

Electricity Act 2003 Amendments

Presentation to Carriage & Content Separation Proposals and Issues

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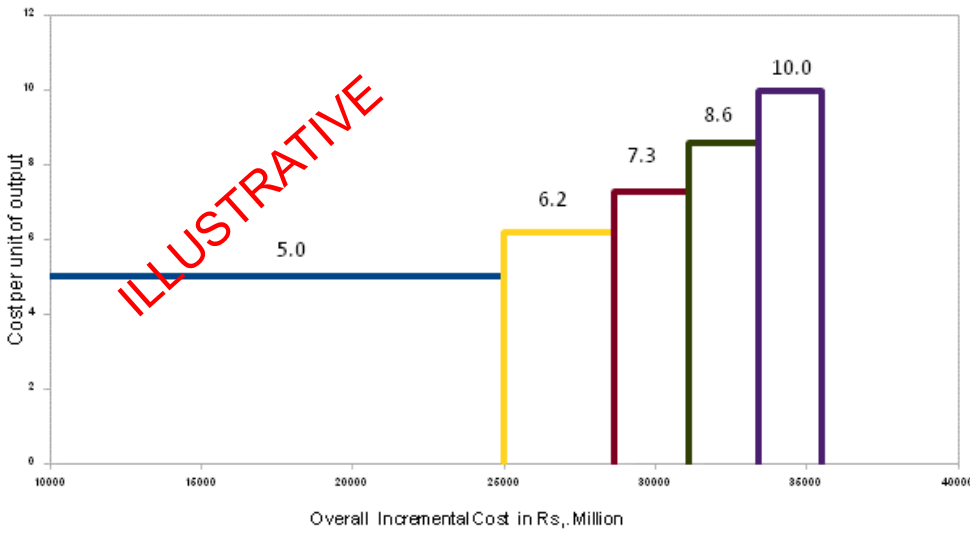
IIT Kanpur, April 20, 2014

Key Issues

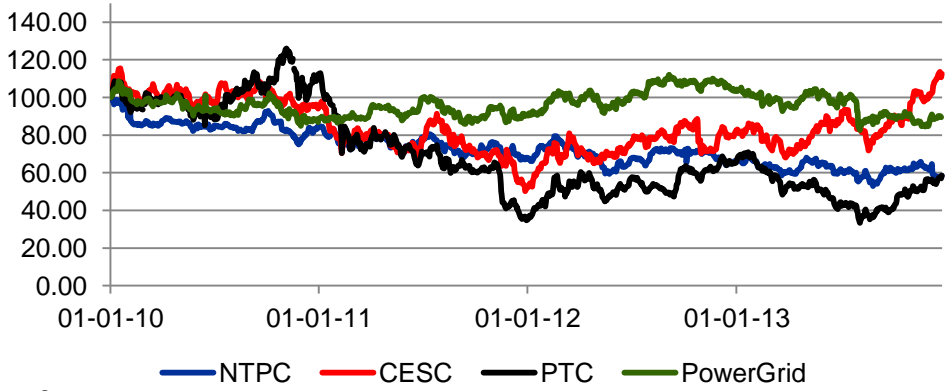
1. Is carriage and content separation practicable in the environment characterized by low cost recovery, high T&D losses and deep cross-subsidies?
2. How will the Discoms be affected by the separation of carriage and content?
3. Which is the right model for separation?
4. Is the timing right for undertaking the separation?
5. Is there the technical infrastructure to cater to the needs of the separated structure?
6. How will the service obligations devolve on the supply licensees?
7. Who will be the supplier of the last resort?
8. How will the transmission and distribution congestion and security issues be managed?
9. What will be the treatment of system losses?
10. Will cross-subsidy surcharges be incident? On whom?

Implications of Carriage and Content Separation for Discoms (1/2)

- Discoms presently have a low power purchase cost base, but incrementally lose money in almost all customer categories
 - Low cost supply advantage is nullified by the lower marginal tariffs
- Management of the network business is affected by perpetual cash stress resulting in very poor service quality
- Discoms lose money on account of:
 - Tariff mismatch vis-à-vis supply costs
 - Poor management of supply portfolio
 - High distribution losses
- Supply business is a very challenging on account of the inherent complexities. Even traders (with potentially lower risks than supply licensees) find it difficult to make money and face much higher risks



Daily Average Stock Prices (Jan 2010 - Dec 2013)



Implications of Carriage and Content Separation for Discoms

- Separation of network and supply in the right manner will help the network business of Discoms in:
 - Getting off some of the supply risks that they are not inherently equipped to handle
 - Focus on the distribution business to reduce losses and improve service quality
 - Turn profitable since this becomes a truly cost plus, service driven business
- The incumbent supply business would benefit from;
 - Limiting high cost incremental purchases
 - Managing the supply portfolio better
 - Better tariff design and cost recovery
 - Benefiting from the transition mechanisms (a USO charge or equivalent)

