



Infrastructure Sector Update

“The Glass That Is Filling Up...”

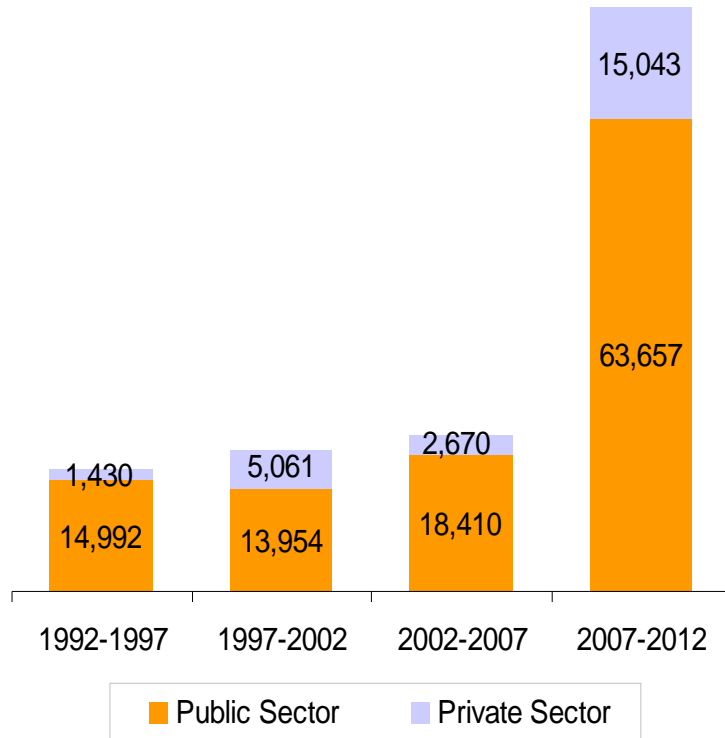
February 2010

Growing role of private sector in Infrastructure

	2004-05	2005-06	2006-07	2007-08
Public investment in infrastructure as a share of GDP	3.7%	4.1%	4.6%	4.8%
Private investment in infrastructure as a share of GDP	0.6%	2.3%	2.4%	2.5%
GFCF in Infrastructure	4.3%	6.5%	7.0%	7.3%
Private investment in infrastructure / private corporate investment (%)	5.6%	17.1%	16.5%	15.8%

Significant step up in Private Power Generation

Capacity Additions (MW)



