

# Competitive Trading Bilateral Contract Market (CTBCM)

July 22, 2018





# Competitive Trading Bilateral Contract Market Model (CTBCM) Proposed for Pakistan



## Types of Markets

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- Self-Dispatch
- Centralized Dispatch
- Hybrid



## Scheme of Presentation

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- Proposed High-level Market Model
- Implementation Roadmap
- Legal and Policy Development with Market Perspective



## Objectives for Competitive Power Market Development

The proposed competitive power market design is based on the following main objectives:

- a. Improve efficiency arising from competition for the market (new capacity procurement) and in the market
- b. Enhance power sector security of supply, generation adequacy, to develop power sector sustainability in the short, medium and long term
- c. Create the conditions to attract investments based on credit cover provided by market participants, without the need of the government providing sovereign guarantees
- d. Create the conditions for a fair allocation of risk and benefit sharing between investors/sellers and buyers/consumers
- e. Level the playing field removing conflict of interest to facilitate entry of new investors and participation of private players, including Bulk Power Customers
- f. Pressure on the payment discipline
- g. Ensure transparency and predictability
- h. Open access to information



## General Principles (i)

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- The design builds on existing conditions and type of take or pay PPAs in Pakistan
- Takes into consideration relevant international experience: specially inflexible PPAs, significant demand growth and lack of timely payment culture
- Remove existing conflict of interests [Market Operator cannot have commercial interests in the Market]
- Transactions in the new market based on bilateral contracts for old and new PPAs
- Promote efficiency [economic dispatch; new PPAs]



## General Principles (ii)

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- Promote investments [Bankable contracts]
- Ensure medium and long term security of supply [Capacity obligations for Discos and BPCs]
- Products traded in the market: energy [cover electric consumption]; “firm capacity” [security of supply]
- Mechanisms to manage the transition [gradual implementation]
- Avoid wholesale price jumps during the transition
- Ensure future evolution [increase competition]

# Competitive Trading Bilateral Contract Market – CTBCM

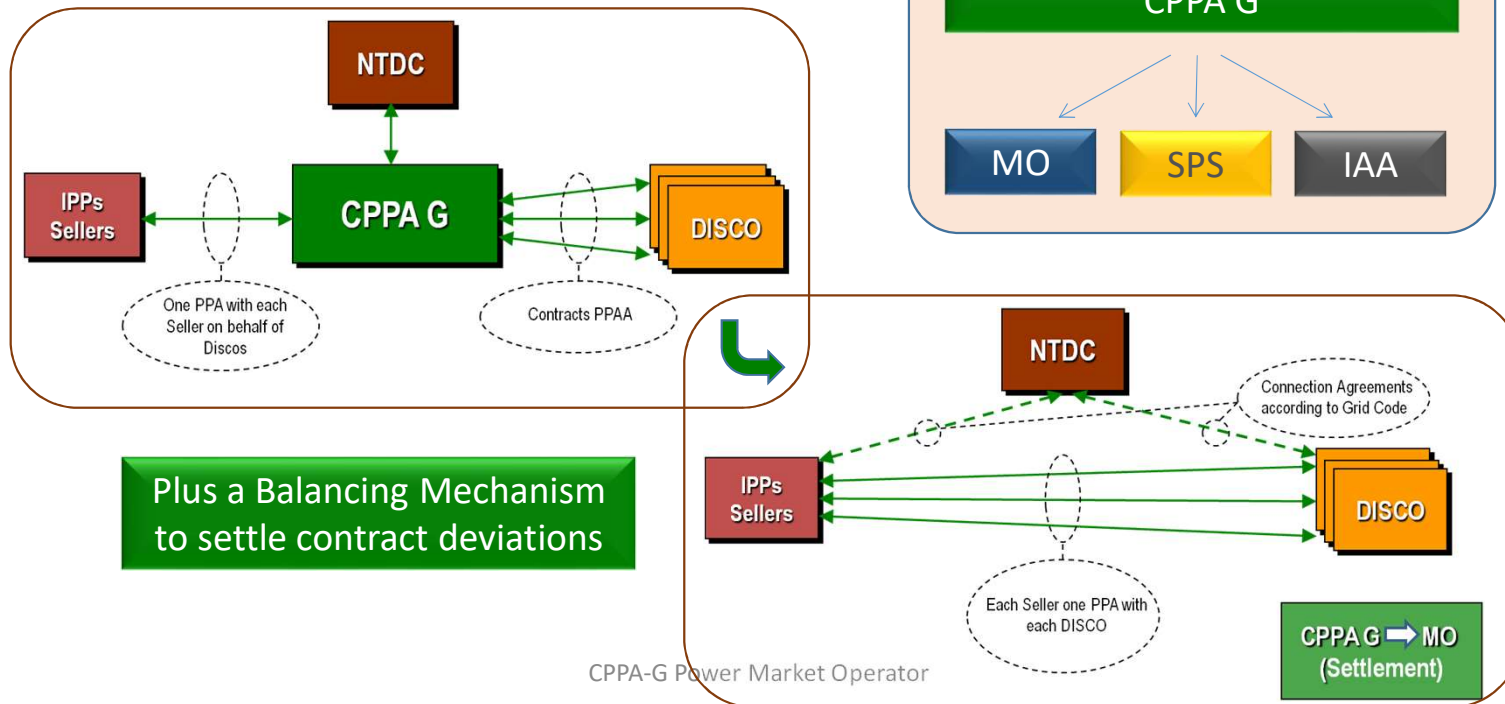
Conceptual Design





# CTBCM Concept

- Existing PPAs between IPPs and NTDC/CPPA G (on behalf of Discos) will be converted into bilateral contracts between each IPP and all Discos





## Market Participants

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Market participants are:

- Generators (above certain threshold)
- DISCOs
- Bulk Power Consumers (BPC)
- Suppliers (can buy and sell):
  - Wholesalers if buy and sell in the market
  - Retailers if buy in the market to re-sell to end consumers
  - Importers / exporters



## Service Providers

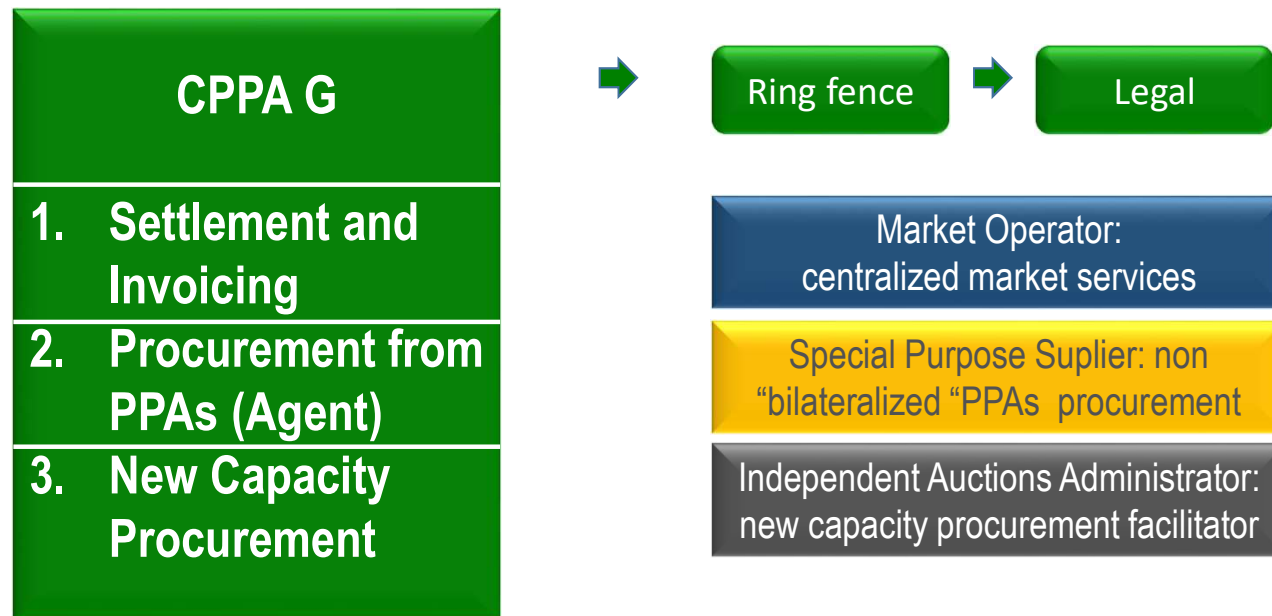
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### Service Providers are:

- Market Operator
- System Operator
- Transmission Service Providers
- Metering Service Providers
- Planner
- Independent Auction Administrator – IAA

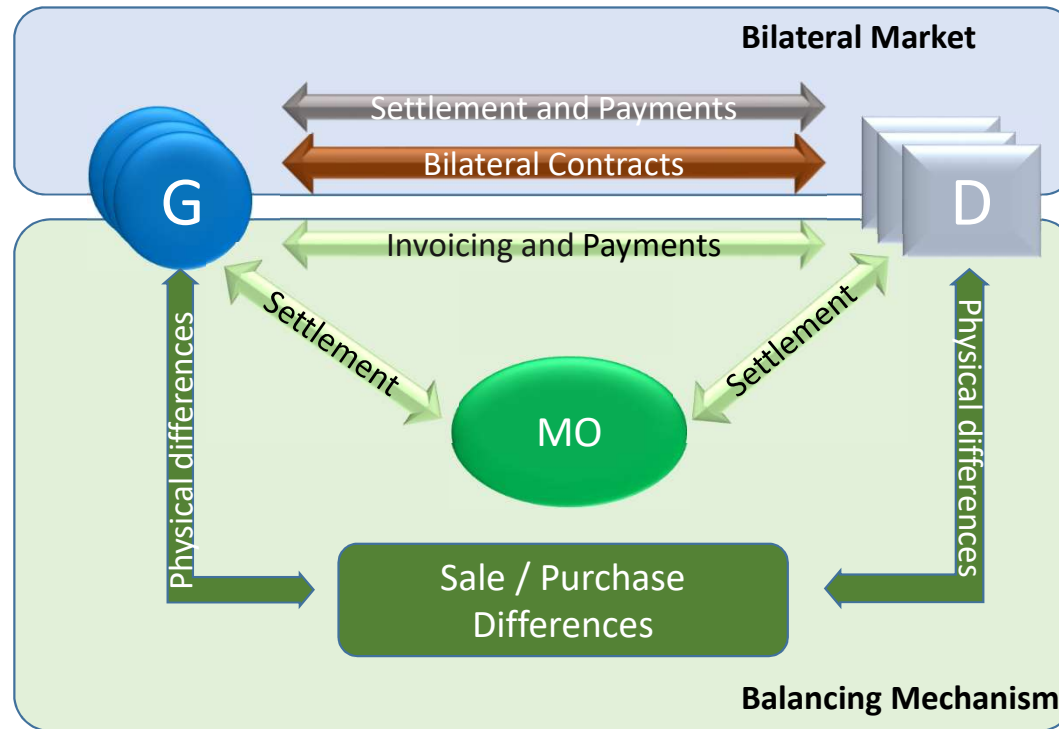


## CPPA G Transition to the CTBCM



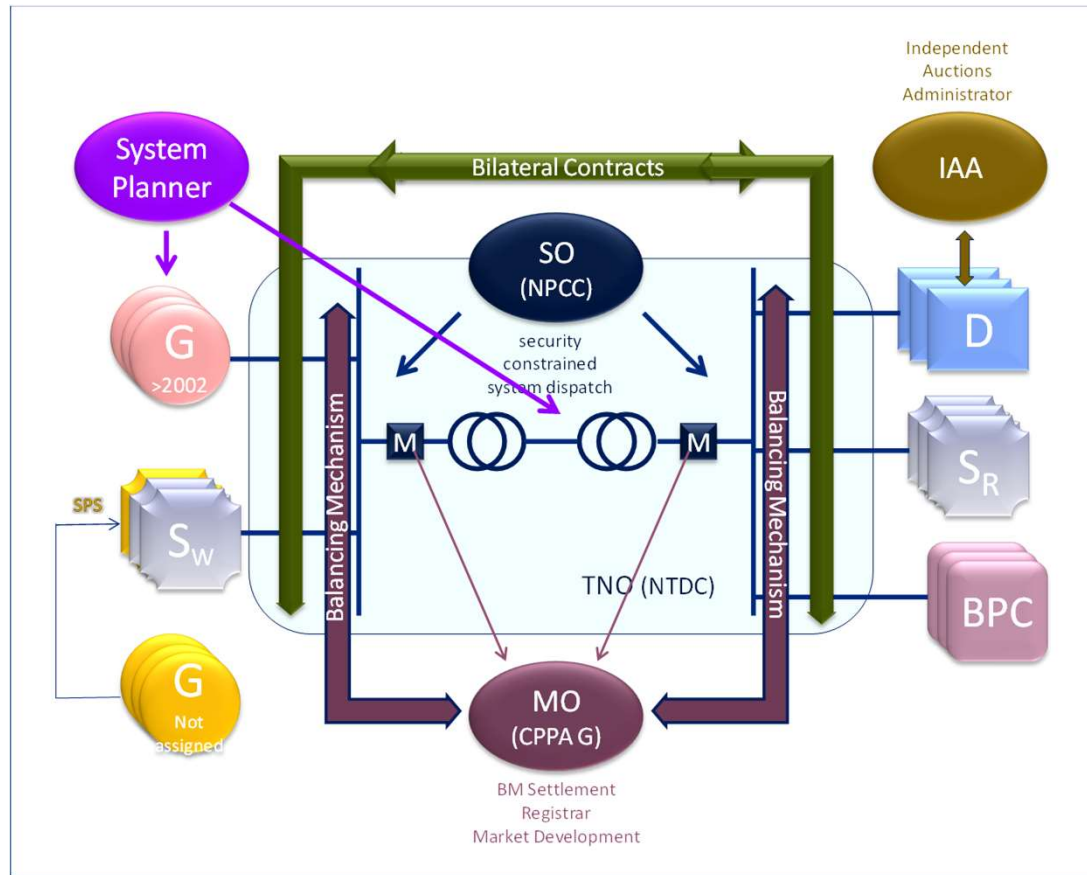


# Bilateral Contract Market with Balancing Mechanism



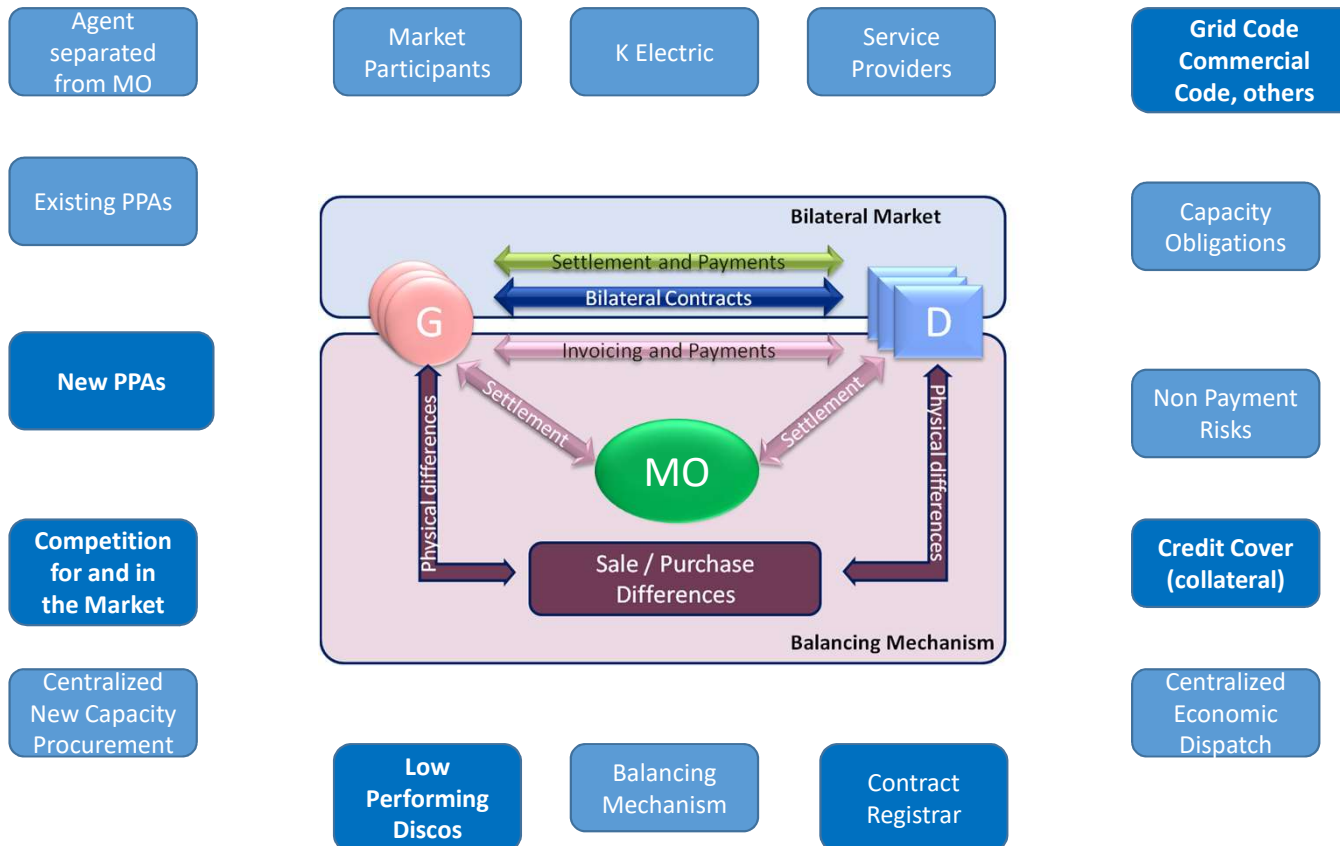


# CTBCM General Structure





# New Market Model – Features



# High Level Details: Market Features





## Capacity Obligations

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- Market participants (**Demand**) will have the obligation of having a relevant part of their consumption and demand **covered by contracts**
- DISCOs will be **accountable** for their **demand projections**
- These capacity obligations is a contribution to ensure **medium and long term** security of supply
- DISCOs shall have X% of its projected demand for each of the **next 3 years** (e.g. 100%); Y% for the following 2 years (e.g. 70%); etc. To be determined
- Similar to BPC and K Electric for its purchases in the market



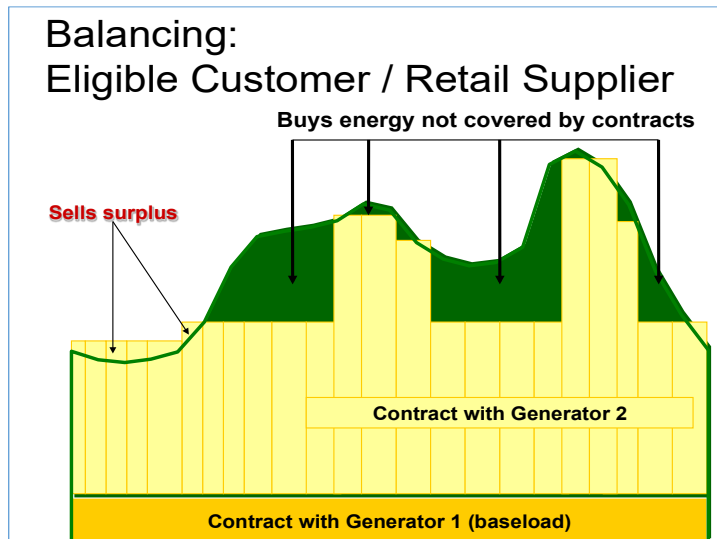
## New PPAs Format - Template

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- Portfolio of PPAs, load following contracts, generation following contracts, financial contracts with fixed quantities etc...
- Bilateral rights and obligations:
  - the **Seller to deliver** the committed energy and capacity agreed in the PPA (however, does not have obligation to produce)
  - the **Purchaser to pay** in time the price agreed in the PPA (however, does not have obligation to take the contracted energy and capacity)
- Are **financial contracts** with **physical obligation** to supply
- Two products contracted in the market: “energy” to cover electricity consumption; and “firm capacity” for security of supply
- International experience shows that are bankable contracts (to attract investments, reducing risks) normally not requiring government guarantees



## Example of New PPA

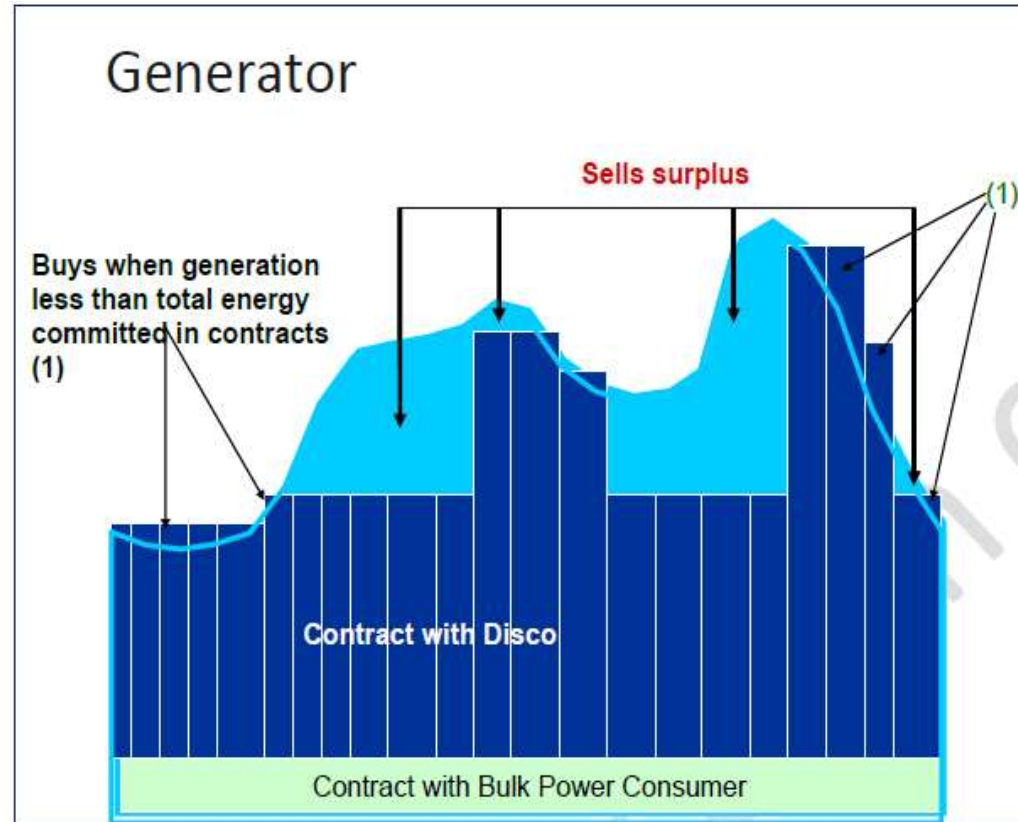