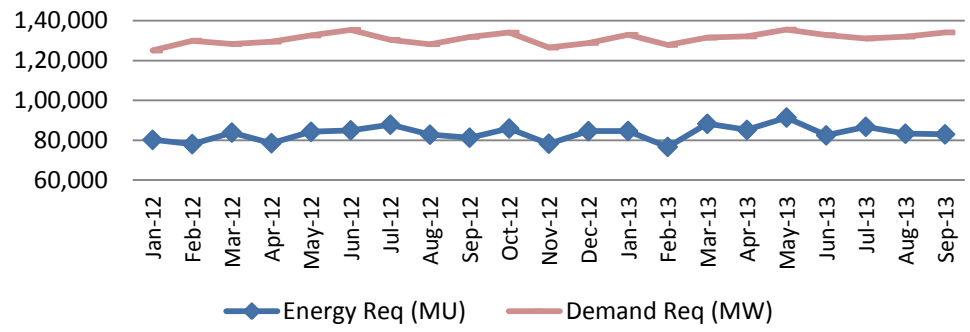
1. In effect, subject to appropriate design, the cost incidence will be (a) segregated and (b) shared with other suppliers.
2. The system will benefit in terms of (a) reliability (b) Cost optimization and (c) service and tariff innovation

Timing of Separation

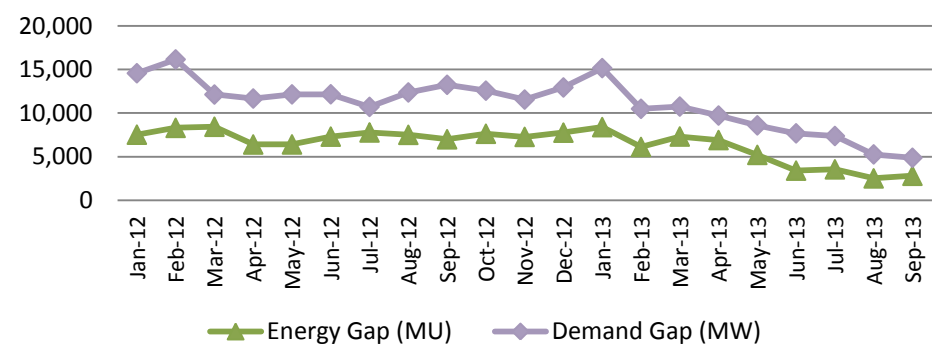
Will always be a challenge: But this is as opportune a moment as any

- Demand has grown very gently over the past two years
- Supply addition has resulted in accelerated fall in demand deficit
- Energy deficit would have fallen more sharply (or eliminated) but for fuel shortages
- Some of the residual shortages are on account of network inadequacies
- Losses, although high, have reduced)
- The issues are now better understood after 10 years of the EA
- **Separation will help implement Obligation to Serve**