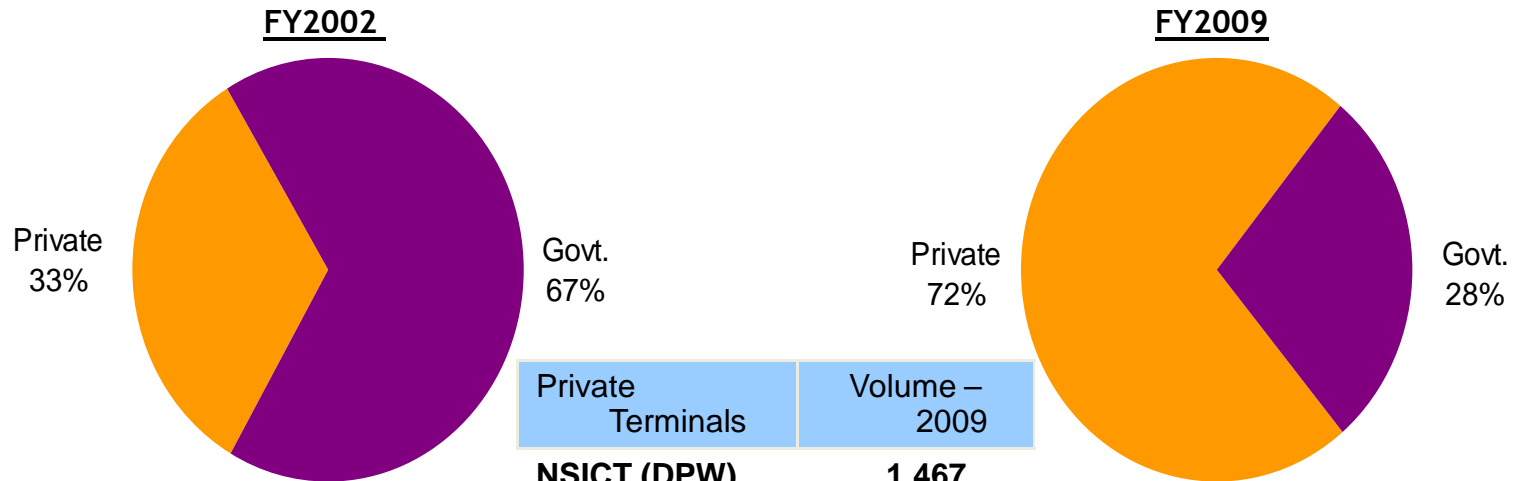
Source: Planning Commission

Plan Target: 15,000 MW
* IDFC Relationships

Group*	Planning	Under construction	Funding completed	Total
Reliance Power	23,440	5,460	0	28,900
Tata Power	2,000	5,170	0	7,170
JSW Energy	11,940	2,550	0	14,490
JSPL	1,000	1,350	2,400	4,750
Adani Power	3,300	4,620	1,980	9,900
Sterlite	6,000	2,400	1,200	9,600
Indiabulls	3,960	0	2,640	6,600
KSK Energy	1,800	4,275	0	6,075
Lanco	3,508	4,135	0	7,643
Essar	1,740	1,200	1,200	4,140
GMR	2,300	0	1,650	3,950
CESC	2,320	250	1,200	3,770
Torrent	1,883	0	0	1,883
CLP Group	0	0	1,320	1,320
GVK	370	0	870	1,240
Jaiprakash	2,900	0	2,000	4,900
Others	13,757	1,151	4,180	19,088
Total	82,218	32,561	20,640	135,419

The Port Sector PPP model has been very successful

Share of Private Sector in Container Volume



Private Terminals	Volume – 2009
NSICT (DPW)	1,467
GTI (APMM)	1,256
Pipavav (APMM)	195
Mundra (DPW)	808
Cochin (DPW)	260
Tuticorin (PSA)	439
Chennai (DPW)	1,143
Vizag (DPW)	90
Total ('000 TEU)	5,658

(‘000 TEUs)

Huge upsurge in Road activity

Significant private sector interest

	No of Projects	Length (km)	Project Cost (Cr.)
From 1999 to March 2009: Projects awarded	95	7600	46,369
April - Dec 2009: Projects awarded/bids won	27	2568	25404
Pipeline: Projects w/ likely bids	26	3,348	34,439
Jan-Feb 2010: Projects in RFQ stage	24	2,459	20,091

- Of the 47,000 kms earmarked for PPP development under NHDP, about 14,000 kms has been bid out in 122 PPP Concessions across the country for a total investment of about Rs. 70,000 crores.
- In FY 2010 we could do more in just PPP contracts than was awarded in EPC and PPP contracts together in the peak year of 2005-06 when 4740 kms worth of road contracts were awarded.

