

Ministry of Energy  
(Power Division)



# National Electricity Plan 2023-2027

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First Plan



# **National Electricity Plan 2023-2027**

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**First Plan**

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# Interpretation of Terms

Unless the context otherwise requires, terms used in this National Electricity Plan are assigned the following meaning:

AEDB	Alternative Energy Development Board
AMI	Advanced Metering Infrastructure
ARE Policy 2019	The Alternative and Renewable Energy Policy of the Government
AT&C losses	Aggregate Technical & Commercial losses
BoD	Board of Directors
BTU	British Thermal Unit
CASA-1000	Central Asia South Asia Electricity Transmission and Trade Project
CCI	Council of Common Interests
CCoE	Cabinet Committee on Energy
CER	Central Electrification Registry
CMOD	Commercial Market Operation Date
CNIC	Computerized National Identity Card
COD	Commercial Operation Date
CoE	Center of Excellence
CPEC	China–Pakistan Economic Corridor
CPPA-G	Central Power Purchasing Agency (Guarantee) Limited
CPRD	Central Platform for Research and Development
CTBCM	Competitive Trading Bilateral Contract Market
DERs	Distributed Energy Resources including distributed generation, storage etc.
Designated Entity	The entity or entities designated by Ministry of Energy (Power Division) to perform the functions envisaged under this National Electricity Plan
DFI	Development Finance Institution
DIIP	Distribution Integrated Investment Plan
DISCOs	Distribution companies engaged in distribution and last resort supply business, including but not limited to XW-DISCOs and K-Electric
DSM	Demand Side Management
ECD	Electricity-CNIC Database
EDB	Engineering Development Board
EE&C	Energy Efficiency & Conservation
EPRC	Energy Planning & Resource Centre
ERP	Enterprise Resource Planning
ESG	Environmental, Social and Governance
EV	Electric Vehicle
FFCA	Forward-looking Fuel Cost Adjustment
FOREX	Foreign Exchange
FRDP	Five-Year Research and Development Program

FY	Fiscal Year, i.e., the year beginning on 1st of July and ending on 30th of June following
GCISE	Global Change Impact Studies Centre
GENCO	Government owned generation company
GHG	Green House Gas
GIS	Geographic Information System
Government	The Federal Government of Pakistan
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
HV&SC Laboratory	High Voltage and Short Circuit Laboratory
IAA	Independent Auction Administrator
ICT	Information and Communication Technology
IEP	Integrated Energy Plan
IGCEP	Indicative Generation Capacity Expansion Plan
IPP	Independent Power Producer
LCV	Least Cost Violation, i.e., incremental cost (beyond least cost)
LTP	Long Term Transmission Plan
Market Operator	The entity licensed as a 'market operator' under NEPRA Act
MDI	Maximum Demand Indicator
MIRAD	Market Implementation and Regulatory Affairs Department
MoCC	Ministry of Climate Change
MoE (Power Division)	Ministry of Energy (Power Division)
MoE (Petroleum Division)	Ministry of Energy (Petroleum Division)
MoF	Ministry of Finance
MoIP	Ministry of Industries & Production
MoNFS&R	Ministry of National Food Security & Research
MoPD&SI	Ministry of Planning Development & Special Initiatives
MoST	Ministry of Science & Technology
NADRA	National Database & Registration Authority
National Electricity Policy	CCI approved National Electricity Policy of the Government
NEAR	National Electricity Access Report
NE-Plan or National Electricity Plan	This first National Electricity Plan
NEECA	National Energy Efficiency and Conservation Authority
NEPRA Act	Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997, as amended from time to time
NGC	National Grid Company, licensed under NEPRA Act
NITB	National Information Technology Board
NOC	No Objection Certificate
NSER	National Socio-Economic Registry as developed by PASS Division
OGRA	Oil & Gas Regulatory Authority
PASS Division	Poverty Alleviation and Social Safety Division of the Government
PBS	Pakistan Bureau of Statistics

PGC	Provincial Grid Company, licensed under NEPRA Act
PGP 2015	The Power Generation Policy of the Government
PIS	Power Information System
PITC	Power Information Technology Company
PMS	Power Market Survey
Provincial Government	The government of one of the provinces
PPMC	Power Planning and Monitoring Company
PIIB	Private Power and Infrastructure Board
PSIP	Power Sector Indigenization Plan
R&D	Research and Development
Regulator	National Electric Power Regulatory Authority (NEPRA)
RLNG	Re-gasified Liquefied Natural Gas
SBP	State Bank of Pakistan
SCADA	Supervisory Control and Data Acquisition system
SPTL	Special Purpose Transmission Licensee, licensed under NEPRA Act
SRAR	Strategic Risk Assessment Report
SRMU	Strategic Risk Management Unit
STP	Secondary Transmission Plan
Supplier of Last Resort	Supplier of last resort as provided in approved market design (CTBCM)
System Planner	The entity performing function of system planning under NEPRA Act
System Operator	The entity performing function of system operations under NEPRA Act
Transmission Line Policy	Policy Framework for Private Sector Transmission Line Projects 2015
TSEP	Transmission System Expansion Plan
UNE program	Universal National Electrification program
XW-DISCOs	Existing state-owned distribution companies, as restructured or privatized from time to time



## Message from the Minister

I am delighted to introduce the National Electricity Plan 2023-27 (NE-Plan), a monumental achievement in addressing the pressing challenges confronting Pakistan's power sector. Our nation has long grappled with energy security, affordability, and environmental sustainability issues. The NE-Plan emerges as a comprehensive roadmap, offering meaningful solutions. Its primary goal is the complete overhaul of the power sector value chain, encompassing generation, transmission, and distribution. This holistic approach underscores our commitment to addressing long-standing issues that have hindered the sector's growth and stability.

The NE-Plan, ratified by the Cabinet, goes beyond a mere document; it is a dynamic blueprint for resolving the intricate problems within the power sector. It provides a well-defined action plan with clear timelines and tangible targets. This plan places paramount importance on social protection by ensuring the affordability of electricity, expanding electrification to even the most remote regions, and fostering economic stability through localization and self-sufficiency measures. In a nation where millions depend on reliable electricity for their livelihoods, the NE-Plan strategically emphasizes subsidy rationalization and financial viability.

The NE-Plan is a promise to the people of Pakistan—a pledge to transform our power sector, illuminate homes, and fuel progress and prosperity. Together, we will diligently implement this plan, ushering in the much-needed reforms that will ensure our nation's energy needs are met efficiently, sustainably, and inclusively.

Acknowledging the gravity of the challenges we face, it is only right to express my sincere appreciation for the team and all related stakeholders. Their relentless efforts have provided a foundation upon which we can build a more robust and sustainable power sector. Their collective efforts have been instrumental in shaping a plan that holds the promise of reforming our power sector comprehensively.

**Muhammad Ali**

# Message from the Secretary

With great satisfaction and a profound sense of accomplishment, I present the first National Electricity Plan 2023-27 (NE-Plan) to all of you. This comprehensive plan signifies a step towards achieving sustainability in the power sector, a pre-requisite for the economic stability and prosperity of Pakistan.

The plan outlines the implementation framework for the National Electricity Policy 2021 under the umbrella of six overarching objectives that include: diversification, resilience & accessibility, self-sufficiency, affordability, financial viability and sustainability. It also contains a tangible action plan to address a multitude of dimensions within the power sector, covering twenty priority areas including inter-alia: investments, subsidies, fiscal incentives, regional integration, localization, digitalization, tariff design, climate change mitigation, governance, research & development, and capacity building.

The plan is distinct due to its structured approach wherein each of its priority areas is supported by performance indicators along with respective responsible entities and defined targets. All of this is governed under a robust monitoring & reporting framework, empowering us to track the progress and to respond to any challenges, that may arise during its implementation. This approach is pivotal in ensuring transparency and accountability in achieving the NE-Plan's objectives.

NE-Plan is the result of extensive collaboration and consultation with national and international stakeholders, achieved through focus group sessions and stakeholder interactions. Plan Development Unit (PDU) and all who contributed to the process deserve appreciation for their contributions and dedicated work. I would be failing in my duty if I do not place on record the hard work and diligence with which certain individuals like Mahfooz Bhatti, Talha Khalid, Saad Nawaz and Samim Affan have contributed to this plan's evolution and finalization.

This Plan represents more than just a document; it embodies a vision for a sustainable, efficient, and resilient energy future for Pakistan. The key to its true success lies in effective and efficient implementation and together, we will diligently work towards realizing this vision through an integrated approach.

**Rashid Mahmood**

# I. Introduction

## A. Preamble

- i) Council of Common Interests approved the National Electricity Policy, in pursuance to the stipulations under Section 14A(1) of Regulation of Generation, Transmission and Distribution of Electric Power Act (NEPRA Act), to serve as an over-arching umbrella for development, reforms, improvement and sustainability of the power sector. Section 14A(4) of the NEPRA Act, further, requires development of National Electricity Plan.
- ii) The approved National Electricity Policy stipulates that the National Electricity Plan shall provide guidelines, implementation mechanisms and tools for the realization of the policy goals for the power sector. Further, National Electricity Policy entails inclusion of high-level tasks, timelines and responsibilities of respective entities in National Electricity Plan to meet policy directives. Per National Electricity Policy, this National Electricity Plan will be a five-year plan with fifteen years' perspective.
- iii) This first National Electricity Plan shall be applicable for the control period from the date of its notification till FY-2027. To ensure smooth transition and sustainable development of strategic framework of power sector, this plan acknowledges the existing decisions, plans and targets of the Government, to the extent they are not in conflict with the directives and targets of National Electricity Policy and National Electricity Plan. This National Electricity Plan, being the strategic implementation framework of the National Electricity Policy, shall inform the subservient policy frameworks, guidelines, roadmaps and business plans of the power sector on a rolling basis.

## B. Development Process

- i) Development of National Electricity Plan (NE-Plan) has evolved through a mechanised and all-inclusive process for devising a sustainable long-term strategy for the power sector, thereby enabling attainment of the policy goals. As a first step, a plan development unit was established under the Ministry of Energy (Power Division), comprising of experts and professionals to steer the entire process of NE-Plan formulation through specified milestones.
- ii) Following the design of necessary conceptual framework, the development process of NE-Plan evolved through series of consultations, involving sectoral & cross-sectoral entities / divisions, Provincial Governments, consumer segments, academia & research bodies, policy think tanks, private sector, DFIs and local & global experts / agencies.
- iii) The brief scope of consultations, carried out for the formulation of NE-Plan, is provided below:

- a) **Tier-1 Consultations** were primarily focused to develop the structural periphery of the NE-Plan. Key areas of these consultations involved structuring the strategic architecture (dimensions & objectives), monitoring & reporting framework and implementation strategy.
- b) **Focused Group Consultations** evolved around specific theme-based priority areas involving targeted stakeholders. This included consultations on areas, inter alia, clean energy transition, generation & transmission planning, strategic roadmaps of XW-DISCOs, institutional restructuring, social protection, decarbonization, energy efficiency & conservation, emerging technologies, digitalization, R&D, indigenization and monitoring & evaluation.
- c) **Tier-2 Consultations** were carried out following the formulation and subsequent sharing of the draft NE-Plan with the relevant stakeholders, inter-alia, provinces, intra- & cross-sectoral entities, donors, Regulator and experts, to deliberate on the respective inputs leading to finalization of the NE-Plan.
- iv) To ensure sustainable implementation of the NE-Plan, a robust implementation framework has been devised in this NE-Plan, which provides for monitoring, evaluation and reporting mechanism.

## C. Strategic Architecture

- i) National Electricity Policy identifies three over-arching goals for the power sector, namely Access to Affordable Energy, Energy Security and Sustainability. Further, the nine areas have been identified under the said policy wherein the policy directions are aimed for the attainment of aforesaid goals.
- ii) For the purpose of meeting policy goals, principles and underlying directives in the respective areas as provided in the National Electricity Policy, an objective-oriented systematic approach has been adopted for the formulation of strategic architecture of this NE-Plan. This architecture enables devising, mapping and monitoring of priority areas of NE-Plan under the set of common value proposition of the power sector, coupled with the alignment of all such priority areas with the long-term trajectory of sustainable energy transition.
- iii) The strategic architecture of the NE-Plan has been provided in Figure 1. below. Six(6) broad objectives have been set forth in the strategic architecture, namely:
  - a) Diversification
  - b) Resilience & Accessibility
  - c) Self-Sufficiency
  - d) Affordability
  - e) Financial Viability
  - f) Sustainability

- iv) Accordingly, twenty (20) distinct priority areas have been identified & mapped under the objectives provided above, wherein all the strategic directives shall be monitored and evaluated to achieve overarching policy goals.
- v) Section 1.1.4 “How to Read” provides the demonstration for the purpose of interpreting the strategic architecture of NE-Plan.

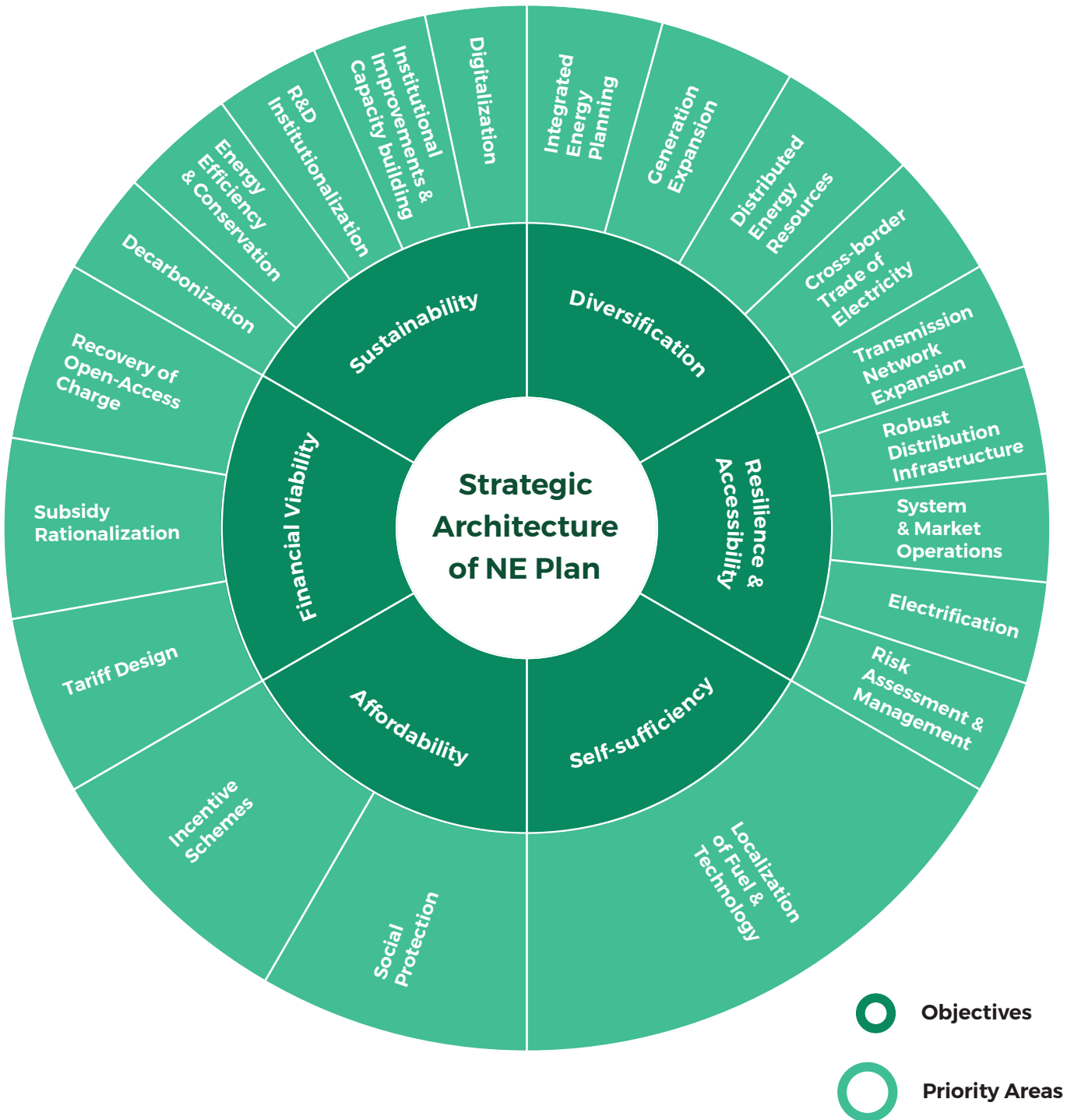
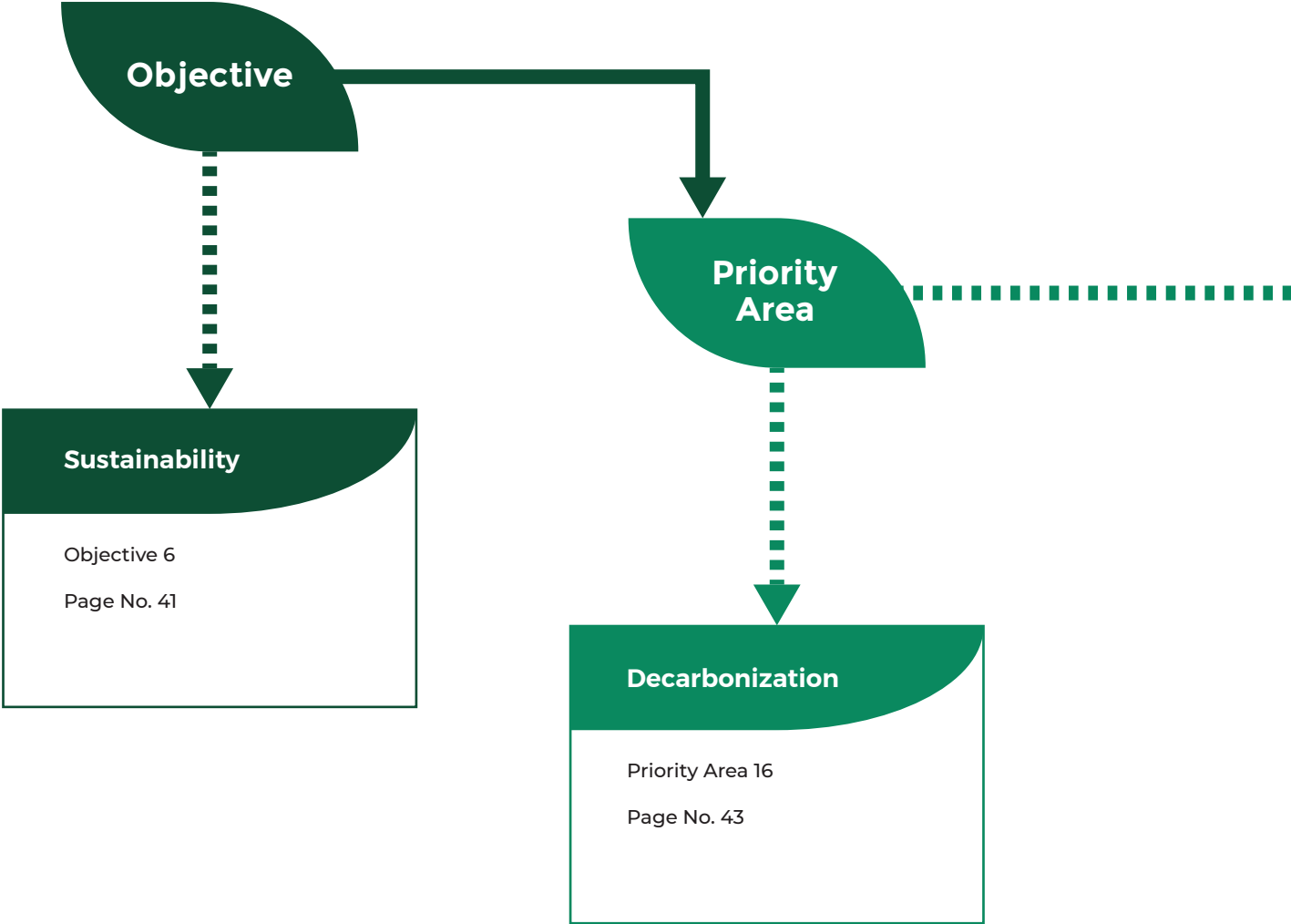


Figure 1: Strategic Architecture of NE-Plan

# D. How to Read

The following demonstration provides the schematic to facilitate understanding the flow of NE-Plan, spanning from objective to the respective strategic directives and key performance indicators.



The strategic directives, provided in the respective priority areas, are inter-linked and the collective implementation of all the strategic directives shall enable attainment of policy goals.



