Independent System and Market Operator (ISO)

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Outline of Presentation

- The Conundrum
- What is an ISMO?
- ISMO Functions
- ISMO Logic
- Phases to ISMO
- Impact on Stakeholders
- Possible end state for South Africa
- Experiences elsewhere

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The Conundrum

- SA urgently needs new generation capacity and, in turn, Eskom needs
  - Scarce Government capital to fund new projects
  - Tariff increases that have social and industrial impact
  - Additional Debt that have, as prerequisite, a viable ESI to repay them
- Minimizing Government exposure requires
  - Mobilizing private sector funding
  - The private sector, in turn, needs a level playing field and clarity of rules
- Minimizing inevitable tariff increases requires
  - Reducing overall sector risk with correct allocation of risks and reward
  - Better allocation of resources with correct electricity pricing signals
- A viable ESI requires
  - The benefits that accrue with competition
  - Unleashing of enterpreneurial agility
  - Superior Technological Innovation and Know-how in RE and Traditional Fuels
  - Access to New Financial Resources beyond the Government

What is an ISMO?

Acronym for “Independent System and Market Operator”

- “Independent” = Autonomy of ISMO from its key stakeholders
- “System” = National Electricity Transmission System
- “Market” = Buying of electricity from electricity generators and Selling thereof to customers at a wholesale level

ISMO = Owner/Operator of National Electricity Transmission System who buys electricity from generators and sells it to customers at a wholesale level

ISMO Functions

- ISMO, an autonomous state owned company, mandated to execute the following functions
  - Generation Resource Planning
  - Transmission Service and Implementation
  - Buyer
  - System Operations and Expansion Planning
- A package empowering ISMO as an “honest broker” wholesale electricity buyer, a role Eskom, as generator, can never play.
- A message for the market to know that responsibility to meet these obligations rests with ISMO

ISMO Logic

- Key among IRP objectives are
  - usher in a new era of IPPs,
  - diversify into Renewable Energy sources, and
  - establish the associated enabling policies

- IPPs will not mobilize unless system promotes
  - equitable access to grid for all participants,
  - predictability of all costs and risk allocation principles,
  - policies that enhance enabling environment for IPPs,
  - regional cooperation

Bias can not be eliminated unless an autonomous entity is set up to deal with these issues and the playing field is levelled.

ISMO establishment

- Legislate ISMO (4 Months)
  - An ISMO shell as a “Peg on the Ground”
  - Clarity and comprehensiveness of 4 ISMO functions
  - Autonomy over 4 ISMO functions
  - Fast track legislation / populate assets over time
  - Investors can relate to and buy into this
- Populating ISMO (2 Years)
  - Transfer assets, rights, obligations, contracts, staff
  - Data, time and effort intensive due diligence process
  - Sub-phases of transition
    - Single Buyer and generation resource planning
    - System Operations and Expansion Planning
  - Responsibility with ISMO and under ISMO autonomy
  - Subcontracting to Eskom for transition until full transfer of above
- Operationalizing ISMO
  - Full fledged performance of all 4 functions by ISMO staff
  - Evolution into further market based modalities (willing buyer-willing seller)
  - Discussions about independence of the transmission assets

Legislation = “Peg on the Ground”
(Draft Bill open for Comments and then to Parliament)

An unequivocal, urgent, and transparent message that the Government is determined to source power from IPPs and it is taking decisive action to put in place the necessary enabling framework for IPPs to operate in, ensuring efficiency, accountability, and transparency.

Not intent, not cooperative approache, not even contractual arrangements open to interpretation, but enabling legislation that sets the scene for things to come and tells would be IPPs “if you want to be in, start spending to develop your projects, it will be a fair level play field.”

