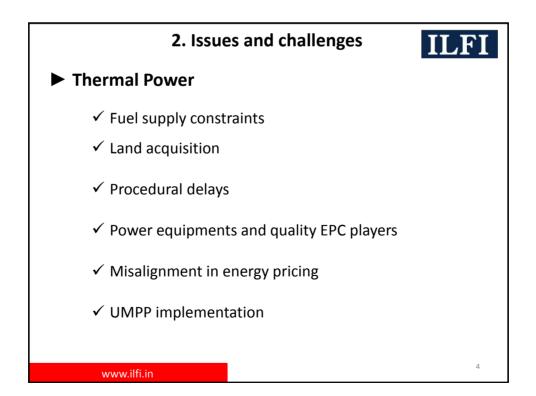


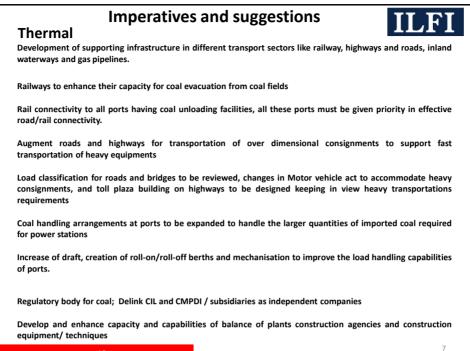


1. Where we stand today ILFI
 Over 1400 BU estimated electricity requirements in next 5-6 years as against the present level of around 900 BU; generation growth rate stands nearly 7-8 % CAGR.
Per capita consumption is around 900 units as against world average of over 2800 units; per capita consumption growth stands nearly 5.5 % CAGR
■ Energy deficit and peak deficit continue to remain high with average 8-9 % and 10-12% respectively
Average energy shortfall is around 85000 MU; to meet peak demand average shortfall stands at around 13000 MW
■ 190+ GW of total generation capacity addition is estimated in next 8 years to meet the demand by 13 th plan as against present capacity level of over 228 GW
■ 3500+ MW of existing Solar Power Generation capacity as against the target addition of 20000 MW in next 6 years
Declining hydro share (17%) in generation capacity mix, only 27% of India's hydro potential is tapped with present capacity of 40000 MW against 15000 MW potential
■ Disbursements by PFC and REC averages to 40 to 50 % as against sanctioned amounts
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✓ Fuel supply constraints	ILFI
Coal	Gas
 Coal linkages and agreement Proximity to coal mines and coastal regions to gain efficiencies 	 Inadequate availability of gas leads to unutilized / idle capacity; Low PLF
 Inadequate availability of domestic coal, dependency on imported coal 	 Domestic supply allocation
 Domestic coal production is estimated to increase by 28% in next 5 years as against 41% increase in the overall demand in same period 	meets only 60-65% gas demand for power;
 Coal domestic supply deficit (150 million tonnes) continue to rise leading to increasing imports 	 Import dependency bring in price volatility
 Dependency on imported coal likely to increase from 18.8% to 22.4% by end of 12th and 25.9% by end of 13th plan 	
 Uncertainty in overseas coal linkages as alternative 	 High cost of R-LNG; and it transportation to power plant
 Changing regulations in source countries (Indonesia / Australia) impacting availability and price volatility of imported coal; 	 High cost of power generation
 Lack of progress in captive coal mines 	
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✓ Land acquisition	ILF	
 Change of use – agriculture land 		
	✓ Power equipments and quality EPC players	
 Availability with access to water; connectivity and related site approval 		
	 Transportation of equipments to project site is a 	
 Delays in clearances and approvals; and public resistance 	big challenge	
	RM and LE of plants;	
Procedural delays		
 Delays in project related clearances 	Power supply related issues to shut down of	
	plants of RM; cost efficiencies for equipment	
 Environment; Forest; site related approvals 	supply companies for RM	
 Project execution risk associated with procedural 		
delays	✓ Misalignment in energy pricing	
✓ UMPP implementation		
	 Politically sensitive issue leading to untargeter subsidies 	
 Fuel supply agreement; 	30030063	
 Tariff rationalization - tariff versus cost of coal 	 Widening gap between average tariff and 	
	average cost of supply	
 Lack of infrastructure and logistics support for 		
equipment transfer	 Adverse fluctuations in fuel prices not account f in competitive bid tariffs; making project unviable 	



