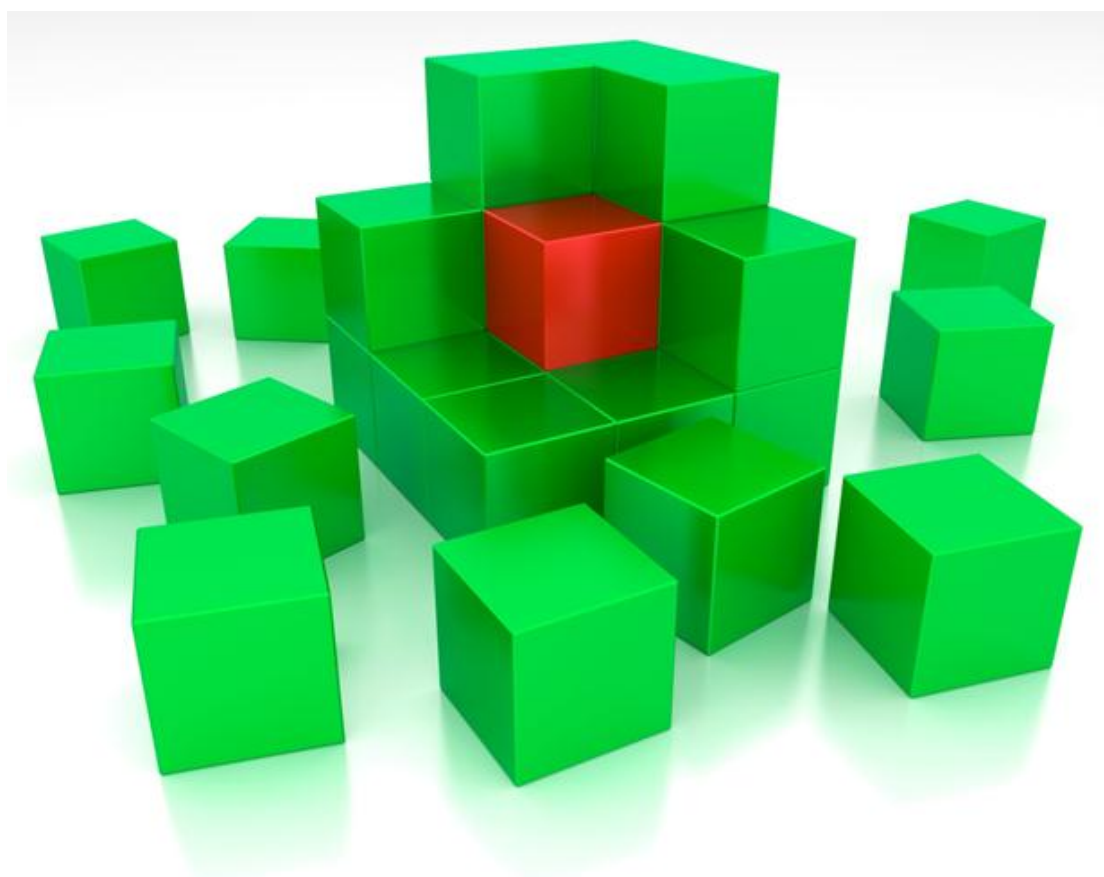




Sector Specific Inventory & Institutional Strengthening for PPP Mainstreaming

Distribution Franchisees in ESCOMs

Prefeasibility Report- Draft for discussion & finalization



Submitted By
Deloitte Touché Tohmatsu India Private Limited

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ACRONYMS

DF	Distribution Franchisee
ED	Energy Department, Govt. of Karnataka
EOI	Expression of Interest
GESCOM	Gulbarga Electricity Supply Company
GoI	Government of India
GoK	Government of Karnataka
HESCOM	Hubli Electricity Supply Company
IDD	Infrastructure Development Department, , Govt. of Karnataka
IP	Irrigation Pump sets
KERC	Karnataka Electricity Regulatory Commission
MIS	Management Information System
OA	Open Access
PPP	Public Private Partnership
RFQ	Request for Qualification
RFP	Request for Proposal
T&D	Transmission and Distribution

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1 Executive Summary

Electricity distribution sector in India has for long, been the weakest link in the electricity value chain and suffers from such basic drawbacks such as lack of full-cycle measurement of electricity supplied, particularly to the subsidized categories of consumers, lack of accountability and an over-loaded and aging network infrastructure. Private sector participation in distribution is thus crucial to the improvement of efficiencies and introduction of modern managerial and operational practices in distribution utilities.

The Electricity Act has opened new avenues for bringing in private participation in the distribution sector. The enactment of the Electricity Act, 2003 (the Act) has brought in the concept of franchisees to undertake distribution of electricity. Section 2 (27) of the Electricity Act defines “Franchisee” as a person authorised by a distribution licensee to distribute electricity on its behalf in a particular area within his area of supply.

Different models of private participation have been tried out in the Indian context ranging from outright privatisation in the states of Orissa and Delhi to various forms of franchisees in urban and rural areas of India.

The rapid growth in energy consumption in Karnataka, has also thrown up fresh challenges for the ESCOMs in the form of issues of further efficiency improvement, investments, adopting new technology and overall governance. In this context Government of Karnataka is keen to explore the feasibility of Distribution Franchisee (DF) model.

Based on the past experiences in the country, an input price based model has been proposed for the proposed DF areas in the HESCOM and GESCOM areas. Three options have been considered in the report – firstly, large towns with high losses being bid out as independent areas; secondly, packages of small and medium towns to arrive at required size and to be bid out as a package and finally, composite areas (comprising both urban and rural) at the circle levels have been considered to determine viability from the utility perspective.

The options that have been considered and the potential benefit from achieving the target loss level of 15% has been shown below.

Option	Areas Considered	Total Input (MU)	Recovery Potential (Rs. Crore)
1	Large Towns: Gulbarga, Bellary, Raichur, Ganagavathi, Bidar	957	426
2	Small & Medium Towns: 20 in GESCOM & 27 in HESCOM	834	460
3	Composite Areas: Sirsi Circle	299	20

From a viability point of view, the ESCOM stands to profit if the input rate being offered by the bidders is greater than the current cost recovery in the area.

The report also provides a framework which indicates the key preparatory steps and the expected time for selection of a bidder. The report also captures the possible way forward for private participation in this area.

2 Introduction

2.1 Project Idea

The Distribution companies in Karnataka have shown steady progress in recent years in the area of loss reduction and efficiency improvement while undergoing growth in terms of sales and revenue turnover. This has been achieved primarily by improving the efficiencies in the major cities. However, there is significant scope for improvement in the smaller towns and surrounding areas. The rapid growth in energy consumption, especially in the second tier towns and urban areas, has also thrown up fresh challenges for the ESCOMs in the form of issues of further efficiency improvement, investments, adopting new technology and overall governance. In this context, Government of Karnataka is keen to explore the feasibility of Distribution Franchisee (DF) model, which has proven to be successful in rapidly reduce losses and improve the operational efficiency and governance in high loss regions of the distribution utilities.