**Strategic Directives**

92. The Designated Entity, together with Regulator and MoCC, shall establish Monitoring, Reporting and Verification (MRV) mechanism for existing & projected GHG emissions of the power sector and reporting the reduction of GHG emissions achieved, to relevant national and international stakeholders.

**Performance Indicators & Targets**

	Establishment of MRV mechanism for GHG emissions	Timeline
SU.DCA.001	MRV mechanism established	Dec 31st, 2024
	First assessment completed	Jul 31st, 2025

**Responsible Entities:** Designated Entity  
**Supporting Entities:** MoCC (GCISE), Regulator

Figure 2: Schematic illustration of NE-Plan

# Objective 1

# DIVERSIFICATION

Priority Areas

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1

Integrated Energy Planning

2

Generation Expansion

3

Distributed Energy Resources


4

Cross-border Trade of Electricity

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Priority Areas





Diversifying energy systems, in terms of infrastructure and primary fuel sources, requires robust planning, promotion of distributed technologies and regional interconnections. This may be achieved through planned and balanced harnessing of local and global resources, while accounting for multi-horizon optimizations and long-term energy scenarios to meet the targets of clean energy transition. NE-Plan strategizes entrenchment of robust and well-crafted institutional planning and operational instruments through following initiatives:

- development of an integrated energy plan to optimize energy inputs for the power sector
- development of sub-sectoral expansion plans to inform the investments and procurements
- promotion of distributed energy resources
- tapping the potential of regional interconnections

## Priority Area 1 | Integrated Energy Planning

Integrated planning & development of the energy value chain is a sine qua non for meeting the energy demands of the country on a sustainable basis. It ensures that current and future energy needs are met in the most cost efficient and effective manner while being aligned with the overall economic and social policy objectives of the Government.

### Strategic Directives

1. Pursuant to the Section 5.8.1 of the National Electricity Policy, the Designated Entity has been nominated as the focal entity to perform the function of integrated energy planning. Accordingly, the Designated Entity shall institutionalize requisite capacity, infrastructure and resources to effectuate the integrated planning framework and progressively assist the Government in planning an optimal and integrated energy strategy for the entire country.
2. Designated Entity, with facilitation of EPRC (Planning Commission), and in coordination with relevant stakeholders shall prepare the high-level design of IEP for approval by the Government latest by September 2024, which shall identify the scope, stakeholders, horizon and other key requirements & features of IEP. Following the approval of highlevel design, IEP shall be developed, in consultation with all relevant stakeholders including Provincial Governments, on a periodic basis and approved by the Government, which shall inform the sectoral policy & planning frameworks accordingly.
3. All the relevant sectoral and cross-sectoral entities shall provide requisite facilitation to the Designated Entity in matters related to, inter alia, policy advice, data sharing and technical & administrative support to foster IEP development on a sustainable basis.
4. Cabinet Division, in coordination with relevant stakeholders, shall carry out feasibility analysis to evaluate potential integration of regulators in the energy sector. The action plan for the underlying shall take into account performance review of the regulators, optimization of the energy value chain and attainment of sustainable energy transition for Pakistan.

### Performance Indicators & Targets

**Responsible Entities:** Designated Entity

**Supporting Entities:** EPRC

	Development of Integrated Energy Plan (IEP)	Timeline
DI.IEP.001	High-level design developed & approved	Sep 30th, 2024
	First IEP developed	Jul 31st, 2026

**Responsible Entities:** Cabinet Division

**Supporting Entities:** MoE (Power Division), Regulator, OGRA, NEECA, MoPD&SI, MoE (Petroleum Division), Designated Entity

	Feasibility analysis for integration of energy sector regulators	Timeline
DI.IEP.002	Terms of reference developed	Mar 31st, 2024
	Consultant engaged	Jul 31st, 2024
	Feasibility report & recommendations submitted to the Government	Mar 31st, 2025

## Priority Area 2 | Generation Expansion

The accelerated transformation of energy on a sustainable trajectory, without compromising the security of power sector, is primarily attributed to a systematic approach towards expansion of generation portfolio. Generation expansion aims to determine an optimal strategy to meet the future demands of power sector by specifying type, size and time of future generation assets, while ensuring secure, reliable and affordable supply of electricity to end consumers.

### Strategic Directives

5. During the currency of this NE-Plan, IGCEP shall be developed and approved on an annual basis. Accordingly, each iteration of IGCEP shall account for the following:
  - a) served demand shall be used as basis for the purpose of demand forecast;
  - b) Government, at any time, may decide to incorporate commercial load management quantum in demand forecast based on:
    - i) position and incremental impact on circular debt;
    - ii) adjustment in AT&C losses;
    - iii) XW-DISCOs' preparedness in accordance with the Strategic Roadmap as detailed in Strategic Directive 026;
  - c) all generation projects, which have been declared committed in approved IGCEP 2021, pursuant to the CCI decision No. 2(8)/2021-CCI(48) dated September 13, 2021, shall be included as committed projects;
  - d) specific component of the transmission cost for each associated generation project shall be incorporated in pursuance to the criteria to be approved by the CCI;
  - e) each DISCO, in coordination with AEDB, shall provide respective estimates of DERs to System Planner for development of IGCEP;
  - f) localization initiatives as provided in Strategic Directive 062;
  - g) import / export of electricity through cross-border trade as provided in Strategic Directive 021;
  - h) provisions for integration of captive and cogeneration units in pursuance to Strategic Directive 104;
  - i) strategic projects shall be included as committed pursuant to the Strategic Directive 010;
  - j) collaboration with sectoral and cross-sectoral entities by the System Planner for the purpose of, inter alia, resource availability, prices, economic & financial parameters and EE&C targets;
  - k) the Regulator shall validate the respective technical and financial parameters of the generation projects during the process of approval of IGCEP;
  - l) the Regulator, while approving the IGCEP, shall consult with cross-sectoral entities for impacts / assessments related to, inter alia, primary commodities, FOREX, emissions, local content and socio-economic indicators.
  
6. Generation and transmission planning of K-Electric shall be included in the annual IGCEP and TSEP, respectively. Provided further, the Regulator shall incorporate necessary amendments in respective legal instruments, as required.

7. Mechanism for inclusion of generation projects, opting for bilateral contracts with competitive suppliers, in IGCEP shall be developed by the System Planner and shall be submitted to the Regulator for approval & incorporation in the Grid Code, as amended from time to time.
8. The Regulator shall update procurement regulations, as required, to enable procurement of power for consumers of Suppliers of Last Resort in accordance with revised generation policy framework. Provided further, the Regulator shall also revisit the “Guidelines for Determination of Consumer End Tariff (Methodology and Process), 2015” to enable alignment of schedule of regulatory proceedings for planning activities and rate case & tariff determinations.
9. All generation procurements for the consumers of Supplier of Last Resort shall be in accordance with the approved power acquisition program prepared by Suppliers of Last Resort, to meet the determined power procurement obligations, in compliance with the procurement regulations.
10. The proposed strategic projects shall be evaluated, to be declared as committed in IGCEP, based on the following:
  - a) **Qualification Criteria:** The project fulfills at least one of the following objectives provided hereunder:
    - I) security of energy supply;
    - II) water - energy - food nexus;
    - III) regional integration;
    - IV) municipal waste management.
  - b) **Methodology:** The incremental cost (beyond least cost), hereon referred to as LCV, of each strategic project shall be borne by relevant sponsoring Government / Provincial Government. The detailed process flow, including LCV evaluation methodology, for the approval of proposed strategic projects has been provided in Annexure 1.
11. The revised generation policy framework shall be developed pursuant to the Section 5.1.9 of National Electricity Policy. Till the notification of such policy framework, the existing ARE Policy 2019 and PGP 2015 shall continue to remain in the field. The generation policy framework shall take into account following key considerations:
  - a) the scope of the policy framework shall include all prospective generation technologies such as hydel, thermal, nuclear, renewables, etc.;
  - b) all the hydel generation shall be included in the definition of renewable energy and accordingly, subject to the least cost criteria following on-grid (utility & distributed scale) renewable energy targets have been envisaged:
    - I) 40% of total generation capacity by FY-2025;
    - II) 60% of total generation capacity by FY-2030;
  - c) all resource risks for the mature generation technologies shall be borne by the generator. Provided further, assessment of other relevant risks shall be evaluated on periodic basis for its allocation between generators and Suppliers of Last Resort;

- d) capping mechanism for the indexations of the reference tariff components;
  - e) binding obligations for any targets as provided under Power Sector Indigenization Plan (PSIP) (Strategic Directive 063(a));
  - f) enabling provisions to facilitate off-grid power generation for electrification purposes under the Universal National Electrification (UNE) program (Priority Area 08);
  - g) tariff for generation projects shall only be awarded through competitive bidding. Where competitive bidding may not be possible, cost-plus mode shall be applicable for power procurements by the Supplier of Last Resort;
  - h) mechanism for evaluation of low BTU gas fields for inclusion in IGCEP (Strategic Directive 062(a));
  - i) enabling provisions for inclusion of financial instruments under decarbonization objective shall be included for the purpose of project financing (Strategic Directive 094);
  - j) efficiency monitoring mechanism for future thermal power plants (Strategic Directive 101).
12. MoE (Power Division) shall, no later than October 2023, develop a mechanism for cessation of generation licensing requirements in accordance with the provisions of Section 14B(5) of NEPRA Act and accordingly shall be notified by the Government.
13. Any proposal for the early retirement / post-term extension of existing generation projects shall be evaluated on the basis of process provided in Annexure 2. Till the development of integrated IGCEP (including K-Electric), any decision for the retirement of generation projects from existing pool of XW-DISCOs for subsequent contract with K-Electric shall be made, taking into account the principle of least cost for consumers of both XW-DISCOs & K-Electric and consolidated subsidy requirements of Government.

## Performance Indicators & Targets

**Responsible Entities:** PPIB

**Supporting Entities:** AEDB, Designated Entity

DI.GEX.003	Development of draft Generation Policy framework	Timeline
	First draft of revised generation policy framework circulated for consultation	Mar 31st, 2024

**Responsible Entities:** System Planner

**Supporting Entities:** Regulator, K-Electric

DI.GEX.004	Inclusion of generation planning of K-Electric in IGCEP	Timeline
	Submission of IGCEP to the Regulator with inclusion of K-Electric	May 15th, 2023

**Responsible Entities:** Regulator

DI.GEX.005	Inclusion of K-Electric in integrated generation & transmission planning	Timeline
	Relevant regulations and underneath arrangements for K-Electric amended	Dec 31st, 2023

**Responsible Entities:** System Planner

**Supporting Entities:** Market Operator, Designated Entity

DI.GEX.006	Mechanism for inclusion of generation projects opting for bilateral contracts with competitive suppliers in IGCEP	Timeline
	Mechanism developed and submitted to the Regulator for review and approval	Oct 31st, 2023

## Performance Indicators & Targets

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Regulator

DI.GEX.007	Cessation of generation licensing requirements	Timeline
	Mechanism developed	Oct 31st, 2023

**Responsible Entities:** Regulator

DI.GEX.009	Amendment of guidelines for determination of consumer end tariff (methodology and process), 2015	Timeline
	Guidelines amended	Oct 31st, 2023

**Responsible Entities:** Regulator

DI.GEX.008	Power acquisition programs approved under the approved procurement regulations	Timeline
	Power acquisition programs approved	Oct 31st, 2023
	Procurement regulations updated	May 31st, 2024

## Priority Area 3 | Distributed Energy Resources

Distributed Energy Resources are an efficient tool to accelerate energy transition, ensure reliability of grid networks, energy security and affordability of the consumers. Sustainable proliferation of DER shall require consistent policy & regulatory framework, measurement & integration in central planning mechanism and customer support for provision of such services.

### Strategic Directives

14. The existing distributed generation and net metering regulations shall be amended taking into account new global innovations, best practices & technological interventions and facilitating steering an enabling environment for energy transition on a sustainable basis. Accordingly, the Regulator shall amend the said regulations, latest by Mar 2023.
15. AEDB, in coordination with DISCOs and Provincial Governments, shall jointly formulate a strategy to capture the penetration of installed DERs in the system, thereby attaining system visibility and enabling informed system planning at short- to long-term horizons. Such assessments strategy will include, inter alia:
  - a) imports of DER assets, on annual basis, through customs;
  - b) quantum of DERs sold / installed by the importers / vendors / service providers;
  - c) mechanism for solicitation of data (provisions for type / technology, location and quantum of on-grid, off-grid & hybrid installations and inventory, on an annual basis);
  - d) incentive mechanism to encourage registration of DERs;
  - e) bottom-up evaluations of installed DERs, by the DISCOs, through, inter alia, load profiles, surveys and use of technology.

16. Distributed induction of renewable energy sources shall be promoted to the extent feasible, against the utility-scale procurements. AEDB, in coordination with relevant stakeholders, shall design and initiate programs, instruments and schemes to facilitate such inductions. Provided further, the annual targets of such distributed induction of renewable energy sources shall be determined by DISCOs, with the support of AEDB, and shall inform the generation planning as provided in Strategic Directive 005. Provided further, enabling provisions for induction of wholesale distributed generation (community, municipal, public / private infrastructure, etc.) by respective DISCOs, of up to 20 MW (or as may be revised by the Regulator), shall be incorporated into the procurement process to be carried out under IAA.
17. Dedicated programs / instruments shall be developed by AEDB, in coordination with the Designated Entity and other relevant stakeholders, for provision of distributed generation for subsidized consumers / communities (lifeline / protected / agriculture). This will improve, inter-alia, financial viability, resilience and losses of the power sector. Provided further, each DISCO shall identify clusters of consumers and / or communities for stated purposes that will enable designing of such programs / instruments. Moreover, to the extent feasible, DISCOs shall explore and develop innovative business models and financing options to include services pertaining to DERs and other venues in their respective business strategies.
18. For the purpose of consumer facilitation related to DERs, central e-platform, under Strategic Directive 120, shall be upgraded and include dedicated facility for registration and allied services. Provided further, this platform shall be integrated with the business processes of the respective entities.

## Performance Indicators & Targets

**Responsible Entities:** Regulator

DI.DER.010	Amendment of DER Regulations	Timeline
	Regulations amended	Mar 31st, 2024

**Responsible Entities:** AEDB

**Supporting Entities:** DISCOs, Designated Entity

DI.DER.011	Assessment of DER quantum in the system	Timeline
	Strategy developed	Mar 31st, 2024
	First assessment completed	Oct 31st, 2024

**Responsible Entities:** PITC

**Supporting Entities:** AEDB, Regulator, Designated Entity, DISCOs

DI.DER.012	Inclusion of DER services in central e-platform	Timeline
	Provision for DER related services integrated in central e-platform	Mar 31st, 2024

## Priority Area 4 | Cross-Border Trade of Electricity

Regional power system integration provides an opportunity for socio-economic benefits through optimization of shared resources. Increased cross-border electricity cooperation can help bring down electricity prices, enhance resilience, aid high penetration of renewables and facilitate clean energy transition.

### Strategic Directives

19. Guidelines shall be formulated by MoE (Power Division) and approved by the Government that shall facilitate import / export of electricity through regional integration. Such guidelines shall include provisions for, inter alia:
  - a) scope & modes of participation;
  - b) institutional framework & definition of roles;
  - c) eligibility & evaluation methodology;
  - d) tariff;
  - e) regional planning & system operations;
  - f) security package.
20. The CASA-1000 interconnect (primarily designed for import of electricity) shall also be utilized for export of electricity through bilateral / multilateral arrangements. In this regard, the CASA open access rules shall be formulated latest by July 2024.
21. Future opportunities for cross border export & import of electricity shall be explored to enable efficient utilization of available capacity and / or energy, system stability and geo-spatial diversity. Provided further, a high-level feasibility study shall be carried out for assessment of potential avenues for regional integration.

### Performance Indicators & Targets

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Designated Entity

	Development of guidelines for import / export of electricity	Timeline
DI.CBT.013	Draft guidelines developed	Feb 29th, 2024
	Guidelines approved by Government	Apr 30th, 2024

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Designated Entity, NGC, System Operator

	Feasibility study for import / export of electricity	Timeline
DI.CBT.015	High-level feasibility study completed	Dec 31st, 2024

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** CPPA-G, System Operator, System Planner, Designated Entity, NGC

	Export of electricity under CASA-1000 project	Timeline
DI.CBT.014	CASA Open Access rules formulated	Jul 31st, 2024



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## Objective 2

# RESILIENCE & ACCESSIBILITY

### Priority Areas

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5

Transmission Network Expansion

6

Robust Distribution Infrastructure

7

System & Market Operations

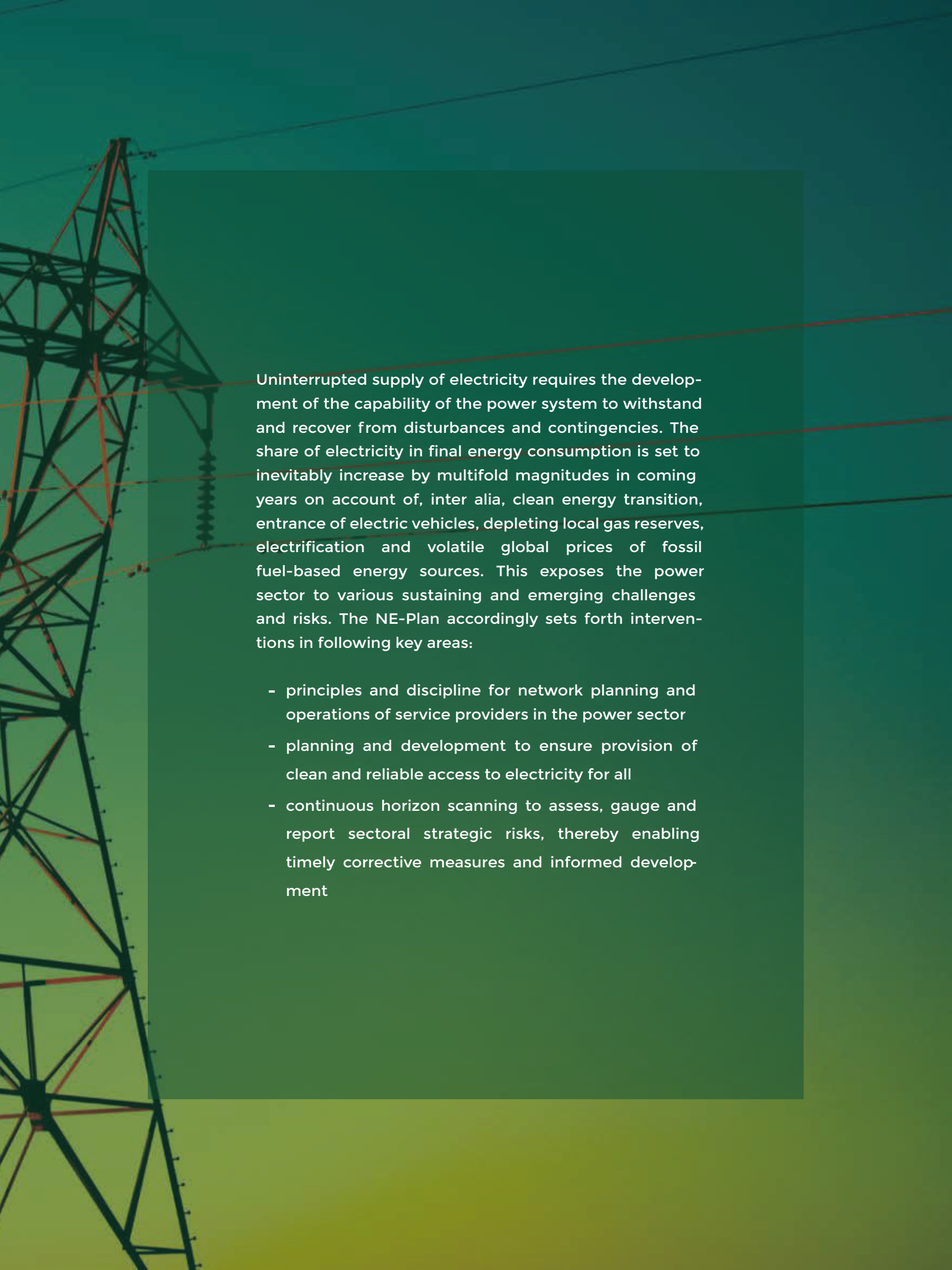
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Electrification

9

Risk Assessment & Management

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Uninterrupted supply of electricity requires the development of the capability of the power system to withstand and recover from disturbances and contingencies. The share of electricity in final energy consumption is set to inevitably increase by multifold magnitudes in coming years on account of, inter alia, clean energy transition, entrance of electric vehicles, depleting local gas reserves, electrification and volatile global prices of fossil fuel-based energy sources. This exposes the power sector to various sustaining and emerging challenges and risks. The NE-Plan accordingly sets forth interventions in following key areas:

- principles and discipline for network planning and operations of service providers in the power sector
- planning and development to ensure provision of clean and reliable access to electricity for all
- continuous horizon scanning to assess, gauge and report sectoral strategic risks, thereby enabling timely corrective measures and informed development

## Priority Area 5 | Transmission Network Expansion

Robust and flexible transmission infrastructure is a critical driver to steer strategic development. Network expansion planning provides necessary mechanism to progressively develop optimal configuration of transmission infrastructure for transmitting electricity securely and economically, that in turn caters for, generation expansion plans, load distributions, contingencies, network stability and congestions.