In this example quantities taken above the contracts is more than quantities not taken below the contracts. **Net balance is that has purchased the difference in the Balancing Mechanism**

- A Disco has bilateral contracts with two generators
- With Gen 1 purchases base load (ochre color)
- With Gen 2 contract different amounts during the day
- Disco actual demand is the green curve
- During some hours Disco takes less than the aggregated contracts
- During some hours Disco takes more than the aggregated contracts
- Disco pays Gen 1 y Gen 2 the contracted quantities at PPA prices
- Differences are settled in the Balancing Mechanism



## Example of New PPA





## Regulations and Codes

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- Market Participants are obliged to comply with the Rules, Regulations and Codes (Grid Code, Commercial Codes, others).
- **Provisions in the contracts** will establish that in case of any inconsistency or discrepancy with a Code, the **Code will prevail to the extent of the inconsistency**



## Bilateral Contracts

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- Pre existing PPAs and EPAs will be **converted into bilateral contracts** with each DISCO by assigning them to each DISCO (as foreseen in the PPAs) proportionally to the existing allocation factors
- “Bilateralized” contracts will have energy and capacity commitments and will be **registered** in the CPPA G – Registrar
- PPAs that cannot be assigned (mostly **1994 policy**) will transitorily be included in a Supplier (**wholesaler**) purchasing their production and re-selling it in the market



## New Capacity Procurement

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- **DISCOs will determine** the amount to be contracted (based on their own demand projections and capacity obligations)
- The new capacity procurement for DISCOs **will be done through centralized competitive tenders** or auctions
- The **Agent will aggregate** the capacity and energy required by each DISCOs and will run the procurement for the total requirements
- **PPAs will be signed by DISCOs**