The prevalent models of DFs along with the constituent performance parameters that have been utilized are pictorially represented below.

Parameter/ Model	Revenue Model (A)	Input based Model (B)	Input + Investment Model (C)
Franchisees Responsibility	Collection	Metering, Billing, Collection and O&M	Metering, Billing, Collection, O&M & Capital Expenditure, power purchase (optional)
Award criteria	Collection target	Rate for input Energy	Rate for input energy
Compensation structure	Margin on revenue collection	Right on Revenues/ Incentive on arrear, Subsidy (if any)	Right on revenues/ incentive on arrear/ depreciated value of assets, subsidy (if any)
Term of contract	1 - 5 years	10 - 15 years	10 - 15 years and above
Benefits to licensee	Collection efficiency	AT&C losses; Reliability of supply	AT&C losses; network addition & augmentation; reliability & quality of supply
Application	Rural areas	Rural + Urban areas	Urban areas (Bhiwandi /Agra Model)

The DF model has been recently tested and operationalized in many parts of the country such as Bhiwandi (Maharashtra), Agra (Uttar Pradesh), Kanpur (Uttar Pradesh), Nagpur (Maharashtra), Aurangabad (Maharashtra), Jalgaon (Maharashtra), Gwalior CZ (Madhya Pradesh), Ujjain (Madhya Pradesh) and Sagar (Madhya Pradesh). Here, under the PPP framework, the private operator manages an identified and clearly demarcated Distribution area on behalf of the Licensee. The Franchisee pays the Licensee an input price which is competitively bid by pre-qualified bidders to arrive at the best value for the Licensee. The bidders would need to guarantee achievement of performance benchmarks and face penalties for not meeting pre-specified performance trajectories. Further, the Franchisee is also responsible for the meeting all regulatory standards and mandates as prescribed in the DF agreement and the Karnataka Electricity Regulatory Commission.

Hence an appropriately designed DF arrangement can serve the best interests of the Licensee, PPP operator as well as the consumers.

2.2 Benefits of the DF arrangement to the ESCOM and consumers

2.2.1 A Distribution Franchisee arrangement which is appropriately structured and where the risks are shared between the ESCOM and Franchisee is expected to lead to benefits to each of the stakeholders. Following are some of the Key benefits of an effective DF arrangement

1. Benefits to the ESCOMs:

- **Revenue Protection:** The ESCOM is assured of its revenue that is currently being recovered from the Franchisee area by having an input price that is at least equivalent to its current rate of average recovery. This input price is further indexed to tariff hikes in the future and hence there is adequate revenue protection to the ESCOM.
- **Assured efficiency improvement:** The ESCOM is assured of improvement in the Efficiency levels as it is linked to the incentives and penalties of the Franchisee
- **Capex Investments:** The capex investments of the ESCOMs would be limited to the area specific schemes. The DF would incur capex investments in order to maintain or reduce the loss levels, which is the source of profit
- **Guaranteed network condition/ customer service:** The Franchisee is contractually bound to maintain network standards and provide customer service at the regulator prescribed standards of service.

2. Benefits to the Consumers: The consumers in the Franchisee area also benefit from the DF arrangement on a number of counts

- **Quicker redressal of faults:** The consumers would also benefit from the motivation and focus of the franchisee to keep faults at a minimum level to enhance customer satisfaction
- **Better & new tech. interfaces – Bill payment; Customer service:** The DF is likely to introduce newer facilities and technologies for customer service like CRM systems which shall be to the benefit and ease of consumers.
- **Additional power supply:** In cases where it is allowed, the Franchisee can procure power through Open Access and supply to the consumers in the Franchisee area beyond the power supply by the ESCOM leading to higher availability in the Franchisee area.

2.3 Responsibilities of stakeholders

2.3.1 Under the DF arrangement the Licensee and the Franchisee share the following responsibilities.

• Responsibilities of Utility

- **Supply of energy:** The utility is bound by the DF agreement to supply energy to the Franchisee as per the pre-determined schedule of supply on a non - discriminatory basis
- **Permitting / facilitating Open Access:** If the DF agreement has the clause, the utility is duty bound to provide support for the franchisee to procure power under the OA route
- **Regulatory support** for Grant of Right to use of distribution assets in the area and the Network assets in field from the start of outgoing feeders of EHV s/s
- **Assets in stores as opening inventory**

- **Payment to DF upon expiry / termination:** For assets created during the agreement term at depreciated value, closing inventory and Arrears for last one month
- **Deputation of willing employees** to DF along with the finalisation of Deputation rules/ deputation package of DF
- **Responsibilities of Franchisee**
 - **Purchase of power:**
 - **Network Related activities like**
 - Network analysis and planning
 - Capital investment for renovation/ up-gradation
 - Distribution asset maintenance
 - **Consumer Related activities like**
 - Metering
 - Meter reading
 - Billing
 - Collection (current revenues and arrears)
 - New connections
 - Adherence to all relevant Regulations of ERC including Supply Code and SOPs
 - Resolution of consumer grievances

Support for Planning / MIS and regulatory information

2.4 Project Approach & Methodology

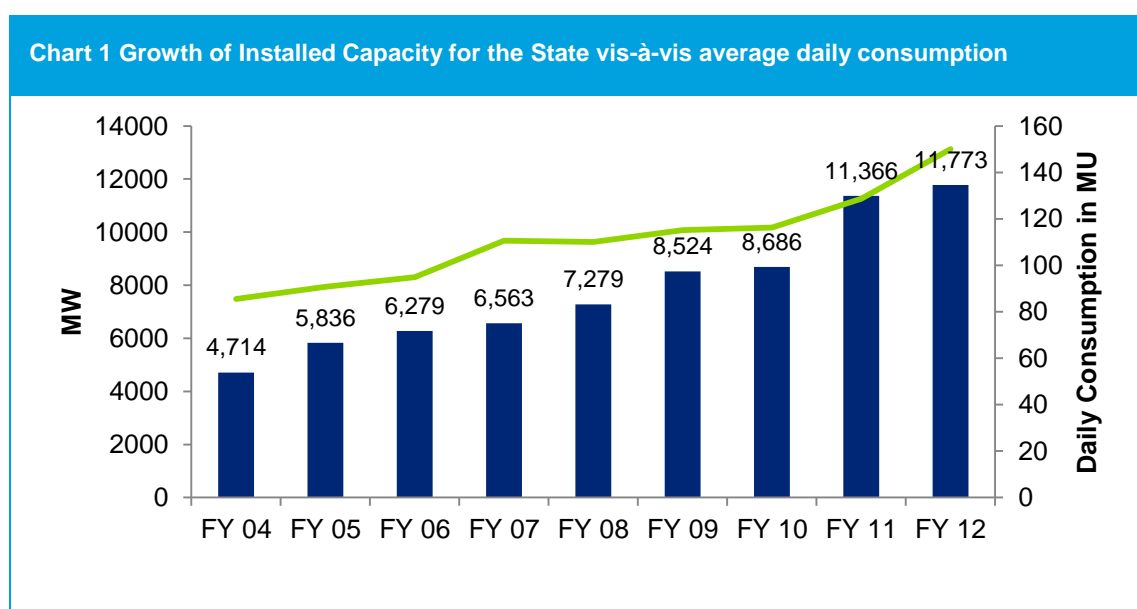
Our broad approach and sequential activities for conducting the pre-feasibility study is as presented in the tabular form shown below. This project approach is also reflective of the structure of this document.