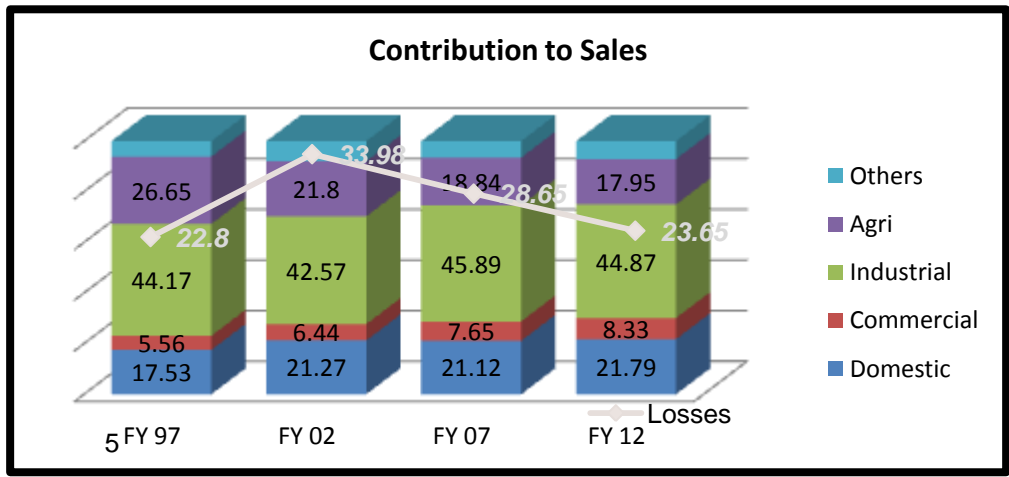
Energy and Demand Trends



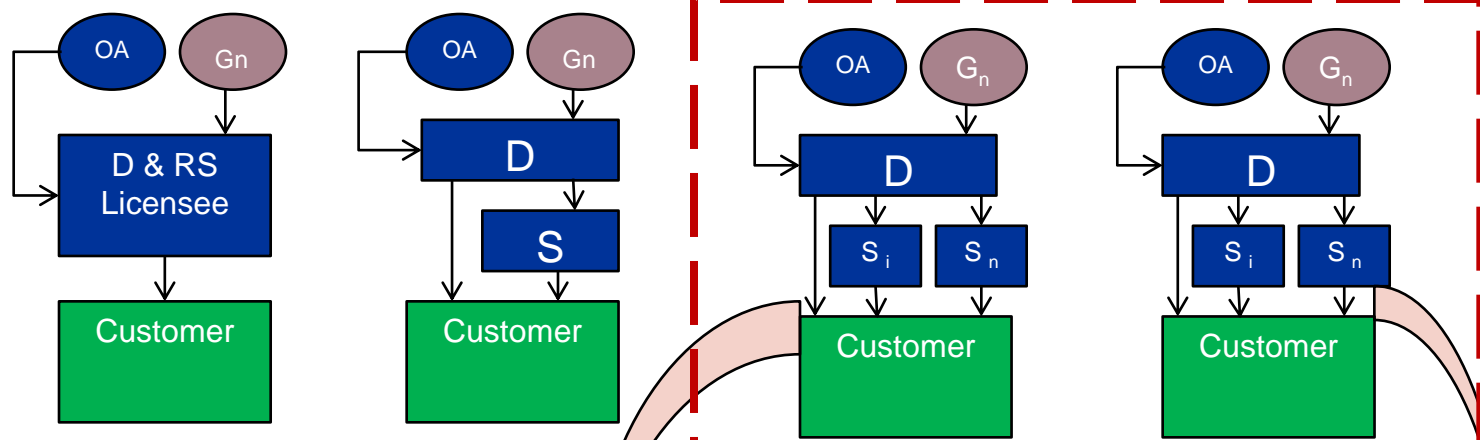
Energy & Demand Gap Trends



Contribution to Sales



Separation – The Model Choices



Model option and Characteristics	Present Mode (OA supply to eligible consumers)	Model A (Separation of network and supply of incumbent Discom)	Model B (All customers covered by Subs Licensees)	Model C (All customers covered by Subs Licensees)
Subsequent License Issued	No	No (only separation of incumbent)	Yes	Yes
USO of Subs. Licensee	NA	NA	Yes	Yes
Method of procurement of incremental power by Subs. licensees	NA	NA	Allocation made through transfer scheme to incumbent and Subs. Licensee OR through dynamic allocations	Incumbent inherits PPAs. New Supplier(s) source from alternate sources/market
Supplier of last resort	Incumbent	Incumbent (separated)	Incumbent	Incumbent
CSS/USO charge	CSS	CSS	CSS and USO as applicable -USO charge to be designed	CSS and USO as applicable -USO charge to be designed

Implementation Requisites of Model B

1

Demand Side Requirements

1. Determination of category-wise sales of Retail Licensees
2. Category-wise contribution to time blocks:
 - Seasonal
 - Peak/Other than peak
3. System loss levels
 - Seasonal
 - Peak/Other than peak
4. Aggregated demand at Transco-Discom interface as a consequence of above
5. Conversion to hourly demand for operations management

2

Supply Side Requirements

1. Monthly, weekly and hourly supply requirement determination as a consequence of the Demand (aggregated and by Retail Licensee)
2. Determination of Allocation Principles for existing PPAs
 - Baseload vs. all demand (peak and off-peak)
 - Long duration (e.g., 6 monthly or higher) vs. more dynamic allocation (could be daily)
3. Allocation of available PPAs based on the Demand, and the Allocation Principles
4. Determination of fall-back rules in case of non-supply from PPA (etc.)

Implementation Requisites of Model B

3

Operations Requirements

1. Each retail licensee will file annual/ix monthly, monthly and daily capacity statements with SLDC as per agreed procedure
2. PPAs allocated as per Step 2 will be netted off from these requirements for each time block to compute “net demand”
3. Balance power procured (or sold) through market by licensees
4. Any shortfall/surplus shall be managed by the System Operator through AS market (or alternate) and charged to the licensee
5. In case of default by licensee the POLR shall supply
6. Weekly/monthly reconciliation to be carried out for shortfall, default, and USO charge computations
7. Appropriate metering a requisite. Phasing to depend on metering

