



# India's Coal Power Sector *Boom or Bust?*

*Risks for communities and  
investors alike*

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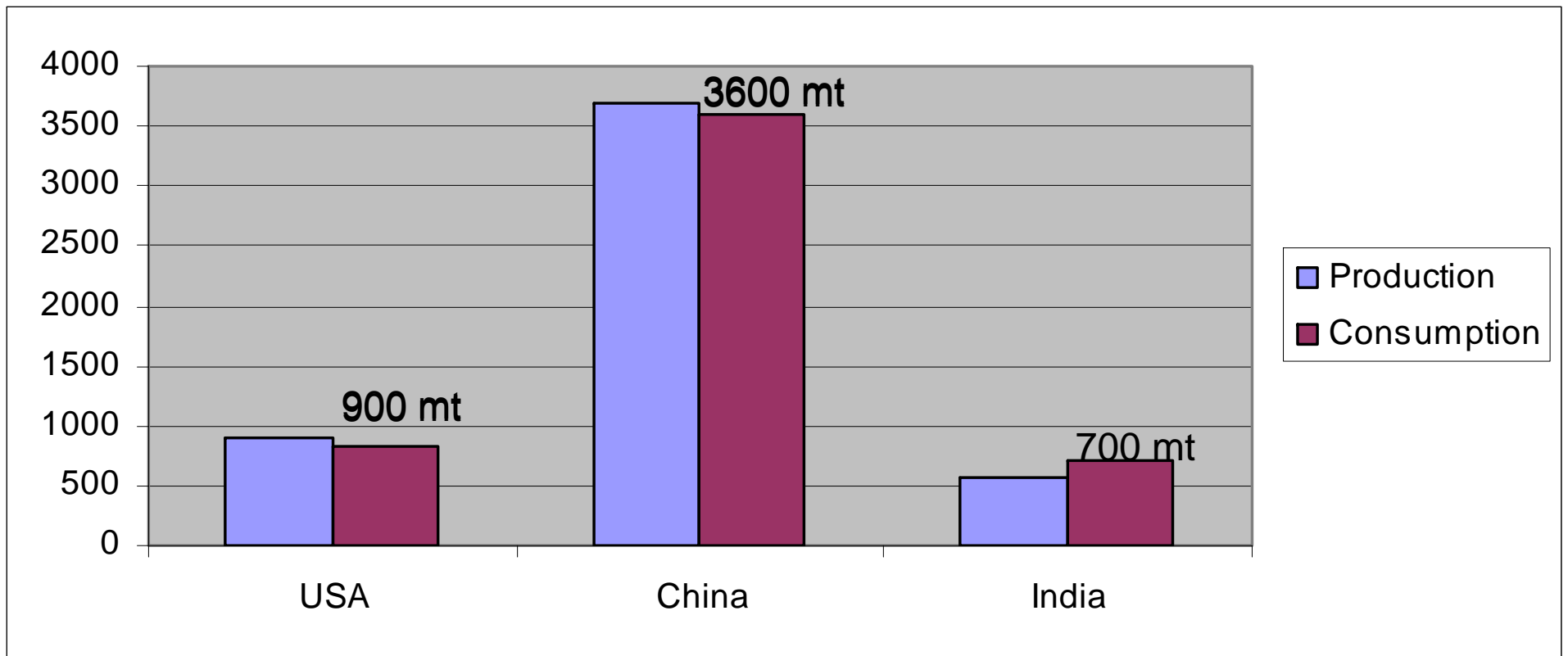
- 58% of installed capacity and 65% of generation
- India produced ~550 mn tonnes (mt) of coal in 2013. Imported about 150 mt more.
- Conventional wisdom – huge coal growth in the next decade