S.No.	Tasks	Activities / Data and Documents reviewed
1	Overview of Distribution Sector and ESCOMs: a) Insights on Customer profile, Performance, Category wise growth and contribution, demographic profile, and typical issues of each ESCOM b) Understanding of the profile of Metered and Unmetered customer base and issues thereof	<ul style="list-style-type: none"> • Tariff Orders of each ESCOM, Annual Report and information from the Websites of each ESCOM • Secondary Research, review of CEA and PFC reports
2	Project Inception	Meetings with Energy Minister, key officials of the Energy Department, ESCOMS, KERC, IDD and other stakeholders
3	Market Assessment a) Understanding and profiling bidders who have participated in the recent DF bids in different states b) Understanding Bidding criteria and issues c) Exploring feasible project development framework/models keeping in view the ESCOM Short term and long term	Secondary research and interactions with developers and recent DF bid participants

S.No.	Tasks	Activities / Data and Documents reviewed
	interests.	
4	Analysis of Identified ESCOMs: Location and its regional issues, Customer characteristics, Detailed analysis of Circle wise and Town wise consumer categories for critical parameters like Input, Sales, revenue, T&D Losses and AT&C losses	<ul style="list-style-type: none"> • Site Visits, Press/Document Review, stakeholder interactions and secondary research • Tariff Filings by ESCOMs, MIS reports of HESCOM and GESCOM
5	Base Options for DF configurations in HESCOM and GESCOM. Scenarios for Configurations of Urban and Composite areas, Viability assessment to ESCOMs	Based on the market data, broad technical specifications and stakeholder inputs as well inputs from Energy Department
6	Preliminary assessment of PPP options and Final Recommendation on Project Structuring	Based on financial analysis and net benefits analysis, sectoral PPP best practices and market insights

3 Sector Profile

- 3.1.1 The power sector of Karnataka has been growing rapidly in keeping with its rapidly growing economy. The growth in Demand has been very rapid on account of growth in many of the subsectors like Industries, IT establishments and agriculture. The State's average daily consumption of electric power has grown by over 75% during the period of 2003-04 to 2011-12.
- 3.1.2 Karnataka had a budgeted outlay of Rs.23,000 Crores on T&D infrastructure during the Eleventh Five-Year Plan period – Rs.8,000 Crores for transmission and Rs.15,000 Crores for distribution (all ESCOMS put together). During the Eleventh Five-Year Plan, KPCL targeted to expand its generation capacity by 8,800 MW (excluding the ultra-mega projects), with an outlay of around Rs.44,000 Crores. However, the State had only been able to spend 74% of the planned expenditure for the 11th plan period for the Energy sector.



Source: Energy Department, GoK

- 3.1.3 The State's per capita power consumption was 903 kWh in 2010 as compared to India's figure of 780 kWh. In contrast, the capacity addition was about 1.5 times (4714 MW in FY 04 to 11773 MW in FY 12). In the same period. Despite higher rate of capacity addition, the current installed capacity of generation is unable to meet the demand. The growth of electricity consumption has outpaced the additions in capacity, leading to the energy deficit of 15.2% and a peak shortage of 15.1% during the month of January 2012. This highlights high rate of growth of economic activities in the State in conjunction with rapid addition of new consumers to the network. The peak demand is continuously increasing at an average growth of about 800 MW since last 3 years which is a rough indication of the targeted capacity addition for each year to meet the peak demand. As described above, the demand - supply gap in Karnataka has been widening continuously and this is the key concern of the State.

- 3.1.4 The distribution utilities in the State of Karnataka have achieved significant level of loss reduction in the post restructuring period. The pre reform loss of the ESCOMs was about 38% (1999-2000) and the current loss level is about 21%. ESCOM wise distribution losses of FY 11 of Karnataka are as shown below:

Table 1: Distribution Losses in Karnataka Discoms, FY 11

	BESCOM	MESCOM	CESC	HESCOM	GESCOM
Input energy(MU)	23390	3750	5189	8534	6255
Sales(MU)	18736	3170	3958	6566	4670
Distribution Loss (%)	14.48	13.07	15.48	19.85	22.06

Source: Tariff Orders of ESCOMs, KERC

- 3.1.5 The ESCOMS have made significant investments in the various programs to improve the conditions of their networks and improve operational efficiency. Currently too there are significant investments planned under the National programmes of R APDRP and RGGVY as well as state programmes of NJY. The cumulative investment in these programmes is around Rs 2000 Crores.
- 3.1.6 Karnataka has been implementing the electricity sector reforms since the nineties and has experimented outsourcing models like “Gram Vidyut Pratinidhi” for rural areas. With an aim to further enhance the efficiency of the Discoms and harness the benefits of Private sector participation the ESCOMs seek to implement the Distribution Franchisee model.

4 Project Inception

- 4.1.1 The inception presentation with key members of the Energy Department and MDs of the constituent companies, followed up by a presentation to the Hon'ble Minister of Power, Smt, Shobha Karandlaje, helped to identify the scope of the pre-feasibility study. Based on these meetings, the focus & objectives of the prefeasibility study have been agreed to be the following:
- 1) Focus on areas with high losses with potential for improvement through DF arrangement and not on areas that have already achieved required efficiency level
 - 2) Study the feasibility of small/ medium towns wherein the losses are high and the feasibility of attracting investors for the same
 - 3) Explore also composite rural and urban regions for DF and the policy and other requirements for the same.
- 4.1.2 HESCOM and GESCOM were identified as the coverage areas where the Distribution Franchisee would be implemented.
- 4.1.3 It was also suggested that both Urban as well as composite areas be identified and the pros and cons as well as the benefits for the ESCOMs be discussed for each of these configurations along with the specific issues relevant to these configurations.
- 4.1.4 It was also decided to adopt the input price model as the favoured DF model and Deloitte were requested to select cities in the coverage areas of HESCOM & GESCOM, whose analyses is detailed in the following sections.
- 4.1.5 The selected bidder would be monitored along various performance parameters such as losses, collection etc.
- 4.1.6 Guided by the decisions taken in the various meetings detailed above, the description of the project has been agreed to be as detailed below.
- 4.1.7 The pre-feasibility study would involve identification of appropriate areas within HESCOM and GESCOM that will be demarcated and put up for bidding under the Distribution Franchisee route. The bidders would essentially bid an input price which they would pay to the utility. The performance parameters (losses, collection etc.) for the franchisee area could be suitably indicated in the RFP. Further the input prices that the Franchisee would pay to the Licensee would have to be appropriately indexed to the growth in tariff and other factors as deemed appropriate by the Licensee. This indexation factor would need to be specified in the final RFP issued to bidders

5 Market Assessment

5.1 Industry Outlook

The interest in the Distribution Franchisee model has been on the rise after the success of Bhiwandi and diverse players are keen to participate in the DF assignments being offered by various utilities in the country.

