



# Egypt: Regulatory Framework for Private Sector Participation in Electricity Market

Consultation of proposed framework for Private-to-Private (P2P) Projects

*Christian Hewicker*

Cairo, 2<sup>nd</sup> October 2023

# Meeting Agenda

09:00 – 09:30 Registration and coffee

09:30 – 11:00 Session 1: Proposed role and form of P2P projects

- Role of P2P projects as part of wider market reforms
- Key properties of, application for and selection of P2P projects
- Questions & answers

11:00 – 11:20 Coffee break

11:20 – 13:00 Session 2: Draft rules and draft agreements

- P2P rules
- Connection and Use of system agreements
- Residual sale and supply agreements
- Template power purchase agreement
- Questions & answers

13:00 – 14:00 Lunch and networking

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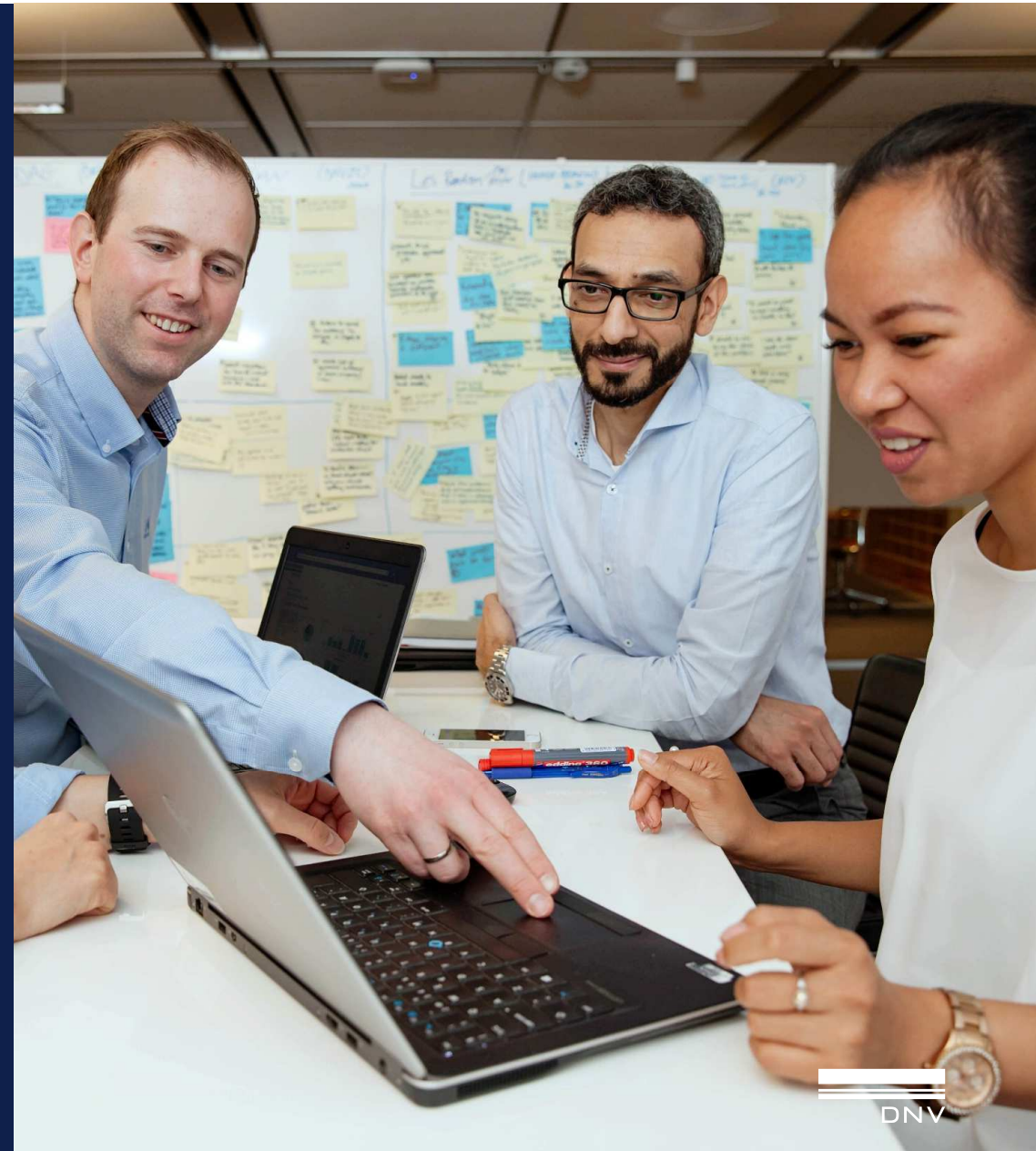
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- Energy management



# Participating companies



*Overall lead*

*Economic & regulatory analysis, reform concepts & rules*



*Legal advisor*

*Legal inputs, legal drafting (rules & agreements)*



*Local legal advisor*

*Advice and checks on local legal issues*

# Session 1: Proposed role and form of P2P projects

## ✓ **Private-to-Private (P2P) projects as part of overall market reforms**

- Scope, objectives and progress of overall project
- Recommendations for overall market reforms and staged transition path

## ✓ **Role of P2P projects in proposed market reforms**

- Principal considerations and features
- Limitations during pilot phase
- Contractual arrangements

