Task Force on Regional Electricity Cooperation in Central and South Asia

Model Agreements for Cross-Border Electricity Projects

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Model Agreements for Cross-Border Electricity Projects

I. Introduction: Why do we need the EMAs?
II. The EMAs: Constancy in innovation
III. The indispensable complement: the IMA
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Introduction: Why do we need the EMAs?

- Aim of this presentation
  - What are we going to present?
  - What will happen afterwards?

- A legal (as opposed to technical) presentation
  - Technical aspects covered only so far as they are relevant to the way legal aspects need to be dealt with
Introduction: Why do we need the EMAs?

- The Pipeline Model Agreements – First Edition
- Review of the First Edition by the LATF
- From PMAs to EMAs – the Interim Report
- Adaptation of the EMAs and finalisation process
- The preliminary stages: the IMA
Introduction: Why do we need the EMAs?

- Hydrocarbon and electricity projects: key differences
- Characteristics of the electricity sector
Introduction: Why do we need the EMAs?

Hydrocarbon and electricity projects: key differences

- Different physical characteristics
- A need for greater technical cooperation
- A legal dimension absent from the PMAs:
  - Relationship between physical project infrastructure and other infrastructure to which it is connected
Introduction: Why do we need the EMAs?

Characteristics of the electricity sector

- Definitions
  - Control area
  - System operator (SO)
  - Transmission asset owner (TO)
  - Transmission system operator (TSO)
  - Independent system operator (ISO)
  - Power purchase agreement (PPA)
  - Transmission services agreement

- Coordination between control areas
  - Umbrella organisation
  - Bilateral or multilateral communication
Introduction: Why do we need the EMAs?

Characteristics of the electricity sector

- Ownership of infrastructure
  - Single vertically integrated entity
  - Single TSO
  - Multiple TOs (often with single ISO)
Introduction: Why do we need the EMAs?

- Approach used by the Consultant
  - Work based on Second Edition of the PMAs
  - Technical aspects specific to electricity projects
  - Use of the overall framework of the PMAs

- Structure of the comparative approach
  - IGA
  - HGA
  - Appendices
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The EMAs: Constancy in innovation

Structure of the EMAs

Intergovernmental Agreement (IGA)
States A, B, C …

Host Government Agreement (HGA)
State A
Project Investor(s)

Host Government Agreement (HGA)
State B
Project Investor(s)

Host Government Agreement (HGA)
State C
Project Investor(s)

[Project Agreements]
The EMAs: Constancy in innovation

Key features

- Electricity Model Agreements – a guide to best practice
- Model IGA and HGA – a package approach
- Basis of the package approach
  - IGA and HGAs are interdependent and linked
  - IGA is an international treaty
  - HGAs are State contracts
  - Entry into force of HGAs is conditional on that of the IGA
  - All agreements refer to one identified project with identified project investors
The EMAs: Constancy in innovation

Intergovernmental Agreement (IGA)

PART I – INTERPRETATION AND SCOPE OF THE AGREEMENT

PART II – GENERAL OBLIGATIONS

PART III – TAXES AND NON-DISCRIMINATION

PART IV – FINAL PROVISIONS
The EMAs: Constancy in innovation

Host Government Agreement (HGA)

PART I – INTERPRETATION AND SCOPE OF THE AGREEMENT

PART II – GENERAL OBLIGATIONS

PART III – TAXES, IMPORT & EXPORT AND CURRENCY

PART IV – IMPLEMENTATION

PART V – LIABILITY

PART VI – FINAL PROVISIONS
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Appendices to the EMAs

I. Construction Planning
   Part I – Map of Pipeline System
   Part II – Land Rights
   Part III – Decommissioning Plan

II. Tax Agreements
   Part I – Profit Tax Agreement
   Part II – Tax Administration Agreement

III. Code of Practice
   Part I – Technical Standards
   Part II – Environmental and Safety Standards
   Part III – Security
   Part IV – Labour Standards
The EMAs: Constancy in innovation