4

Institutional and Regulatory Requirements

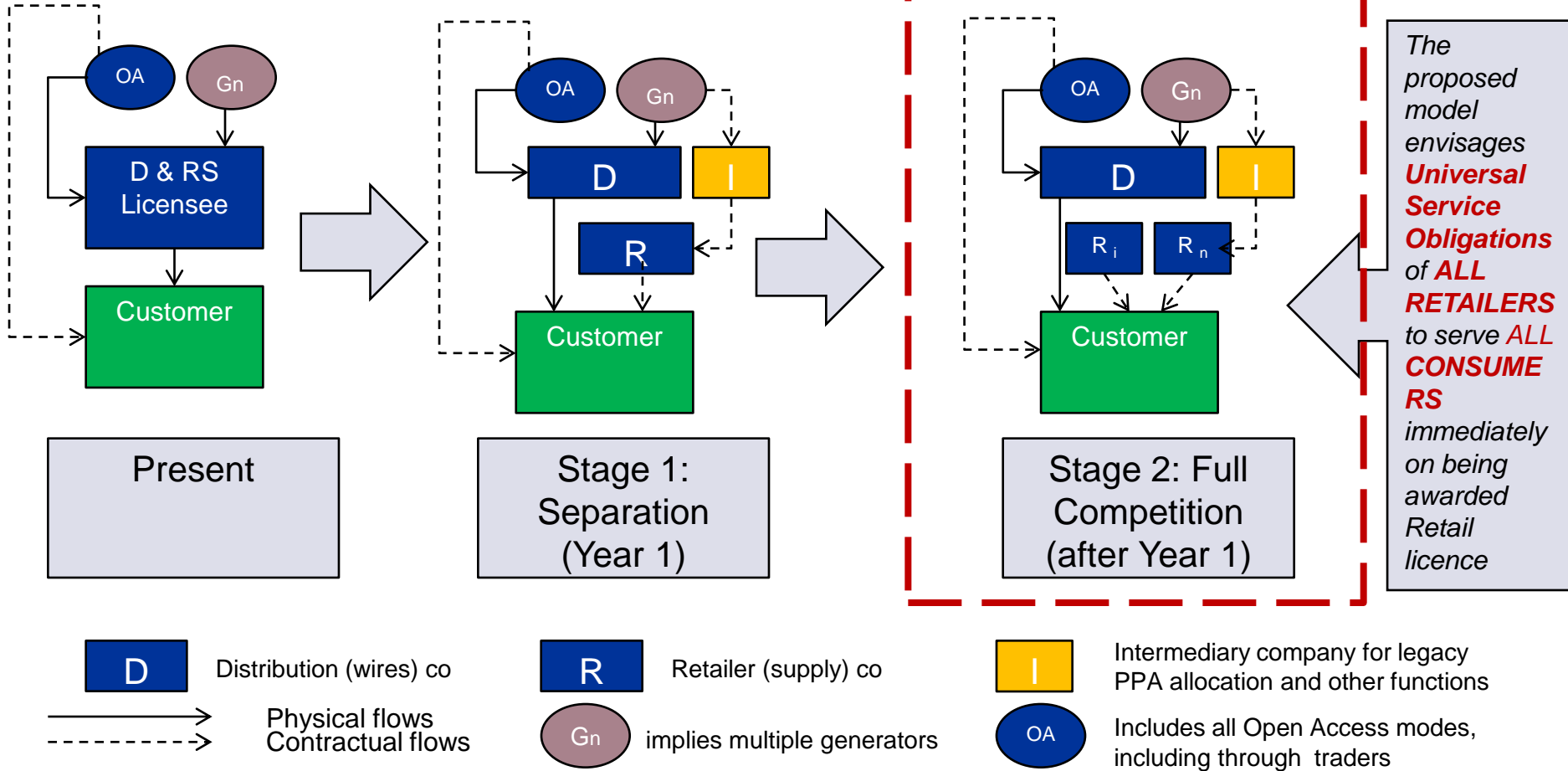
1. PPA administrator equipped with adequate software tools and appropriate algorithms for dynamic PPA allocation
2. Regulatory approval and review of PPA allocation process on a periodic basis. Provisions to change rules based on experience
3. Dispute resolution mechanism to address allocation disputes
4. Regulatory mechanism for implementation and monitoring of USO fund and subsidy fund allocations (subsidies may need to be paid into a fund for allocation among licensees)
5. Review mechanism and sunset clause to terminate dynamic allocation arrangements when market mechanisms become deeper

Model C can help reduce some of the complexities of Model B

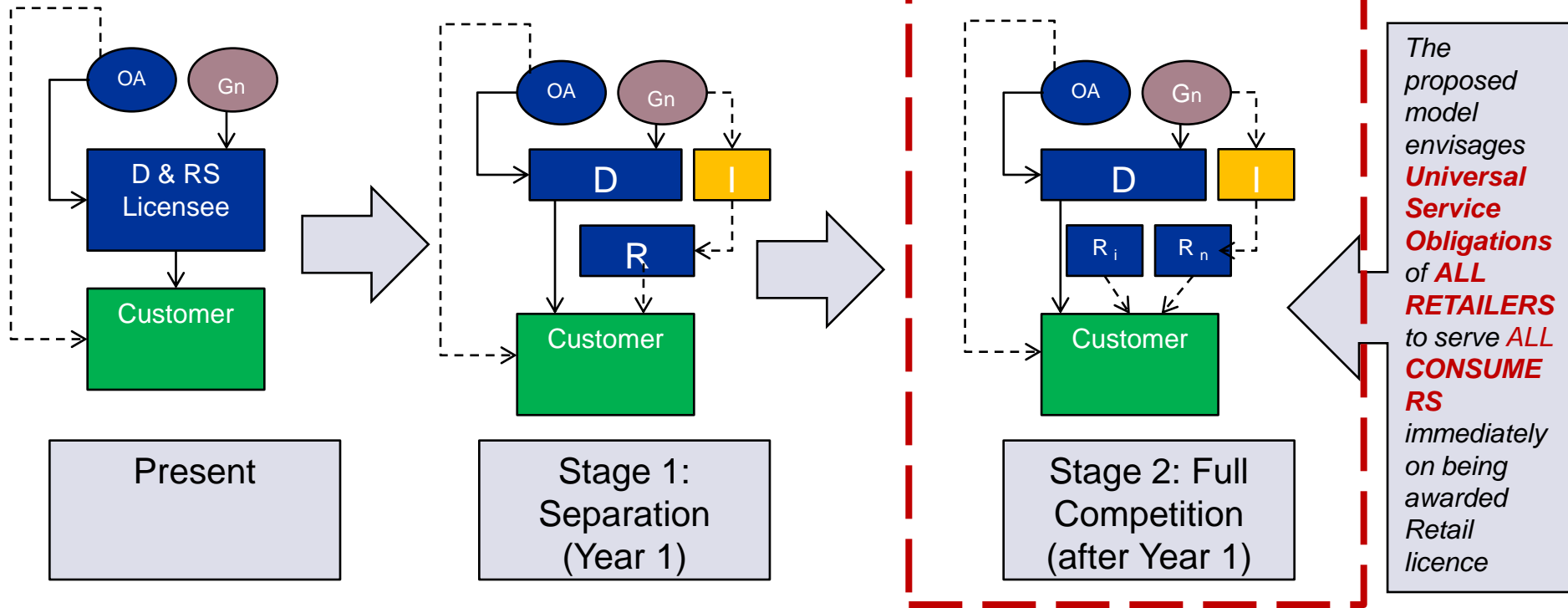
Key issues to contend with	Nature of issue	Management Approach/Remarks
Tariff determination	Generic	Regulatory caps by category Comprehensive metering (AMR/AMI)
Loss level/Changes in loss levels	Generic	Deliver out of subsidy fund
Subsidy delivery to retailers	Generic	Regulated USO fund that receives/pays out
USO charge determination (by category)	Generic	Establish switching registers
Switching management	Generic	To network operator's account
Variation in losses vis-à-vis norms	Generic	Required in Model B, obviated in Model C
Dynamic changes in sales (total/category)	Model Specific	Required in Model B, obviated in Model C
Peak and off-peak power allocation requirements	Model Specific	Recurring in Model B, one time in Model C
Administrative requirements for PPA allocation	Model Specific	Model C
Risk of disputes in PPA allocation/mismatch with needs	Model Specific	Absent in Model C