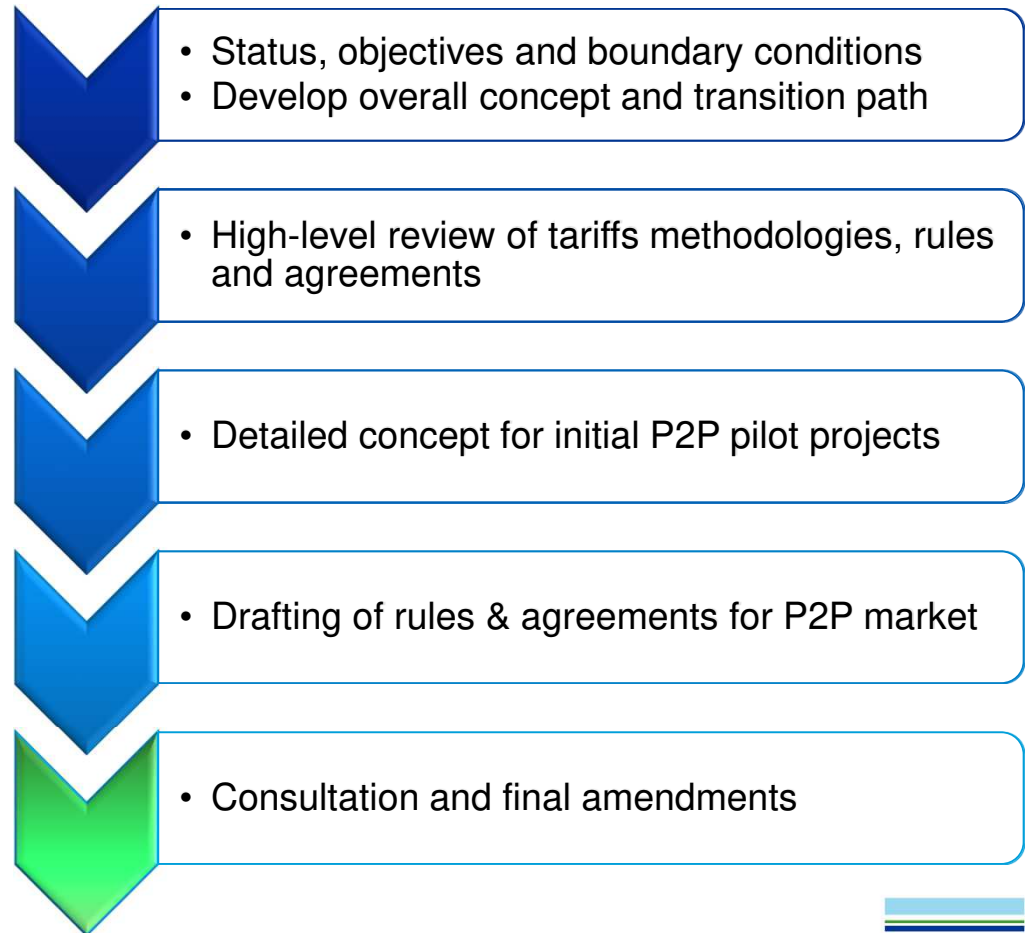
## ✓ **From initial eligibility to daily operation of P2P projects**

- Eligible producers and consumers
- Applications, selection and operation of P2P projects

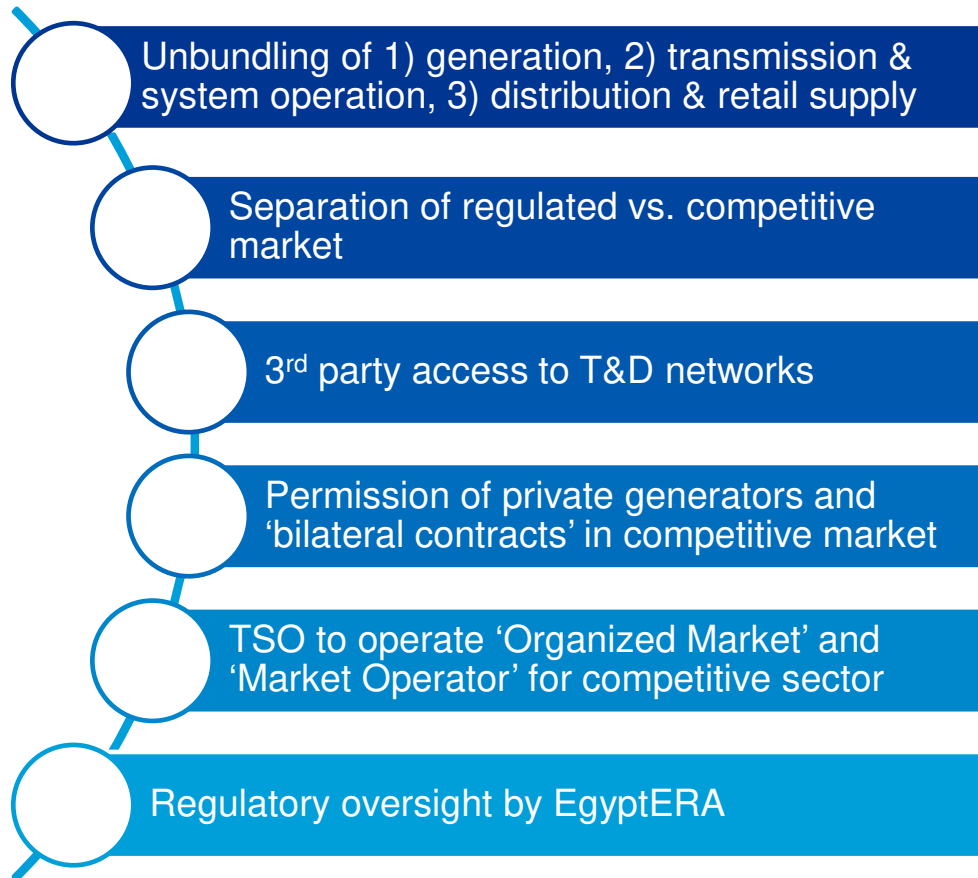
## ✓ **Questions and Answers**

# Overview of overall project

- Proposals presented today are part of a much broader reform project originally started in 2020
- Primary objectives:
  1. Enable investments into merchant generation projects on a private-to-private (P2P) basis
  2. Facilitate gradual transition to future market liberalisation
  3. Maintain technical and commercial integrity of public power supply
- Project carried out in close cooperation with EgyptERA, EETC and EEHC