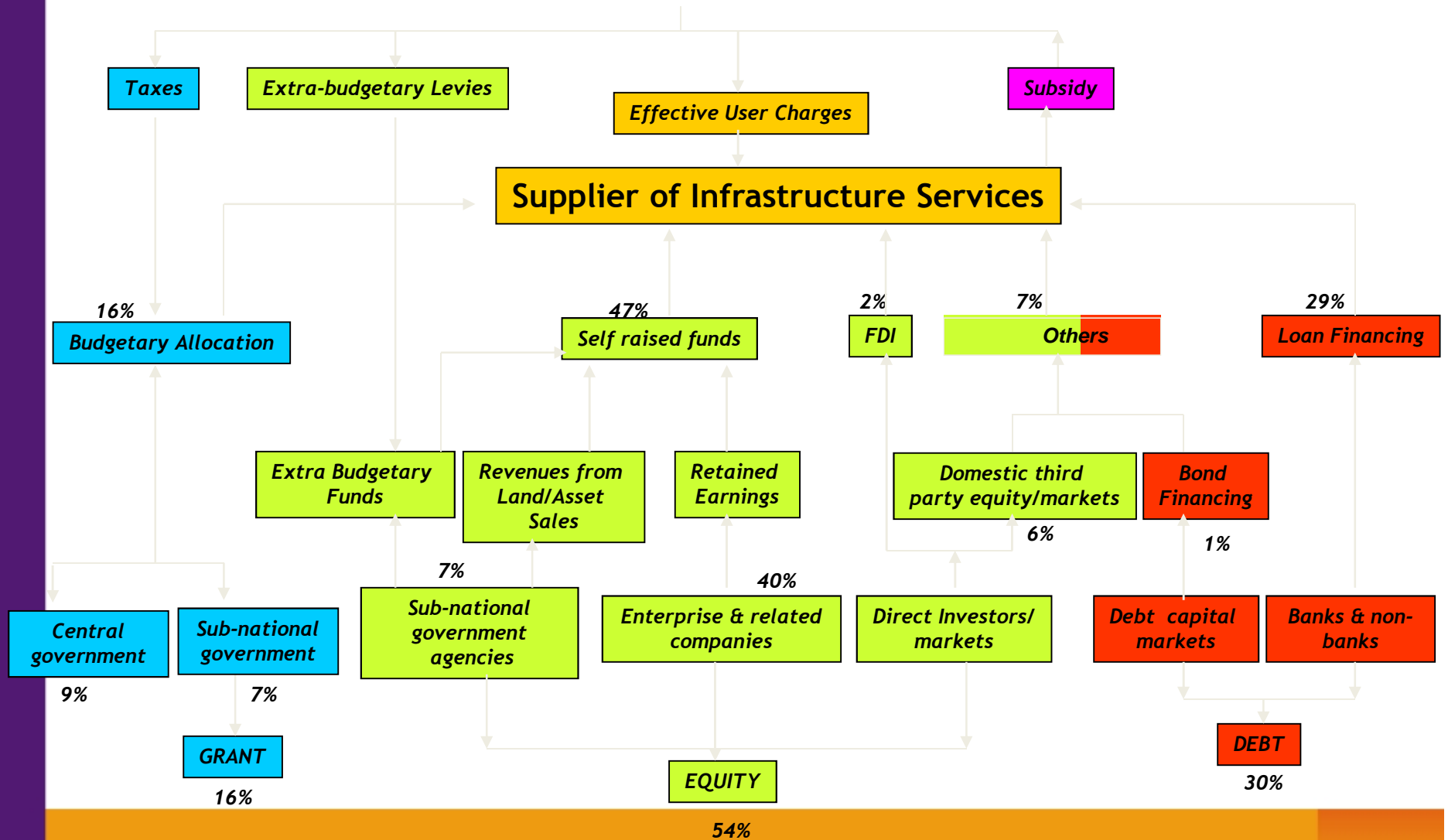
Airports: Sharp ramp up in PPP capacity

- In 2005 total passenger throughput was 56 million. No PPP airport concession in place at the time (with the exception of Cochin).
- In 2009 passenger capacity is 110 million passengers per year. Of this 56% is handled by PPP airports.
- Share of freight value handled by PPP airports is 70% in 2009.