Unknowns are not of “Spin-off” but already Exist

- Financial creditworthiness of ISMO will depend on
  (a) Regulated bulk supply tariffs to cover cost of ISMO operations, and
  (b) Ability of its customers to pay the regulated bulk supply tariffs.
- This credit risk is no different than if Eskom was contracting with the IPPs, as cash-flow is from the same customer base.
  (a) With ESKOM, as an integrated operation, the cause of any problem is less transparent.
  (b) With ISMO, reason will be transparent (inadequate tariffs, or non-paying customer.)
- Current Government support to maintain and expand infrastructure is due to a lack of financing through normal operations.
- Establishing ISMO will not change inadequacy of funding nor make it worse, but it will make the funding shortage more transparent.
- There will continue to be subsidies at distribution, with decisions on whether to cross subsidize within sector or with outside funds, and to what extent.

There is a Better Way with ISMO

- IPPs will lift a substantial burden off Government's coffers
  - Demand for present 40,000MW capacity might double in 20 years
  - Some of the installed capacity needs to be replaced
  - If IPPs bring at least 30% of future capacity, that's 24,000MW Government need not finance
- The proposed regime will reduce risk premiums
  - ISMO will not need subsidies if tariffs are set to self finance its operations
  - Competitive ISMO-generator PPAs will allocate risk more predictably
  - Sector costs will be reflected in new transparent pricing between ISMO-generators and between ISMO-customers
  - IPPs will price PPAs with ISMO at lower risk premium than with Eskom, due to absence of inherent conflict of interest in contracting process
  - Cost recovery based pricing combined with better risk mitigation should reduce level of guarantees needed
- As a result, Government will not be faced with unquantified risks, as shareholder of a state-owned enterprise responsible for its own building program (e.g. cost overruns, project delays, currency risk)

Impact on Government

- An asset split along mutually exclusive functions for same shareholder
- Assets packaged for more efficient operation under same shareholder
- Separation of businesses that ordinarily should be at arm's length
  - Specialization in services
  - Transparency in pricing
  - Diversity of Business Models
  - Accountability of Quality
- More competitive and self-reliant Eskom in generation
- More competitive and self-reliant functions under an autonomous ISMO

Impact on IPPs

- IPPs have not been forthcoming in significant volumes
  - Perception of **conflict of interests** in vertically integrated Eskom
  - Perception that **Government is not serious** about industry reform
  - Perceptions about **long-term viability of present ESI** structure
  - **Lack of enabling legal/regulatory framework** to facilitate IPPs