Project Participants and other defined terms

PROJECT PARTICIPANTS

Insurer
Lender
PROJECT INVESTOR
Contractor
Interest Holder
Operator
Project Investor
Lender
The EMAs: Constancy in innovation

Entry into force, effective date and duration

IGA
- Signature = Entry into force
- Art. 2.2 and 3
- [60/90 days] to submit to ratification
- Ratification = Entry into force
- Art. 2 HGA
- Effective Date
- Termination
- Art. 20 IGA

HGA
- Art. 39 HGA
- Art. 21 IGA
The EMAs: Constancy in innovation

Key provisions in EMAs

- Taxation
- Land Rights
- Insurance
- Standards
- Dispute settlement and expert determination
The EMAs: Constancy in innovation

Taxation

- Article 13 IGA, Article 26 HGA and Appendix II
- Basic principles of taxation regime
  - No tax on investment
  - Taxation begins when transportation begins
  - State take is primarily profit tax
  - Taxation is territorial
- Legal basis for taxation regime
- Tax agreements
The EMAs: Constancy in innovation

Land Rights

- Article 6 IGA, Article 14 HGA and Appendix I
- Definitions of Land
- Rights attached to land
- Appendix
The EMAs: Constancy in innovation

Insurance

- Article 12 HGA
- What insurance is required? What is not required?
- Quality of risk transfer
- Mechanics of insurance
- Policy requirements
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Standards

- Environmental and safety standards (Art. 10 IGA & Art. 16 HGA)
- Technical standards (Art. 10 IGA & Art. 22 HGA)
- Personnel and labour standards (Art. 17 & Art. 18 HGA)
- Social impact standards (Art. 21 HGA)
- Appendix III – Code of practice
The EMAs: Constancy in innovation

Dispute Settlement and Expert Determination

- State to State disputes (Art. 19 IGA)
  - Diplomatic channels
  - International arbitration

- Investor-State disputes (Art. 43 HGA)
  - International arbitration
  - Multiparty arbitration

- Expert determination (Art. 44 HGA)
  - Why expert determination?
  - Matters referred to an expert
The EMAs: Constancy in innovation

Main innovations introduced in the EMAs

For IGAs

- Art. 4(4):
  Prohibition of interference in operation of Electricity Transmission Facilities (barring exceptional circumstances)

- Art. 7(1):
  Facilitation of transportation provision modified to allow cost-reflective transportation charges in a way adapted to the electricity sector
The EMAs: Constancy in innovation

Main innovations introduced in the EMAs

For IGAs

- Art. 8:
  Prohibition of discrimination on the basis of the identity of the transmission rights holder

- Various articles:
  References to IMA integrated
The EMAs: constancy in innovation

Main innovations introduced in the EMAs

For HGAs

- Art. 5(3):
  HG required to prevent discrimination regarding title or ownership of electricity

- Art. 13(3) to (5):
  HG required not to interfere with the operation of the Electricity Transmission Facility and not to impose restrictions (except where necessary for safety and security)
The EMAs: constancy in innovation
Main innovations introduced in the EMAs

For HGAs

- Art. 15:
  Project Investors are protected from being required by HG to operate the facility in a manner incompatible with the technical specifications (focus on infrastructure, not quality of energy product)

- Art. 16:
  Possibility of environmental damage adapted to electricity-related incidents

- Art. 23:
  HG must use its best endeavours in obtaining access to certain resources by the Project Investor. These resources have been adapted to the electricity sector
The EMAs: constancy in innovation

Main innovations introduced in the EMAs

For HGAs

- Art. 25: Access to Facility capacity by third parties permitted under certain circumstances and subject to agreement
- Arts. 32 and 33: List of events likely to entail liability modified to reflect risks associated with electricity projects
Model Agreements for Cross-Border Electricity Projects

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The indispensable complement: the IMA