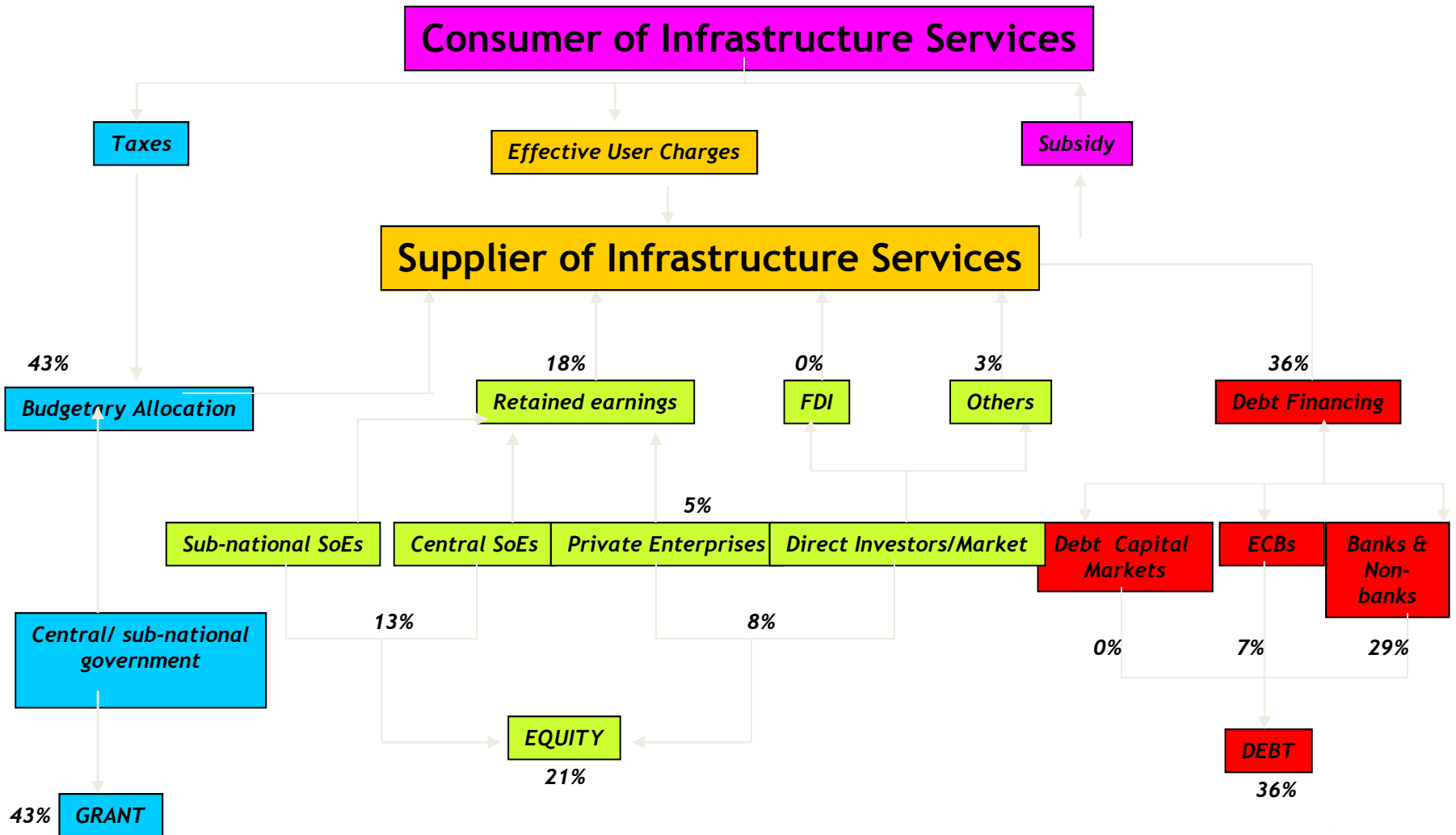
PPPs – Conventional Wisdom

PRC Infrastructure Financing Chain

Consumer of Infrastructure Services



India Infrastructure Financing Chain



Returns to Power Generation, Transmission and Distribution

	PRC	India
Generation ROEs	~15.0	19.0 (NTPC) – 45.0 (Merchant + Pithead)
Transmission-ROEs	Paid on residual revenues after paying generators	12.5
Distribution	No theft, effective cost recovery	35% losses and very poor cost recovery
User Charges	Effective user charges 1.4x India	4.3 cents/kWh

Source: IDFC; Company Reports

Power Sector

What is the Power entrepreneurs blue sky business case?