# P2P projects are part of a much broader reform aimed at gradual liberalisation of the Egypt electricity market



- Initial focus on developing concept for gradual market opening of the Egypt electricity market
- Electricity Act (2015) foresees:
  - Gradual market opening
  - Co-existence of regulated and competitive market
  - Use of 'bilateral contracts' in competitive market
  - Unbundling and regulation of network sector (at transmission, more limited at distribution level)
- Additional boundary conditions for future market design:
  - Consideration of international best practices
  - Specific requirements for Egypt
  - Phased transition plan with 'no-regret' steps
  - Flexibility for future adjustments



# Not surprisingly, initial stakeholder consultations revealed conflicting views, objectives and concerns

## Public sector

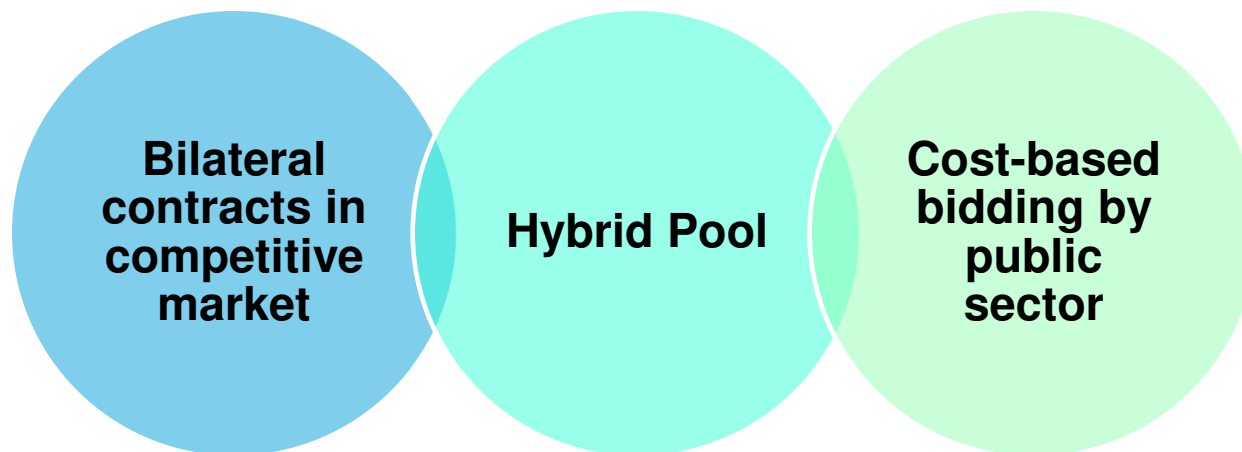
- General support for market reforms
- Uncertainty on future market framework
- Delayed reforms
- Ability to integrate RE capacity
- New capacity vs. healthy reserve margins
- Financial risks for public sector  
(Loss of revenues / Stranded assets)

## Private developers & financial entities

- Clear interest in private-to-private projects
- Need for long-term contracts to support bankability of new RE projects
- Lack of clarity on future tariffs
- Need for flexibility and transferability of contracts in competitive market
- Concerns related to land allocation and use
- Currency-related issues

# Proposal for future market aims to strike fair and efficient balance between different objectives and concerns

1. Trading and generation in the competitive market to be based on (physical) bilateral contracts  
*(Facilitate direct bilateral trading and bankability of P2P projects)*
2. Competitive and regulated markets to be linked by 'hybrid pool'  
*(Combine advantages of centralised generation scheduling and bilateral trading)*
3. Public sector generation to bid at costs  
*(Mimicks competitive market and protects consumers against extreme prices)*



# A phased transition path is proposed to ensure gradual and effective implementation of the recommended concept

- Start initial P2P projects (pilot projects)

- Complete cost unbundling and reforms  
- Start of (cost-based) pool in regulated sector

- Link settlement prices to short-term costs  
- Unbundling of contracts in regulated sector

- Start of simplified day-ahead market and imbalance settlement

- Transition to final short-term market (hybrid pool)  
- Introduce organised forward market

# Session 1: Proposed role and form of P2P projects

## ✓ **Private-to-Private (P2P) projects as part of overall market reforms**

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## ✓ **Role of P2P projects in proposed market reforms**