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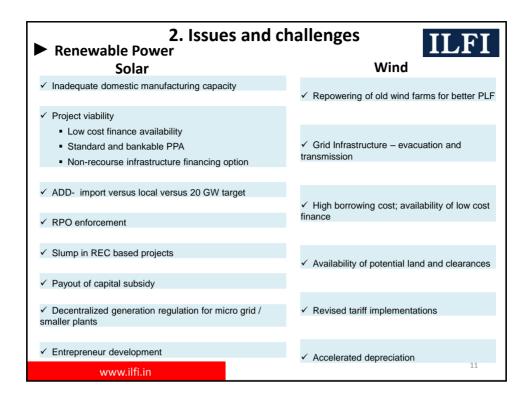
2. Issues and challenges ILFI ■
✓ Land acquisition problems
✓ Environment and forest clearances
✓ Environmental impact, resettlement and rehabilitation issues
✓ Compensation of forest land – valuation based on net present value
✓ Compensation issues related to R & R
✓ Law and order problems in project implementation
✓ Geological surprises; lack of reliable surveys
✓ Inter-State Issues – river basin and water sharing issues
✓ Inadequate power evacuation facilities
✓ Dearth of good contractors for construction
✓ Lack of private sector interest
✓ Access to Site; logistics and transportation issues
✓ Long gestation period and uncertainty in execution – lack of interests amongst financial institutions and private sector
✓ Apportionment of project costs to various agencies and beneficiaries
✓ Delayed payment by State utilities – discipline / escrow account
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Imperatives and suggestions Hydro Power Developer should be able to make a single application (once) for environment and forest clearances Do away with separate public hearings for environment; forest etc to avoid project delays Only one public hearing for all clearances required for the project TOR once decided and agreed should not be changed; as DPR is developed based on TOR and submitted with TOR period Lack of defined guidelines for clearances for example environment flow should be based on scientific basis and not arbitrary ; Review guidelines related to project clearances in consultation with all stake holders; with transparency Forest land compensations to be reviewed - developer pays for land to owner; for rights and privileges and for compensatory land

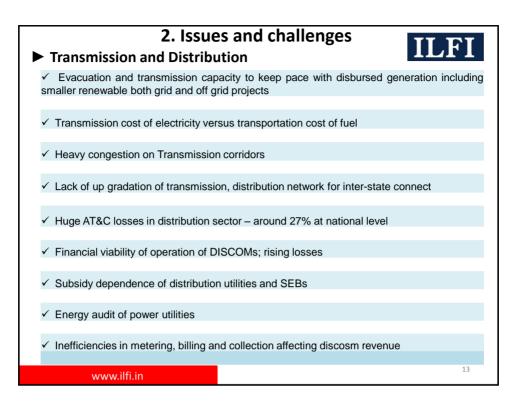
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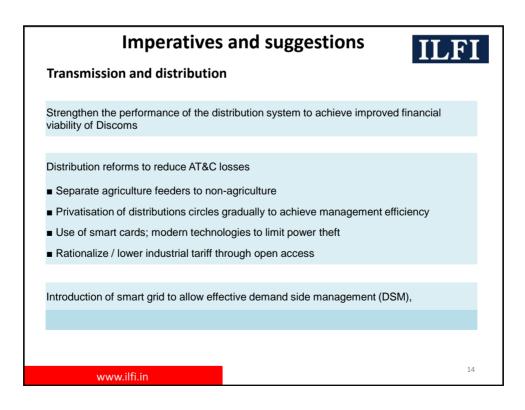
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Imperatives and suggestions
Hydro Power
Government should identify and create land bank for developer to compensate for forest land
Low PLF of hydro plants leads to high transmission costs; National Clean Energy funds should be made available for evacuation
ROE for hydro projects are 16.5% as against 15.5% of thermal whereas hydro project cost per MW and implementation periods double then thermal plants, to encourage private sector interest payment on equity to be considered
To reduce hydro costs, tax incentives to be provided - concession of custom, excise duty on equipments; construction materials; and services tax exemptions
Developer to be compensated for provision of irrigation and flood moderation in the project
Take up few large projects as fast track projects for speedy implementations
Assess logistics and transportation requirements of fast track projects with developers; and ensure support from respective ministries - transportation , Railways
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Solar Imperatives and suggestions
Rationalize / reduce various grid charges for smaller solar plants which do not use medium grid;
Reduce open access charges, cross-subsidy surcharge, transmission charges, transmission losses, wheeling charges and wheeling losses to encourage small entrepreneurs to set up micro grids
RPO to be enforcement and monitored strictly; penalty structure to put in place for not meeting RPO
Revive REC mechanism as there is uncertainty in price beyond 2017
Stringent norms to ensure quality of imported cells, modules and equipments
Projects awarded or cleared before imposition of ADD notification should be allowed imports without ADD
Mechanism tom trade off local manufacturing versus imports keeping in view the existing domestic capacity and generation targets
Mechanism to make available reliable and detailed performance data of the plants
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ILFI	
Thank You	
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