

**ENVIRONMENTAL SUSTAINABILITY AND POWER SECTOR  
GOVERNANCE IN PAKISTAN**



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## ABSTRACT

Rapid degradation of natural environment and depletion of natural resources due to economic development and urbanization has diverted the attention of policy makers to address the environmental concerns in national development policies and programs. It is proved by the research that power sector development (due to use of fossil fuels and other renewable and non-renewable natural resources) has direct relation with impairment of natural environment therefore; energy and environment” has become an emerging area of research at this time. Globally, the proper integration of environment in power sector governance is thought to be one of the solutions to achieve the target of sustainable power sector development. Present study identifies the existing status of coordination between power sector governance and environment in Pakistan. Key finding of the study is that proper integration of environmental sustainability in power sector governance is lacking in Pakistan. Most of the power sector legislation and policies and existing system of power sector governance is sector specific and works in isolation paying no or little attention to environmental concerns whereas; the environmental matters are considered the sole responsible of federal and provincial environment department. National Electric Power Regulatory Authority (NEPRA), the main power sector regulatory body in Pakistan has targeted approach and shows little attention towards the environmental and social aspects related to power sector development in the country. Proper integration of environment is also deficient in other power sector institutions in Pakistan such as Water and Power Development Authority (WAPDA), Private Power Infrastructure Board (PPIB), Alternative Energy Development Board (AEDB) and Pakistan Nuclear Regulatory Authority (PNRA). Close coordination between power sector and environment in Pakistan is of key importance not only at national level but it is also a prerequisite to compete with the international market in the present age of resource scarcity and energy crises. This study therefore; recommends that environmental concerns should be addressed at an early stage in power sector planning and policies without which it would be impossible to achieve the target of sustainable power sector development as well as to meet the challenges of current energy crises in a sustainable manner. “Economic and social implications of integration of power sector and environment” have been identified as key domains of further research in this area.

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## ABBREVIATIONS

AEDB	Alternative Energy Development Board
AJK	Azad Jammu and Kashmir
CDM	Clean Development Mechanism
CER	Carbon Emission Reductions
CHASHNUPP	Chashma Nuclear Power Plant
DISCOs	Distribution Companies
DNSRP	Directorate of Nuclear Safety and Radiation Protection
EIA	Environmental Impact Assessment
EU	European Union
ENY	Energy Year Book
FTC	Federal Trade Commission
GDP	Gross Domestic Production
GENCOs	Generation Companies
GWh	Giga Watt Hours
IA	Implementation Agreement
IEE	Initial Environmental Examination
IPPs	Independent Power Producers
KANUPP	Karachi Nuclear Power Plant
KP	Khyber Pakhtukhwa
LAA	Land Acquisition Act
MoWP	Ministry of Water and Power
MW	Mega Watt
NCS	National Conservation Strategy
NEP	National Environmental Policy
NEPRA	National Electric Power Regulatory Authority
NOC	No Objection Certificate
NRC	Nuclear Regulatory Commission

NSLD	Nuclear Safety and Licensing Division
NTDC	National Transmission and Dispatch Company
PAEC	Pakistan Atomic Energy Commission
Pak-EPA	Pakistan Environmental Protection Agency
PEPA	Pakistan Environmental Protection Act
PEPC	Pakistan Environmental Protection Council
PEPO	Pakistan Environmental Protection Ordinance
PNRA	Pakistan Nuclear Regulatory Authority
PNRA	Pakistan Nuclear Regulatory Authority
PPIB	Private Public Infra Structure Board
PSDF	Provincial Sustainable Development Funds
RE	Renewable Energy
UNDP	United Nation Development Program
UNIDO	United Nation Industrial Development Organization
US-EPA	United States Environmental Protection Agency
WAPDA	Water and Power Development Authority
WB	World Bank
WEC	WAPDA Environment Cell

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