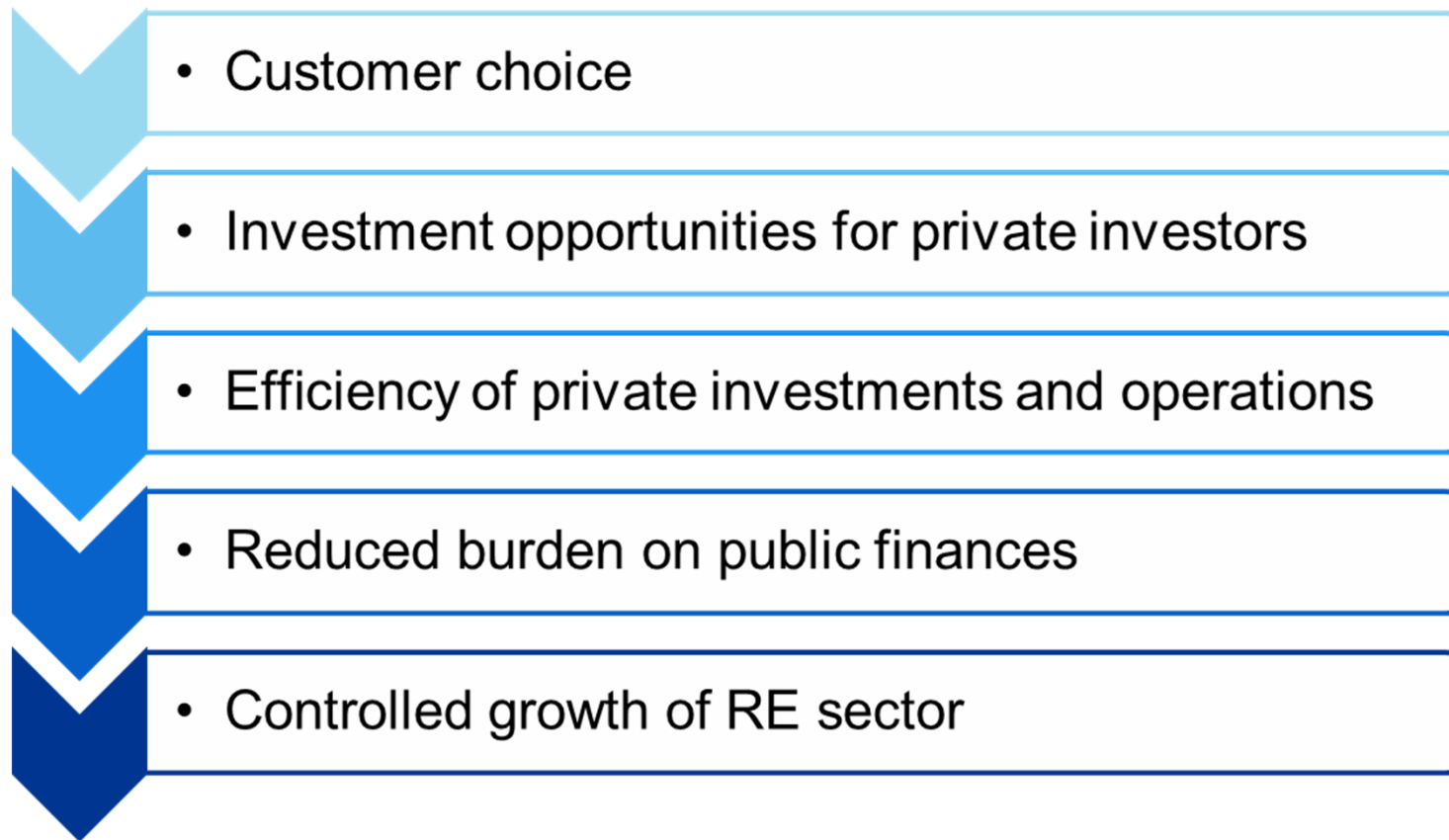
- Principal considerations and features
- Limitations during pilot phase
- Contractual arrangements

## ✓ **From initial eligibility to daily operation of P2P projects**

- Eligible producers and consumers
- Applications, selection and operation of P2P projects

## ✓ **Questions and Answers**

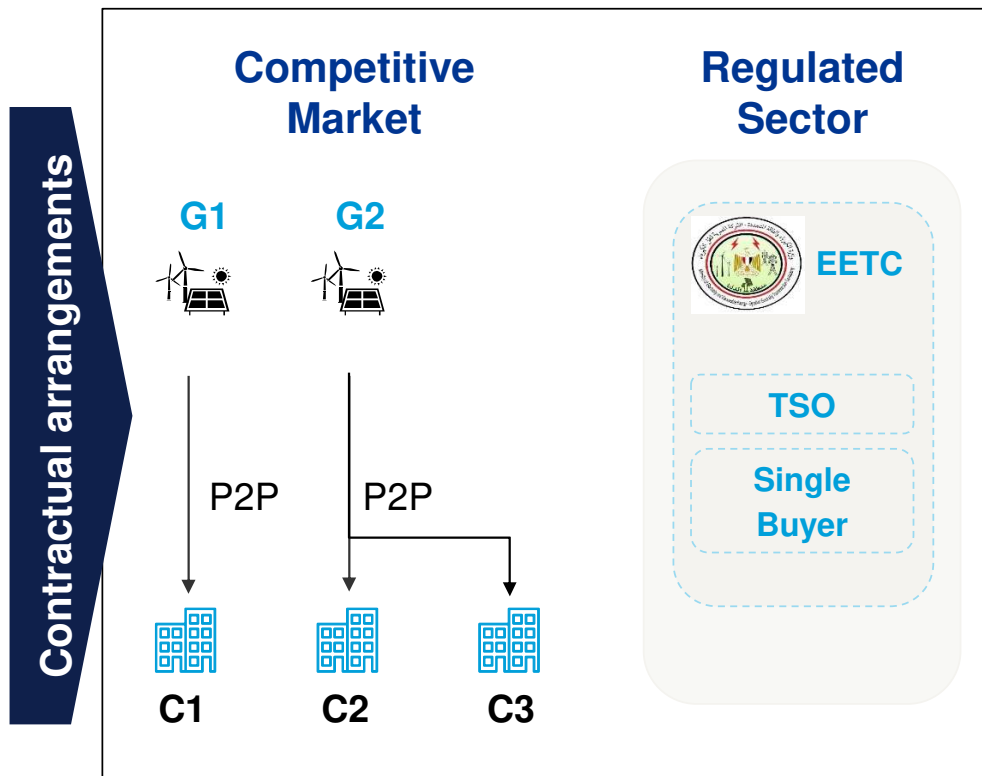
# Rationale and benefits of P2P projects