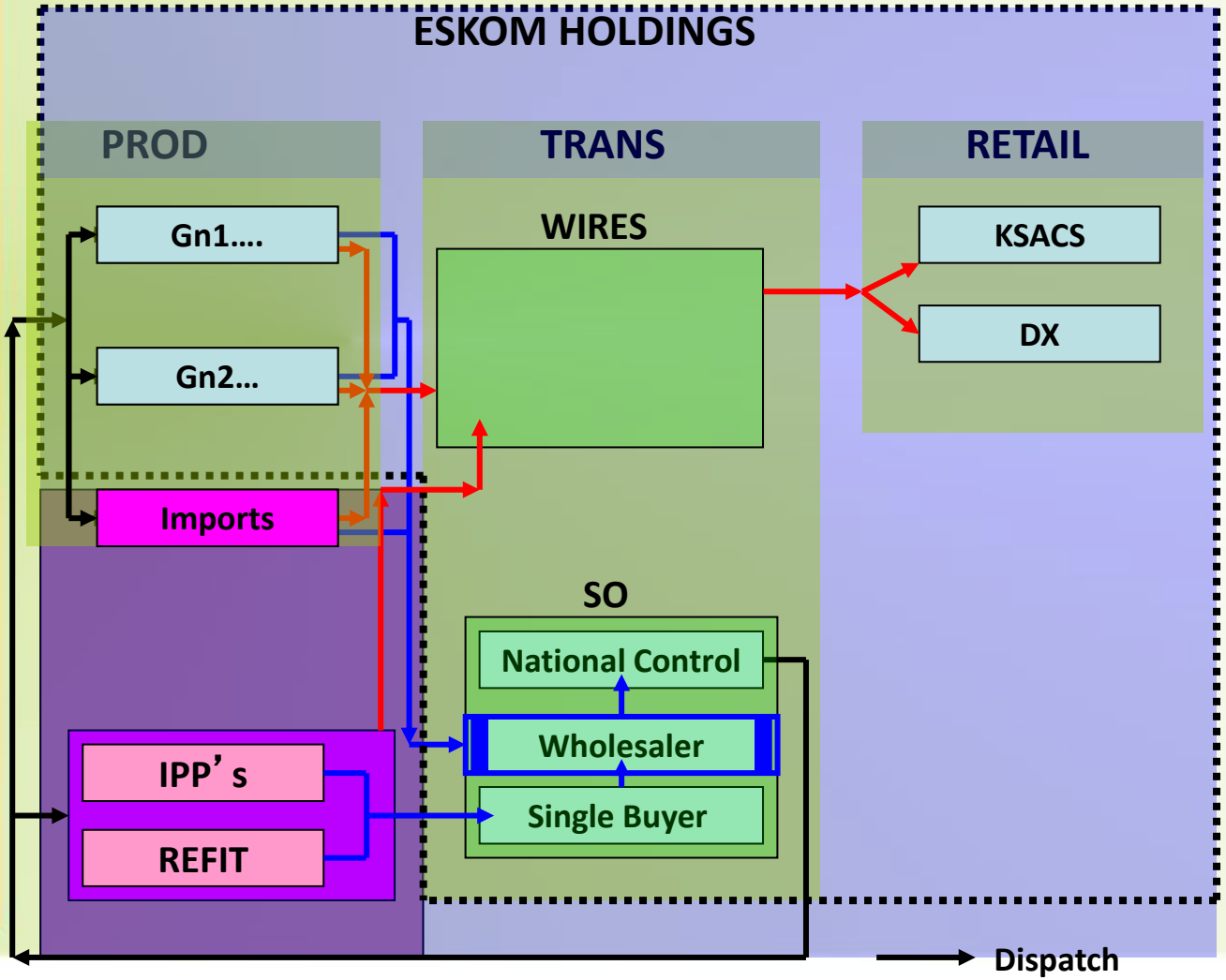
- ISMO is key in facilitating introduction of IPPs
  - Inclusiveness, Transparency, Accountability for **level play field** in Planning/Dispatch
  - Transparency in **governance and decision making**
  - **No conflicts of interest** as both player and referee
  - Benefits of **competition in the generation sector**
  - Objective purchase/sale of electricity **in the best interests of the country**
  - Correct **risk allocation and pricing**

Impact on Other Eskom Stakeholders

- **Clients :**
  - Increased reliability of service
- **Suppliers :**
  - Increased demand for goods and services in an expanding sector
- **Staff :**
  - Same functions reorganized under two new houses
  - Possible short term job creation in in-house support functions
  - Certain long term job creation in an expanding sector

