

Proposed Coal-Based Power Projects in Konkan

• Shahapur, Raiogad (Tata)	• 3,000MW
• Bhopan, Dapoli (GMR)	• 1,800MW
• Dhopave, Guhagar (NTPC)	• 1,600MW
• Jaigad, Ratnagiri (JSWEL)	• 3,200MW
• Ranpar, Ratnagiri (Finolex)	• 1,000MW
• Munage, Devgad (Ultramega)	• 4,000MW
• Dhakore, Ajgaon, S'wadi (Ind Bharat Power)	• 1,050MW
Total	15,650MW

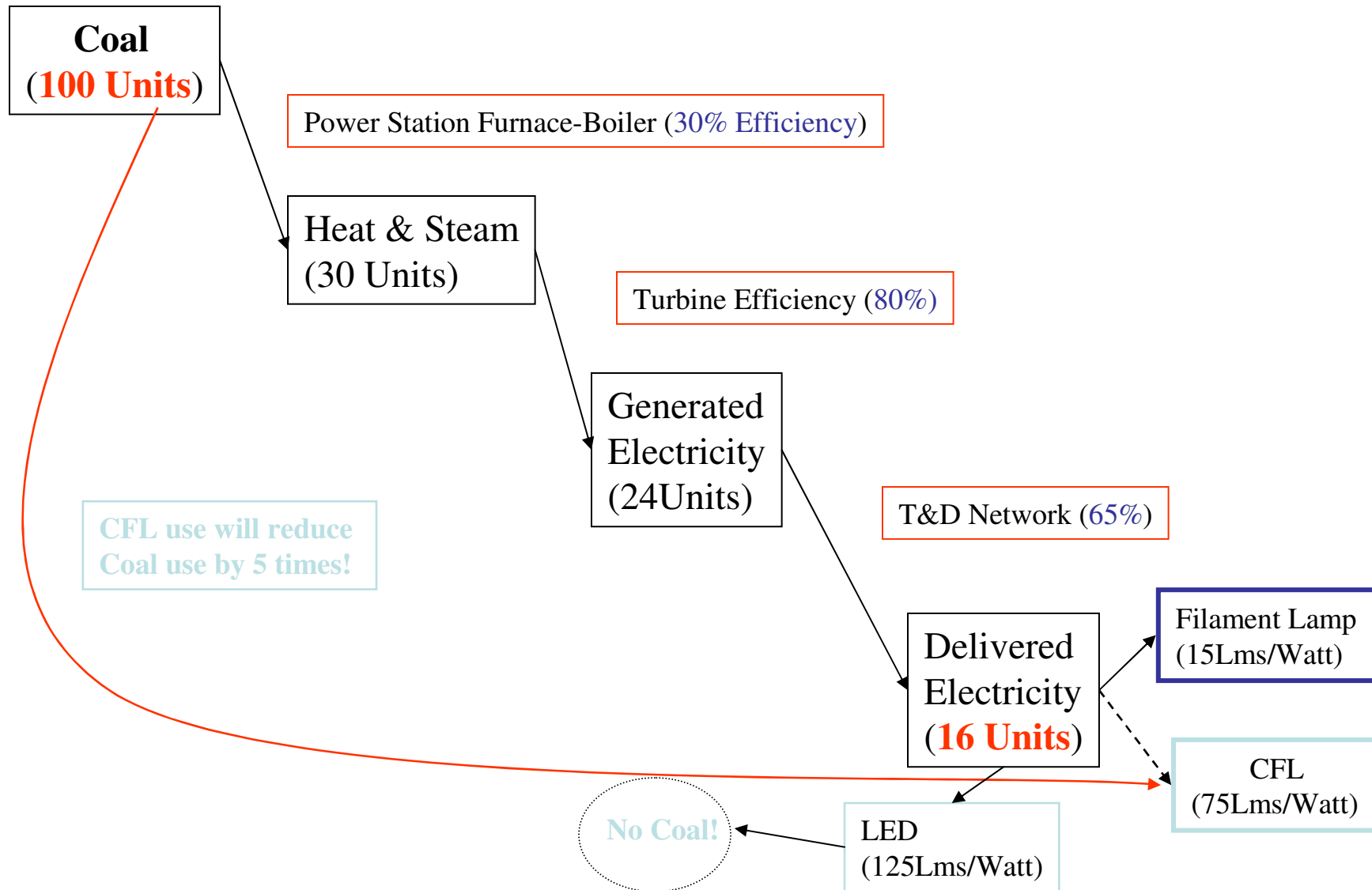
Low Per Capita Energy Use in India

	Primary Energy (kgoe)	Electricity (kwh)	Oil (kgoe)	Gas (cu. m.)	Coal (kg)**
India (2003-04)	439	553	111	30	257**
India (2031-32)*	1250	2471	331	149	925**
World (2003)	1688	2429	635	538	740
OECD (2003)	4668	8044	2099	1144	1651
USA (2003)	7840	13066	3426	2176	3410
China (2003)	1090	1379	213	32	1073
S. Korea (2003)	4272	7007	2264	627	1541
Japan (2003)	4056	7816	2146	845	1247