### Strategic Directives

22. During the currency of this NE-Plan, TSEP shall be developed and approved, on annual basis, along with the respective IGCEP, in alignment with the Long-Term Transmission Plan (LTP) of System Operator to be developed under Strategic Directive 034. Provided further, NGC shall also incorporate System Operator's input, on account of removal of operational constraints, in the annual iteration of TSEP. Moreover, all the DISCOs shall provide their respective STPs along with PMS-based demand forecast, including the quantum of load management on commercial basis, for development of TSEP.
23. NGC shall develop TSEP, in consultation with DISCOs & PGCs, which shall include projects at relevant transmission voltage levels. The developed TSEP shall be submitted by the NGC to the Regulator for approval. Approved TSEP shall form the basis for the formulation of respective transmission / distribution investment plans of transmission / distribution licensees. Further, the Regulator, in consultation with the stakeholders, shall develop guidelines for the purpose of joint development of TSEP which shall include, inter alia, scope, mechanisms, timelines, responsibilities and dispute resolution.
24. Allocation of transmission projects, under the approved TSEP / DIIP, shall be in accordance with the process provided in Annexure 3. Provided further:
  - a) the evaluation criteria, for awarding the transmission projects under competing interest, shall be developed by the Regulator;
  - b) NGC / DISCOs shall be deemed as the last resort licensee for the development of respective transmission projects under approved TSEP.
25. Existing Transmission Line Policy shall continue to govern the private investments in transmission infrastructure of the electricity business. Provided further, amendments shall be carried out, in the said policy framework, to account for the following:
  - a) scope of the policy framework shall be revisited to include transmission projects at all transmission voltage levels;
  - b) security package shall be developed for transmission projects, under the approved TSEP, to be funded through private investments;
  - c) in case of competitive bidding mode, all the proposals shall be solicited through the platform administered by IAA;
  - d) upfront tariff regime shall be discontinued and the same shall be replaced by the cost-plus tariff regime, where competitive bidding is not feasible.

## Performance Indicators & Targets

**Responsible Entities:** Regulator

RE.TNE.001	Guidelines for joint development of TSEP	Timeline
	Guidelines developed	Mar 31st, 2024

**Responsible Entities:** Regulator

RE.TNE.002	Development of criteria for allocation of transmission projects with competing interests	Timeline
	Criteria developed and enacted	Mar 31st, 2024

**Responsible Entities:** PPIB

**Supporting Entities:** Designated Entity, NGC

RE.TNE.003	Amendment of Transmission Line Policy framework	Timeline
	Transmission Line Policy framework submitted to Government for approval	Mar 31st, 2024

## Priority Area 6 | Robust Distribution Infrastructure

Distribution infrastructure is a key segment of electricity value chain, that provides direct interface with consumers. Delivering the value proposition to the customers requires robust development & operations of the distribution business, which in turn can be achieved through integration with generation & transmission plans, operational excellence, sound governance, innovative and agile business strategies, policy & regulatory compliance and market preparedness.

### Strategic Directives

26. Pursuant to Section 5.3.5 of National Electricity Policy, strategic roadmaps shall be signed between MoE (Power Division) & XW-DISCOs and shall accordingly be deemed part of this NE-Plan for gauging the performance of XW-DISCOs. The strategic roadmap shall provide targets for XW-DISCOs in, inter alia, following areas:
- a) reduction in AT&C losses;
  - b) improvement in recoveries, on account of bill collection and theft reduction;
  - c) recovery of bad debt through write-offs;
  - d) reduction in commercial loadshedding;
  - e) enhanced consumer services through reduction in required number of consents / approvals;
  - f) development & strengthening of safety management system;
  - g) deployment of SCADA at transmission network of XW-DISCOs (Phase-4);
  - h) completion of GIS mapping of distribution network;
  - i) phased deployment of AMI in each XW-DISCO based on market transition and cost-benefit analysis;
  - j) amendment and updating of respective HR manuals;
  - k) business process automation through Enterprise Resource Planning (ERP).

27. Pursuant to the Section 5.3.2 of the National Electricity Policy, the Regulator shall revisit the performance benchmark / targets of each XW-DISCO, for redetermination and incorporation in revised multi-year tariff, in pursuance to the strategic roadmap executed between MoE (Power Division) & XW-DISCOs.
28. Each DISCO, on annual basis, shall develop / update its respective STP to account for the future expansions / augmentations of respective transmission infrastructure. Provided further, DISCOs shall submit their respective STPs to the NGC for integration with TSEP (Strategic Directive 023). The STPs, as finalized in concurrence with NGC and System Operator, shall form the basis for formulation of respective DIIPs, and accordingly, the same shall be submitted to the Regulator for approval.
29. The Distribution Code 2005 shall be revised to enable alignment of the planning, operations, design and allied roles of distribution business with the other functions of value chain. The scope of the revision shall include, inter-alia, the following:
  - a) alignment with National Electricity Policy, NE-Plan and CTBCM;
  - b) integration of advanced technologies such as DER's, energy storage systems and mini grids;
  - c) standards, procedures and measures for energy efficiency & conservation in light of National Energy Efficiency & Conservation Policy;
  - d) alignment with the amended grid code;
  - e) consistency in terms & functions and removal of redundant clauses.
30. DISCOs, in consultation with the Designated Entity and System Operator, shall incorporate the demand for projected deployment of EV charging stations in their respective DIIPs. Accordingly, Regulator along with the relevant stakeholders shall regularly explore various tariff and non-tariff measures to proliferate the induction of EVs in the system.
31. DISCOs shall initiate the process to reduce the bad debt on account of permanently disconnected consumers through mobilization of recovery initiatives, comprising of representatives from respective local & provincial governments / entities and law enforcement agencies. Accordingly, following procedure shall be adopted for claiming of write-off:
  - a) the claim shall be applicable for the default amount of a permanently disconnected consumer that may not be recovered through all efforts possible;
  - b) the age of such non-recovery is over three (3) years.Provided further, in case the recoveries of bad debt from the respective defaulters may not be retrieved, the DISCOs shall claim for write-offs from the Regulator within six (6) months from the declaration of receivables as bad debt.
32. MOE (Power Division), in consultation with the relevant stakeholders, shall carry out a detailed assessment for participation of private sector in the supply & distribution business of DISCOs. For this purpose, a Transaction Advisor shall be engaged no later than 31st July, 2024. Provided further, the modalities of provincialization of DISCOs shall also be evaluated to deliver better value proposition (of the distribution companies).

## Performance Indicators & Targets

**Responsible Entities:** MoE (Power Division), XW-DISCOs

	Performance Improvement of XW-DISCOs	Timeline
RE.DIS.004	Strategic roadmaps signed	Oct 31st, 2023
	Transaction advisor engaged	Jul 31st, 2024

**Responsible Entities:** Regulator

**Supporting Entities:** DISCOs

	Amendment of Distribution Code	Timeline
RE.DIS.005	Distribution code amended	Oct 31st, 2023

## Priority Area 7 | System & Market Operations

Efficient system & market operation is the cornerstone for meeting the demand of consumers securely, reliably and on least cost basis in real-time. Evolving landscape of power sector on account of, inter-alia, market development, high penetration of renewables, co-operations of HVAC & HVDC system, cross border trade and sustainable energy transition require a strengthened system & market operator, coupled with the institutionalization of necessary mechanism, to enable coping with the complex and multi-variable optimization requirements.

### Strategic Directives

33. Regulator shall approve the license application along with the business plan of the System Operator, latest by June 2023. The functions of system planning, including, generation planning, long term transmission planning and load forecasting shall be, accordingly, institutionalized in system operations role.
34. System Operator shall develop the Long-Term Transmission Plan (LTTP) on an annual basis, with the horizon of at least ten (10) years, aligned with respective iteration of IGCEP and regional demand forecasts, to ensure the reliable and efficient transmission of electric power from planned generation resources under IGCEP. This plan shall accordingly inform the development of TSEP.
35. Regulator shall ensure that settlement of energy imbalances on the principle of marginal price that is the variable cost incurred for the production of an additional unit of energy in the system to serve the incremental demand, that reflects true cost of energy for that particular period.
36. The amended Grid Code, as submitted to the Regulator, shall be approved latest by June 2023 to enable alignment of system functions with the approved CTBCM design and NEPRA (Amendment) Act, 2018.
37. In order to ensure accurate pricing and achieve optimal economic dispatch, the existing mechanism of formulation of merit order on fortnightly basis shall be revised to a day-ahead basis. Accordingly, the System Operator, in coordination with relevant entities, shall automate requisite processes and operationalize the same latest by October 2023.

38. Detailed implementation plan shall be developed by System Operator and approved by the Regulator in accordance with the approved CTBCM Evaluation & Integration Plan of K-Electric, to integrate system operations of NGC and K-Electric regions. The approved implementation plan shall provide necessary operating procedures to perform central system operation & dispatch functions latest by November 2023.
39. System Operator in coordination with DISCOs shall develop a process for accurate assessment of load not served in each DISCO. Such assessment shall accordingly be utilized for demand forecast as provided in Strategic Directive 005.
40. Deployment of SCADA system at high voltage transmission network (Phase-3) shall be completed by FY-2024. Further, the System Operator shall assist DISCOs in designing SCADA (Phase-4) in their respective transmission networks.
41. Decisions for fuel take-or-pay commitments of the generators, contracting wholly with the Supplier of Last Resort, shall be taken by the Government on case-to-case basis. Such decisions shall take into account parameters, inter-alia, changing trends of energycosts, future capacity additions, competition, level playing field and energy security. Accordingly, the System Operator shall consider such fuel take-or-pay commitments of generators in the economic dispatch and accordingly, the associated costs of such commitments shall continue to be allowed in the respective tariff determinations / adjustments of the Supplier of Last Resort.
42. System Operator shall develop and maintain an interactive website with real-time data available, as a part of its ICT strategy, as provided in Strategic Directive 129. The website shall provide the information pertaining to core business of System Operator inter-alia, energy & market operational data, transmission congestions, system conditions and planning data.
43. Market Operator, in consultation with relevant stakeholders, shall carry out regular assessments for the development and introduction of new market platforms and products, on an annual basis. Insofar, the first such assessment shall be carried out no later than July 2024. Provided further, the Market Operator shall carry out capacity building initiatives, inter alia, local and international collaborations for all relevant stakeholders related to the CTBCM.
44. Market Operator, in consultation with the Regulator and other relevant stakeholders, shall, on periodic basis, evaluate the readiness of the power market for gradual lowering of threshold for consumers (having the choice to opt for bilateral contract(s)) participating in the market. Provided further, Market Operator shall devise a roadmap for gradually lowering the threshold of such consumers . The timelines and milestones under the roadmap, as approved by the Regulator, shall be deemed part of this NE-Plan.
45. The electric power from the power pool of legacy contracts, i.e., contracts executed prior to the CMOD, shall be allocated to each Supplier of Last Resort, except K-Electric, based on their share in the coincidental system peak demand, provided that for such computations:



- a) fifty hours in which the demand served at overall system level was highest shall be taken into consideration;
- b) no more than 5 hours of the same day shall be included;
- c) company wise share shall be determined as an average of last three (3) years or as deemed appropriate.

MoE (Power Division) shall determine the allocation factors of each XW-DISCO, expressed in percentage, as per the above principle subject to availability of data from the secured metering system. The determined allocation factors shall accordingly be made part of Market Commercial Code. Such determined allocation factors shall remain applicable until revised by the MoE (Power Division) in consultation with relevant stakeholders. Provided further, the power allocation for K-Electric shall be in accordance with the quantum under contractual or other arrangements in place.

- 46. Till the time that such evaluation is carried out, the allocation factors for each DISCO shall be determined as per the provisions of Market Commercial Code.
- 47. The Regulator approved Market Operator Commercial Code provides for comprehensive mechanism to facilitate bilateral transactions under open access arrangements. Regulator shall repeal the existing wheeling regulations in field and accordingly, all existing wheeling consumers shall be integrated into approved CTBCM framework in accordance with the relevant regulations.
- 48. Suppliers of Last Resort, including their affiliates and associated companies, shall not be eligible to obtain the competitive supplier license or electric power trader license.
- 49. MoE (Power Division) shall explore modalities for appropriate institutional arrangement for System Operator and Market Operator licensees, as per the approved CTBCM design features to foster competitive power market on sustainable basis. Accordingly. The decision for such institutional restructuring shall be taken by the Government, latest by June 2024.

## Performance Indicators & Targets

**Responsible Entities:** Regulator

**Supporting Entities:** System Operator, NGC, Market Operator

RE.SMO.006	License for System Operator	Timeline
	System Operator License granted	Jun 30th, 2023

**Responsible Entities:** Regulator

**Supporting Entities:** NGC, System Operator, Market Operator

RE.SMO.007	Amendment of Grid Code	Timeline
	Grid code amended	Jun 30th, 2023

**Responsible Entities:** System Operator

**Supporting Entities:** K-Electric, Regulator

RE.SMO.008	Development of detailed implementation plan	Timeline
	Detailed implementation plan developed	Oct 31st, 2023

**Responsible Entities:** Regulator

**Supporting Entities:** K-Electric, System Operator

RE.SMO.009	Approval of detailed implementation plan	Timeline
	Detailed implementation plan approved by the Regulator	Nov 30th, 2023
	Relevant license of K-Electric amended	Dec 31st, 2023

**Responsible Entities:** System Operator, CPPA-G / Market Operator

**Supporting Entities:** Regulator

RE.SMO.010	Day ahead merit order	Timeline
	Formulation of day ahead merit order commenced	Oct 31st, 2023

**Responsible Entities:** System Operator

**Supporting Entities:** NGC

RE.SMO.011	Development of SCADA	Timeline
	SCADA phase 3 implemented	Jun 30th, 2024

**Responsible Entities:** Market Operator

**Supporting Entities:** Regulator, Designated Entity

RE.SMO.012	Development of market platforms & products	Timeline
	First assessment for products / platforms development completed	Jul 31st, 2024

**Responsible Entities:** Market Operator

**Supporting Entities:** Regulator

RE.SMO.013	Roadmap for lowering of threshold for consumers having the choice to opt for bilateral contract(s)	Timeline
	Roadmap developed and submitted to the Regulator for approval	Jul 31st, 2024

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** System Operator, Market Operator, Designated Entity

RE.SMO.014	Power allocation to XW-DISCOs	Timeline
	Allocation factors determined and submitted to Government for approval	Jun 30th, 2025

**Responsible Entities:** Regulator

RE.SMO.015	Repealment of Wheeling Regulation	Timeline
	Wheeling regulations repealed	Apr 30th, 2023

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Market Operator, System Operator

RE.SMO.016	Decision for integration of system operation and market operation functions	Timeline
	Decision taken on potential integration by the Government	Jun 30th, 2024

## Priority Area 8 | Electrification

Electrification assists in development of local community through better health conditions, food security, lighting & information and is also indispensable for eradication of poverty and attainment of Sustainable Development Goals. Development of facilitative framework, institutional strengthening, integrated implementation and regular monitoring shall support in timely attainment of aggressive electrification targets.

### Strategic Directives

50. With the aim of ensuring 100% energy access for all by 2030, the Government through this NE-Plan has launched Universal National Electrification (UNE) program to enable attainment of 100% electrification target by 2030.
51. UNE shall encompass all existing / planned electrification initiatives for the purpose of information and integrated planning. Accordingly, the Designated Entity shall develop, maintain & update, on annual basis, the Central Electrification Registry (CER) under the UNE program. Further, all relevant stakeholders, inter alia, Provincial Governments and DISCOs shall provide relevant information for the purpose of CER.

52. The GIS based platform established under Least Cost Electrification Study for Pakistan, conducted by the World Bank, which identifies non-electrified population segments, shall be adopted and regularly updated by the Designated Entity. The criteria for least cost may be periodically revisited, in consultation with the stakeholders, to account for, inter alia, locations, approximate number of households and distance from the national grid, informing the future mode of electrification in different population segments. Accordingly, every three (3) years, the Designated Entity shall update the platform developed under Least Cost Electrification Study based on GIS mapping carried out by DISCOs as required under Strategic Directive 134.
53. MoE (Power Division), in consultation with the relevant stakeholders, shall develop the roadmap for the electrification of areas that are not covered under the scope of planned projects / programs. Such roadmap shall include provision of funding sources along with respective criteria and prospective timelines to enable attainment of 100% electrification targets by 2030. Provided further, wherein, the Provincial Government intends to sponsor and develop non-electrified areas with the mutual financial support of the Government, it shall submit the proposal with requisite details for evaluation by MoE (Power Division), on case-to-case basis.
54. Regulator shall regularly update the microgrid regulations to facilitate off-grid electrification in pursuance of the developments under envisaged UNE program.
55. Each year, the Designated Entity shall publish National Electricity Access Report (NEAR) to reflect the progress of electrification initiatives under the UNE program.
56. Regulator, in consultation with the concerned authorities, shall devise an appropriate mechanism for allowance / disallowance of temporary electricity connections to housing societies that do not possess valid NOC of respective authorities. Accordingly, such mechanism shall be reflected in the regulatory framework.

## Performance Indicators & Targets

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoE (Power Division), Provincial Governments, DISCOs, PPMC

	Universal National Electrification (UNE) program	Timeline
RE.ELE.017	Central Electrification Registry (CER) developed	Jun 30th, 2024
	Roadmap developed to achieve 100% electrification target by 2030	Dec 31st, 2024
	First annual National Electricity Access Report (NEAR) published	Jun 30th, 2025
	Annual National Electricity Access Report (NEAR) published	Jun 30th, Each year

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoE (Power Division)

	Institutionalization of GIS-based Platform established under World Bank project related to Least Cost Electrification	Timeline
RE.ELE.018	Least Cost Electrification based GIS platform institutionalized in the Designated Entity	Mar 31st, 2024
	Updation of Least Cost Electrification based GIS platform completed	Jun 30th, 2026

**Responsible Entities:** Regulator

	Mechanism for allowance / disallowance of temporary electricity connections to housing societies that do not possess valid NOC	Timeline
RE.ELE.019	Mechanism developed and incorporated in regulatory framework	Mar 31st, 2024

## Priority Area 9 | Risk Assessment & Management

Continuous technological innovations, evolving geo-political landscape, dynamic nature of power industry and regional integration of energy markets has posed multifarious risks and challenges towards the attainment of policy goals. This accentuates development of a strategic risk assessment and management framework that shall identify, evaluate and propose necessary mechanisms to enable sectoral alignment for effective and timely management of strategic risks.

### Strategic Directives

57. Dedicated function for strategic risk management shall be institutionalized in the Designated Entity, that shall be the focal point for cultivating networks between stakeholders, government agencies / ministries and international partners to promote an active exchange of ideas and strategies for risk management.
58. The Designated Entity shall develop a strategic risk management framework to steer, identify, evaluate, develop and propose strategies for effective and efficient management of the strategic risks of the sector. This shall enable alignment of the sectoral orientation to adapt to complex and dynamic environment, thereby assisting in attainment of secure, sustainable and equitable transition of the sector. The framework shall include provisions for, inter alia:
  - a) scope;
  - b) definition of roles and responsibilities;
  - c) risk governance (processes to identify, assess, analyze, and manage risks);
  - d) common language / nomenclature;
  - e) stakeholder interaction;
  - f) methodologies & approaches for horizon scanning, scenario development, modeling, and perspective-sharing;
  - g) monitoring and reporting.
59. All relevant entities / ministries shall provide necessary support to the the Designated Entity for the purpose of operationalizing the strategic risk management framework through, inter alia, institutionalization of processes, knowledge & data sharing, nominations and implementation.
60. The Designated Entity shall develop and disseminate Strategic Risk Assessment Report (SRAR) on periodic basis to inform and equip the internal and external stakeholders through identification, prioritization & tracking of strategic risks and key recommendations, thereby assisting in policy development, improved planning and minimization of sectoral disorientation.
61. All power sector entities shall ensure compliance with the relevant directives of the National Cyber Security Policy and its subservient frameworks developed thereunder, to proactively prevent and mitigate possible cyber risks.