There are a large number of generic issues in India to be contended with for separation of carriage and content. An administered mechanism for dynamic PPA allocation may introduce additional complexities

Framework for Retail Unbundling



Framework for Retail Unbundling



Key Steps in Evolution of Competition

1. Amended EA for separation of functions and introduction of multiple Retailers (R) within one year
2. Formation of independent Holdco (H) to house/allocate existing PPAs and undertake other critical functions (discussed subsequently)
3. Solicitation and licensing of new Retailers within one year
4. Open Access (OA) – continues, with clarification as per interpretation by the MoP
5. Market based transactions by all entities continue as per present practice
6. To reduce the number of organisations operating infrastructure, State Governments can consider separate / multiple Distribution Licences in a state being held by one distribution company



Physical flows

Contractual flows



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implies multiple generators

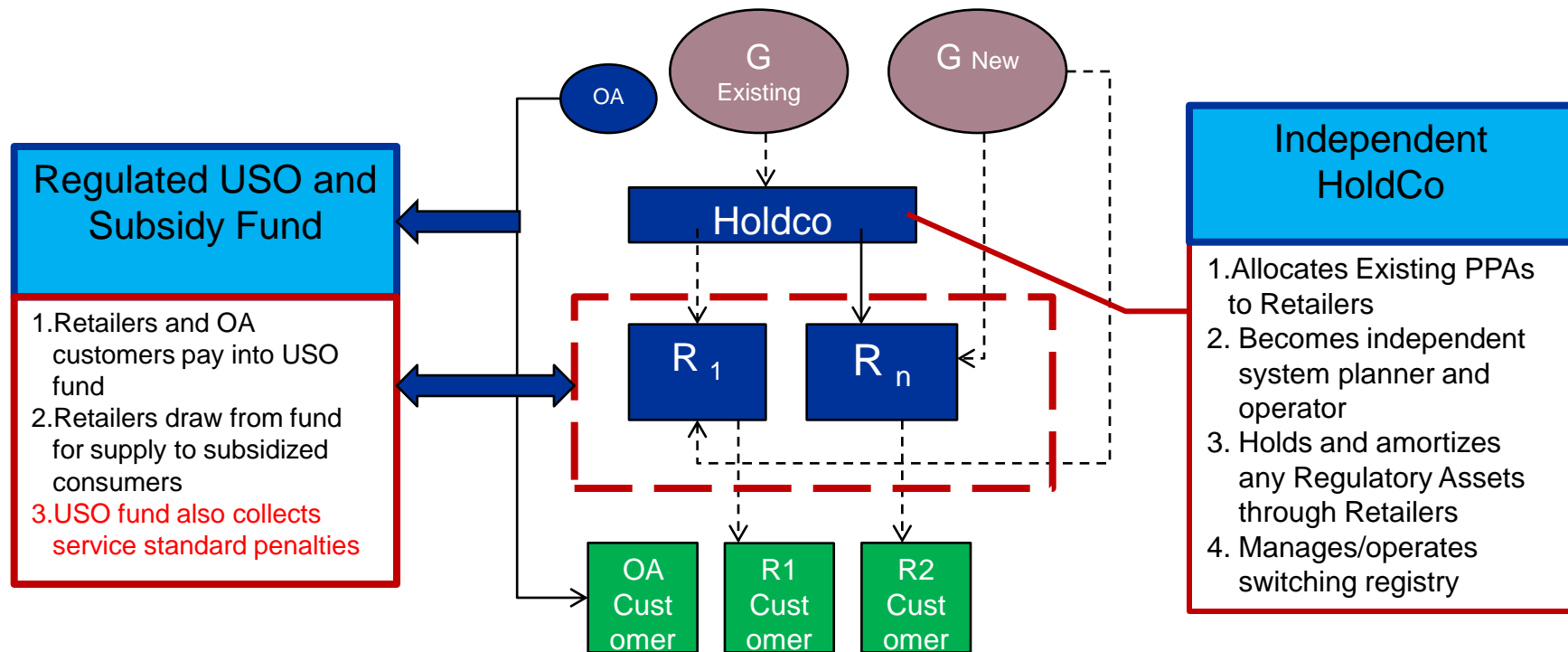
11



OA

Includes all Open Access modes, including through traders

PPA Allocation Based Model – Commercial Transactions



Aspect	Model characteristics
USO of all retailers	Yes, for all categories, subject to appropriate metering/infrastructure
Method of procurement of incremental power by R	Base allocations through Holdco. Incremental procurement through the market (long, medium, short term as per optimization by R)
Provider of Last Resort	Initially the Incumbent Retailer. Subsequently Regulator to decide
CSS/USO charge	CSS and USO as applicable - USO charge for all categories, including OA. Receipt/payment depending on subsidizing/subsidized status
Regulatory Assets	Held in HoldCo and amortized through Retailers

Key Issues and Potential Resolution (1)

Sl. No	Issue	Resolution Options/Approaches	Our recommendations
1	Multiple interface of the consumer with both the Distributor and the Retailer (service line, security deposits). Will cause consumer harassment	<ul style="list-style-type: none"> i. Maintain present formulation of multiple interfaces ii. Consumer to interface only with retailer for all purposes 	<ul style="list-style-type: none"> • Consumer should <u>interface only with retailer</u> (Option ii). Retailer's CRM mechanism should interface with distributor as required. SLA's to be specified
2	Security deposits not transferable. Consumer has to pay to new supplier and then withdraw from existing supplier. Will impair switching	<ul style="list-style-type: none"> i. Maintain present arrangements ii. Make security deposits transferable 	<ul style="list-style-type: none"> • Make security deposits transferable (Option ii). Create a depository function within a <u>Switching Registry</u> that will inter-alia maintain security deposit balances