Possible end state options for South Africa

As Is



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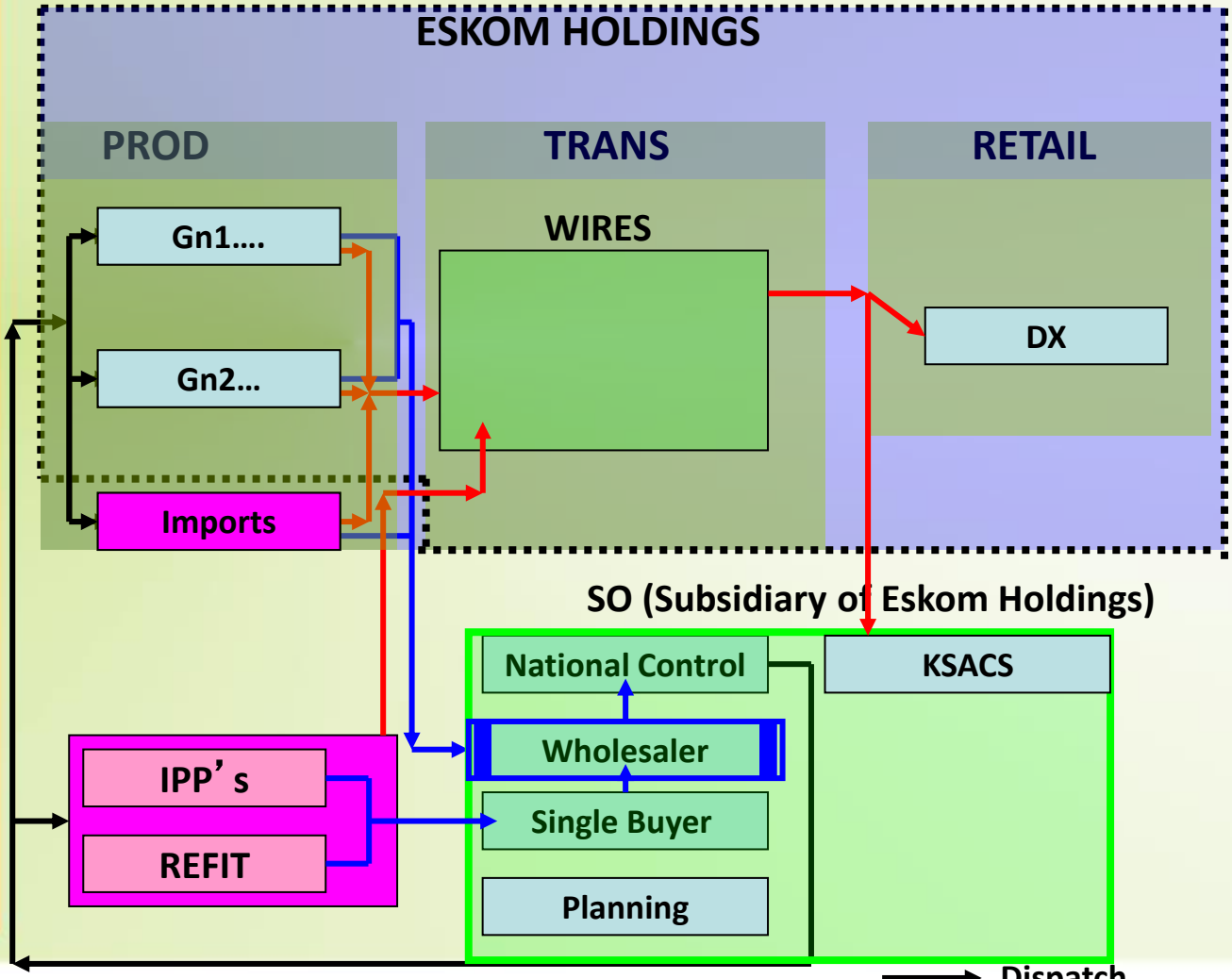
System Operator as subsidiary of Eskom