## Balancing Mechanism

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- It is a pool where both parties to a bilateral contract sale or purchase the **differences** between contractual and actual quantities injected to or extracted from the grid/market and later will evolve for trade providing the spot price
- There will be balancing mechanism for energy and for capacity
- Allows **flexibility** for the participants and boost efficiency (consistent with economic dispatch)
- The **MO** will calculate the **imbalance prices** for each trading period (to be developed)
- Will **require credit cover** for cases of non payment the amounts arising from this mechanism





## Low Performing DISCOs

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- DISCOs cannot provide the required guarantees (for bilateral PPAs) and/or credit cover for participating in the Balancing Mechanism (DISCOs with a history of low collections and low payment records), the **Government** could provide a guarantee or credit mechanism that can be called in case of non or later payment



## Settlement, Invoicing & Payment

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- Settlement, invoicing and payment of **bilateral contracts directly** between the contractual parties
- All contracts have to be **registered** with the Market Operator
- **Imbalance payments** will be made directly by Participants **based on a settlement done** by the MO and information provided by the SO
- Neither the MO nor the SO will be **exposed** to payment **liabilities**
- Balancing Mechanism will be settled for **each market period as defined in the Commercial Code** (a block covering several hours of a day, and later moving to shorter periods up to each hourly prices)



## Non Payment Risks

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- Bilateral contracts:
  - will include provisions for cases of non payment
  - Generator can **call the default of a PPA** in case of non payment
  - Generator **can continue to sell through the balancing mechanism**
  - Defaulting the DISCO will result buying in the balancing mechanism
- Balancing Mechanism
  - Participants **must provide credit cover** for the exposure to imbalances (**sign a balancing mechanism agreement**)
  - One Participant (or group of Participants) can **delegate** to a Supplier (wholesaler) to assume the **balancing mechanism responsibility** for that Participant



## Centralized Economic Dispatch

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- The System Operator of NTDC will be responsible for centralized economic security constrained dispatch, including management of **demand control** and exchanges in international interconnections
- The SO will provide the MO the necessary **information** for settlement in the Balancing Mechanism
- Gradually this will **allow to increase competition for the dispatch among generators** (promote efficiency and competitive generation prices)



## Agent Separated from Market Operator

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- Cohabitation of MO and the Agent in CPPA G clearly creates a conflict of interest
- Market credibility requires that the MO has not any kind of participation in the market transactions
- The Agent will be in charge of:
  - the centralized new capacity procurement (on behalf of Discos) and
  - Assist Discos in the verification of invoices in the bilateral contracts (the MO will have no intervention on this)



## K Electric

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- K Electric will be considered a market participant at the connection point with the market, as a Supplier, in the role of retailer
- Deviations from contractual quantities will be settled in the Balancing Mechanism



## Service Providers

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- Service Providers are
  - The System Operator (NPCC)
  - The Market Operator (CPPA)
  - The transmission service providers (NTDC as TNO)
  - Metering service providers (NTDC for participants connected to its network, Discos for Participants connected to distribution networks)

**Service providers are not market participants**



## Towards the Future

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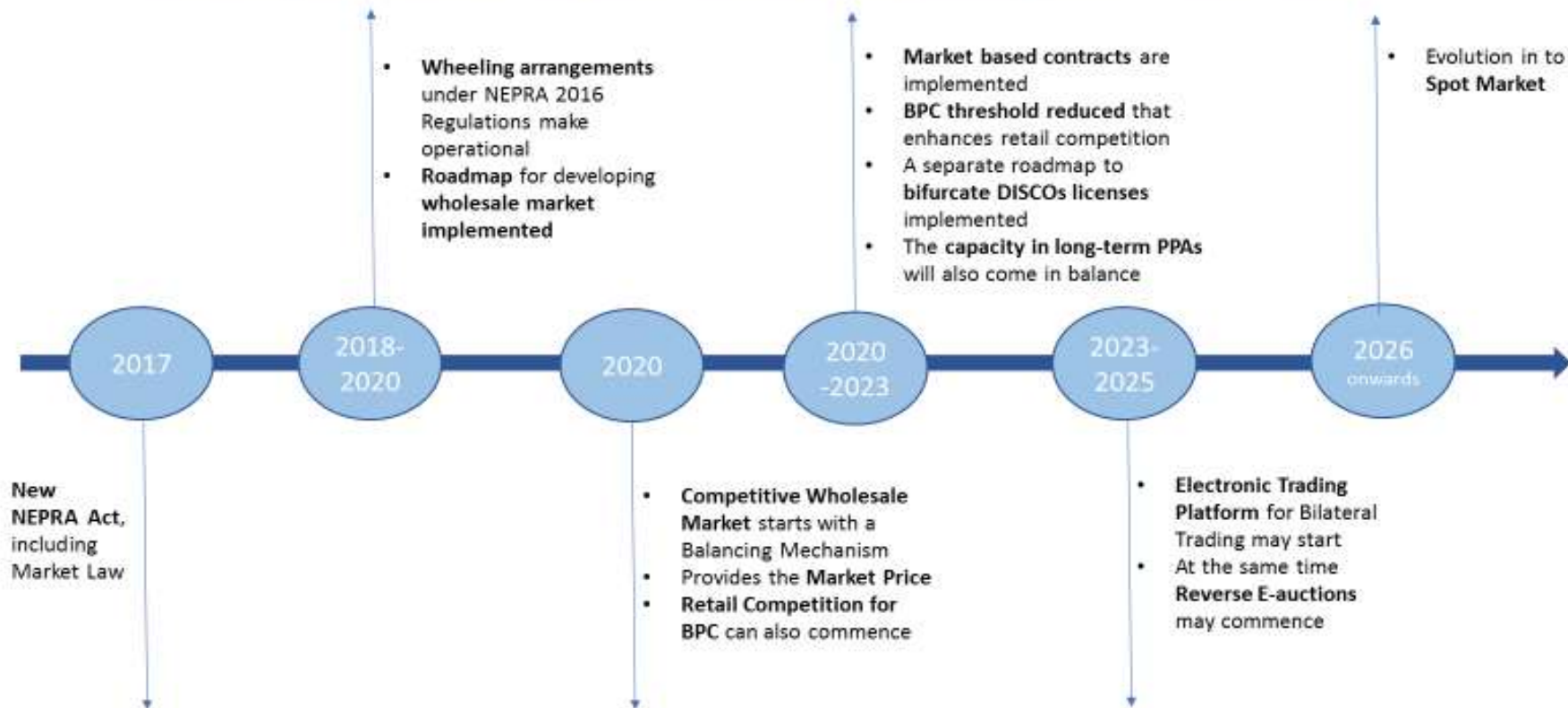
- The competitive wholesale electricity market from Dispatch Perspective is a Gross Pool that is settled commercially on contracts
- Balancing Mechanism is the **seed to future spot market**. The Balancing Mechanism will be **initially** used for **clearing the differences** and **later** for **trading on Spot Price or BM Price**
- As the market develops and moves towards portfolio of market based contracts with long, medium and short term duration, it will be possible to assess adding a medium to short term **Power Procurement Platform**
- Systematic Evolution of Power Market and its comparison with other markets