3	Obligations to serve – Not explicit in any provision of the EA 2003 or the amendments to the Act (only obligation to connect)	<ul style="list-style-type: none"> i. Maintain is as an implicit obligation of the retailer ii. Explicitly specify obligation 	<ul style="list-style-type: none"> • Explicitly <u>specify obligations</u> (Option ii) and require for reserve margins to be maintained for the same

Key Issues and Potential Resolution (2)

Sl. No	Issue	Resolution Options/Approaches	Our recommendations
4	Challenges in settlement/reconciliation between the wholesale (15 minute block) and retail (up to two months) transactions	<ul style="list-style-type: none"> i. Introduce smart metering for <u>all consumers</u> eligible for switching ii. Introduce smart metering for <u>consumers above (say100 kW)</u> and follow norms for smaller consumers 	<ul style="list-style-type: none"> • <u>Option ii. However it is noteworthy that the reconciliation will be very contentious</u> because of differential load and loss profiles and hence acceptable attribution and reconciliation rules must be developed ab-initio
5	Ownership of the meter and provision of metering services. Standardization of metering and information flow required	<ul style="list-style-type: none"> i. Distributor owns the meter ii. Retailer owns the meter iii. A third party metering company owns meter 	<ul style="list-style-type: none"> • <u>Third party ownership (Option iii) preferred</u> since this ensures neutrality and objectivity. International best practice
6	Accountability for distribution losses/theft – who bears responsibility	<ul style="list-style-type: none"> i. Distributor bears responsibility/costs ii. Supplier bears responsibility 	<ul style="list-style-type: none"> • <u>Distributor should bear (Option i) responsibility</u> since he controls delivery

Key Issues and Potential Resolution (3)

Sl. No	Issue	Resolution Options/Approaches	Our recommendations
7	Franchisee areas excluded from C&C separation	<ul style="list-style-type: none"> i. Exclude franchisee areas from separation ii. No differentiation between franchised and non-franchised areas 	<ul style="list-style-type: none"> • There should be <u>no distinction between franchised and non-franchised areas</u> (Option ii). The franchising arrangements should be terminated through a fair compensation mechanism
8	Consumer protection through mandatory government owned retailer	<ul style="list-style-type: none"> i. Maintain present provisions of government owned retailers ii. Do not make it a mandatory provision 	<ul style="list-style-type: none"> • <u>Do not require (Option ii) mandatory government retailer presence.</u> Introducing a government retailer is possible at any time through licensing
9	Provider of last resort (PoLR requirements)	<ul style="list-style-type: none"> i. Maintain only high level reference/enabling provisions ii. Provide more explicit PoLR provisions through the law 	<ul style="list-style-type: none"> • <u>Principles for PoLR should be laid out in detail</u> (Option ii) since this is a key requirement for consumer protection