Assumptions, INR Cr	Pithead coal
Capacity (MW)	1,000
Capital Cost	4,500-5000crs
Debt (@ 70%)	3,150
Equity (@ 30%)	1,350
Generation (Mn. kWh)	7,174
Blended Tariff (70% PPA, 30% Merchant)	3.10
Primary Fuel (Rs/kWh)	0.51
Fixed costs (Rs/kWh)	1.20
Surplus per unit	Rs1.39
ROE (%)	42-45%

Target developer returns

Fuel	Pithead	Linkage	Imported
Cost of fuel Rs/unit	0.51	0.87	1.50
RoE	42-45%	30-33%	18-20%

		Merchant tariff (Rs/KWh)			
		4.5	5.5	6.5	7.5
Fuel Cost (Rs/KWh)	0.51	43%	50%	56%	62%
	0.87	32%	40%	47%	52%
	1.50	19%	27%	37%	44%



The COAL Mines are 5 years behind schedule, Returns will fall

Project	SCOD	Mine Status
Essar, MP	Mar 12	Forest clearance awaited
Essar, Jharkhand	Dec 13	Environmental clearance awaited
Lanco/GMR/Arcelor/Navbharat/Sterlite/Reliance, Orissa	Mar 12 – Mar15	Forest clearance awaited, show cause notice served
Abhijeet/CESC, Jharkhand	Mar 12 – Mar14	No progress, show cause notice served
JSW Energy, Rajasthan	Mar 13	Lignite mining clearance awaited
Monet/Tata Power/Jindal Photo Orissa	Mar 12	Environmental clearance awaited
Jindial India Thermal, Jharkand	Mar 12	TOR

Coal Shortage, higher prices & tariffs

Note 1: CEA FY 12 thermal capacity addition estimate: 50,570 MW @ 70% Domestic Coal: 35,400 MW
 Additional private sector thermal capacities: 33,000 MW @ 70% Domestic Coal: 23,100 MW
 Total Domestic Coal Based Capacity: 58,500 MW @ 80% PLF

India Coal Consumption (in Mn MTPa)	
Metric	Mn MT
Power Sector Coal Consumption (FY 09)	371 (D: 355; I: 16)
Additional Estimated Power Sector Coal Consumption (FY 12) ¹	270
Total Coal Requirement	641
Estimated Captive Coal Production	100
Coal India + Singareni (75%)	431
Coal Supply Gap	100

Strained Financials of Utilities – AT&C Losses the Culprit

		2005	2008	2013 Case 1	2013 Case 2
Average cost of supply	Rs/ unit	2.54	2.93	3.23	3.23
Average Tariff	Rs/ unit	3.37	3.38	3.38	3.72
Average revenue received	Rs/ unit	2.09	2.39	2.75	2.75
Loss per unit	Rs/ unit	0.45	0.54	0.48	0.48
Units Produced	Million	358309	456916	913832	913832
Financing Gap	Rs. Cr.	16109	24596	44002	44002
AT&C Loss	%	38.0	29.2	18.6	26.1

Case 1

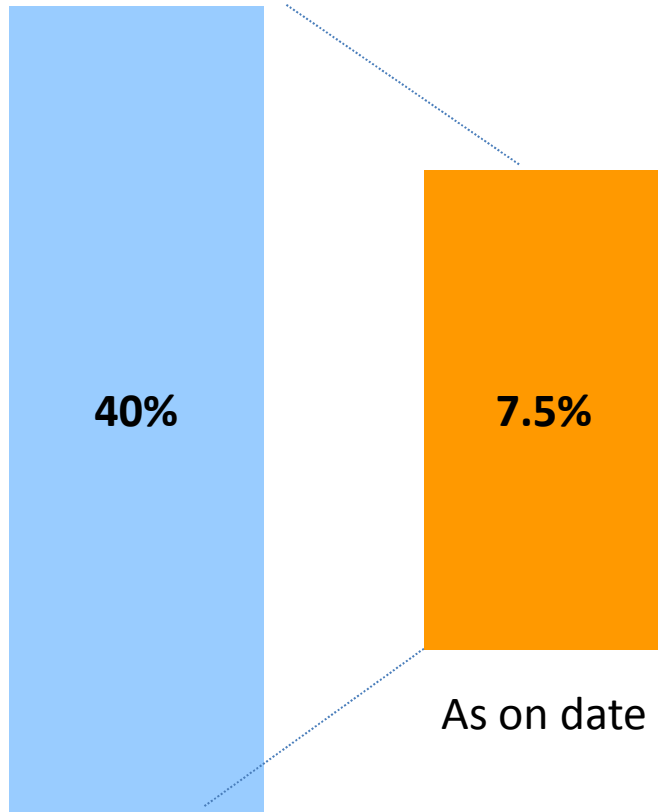
- AT&C Losses need to reduce to 19% to maintain financing gap at 0.5% of GDP assuming no increase in end tariffs.