## Performance Indicators & Targets

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoE (Power Division)

	Institutionalization of Strategic Risk Management function	Timeline
RE.RAM.020	Strategic risk management function institutionalized	Jun 30th, 2024
	Strategic risk management framework developed	Dec 31st, 2024

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoE (Power Division)

	Strategic Risk Assessment Report (SRAR)	Timeline
RE.RAM.021	First SRAR published	Dec 31st, 2025
	SRAR published	Dec 31st, each year

# Objective 3

## SELF-SUFFICIENCY


### Priority Areas

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10

Localization of Fuel & Technology

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Ever changing and dynamic landscape of adversities due to climate change, geo-politics, volatile energy markets & associated supply chains stress the need to progressively increase the reliance on local resources in terms of infrastructure, materials, human capacity and fuels. The NE-Plan foresees:

- progressively enhancing reliance on the indigenous technology & fuel resources in the power sector
- strategizing production and using pathways for emerging technologies like hydrogen and storage

## Priority Area 10 | Localization of Fuel & Technology

Development, utilization and promotion of indigenous resources across both the primary fuels and technological hemisphere are rudimentary for the progressive attainment of self-sufficiency in power sector. Having positive externalities with respect to balance of payments and local employment, indigenization has the potential to contribute substantially towards sustainable economic growth.

### Strategic Directives

62. Share of indigenous resources shall be progressively increased in the generation mix to achieve affordability of end consumers through reducing the cost of generation. It is envisaged that pursuant to the stipulations of National Electricity Policy and this NE-Plan, share of indigenous resources in generation mix shall increase to 60% and 75% by FY-2025 and FY-2030 in the national grid, respectively. Provided further:
  - a) PPIB, on every three-year basis or as the case may be, shall re-evaluate / evaluate the low BTU gas fields for power generation on least cost basis for inclusion in the respective iteration of IGCEP. Accordingly, the revised generation policy framework shall provide mechanism for such re-evaluation / evaluation;
  - b) PPIB shall complete the detailed feasibility study for conversion of imported coal-based power projects to local coal, latest by Oct 2023. Provided further, modalities shall be explored to reduce the burden on the FOREX on account of energy imports;
  - c) hybrid generation from renewable energy sources shall be included in the future generation expansion plans, which shall enable higher capacity factors, effective utilization of grid infrastructure and reduced intermittencies of renewable sources to meet the system demand. Provided further, conversion of existing renewable energy power plants to hybrid generation modes shall be carried out on case-to-case basis, subject to qualification under least cost principle;
  - d) DERs shall be deployed as an essential instrument for both on-grid and off-grid scales (Priority Area 08 & Priority Area 03) to enable effective system planning and attainment of the strategic objectives;
  - e) long-term hydrogen strategy shall be developed (Strategic Directive 064).
  
63. Indigenization of technological hemisphere, being a crucial component to ensure self-sufficiency, shall be gradually enhanced across the entire value chain of the sector. Accordingly:
  - a) EDB with assistance of the Designated Entity and relevant stakeholders, shall develop a Power Sector Indigenization Plan (PSIP) by June 2024, to enable progressively increasing share of indigenous equipment / components in power sector. PSIP shall provide high-level targets of local content and identify requisite actions on account of, inter-alia, legislation, standardization, certifications, technological upgradations and incentives. The targets under PSIP shall inform sectoral procurements and deemed part of this NE-Plan;



- b)** the Designated Entity shall develop and maintain a prospective 10-year resource requirements for inter-alia, equipment / components, raw material, FOREX and human resource. All the relevant entities shall provide requisite information, as required by the Designated Entity, for the purpose of consolidation of resource requirements;
  - c)** the Designated Entity shall regularly collaborate with academia, vocational training institutes and education commissions for designing programs to enable development of necessary skills and infrastructure for catering to the future needs of the power industry. Provided further, for the purpose of meeting the objectives of said programs, the Designated Entity may facilitate such initiatives on case-to-case basis through suitable mechanisms, including establishment of laboratories, research centers and training centers, subject to the stipulations under Strategic Directive 109;
  - d)** for the purpose of strengthening local testing capabilities, High Voltage and Short Circuit (HV&SC) laboratory of the NGC in Rawat, Pakistan, shall be upgraded and equipped with advanced apparatus, with the due consultation of EDB and relevant stakeholders. This shall facilitate type & routine testing and calibrations of power industry equipment. Further, the HV&SC Laboratory shall be carved out of NGC and shall be accorded the status of an independent lab latest by December 2024.
- 64.** MoPD&SI, in collaboration with relevant stakeholders, inter alia MoE (Power Division), MoE (Petroleum Division), MoST, MoIP and MoCC, shall develop a long-term hydrogen strategy, spanning across hydrogen R&D, production, transportation, storage and consumption. The hydrogen strategy shall include, inter alia, long-term opportunities & risks, economics, mechanism for demonstration projects, global engagements and provisions for development & alignment of legal, policy & regulatory instruments & standards. The said strategy shall progressively enable; utilization of green hydrogen as energy carrier (store and deliver energy), managing the variability of renewable energy through hybrid solutions, private participation and harnessing export opportunities.
- 65.** EDB, in consultation with the Designated Entity and other relevant stakeholders, shall explore modalities for phased local manufacturing of battery storage technologies and their prospective integration in the power sector applications, including, distributed storage, electric vehicles and other related services. Facilitative policy & regulatory instruments shall be designed, on a need basis, through - inter alia, fiscal & financial incentives, demand commitments and ownership structures - to support progressive indigenization. Moreover, assistance shall be sought under international collaborations to support knowledge & experience sharing and technology transfer programs.
- 66.** Priority focus shall be given to research, development, demonstration and commercialization of technologies supporting clean energy transition. Further, deployment of digital technologies, including but not limited to: artificial intelligence & machine learning, blockchain technologies, IoT-enabled devices, robotics and digital twins, shall be explored for integration in the planning and operations of the power system. Accordingly, measures shall be taken to collaborate with relevant facilitating agencies / organizations

## Performance Indicators & Targets

**Responsible Entities:** PPIB

**Supporting Entities:** Designated Entity, CPPA-G, System Planner

SS.LFT.001	Assessment study for imported coal-based generation projects	Timeline
	Detailed feasibility study completed	Oct 31st, 2023

**Responsible Entities:** EDB

**Supporting Entities:** Designated Entity

SS.LFT.002	Development of Power Sector Indigenization Plan (PSIP)	Timeline
	PSIP Plan developed and submitted for approval by the Government	Jun 30th, 2024

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** NCC, DISCOs

SS.LFT.003	Upgradation of High Voltage and Short Circuit (HV&SC) laboratory	Timeline
	HV&SC Lab accorded independent status	Dec 31st, 2024
	HV&SC Lab upgraded	Mar 31st, 2025

**Responsible Entities:** MoPD&SI

**Supporting Entities:** MoE (Power Division), MoE (Petroleum Division), MoCC, MoST, MoIP

SS.LFT.004	Development of hydrogen strategy	Timeline
	Hydrogen strategy developed	Dec 31st, 2025

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# Objective 4

## AFFORDABILITY

### Priority Area

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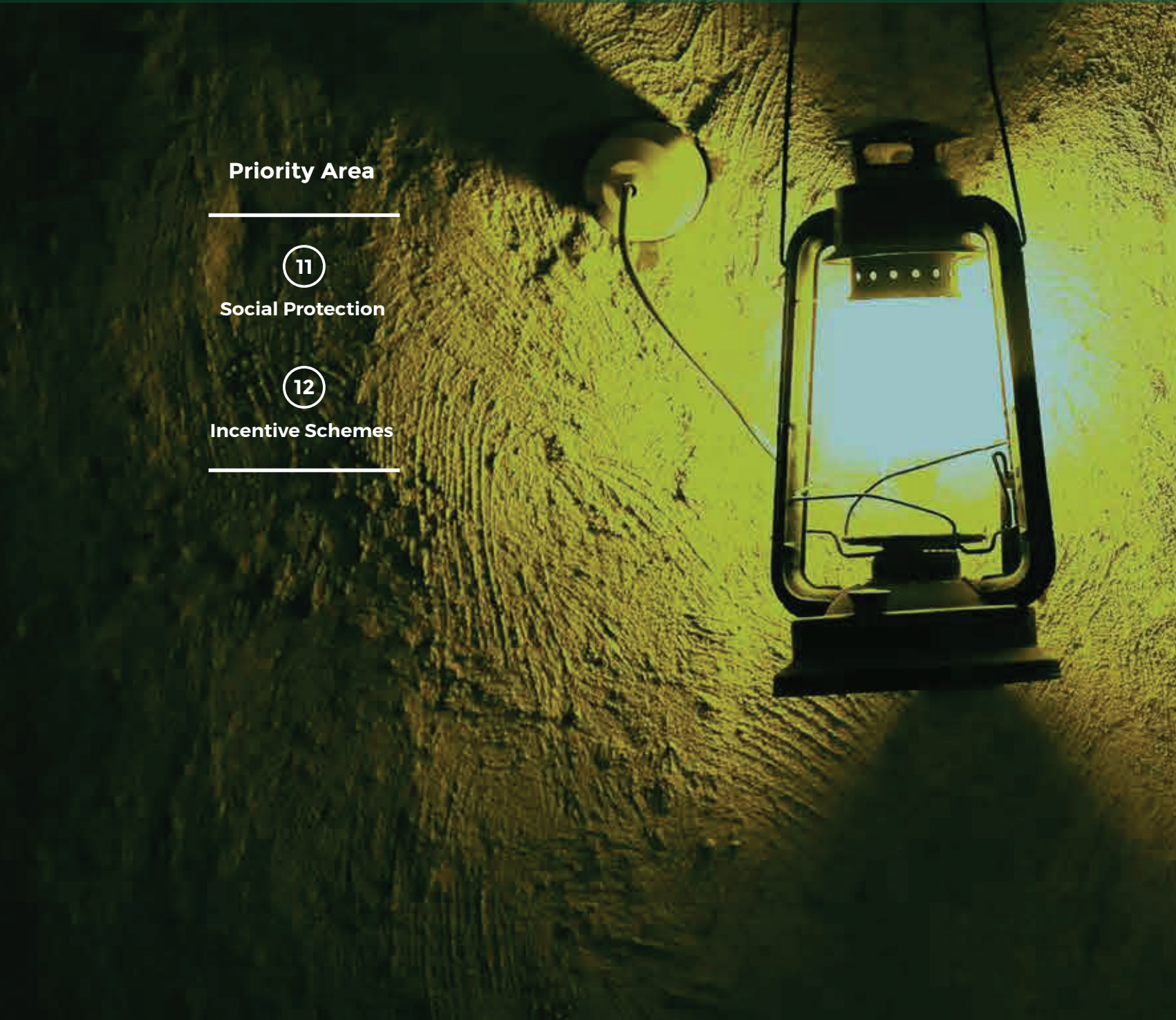
11

Social Protection

12

Incentive Schemes

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An equitable access to electricity, being a basic human need in modern era, plays a key role in improving the standards of living, enhancing productivity, and alleviating poverty. The legal framework steering the power sector provides for taking into consideration the social and economic objectives of the Government. Accordingly, the actions and targets in this plan aim to improve the consumer welfare through targeted measures to the extent of initiatives and interventions in the power sector. Pursuantly, the Government plans to:

- shift towards targeted subsidies for the eligible consumer segments based on socio-economic preferences, while transitioning towards true costs of service centered tariffs
- implement decision making based on system value to account for the externalities

## Priority Area 11 | Social Protection

Designing an efficient social protection mechanism facilitates provision of energy to the most vulnerable citizens of society while imposing minimum strain on the fiscal space of the Government. This can be achieved through integration of cross-sectoral database, devising appropriate criteria and direct disbursements of energy subsidies.

### Strategic Directives

67. In pursuance of phase-III of targeted subsidy reforms for the electricity consumers, protected consumers of the residential category shall be progressively transitioned towards direct subsidies. It is aimed that by FY-2026, subsidies to the residential protected consumers shall be provided under approved subsidy disbursement mechanism. Accordingly, following steps shall be taken by the MoE (Power Division), in collaboration with PASS Division:
  - a) devise a detailed action plan to enable direct payment of subsidies under the aforementioned program;
  - b) integrate Electricity-CNIC Database (ECD) with NSER (Strategic Directive 132);
  - c) develop integrated welfare score comprising of, inter alia, socio-economic aspects, energy poverty and electricity consumption for the purpose of subsidy eligibility;
  - d) the high-level roadmap has been provided in Figure 3. Provided further, the cost of integration of ECD with NSER shall be borne by the Government through appropriate budgetary mechanism.
  
68. MoE (Power Division), in collaboration with MoNFS&R, shall devise a detailed action plan to enable subsidy disbursements to the eligible agricultural consumers. Accordingly:
  - a) subsidy qualification criteria for targeting of agricultural subsidies shall be finalized by May 2024;
  - b) the devised mechanism along with the implementation plan shall be approved by the Government by July 2024;
  - c) by FY-2025, subsidies to the agricultural consumers shall be provided in pursuance to the approved implementation plan;
  - d) MoNFS&R shall develop & integrate, in collaboration with PITC, the requisite database of agricultural consumers with the ECD for the purpose of mapping of agricultural consumers to respective categories.

Provided further, the cost of integration of ECD with database of agricultural consumers shall be borne by the Government through appropriate budgetary mechanism.

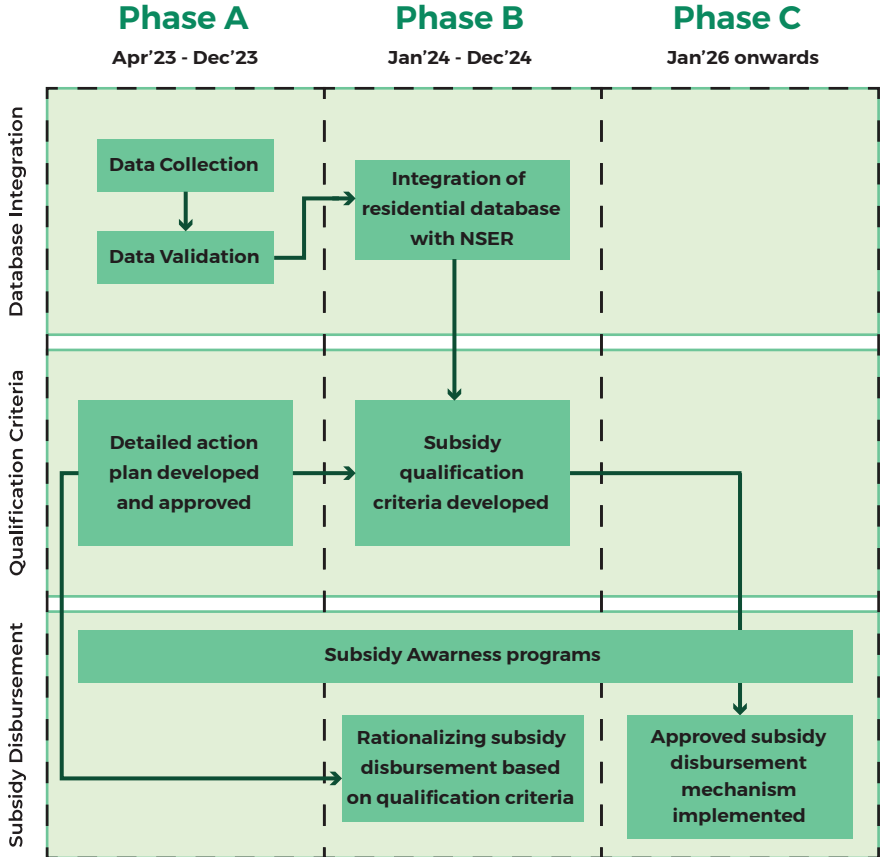


Figure 3: Roadmap for residential consumers for subsidy disbursement

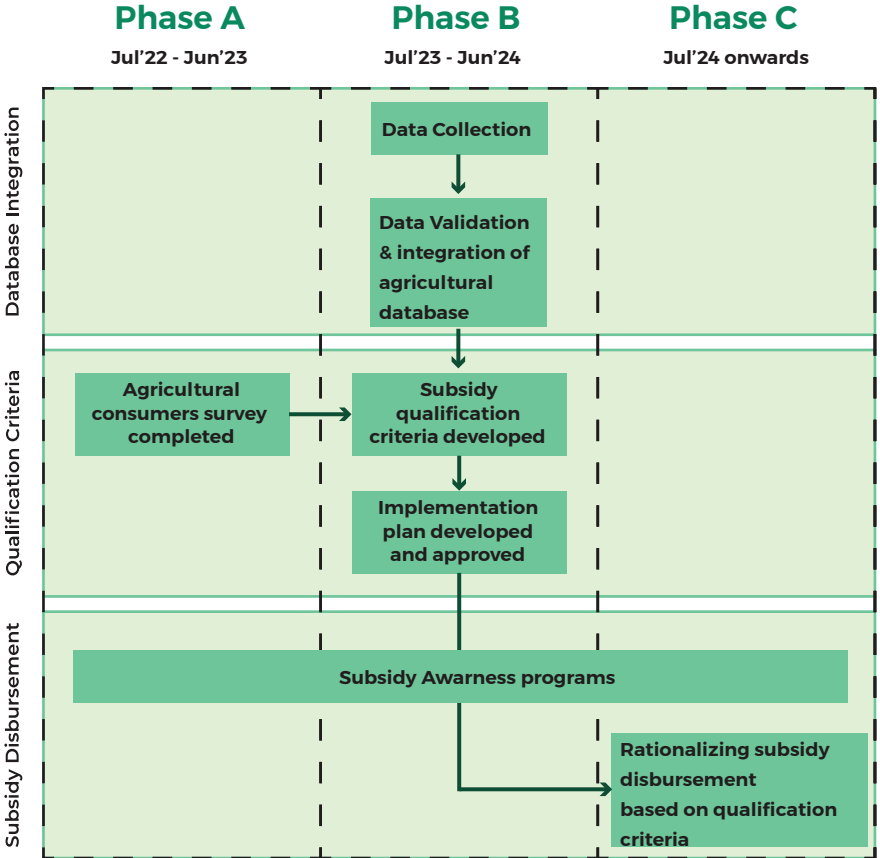


Figure 4: Roadmap for agricultural consumers for subsidy disbursement

## Performance Indicators & Targets

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** PASS Division, NADRA, PITC, DISCOs, Designated Entity

	Subsidies disbursement for protected category of residential consumers	Timeline
AF.SPR.001	Detailed action plan developed	Mar 31st, 2024
	Electricity-CNIC Database (ECD) for residential consumers integrated with NSER	Dec 31st, 2024
	Subsidy qualification criteria developed	Dec 31st, 2024
	Tariff slabs for unprotected residential consumer revised (based on aforesaid qualification criteria)	Jul 31st, 2025
	Subsidy disbursement implementation completed	Jul 01st, 2026

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** MoNFS&R, NADRA, PITC, DISCOs, Designated Entity

	Subsidies disbursement for protected category of agricultural consumers	Timeline
AF.SPR.002	Survey of agricultural consumers completed	Jun 30th, 2023
	Subsidy qualification criteria & implementation plan developed	May 31st, 2024
	Criteria & implementation plan approved by the Government	Jul 31st, 2024
	Subsidy disbursement implementation completed	Jun 30th, 2026

## Priority Area 12 | Incentive Schemes

Suitable incentive schemes and mechanisms for electricity consumers can serve as a tool to accelerate the agenda of sustainable energy transition. This, in turn, calls for the cross-sectoral integration and collective optimization of objectives during the process of designing, deployment and evaluation of such schemes.

### Strategic Directives

69. Incentive mechanisms / schemes shall be utilized as a tool to facilitate accelerated energy transition and economic growth. Such mechanisms shall account for:
  - a) predictability through consistency of policy directives;
  - b) cross sectoral integration and optimization;
  - c) efficient utilization of resources;
  - d) regional competitive tariffs for productive consumer.
70. System value framework shall be developed that shall enable designing and evaluation of various proposals and policy interventions including incentive schemes for electricity consumers, taking into account technical, economic, social and environmental aspects.
71. The Regulator, while determining tariffs of DISCOs, shall ensure inclusion of facilitative provisions for application of incentive schemes across the entire country without excessively burdening the fiscal space.
72. CCoE shall be the relevant committee of the Government for approval of all incentive schemes prior to ratification by the Government.