Many of the bidders are players not previously involved with the power Distribution sector. Some of the players involved in the recent DF bids are ones who previously had no experience in Distribution and come from diverse industries like Media and IT sectors. The recent bids have also seen players of different sizes participating in DF bids.

This interest stems from the fact that these bidders feel that rapid improvement in the Distribution systems is possible by the use of technology and improved governance and that these assignment would provide a chance to these companies to showcase their products and services in the Distribution space.

Some of the recent DF bids offered by different states and their participant bidders are summarized in the table below.

Sl.	Area	Bidders	
1.	Bhiwandi , Maharashtra	<ul style="list-style-type: none"> • Torrent Power , • Crompton Greaves Ltd. 	
2.	Agra , Uttar Pradesh	<ul style="list-style-type: none"> • Torrent Power, • Reliance Infra, • JUSCO. 	
3.	Kanpur, Uttar Pradesh	<ul style="list-style-type: none"> • Torrent Power, • JUSCO. 	
4.	Nagpur, Maharashtra	<ul style="list-style-type: none"> • Indu Project, • GTL, • CG, • SMS Infra, • Reliance Infra, 	<ul style="list-style-type: none"> • Spanco, • A2Z Pvt. Ltd., • Vijay Elect., • CESC, • Tata Power, • Indiabulls Fin.
5.	Aurangabad, Maharashtra	<ul style="list-style-type: none"> • Indu Project, • GTL, • A2Z Pvt. Ltd., 	<ul style="list-style-type: none"> • Ashoka Buildcon Ltd, • Spanco, • Indiabulls Financial Services.
6.	Jalgaon, Maharashtra	<ul style="list-style-type: none"> • Lanco, • A2Z, • Essar, • SMS Infra, 	<ul style="list-style-type: none"> • Crompton Greaves, • Konark Power, • GMR
7.	Gwalior, CZ- Bhopal MP	<ul style="list-style-type: none"> • Dainik Bhaskar, • Montecarlo, • Spanco, • A2Z, • Essel Group, 	<ul style="list-style-type: none"> • Torrent Power, • DPSCCL, • CESC, • PNC Infrtech
8.	Ujjain, WZ-Indore MP	<ul style="list-style-type: none"> • Dainik Bhaskar, • Montecarlo, • Spanco, • A2Z, • Essel Group, 	<ul style="list-style-type: none"> • CESC, • GTL, • Shyam Indus, • ACME, • PNC
9.	Sagar, EZ-Jabalpur MP	<ul style="list-style-type: none"> • Dainik Bhaskar, • Montecarlo, • Spanco, 	<ul style="list-style-type: none"> • A2Z, • Essel Group, • ACME

6 ESCOM Profiles

6.1 GESCOM

6.1.1 Gulbarga Electricity Supply Company Limited (GESCOM) is the Licensee responsible for the distribution of electricity in the 6 districts of Bellary, Bidar, Gulbarga, Koppal, Raichur and Yadgir. It commenced its operations from 1st June 2002. The basic profile of the company is summarised in the table below

Table 2: GESCOM - Broad profile

Sl.	GESCOM		
1	Area	Sq.km.	43,861
2	Districts	Nos.	6
3	Taluks	Nos.	31
4	Population	Lakhs	95
5	Consumers	Lakhs	23
6	Energy Consumption	MU	3,996
7	Zone	Nos.	2
8	DTCs	Nos.	52,553
9	Assets	Rs. in Crores	1,710
10	HT lines	ckt. kms.	36,472
11	LT lines	ckt. Kms	75,170
12	Total employees strength:		
A	Sanctioned	Nos.	8,549
B	Working	Nos.	5,096
14	Demand	Rs. in Crores	1,768
15	Collection	Rs. in Crores	1,514

6.1.2 The Gulbarga ESCOM has the following consumer profile in terms of sales and revenues

Chart 2 : Sales contribution by different categories

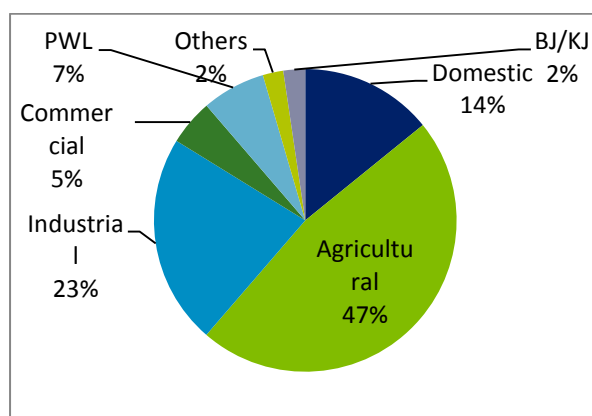
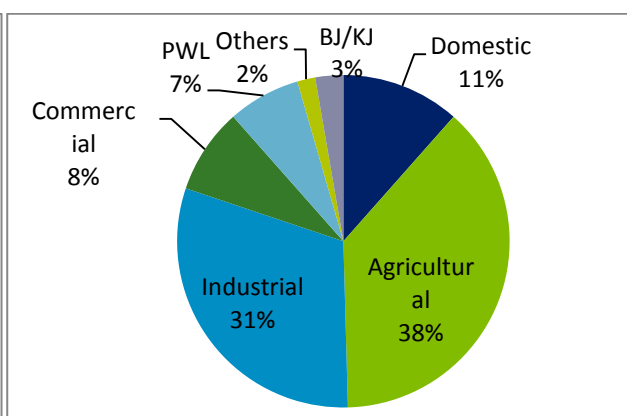


Chart 3: Revenue contribution by category



6.1.3 As evident from the above charts, the Agricultural is the predominant category to in terms of supply of power and GESCOM supplies nearly half of its total power supply to

this category. However the revenue from this category (including subsidy) is only 38% of its total revenues.

- 6.1.4 The Industrial sector contributes 31% of the total revenue of GESCOM and accounts of about one fourth of total sales. GESCOM has a large concentration of the mining industry of Karnataka which is concentrated in the Bellary region.