- EMAs to be finalised and published by the ECS
- MA on inter-operation of electricity system and markets (IMA): a necessary piece of the puzzle
  - Required by the technical and economic characteristics of the electricity sector
The Market and System
Inter-Operability Agreement (IMA)
for Cross-Border Electricity Transmission Projects
Characteristics of Cross-Border Electricity Transmission Projects (CBETP)

- Coordination of interconnected electricity systems (inevitable and more extensive in the case of synchronous systems)
  - Congestion management: limited capacity on cross-border lines requires an appropriate allocation methodology (complex in some cases as electricity flows follow the law of physics and not commercial paths)
- Unlikely to “transit” through third control areas without impacting their electricity systems
- Most projects to connect
  - contiguous electricity systems or
  - a plant in one jurisdiction with the system in another jurisdiction
- Connection of non-contiguous systems through a “chain” of contiguous connections and the use of the transited systems
  - The “Inter-TSO Compensation issue
Coordinated operation of CBETP

- CBETP typically:
  - connect to the electricity system (at least at one end, except in the case of direct lines)
  - involve the use of at least one electricity system to receive or deliver power
- If the CBETP is an AC line, it must be operated together with the systems to which it is connected (which will be synchronous)
- Even if the CBETP is a DC line, coordination with the connected systems (on access) is required
CBETP vs. Cross-Border Pipeline Projects

Cross-Border Pipeline Projects

System A  System B  System C

CBETP

System A  System B  System C

System A  System B

G
System Access and Trading Models

- The economic viability of the investment depends on:
  - access to the local electricity systems; and/or
  - trading models in the jurisdictions involved
- Access and trading opportunities depend on the institutional and legal characteristics and structure of the electricity sectors in the jurisdictions involved
Electricity Sector Structure and Cross-Border Trading (1)

- Vertically-integrated monopolies in all jurisdictions involved
  - The monopolist is the only entity entitled to trade across-border
  - The CBETP capacity can only be contracted to the monopolist
    - Build-own-and-operate (BOO)
    - Build-own-transfer (BOT)
  - No merchant mechanism possible
Electricity Sector Structure and Cross-Border Trading (2)

- Liberalised electricity sectors. Third Party Access (TPA) allowed. (Non-mandatory Power Exchange)
  - Cross-border trading through bilateral contracts
  - Cross-border capacity allocation, e.g. through explicit auctions
- Merchant mechanisms:
  - Exemption from TPA - Physical transmission rights (PTR)
    - the right to inject power in one location and withdraw it in another location or
    - the right to move power through a congested flow-gate
  - Financial Transmission Rights (FTR), i.e. the financial equivalent of PTR, but require a market with zonal/nodal prices
Electricity Sector Structure and Cross-Border Trading (3)

- Liberalised electricity market. TPA allowed. Power Exchange in some jurisdictions involved
  - Cross-border capacity used to support access to Power Exchange in one jurisdiction by participants in other jurisdictions
  - Implicit allocation of cross-border capacity
- Merchant mechanisms:
  - FTR
  - Exemption from TPA and PTR require capacity set-aside
Electricity Sector Structure and Cross-Border Trading (4)

- Liberalised electricity market. TPA allowed. Power Exchange in all jurisdictions involved
  - Market coupling possible
  - Merchant mechanisms:
    - FTR (preferable)
    - Exemption from TPA and PTR require capacity set-aside

As two or more jurisdictions are involved in any CBETP, several combinations of Electricity Sector Structures and Cross-Border Trading Arrangements are possible
System Inter-Operability (1)

- Operational aspects which require agreement for system interoperability:
  - Frequency and voltage control (admissible ranges)
  - Security criteria (e.g. N-1)
  - Pooling of reserve capacity
  - Determination of (net) cross-border capacity
  - Equipment and Protocols for information exchange and communications
  - Procedures for control area balancing and scheduling cross-border flows
  - Procedure for settlement of deviations of actual flows from schedules
  - Procedures for emergency situations
System Inter-Operability (2)