## Performance Indicators & Targets

Responsible Entities: Designated Entity

AF.ISC.003	Development of system value framework	Timeline
	System value framework developed	Dec 31st, 2024

# Objective 5

## FINANCIAL VIABILITY

### Priority Area

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13

Tariff Design

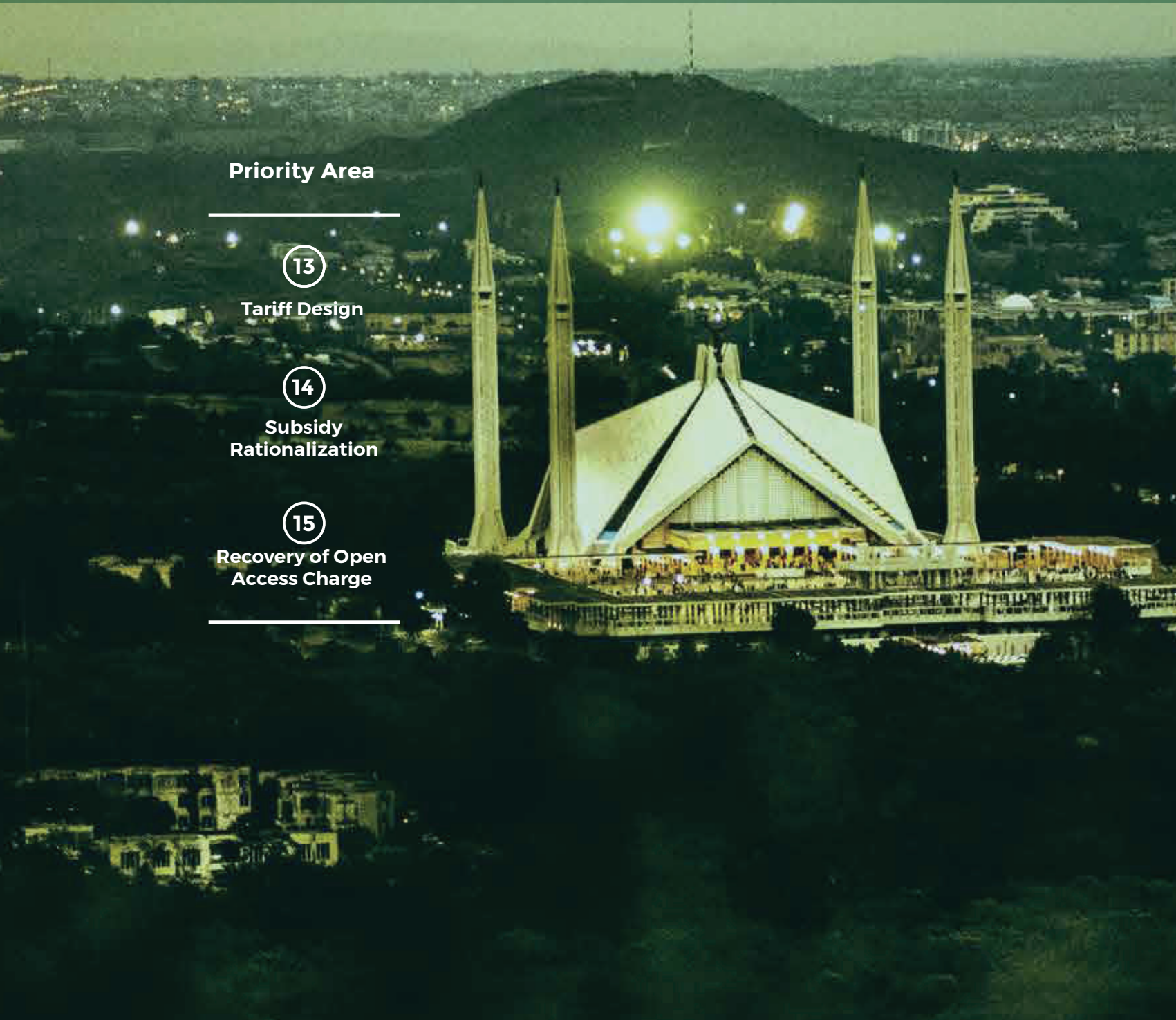
14

Subsidy  
Rationalization

15

Recovery of Open  
Access Charge

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Sustainable expansion and delivery of electricity services to all corners of the country requires financially strengthened and commercially viable cost-revenue structure. Participation, innovations and investment confidence in the power market may only be triggered in an ecosystem that ensures recovery of costs, true cost-reflectiveness among consumer segments and transparent policy & regulatory framework. Accordingly, the NE-Plan outlines directions on following accounts to ensure a financially viable power sector:

- Revisiting tariff structures of consumers while considering consumer satisfaction and financial viability of the sector
- Capping of cross-subsidy contribution, by productive consumer categories, to 20% based on cost of service
- Ensuring a level playing field for market participants through uniform application of open access charges

## Priority Area **13** | **Tariff Design**

Efficient and robust tariff design is the cornerstone to cope with the rapidly evolving techno-commercial model of the power sector. Progressive transition towards cost reflective tariff structure, greater systemic flexibility, predictability of tariffs and balanced allocation of fixed & variable costs are the critical components to enable and co-optimize competing objectives of financial viability and affordability.

### Strategic Directives

- 73.** Tariff design shall be regularly revisited to foster the market interventions, cross-subsidy rationalization, bill & revenue stability and customer satisfaction through multi-part tariff structures, creation / restructuring of slabs in existing categories of the consumers, creation of new categories, etc.
- 74.** Fixed charges shall be progressively incorporated in the tariffs of all consumer segments except consumers of protected category. Such fixed charges shall duly account for, inter alia, share of capacity cost in cost of service, market interventions, consumption behaviors and affordability of consumers. It is aimed that by FY-2027, the fixed charges shall account for at least 20% of the fixed cost of the respective categories evaluated through a cost-of-service study.
- 75.** Regulator shall periodically assess and adjust accordingly (as required) the applicable peak rates and associated peak hours for electricity consumers on the basis of, inter alia, demand-supply balance, price elasticity of demand, daily & seasonal cycles and marginal costs. Provided further, first such assessment shall be carried out no later than December 2023.
- 76.** To ensure stability & predictability in the tariffs of end consumers, the Regulator shall revisit existing fuel cost adjustment mechanism so as to ensure financial viability of the sector and equity of the consumers on account of price volatility. Accordingly, Regulator may formulate the Forward Fuel-Cost Adjustment (FFCA) mechanism based upon historical and / or future fuel price adjustments with the predetermined control period and appropriate tolerance bands.
- 77.** The Regulator shall allow recovery of financial charges to the DISCOs arising on account of systematic time lag between the period of generation invoicing and payment thereof by the consumers.
- 78.** Upfront tariff regime shall be discontinued by the Regulator for all future generation & transmission projects. Accordingly, all such procurements shall be in accordance with the Strategic Directive 11(g) and Strategic Directive 25(d).

79. Till the application of uniform tariff across the country, Government shall continue to maintain and notify a uniform tariff for all consumers of Supplier of Last Resort. Provided further, the same shall be applicable for existing XW-DISCOs even after privatization in any mode.
80. The Government shall initiate necessary amendments in the NEPRA Act to enable consolidation of revenue requirements of all the Supplier of Last Resort for the purpose of determination and notification of single national uniform consumer tariff. The MoE (Power Division) shall develop a mechanism to adjust the revenue differentials arising on account of consumer uniform tariff and respective determined tariff of each Supplier of Last Resort.
81. The decision of continuation/abolishment of uniform tariff shall be evaluated every five (5) years based on principles, inter-alia:
- affordability;
  - transparency;
  - economic efficiency;
  - market evolution.

## Performance Indicators & Targets

**Responsible Entities:** Regulator

**Supporting Entities:** MoE (Power Division)

	Inclusion of fixed charges in end consumer tariffs	Timeline
AF.TDE.001	Fixed charges to recover at least 20% of the fixed cost of the respective consumer category	Jun 30th, 2027

**Responsible Entities:** Regulator

**Supporting Entities:** System Operator, Designated Entity

	Assessment of ToU tariff	Timeline
AF.TDE.002	First assessment completed	Mar 31st, 2024

**Responsible Entities:** Regulator

	Ensuring smooth and predictable Fuel Cost Adjustment (FCA) for consumers	Timeline
AF.TDE.003	FCA mechanism devised and implemented by the Regulator	Mar 31st, 2024

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Designated Entity, Regulator

	Application of uniform tariff for all consumers of Supplier of Last Resort	Timeline
AF.TDE.004	Amendment in NEPRA Act initiated to enable application of uniform tariff	Mar 31st, 2024
	Mechanism developed for adjustment of revenue differentials	Sep 30th, 2024

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoE (Power Division)

	Evaluation of uniform tariff applicability	Timeline
AF.TDE.005	Evaluation methodology developed	Dec 31st, 2024
	First evaluation for applicability of uniform tariff completed	Dec 31st, 2025

## Priority Area 14 | Subsidy Rationalization

Energy subsidies are the key policy instruments to meet the socio-economic objectives of the Government through alleviation of energy poverty and enabling access to affordable energy services. Progressively targeting the scope of subsidies to the protected categories, direct disbursement mechanisms and limiting the exposure of cross-subsidies shall enable minimizing strain on fiscal space coupled with progressive transition towards cost-of-service tariffs.

### Strategic Directives

82. Tariffs for the residential consumers shall be progressively adjusted to align with the principle of cost-of-service, taking into account the following:
  - a) Subsidies to the protected categories of residential consumers shall be disbursed directly pursuant to the detailed action plan to be developed under Strategic Directive 067;
  - b) Residential consumers (below cost recovery) shall be cross subsidized by:
    - i) industrial & commercial consumers, pursuant to the Strategic Directive 084;
    - ii) other residential consumers (above cost recovery).
83. Tariff structure for agricultural consumers shall be segmented into sub-categories, taking into account the following:
  - a) subsidies to the agricultural consumers shall be disbursed pursuant to the detailed action plan to be developed under Strategic Directive 068;
  - b) Agricultural consumers (below cost recovery) shall be cross-subsidized by:
    - i) industrial & commercial consumers, pursuant to the Strategic Directive 084;
    - ii) other agricultural consumers (above cost recovery).
84. Cross-subsidy by the productive consumers, to subsidize residential and agricultural consumers, shall be progressively restricted to 20% of the respective cost of service of such consumers by FY-2026. Provided further, in pursuance to Strategic Directive 030 & 073 and to foster transition to green mobility, the Regulator shall establish a new tariff category for the electric vehicle charging stations with a tariff based on cost of service and no cross-subsidy, latest by June 2023.
85. Reappropriation of annual allocated subsidies between the Power and Petroleum Divisions of Ministry of Energy, may be carried out to account for collective optimization of energy value chain.
86. Notwithstanding the aim to achieve subsidy neutral tariff structure, the Government may consider future subsidies for dedicated consumer classes on the premises of socio-economic benefits. Provided further, such subsidies may be disbursed directly through the concerned ministry.

### Performance Indicators & Targets

**Responsible Entities:** Regulator

**Supporting Entities:** MoE (Power Division)

AF.SRA.006	Cross-subsidy by the industrial and commercial consumers	Timeline
	Cross-subsidy limit of 20% achieved	Jun 30th, 2026

**Responsible Entities:** Regulator

**Supporting Entities:** MoE (Power Division)

AF.SRA.007	Tariff category for EV charging stations	Timeline
	Separate category for EV charging stations formulated	Jun 30th, 2023

## Priority Area 15 | Recovery of Open-Access Charge

Liberalization of electricity markets and disruptive technological innovations pose significant challenge in recovering costs of existing generation assets. Devising appropriate mechanism based on the co-optimization of competing objectives of financial viability, affordability and competition is crucial for ensuring sustainable transition of the sector with the afore-mentioned interventions.

### Strategic Directives

87. Open access charge shall be recovered from all consumers, opting for open access, through competitive suppliers till the currency of this NE-Plan or as amended by the Government, as per the following mechanism:
- Grid charges, including use of transmission and distribution system charges, Market and system operator fee, cross subsidy charges, metering service charges etc., shall be applicable to all such consumers;
  - Cost arising on account of open access, comprising of capacity costs, shall be applicable to all such consumers.

Provided further, in case the Government decides to reduce the open access charges or any of its components for the consumers opting for open access, it shall provide the funding to bridge the differential costs. While taking any such decision, the Ministry of Finance shall hire a third-party consultant to evaluate and verify the impact of such change on the national exchequer and consumers of suppliers of last resort. The reduction or removal of such charges shall only be approved where fiscal space is available in the budget to support such reduction and consumers of suppliers of last resort are not burdened with these charges.

88. Prior to the CMOD, the Regulator shall determine open access charges in accordance with the provisions of Strategic Directive 087. Such charges shall only be applicable for the consumers opting for open access through national grid. Accordingly, the Regulator shall devise a robust framework to settle the inter-DISCO differentials on account of uniform open-access charges till the time of applicability of uniform tariff.
89. Each Supplier of Last Resort shall file a petition to Regulator for determination of the open access charges, latest by April 2023.
90. Stranded costs, arising on account of distributed generation (including self-consumption & net metering) for consumers utilizing grid connection, shall be recovered pursuant to the mechanism provided in Strategic Directive 074. The same shall be provided for in the distributed generation and net metering regulations, to be amended pursuant to the Strategic Directive 014.

### Performance Indicators & Targets

Responsible Entities: DISCOs

Supporting Entities: Market Operator

AF.ROA.008	Petition for determination of open access charges	Timeline
	Petition filed with the Regulator	Apr 30th, 2023

Responsible Entities: Regulator

AF.ROA.009	Determination of open access charge	Timeline
	Open access charge determined for each DISCO	Oct 31st, 2023

# Objective 6

## SUSTAINABILITY

### Objectives

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16

Decarbonization

17

Energy Efficiency  
& Conservation

18

R&D Institutionalization

19

Institutional Improvements &  
Capacity Building

20

Digitalization

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Environment, society and governance are the key facets to inform the value proposition of the power sector. NE-Plan has paved pathways to embrace the reduction of GHG emissions on voluntary basis, strengthen the organizational structure of power sector entities in terms of people, processes and technology, drive a culture and established processes with the prime objective of consumer centricity, accelerate the research, development, innovation and adaption of digital technologies. Accordingly, following key initiatives have been envisaged in this strategic plan:

- achieving 65% clean energy mix for power generation by FY-2030
- promoting energy efficiency & conservation on supply and demand sides through policy & regulatory levers and incentive schemes to aggressively reduce the energy intensity of the economy
- development of programs to foster R&D across the sector
- necessary institutional restructuring of the power sector
- deployment of central information system
- establishment of central consumer service platform for one-window facilitation

## Priority Area 16 | Decarbonization

Pakistan contributes less than 1% to global GHG emissions yet it is extremely vulnerable to the adverse impacts of climate change. Developing institutional & infrastructural capabilities, cross-sectoral & cross-border integration and financial & technical support shall serve as critical drivers to accelerate the agenda of clean energy transition.

### Strategic Directives

91. Government aims to gradually achieve 65% of the generation mix through the clean energy sources by FY-2030.
92. The Designated Entity, together with Regulator and MoCC, shall establish Monitoring, Reporting and Verification (MRV) mechanism for existing & projected GHG emissions of the power sector and reporting the reduction of GHG emissions achieved, to relevant national and international stakeholders.
93. The Designated Entity, in coordination with MoCC, shall:
  - a) perform detailed assessment of the existing GHG emissions of the power sector latest by July 2025;
  - b) maintain the record of GHG emissions from the power sector on annual basis based on actual generation;
  - c) assess ten-year forward-looking emissions outlook of the power sector on annual basis.
94. MoE (Power Division), in collaboration with MoF & MoCC, shall explore and pursue avenues to finance cost effective decarbonization pathways and initiatives through, inter alia, credit mechanisms, ESG-based financing, debt-nature swaps, green bonds and climate funds. Accordingly, necessary adjustment to the planning and regulatory instruments shall be made, as and when required, to harness said opportunities.
95. MoCC, in collaboration with MoE (Power Division), shall carry out regular assessments of shadow costs of carbon emissions of the power sector. Further, any decision to internalize the said costs shall be subject to the approval by the Government, on case-to-case basis.
96. MoCC, in collaboration with MoE (Power Division) and other relevant stakeholders, shall devise a roadmap for the development of the integrated assessment model to inform the cross-sectoral policy decisions in integrated manner. Further, such roadmap shall take into account the IEP development as provided in Priority Area 01.

## Performance Indicators & Targets

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoCC (GCISE), Regulator

	Establishment of Monitoring, Reporting & Verification (MRV)	Timeline
SU.DCA.001	MRV mechanism established	Dec 31st, 2024
	First assessment completed	Jul 31st, 2025

**Responsible Entities:** MoCC

**Supporting Entities:** MoE (Power Division), Designated Entity

	Roadmap for development of the integrated assessment model	Timeline
SU.DCB.003	High-level roadmap developed	Dec 31st, 2024

**Responsible Entities:** MoCC

**Supporting Entities:** MoE (Power Division)

	Assessments of shadow costs of carbon emissions	Timeline
SU.DCB.002	Assessment completed	Dec 31st, 2025

## Priority Area 17 | Energy Efficiency & Conservation

Energy efficiency serves as the primary fuel to meet growing energy demands while satisfying the objectives of affordability, sustainability and security. Designing energy efficiency programs based on a comprehensive policy and regulatory framework, strong and accountable institutions, dedicated financing mechanisms, reliable data and enhanced technical capacity shall effectively contribute to attainment of afore-said objectives.

### Strategic Directives

97. Government shall, by notification in official gazette, establish an Energy Conservation Tribunal as per Section 19 of National Energy Efficiency and Conservation Act 2016, latest by March 2024.
98. Regulator, in consultation with NEECA, shall include prudent energy efficiency targets in the respective planning instruments of the power sector entities. Provided further, Regulator, with the support of NEECA, shall strengthen the internal EE&C capabilities for the effective oversight of the determined EE&C targets.
99. In order to effectively deploy the DSM strategies to complement the supply side intervention for meeting the consumers' demand, the Regulator shall formulate DSM regulations for the DISCOs, which shall provide for, inter alia, guidelines, roles & responsibilities, incentives, development of individual DSM plans & programs and implementation. Provided further, each DISCO shall establish a DSM cell in MIRAD, that shall be responsible for the functions related to DSM and other initiatives under EE&C.

- 100.** The Designated Entity, in coordination with relevant stakeholders, shall explore and develop programs and instruments to meet accelerated energy transition, EE&C and decarbonization objectives. Accordingly, this may include, inter alia, following key initiatives:
- a)** collaboration with SBP and relevant stakeholders for the introduction / extension of dedicated concessionary financing schemes;
  - b)** design and roll-out of on-bill-financing schemes in collaboration with the Regulator, NEECA, DISCOs and other relevant stakeholders.

Provided further, on-bill-financing schemes may take into account credit / recovery rating of the respective electricity consumers and compliance of respective appliances with the efficiency standards as developed by NEECA.

- 101.** Fuel efficiency monitoring mechanism shall be included in the revised generation policy framework to enable periodic heat rate testing for future thermal power plants. Such monitoring mechanism shall also provide for the profit-sharing mechanism on account of efficiency gains.
- 102.** Mechanism for rehabilitation of existing power plants through augmentation, for the purpose of enhancing the overall plant efficiency, shall be developed by System Operator, in consultation with the relevant stakeholders. Such rehabilitation shall be subject to the generation optimization under IGCEP as provided in Strategic Directive 005.
- 103.** Pursuant to the memorandum of understanding between committee for negotiations with IPPs, as notified by the Government, and the IPPs, dated August 12th, 2020, CPPA-G, through an independent consultant, shall perform a one-time detailed heat rate test to ensure alignment of reported and actual efficiencies of such IPPs.
- 104.** NEECA shall develop and maintain an active registry of the captive power plants. Accordingly, following initiatives shall be taken to ensure effective utilization of energy resources for power generation:
- a)** NEECA shall develop a mechanism, in consultation with relevant stakeholders, for issuance and applicability of energy saving certificates to all the captive power plants on a voluntary basis;
  - b)** all the incentives and concessions for captive units shall be subject to the energy efficiency certificates;
  - c)** a separate gas tariff category shall be introduced for captive units that do not possess energy efficiency certificate issued by NEECA. The determined tariff of such category of captive consumers shall be made comparable with the respective imported RLNG prices. Provided further, the supply of gas to such captive consumers shall be curtailed, on priority basis, during the periods of gas shortages.

Provided further, captive units, that are beneficiaries of energy subsidies by the Government, shall not be allowed to sell electric power in the power market. Accordingly, the Regulator shall devise appropriate mechanisms for integration of such captive units in the power sector.