# Possible Evolution

## Completive Power Market Stages Planned



# ROADMAP FOR IMPLEMENTATION

Group of actions – Stakeholders - timetable



No.	GROUP OF ACTIONS	Stakeholders directly involved	No.	GROUP OF ACTIONS	Stakeholders directly involved
0	Implementation Process Start; Overall Decision and Actions; Coordination	MWP NEPRA CPPA G	10.1	Codes: New Market Commercial Code	CPPA G draft and consultation, NEPRA review and approval
1	Policy on market development, White Paper describing the market conceptual design	NEPRA; CPPA G (draft); MWP public consultation and with other institutions	10.2	Codes: Update Grid Code	NTDC and Grid Code Review Panel. NEPRA review and approval.
2	Amendment to legal framework	MWP with CPPA G support	11	Strengthening of System Operator, enforce rights and obligations	NTDC and NPCC
3	Modifications to adapt or replace energy policies to be consistent with the market development policy	MWP	12	Strengthening Discos credit worthiness and readiness as market participants	Discos & MWP as the owner of Discos and SPS
4	Modifications to power sector regulatory framework to be consistent with the market development policy	NEPRA.	13	Open access to transmission services: formalize transmission services rights and obligations	NTDC as Transmission Network Owner NPCC as System Operator.
5	Assignment of pre-existing PPAs/EPAs signed or administered by CPPA G among Discos	MWP and CPPA G, IPPs and Gencos Imports Discos	14	NTDC as Planner (Least cost expansion plan) and Metering Services Provider (adequate revenue settlement meters)	NTDC, NEPRA review and approval of plan CPPA G (as observer of
6	Separation of CPPA G into Market Operator and Special Wholesale Supplier Functions	CPPA G	15	Measures to enhance wholesale payment culture: credit cover mechanisms and payment system	CPPA G/Market Operator Discos MWP IAA
7	Creation of the Market Operator as a separate company	CPPA G in particular Market Operator Business Unit	16	Readiness for commercial operation of electricity market:	Lead by CPPA G, includes all market participants; CPPA G reporting of readiness tests and results
8	Creation of the SPS as purchaser of not yet not assigned PPA/EPA	CPPA G in particular SPS Business Unit; Discos	17	Declaration of date to start commercial operation of the market	MWP
9	Creation of the Independent Auction Administrator (IAA) and scheme for credit cover / guarantees for low performing Discos	MWP (PPIB); CPPA G Discos			



## Main Timetable Targets

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<b>Timelines</b>	<b>CTBCM Plan Submission</b>	<b>Trial Run of the Market</b>	<b>Commercial Operation Date</b>
<b>Initial Deadline</b>	Jun 2017	Jan 2020	Jul 2020
<b>Revised Deadline</b>	Jun 2018	Jul 2020	Jan 2021



## Highlights - Group of Actions

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- Policy on Market Development
- Amendment in legal framework related to Wholesale Market
- Modifications to adapt or replace energy policies
- Modifications to power sector regulatory framework
- New Market Commercial Code and Update Grid Code
- Separation of CPPA-G into Market Operator and Special Wholesale Supplier Functions
- Strengthening of System Operator
- Strengthening Discos
- Open access to transmission services
- Assignment of pre-existing PPAs/EPAs
- NTDC as Planner (Least cost expansion plan) and Metering Services Provider (adequate revenue settlement meters)
- Measures to enhance wholesale payment culture: credit cover mechanisms and payment system
- Readiness for commercial operation
- Declaration of date to start commercial operation



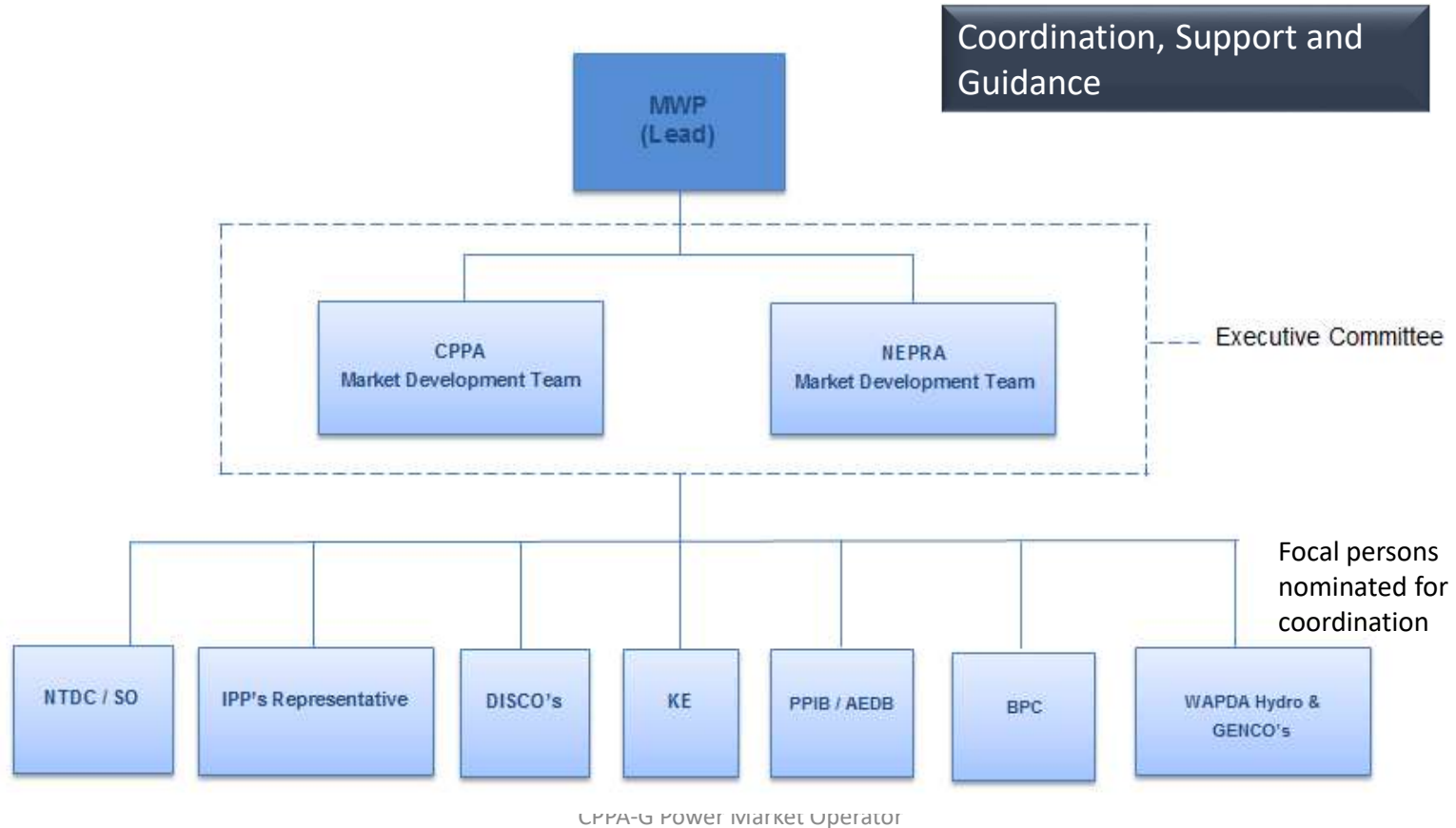
## Market Implementation Coordination

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- To ensure proper implementation actions by stakeholders at the market interface, it is necessary to create a coordination body
  - Facilitate understanding of the new market and requirements
  - Support to the stakeholders
  - Detect deviations and provide solutions
  - Facilitate the interface between stakeholders
  - Capacity building
- Operational level



# Market Monitoring & Implementation Group (MMIG)





# New Market: Challenges

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New Culture

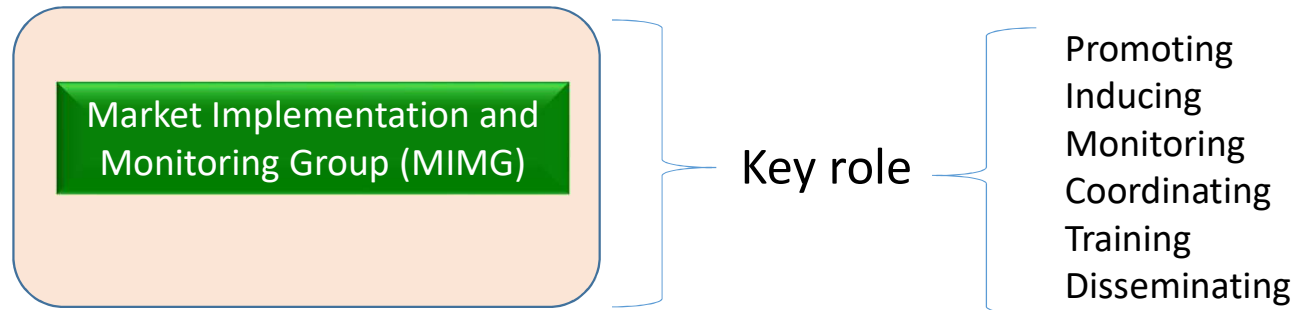
New HR Approach

New Capacities

New Accountability

New Technologies

New Efficiency





# ROADMAP FOR IMPLEMENTATION

Group of actions – Stakeholders – Sub Actions



## 17 Group Actions and the Sub Actions

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
0	Implementation Process Start; Overall Decision and Actions; Coordination	MWP NEPRA CPPA G	1	Market Model Conceptual Design Report Submission and Sending to NEPRA
			2	NEPRA Review, Consultation and Workshops
			3	NEPRA approval
			4	CPPA G submits Implementation Plan to MWP for approval and directions - Market Implementation Monitoring Group (MIMG) creation
			5	MIMG coordination, monitoring and reporting