Case 2

- AT&C Losses need to reduce to 26% to maintain financing gap at 0.5% of GDP assuming 10% simple increase in end tariffs.

A quick look at results in Bhiwandi

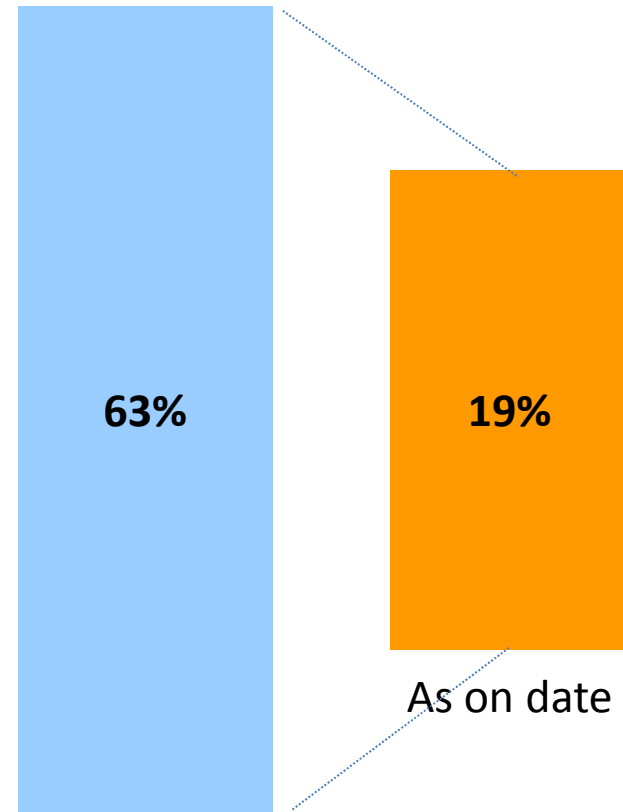
DT Failure Rate



At the time of takeover

DT Failure Rate for 08-09 down to 7.5% from 40%

Distribution Losses



At the time of takeover

Reduction of 44%age pts



If Bhiwandi is repeated, we can save > Rs. 25,000 Cr. annually

State Sector, Cr	Raj.	Maha.	A.P.	U.P.	Guj.	Karnkta.	Orissa	Haryana	
Area in Sq Km	342,239	307,713	275,069	240,928	196,024	191,791	155,707	44,212	
Distribution Capex	2008	2,082	1,324	941	1,110	1,055	1,169	171	582
	2009	1,632	1,427	840	1,751	1,879	898	NA	411
Average, 08-09	1,857	1,376	890	1,430	1,467	1,033	171	497	
CAPEX (Rs. Lakhs)/ Sq Km	0.5	0.4	0.3	Need to step up capex		0.5	0.1	1.1	
Private Sector, Cr	Mumbai	Delhi	Kol.	Ahmed.	Surat	Bhiwandi			
<i>Company</i>	Tata + Rel Infra + BEST	NDPL + BRPL + BYPL	CESC	Torrent	Torrent	Torrent			
Area in Sq Km	603	1,460	567	293	52	721			
Distribution Capex	2008	789	667	418	338	226	158		
	2009	704	878	546	328	120	90		
Average, 08-09	747	773	482	333	173	124			
CAPEX (Rs. Lakhs)/ Sq Km	124	53	85	114	333	*FY 08 17			
T&D Losses (%)	13%	20%	13%	10%*	6%*	19%			

All India T&D (FY 08): 28.3%
 Total Electricity FY 10 Target: 789,511 MU
 Avg. Realization: 2.27/kwh
 Potential T&D loss for FY 10: 50,000 Cr.
 50% reduction = 25,000 Cr.