## Performance Indicators & Targets

**Responsible Entities:** Government

**Supporting Entities:** NEECA

SU.EEC.004	Establishment of Energy Conservation Tribunal	Timeline
	Tribunal established	Mar 31st, 2024

**Responsible Entities:** Regulator

**Supporting Entities:** DISCOs, System Operator

SU.EEC.005	Development of DSM Regulations	Timeline
	DSM Regulations enacted	Mar 31st, 2024

**Responsible Entities:** DISCOs

SU.EEC.006	Institutionalization of DSM Cell	Timeline
	DSM function institutionalized in MIRAD of each DISCO	Jun 30th, 2024

**Responsible Entities:** NEECA

**Supporting Entities:** Designated Entity, Regulator, SBP, DISCOs

SU.EEC.007	Development of on-bill financing scheme	Timeline
	Consultative sessions concluded with relevant stakeholders	Mar 31st, 2024
	First on-bill financing scheme launched	Oct 31st, 2024

**Responsible Entities:** NEECA

**Supporting Entities:** MoE (Petroleum Division)

SU.EEC.008	Captive Units Energy Saving Certification Program	Timeline
	Certification process completed	Mar 31st, 2024

**Responsible Entities:** OGRA

**Supporting Entities:** MoE (Petroleum Division)

SU.EEC.009	Separate Category for non-holders of Energy Saving certificates	Timeline
	Separate tariff category included	Mar 31st 2024

**Responsible Entities:** CPPA-G

SU.EEC.010	Heat rate test of IPPs	Timeline
	One-time heat rate test completed	Mar 31st, 2024

## Priority Area 18 | R&D Institutionalization

Research & development is an essential toolkit to enable and inform development of strategies for the attainment of policy goals. This may be facilitated through establishment of central R&D management functions that enable; liaising with local & global organizations, entering into regional cooperation to foster knowledge & technology transfers, providing central support to the sector entities, strengthening R&D hubs to perform dedicated research on specific themes, commercialization of viable solutions and funding high-priority R&D projects.

### Strategic Directives

**105.** Pursuant to Section 4.5.1 of the National Electricity Policy, a Five-Year Research and Development Program (FRDP) shall be developed to enable focused scaling of collective research & development initiatives for the power sector of Pakistan. The said program shall, inter-alia, provide for:

- a) priority areas and sub-research areas;
- b) annual Budget & Funding Mechanism;
- c) process for award of R&D Projects;
- d) monitoring & Evaluation.

- 106.** R&D Secretariat shall be established in the Designated Entity, to act as a central organization for designing & development of FRDP, facilitation & coordination, funds disbursement and management of necessary activities under the said program. The FRDP shall be developed with consultation of key stakeholders and shall be approved by the Government. The multiyear budget for the FRDP shall be made part of the management fee of the Designated Entity.
- 107.** The Designated Entity shall develop and manage an e-platform, namely, Central Platform for R&D (CPRD), for the purpose of solicitation of proposals under FRDP. Moreover, necessary guidelines & templates pertaining to, inter alia, submission / solicitation of proposals, intellectual property rights, expenditure statements and project completion shall also be provided in CPRD.
- 108.** The Designated Entity may enter into strategic collaboration with the global research institutions, academia, agencies, multilateral / bilateral forums, and other relevant institutions to enable; knowledge & technology transfer, capacity building and exploring research areas of mutual interest. Provided further, power sector entities shall continue with their respective research and development, capacity building, and collaborations initiatives related to their particular mandates, roles and business needs.
- 109.** Dedicated Centers of Excellence (CoEs) shall be established in selected power sector organizations, research institutions and academia across the country. Accordingly, the Designated Entity shall be responsible for selection and accreditation of such organizations / institutions. Further, CoEs shall also facilitate in training and capacity building of power sector entities along with students at academia through dedicated programs, courses and workshops.
- 110.** Each power sector entity shall develop mechanisms for generating and internalizing innovative ideas under respective business functions. This shall be supported through an innovation matrix of conceiving ideas, assessing / evaluating through dividends, inter alia, profitability, costs & cultural benefits and implementation. Accordingly, sectoral entities shall reflect their developments on account of innovation in their respective annual reports.

## Performance Indicators & Targets

**Responsible Entities:** Designated Entity

**Supporting Entities:** MoE (Power Division)

	R&D Program	Timeline
SU.RDI.011	R&D Secretariat established	Dec 31st, 2024
	Five - Year Research and Development Program (FRDP) developed	Jul 31st, 2025

**Responsible Entities:** Designated Entity

	Establishment of Central Platform for R&D (CPRD)	Timeline
SU.RDI.012	CPRD developed and operationalized	Dec 31st, 2024

**Responsible Entities:** Designated Entity  
**Supporting Entities:** MoE (Power Division)

	Cumulative number of Strategic Collaborations for R&D	Timeline
SU.RDI.013	Total 01 collaborations established	Dec 31st, 2024
	Total 03 collaborations established	Jun 30th, 2025
	Total 08 collaborations established	Jun 30th, 2026
	Total 10 collaborations established	Jun 30th, 2027

**Responsible Entities:** Designated Entity  
**Supporting Entities:** All Power Sector entities

	Cumulative number of R&D Projects initiated each year	Timeline
SU.RDI.014	Minimum 05 Projects initiated	Jun 30th, 2025
	Minimum 10 Projects initiated	Jun 30th, 2026
	Minimum 15 Projects initiated	Jun 30th, 2027

**Responsible Entities:** Designated Entity  
**Supporting Entities:** MoE (Power Division)

	Accreditation of Centers of Excellence (CoEs)	Timeline
SU.RDI.015	Minimum 03 CoEs accredited	Jun 30th, 2025
	Minimum 03 CoEs accredited	Jun 30th, 2026
	Minimum 04 CoEs accredited	Jun 30h, 2027

**Responsible Entities:** Power Sector Entities

	Reporting annual innovations	Timeline
SU.RDI.016	Innovation section included in annual reports	Dec 31st, 2023

## Priority Area 19 | Institutional Improvements & Capacity Building

Institutional and organizational strength, combined with sound human capital, refined processes and modern technology, are crucial constituents to enable efficient management, technical & operations efficiency and economic gains in the sector, leading to attainment of the over-arching policy objectives. This, inter-alia, requires clear definition of roles and responsibilities with the designated functions, organizational restructuring, training & human capital development on a sustainable basis and committed consumer facilitation.

### Strategic Directives

111. A functional and effective operating ministry is precedential to enable attainment of strategic objectives and targets, devise appropriate strategies and enable successful implementation. Lack of clarity of functions and dedicated technical expertise, ad hoc staffing arrangements, absence of ex-cadre posts to be manned by permanent employees, absence of a management information system and non-documentation of processes have hampered the performance of the ministry in the attainment of the strategic objectives. Accordingly, the organizational restructuring of MoE (Power Division) shall be carried out through following alignments:

- a) amendments in the Schedule II of the Rules of Business, 1973, to bring clarity in the functions of the ministry;
  - b) revision of the existing organogram in pursuance to (a) above;
  - c) creation of a dedicated inhouse technical support function;
  - d) development of specific job descriptions and performance indicators / benchmarks for all the personnel and departments of the ministry;
  - e) effective adoption and utilization of management information system and decision support system to be deployed in the Designated Entity.
- 112.** Independent assessment of the regulatory performance shall be carried out under the supervision of the CCI Secretariat, which shall, inter alia, account for the following:
- a) effectiveness of legal framework;
  - b) organizational capacity.
- The broad contours of aforesaid assessment have been provided in Annexure 4. Accordingly, such assessment, along with the associated recommendations, shall be submitted to the CCI for consideration and devising subsequent action plan for regulatory reforms.
- 113.** Institutional restructuring of AEDB and PPIB, to perform their roles as IAA, shall be carried out in accordance with the approved CTBCM roadmap.
- 114.** Function of System Operator shall be strengthened pursuant to the necessary stipulations as provided in Strategic Directive 033.
- 115.** The existing PITC shall be restructured to function as a central information technology company for the power sector and shall perform the following functions:
- a) integrate, standardize and disseminate sectoral data through Power Information System (PIS) (Strategic Directive 127);
  - b) develop and consolidate central Electricity-CNIC Database (ECD) (Strategic Directive 131);
  - c) develop, manage & operate central e-platform to provide all essential electricity related customer services & support (Strategic Directive 120).
- 116.** All Key leadership positions of the state-owned power sector entities shall be appointed on at least 3-year tenure, unless the personnel in such position resigns or is removed as per the applicable rules and regulations.
- 117.** Guidelines for training & human capital development for the power sector shall be developed by MoE (Power Division) to enhance collective productivity and customer satisfaction, thereby enabling attainment of the policy objectives of the power sector. The guidelines shall provide for, inter alia, institutionalization of central support function, target setting, liaising / networking, knowledge dissemination and monitoring & evaluation. Provided further, the guidelines shall account for gender inclusiveness in the workplace environment to promote gender equality.



- 118.** All power sector state-owned entities, as provided in Performance Indicator SU.IIC.021, shall develop / amend their respective human resource policies and manuals to ensure future induction of all employees on contractual / third party basis only, such that:
- a) policies / manuals shall enable provisions and accompanying incentives for the existing employees to adopt contractual terms and conditions;
  - b) all inductions / promotions at & below BPS 19 or equivalent shall be through internal competition or otherwise, through open market competition;
  - c) all postings on & above BPS 20 or equivalent shall be through open market competition on a contractual basis.

- 119.** Number of documents required for the purpose of connection services for the consumers shall be progressively reduced as under:
- a) residential: 2 documents;
  - b) commercial: 3 documents;
  - c) industrial: 5 documents.

Provided further, commencing from December 2023, only online submission of documents, for the purpose of connection services, shall be accepted by the DISCOs. Provided further, Regulator shall accordingly amend the Consumer Service Manual to give effect to this Strategic Directive.

- 120.** PITC shall upgrade the existing central e-platform, to facilitate electricity consumers for the provision of essential electricity services. Accordingly:
- a) PITC shall consolidate all consumer related services under the central e-platform , thereby enabling one-window facilitation;
  - b) all DISCOs shall align their internal business processes with the central e-platform to provide the services in the prescribed timeline, as provided in Strategic Directive 026;
  - c) PITC shall devise and implement a communication strategy to promote utilization of said one-window facility;
  - d) commencing from January 2024, all DISCOs shall ensure logging of applications / requests / services of the electricity consumers at central platform developed by PITC.
- 121.** One-window facilities shall be established in all DISCOs to facilitate provision of electricity services to large consumers on a priority basis.
- 122.** Per the stipulations of Consumer Service Manual, Regulator shall develop appropriate mechanism and process to facilitate payment of connection charges in installments, for productive consumers, subject to predefined limits.
- 123.** Generation licensing requirements for various classes of generation projects shall be discontinued in accordance with the mechanism to be provided pursuant to Strategic Directive 012.

- 124.** The Designated Entity, in consultation with Market Operator, relevant stakeholders and sector experts, shall formulate a due diligence report providing the gap analysis of the prevailing / applicable policy & regulatory frameworks in the sector, primarily on account of sectoral reforms and power market development. Accordingly, the diligence report shall provide recommendations for the modification in the relevant legal, policy and regulatory frameworks .
- 125.** To enable transparent, simple and predictable mechanism for generation investments, this NE-Plan has streamlined necessary processes through alignment of requisite instruments of policy, planning and subsequent procurement (Strategic Directive 01, 005 and 008, respectively). This shall also facilitate progressive transition towards an investor friendly ecosystem and reduction in overall risk profile.
- 126.** All state-owned entities of power sector shall develop / update and publish their respective processes (including but not limited to consents, approvals and expression of interests) involving investor and consumer related matters through digital platform(s).

## Performance Indicators & Targets

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Cabinet Division

	Restructuring of MoE (Power Division)	Timeline
SU.IIC.017	Rule of business amended	Mar 31st, 2024
	Restructuring completed	Dec 31st, 2024

**Responsible Entities:** CCI Secretariat

**Supporting Entities:** Cabinet Division

	Assessment of Regulatory Performance	Timeline
SU.IIC.018	Terms of reference issued	Mar 31st, 2024
	Consultant engaged	Jun 30th, 2024
	Assessment Report submitted to CCI	Dec 31st, 2024

**Responsible Entities:** Designated Entity

**Supporting Entities:** Market Operator

	Gap analysis of policy & regulatory frameworks	Timeline
SU.IIC.019	Due diligence report published	Jun 30th, 2025

**Responsible Entities:** MoE (Power Division)

**Supporting Entities:** Designated Entity

	Development of guidelines for training & human capital development	Timeline
SU.IIC.020	Consultation completed	Mar 31st, 2024
	Guidelines issued	Sep 30th, 2024

**Responsible Entities:** XW-DISCOs, NGC, GENCOs, System Operator

**Supporting Entities:** MoE (Power Division)

	Amendment of human resource policies / manuals to include contractual provisions	Timeline
SU.IIC.021	Revised policies / manuals enacted	Mar 31st, 2024

**Responsible Entities:** Regulator

**Supporting Entities:** DISCOs

	Reduction in number of documents required for the purpose of connection services	Timeline
SU.IIC.022	Document requirement for connection services revised	Mar 31st, 2024

**Responsible Entities:** PITC

**Supporting Entities:** DISCOs

	Central e-platform for electricity services	Timeline
SU.IIC.023	E-platform upgraded	Mar 31st, 2024
	Public outreach communication strategy finalized	Mar 31st, 2024
	Business processes of each DISCO aligned	Jul 31st, 2024

**Responsible Entities:** Regulator

**Supporting Entities:** XW-DISCOs

	Mechanism for installment of connection charges	Timeline
SU.IIC.025	Mechanism developed and implemented	Jan 31st, 2024

**Responsible Entities:** DISCOs

	Creation of one-window facility for large consumers	Timeline
SU.IIC.024	One-window facility established	Mar 31st, 2024

## Priority Area 20 | Digitalization

Integration of information and communication technologies across the entire business periphery of economy complements the attainment of digital transformation. The incorporation of ICT strategies and central power information system shall assist the alignment of goals across the power sector entities, inter-alia, efficient data accessibility & management, improved IT asset utilization levels, enterprise mobility and e-governance through streamlined processes & communication platforms.

### Strategic Directives

127. A centralized Power Information System (PIS) shall be progressively developed by PITC with the aim of integration, standardization and dissemination of sectoral data under a single platform. Provided further, for more effective and informed decision making the PIS shall be progressively integrated with cross-sectoral data streams/repositories, inter-alia, Energy Information System (EIS) of Planning Commission, Easy Data of State Bank.
128. PITC, in consultation with the relevant stakeholders, shall develop a PIS platform along with comprehensive and integrated data governance framework in line with the transitional roadmap for development and institutionalization of PIS. Accordingly, all the relevant entities shall collaborate with PITC on account of identification of data domains (required data sets for respective business functions), interfaces (application requirements) and data sharing. Further, restructuring of PITC shall be carried out pursuant to Strategic Directive 115 to enable effective institutionalization of PIS under PITC.

- 129.** All the entities, as provided in Performance Indicator SU.DIG.026, shall develop / update their respective ICT Plans. The ICT Plan shall account provide for development of, inter alia, infrastructure, business governance applications, IT policies and implementation of e-office platform along with their respective implementation timelines & strategies. This ICT plan shall accordingly include deployment of, inter alia, following key applications, protocols and infrastructures:
- a) Enterprise Resource Planning (ERP) systems;
  - b) Enterprise Content Management (ECM) systems;
  - c) Data institutionalization platforms and data centers;
  - d) Development of Information Technology Infrastructure Library (ITIL) Framework;
  - e) Data analytics and reporting procedures;
  - f) Data governance;
  - g) Capacity building and training program for employees.

Provided further, All the power sector entities, subject to the applicable law, shall maintain at least five (5) years of record in electronic form.

- 130.** MoE (Power Division) shall constitute a committee to assist individual entities to develop / update / integrate standardized ICT Plan. The implementation timelines of ICT Plan, as approved by the BoD of each respective entity, shall be deemed part of this NE-Plan.
- 131.** All DISCOs shall map reference number of consumers' meter connection with their CNICs in their respective jurisdictions, which shall be consolidated in the central Electricity-CNIC Database (ECD) by PITC. Provided further, PITC, in coordination with DISCOs, shall establish and implement protocols for regular update of ECD.
- 132.** PITC, in collaboration with NADRA, shall integrate ECD with the NADRA database. This shall enable, inter alia:
- a) consumer management / customer relationship management, data logging and integration, social assessments, theft management, credit rating, debt flagging and incentive allocation;
  - b) cross-sectoral support for the purpose of subsidies, incentives, initiatives and relief programs.

Provided further, PITC, in coordination with NADRA, shall establish and implement protocols for regular update of ECD - NADRA database.

- 133.** PBS, in coordination with the Designated Entity, PITC and other relevant organizations, shall update the questionnaires for its surveys and censuses to account for data solicitation from various consumer segments related to energy production, access, use, efficiency and behaviors. Accordingly, PBS shall share the requisite data with the the Designated Entity and relevant stakeholders for informed decision making in the power sector.
- 134.** Every three (3) years, all DISCOs in coordination with Provincial Governments shall update GIS mapping of:
- a)** electricity consumers, in their respective service territory, to inform planning processes, carry out spatial data analysis, network surveys and manage customer information management system;
  - b)** non-electrified areas, in their respective service territory, under UNE program (Strategic Directive 052).

## Performance Indicators & Targets

**Responsible Entities:** MoE (Power Division), Regulator, NGC, System Operator, DISCOs, GENCOs, AEDB, PPIB, CPPA-G, NEECA, PITC

**Supporting Entities:** Market Operator

	Development of ICT Plans	Timeline
SU.DIG.026	ICT Plan developed	Mar 31st, 2024
	ICT Plan implementation completed	Jun 30th, 2025

**Responsible Entities:** PITC

**Supporting Entities:** Market Operator, NGC, NEECA, Designated Entity

	Development of Power Information System (PIS)	Timeline
SU.DIG.027	PIS developed and institutionalized in PITC	Jun 30th, 2024

**Responsible Entities:** DISCOs

**Supporting Entities:** NADRA, PITC

	Meter-CNIC mapping	Timeline
SU.DIG.028	CNIC mapped with electricity reference numbers of consumer	Jun 30th, 2024

**Responsible Entities:** PITC

**Supporting Entities:** NADRA, DISCOs

	Integration of Electricity-CNIC Database (ECD) with NADRA database	Timeline
SU.DIG.029	ECD integrated with NADRA database	Dec 31st, 2024

**Responsible Entities:** DISCOs

**Supporting Entities:** PITC, PPMC

	GIS mapping of consumer meters	Timeline
SU.DIG.030	GIS mapping completed	Jun 30th, 2024

## Part B

# IMPLEMENTATION AND REVIEW

Robust and effective implementation mechanism is an essential component to enable attainment of targets & compliance of directives under this NE-Plan. Devising implementation strategy for NE-Plan has largely been informed by the past experiences from the implementation of sectoral policies & plans and lessons learned from global best practices. Accordingly, following measures have been incorporated to ensure robust and effective implementation:

- targets and directives of this NE-Plan have been assigned to respective Responsible Entities
- Monitoring & Evaluation mechanism has been deployed to track progress of individual targets & directives and gauge performance of Responsible Entities
- multi-tier reporting hierarchy has been devised for assessing progress towards attainment of overall objectives of NE-Plan and outlining specific actions for informed decision-making

## 3. Monitoring, Evaluation & Reporting

### 3.1. Monitoring & Evaluation

- a) Monitoring & Evaluation mechanism of NE-Plan pivots around gauging the compliance of each strategic directive provided in the respective priority areas. All such strategic directives, based on their specific characteristics, may be classified into one of the following three (3) categories:
- i) **Timebound Strategic Directives** provide for timebound actions and associated entity(ies) responsible for the completion of the said actions. Accordingly, all such strategic directives have been accompanied by specific “Key Performance Indicators (KPI)”, for the purpose of performance measurement of respective entity. For example, Strategic Directive 067 and its associated KPI provide for roadmap with specific timebound milestones to enable disbursement of subsidies for protected category of domestic consumers by FY-2026.
  - ii) **Perpetual Strategic Directives** have been provided to bring discipline in specific areas / processes. Such directives shall be monitored over the entire control period of this NE-Plan.  
For example, Strategic Directive 005 provides for necessary stipulations to be followed during the development of IGCEP each year.
  - iii) **Triggering Strategic Directives** provide for overarching principles / mechanisms to be applicable based on specific triggering events.  
For example, proposal for qualification of strategic project shall be evaluated pursuant to the stipulations of Strategic Directive 010.
- b) For effective Monitoring & Evaluation of NE-Plan, a dedicated web-based Monitoring & Evaluation System (M&ES) has been developed and deployed. Moreover, all the strategic directives, as provided in this NE-Plan, have been mapped in the M&ES. Accordingly:
- i) focal designations from all the Responsible Entities have been solicited and the same shall be utilized for future coordination;
  - ii) dedicated user interface has been created for each Responsible Entity. Provided further, each Responsible Entity shall provide its compliance status of all the assigned strategic directives in M&ES;
  - iii) initial training shall be conducted with all relevant stakeholders prior to enactment of this NE-Plan. Moreover, subsequent support shall be provided by the Designated Entity on a need basis.
- c) Roles & responsibilities of different entities in the NE-Plan are provided below:
- i) **Responsible Entity**
    - 1) devise strategies and ensure compliance with the respective strategic directives;
    - 2) coordinate with Supporting Entities;
    - 3) periodically update compliance status on M&ES;
    - 4) provide focal nomination to the Monitoring & Coordinating Entity.