6.2 HESCOM

- 6.2.1 The Hubli Electricity Supply Company (HESCOM) is responsible for power distribution in Dharwad, Gadag, Bijapur, Bagalkot, Uttara Kannada, Haveri and Belgaum districts of Karnataka. HESCOM covers an area of 54513 Sq. Kms. with a population of over 140 lakhs. The total assets of the company are valued at around 2622 Crores.

- 6.2.2 The basic profile of the ESCOM is summarised in the table below

Sl.	HESCOM		
1	Area	Sq.km.	54,513
2	Districts	Nos.	7
3	Taluks	Nos.	49
4	Population	Lakhs	148
5	Consumers	Lakhs	37
6	Energy Consumption	MU	5,507
7	Zone	Nos.	2
8	DTCs	Nos.	53,182
9	Assets	Rs. in Crores	2,540
10	HT lines	ckt. kms.	55,175
11	LT lines	ckt. kms	107,172
12	Total employees strength:		
A	Sanctioned	Nos.	13,096
B	Working	Nos.	7,400
14	Demand	Rs. in Crores	2,608
15	Collection	Rs. in Crores	2,476

- 6.2.3 The consumer profile of the ESCOM is borne in the following charts

Chart 4: Category-wise energy sales

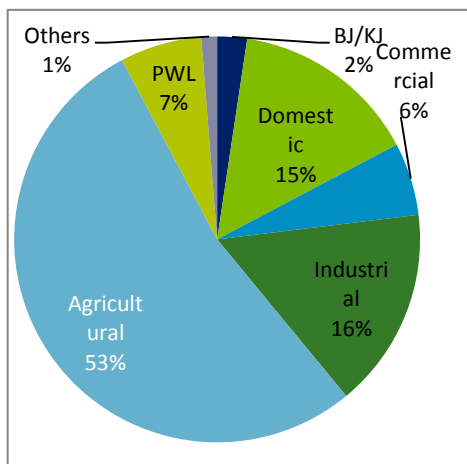
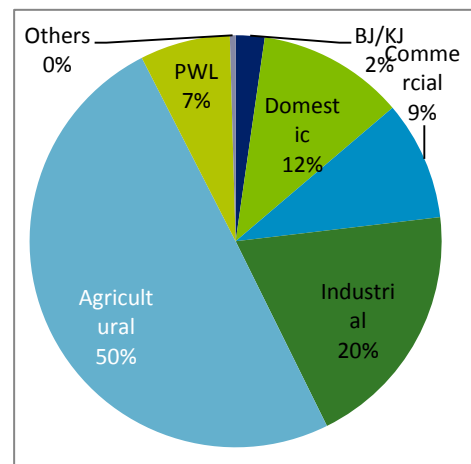


Chart 5: Category-wise revenues



6.2.4 As evident from the above charts, supply to the Agricultural sector in HESCOM accounts for the largest portion of sales as well as revenue (including subsidy). In the Multi Year Tariff filing for HESCOM, it was further submitted by HESCOM that the projected rate of growth of supply to agricultural category would be very aggressive at around 16% CAGR of the last 3 years.

7 Project Base Options

7.1.1 There following alternate options of configuration have been used to evaluate the prefeasibility of identified locations. However the configurations/ packages could be fine-tuned based on the decisions taken by the ESCOMs and Energy Department before making the final shortlist of DF areas to be bid.

- **Option 1:** Selection of Individual Large Towns in HESCOM and GESCOM: The key advantage of this model is that it would appeal to investors on account of the contiguous urban characteristics of these areas. These are also areas well demarcated and easier to install boundary meters and hence data integrity would not be a significant issue. However many of these towns have a level of efficiency which are relatively higher than the ESCOM averages and hence DF introduction will result in benefits to utilities & GoK.
- **Option 2:** Packaged small and medium towns in HESCOM and GESCOM: These are towns that on their own may not attract quality investors on an independent transaction basis. Hence appropriately these have to be bundled together to reach reasonable size to attract the quality investors.
- **Option 3:** Composite Areas in HESCOM and GESCOM (Mix of Urban and Rural areas): This option provides necessary size and contiguity to attract investors. However this is the most complex of the configuration options and there is a fair amount of ground work needed to be done under this model. The critical areas for resolution are that of the metering of unmetered consumers, metering of agricultural consumers, subsidy pertaining to agricultural consumers and validity of baseline figures.

7.1.2 The above options have been considered for project feasibility to arrive at the best project development scenario along with its complexity, packaging, market potential, financial viability analysis and investor interest while recommending an appropriate PPP structuring etc.

8 Project Structuring & Viability

8.1 Project Structuring

8.1.1 It is imperative that the project structuring implement adequate safeguards and checks to ensure that the initiative is viable. The issues mentioned below directly impact the revenue to the Franchisee operator and investors would be sensitive to these issues.

- 1. Configuration:** The reported efficiency levels of Towns in HESCOM and GESCOM are relatively lower than those bid out in the other states. Considering the size of the available towns and the existing efficiency levels there are few towns meet the requirements for bidding. Hence there is a need for evaluation of possibility of including rural areas for over efficiency gains for the Licensees in other second level of options. Investors have shown clear preference towards bidding for urban areas given the governments' inability to align the policy and subsidy arrangements for composite areas. The feasibility to change the current policy arrangements on rural subsidy, metering etc. must be considered by the Government if it decides to bid out composite areas
- 2. Tenure of the franchisee:** The franchise arrangement must be of an appropriate time frame such that the financial viability of the enterprise is ensured, and a planned development of the distribution system in the area can take place with adequate investments over the term of the franchise. The longer terms attract investor interest and Government could mitigate its risk by more stringent annual performance review causes.
- 3. Subsidy Payments:** as rural areas may be considered, the consumer base would include subsidized consumers. Policy decision on subsidy disbursement for such consumers is a critical issue and needs to be strongly considered
- 4. Metering of Unmetered Consumers:** Unmetered consumers in these areas need to be metered for accurate assessment of sales and revenue. KJBJ and agricultural consumers are largely unmetered.
- 5. Capital Investments:** Various Capital expenditure programmes are being undertaken in these ESCOMs. The issue of continuation of these programmes after the Franchisee begins his operations is a key decision point.
- 6. Performance Trajectories:** The target levels of efficiency (T&D and AT&C losses) that needs to be specified for these franchisee areas also needs to be addressed.
- 7. Employee Issues:** The Franchisee is expected to manage the operations and employees in the Franchisee area. However the employees of the ESCOM already serving in the area could be provided an option of joining the Franchisee on Deputation. Creating the appropriate rules and framework for such deputations is a critical area of discussion and needs to be clearly agreed upon upfront.