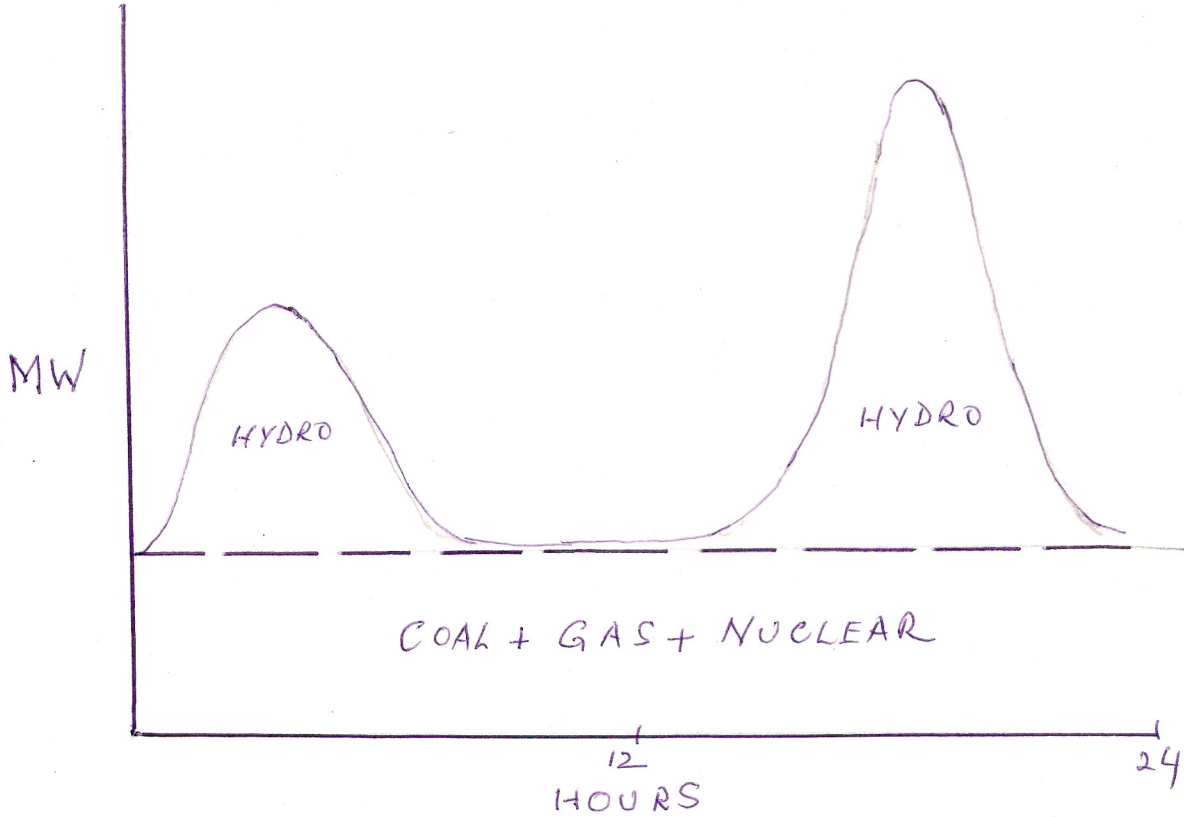
•Indian Planning Commission: Integrated Energy Policy (August 2006)

** Quantities equivalent to hard coal of 6000 kcal/ kg)

Per Capita Energy Use vs Per Capita Useful Energy Available



Typical Daily Load Curve



Hydro Capacity (August, 2010)

Mode	All india	Westerns Region	Maharashtra
Total	1,64,836	51,454	21,904
Hydro	37,328	7,447	3,332
Hydro (%)	23	14	15

Energy Deficit (August, 2010)

	All india	Westerns Region	Maharashtra
Actual requirement (mkwh)	70,378	18,994	9,337
Availability (mkwh)	65,219	16,976	7,971
Surplus (+)/ Deficit (-)	-5,159 mkwh (-7.3%)	-2,018 mkwh (-10.6%)	-1,336 mkwh (-14.6%)

Peak Deficits (August, 2010)

	All india	Westerns Region	Maharashtra
Demand (MW)	1,14,844	32,510	16,314
Actual (MW)	1,02,493	27,728	13,222
Surplus (+)/ Deficit (-)	-12,351 MW (-10.8%)	-4,782 MW (-14.7%)	-3,092 MW (-19.0%)

1000 MW Coal-based Power Plant

(70% Indian coal 30% Imported coal)

Land	600 acres	
Water	2,952,000 CuM per day	
Employment	250 (largely skilled)	
Coal	14,240 Tonnes per day	
Ash	5,040 Tonnes per day	
Sulphur	740 Tonnes per day	
Nitrogen	153 Tonnes per day	
Mercury, Arsenic, Cadmium, Zinc, Radioactive isotopes	~	

Pollution from Coal

Ash disposal difficult

Ash pollutes the air (Dry ash spreads around the project site)

Coal & Ash dumps at project site cause

- o leaching into ground water sources (Contamination irriversible)
- o Toxic pollution of surface water bodies/ water courses/ sea water
- o Contamination of the soil around the site

Heat pollution: Impact on marine resources

Residents of villages around existing power plants have complained of bronchial diseases & skin irritation

Diversion of Public Lands for Power Plants

Agricultural land	Affects food security (Hon'ble Supreme Court's guidelines)
Wetlands	Wetlands support traditional fishing and other livelihoods, bio-resources, migratory birds National Environment Policy & International Conventions for protection of wetlands, bio-diversity, migratory bird species-
Coastal lands	Affects fishing communities' access to sea, affects marine resources
Pasture lands & other "commons"	Affects livelihoods

Nega-Watt?

- LEDs/ CFLs for Filament Bulbs
- Use efficient
industrial motors/ ACs/ Refrigerators/ Coolers/ Heaters/ Pumpsets
- Demand management by staggering load (e.g. load limiters)
- Upgrade T&D voltages
- Optimise T&D systems
- Enhance thermal efficiency of power plants
- Optimise thermal/ hydel mix
- Modify lifestyles (social marginal cost of kw/ kwh high!)

Legal Principles

- Doctrine of Public Trust

[M C Mehta vs Kamal Nath and Others: (1997)1 SCC 388]

- Precautionary Principle

[APPCB vs Prof. M V Naidu, AIR 1999 SC 81]