

ENERGY FINANCE

CFA&IIT MADRAS 16&17 Aug 2019

The Current Asset stranding crisis in the country and the need for suitable intervention and implementation of better policies to put in place a well structured energy transition trajectory in country .

-D. Thomas Franco

STUDY PUBLISHED IN NATURE 2015

- Christophe Mcglade & Paul Ethins

Reaching a goal of limiting climate change to less than two degrees of warming would require us to keep a large portion of existing fossils fuel reserves in the ground.

- An estimated 1/3 of oil reserves
- Half of Gas Reserves
- More than 80% of known coal reserves should remain unused under the Paris agreement

HOW COULD ASSETS BECOME STRANDED?

- New Govt regulations that limit use of present fuels
- A change in demand like shift to renewable energy
- Legal Action

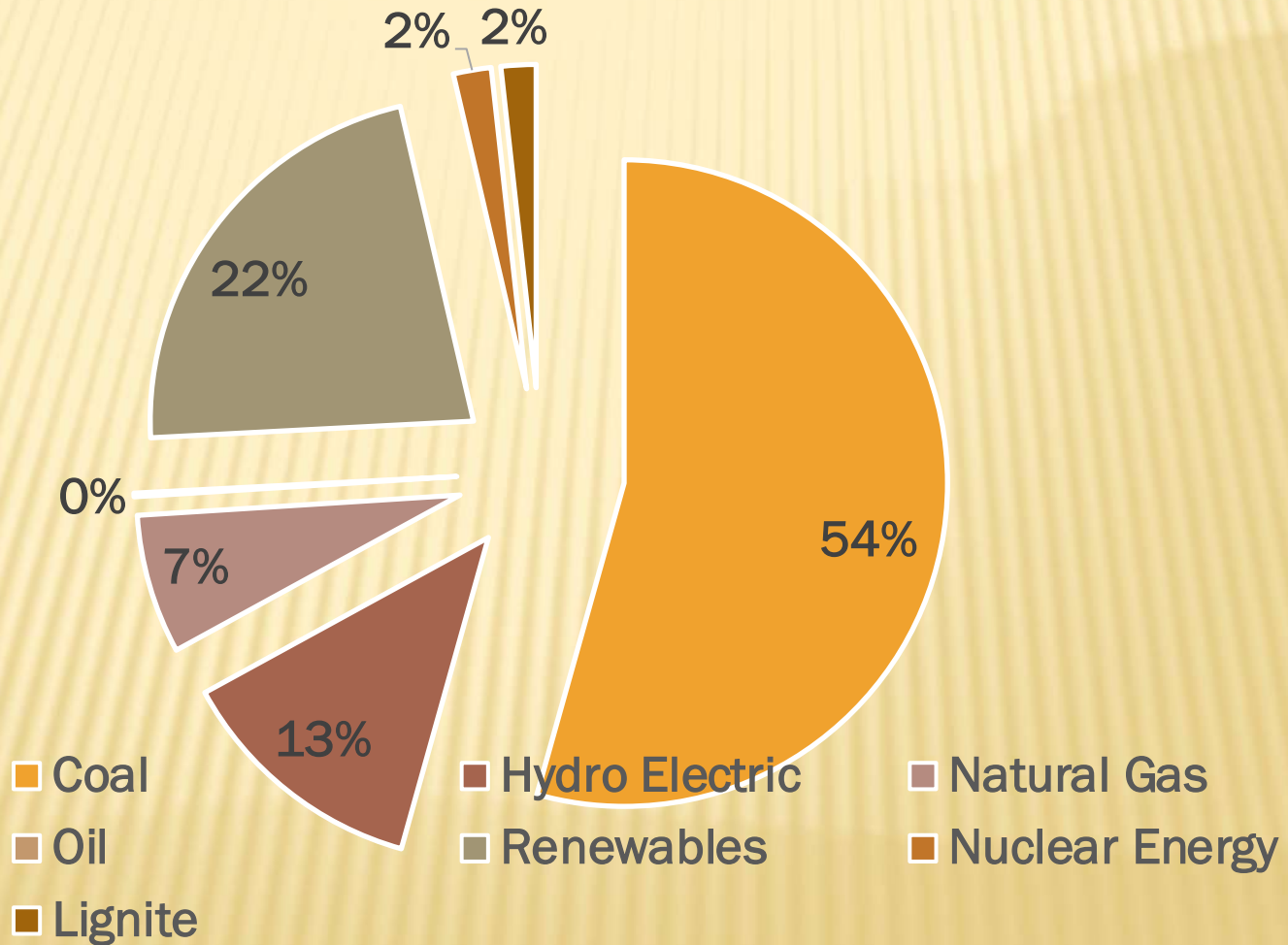
WHO IS EXPOSED TO THE RISK OF STRANDED ASSETS?