8.1.2 The duration of the franchisee period should ideally be for 15 years.

8.1.3 The towns, villages in the HESCOM & GESCOM area have been selected/ packaged as per the options mentioned above. For the purpose of selecting the most investor friendly towns to be packaged, the towns have been ranked in a manner as described under that particular option.

8.1.4 The options have also been evaluated for viability to the ESCOM in the succeeding sections. Here, we define viability from the point of view that the DF would bid to pay the ESCOM more than the current “business as usual” cost scenario.

Option 1: Individual Towns

Ranking of towns have been done on the basis of descending input and filtered for those whose input is above 100 MU and loss levels greater than 19%

The Towns in GESCOM which can individually be considered for the DF arrangement have been identified as in the table below

	Input (MU)	Total sales (MU)	Demand (Rs. Crore)	Avg Billing rate (Rs/Unit)	T&D Loss	AT&C Loss %	Benefits by achieving the 15% loss level (Rs. Crore)
Gulbarga	257.72	206.42	993.6	4.81	19.9%	20.86	72.6
Bellary	248.57	194.39	881.4	4.53	21.8%	27.06	135.8
Raichur	170.24	128.58	671.4	5.22	24.5%	24.75	86.6
Gangavathi	163.63	134.31	596.4	4.44	17.9%	19.14	30.1
Bidar	117.12	87.57	434.8	4.97	25.2%	32.33	100.9
Total (Rs. Crore)							426

No towns in the HESCOM area were found to satisfy the above mentioned filtering criteria.

Option 2: Packaged small and medium towns

Towns in GESCOM which can be considered for bundling into packages under the DF are

	Input (MU)	Total sales (MU)	Demand (Rs. Crore)	Avg Billing Rate (Rs/Unit)	T&D Loss	AT&C Loss %	Benefits by achieving the 15% loss level (Rs. Crore)
Kampli	64.65	53.31	240.3	4.51	17.5%	24.51	27.7
Sandur	51.85	43.66	209.7	4.80	15.8%	19.81	12.0
Kustagi	42.41	34.88	164.2	4.71	17.8%	17.43	4.9
Humnabad	40.13	32.22	109.5	3.40	19.7%	23.20	11.2
Yadgir	38.24	28.49	132.4	4.65	25.5%	24.50	16.9
Sindhanoor	33.21	26.36	126.5	4.80	20.6%	22.65	12.2
Manvi	31.08	25.82	102.6	3.97	16.9%	17.82	3.5
Shahapur	27.02	16.34	72.9	4.46	39.5%	40.53	30.8
Kudligi	24.35	18.99	84.1	4.43	22.0%	31.72	18.0
Basava klyan	24.13	17.49	85.8	4.90	27.5%	30.51	18.3
Shorapur	20.30	13.21	47.5	3.60	34.9%	25.58	7.7
HB Halli	18.77	15.29	81.3	5.32	18.5%	34.16	19.1
Bhalki	18.21	11.18	52.3	4.68	38.6%	49.51	29.4
Aland	12.54	9.36	22.6	2.41	25.4%	25.42	3.1
Chincholli	10.50	8.28	58.3	7.05	21.2%	21.97	5.2
Chittapur	10.13	7.46	34.2	4.59	26.4%	26.96	5.6
Deodurga	8.71	6.78	32.2	4.75	22.2%	21.20	2.6
Jewargi	8.32	6.55	33.1	5.05	21.3%	22.05	3.0
Afzalpur	7.45	5.50	11.2	2.04	26.3%	26.26	1.7

Aurad	6.40	4.76	23.3	4.89	25.6%	39.27	7.6
Total							240

The above towns cumulatively account for around 400 MU of sales and hence can be bundled into two or three packages. They have been shortlisted on account of their relatively high AT&C loss levels

Towns in HESCOM which can similarly be considered for bundling are

Circle	Town	Input (MU)	AT&C Loss %	Sales (MU)	Demand in Rs. Crore	Benefits by achieving the 15% loss level (Rs. Crore)
Sirsi	Karwar	40.29	27.67	31.18	154.7	25.3
Haveri	Ranebennur	32.64	29.10	29.01	152.9	24.3
Sirsi	Sirsi	24.41	22.61	21.53	108.3	9.3
Bagalkote	Mudhol	19.48	21.44	16.71	87.8	6.6
Sirsi	Dandeli	18.33	33.47	14.97	72.6	16.4
Belgaum	Bailahongal	16.89	41.88	14.22	70.5	22.5
Sirsi	Kumta	14.25	20.03	13.32	63.7	3.4
Bijapur	Sindagi	13.77	24.06	9.88	97	12.2
Haveri	Byadagi	13.36	19.88	12.14	63.9	3.4
Hubli	Gajendragad	13.12	20.61	10.42	49.8	3.5
Bagalkote	Banahatti	11.97	18.60	10.44	47.1	1.9
Bagalkote	Hunagund	11.77	23.82	10.30	54.7	5.5
Bagalkote	Mahalingapur	11.54	28.86	9.54	47.3	7.9
Sirsi	Honnavar	11.10	32.76	9.61	48.3	9.9
Bijapur	Indi	10.43	30.41	7.89	38	7.7
Bijapur	Muddebihal	9.68	32.82	7.49	36.8	8.5
Sirsi	Ankola	9.55	27.78	7.23	34.6	5.8
Hubli	Naragund	8.51	40.23	5.97	29.7	10.7
Bijapur	Talikote	7.97	24.28	6.38	29.9	3.5
Belgaum	Khanapur	7.24	48.63	6.61	31.4	11.6
Hubli	Ron	6.23	21.65	4.88	22.1	1.9
Bagalkote	Terdal	5.28	38.91	4.15	20.1	6.1
Hubli	Annigeri	5.24	29.18	5.10	25.7	3.7
Sirsi	Mundagod	4.66	20.76	3.97	18.4	1.2
Haveri	Bankapur	3.68	32.05	3.04	14.4	3.0
Haveri	Rattihalli	2.64	28.74	1.88	9.7	1.9
Haveri	Motebennur	1.04	41.30	1.02	8.7	2.3
Total						220

These towns in HESCOM are relatively smaller and these shortlisted set of 27 towns can be bundled into two or three packages or made into circle-wise packages. These again have been shortlisted based on the relatively higher levels of AT&C losses.

Option 3: Composite Areas (Urban and Rural)

In the HESCOM area, if a complete Circle is chosen as a possible DF model, Sirsi would emerge as the most likely of the Circles for being taken up on account of its low level of unmetered sales. Sirsi has the lowest level of unmetered sales in HESCOM and hence the ease of putting it up for the bid is relatively higher.

Sirsi has about 215 MU of annual sales and an AT&C loss level of around 30%. This translates to a revenue potential of around Rs. 20 Crores.

Despite our best efforts, we were unable to get the Circle information from GESCOM and hence the evaluation of a potential DF area has not been undertaken.