Jun-17



Jan-21

Group Action 0



# #1

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
1	Policy on market development, White Paper describing the market conceptual design	NEPRA; CPPA G (draft); MWP public consultation and with other institutions, and approval	1	CPPA G submits the conceptual market design to NEPRA for approval
			2	CPPA G prepares and submits to MWP initial draft of the market development policy (the draft White Paper)
			3	Explanatory workshops by CPPA G prior to and/or at the start of the consultation process
			4	MWP runs a consultation on the market development policy (draft White Paper)
			5	CPPA G posts the White Paper on its website requesting comments
			6	CPPA G consolidates consultation comments. Final draft conceptual market policy. Published in CPPA G's website.
			7	MWP finalizes policy on market development (White Paper) and policy approval
			8	MWP and CPPA G publishes approved policy in their websites



Mar-18



Jun-18

## Group Action 1



## #2

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
2	Amendment to legal framework	MWP with CPPA G support	1	MWP prepares NEPRA Act amendment to include competitive electricity markets, based on approved policy
			2	MWP carries out consultation and submits proposed amendments to National Assembly for enactment.
			3	NEPRA Act amendment to incorporate market development policy is approved



Jun-17



Jun-18

Group Action 2



# #3

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions #	Actions and Responsibility
3	Modifications to adapt or replace energy policies to be consistent with the market development policy	MWP	1	MWP revises relevant power policies to ensure consistency with the market development policy
			2	If and as necessary, MWP drafts additional policies to implement the market development policies.
			3	New or amended policies are communicated to stakeholders and made public in MWP website



Jan-18



Dec-18

## Group Action 3



## #4

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
4	Modifications (review, amendments and additions) to power sector regulatory framework to be consistent with the market development policy	NEPRA	1	NEPRA reviews and issues Regulations: pass through power procurement costs, competitive contracts; pre-existing PPAs/EPAs, balancing costs, ancillary services, fuel, etc
			2	NEPRA reviews regulations/rules: competitive bid generation price, approval of PPAs, power acquisition program, generation tariffs, contracts and power procurement.
			3	Review and amend Market Operator Rules consistent with market development policy; Market Operator, Market Participants and Services Providers functions
			4	Regulations/guidelines for monitoring of: competitive process for new capacity procurement of Discos and wholesale markets administered by the Market Operator
			5	Others to be determined by NEPRA in review of framework



Jun-18



Apr-19

### Group Action 4



## #5

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
5	Assignment of pre-existing PPAs/EPAs signed or administered by CPPA G among Discos	MWP and CPPA G, IPPs and Gencos Imports Discos	1	CPPA G request to MWP to initiate request ECC approval for PPAs transfers
			2	MWP and ECC approval processes
			3	MWP gives direction to NEPRA and other stakeholders
			4	Drafting of Regulation for the transfer of PPAs by NEPRA
			5	Public Hearing
			6	NEPRA's Determination with regards to Transfer of PPAs
			7	Notification of Regulation for Transfer of PPAs
			8	Guidelines for implementation, guarantees adaptation, assignment distribution factors, etc.
			9	Formation of the legal task forces to lead the work
			10	Completion of legal formalities for assignment of the PPAs, guarantees and amendments to the security package documents
			11	Execution of assignment to the Discos



Jun-18



Jun-20

### Group Action 5



## #6

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Action s#	Actions and Responsibility
6	Separation of CPPA G into Market Operator and Special Wholesale Supplier Functions	CPPA G	1	Creation of the Market Operator Business Unit as a service provider in the wholesale market preparation of accounting separation, organization, SOPs, others
			2	Creation of Special Purpose (wholesaler) Supplier Business Unit (administrator of existing PPAs/EPAs on behalf of Discos) Preparation accounting separation, Organization, SOPs
			3	Preparations to separate into two companies. Software, communications, infrastructure, etc.
			4	MO and SPS separated websites launched
			5	Capacity building and PMS adjustment



Jan-18



Dec-19

**Group Action 6**





# #7

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Action s#	Actions and Responsibility
7	Creation of the Market Operator as a separate company	CPPA G in particular Market Operator Business Unit	1	After completion of 6, create Market Operator as a company. Budget
			2	Start registration of Participants and implement settlement metering register
			3	Contract Register implemented
			4	Market Management Software, including calculation for Balancing Mechanisms (prices and quantities), and Settlement procured, implemented and tested)
			5	Board Members and management designation, Staff allocation. Market Operator capacity building



Jan-19



Dec-19

Group Action 7



# #8

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
8	Creation of the Special Purpose (wholesale) Supplier (SPS) to be Discos agent and purchaser of any PPA/EPA that has yet not been assigned	CPPA G in particular SPS Business Unit; Discos	1	Following completion of actions in 6, create SPS as a company. Budget
			2	Draft back to back contract to resell energy and capacity. . Adjust Agency Agreement with SPS and other documents. Start implementation when needed
			3	Implement / upgrade generation Invoice verification services (transferred from SPS Business Unit)
			4	Board Members and management designation, Staff allocation. SPS staff capacity building

 Jan-19

 Dec-19

## Group Action 8



## #9

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
9	Creation of the Independent Auction Administrator (IAA) and scheme for credit cover / guarantees for low performing Discos	MWP (PPIB); CPPA G Discos	1	Creation, registration, applicable legislation, SOPs, organization, funding, budget
			2	Board Members and management designation, Staff allocation. IAA staff capacity building
			3	Develop the required credit cover / guarantees scheme to low performing Discos. Start implementation to be ready for market start
			4	Organization and draft standard auction procedures, templates and bidding documents
			5	Software / web based system to receive information from Disco and calculate new capacity / contract needs



Jan-19



Jul-20

### Group Action 9



# #10

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
10.1	Codes: New Market Commercial Code	CPPA G draft and consultation, NEPRA review and approval.	1	Complete the detailed design of the new market (Balancing rules, split of the PPAs, design of the Disco procurement requirements, etc.)
			2	New Market Commercial Code drafted, consultation and submission to NEPRA for review and approval
			3	Market operation procedures drafted
			4	Market Admission Agreement published in website
			5	New Market Commercial Code published in Market Operator website after approval, with market operation procedures
10.2	Codes: Update Grid Code	NTDC and Grid Code Review Panel. NEPRA review and approval	1	Review the Grid Code to incorporate market design relevant issues, including revise and update the Metering Code of the Grid Code
			2	Grid Code and amendments published in NTDC website



Jan-18



Jul-20

## Group Action 10



# #11

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
11	Strengthening of System Operator, enforce rights and obligations	NTDC and NPCC	1	NPCC plan for systems, software, data base & data exchanges, dispatch and balancing as per market design and Grid Code. Authorizations, budget.
			2	Strengthening plan implementation. SO website (daily, monthly and annual operational planning, demand forecasts, availability, and results of system operation, etc.)
			3	System Operator implements arrangements to monitor Transmission Users compliance with Grid Code
			4	HR systems. NPCC new staff recruitment (if needed). Capacity building



Jun-17



Dec-19

## Group Action 11



# #12

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
12	Strengthening Discos credit worthiness and readiness as market participants	Discos & MWP as the owner of Discos and SPS	1	Discos capacity building to determine demand forecast, and for the management of contract (bilateral) portfolio and power acquisition plans.
			2	Wholesale payment history, financial situation, losses and collection of Discos. Measures for financial strengthening. Identify bad performing Discos (unable to provide credit cover)



Jun-17



Dec-19

**Group Action 12**



# #13

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
13	Open access to transmission services: formalize transmission services rights and obligations	NTDC as Transmission Network Owner NPCC as System Operator.	1	NTDC drafts standard (template) transmission connection agreement and sends to NEPRA for comments/review;
			2	NTDC agrees with each connected power plant, Disco and BPC on Schedules of connection agreement and signs the connection agreements as required in the Grid Code.

