

**Pakistan environmental legislation and the
National Environmental Quality Standards**

Major Pakistan environmental legislation

Sector	Legislation
Environmental protection	The Pakistan Penal Code (1860) Pakistan Environmental Protection Ordinance, No. XXVII of 1997
Land use	The Land Improvement Loans Act (1883) The Punjab Development of Damaged Areas Act (1952) The Punjab Soil Reclamation Act (1952) The West Pakistan Agricultural Pests Ordinance (1959) and Rules (1960) The Islamabad (Preservation of Landscape) Ordinance (1966) The Punjab Development Cities Act (1976) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) The NWFP Salinity Control and Reclamation Act (1988)
Water quality and resources	The Pakistan Penal Code (1860) The Canal and Drainage Act (1873) The Factories Act (1934) West Pakistan (?) Act (1958) The Balochistan Ground Water Rights Administration Ordinance (1978) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) On-Farm Water Management and Water Users' Associations Ordinance (1981) Indus River Water Apportionment Accord-(1991) Statutory Notification S.R.R. 742 (1993)

Major Pakistan environmental legislation (continued)

Air quality	<p>The Pakistan Penal Code (1860) The Factories Act (1934) The West Pakistan Prohibition of Smoking in Cinema Houses Ordinance (1960) The Motor Vehicles Ordinance (1965) and Rules (1969) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) Statutory Notification S.R.R. 742 (1993) Statutory Notification S.R.R. 1023 (1995)</p>
Noise	<p>The West Pakistan Regulation and Control of Loudspeakers and Sound Amplifiers Ordinance (1965) The Motor Vehicle Ordinance (1965) and Rules (1969)</p>
Toxic or Hazardous Substances	<p>The Pakistan Penal Code (1860) The Explosives Act (1884) The Factories Act (1934) The Agricultural Pesticides Ordinance (1971) and Rules (1973)</p>
Solid wastes and effluents	<p>The Factories Act (1934) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) Pakistan Environmental Protection Ordinance, No. XXVII of 1997</p>
Marine and fisheries	<p>The West Pakistan Fisheries Ordinance (1961) Balochistan Sea-Fisheries Ordinance (1970) and Rules (1971) The NWFP Fisheries Rules (1976) Territorial Waters and Maritime Zones Act (1976)</p>
Forest conservation	<p>The Punjab Forest (Sale of Timber) Act (1913) The Forests Act (1927) The NWFP Hazara Forest Act (1936) The West Pakistan Firewood and Charcoal (Restrictions) Act 1964 The Punjab Plantation and Maintenance of Trees Act (1974) The Cutting of Trees (Prohibition) Act (1975) The NWFP Management of Protected Forests Rules (1975) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) The NWFP (Conservation and Exploitation of Certain Forests in Hazara Division) Ordinance (1980) The NWFP Forest Development Corporation Ordinance (1980)</p>

Major Pakistan environmental legislation (continued)

<p>Parks and wildlife conservation protection</p>	<p>The West Pakistan Ordinance (1959) The Kohat Marzri Control Act (1954) The Sindh Wildlife Protection Ordinance (1972) and Rules (1972) The Punjab Wildlife (Protection Preservation Conservation and Management) Act (1974) and Rules (1974) The Balochistan Wildlife Protection Act (1974) and Rules (1975) The NWFP Wildlife (Protection Preservation Conservation and Management) Act (1975) and Rules (1976) The Pakistan Plant Quarantine Act (1976) Islamabad Wildlife (Protection Preservation Conservation and Management) Ordinance (1979/80) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) Export and Control Order (1982)</p>
<p>Mineral development</p>	<p>The Regulation of Mines and Oil-Fields and Mineral Development (Government Control) Act (1948)</p>
<p>Cultural environment</p>	<p>The Antiquities Act (1975) The Punjab Special Premises (Preservation) Ordinance (1985)</p>
<p>Livestock</p>	<p>West Pakistan Goats (Restriction) Ordinance (1959) West Pakistan Punjab Animal Slaughter Control Act (1963) The Grazing of Cattle in the Protected Forests (Range Lands) Rules (1978) Pakistan Animal Quarantine (Import and Export of Animals and Animal Products) Ordinance (1979/80) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80)</p>
<p>Public health and safety</p>	<p>The Pakistan Penal Code (1860) The Boilers Act (1923) The Public Health (Emergency Provisions) Ordinance (1944) The West Pakistan Factories Canteen Rules (1959) The Balochistan, NWFP, Punjab and Sindh Local Government Ordinance(s) (1979/80) The West Pakistan Epidemic diseases Act (1979/80)</p>

Principal source: Table 5.8, The Pakistan National Conservation Strategy

National Environmental Quality Standards for municipal and liquid industrial effluents (mg/l, unless otherwise defined)

Serial No.	Parameter	Existing Standards	Revised Standards		
			Into Inland Waters	Into Sewage Treatment	Into Sea
1	Temperature / Temperature increase*	40°C	≤3°C	≤ 3°C	≤ 3°C
2	pH value	6-10	6-9	6-9	6-9
3	5-days Biochemical Oxygen Demand (BOD) at 20°C. (1)	80	80	250	80**
4	Chemical Oxygen Demand (COD) (1)	150	150	400	150
5	Total suspended solids	150	200	400	200
6	Total dissolved solids	3500	3500	3500	3500
7	Grease and oil	10	10	10	10
8	Phenolic compounds (as phenol)	0.1	0.1	0.3	0.3
9	Chloride (as Cl)	1000	1000	1000	SC
10	Fluoride (as F)	20	10	10	10
11	Cyanide (as CN) total.	2	1	1	1
12	An-ionic detergents (as MBAS) (2)	20	20	20	20
13	Sulphate (SO ₄)	600	600	1000	SC
14	Sulphide (S)	1.0	1	1	1
15	Ammonia (NH ₃)	40	40	40	40
16	Pesticides, herbicides, fungicides and insecticides (3)	0.15	0.15	0.15	0.15
17	Cadmium (4)	0.1	0.1	0.1	0.1
18	Chromium (trivalent & hexavalent) (4)	1.0	1	1	1