- Investors
- Share Holders
- Bond holders of the Company
- Banks
- Pension funds
- Insurance Companies etc

(Ref : The Price of Doing Too little – Too late)

Green European Foundation

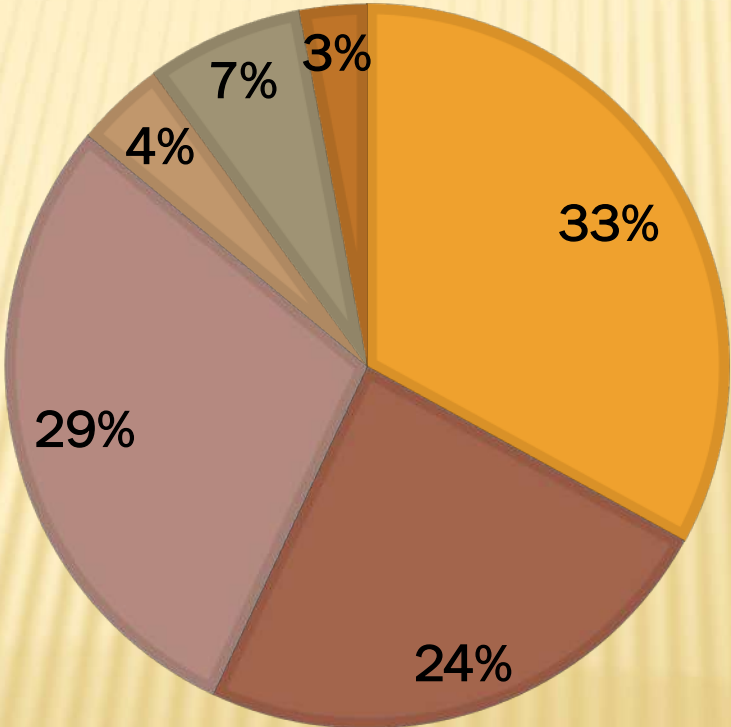
ENERGY MIX OF INDIA (2019)



ENERGY MIX OF WORLD (2015)

CHART TITLE

- Oil
- Natural Gas
- Coal
- Nuclear Energy
- Hydro Electric
- Renewables



INDIA'S DEVELOPING TARGETS

175 GW renewable energy by 2022

24x7 reliable Power Supply by 2022

Housing for all by 2022

100 Smart Cities Mission

Provision of Clean Cooking Fuels

Meeting the INDC target as committed in COP 21 in Paris.

ENERGY DEMAND AS PROJECTED BY NITI AYOOG

Sector	2012	2047	
		BAU	Ambitious
TWh			
Buildings	239	2971	2450
Industry	2367	12855	9907
Transport	929	5528	3604
Pumps& Tractors	237	798	636
Telecom	83	231	131
Cooking	1066	522	463
Total	4920	22905	17192
Potential energy demand reduction in 2047 between BAU and Ambitious scenarios (%)		25%	

SHARE OF ELECTRICITY IN ENERGY DEMAND

Parameter	2012	2047	
		BAU	Ambitious
Share of electricity in energy demand	16%	25%	29%

ENERGY SUPPLY

	2012	2047	
TWh		BAU Scenario	Ambitious Scenario
Nuclear	76	523	902
Renewable Energy	190	2205	2878
Agriculture/waste	1060	1510	1936
Coal	3272	15155	9790
Oil	1938	8434	5385
Natural gas	571	2331	2402
Total	7108	30158	23294