# Key considerations for proposed P2P projects

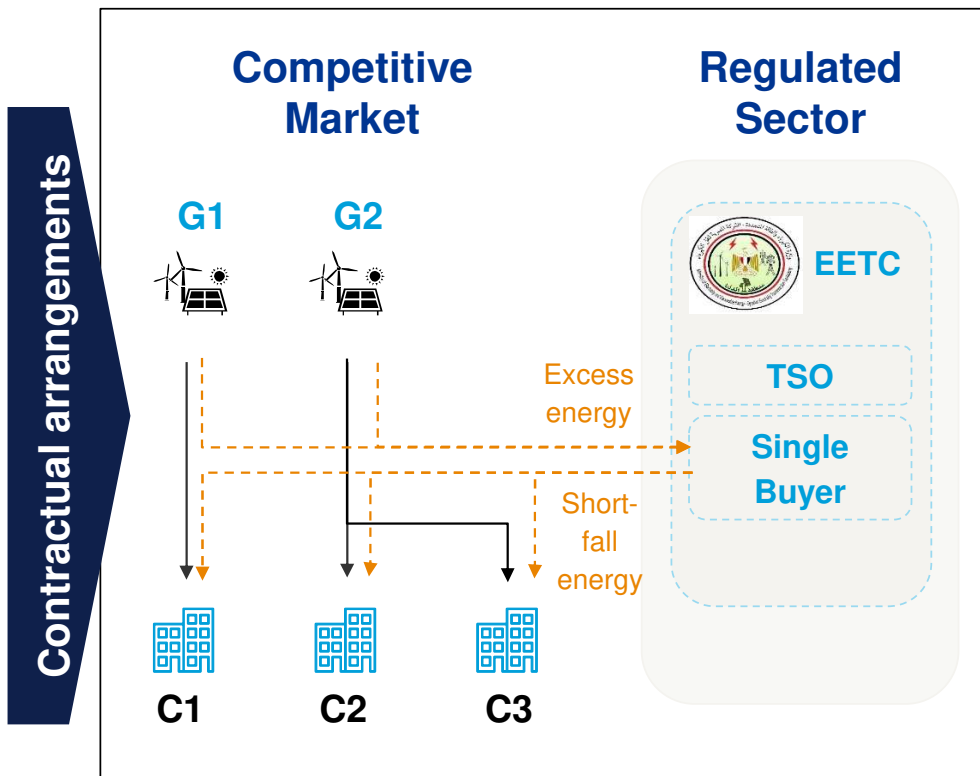
- Negotiated long-term agreements between private sector companies
- Clear separation of P2P projects from public sector
- Deviations between production and consumption compensated by public sector
- Facilitate transition to fully liberalised wholesale market ('future proof')
- Limit financial impact on public sector whilst avoiding excessive risks for P2P parties

# Principal structure of P2P projects



- ✓ P2P agreements to be independently negotiated between private parties, i.e. without involvement of public sector and without regulatory approval
- ✓ Focus on long-term agreements as required to enable investments into new (renewable energy) capacities
- ✓ Promote private sector, i.e. avoid participation by public sector companies
- ✓ Allow for transfer of P2P agreement to other parties over lifetime of individual projects
- ✓ Parties to P2P project bear associated financial risks themselves (no “back-up” by EETC or other parties)