 Jun-18

 Jul-19

**Group Action 13**



# #14

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
14	NTDC as Planner (Least cost expansion plan) and Metering Services Provider (adequate revenue settlement meters)	NTDC, NEPRA review and approval of plan CPPA G (as observer of meter testing) and metering register for the market	1	NTDC/NPCC finalizes least cost expansion plan draft and consultation, and submits for NEPRA review and approval.
			2	NTDC provides information on Revenue Metering System (types, location, etc) for CPPA G / Market Operator to develop and maintain the revenue Metering Register;
			3	NTDC tests existing Revenue meters (CDP) and identifies need for improvements or calibration
			4	Metering data exchange system implemented
			5	CPPA G / Market Operator establishes formula and calculations to determine energy and capacity of each Participant to calculate of market Balancing Mechanisms.



Jun-17



Dec-19

## Group Action 14





# #15

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
15	Measures to enhance wholesale payment culture: credit cover mechanisms and payment system	CPPA G/Market Operator Discos MWP IAA	1	MO establishes the market payment system
			2	MO develops methodology and formula to determine market credit cover (collateral)
			3	Discos & MWP establish for bad performing Discos a payment security cover for contracts and market payments of those Discos organized through the IAA



Dec-19



Jun-20

**Group Action 15**



# #16

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
16	Readiness for commercial operation of electricity market:	Lead by CPPA G, includes all market participants; CPPA G reporting of readiness tests and results to MWP and NEPRA	1	Test all Revenue Meters, dispatch software and market data exchange and management systems
			2	Capacity building of participants and services providers
			3	Calculate credit cover of each Participant and test
			4	Pilot shadow market, to test live systems, mechanisms, information exchange and procedures.
			5	Collect comments and feedback from Participants and Services Providers, and develop improvement or correction
			6	Inform the MWP and NEPRA of test results and whether readiness has been achieved



Jun-20



Dec-20

Group Action 16



# #17

No.	GROUP OF ACTIONS	Stakeholders directly involved	Sub-Actions#	Actions and Responsibility
17	Declaration of date to start commercial operation of the market	MWP	1	Depending on readiness, the market could start with a transition where the implementation of one or more mechanisms or market arrangements is for a period not greater than 12 months.
			2	During the initial 12-24 months, the standard market procedures will be adjusted to address issues identified in practical implementation, ensure feasibility and clarity, and eliminate gaps.



Jan-2021

**Group Action 0**

# ROADMAP FOR IMPLEMENTATION

Progress

No.	Group of Actions	Stakeholders Directly Involved	Progress
0	Implementation Process Start; Overall Decision and Actions; Coordination	MWP, NEPRA & CPPA G	<ul style="list-style-type: none"> <li>• Seven Reports</li> <li>• Trainings and Consultations</li> <li>• Approval in process</li> <li>• MIMG kickoff</li> <li>• Submission of CTBCM to NEPRA</li> </ul>
1	Policy on market development, White Paper describing the market conceptual design	NEPRA; CPPA G (draft); MWP public consultation and with other institutions,	<ul style="list-style-type: none"> <li>• Drafted</li> </ul>
2	Amendment to legal framework	MWP with CPPA G support	<ul style="list-style-type: none"> <li>• Already done</li> </ul>
3	Modifications to adapt or replace energy policies to be consistent with the market development policy	MWP	<ul style="list-style-type: none"> <li>• Work in progress under NEP</li> </ul>
4	Modifications to power sector regulatory framework to be consistent with the market development policy	NEPRA.	<ul style="list-style-type: none"> <li>• Types of contracts proposed</li> </ul>
5	Assignment of pre-existing PPAs/EPAs signed or administered by CPPA G among Discos	MWP and CPPA G, IPPs and Gencos, Imports, Discos	<ul style="list-style-type: none"> <li>• Legal opinion have been obtained</li> </ul>
6	Separation of CPPA G into Market Operator and Special Wholesale Supplier Functions	CPPA G	<ul style="list-style-type: none"> <li>• Restructuring plan Plan prepared and approved, is in implementation phase</li> </ul>
7	Creation of the Market Operator as a separate company	CPPA G in particular Market Operator Business Unit	<ul style="list-style-type: none"> <li>• As per the plan, it is going to happen in by End of 2019</li> </ul>
8	Creation of SPS as purchaser of not assigned PPAs	CPPA G in particular SPS Business Unit; Discos	<ul style="list-style-type: none"> <li>• As per the plan, it is going to happen by the End of 2019</li> </ul>
9	Creation of the Independent Auction Administrator (IAA) and scheme for credit cover / guarantees for low performing Discos	MWP (PPIB); CPPA G Discos	<ul style="list-style-type: none"> <li>• Will commence after approval of CTBCM</li> </ul>
10.1	Codes: New Market Commercial Code	CPPA G draft and consultation, NEPRA review and approval.	<ul style="list-style-type: none"> <li>• Review has been started</li> </ul>

No.	Group of Actions	Stakeholders Directly Involved	Progress
10.2	Codes: Update Grid Code	NTDC and Grid Code Review Panel. NEPRA review and approval.	<ul style="list-style-type: none"> <li>Review has been started</li> </ul>
11	Strengthening of System Operator, enforce rights and obligations	NTDC and NPCC	<ul style="list-style-type: none"> <li>Gap analysis report has been prepared</li> </ul>
12	Strengthening Discos credit worthiness and readiness as market participants	Discos & MWP as the owner of Discos and SPS	<ul style="list-style-type: none"> <li>Workshops</li> <li>Market Interface Department</li> </ul>
13	Open access to transmission services: formalize transmission services rights and obligations	NTDC as Transmission Network Owner NPCC as System Operator.	<ul style="list-style-type: none"> <li>Draft of bifurcated PPAs have been prepared</li> </ul>
14	NTDC as Planner (Least cost expansion plan) and Metering Services Provider (adequate revenue settlement meters)	NTDC, NEPRA review and approval of plan CPPA G (as observer of meter testing) and metering register for the market	<ul style="list-style-type: none"> <li>IGCEP has been prepared, under internal review</li> <li>Long Term Forecasts Submitted</li> </ul>
15	Measures to enhance wholesale payment culture: credit cover mechanisms and payment system	CPPA G/Market Operator Discos, MWP and IAA	-
16	Readiness for commercial operation of electricity market:	Lead by CPPA G, includes all market participants; CPPA G reporting of readiness tests and results to MWP and NEPRA	-
17	Declaration of date to start commercial operation of the market	MWP	<ul style="list-style-type: none"> <li>Extension by Six months</li> </ul>

# Legal and Policy Actions (by NEPRA & CPPA)

# NEPRA ACT with Amendments 2018

## **Highlights of 4 Chapters and 51 Clauses**

Chapter I: General

Chapter II: Establishment of Authority

Chapter IIA: Appellate Tribunal

Chapter IIB: National Electricity Policy and Plan

Chapter IIC: Generation of Electricity

Chapter III: Licenses

Chapter IIIA: Enforcement

Chapter IIIB: Tariff

Chapter IIIC: Performance and Standards

Chapter IV: Administration

Chapter IVA: Miscellaneous



# NEPRA ACT with Amendments 2018 and Competitive Market

- **Section 14A National Electricity Policy and Plan Sub-Section (1)**

*The Federal Government shall, from time to time, with the approval of the Council of Common Interests, prepare and prescribe a national electricity policy for development of the power markets:*

*Provided that in the development of policies under this section, the Federal Government may seek such input and assistance from the Authority as may be required.*

***Interpretation:***

# NEPRA ACT with Amendments 2018 and Competitive Market

- **Section 14A National Electricity Policy and Plan Sub-Section (2)** *The policies referred to in sub-section (1) shall provide for, inter alia–*
  - (a) *development of systems based on optimal utilization of resources such as coal, natural gas, nuclear substances or materials, hydro and renewable sources of energy;*
  - (b) *development of efficient and liquid power market design;*
  - (c) *integration of national and provincial transmission systems;*
  - (d) *special provisions for ensuring the development of a sustainable renewable energy market with a dedicated and gradually increasing share in the electricity power sector; and*
  - (e) *any other matter pertaining to the development, reform, improvement and sustainability of the power sector.*