INSTALLED CAPACITY

GW	2012	2047	
		BAU Scenario	Ambitious Scenario
Gas Power Stations	24	50	83
Coal power stations	125	333	459
Carbon Capture Storage (CCS)	0	35	80
Nuclear power	5	26	45
Hydro Power Generation	41	75	105
Solar PV	1	306	346
Solar CSP	0	90	131
Onshore Wind	17	213	230
Offshore Wind	0	20	62
Small Hydro	3	20	30
Distributed Solar PV	0	19	216
Biomass	5	11	23
Waste to Electricity	0	6	6
Total	221	1375	1816

IMPORT DEPENDENCIES

	2012	2047	
		BAU Scenario	Ambitious Scenario
Coal	17%	65%	34%
Oil	77%	90%	78%
Gas	22%	51%	33%
Overall	31%	61%	36%

ENERGY MIX OF INDIA

	2012	2047	
		BAU Scenario	Ambitious Scenario
TWh			
Nuclear	1%	2%	4%
Renewable Energy	3%	7%	12%
Agriculture/waste	15%	5%	8%
Coal	46%	50%	42%
Oil	27%	28%	23%
Natural gas	8%	8%	10%

CHALLENGES FOR THE FINANCIAL INSTITUTIONS

REASONS LEADING TO NPA

Main reasons for increase in NPAs of banks, inter-alia, are sluggishness in the domestic growth during the recent past, slowdown in recovery in the global economy and continuing uncertainty in the global markets leading to lower exports of various products like textiles, engineering goods, leather, gems, external factors including the ban in mining projects, delay in clearances affecting Power, Iron & Steel sector, volatility in prices of raw material and the shortage in availability of power have impacted the operations in the Textiles, Iron & steel, Infrastructure sectors, delay in collection of receivables causing a strain on various Infrastructure projects, aggressive lending by banks in past.

PARLIAMENTARY STANDING COMMITTEE REPORT ON NPA 5.3.2016

1. RBI and banks have not intervened in time
2. Accountability of DIRECTORS & MDs
3. PENAL ACTION FOR POOR APPRISAL
4. One size fits for all not correct
5. Quality of equity of Promoters not good
6. DFIs
7. No secrecy on defaulters

CONTD

- ✘ 8. No RBI Director in Banks boards
- ✘ 9. CDRs should be quick and asset take over fast
- ✘ 10. SDR MECHANISM should reduce
- ✘ 11. Allow write off in a staggered manner
- ✘ 12. IMPROVE DRTs functioning
- ✘ 13. Speedy clearing of projects
- ✘ 14. RBI Should review Restructuring projects

RECOMMENDATIONS OF THE STANDING COMMITTEE

6. As a way forward the committee are of the view that developing and strengthening a vibrant bond market to finance infrastructure projects will be a sound proposition. At present only banks and similar financial institutions are involved in funding large projects on a short term lending basis. There is a huge mismatch between their deposit tenure and credit term. Thus every time there is even a minor delay in projects, they are declared as NPAs. There fore DFIs should be revived. Infrastructure Finance Corporation should buy the assets from banks. IFCs should hold equity in the infrastructure projects.

NOT IMPLEMENTED

BIGGER POWER PRODUCERS NOW

Adani

Ambani

Tata Power

Bhushan power and Essar declared as NPAs

Anil ambani and others given concessions.

Gujarat changed PPA to help Adani, Tata and Essar

CATEGORIES NEEDING BANK SUPPORT

Electric Power Systems Operators, DISCOMS

Electric Power Generation Companies

Nuclear Power Companies in India

Solar Energy Companies in India

State Electricity Agencies

Wind Power Companies

COAL

Mainly with Government. Hence Govt can still intervene

NATURAL GAS

Reliance – BP-JV for 5500 outlets

IOC, Adani to invest Rs.9600 Cr in City Gas
Projects

Torrent group to work in UP for gas pipeline

INTERVENTIONS NEEDED

- No Mega Power Plant or Energy Companies with bank loans. Let them go to Bond market
- Strengthen entire Public Sector- Not privatise
- Focus on R&D for alternatives including decentralised
- More renewable energy – Solar Power Storage
- Roof top Solar
- Grid improvement
- Development Finance Institutions
- Include Solar in Housing Projects
- Solid Waste Management to Produce Energy
- Change the rules of the game to support majority and not miniscule minority.