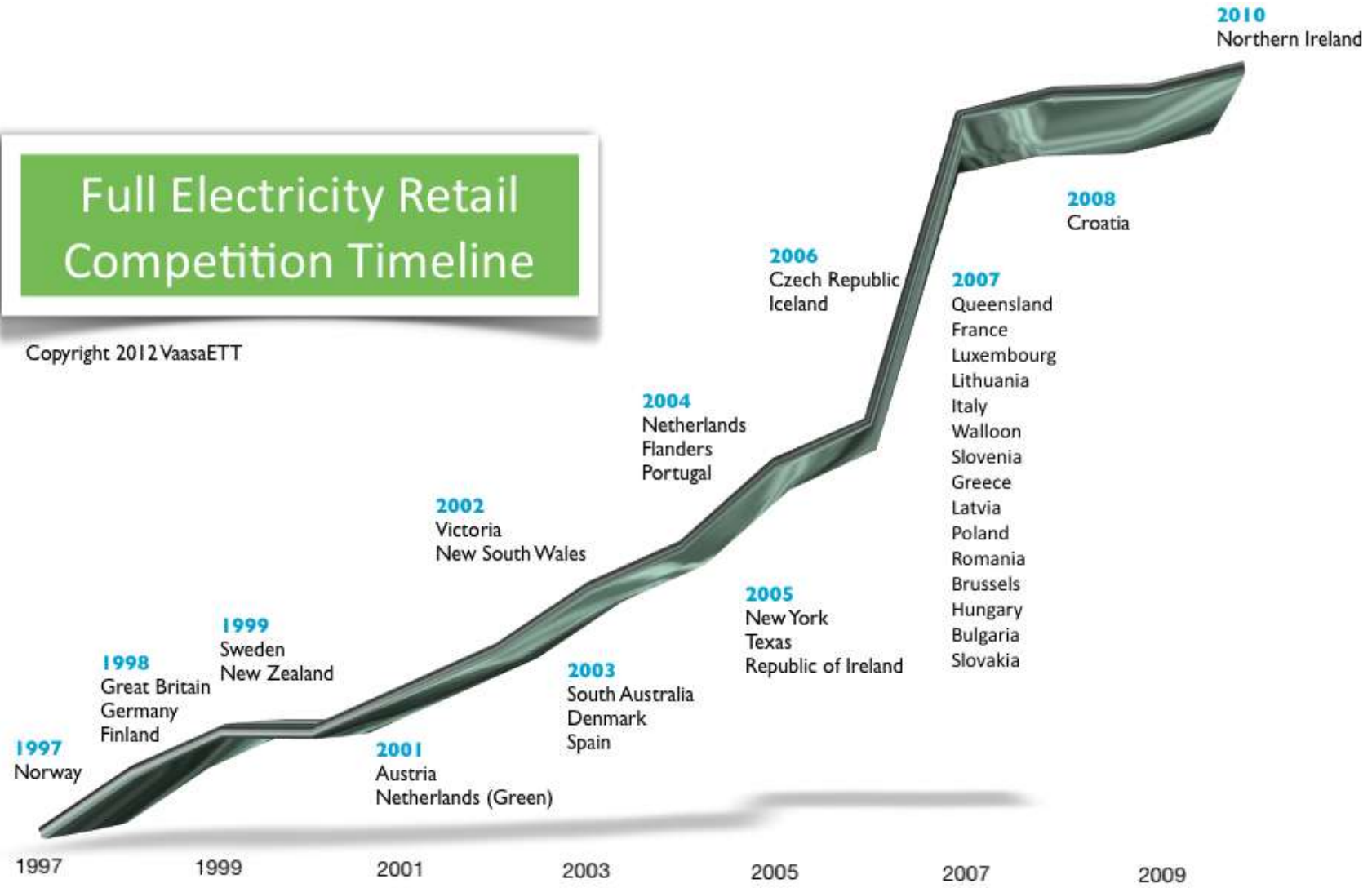
Key Issues and Potential Resolution (4)

Sl. No	Issue	Resolution Options/Approaches	Our recommendations
10	Management of switching	<ol style="list-style-type: none"> i. Make no mention in the law of specific arrangements ii. Introduce enabling provisions on switching registry, Meter Data Management, Clearing House functions 	<ul style="list-style-type: none"> • <u>Law needs to have enabling provisions</u> (Option ii) since this is essential for the arrangements to work. Regulation/rules can amplify the provisions
11	Treatment of emergent consumer issues like rooftop solar and net-metering	<ol style="list-style-type: none"> i. Make no mention of these emergent matters ii. Have enabling provisions in place for addressing such issues 	<ul style="list-style-type: none"> • The <u>issues relating to matters like net-metering are fundamental</u> to the operation of the retailing framework. Such issues need mention (Option ii)
12	Treatment of past financial baggage of Discoms	<ol style="list-style-type: none"> i. Introduce levy on all supply including by the incumbent retailer ii. Separate out past baggage and deal outside the electricity retailing framework 	<ul style="list-style-type: none"> • Both options are possible. However <u>caution needs to be exercised for preventing the past baggage from distorting</u> the future competitive operations