**ii) Supporting Entity**

- 1) provide support to the Responsible Entity on the respective strategic directives;
- 2) provide focal nomination to the Responsible Entity (as required).

**iii) Monitoring & Coordinating Entity**

- 1) MoE (Power Division) shall designate an entity, referred to as “Designated Entity” in this NE-Plan, to perform the function as a central Monitoring & Coordinating Entity till the control period of this NE-Plan. Accordingly, the Designated Entity shall be responsible for consolidation, reporting, M&ES support and coordination;
- 2) Designated Entity shall submit Progress & Compliance Report (P&CR), on quarterly basis, to the MoE (Power Division) (as per the schedule provided in Figure 5);
- 3) For all the strategic directives, wherein Designated Entity has been assigned the role of Responsible Entity, compliance status shall be provided by the same in M&ES and shall, accordingly, be reflected in P&CR for the purpose of evaluation by MoE (Power Division);
- 4) All the entities shall support Designated Entity in performing the role of central Monitoring & Coordination Entity;
- 5) For the purpose of performing functions as envisaged in this NE-Plan, the designated entity shall charge a regulatory fee which shall be allowed by the Regulator.

**3.2 Reporting**

- a) Periodic reporting of the progress of NE-Plan, on the basis of Monitoring & Evaluation mechanism, shall enable effective implementation through ascertaining the compliance of the strategic directives and devising corrective measures / strategies.
- b) Reporting of NE-Plan shall be carried out at three (3) distinct tiers, as per the schedule of reporting provided in Figure 4, wherein:
  - i) **Tier-I:** The Designated Entity shall submit quarterly P&CR to MoE (Power Division) with the compliance status of respective strategic directives. Accordingly, in case of non-compliance, MoE (Power Division) shall:
    - 1) take appropriate corrective measures and accountability actions for the entities under its administrative control. Moreover, MoE (Power Division) may amend the timelines of such entities on an exceptional basis and shall communicate such amendments to the CCoE as part of Tier-II reporting;
    - 2) coordinate with the entities, not under its administrative control, to enable compliance with the respective strategic directives. Provided further, MoE (Power Division) may escalate such non-compliances to the CCoE (Tier-II), with the recommended action(s), on a case-to-case basis.
  - ii) **Tier-II:** MoE (Power Division) shall submit semi-annual report to the CCoE, providing for the individual compliance of the strategic directives, overall progress and necessary recommendations for the purpose of implementation of NE-Plan. Provided further, the Government may amend / modify any action / directive of this NE-Plan on an exceptional basis.

Tiers	Frequency	Submitted by	Submitted to	Control Period	Submission Month
I	Quarterly	Designated Entity	MoE (Power Division)	July – September	October
				October – December	January
				January – March	April
				April – June	July
II	Semi-Annual	MoE (Power Division)	CCoE	July – December	January
				January – June	July
III	Annual	MoE (Power Division)	CCI	July – June	July

Figure 5: Schedule of Reporting

Provided further, the reporting schedule shall be effective from date of its notification with the submission of first Progress & Compliance Report (P&CR) by the Designated Entity latest by 31st December 2023.

## 4. Assessment: Review & Updating

This NE-Plan is a rolling plan and shall be enacted for a period of five years. This first NE-Plan has been developed and shall remain applicable for the control period from the date of its enactment till FY-2027.

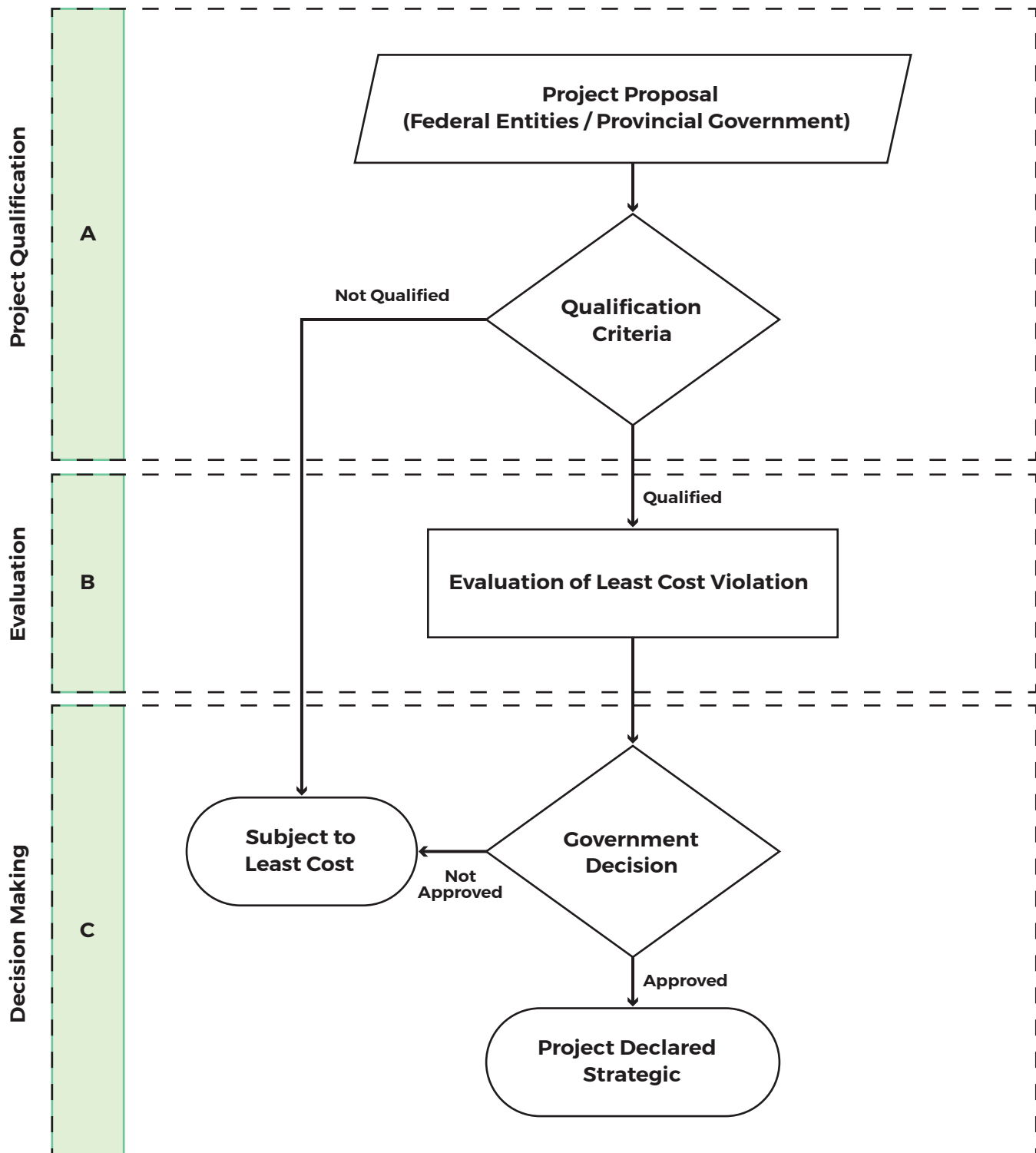
The Government shall review the progress of this plan on semi-annual basis and may amend any part of this NE-Plan, as provided in Section 3.2(b)(ii). Provided further, the Designated Entity shall carry out an ex-post review of this NE-Plan to assess the overall implementation and impacts of the initiatives envisaged under this NE-Plan, objectives achieved, performances of entities and lessons learned on account of prescribed directives. Such ex-post review shall inform the development of second five-year NE-Plan.

# ANNEXURES

# Annexure 1

The process for qualification, evaluation and approval of the strategic projects has been provided below, followed by description of each stage.

## Process for Approval of Strategic Projects



## Process Description

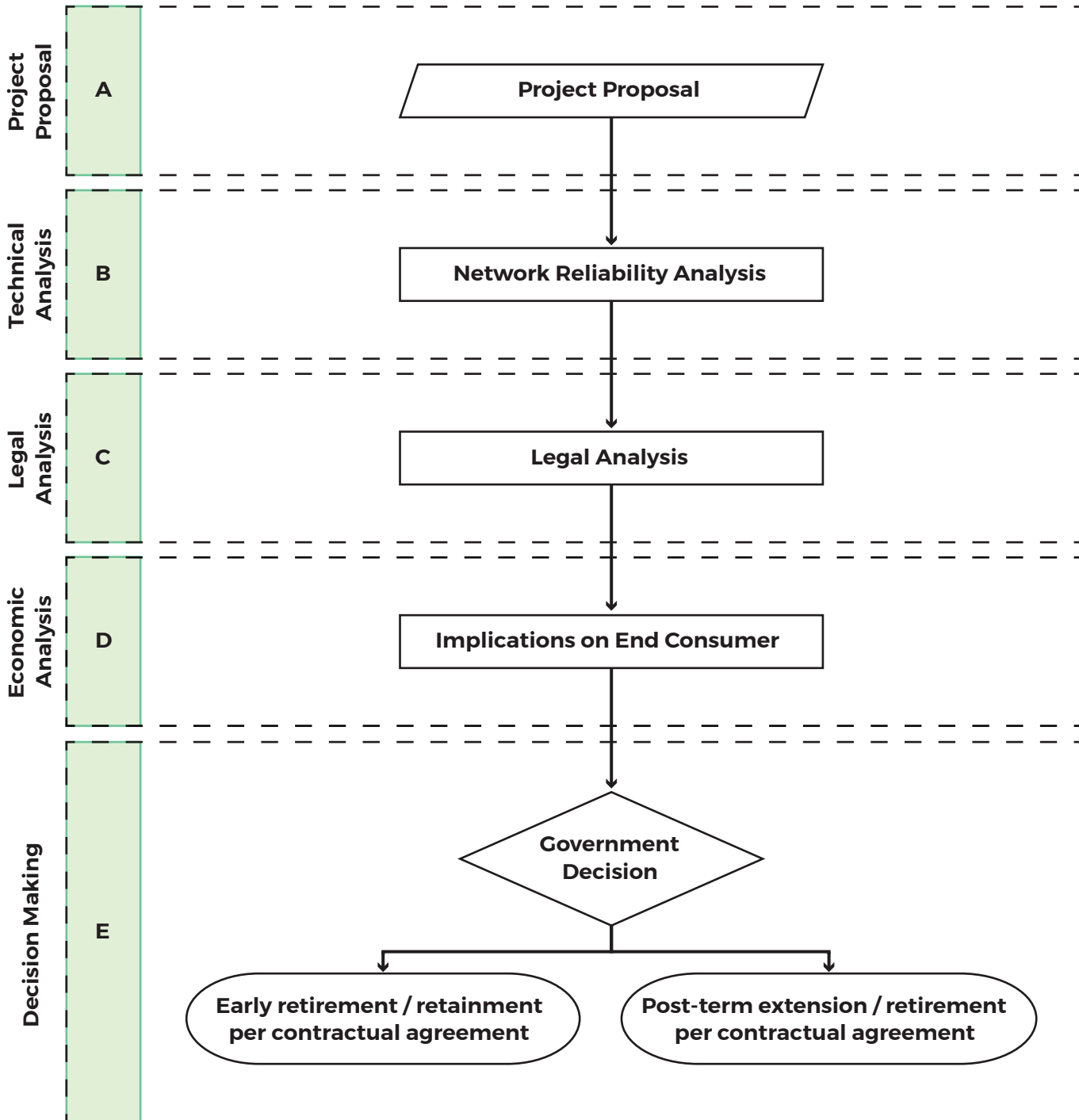
Scope	Description
A. Project Qualification	<ul style="list-style-type: none"> <li>i. The project proposal along with feasibility study (technical, commercial, socio-economic and other relevant considerations) shall be provided by the respective Federal Entity / Provincial Government.</li> <li>ii. MoE (Power Division) shall evaluate the proposal against the qualification criteria of strategic projects provided in Strategic Directive 010(a).</li> </ul>
B. Evaluation	<p>Subject to the qualification of the proposed project as strategic, the least cost violation (LCV) shall be determined through the evaluation mechanism provided below:</p> <ul style="list-style-type: none"> <li>i. For each proposed strategic project, the evaluation shall be carried out based on the assumption set of the latest approved IGCEP covering 15 years of commercial operations (evaluation horizon) of the project from the respective COD.</li> <li>ii. The least cost violation (%) shall be evaluated as under:</li> </ul> $\text{Least Cost Violation (\%)} = \frac{\text{proposed cost} + \text{transmission cost} - \text{selection cost}}{\text{proposed cost}}$ <p>Where,</p> <p><i>Proposed Cost:</i></p> <ul style="list-style-type: none"> <li>(a) for all projects except for import of power, proposed cost is the project overnight capital cost including interest during construction as provided by the respective Federal entity / Provincial Government,</li> <li>(b) for projects related to import of power, proposed cost is the proposed tariff that includes all relevant cost (or as the case may be) as provided by the respective Federal entity / Provincial Government.</li> </ul> <p><i>Transmission Cost:</i></p> <ul style="list-style-type: none"> <li>(a) for all projects except for import of power, transmission cost is the relevant cost of the specific project as determined in accordance with the approved criteria of the CCI,</li> <li>(b) for projects related to import of power, transmission cost is any additional cost (as the case may be), as determined in accordance with the approved criteria of the CCI, that has not been included in the proposed cost.</li> </ul>

	<p><i>Selection Cost:</i></p> <p>(a) for all projects except for import of power, selection cost is the project overnight capital cost including interest during construction that enables the selection of project on least cost basis,</p> <p>(b) for projects related to import of power, selection cost is the tariff (or as the case may be) that enables selection of the project on least cost basis.</p> <p>iii. Provided further, if the proposed strategic project is not selected during the evaluation horizon with any selection cost, the entire proposed cost along with the transmission cost shall be borne by the respective sponsoring Government / Provincial Government. Accordingly, the dispatch criteria of such projects, under such scenario, shall be decided on case-to-case basis by the Government.</p> <p>iv. Provided further, if the proposed strategic project is selected, on least cost basis, at its proposed cost any time beyond its proposed COD during the evaluation horizon, the %LCV shall be applicable till the time such project is selected on proposed cost.</p> <p>v. For provincial projects, the evaluated LCV shall be communicated to the relevant sponsoring Provincial Government and such projects may only be declared strategic by the Government subject to the prior consent by the respective Provincial Government to fund the cost of LCV and mechanism for payment of LCV shall be agreed in advance.</p>
C. Decision Making	<p>i. For declaration of the proposed project as strategic, the Government, in consultation with all the Provincial Governments, shall decide, on case-to-case basis, based on the qualification criteria and the cost of LCV. The mechanism for payment of LCV shall be agreed in advance.</p> <p>ii. All strategic projects shall be solicited under cost plus mechanism.</p>

## Annexure 2

The process for evaluation of early retirement / post-term extension of the existing generation projects in the national power pool has been provided below, followed by description of each stage.

### Process for Evaluation of Early Retirement / Post-term Extension of Generation Projects



## Process Description

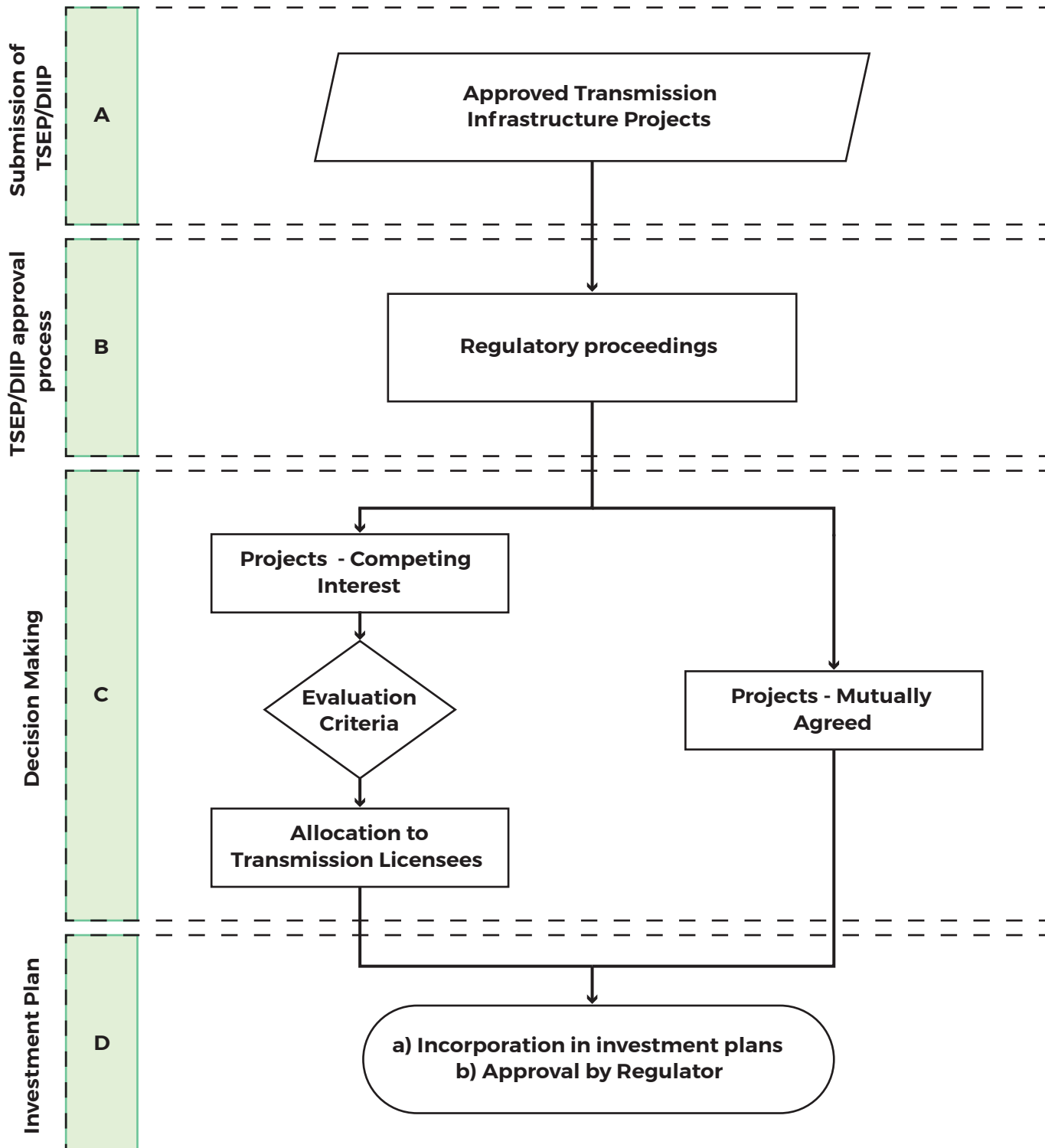
Scope	Description
A. Project Proposal	<ul style="list-style-type: none"> <li>i. Project executing / facilitating entity shall submit the proposal for post-term extension / early retirement of generation project along with relevant feasibility study.</li> </ul>
B. Technical Analysis	<ul style="list-style-type: none"> <li>i. Network Reliability Analysis shall be conducted for assessment of early retirement/ post-term extension of respective generation project to account for the impacts of inter-alia, congestions, load shedding and system stability.</li> <li>ii. The approved TSEP, when available, shall form the basis for such analysis. Provided further, till the approval of TSEP, the applicable network plan of NGC shall form the basis for such analysis.</li> <li>iii. System Security Analysis shall be conducted to evaluate the implications on system security on account of, inter alia, fuel availability &amp; geo-strategic locations.</li> </ul>
C. Legal Analysis	<ul style="list-style-type: none"> <li>i. Legal analysis for evaluation of early retirement / post-term extension shall be carried out based on respective contractual and policy framework.</li> </ul>
D. Economic Analysis	<ul style="list-style-type: none"> <li>i. A detailed cost benefit analysis shall be carried out based on latest approved IGCEP, for evaluation of impact of early retirement / post-term extension on the consumer end tariff.</li> </ul>
E. Decision Making	<ul style="list-style-type: none"> <li>i. The Government shall decide for early retirement / post-term extension of proposed generation project on case-to-case basis, based upon, inter alia, technical, legal and economic analysis.</li> <li>ii. In case of approval of early retirement / post-term extension proposal, the associated upfront cost may be funded by Government or incorporated in end consumer tariff, as the case may be.</li> </ul>



## Annexure 3

The process for allocation of transmission projects to transmission licensees based on approved TSEP has been provided below, followed by description of each stage.