# Relation between P2P projects and regulated sector (in the pilot / initial transition phase)

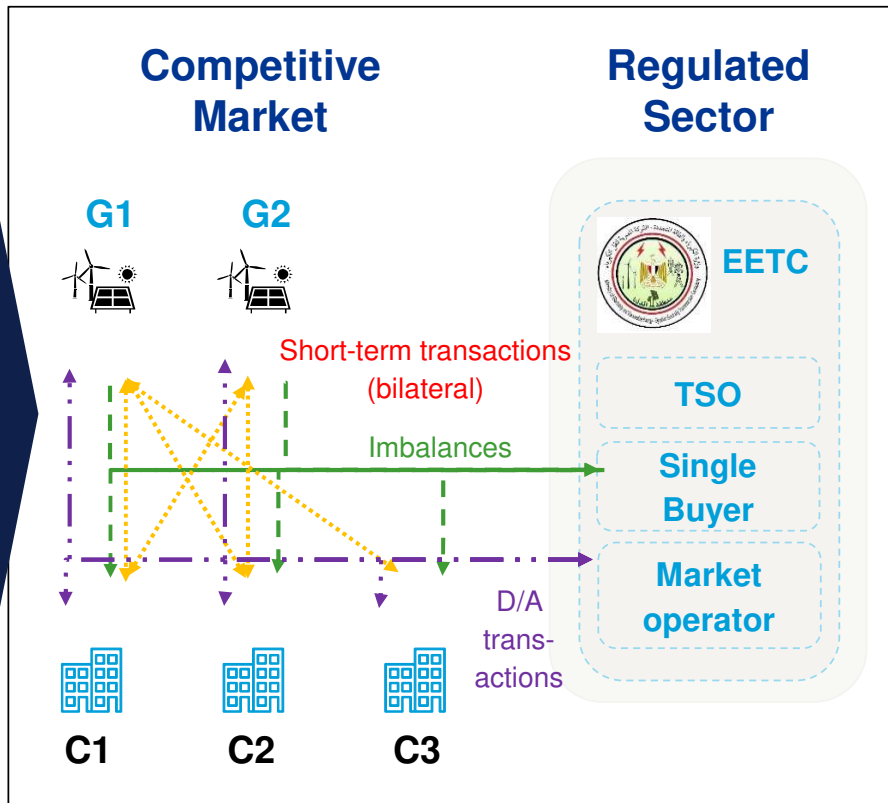


- ✓ Allow P2P parties to sell “excess energy” to and purchase “shortfall energy” from EETC
- ✓ Facilitate partial supply of large consumers under P2P agreements
- ✓ In anticipation of future market and in line with common practices in liberalised markets:
  - ✓ Differentiate between responsibilities of generator vs. supplier/consumer
  - ✓ Differentiate between day-ahead scheduling vs. ex-post settlement of imbalances
  - ✓ Rely on hourly settlement rather than net metering/billing
- ✓ Excess and shortfall energy to be initially settled at regulated tariffs



# Relation between P2P projects and regulated sector (in the future market)

Contractual arrangements



- ✓ In anticipation of future market and in line with common practices in liberalised markets:
  - ✓ Differentiate between responsibilities of generator vs. supplier/consumer
  - ✓ Differentiate between day-ahead scheduling vs. ex-post settlement of imbalances
  - ✓ Rely on hourly settlement rather than net metering/billing
- ✓ Excess and shortfall energy to be settled at market prices / as imbalances

# Limitations during pilot phase

## Background

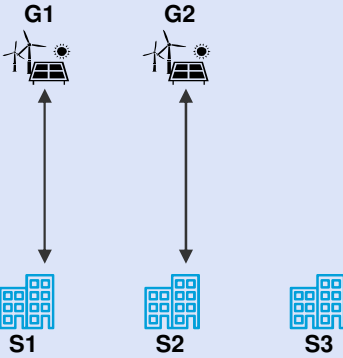
- High-level analysis of the potential size and impact of the P2P market:
  - >100 directly-connected transmission customers account for > 20% of total consumption
  - Use of a simplified spreadsheet model has shown that - under current tariff structures -:
    - Limited P2P market does not have a material impact on the public sector,
    - Large P2P market could lead to substantial price increases for other consumers
- Concerns by EETC about technical integration of increasing variable RE into the Egypt power system

## Agreed approach

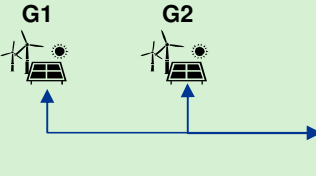
- Use limited number of initial pilot projects to test concept and gain first experience
- Limit initial pilot projects to transmission-connected customers (also avoid complexity of introducing additional rules and processes at distribution sector)
- Use initial transition step(s) to:
  - Further review and restructure tariff structures
  - Further study technical abilities of Egypt power system for integration of variable RE
  - Gradually expand P2P to distribution level

# Contractual framework for P2P projects

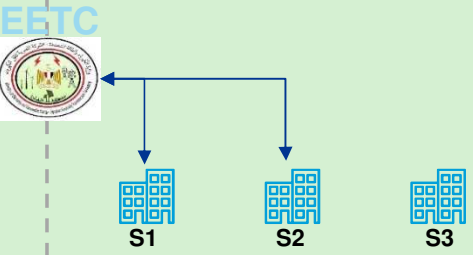
## P2P agreement (Generator – Consumer)



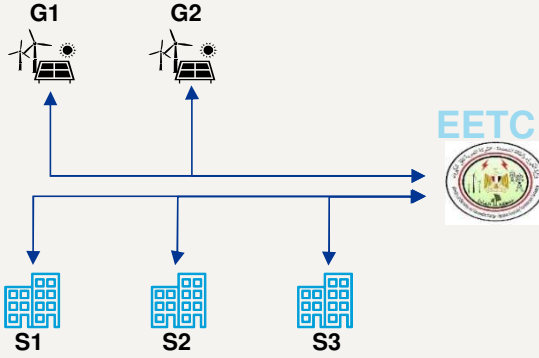
## Residual Sale Agreement (EETC - Generator)



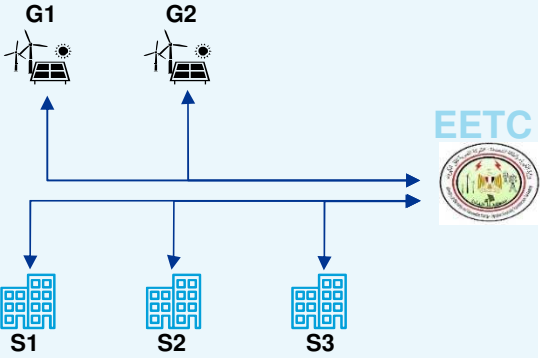
## Residual Supply Agreement (EETC - Consumer)