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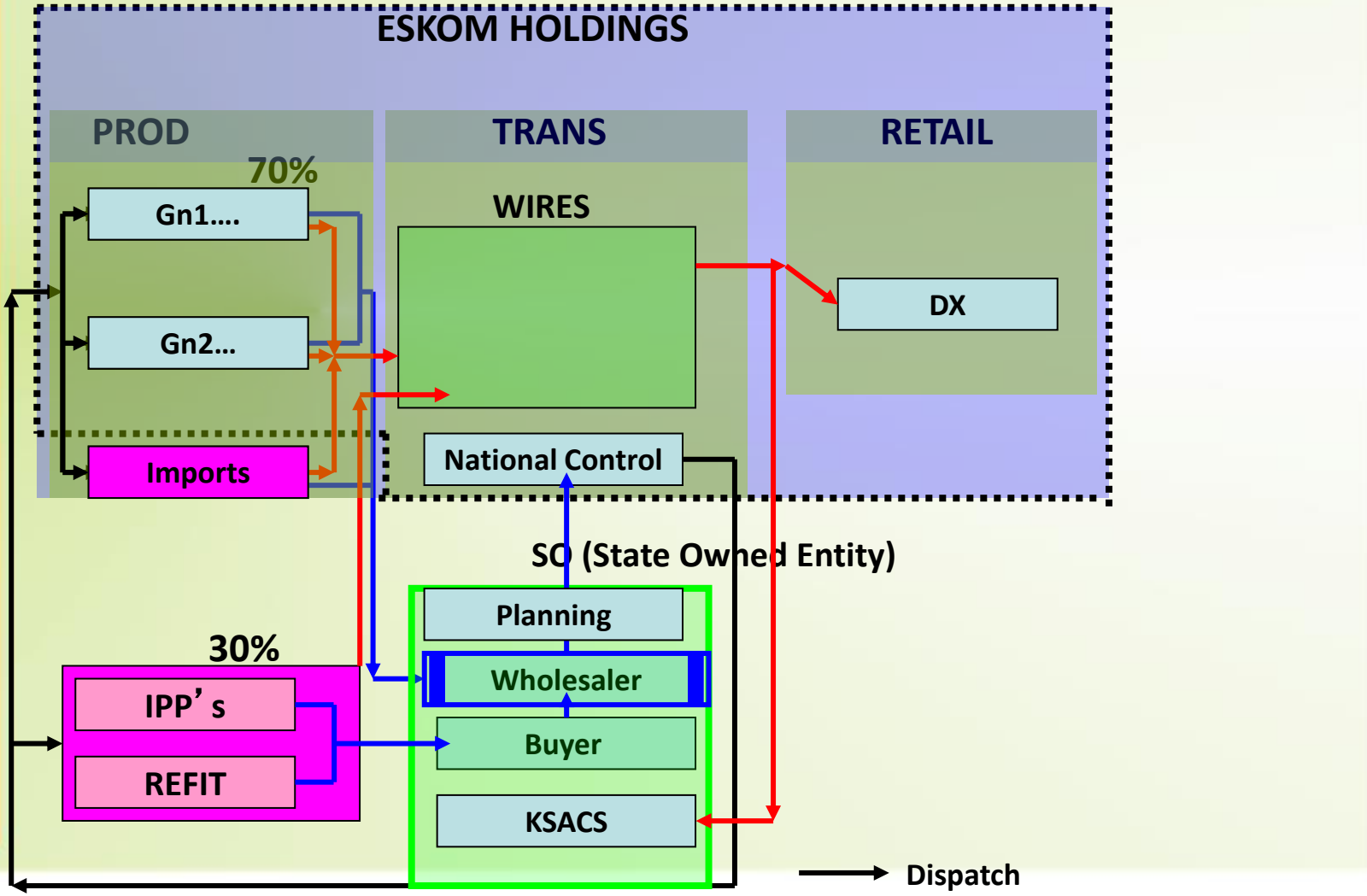
System Operator as an Independent Entity



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TURKISH EXPERIENCE ON RESTRUCTURING

The Vertically Integrated Utility Model (Until 1994)

New Generation - TEK and BOT Built

State Owned Integrated Utility (Turkish Electricity Company- TEK)

Existing Generation (Regulated)

Transmission and Operations

Distribution

Integrated Utility TEK and 2 concessionary companies can sell energy to consumers.

Consumers

The Central Buyer Model (1994- 2001)

New Generation - TEAS or IPP (BOT, BOO) Built

Generation

Transmission and Operations

Only the Integrated Utility TEAS can buy Energy from generators.

Only the integrated Utility TEAS can sell energy to TEDAS, Kayseri and Aktas.

TEDAS (State owned Distribution & Retail Company)

Consumers

Unbundling (2001 –)

New Generation - EUAS or IPP Built

Suppliers (Generators, Marketers)