8.2 Loss reduction scenario analysis

The viability to the government in partnering with a distribution franchisee may be realized by the levels of loss reduction in the system. The project would be viable for the government if the DF (under a input price based method), shares the efficiency gains with Licensee and adheres to the conditions of capex investment etc. The viability analysis provided below has been conducted over a 5 year period and consists of 3 scenarios:

1. Scenario 1: Business – as – usual: Here the existing loss levels of the utility are assumed to be maintained
2. Scenario 2: Improvements are assumed to happen in the system reducing loss levels year on year. The factor of improvement assumed here is the 10 year CAGR of loss reductions in the state (5.25%)
3. Scenario 3: This scenario assumes that the improvements happen at the same rate as that of a successfully run DF (as in the case of Bhiwandi). The CAGR loss reduction assumed here is 11.24%

Business As Usual (BAU)			
Year	Target Loss Levels	HESCOM Loss Level	GESCOM Loss Level
1	15%	19.85%	22.06%
2	15%	19.85%	22.06%
3	15%	19.85%	22.06%
4	15%	19.85%	22.06%
5	15%	19.85%	22.06%
Improvements based on 10 Yr CAGR (Karnataka overall loss reduction assumed)			
Year	Target Loss Levels	HESCOM Loss Level	GESCOM Loss Level
1	15%	19.85%	22.06%
2	15%	18.81%	20.90%
3	15%	17.82%	19.81%
4	15%	16.89%	18.77%
5	15%	16.00%	17.78%
Improvements due to Successful DF (Bhiwandi CAGR Assumed)			
Year	Target Loss Levels	HESCOM Loss Level	GESCOM Loss Level
1	15%	19.85%	22.06%
2	15%	17.62%	19.58%
3	15%	15.64%	17.38%
4	15%	13.88%	15.43%
5	15%		

As can be seen from the above table, assuming that the DF is able to adhere to the investment levels as in Bhiwandi, the targeted loss level of 15% may be reached in 3 years in Hubli and 4 years in Gulbarga respectively.

8.3 Viability Assessment

As seen from the tables above, the ESCOM stands to make more revenue from reduction of losses in the stated cities and towns. Moreover, with a view of providing the customers with increased levels of customer service, incurring a relaxation on capex expenditure etc. the ESCOM may decide to bid the areas out to DF. Further as seen from Section 8.2, the DF can reduce losses up to the targeted 15% within a few years of award itself, if the Bhiwandi experience is replicated.

From a viability point of view, the ESCOM stands to profit if the input rate being offered by the bidders is greater than the current cost recovery of power supplied.

9 Statutory & Legal Framework

9.1 Applicable laws

- 9.1.1 The franchisee is not directly covered under any ERC regulatory framework and is only subject to the contractual agreement between itself and the Licensee. It has no legal responsibility for the License conditions or performance standard mandates of the licensees. However its contractual obligations would have a clear and unambiguous conditionality to maintain service standards in the Franchisee area as mandated by the License conditions.
- 9.1.2 Hence it needs to adhere to the performance framework as mandated for the Licensee and the following Regulations and Standards are of specific importance to the Franchisee.
- **KERC (Conditions of Licence to ESCOMs) Regulations**
 - **KERC (Licensees Standards of Performance) Regulations**
 - **KERC (Consumer Complaints Handling Performance) Regulations**
 - **KERC (Interest on Security Deposit) Regulations, 2005**
 - **KERC (Duty of the Licensee to supply Electricity on request) Regulations, 2004**
 - **Code on Payment of Bills**
 - **KERC (Electricity Supply & Distribution) Code**
 - **KERC Complaint Handling & Redressal Standards Relating to Distribution & Supply of Power (Standards of Performance)**
 - **Karnataka Electricity Grid Code 2005**

9.2 Legal & Regulatory framework

The Electricity Act has opened new avenues for bringing in private participation in the distribution sector.

The enactment of the Electricity Act, 2003 (the Act) has brought in the concept of franchisees to undertake distribution of electricity. Section 2 (27) of the Electricity Act defines “Franchisee” as a person authorized by a distribution licensee to distribute electricity on its behalf in a particular area within his area of supply.”

The 7th proviso to Section 14 of the Electricity Act, 2003 states the following:

“provided also that in a case where a distribution licensee proposes to undertake distribution of electricity for a specified area within his area of supply through another person, that person shall not be required to obtain any separate license from the concerned State Commission and such distribution licensee shall be responsible for distribution of electricity in his area of supply”

The genesis of franchisees was in the context of improving access to rural communities where the utility has had limited reach. It was thus envisaged that local community organizations would take up small segments of distribution business such as metering and billing or collection, etc. But the Act

provides for a lot of flexibility in terms of defining the scope of the franchisee and does not distinguish between rural and urban areas in this regard. The concept can thus be utilized to create any model which involves delegation of some or all of the distribution related responsibilities to a third party on a contract basis. As far as the regulatory framework and the consumers are concerned, the licensee remains the sole body responsible for distribution business in the concerned area.

It is a matter of concern that while standard guidelines have been issued for private sector participation in generation and transmission under section 63 of the Act, distribution continues to suffer from the lack of a standardized approach to private participation with each state having to undertake its own discovery of pre-requisites, franchisee framework, bidding documents and post-award monitoring. Distribution franchisees are also somewhat unique in the nature of private participation as this is a competition for existing assets compared with private participation in generation and transmission, where private participation under section 63 is envisaged primarily for new build assets.

10 Indicative Environmental & Social Impacts

10.1 Environmental Impacts & Mitigation

NA

10.2 Social Impacts & Mitigation

Since the distribution franchisee becomes the point of contact for consumers, any dissatisfaction on account of action / inaction by the franchisee can lead to instances of opposition or resistance and political pressures. For example, load shedding can lead to discontent among the consumers. In such a scenario there may pressure from the state to ensure regular supply. As a result the franchisee may have to purchase expensive traded power from the market.

11 Structuring & Project Packaging (Operating Framework)

11.1 Risks and Mitigation

As in any PPP transaction, the risks of the project are shared between the public and private partners. An optimal balance needs to be struck in the risk allocation between parties. This would increasingly promote private player participation in the sector. An illustrative list of risks and mitigations are shown below.