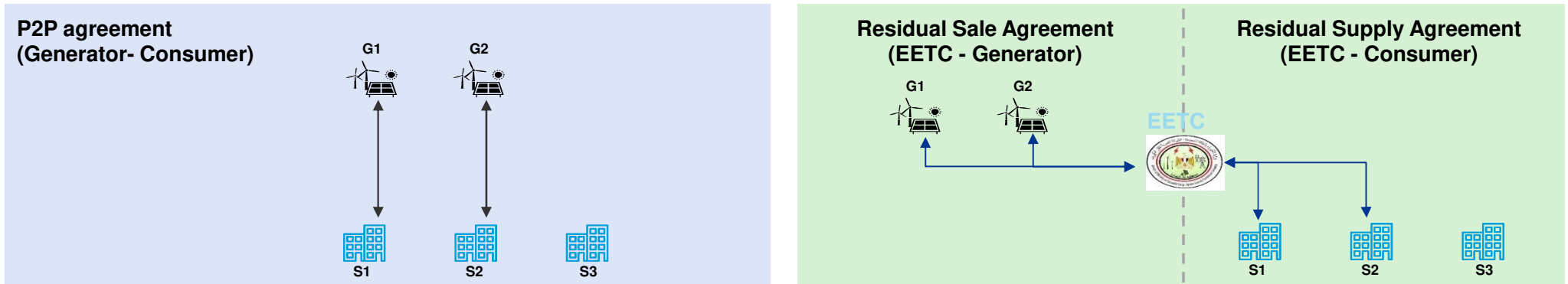
## Connection agreement (EETC - Generator / EETC - Consumer)



## Use of System Agreement (EETC - Generator / EETC - Consumer)



# Contractual framework for P2P projects



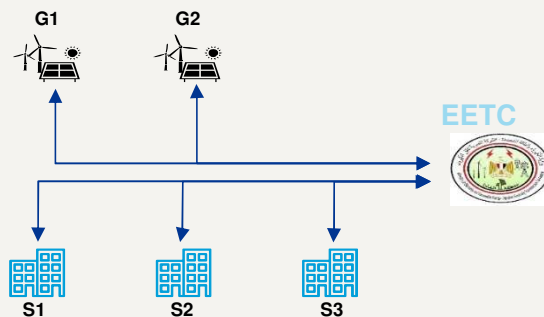
- Contractual terms to be privately negotiated between parties to P2P projects
- Parties may – but do not have to – use template agreement provided by EgyptERA
- Existence of PPA and compliance with P2P rules must be confirmed to EgyptERA

- Separate agreements to cater for purchase of excess energy and sale of shortfall energy by EETC
- Standard agreements approved by EgyptERA

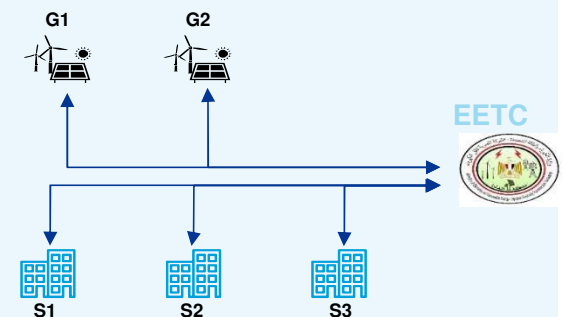
# Contractual framework for P2P projects

- Mandatory agreement to be signed with EETC for all (new) generation or consumption sites before connection to the system
- Similar to existing connection agreements
- Standard agreement approved by EgyptERA
- Project-specific fee, to be determined in accordance with approved principles
- Mandatory agreement to be signed with EETC governing network access by the corresponding party
- Standard agreements, tariffs and rates approved by EgyptERA

**Connection agreement  
(EETC - Generator /  
EETC - Consumer)**



**Use of System Agreement  
(EETC - Generator /  
EETC - Consumer)**



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## ✓ **From initial eligibility to daily operation of P2P projects**

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## ✓ **Questions and Answers**

# Rules for eligibility and selection of P2P projects

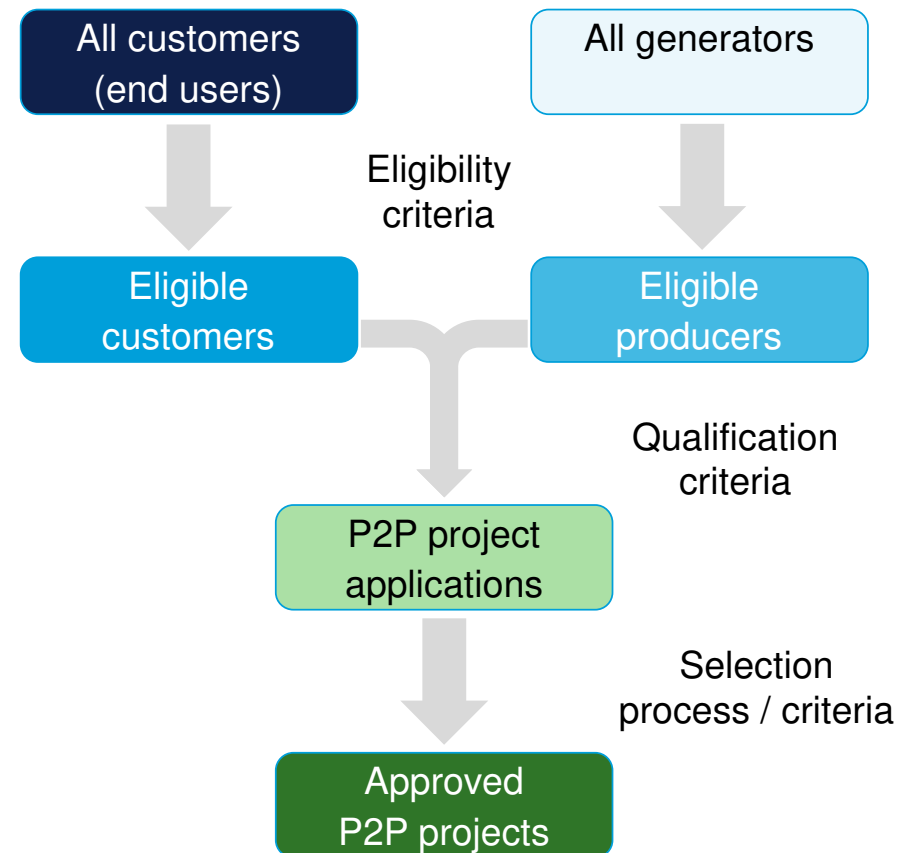
- Draft rules foresee a clear differentiation between two different stages:

## 1. Registration of eligible customers and producers

- Possible for all parties that meet certain criteria
- Precondition for entering into P2P projects (and later the competitive wholesale market)

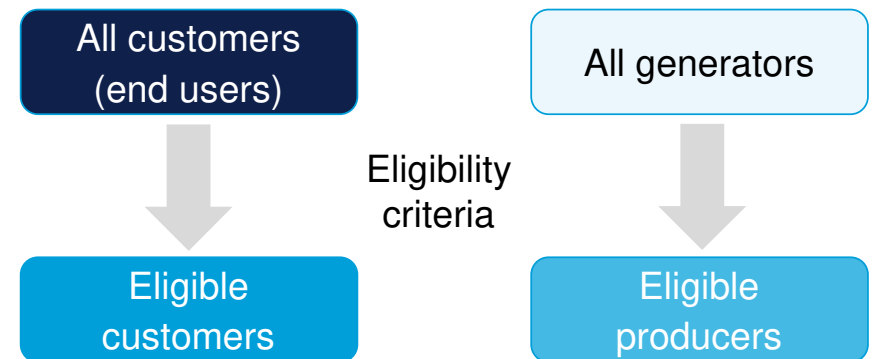
## 2. Applications for and selection of P2P projects

- Applications can be submitted by eligible producers for the supply of eligible customers only
- P2P projects / applications must meet certain criteria to be considered
- Three-stage process for registration, authorisation ('approval to build') and approval ('approval to operate') P2P projects



# Registration of eligible customers and producers

- Registration as eligible customer / producer open for all parties that meet certain criteria
- Applications can be submitted at any time, i.e. independently of applications for P2P projects
- Primarily based on simple formal requirements
- Additional criteria at least for initial phase(s):
  - Limitation to transmission-connected customers (see above)
  - Exclusion of public sector companies
- No limits on number of registered eligible customers and producers



Eligibility of qualified producers	Eligibility of qualified consumers
<ul style="list-style-type: none"> <li>• Generation license</li> <li>• Transmission-connected</li> <li>• Not part of public sector (incl. transmission &amp; distribution)</li> </ul>	<ul style="list-style-type: none"> <li>• Final end user only</li> <li>• Transmission-connected</li> <li>• No outstanding payments</li> </ul>
<p><i>All qualified parties may apply to become registered as eligible producer or consumer at any time</i></p>	

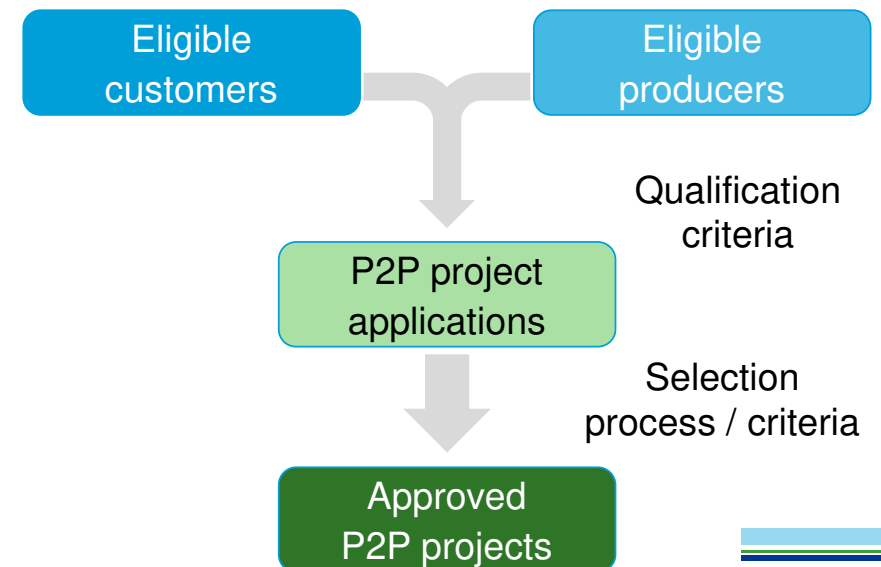


# Applications for and approval of P2P projects

- Applications to be submitted by eligible producers
- Producers may apply for P2P project at any time
- Besides standard formal and technical requirements:
  - EgyptERA may impose additional restrictions on fuel, technology and location (before authorisation)
  - Additional limits on relative size of P2P projects to avoid ‘excessive sizing’
  - Number of P2P agreements per party and size of P2P projects strictly limited during pilot phase to enable participation of multiple parties
- Qualified projects to be authorised on first-come-first-served basis

## Preconditions for P2P projects

- All relevant licenses and agreements in place
- Interval metering
- Generator: 1 production site / up to 3 customers only
- One P2P project per customer
- EgyptERA may impose specific limits on fuel, technology, location of (new) production sites



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## ✓ **Questions and Answers**

WHEN TRUST MATTERS

# Thank you!

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