EUAS Electricity Generation Company

System Operator and Market Operator Transmission Owner

TEIAS Turkish Electricity Transmission Company

Distribution Utility

TEDAS Turkish Electricity Distribution Company

Consumers

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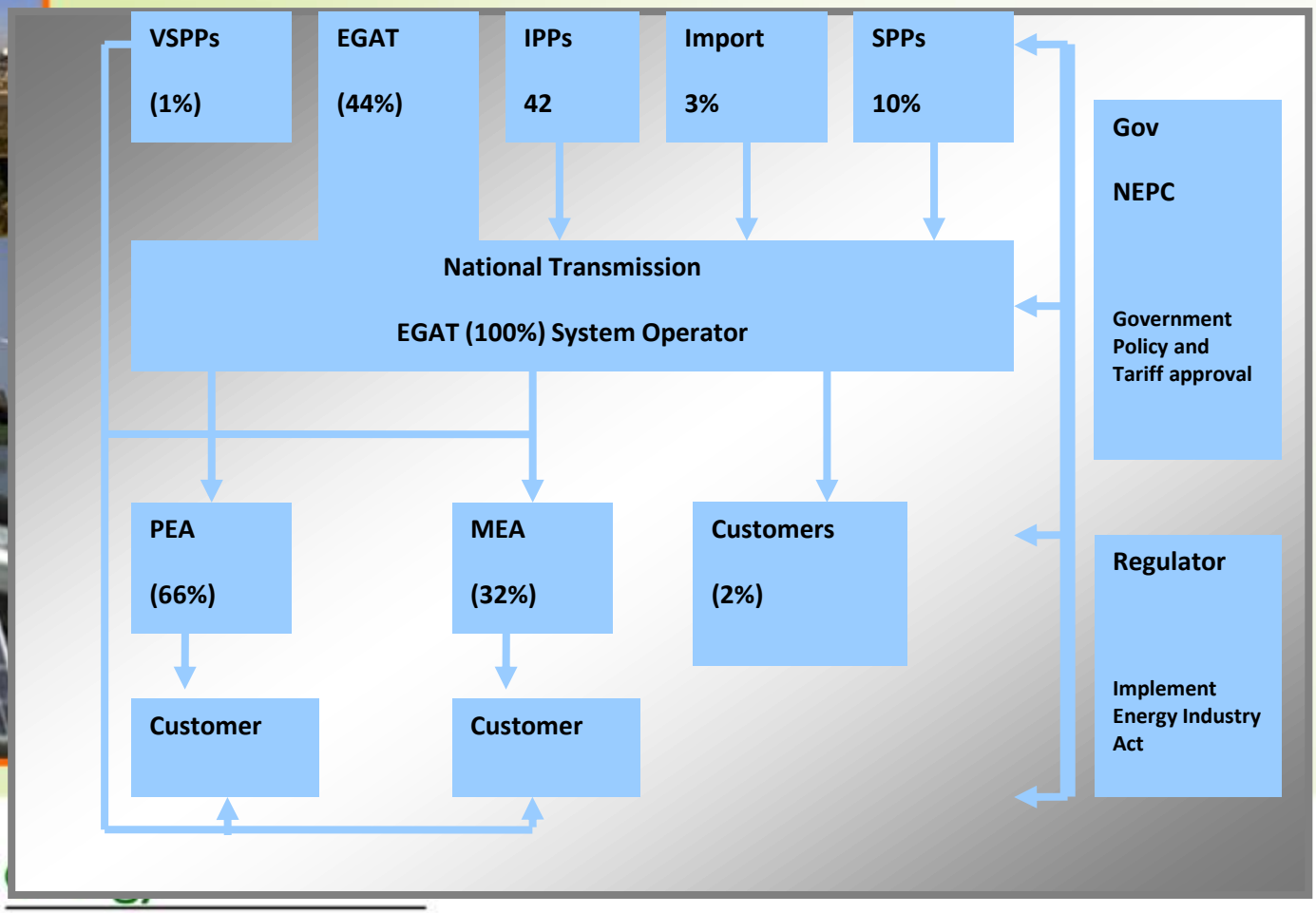
Appendix

What are the international trends?

Thailand model

- Current: EGAT (similar to Eskom) remains vertically integrated with no ISO, yet IPPs contribute 55% of generation capacity; EGAT not directly involved in distribution
- Learnings:
  - Different requirements for very small IPPs (e.g. no tendering but selection criteria,
    and sell directly to distributors in accordance with the approved tariff
  - Government promulgates tariffs for the different IPPs, but provides financial support
    to EGAT to make up shortfalls
  - Tariffs slightly high with step tariff for domestic customers and Time of Use for large customers
  - Tariffs are the same through out the country with cross subsidies across distributors
  - PPAs were structured to cater for all the concerns raised by the IPPs (i.e. high level of risk taken on by government / EGAT) hence there was less concern re the regulatory framework