## ***Interpretation:***

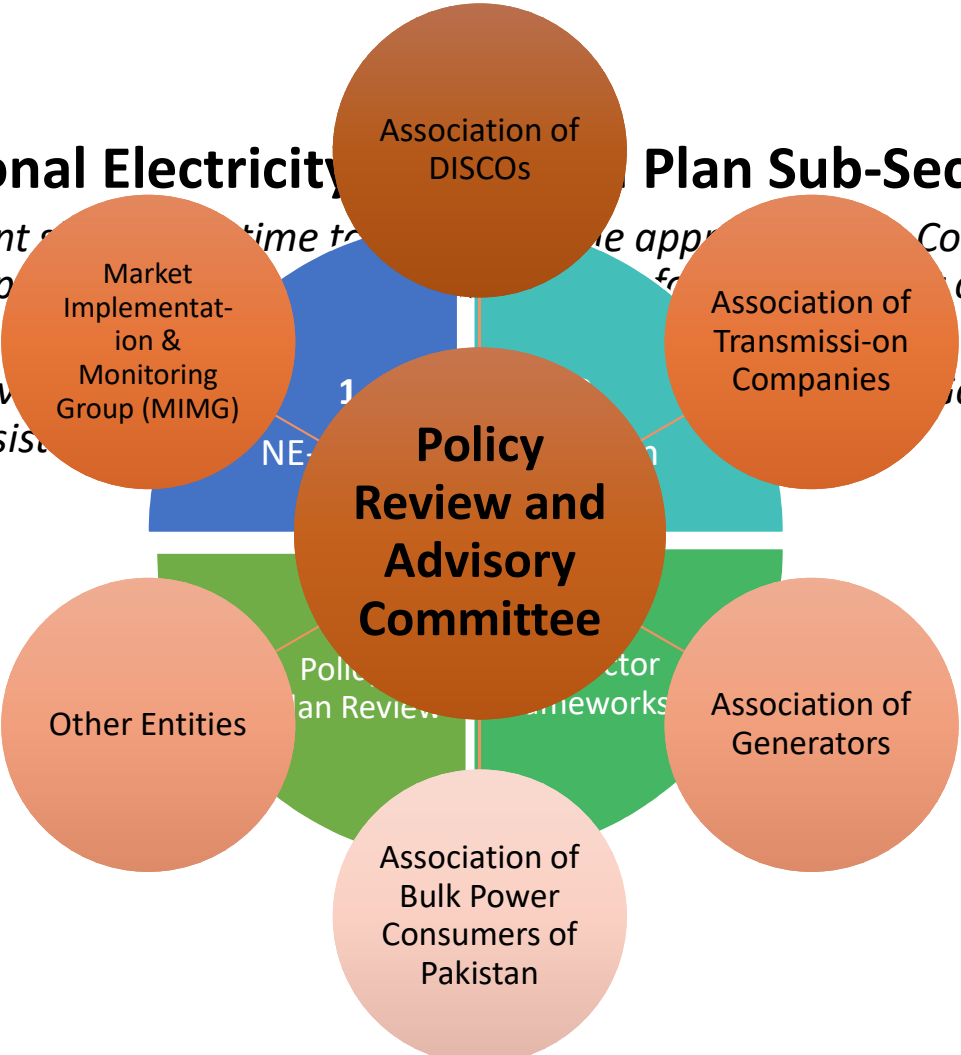
# NEPRA ACT with Amendments 2018 and Competitive Market

- **Section 14A National Electricity Plan Sub-Section (1)**

*The Federal Government shall, within a reasonable time to be appointed by the Council of Common Interests, prepare and present to the Council of Common Interests a plan for the development of the power markets:*

*Provided that in the development of the plan the Government may seek such input and assistance from the Council of Common Interests as it may deem fit.*

**Interpretation:**



# NEPRA ACT with Amendments 2018 and Competitive Market

- **Section 32 Investment and Power Acquisition Programs** *(1) The Authority shall, within eighteen months from the commencement of this Act, specify procedures and standards for the Authority's prior approval of the transmission companies' and distribution companies' investment and power acquisition programs.*

*(2) Any procedure-specified by the Authority under this section shall advance the goal of minimizing regulatory oversight of contracts entered into by the national grid company “, the provincial grid companies” and distribution companies.*

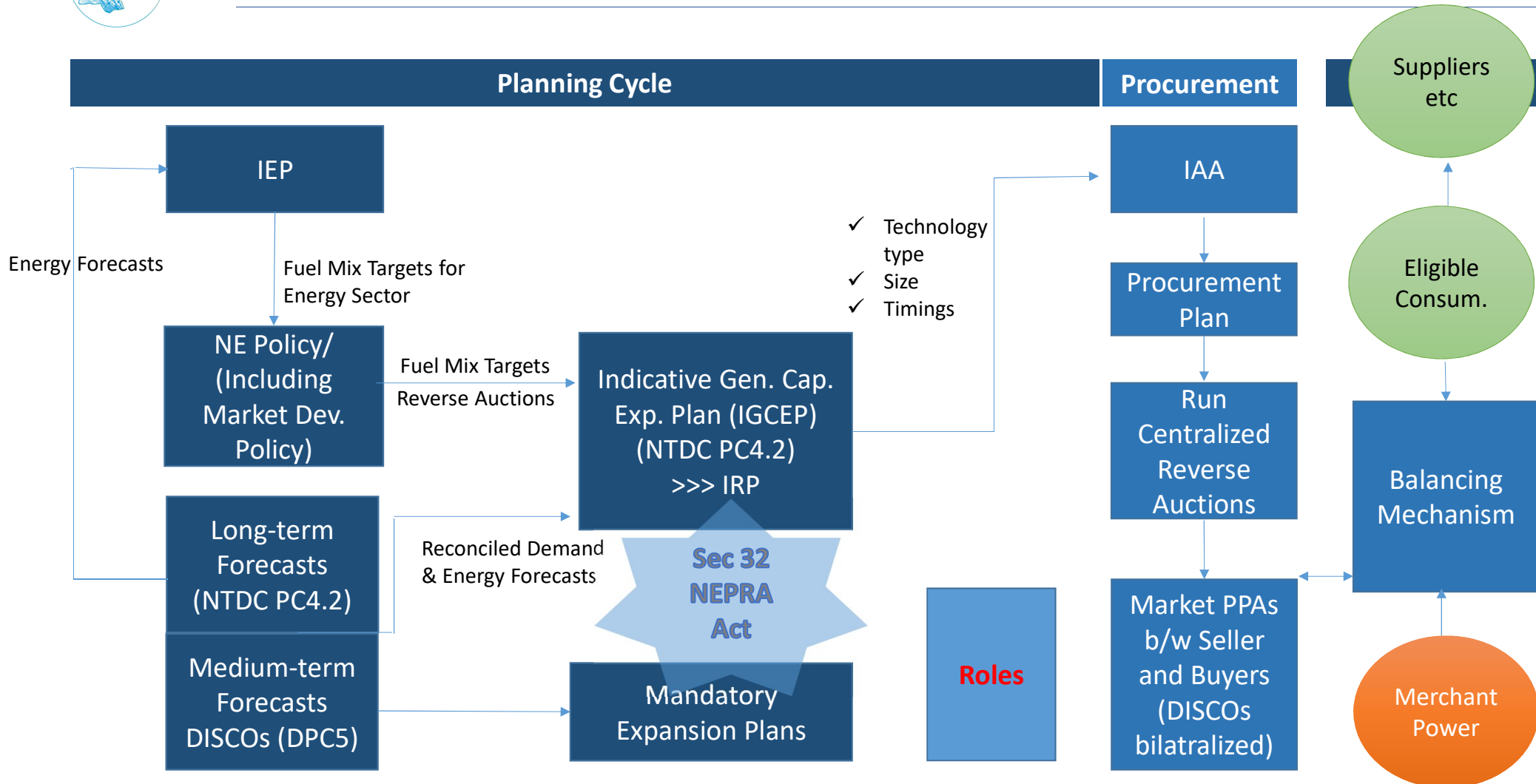
*(3) Any investment program or power acquisition program, approved by the Authority under this section shall take into account the national energy plans issued by the Federal Government.*

*(4) Upon the Authority's approval of an investment programs or a power acquisition program, the Authority shall, subject to such terms and conditions including rates and charges of electric power, permit the distribution company to enter into long term contracts for power purchases.*

***Interpretation:***



# Planning and Power Procurement Cycle



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**Thanks**