Higher capex in meters,
 transformers & network
 reduced losses by 70%

Ports Sector

The traditional view on Indian Ports

- 1** Capacity constrained
- 2** Inefficient - waiting times, berth & cargo handling
- 3** Significant investments required

World Class Execution delivered in Indian terminals

Terminal	TEU/Berth Metre	Gantry Crane	
		Moves	TEU
Antwerp	1,046	94,200	122,460
Southampton	1,019	66,200	86,060
Singapore	1,755	92,000	119,600
Hongkong (HIT)	1,607	85,000	110,500
Hongkong (MTL)	1,785	105,400	137,020
Kooshiung	1,091	72,700	94,510
Average	1,384	85,917	111,692
JNPCT	1,564	102,253	132,930
NSICT	2,379	137,224	178,391
GTIPL	2,054	140,593	182,771

Private sector has overbid on most major ports; very low returns

Terminal , INR Cr	Category	Revenue Share	Total Revenues (FY 09)	Govt.'s Share (FY 09)	EBITDA	Bidders CAPEX
Chennai DPW	Container	37.138%	186	69	62	800
Tuticorin – PSA-Sical	Container	1,450/TEU	94	64	-6	165
GTI - Maersk	Container	35.00%	329	115	151	910
NSICT (JNPT) – DPW	Container	665/TEU	312	95	115	709
Cochin-DPW	Container	33.3%	78	26	32	N.A
Vizag – DPW	Container	NA	35	NA	22	200
Kandla – ABG	Container	48.993%	43	21	12	340
ISPL – L&T (Haldia)	Bulk	NA	66	NA	30	100
VSPL – Gammon (FY08)	Bulk	17.11%	56	10	19	327



Private Non-Regulated Ports are profitable and rapidly adding capacity

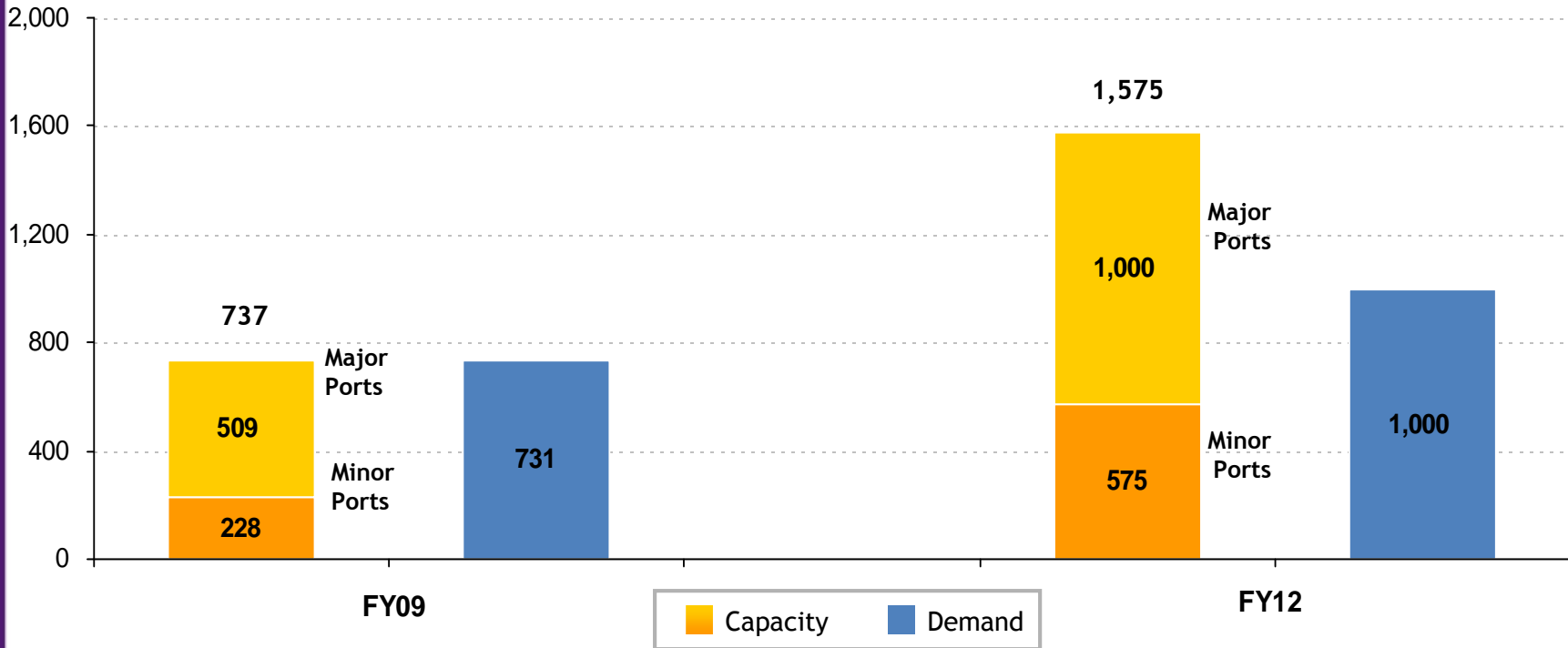
Terminal, Cr	Capacity	Volume (MMTPA)		FY 09		FY 10E		Networth	Total Assets
		FY 09	FY 10	Revenue	EBITDA	Revenue	EBITDA		
Mundra	51	36	44	1,135	737	1,643	1,155	3,000	6,200
Pipavav*	10	5.0	7.0	203	29	275	70	1,100	1,200
Krishnapatnam**	23*	8.0	9.0	296	175	350	210	420*	1,400*
Gangavaram	23	4.5	8.0	113	28	210	95	540	1,800

