per unit 100 Rs/unit (for example)

Total pollution charge	Year 1	Year 2	Year 3
at	20%	40%	60%
Rs./Year	1,831,680	3,663,360	5,495,040

Pollution charge per ton output (Rs)	1.908	3.816	5.724
at year-5 rates:	9.54	9.54	9.54

Annex-D.2

Pollution charges example reformatted	CURRENT rules
Production rate	100% (same)
Effluent/ton output	200% (double)
Pollution level	50% (half)

NEQS parameters	Recorded			One pollution unit equals
	Year 1	Year2	Year3	
COD 150	5200	2600	1300 mg/l	50 kg
TSS 150	500	250	125 mg/l	50 kg

Annual operating days	160	160	160 days
Production rate	6,000	6,000	6,000 tons
Effluent flow rate	5,300	10,600	21,200 m3/day or
Per year	848,000	1,696,000	3,392,000 m3/year
Effluent/ton production	0.8333	1.76667	3.53333 m3/day

Calculation of pollution charge Year 1

Actual pollution level		Annual Pollution load			Chargeable units
		Gross	Discount	Net	
COD	5200 mg/l	4,409,600	127,200	4,282,400	85,648
TSS	500 mg/l	424,000	127,200	296,800	5,936
Total					91,584 units

Calculation of pollution charge Year 2

Actual pollution level		Annual pollution load			Chargeable units
		Gross	Discount	Net	
COD	2600 mg/l	4,409,600	254,400	4,155,200	83,104
TSS	500 mg/l	424,000	254,400	169,600	3,392
Total					86,496 units

Calculation of Pollution charge Year 3

Actual pollution level		Annual pollution load			Chargeable units
		Gross	Discount	Net	
COD	1300 mg/l	4,409,600	508,800	3,900,800	78,016
TSS	125 mg/l	424,000	424,000		0
Total					78,016 units

Base rate per unit 100 Rs/unit (for example)

Total pollution charge	year1	year2	year3
at	20%	40%	60%
Rs./year	1,831,680	3,459,840	4,680,960

Pollution charge per ton output (Rs)	1.91	3.60	4.88
	9.54	9.01	8.13