Thailand electricity structure



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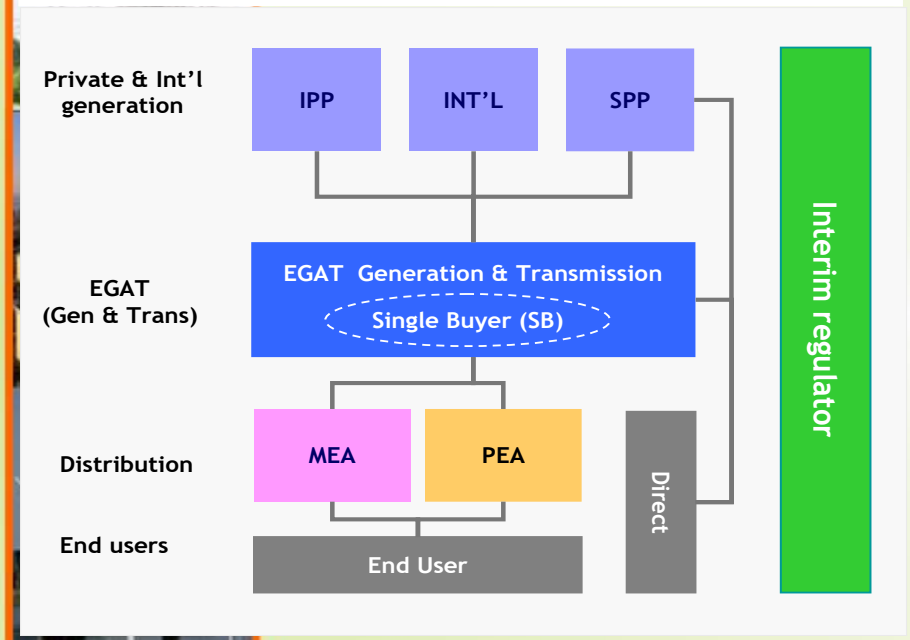
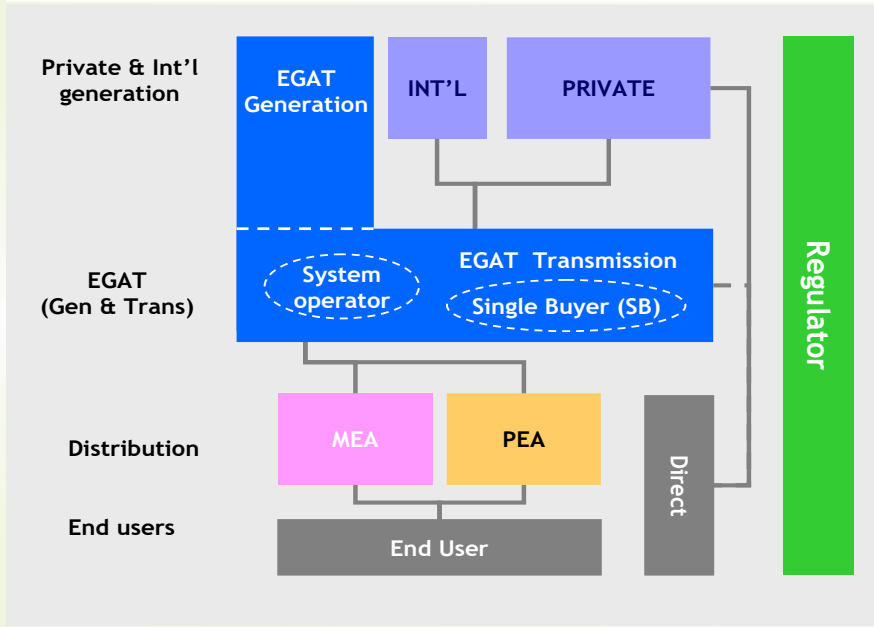
Thailand enhanced Single Buyer Model (ESB)