National Environmental Quality Standards (continued)

19	Copper (4)	1.0	1	1	1
20	Lead (4)	0.5	0.5	0.5	0.5
21	Mercury (4)	0.01	0.01	0.01	0.01
22	Selenium (4)	0.5	0.5	0.5	0.5
23	Nickel (4)	1.0	1	1	1
24	Silver (4)	1.0	1	1	1
25	Total toxic metals	2.0	2	2	2
26	Zinc	5.0	5	5	5
27	Arsenic (4)	1.0	1	1	1
28	Barium (4)	1.5	1.5	1.5	1.5
29	Iron	2.0	8	8	8
30	Manganese	1.5	1.5	1.5	1.5
31	Boron (4)	6.0	6	6	6
32	Chlorine	1.0	1	1	1

1. Summing minimum dilution 1:10 on discharge, lower ratio would attract progressively stringent standards to be determined by the Federal Environmental Protection Agency. By 1:10 dilution means for example, that for each one cubic meter of treated effluent the recipient water body should have 10 cubic meter of water for dilution of this effluent.
2. Modified Benzene Alkyl Sulphate; assuming surfactant as biodegradable.
3. Pesticides, herbicides, fungicides, and insecticides.
4. Subject to total toxic metals discharge.
5. Applicable only when and where sewage treatment is operational and BOD₅=80 mg/l is achieved by the sewer treatment system.
6. Provided discharge is not at shore and not within 10 miles of mangrove or other important estuaries.

SC Discharge concentration at or below Sea concentration.

- * The effluent should not result in temperature increase of more than 3C at the edge of the zone where initial mixing and dilution take place. In case zone is not defined, use 100 meters from the point of discharge.

Note: Dilution of gaseous emissions and liquid effluents to bring them to the NEQS limiting value is not permissible through excess air mixing/blowing in to the gaseous emissions or through fresh water mixing with the effluent before discharge into environment.

- ** The value of BOD and COD is 200 and 400 respectively

National Environmental Quality Standards for industrial gaseous emission (mg/ nm³ unless otherwise defined)

Serial No.	Parameter	Source of Emission	Existing Standards.	Revised Standards
1	Smoke (1)	Smoke opacity not to exceed	40% or 2 (Ringlemann scale)	40 %
2	Particulate matter (2)	Boilers and furnaces: (i) Oil fired. (ii) Coal fired. (iii) Cement Kilns. Grinding, crushing, clinker coolers and related processes, metallurgical processes, converter, blast furnaces and cupolas	300 500 200 500	300 500 200 500
3	Hydrogen Chloride (3)	Any.	400	400
4	Chlorine (3)	Any.	150	150
5	Hydrogen fluoride (3)	Any.	150	150
6	Hydrogen sulphide (3)	Any.	10	10
7	Sulphur Oxides	Sulphuric acid plant Others.	400	5000 1700
8	Carbon monoxide (3)	Any.	800	800
9	Lead (3)	Any.	50	50
10	Mercury (3)	Any.	10	10
11	Cadmium (3)	Any.	20	20
12	Arsenic (3)	Any.	20	20
13	Copper (3)	Any.	50	50
14	Antimony (3)	Any.	20	20
15	Zinc (3)	Any.	200	200
16	Oxides of Nitrogens	Nitric acid manufacturing unit. Gas fired. Oil fired Coal fired	400 400 400	3000 400 600 1200

*See Note on page 7

National Environmental Quality Standards (continued)

1. Or 2 on the Ringlemann scale
2. Based on the assumption that the size of the particulates is 10 micron or more.
3. Any source
4. In respect of emissions of sulphur dioxide and nitrogen oxides, the power plants operating on oil or coal as fuel shall, in addition to national Environmental Quality Standards (NEQS) specified above, comply with the following standard.

Sulphur dioxide and nitrogen oxide ambient air requirements

A. SULPHUR DIOXIDE				
Sulphur Dioxide Background Levels (ug/m ³)				
Background Air Quality (SO ₂ Basis)	Annual Average (ug/m ³)	Max. In 24 Hour Interval (ug/m ³)	Standards	
			Criterion I Max. SO ₂ Emission (Tons/day/Plant)	Criterion II Max. Allowable Ground Level Increment To Ambient (One year average, ug/m ³)
Unpolluted	<50	<200	500	50
Moderately Polluted*				
Low	50	200	500	50
High	100	400	100	10
Very Polluted**	>100	>400	100	10
* For intermediate values between 50 and 100 µg/m ³ linear interpolations should be used				
.** No project with sulphur dioxide emissions will be recommended				

B. NITROGEN OXIDES	
Ambient air concentrations of nitrogen oxides, expressed as NO ₂ , should not exceed the following:-	
Annual Arithmetic Mean	100 ug/m ³ (0.05 ppm)
Emission levels for stationary sources discharges, before mixing with the atmosphere, should be maintained as follows:	
For fuel fired steam generators, as nanogram (10E-9 gram) per joule of heat input:	
Liquid fossil fuel	130
Solid fossil fuel	300
Lignite fossil fuel	260