### Process Flow for Allocation of Transmission Projects



## Process Description

Scope	Description
A. Submission of TSEP/DIIP	<ul style="list-style-type: none"> <li>i. TSEP/DIIP shall be submitted to Regulator for approval as per schedule of regulatory proceedings. Provided further, TSEP/DIIP shall comprise of list of transmission infrastructure projects at relevant transmission voltage levels.</li> </ul>
B. TSEP/DIIP approval process	<ul style="list-style-type: none"> <li>i. Regulator will initiate the process of due consultation with stakeholders for approval of respective TSEP/DIIP.</li> <li>ii. PGCs may communicate their interests to the Regulator, in pursuance to the regulatory proceedings</li> <li>iii. Where there exist competing interests, i.e., both companies (NGC / DISCOs &amp; PGC) are interested in developing certain project(s), the Regulator shall allocate such project(s) on the basis of criteria to be developed pursuant to Strategic Directive 24(a)</li> <li>iv. For projects where no disagreement exists between the NGC / DISCOs and PGC, the Regulator shall make responsible the respective licensee for development of such project(s) in accordance with the timelines envisaged under the TSEP.</li> </ul>
C. Decision Making	<ul style="list-style-type: none"> <li>i. Regulator will allocate the competing interest projects to transmission/distribution licensees through consultative process based on evaluation criteria to be developed pursuant to Strategic Directive 24(a)</li> </ul>
D. Investment Plan	<ul style="list-style-type: none"> <li>i. Respective licensees shall formulate and submit their investment plans to the Regulator for approval.</li> </ul>

# Annexure 4

## Contours of Regulatory Assessments

Scope	Description
1. Effectiveness of Legal Framework	<ul style="list-style-type: none"> <li>i. Adequacy of Legal Framework</li> <li>ii. Clarity of Roles and Responsibilities</li> <li>iii. Institutional &amp; Financial independence</li> <li>iv. Composition, Eligibility criteria and Process for selection of Members of Authority</li> </ul>
2. Organizational Capacity	<ul style="list-style-type: none"> <li>i. Existence of clear roles and responsibilities in organization for licensing, tariffs, formulations/amendments of standards/Regulations, approvals, inspections, assessments, and enforcement</li> <li>ii. Performance benchmarking of authority members and employees</li> <li>iii. Capability for independent reviews/assessment of operating (regulated) organizations</li> <li>iv. Predictability of Regulatory Framework</li> <li>v. Redundant Regulations / Consents</li> <li>vi. Adaptability to market landscape</li> <li>vii. Period of Delay between identification of the need for a new regulatory requirement and its introduction</li> <li>viii. Competency of Staff with respect to knowledge, experience, and number for performance of regulatory functions</li> <li>ix. Internal Quality Assurance</li> <li>x. Communication and consultation Framework</li> <li>xi. Global Connection</li> <li>xii. Documentation of Processes</li> </ul>

# Annexure 5

## Key Performance Indicators: Targets & Responsibilities

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
<b>Objective 1: Diversification</b>							
<b>Priority Area 1 : Integrated Energy Plan</b>							
DI.IEP.001	Development of Integrated Energy Planning (IEP)	Designated Entity			High-level design developed & approved Timeline: Sep 30th, 2024		First IEP developed Timeline: Jul 31st, 2026
DI.IEP.002	Feasibility analysis for integration of energy sector regulator	Cabinet Division		Terms of reference developed Timeline: Mar 31st, 2024	Consultant Engaged Timeline: Jul 31st, 2024 Feasibility report & recommendations submitted to the Government Timeline: Mar 31st, 2025		
<b>Priority Area 2: Generation Expansion</b>							
DI.GEX.003	Development of draft Generation Policy framework	PPIB		First draft of revised generation policy framework circulated for consultation Timeline: Mar 31st, 2024			
DI.GEX.004	Inclusion of generation planning of K-Electric in IGCEP	System planner	Submission of IGCEP to the Regulator with inclusion of K-Electric Timeline: May 15th, 2023				
DI.GEX.005	Inclusion of K-Electric in integrated generation & transmission planning	Regulator		Relevant regulations and under-neath arrangements for K-Electric amended Timeline: Dec 31st, 2023			

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
DI.GEX.006	Mechanism for inclusion of generation projects opting for bilateral contracts with competitive suppliers in IGCEP	System Planner		Mechanism developed and submitted to the Regulator for review and approval  Timeline: Oct 31st, 2023			
DI.GEX.007	Cessation of generation licensing requirements	MoE (Power Division)		Mechanism developed  Timeline: Oct 31st, 2023			
DI.GEX.008	Power acquisition programs approved under the approved procurement regulations	Regulator		Power acquisition programs approved  Timeline: Oct 31st, 2023			
				Procurement regulations updated  Timeline: May 31st, 2024			
DI.GEX.009	Amendment of guidelines for determination of Consumer End Tariff (methodology and process), 2015	Regulator		Guidelines amended  Timeline: Oct 31st, 2023			
<b>Priority Area 3: Distributed Energy Resources</b>							
DI.DER.010	Amendment of DER Regulations	Regulator		Regulations amended  Timeline: Mar 31st, 2024			
DI.DER.011	Assessment of DER quantum in the system	AEDB		Strategy developed  Timeline: Mar 31st, 2024	First assessment completed  Timeline: Oct 31st, 2024		
DI.DER.012	Inclusion of DER services in central e-platform	PITC		Provision for DER related services integrated in central e-platform  Timeline: Mar 31st, 2024			

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
<b>Priority Area 4: Cross Border Trade of Electricity</b>							
DI.CBT.013	Development of guidelines for import / export of electricity	MoE (Power Division)		Draft guidelines developed Timeline: Feb 29th, 2024 Guidelines approved by Government Timeline: Apr 30th, 2024			
DI.CBT.014	Export of electricity under CASA-1000 project	MoE (Power Division)			CASA open Access rules formulated Timeline: Jul 31st, 2024		
DI.CBT.015	Feasibility study for import / export of electricity	MoE (Power Division)			High-level feasibility study completed Timeline: Dec 31st, 2024		
<b>Objective 2: Resilience &amp; Accessibility</b>							
<b>Priority Area 5: Transmission Network Expansion</b>							
RE.TNE.001	Guidelines for joint development of TSEP	Regulator		Guidelines developed Timeline: Mar 31st, 2024			
RE.TNE.002	Development of criteria for award of transmission projects with competing interests	Regulator		Criteria developed & enacted Timeline: Mar 31st, 2024			
RE.TNE.003	Amendment of Transmission Line Policy framework	PPIB		Transmission Line Policy framework submitted to Government for approval Timeline: Mar 31st, 2024			
<b>Priority Area 6: Robust Distribution Infrastructure</b>							
RE.DIS.004	Performance Improvement of XW-DISCOs	MoE (Power Division), XW-DISCOs		Strategic roadmaps signed Timeline: Oct 31st, 2023	Transaction Advisor engaged Timeline: Jul 31st, 2024		
RE.DIS.005	Amendment of Distribution Code	Regulator		Distribution Code amended Timeline: Oct 31st, 2023			

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
<b>Priority Area 7: System &amp; Market Operations</b>							
RE.SMO.006	License for System Operator	Regulator	System Operator license granted Timeline: Jun 30th, 2023				
RE.SMO.007	Amendment of Grid Code	Regulator	Grid code amended Timeline: Jun 30th, 2023				
RE.SMO.008	Development of detailed implementation plan	System Operator		Detailed implementation plan developed Timeline: Oct 31st, 2023			
RE.SMO.009	Approval of detailed implementation plan	Regulator		Detailed implementation plan approved by the Regulator Timeline: Nov 30th, 2023			
				Relevant license of K-Electric amended Timeline: Dec 31st, 2023			
RE.SMO.010	Day Ahead Merit Order	System Operator, CPPA-G / Market Operator		Formulation of day ahead merit order commenced Timeline: Oct 31st, 2023			
RE.SMO.011	Development of SCADA	System Operator		SCADA phase 3 implemented Timeline: Jun 30th, 2024			
RE.SMO.012	Development of market platforms & products	Market Operator			First assessment for products / platforms development completed Timeline: Jul 31st, 2024		
RE.SMO.013	Roadmap for lowering of threshold for consumers having the choice to opt for bilateral contract(s)	Market Operator			Roadmap developed and submitted to the Regulator for approval Timeline: Jul 31st, 2024		

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
RE.SMO.014	Power allocation to XW-DISCO	MoE (Power Division)			Allocation factors determined and submitted to Government for approval  Timeline: Jun 30th, 2025		
RE.SMO.015	Repealment of Wheeling Regulation	Regulator	Wheeling Regulations repealed  Timeline: Apr 30th, 2023				
RE.SMO.016	Decision for integration of system operation and market operation functions	Cabinet Division		Decision taken on potential integration by the Government  Timeline: Jun 30th, 2024			
<b>Priority Area 8: Electrification</b>							
RE.ELE.017	Universal National Electrification (UNE) program	Designated Entity		Central Electrification Registry (CER) developed  Timeline: Jun 30th, 2024	Roadmap developed to achieve 100% electrification target by 2030  Timeline: Dec 31st, 2024  First annual National Electricity Access Report published  Timeline: Jun 30th, 2025	Annual National Electricity Access Report (NEAR) published  Timeline: Jun 30th, each year	
RE.ELE.018	Institutionalization of GIS-based Platform established under World Bank project related to Least Cost Electrification	Designated Entity		Least Cost Electrification based GIS platform institutionalized in Designated Entity  Timeline: Mar 31st, 2024		Update of Least Cost Electrification based GIS platform completed  Timeline: Jun 30th, 2026	
RE.ELE.019	Mechanism for allowance / disallowance of temporary electricity connections to housing societies that do not possess valid NOC	Regulator		Mechanism developed and incorporated in regulatory framework  Timeline: Mar 31st, 2024			



PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
<b>Priority Area 9: Risk Assessment &amp; Management</b>							
RE.RAM.020	Institutionalization of Strategic Risk Management function	Designated Entity		Strategic risk management function institutionalized Timeline: Jun 30th, 2024	Strategic risk management framework developed Timeline: Dec 31st, 2024		
RE.RAM.021	Strategic Risk Assessment Report (SRAR)	Designated Entity				First SRAR published Timeline: Dec 31st, 2025	SRAR published Timeline: Dec 31st, each year
<b>Objective 3: Self-Sufficiency</b>							
<b>Priority Area 10: Localization of Fuel &amp; Technology</b>							
SS.LFT.001	Assessment study for imported coal-based generation projects	PPIB		Detailed feasibility study completed Timeline: Oct 31st, 2023			
SS.LFT.002	Development of Power Sector Indigenization Plan (PSIP)	EDB		PSIP plan developed and submitted for approval by the Government Timeline: Jun 30th, 2024			
SS.LFT.003	Upgradation of High Voltage and Short Circuit (HV&SC) laboratory	MoE (Power Division)			HV&SC Lab accorded independent status Timeline: Dec 31st, 2024 HV&SC Lab upgraded Timeline: Mar 31st 2025		
SS.LFT.004	Development of hydrogen strategy	MoPD&SI				Hydrogen strategy developed Timeline: Dec 31st, 2025	
<b>Objective 4: Affordability</b>							
<b>Priority Area 11: Social Protection</b>							
AF.SPR.001	Subsidy disbursement for protected category of residential consumers	MoE (Power Division)		Detailed action plan developed Timeline: Mar 31st, 2024	Electricity CNIC Database (ECD) for residential consumers integrated with NSER Timeline: Dec 31st, 2024	Tariff slabs for unprotected residential consumer revised (based on aforesaid qualification criteria) Timeline: Jul 31st, 2025	Subsidy disbursement implementation completed Timeline: Jul 01st, 2026

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
					Subsidy qualification criteria developed Timeline: Dec 31st, 2024		
AF.SPR.002	Subsidy disbursement for protected category of agricultural consumers	MoE (Power Division)	Survey of agricultural consumers completed Timeline: Jun 30th, 2023	Subsidy qualification criteria & implementation plan developed Timeline: May 31st, 2024	Criteria & implementation plan approved by the Government Timeline: Jul 31st, 2024	Subsidy disbursement implementation completed Timeline: Jun 30th, 2026	
<b>Priority Area 12: Incentive Schemes</b>							
AF.ISC.003	Development of system value framework	Designated Entity			System value framework developed Timeline: Dec 31st, 2024		
<b>Objective 5: Financial Viability</b>							
<b>Priority Area 13: Tariff Design</b>							
AF.TDE.001	Inclusion of fixed charges in end consumer tariffs	Regulator					Fixed charges to recover at least 20% of the fixed cost of the respective consumer category Timeline: Jun 30th, 2027
AF.TDE.002	Assessment of ToU tariff	Regulator		First assessment completed Timeline: Mar 31st, 2024			
AF.TDE.003	Ensuring smooth and predictable Fuel Cost Adjustment (FCA) mechanism for consumers	Regulator		FCA mechanism devised and implemented by the Regulator Timeline: Mar 31st, 2024			

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
AF.TDE.004	Application of uniform tariff for all consumers of Supplier of Last Resort	MoE (Power Division)		Amendment in NEPRA Act initiated to enable application of uniform tariff  Timeline: Mar 31st, 2024	Mechanism developed for adjustment of revenue differentials  Timeline: Sep 30th, 2024		
AF.TDE.005	Evaluation of uniform tariff applicability	Designated Entity			Evaluation methodology developed  Timeline: Dec 31st, 2024	First evaluation for applicability of uniform tariff completed  Timeline: Dec 31st, 2025	
<b>Priority Area 14: Subsidy Rationalization</b>							
AF.SRA.006	Cross-subsidy by the industrial and commercial consumers	Regulator				Cross-subsidy limit of 20% achieved  Timeline: Jun 30th, 2026	
AF.SRA.007	Tariff category for EV charging stations	Regulator	Separate category for EV charging stations formulated  Timeline: Jun 30th, 2023				
<b>Priority Area 15: Recovery of Open-Access Charge</b>							
AF.ROA.008	Petition for determination of open access charges	DISCOs	Petition filed with the Regulator  Timeline: Apr 30th, 2023				
AF.ROA.009	Determination of open access charges	Regulator		Open access charges determined for each DISCO  Timeline: Oct 31st, 2023			
<b>Objective 6: Sustainability</b>							
<b>Priority Area 16: Decarbonization</b>							
SU.DCA.001	Establishment of MRV mechanism for GHG emissions	Designated Entity			MRV mechanism established  Timeline: Dec 31st, 2024	First Assessment completed  Timeline: Jul 31st, 2025	

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
SU.DCA.002	Assessments of shadow costs of carbon emissions	MoCC				Assessment completed Timeline: Dec 31st, 2025	
SU.DCA.003	Roadmap for the development of the integrated assessment model	MoCC			High-level roadmap developed Timeline: Dec 31st, 2024		
<b>Priority Area 17: Energy Efficiency &amp; Conservation</b>							
SU.EEC.004	Establishment of Energy Conservation Tribunal	Government		Tribunal established Timeline: Mar 31st, 2024			
SU.EEC.005	Development of DSM Regulations	Regulator		DSM Regulations enacted Timeline: Mar 31st, 2024			
SU.EEC.006	Institutionalization of DSM Cell	DISCOs		DSM function institutionalized in MIRAD of each DISCO Timeline: Jun 30th, 2024			
SU.EEC.007	Development of on-bill financing scheme	NEECA		Consultative sessions concluded with relevant stakeholders Timeline: Mar 31st, 2024	First on-bill financing scheme launched Timeline: Oct 31st, 2024		
SU.EEC.008	Captive Units Energy Saving Certification program	NEECA		Certification process completed Timeline: Mar 31st, 2024			
SU.EEC.009	Separate category for non-holders of Energy Saving certificates	OGRA		Separate tariff category included Timeline: Mar 31st, 2024			
SU.EEC.010	Heat rate test of IPPs	CPPA-G		One-time heat rate test completed Timeline: Mar 31st, 2024			
<b>Priority Area 18: R&amp;D Institutionalization</b>							
SU.RDI.011	R&D program	Designated Entity			R&D Secretariat established Timeline: Dec 31st, 2024	Five-Year Research and Development Program (FRDP) developed Timeline: Jul 31st, 2025	

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
SU.RDI.012	Establishment of Central Platform for R&D (CPRD)	Designated Entity			CPRD developed and operationalized Timeline: Dec 31st, 2024		
SU.RDI.013	Cumulative number of Strategic Collaborations for R&D	Designated Entity			Total 01 collaborations established Timeline: Dec 31st, 2024	Total 08 collaborations established Timeline: Jun 30th, 2026	Total 10 collaborations established Timeline: Jun 30th, 2027
					Total 03 collaborations established Timeline: Jun 30th, 2025		
SU.RDI.014	Cumulative number of R&D Projects initiated each year	Designated Entity			Minimum 05 Projects initiated Timeline: Jun 30th, 2025	Minimum 10 Projects initiated Timeline: Jun 30th, 2026	Minimum 15 Projects initiated Timeline: Jun 30th, 2027
SU.RDI.015	Accreditation of Centers of Excellence (CoEs)	Designated Entity			Minimum 03 CoEs accredited Timeline: Jun 30th, 2025	Minimum 03 CoEs accredited Timeline: Jun 30th, 2026	Minimum 04 CoEs accredited Timeline: Jun 30th, 2027
SU.RDI.016	Reporting annual innovations	Power Sector Entities		Innovation section included in annual reports Timeline: Dec 31st, 2023			
<b>Priority Area 19: Institutional Reforms &amp; Capacity Building</b>							
SU.IIC.017	Restructuring of MoE (Power Division)	MoE (Power Division)		Rule of business amended Timeline: Mar 31st, 2024	Restructuring completed Timeline: Dec 31st, 2024		
SU.IIC.018	Assessment of Regulatory performance	CCI Secretariat		Consultant engaged Timeline: Jun 30th, 2024	Terms of reference issued Timeline: Mar 31st, 2024		
					Assessment report submitted to CCI Timeline: Dec 31st, 2024		

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
SU.IIC.019	Gap analysis of policy & regulatory frameworks	Designated Entity			Due diligence report published Timeline: Jun 30th, 2025		
SU.IIC.020	Development of guidelines for training & human capital development	MoE (Power Division)		Consultation completed Timeline: Mar 31st, 2024	Guidelines issued Timeline: Sep 30th, 2024		
SU.IIC.021	Amendment of human resource policies / manuals to include contractual provisions	XW-DISCOs, NGC, GENCOs, System Operator		Revised policies / manuals enacted Timeline: Mar 31st, 2024			
SU.IIC.022	Reduction in number of documents required for the purpose of connection services	Regulator		Document requirement for connection services revised Timeline: Mar 31st, 2024			
SU.IIC.023	Central e-service platform for electricity services	PITC		E-platform upgraded Timeline: Mar 31st, 2024 Public outreach communication strategy finalized Timeline: Mar 31st, 2024	Business processes of each DISCO aligned Timeline: Jul 31st, 2024		
SU.IIC.024	Creation of one-window facility for large consumers	DISCOs		One-window facility established Timeline: Mar 31st, 2024			
SU.IIC.025	Mechanism for installment of connection charges	Regulator		Mechanism developed and implemented Timeline: Jan 31st, 2024			

PI Code	Action / Performance indicator	Responsible Entity	Targets				
			FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
<b>Priority Area 20: Digitalization</b>							
SU.DIG.026	Development of ICT Plans	MoE (Power Division) Regulator NGC System Operator DISCOs GENCOs AEDB PPIB CPPA-G NEECA PITC		ICT Plan developed  Timeline: Mar 31st, 2024	ICT Plan implementation completed  Timeline: Jun 30th, 2025		
SU.DIG.027	Development of Power Information System (PIS)	PITC		PIS developed and institutionalized in PITC  Timeline: Jun 30th, 2024			
SU.DIG.028	Meter-CNIC mapping	DISCOs		CNIC mapped with electricity reference numbers of consumer  Timeline: Jun 30th, 2024			
SU.DIG.029	Integration of Electricity-CNIC database (ECD) with NADRA database	PITC			ECD integrated with NADRA database  Timeline: Dec 31st, 2024		
SU.DIG.030	GIS mapping of consumer meters	DISCOs		GIS mapping completed  Timeline: Jun 30th, 2024			





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This achievement is a testament to the collective efforts of all stakeholders, both local and international, as well as the exceptional work carried out by the PDU. With this plan as our guide, we look forward to a future of sustainable energy, enhanced reliability, and economic prosperity for our nation. Thank you for your unwavering support and dedication.





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