Current ESI model



Enhanced single buyer model



Key structure specifications

Key structure specifications

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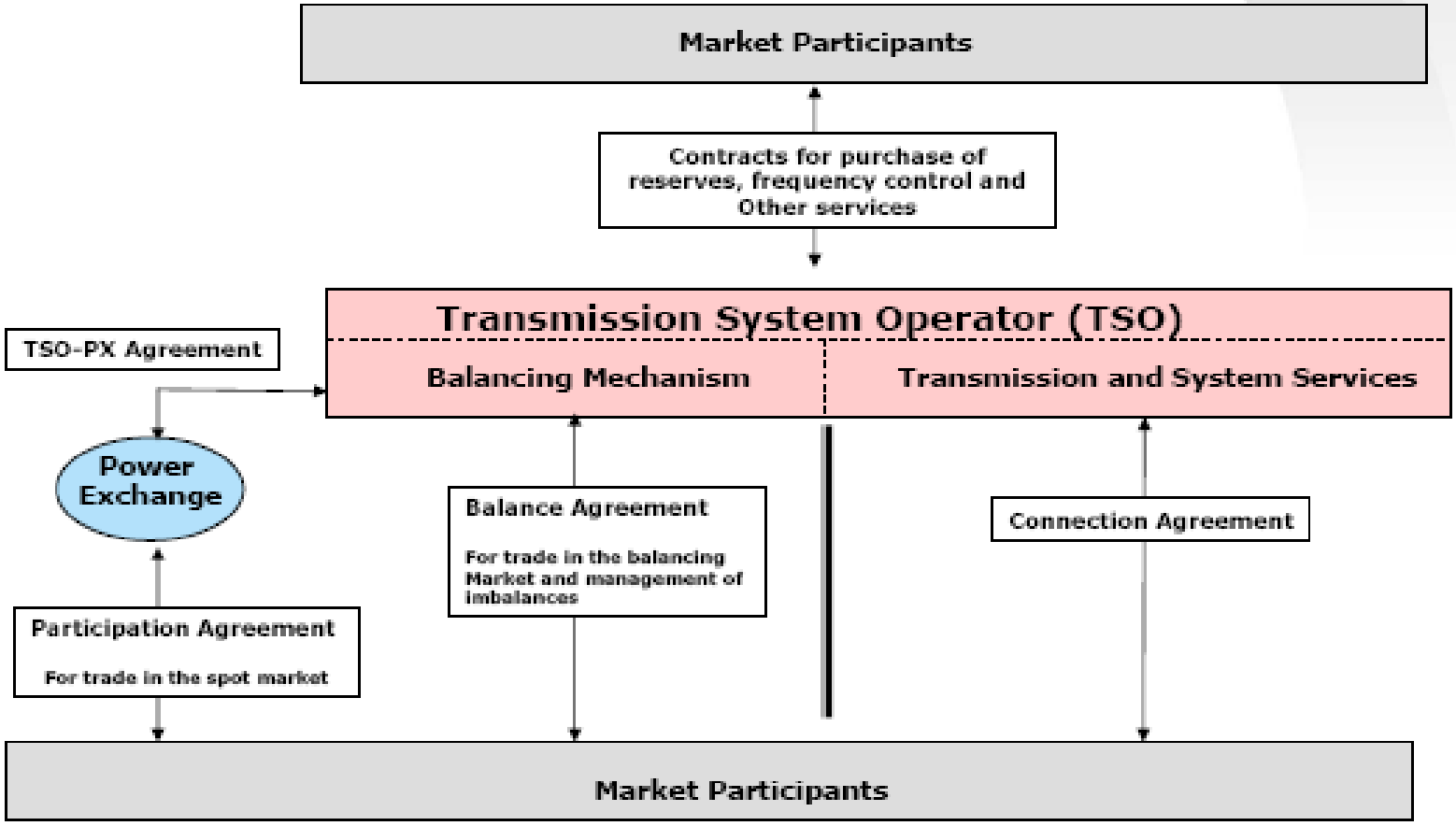
Norwegian System Operator

Infrastructure – Operational Agreements

NORD POOL
NORD POOL CONSULTING AS
building a secure market



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