- Operational aspects which require agreement for system inter-operability

Typically agreed between the System Operators in the different jurisdictions involved.
A regional “Umbrella Organisation” may be involved
The CBETP stakeholders have an interest in some of them (e.g. the way in which cross-border capacity is determined)
**Market Inter-Operability**

- Market design aspects which require agreement for market inter-operability:
  - Third Party access regime (regulated, negotiated, Single Buyer, …)
  - Inter-System Operator compensation (if any)
  - Trading arrangements and/or electricity pricing rules within each jurisdiction and across jurisdictions (institutional aspects and approach)
  - Allocation of cross-border capacity (institutional and procedural aspects)

“Common Rules” may be agreed between Governments

Typically agreed between the System Operators and/or the Ministries/Regulators on the basis of the “Common Rules”

The CBETP stakeholders have an interest in some of them (e.g. electricity pricing rules)
The Structure of the Market and System Inter-Operability Agreement (IMA) (1)

- The different aspects to be defined for Market and System Inter-Operability:
  - Are of different nature (technical, commercial, …)
  - Require definition and agreement at different levels (Government, Regulator, SO)
  - Have different impact on the stakeholders in the CBETP
  - Typically have a more general application (beyond the impact on the viability of the specific CBETP)

- These considerations suggest:
  - a modular structure of the IMA; or
  - an IMA including high-level agreements on criteria, to be managed in operational terms by the relevant institutions/stakeholders
The Structure of the Market and System Inter-Operability Agreement (IMA) (2)

- Allocation of cross-border capacity
- Exemption from TPA

Common Rules
- TPA Regime
- Trading arrangements

TPA Regime
Trading arrangements

System Inter-Operability
- Frequency and voltage control
- Security criteria
- Pooling of reserve capacity
- Determination of (net) CB capacity
- Information exchange and communications
- Procedures for control area balancing and scheduling of CB flows
- Procedures for settlement of deviations
- Procedures for emergency situations
Protecting the Interests of CBETP Stakeholders: (1) Making them Parties to the IMA

**Allocation of cross-border capacity**
- Exemption from TPA

**Common Rules**
- TPA Regime
- Trading arrangements

**TPA Regime**
- Trading arrangements

**System Inter-Operability**
- Frequency and voltage control
- Security criteria
- Pooling of reserve capacity
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- Procedures for control area balancing and scheduling of CB flows
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**CBETP Stakeholders**

**Governments**
- Government A
- Government B

**Regulators**
- Regulator A
- Regulator B

**System Operators**
- System Oper. A
- System Oper. B
Protecting the Interests of CBETP Stakeholders:
(2) Contractual Guarantees

- Allocation of cross-border capacity
- Exemption from TPA
  - Common Rules
  - TPA Regime
  - Trading arrangements

- TPA Regime
  - Trading arrangements

- System Inter-Operability
  - Frequency and voltage control
  - Security criteria
  - Pooling of reserve capacity
  - Determination of (net) CB capacity
  - Information exchange and communications
  - Procedures for control area balancing and scheduling of CB flows
  - Procedures for settlement of CB flows
  - Procedures for emergency situations

- Government A
- Government B
- Regulator A
- Regulator B
- System Oper. A
- System Oper. B
- Access Contracts
- PPAs

- CBETP Stakeholders
Example: TPA Regime

- Regulated TPA in all jurisdictions involved
- Postage-Stamp approach (Access charges independent of distance between source and sink)
- No transit charges (national access charges allow use of all the interconnected network – independent of location of source/sink)

Contractual Guarantees

- Long-Term Access Contract for the CBETP Stakeholder
Example: Trading arrangements

- Bilateral trading and Power Exchange trading
- Cross-Border Congestions managed through market mechanisms
  - Explicit auctions of Medium- to Long-Term Financial Transmission Rights (FTRs)
  - Short Term Market Coupling/Implicit Auctions

Contractual Guarantees

- Long-Term PPA for CBETP Stakeholders
- Long-Term FTRs for CBETP Stakeholders
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