*CY, **Phase I

High capacity ramp up; Tariff flexibility; Auxiliary revenue streams

Indian Ports are no longer Capacity Constrained

(Mn MT)



- Demand growth @ 11%
- Capacity Addition:
 - Major Ports: ~500 MT PPP
 - Minor Ports: ~350 MT

Roads Sector

No increase in fiscal support but still early days

Significant private sector interest

	No of Projects	Length (km)	Project Cost (Cr.)
Pre- BKCC (April - Oct 2009): Projects awarded	10	944	9,606
o.w. VGF			19%
Post-BKCC (Nov-Dec 2009): Projects w/ winning bids	17	1,624	15,799
o.w. VGF			14%
Pipeline: Projects w/ likely bids	26	3,348	34,439
Jan-Feb 2010: Projects in RFQ stage	24	2,459	20,091

Major recommendations of BK Chaturvedi Committee (BKCC)

- Conflict of Interest Clause removed
- Early and complete divesture by promoters permitted
- Option of capacity augmentation and extension of 5 years in concession in case actual traffic exceeds target
- Lenders allowed to create charge on escrow account, making the loans “secure”

■ Quantum jump in bids

- Cost of projects bid out in last one month is 1.5 times that awarded in preceding 6 months.
- For 7 out of the 17 projects bid out in post-BKCC period, bidders would provide annual premium to the government.

Airport Sector

Fiscal implications of privatizing airports

Privatized airports					
	Total Investment	Govt grant/VGF	Govt. Ownership	Govt. share of revenue	Land Contribution
Airport	Rs Cr	Rs Cr	%	%	Acres
Mumbai	6000	-	26	38.7	1875
Delhi	10225	-	26	45.99	5060
Hyderabad	2920	107	26	4	5450
Bangalore	2400	350	26	4	4000

Notes:

- The investments refer to original investments and there have been significant cost overruns.
- Currently Mumbai cost is estimated around Rs. 9800 Cr as per press reports.
- Government ownership is 26% in all 4 airports, in Delhi and Mumbai AAI holds 26%. In Hyderabad and Bangalore, AAI has 13%, with respective State Government holding 13%. In addition to the Grant of 107 Cr, GoAP has also given an interest free loan of Rs. 315 Cr to the Hyderabad airport.

Conclusion: Achieving a WIN-WIN

1

Ability & willingness of private sector to invest in core infra established

2

Competition has moderated returns in ports & telecoms; Don't cap returns. Let them come.

3

Focus on implementation. NHAI, land, environment.

4

Focus on transparency and competition.

Thank you