Risk	Impact	Indicative Risk Mitigation Measures	Risk Bearer
Pre Bidding Risk			
Poorly structured RFP	High	Identify appropriate Bid variables	ESCOM
Policy / Decision on Metering	High	Finalise policy by GOK before the RFP is released	ESCOM
Policy / Decision on Subsidy	High	Finalise policy by GOK before the RFP is released	ESCOM
Operating Risk			
Delay in Contract signing and Project Handover to Bidder	Medium	Effective Management of the Bid Calendar	ESCOM / Franchisee
Baseline Data Inaccuracy	High	A transition period where baseline data is jointly validated	Franchisee
Availability of Power from ESCOM	High	Assurances of power supply by ESCOM / permission to procure power through Open Access	Franchisee
Regulatory risk for Non approval of Capex	Medium	Agreement to absorb the cost by ESCOM	Public – MCC
Security (Incl Theft, Vandalism etc.)	High	Private Security agency / Local District Administration	Franchisee
Revenue Risk			
Demand Forecast / Sales & revenue projection	High	Detailed Demand Assessment Study	Franchisee
User Charges / willingness to pay	Medium/High	Target Segment Surveys, Group Discussions, Cost benefit analysis	Franchisee
Subsidy from government	High	Guarantees from Govt / ESCOM, payment security mechanism / agreement to withhold ED and similar payables from Utility	Franchisee
Financial Risk	Low to Medium	Loan Syndication	Private – Financial Institutions
Force Majeure Aggregate	Medium	Insurance Cover	Insurance Company / franchisee

11.2 Indicative Project Structure

Project structuring and packaging involves distribution of risks and returns efficiently and reduces the total cost of financing. The art of effective project structuring requires balancing the interests of the diverse stakeholders, and optimal capital structuring. This is then converted into contracts that clearly define the roles, responsibilities, and risks allocated to each partner. Accordingly, in the context of the current assignment, the indicative project structure is as follows:

- HESCOM/GESCOM continues to be the distribution licensee and authorises the franchisee to distribute electricity on its behalf in a specific area
- The franchisee would have the right to use the distribution assets of HESCOM/GESCOM in the franchise area for carrying out his responsibilities and obligations.
- The franchisee is responsible for the following functions of the HESCOM/GESCOM for the term of the DFA:
 - Distribution and supply of power to the consumers of HESCOM/GESCOM in the franchise area,
 - Operation and maintenance in the franchise area,
 - Metering, billing, collection and all such consumer related services,
 - Compliance with all the standards including the Electricity Supply code and the Standards of Performance and other regulatory provisions.
- HESCOM/GESCOM is committed to provide a certain minimum quantum of electricity at identified input points to the distribution franchisee. The franchisee makes payments to HESCOM/GESCOM for supply of power at a pre-determined tariff referred to as the input rate. The input rate is determined at the time of evaluation of bids. The franchisee is allowed to procure additional power for supply in case of shortfall, from the sources other than HESCOM/GESCOM.
- HESCOM/GESCOM has to incur a certain minimum capital expenditure towards the distribution network as per its minimum investment plan for five years.
- The franchisee is given full autonomy for planning and execution of its capital expenditure (other than the capital expenditure planned and committed by HESCOM/GESCOM) with the objective of meeting an agreed minimum reduction in losses and improvement in collection efficiency. The value of any assets added has to be certified by HESCOM/GESCOM as acceptable.
- The consumers are charged the same tariff as applicable to other consumers of HESCOM/GESCOM, and as determined by the independent regulatory agency – Karnataka Electricity Regulatory Commission (KERC).
- HESCOM/GESCOM will make termination payments to the franchisee upon expiry or in the event of default by HESCOM/GESCOM / franchisee for the capital expenditure incurred by the franchisee at the depreciated value of the distribution assets created.

11.3 Bidding Framework

The selection of franchisee is made based on a competitive bidding process with the input rate as the bidding parameter. Input rate is quoted by the bidders for each year of the franchise term. A pre-qualified bidder quoting the highest levelized input rate over the term of the franchise is chosen as the successful Distribution Franchisee for the identified area. The Request for Proposal issued by the licensee has a Distribution Franchisee Agreement (DFA) containing baseline Revenue Collection and Input Energy to the franchised area.

For the entire term of franchisee arrangement, the Distribution Franchisee is usually made responsible for all the functions of the distribution licensee within that area assigned through the agreement. These include metering, billing, repair, maintenance, consumer service, capital expenditure, giving new connections, generating bills, revenue collection etc. The consumers in the franchisee area are charged same tariff as applicable to consumers of rest of licensee area. Franchisee has to comply with all service and supply quality norms, rules and regulations as specified by regulatory commission and other authorities.

The franchisee makes payments to licensee on monthly/ weekly basis, depending on the structure specified in the DFA. The revenue earned by licensee from the Distribution Franchisee is indexed to 'input rate' as specified in the Distribution Franchise Agreement between the two parties in terms of a tariff indexing ratio. The tariff indexing ratio is calculated as ratio of average billing rate (ABR) of the given month or year to the average billing rate of base year. This helps to capture changes in tariff and/or consumer and sales mix and pass on the due benefits to licensee. As the licensee's revenue from franchised area is directly indexed to ABR, it is of utmost importance to have a correct estimate of the same. The ABR is calculated as sum total of product of category wise, slab wise sales and their respective tariff, divided by total sales to the franchisee area. It covers all aspects of tariff such as fuel adjustment charges, additional supply charge, reliability charge, etc.

The DFA also has provisions for various independent audits such as annual ABR audit, quarterly audit of subsidy claims, inventory status audit, audit of the franchisee's billing system and database, etc.

12 Way Forward

12.1.1 The project, as analysed above, prima facie seems to be viable to be implemented on PPP basis. The above sections recommend certain detailed studies to be undertaken before taking the project to the next stage, i.e. invitation of tenders.

12.1.2 Also, a qualified transaction advisor should be engaged to further develop and market the project and select a suitable concessionaire.

12.1.3 The following key policy interventions are required from the government

- Policy on the disbursement of subsidy to the Franchisee:
- Policy on Metering of Unmetered Consumers
- Cabinet Approval for the Distribution Franchisee configuration suggested.

12.1.4 Indicative timelines for these tasks are given below:

Task	Sub-Tasks	Months								
		1	2	3	4	5	6	7	8	9
Before Finalisation of Configuration										
	Finalisation of Critical Issues									
	Finalisation of Configuration considerations	■								
	Configuration Modeling and Finalisation of Areas	■								
	Cabinet Approval of the Scheme		■							
Selection of Transaction and Technical Advisor										
	Preparation and Issuance of RFP		■							
	Response to RFP / Submission of proposals									
	Technical and Commercial Evaluation			■						
	Selection of T.A			■						
Field Study and Evaluations										
	Boundary Metering				■					
	Consumer Metering				■	■				
	Assets				■	■				
	MIS				■					
	Employees				■					
	Preparation of Information Memorandum & DPR					■	■			
RFP and Prebid Stage										
	Preparation of Bid Documents - EoI, RFP, Contractual Agreements etc						■			
	Legal Vetting of Bid Documents						■			
	Preparation of Data Room						■			
	Expression of Interest									
	Shortlisting of Bidders							■		
	Issuance of RFP (with D.F Agreement)								■	
	Facilitation of Field studies by Investors								■	
	Prebid Meeting								■	
Bidding Stage										
	Bid Submission									■
	Bid Evaluation									■
	Clarification from Bidders									■
	Finalisation									■

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