Proposal

# Accelerating Energy Transition in Pakistan: A Roadmap for Policy, Innovation, and Partnership

## 1. Introduction

Energy transition is no longer a distant aspiration for Pakistan—it is an urgent necessity. Rising import bills, circular debt, inefficiencies in the power sector, and climate vulnerability demand a fundamental shift toward renewable, sustainable, and resilient energy systems.  
  
Pakistan’s energy transition will require policy reforms, technological innovation, investment mobilization, and international partnerships. As a policy think tank, the Perspective Policy Research Institute Islamabad (PPRII) is uniquely positioned to facilitate this transformation through research, dialogue, and collaboration with domestic and international stakeholders, especially China.

## 2. Why Energy Transition is Critical for Pakistan

* Economic Security: Dependence on imported fossil fuels costs Pakistan billions in foreign exchange annually.
* Climate Resilience: Pakistan ranks among the top 10 most climate-vulnerable countries. Floods and heatwaves highlight the urgency of low-carbon adaptation.
* Energy Access & Equity: Nearly 40 million people in rural areas lack reliable electricity.
* Global Commitments: Pakistan must align with its Paris Agreement targets and Sustainable Development Goals (SDGs).

## 3. Strategic Focus Areas for Energy Transition in Pakistan

* Renewable Energy Expansion: Large-scale solar and wind parks in Sindh, Punjab, and Balochistan; micro-hydropower and solar mini-grids for rural communities.
* Smart Grid Modernization: Upgrading transmission and distribution systems with AI-enabled smart grids to reduce losses.
* Energy Storage Solutions: Investment in battery storage and pumped hydropower.
* Green Transport: Introduction of electric vehicles (EVs), charging infrastructure, and electrification of public transport.
* Industrial Energy Efficiency: Adoption of Chinese technologies for energy efficiency in textiles, cement, and steel; creation of Green Industrial Parks under CPEC Phase-II.

## 4. Role of China in Pakistan’s Energy Transition

* Technology Transfer: China is the global leader in solar panels, wind turbines, EVs, and storage systems.
* Investment & Financing: Through CPEC’s Green Corridor, China can fund renewable infrastructure and localized manufacturing in Pakistan.
* Joint Research & Innovation: Establishment of Pakistan–China Green Energy Innovation Centers for R&D.
* Capacity Building: Training Pakistani engineers, researchers, and policymakers in Chinese institutions.

## 5. What PPRII Can Do

PPRII proposes the following initiatives to support and accelerate Pakistan’s energy transition:

* Policy Research & Advocacy: Conduct studies, develop roadmaps, and provide recommendations to government.
* Facilitation of Pakistan–China Collaboration: Act as a bridge between stakeholders, initiate joint research, and propose bilateral working groups.
* Capacity Building & Knowledge Sharing: Organize training programs, workshops, and exchanges with Chinese universities.
* Pilot Projects & Demonstrations: Partner to launch pilot solar micro-grids and EV pilot projects.
* Regional & Global Engagement: Position Pakistan as a case study in South–South cooperation on energy transition.

## 6. Conclusion

Pakistan’s energy transition is a national security and development imperative. Through strategic reforms, international partnerships, and innovative solutions, Pakistan can shift toward a cleaner, resilient, and more sustainable energy future.  
  
The Perspective Policy Research Institute Islamabad (PPRII) is ready to serve as a policy catalyst, dialogue facilitator, and collaboration hub to connect Pakistan with China and other global partners in driving energy transformation.

Prepared by: Dr. Fouzia Amin  
Director Research & Consultant  
Perspective Policy Research Institute Islamabad (PPRII)