Retail Competition: Global Trends

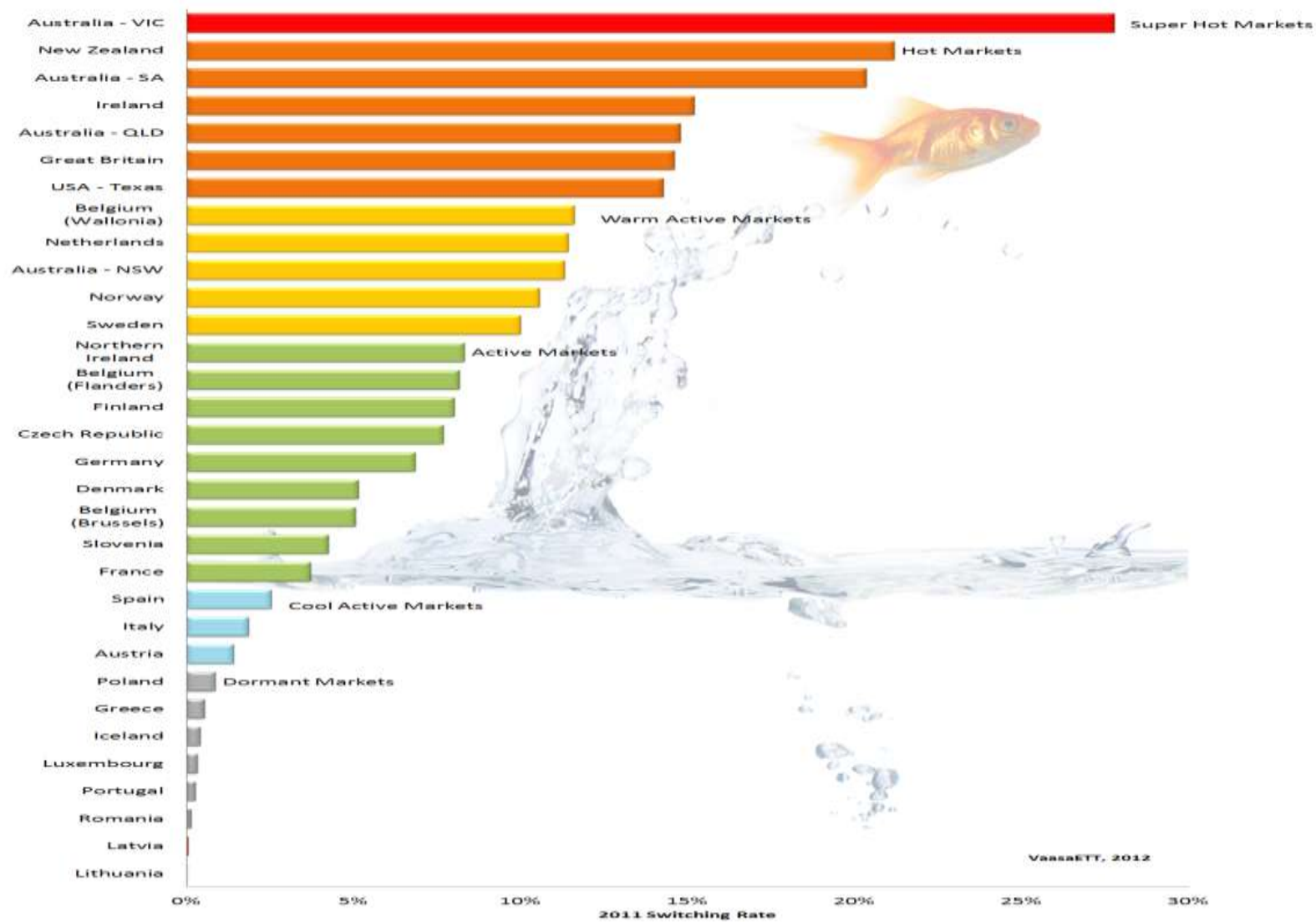
Full Electricity Retail Competition Timeline

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Retail Competition: Global Trends

Global Levels of Switching Activity 2011



VaasaETT, 2012

Summary Conclusions

1. Separation of carriage and content at this juncture is in the interest of Discoms and other stakeholders
2. The timing is right in terms of supply availability, more acceptable T&D loss levels, etc.
3. International experience in introduction of retail competition is positive
4. Appropriate regulations to be framed to ensure that the retail licensees are capable and credible
5. PPA allocation mechanism through Holdco. To be kept simple and as per defined rules
6. Upon changes in laws and regulations, new retailers can either be solicited or can apply suo-moto
7. Transparent, rule based USO charges for relevant customer categories (including OA customers) to ensure that the Retailers are competitive without creating undue barriers for other modes like OA
8. Service quality deviations to be penalized and proceeds to flow into USO fund. This will ensure better quality/reliability while simultaneously reducing the USO charge levels
9. A large number of implementation issues would need detailed formulation of rules and regulations and also institution of effective AS markets.
10. Detailed amendments and rules under the Act need to be framed to ensure smooth transition to new regime

Thank You