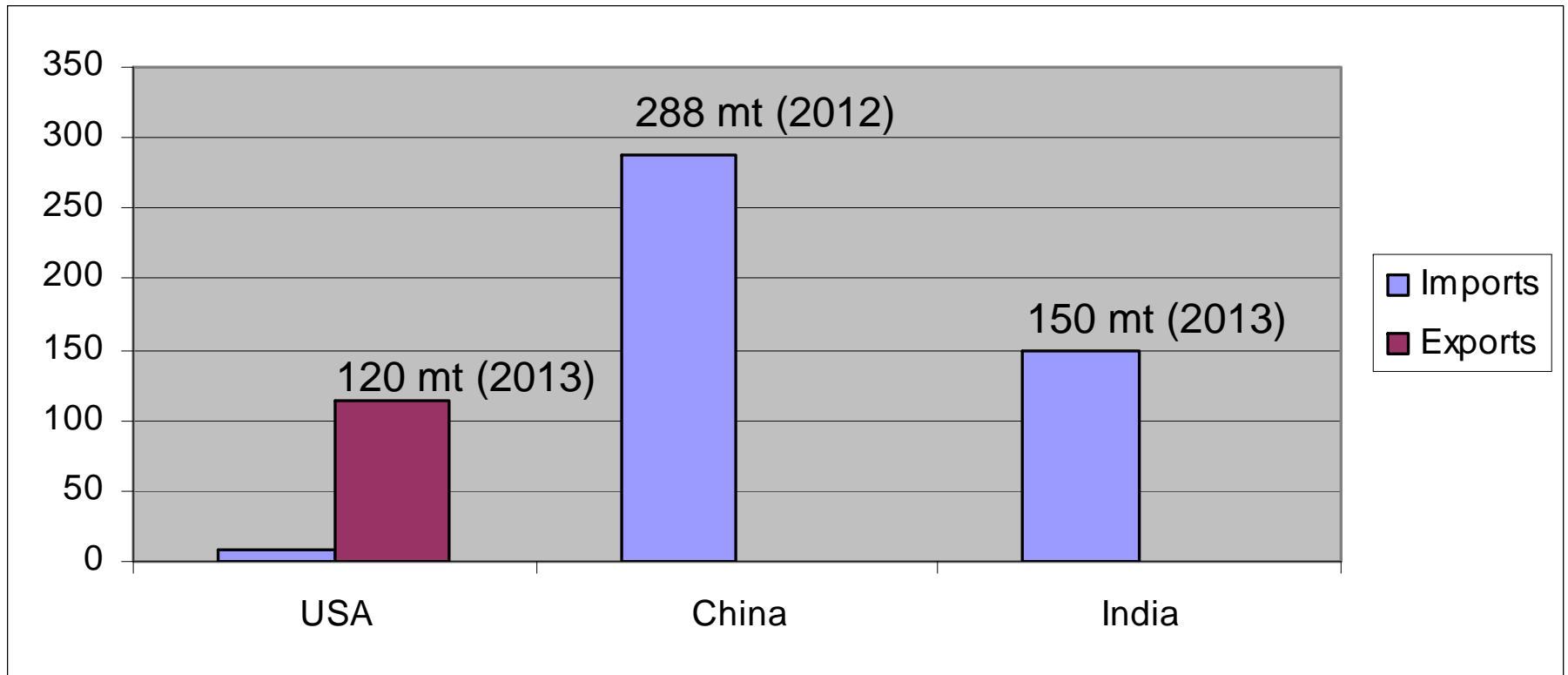
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# US, China and India *production & consumption*



# US, China and India *imports & exports*



# How big is the coal power pipeline?

- WRI – 519 GW in the pipeline (2012)
- Greenpeace preliminary estimates (2014)
  - 108 GW currently under construction
  - 241 GW proposed
  - 40 GW stalled or shelved

# India's coal expansion

- Indian govt estimates coal demand at 1.6 to <2 bn tonnes by 2030.
- 3x increase required in domestic production
- Most untapped coal reserves in forest areas
- Thousands of forest-dependent communities at risk
- Over 1 million hectares of forest at risk in 13 coalfields - tiger, elephant and leopard habitat
- Massive public health impacts

# Opposition to coal growing rapidly

- The majority of new power plants and mines are facing opposition from affected communities, activists and enviros
- Legal action has led to the delay or cancellation of several plants in the last 3 years, many more now in courts
- Groups fighting coal in all major coalfields – on grounds of forest loss, livelihood rights, biodiversity, water conflicts



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# Imports a Solution?

~150 mt of coal imported in 2013.

~70% from Indonesia, sub-bituminous

Landed price of \$35-65 a ton.

Demand for imported coal exists, but Price Sensitive

Indonesia most cost-effective option for Indian coal importers – hard to see US coal ever making a dent in India



# India's power sector under stress

- Low Plant Load Factors due to **low coal supply AND low demand from distribution cos.**
- 40GW of stalled or cancelled projects
- Many more incurring losses, severely delayed
- Prospects of quick resolution dim
- All private power producers heavily leveraged
- Inadequate coal supply, resource conflicts and tariff disputes biggest obstacles
- Huge pressure on Coal India to ramp up production by 8% p.a.

# Coal India & its aborted share offer

- World's largest coal miner? 460 mtpa production.
- Produces 80% of India's coal
- Hugely successful IPO in 2010: oversubscribed 15 times, generated about \$2.8 bn in revenue
- Govt wanted to sell another 10% of shares in 2013, hoping to raise another \$3 bn to meet its deficit reduction goals
- 2013: Hype around Coal India remained, despite huge changes in the operating environment for the coal sector since 2010



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# Pressure on big banks

- Coal India announced Goldman Sachs, Bank of America, Credit Suisse and Deutsche Bank as underwriters of the share offer
- Greenpeace, RAN, BankTrack, Urgewald pressured the banks to back out due to CIL's terrible social and environmental record
- Banks started asking questions, message reached Coal India

# Finance hub

From Guardian Sustainable Business

## Goldman and Deutsche back India Coal despite their environmental standards

What does all the sustainable banking rhetoric mean if the leaders in finance won't reject coal-mining share offering?

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Marc Gunther  
theguardian.com, Tuesday 1 October 2013 13.04 EDT

# Coal India: *Running on Empty?*

September 2013: Greenpeace and IEEFA question  
CIL's reserve figures

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# Coal India: Running on Empty

- CIL's extractable reserves will be exhausted ~17 years at targetted production rates
- CIL has been misleading shareholders about the extent of its extractable reserves - an overstatement of 16% or 3.5 billion tonnes.
- Majority of CIL's proven "resource" (62 bt) cannot be considered currently extractable either because feasibility studies have not been done, or because the coal is not economical to extract.

# Key Findings

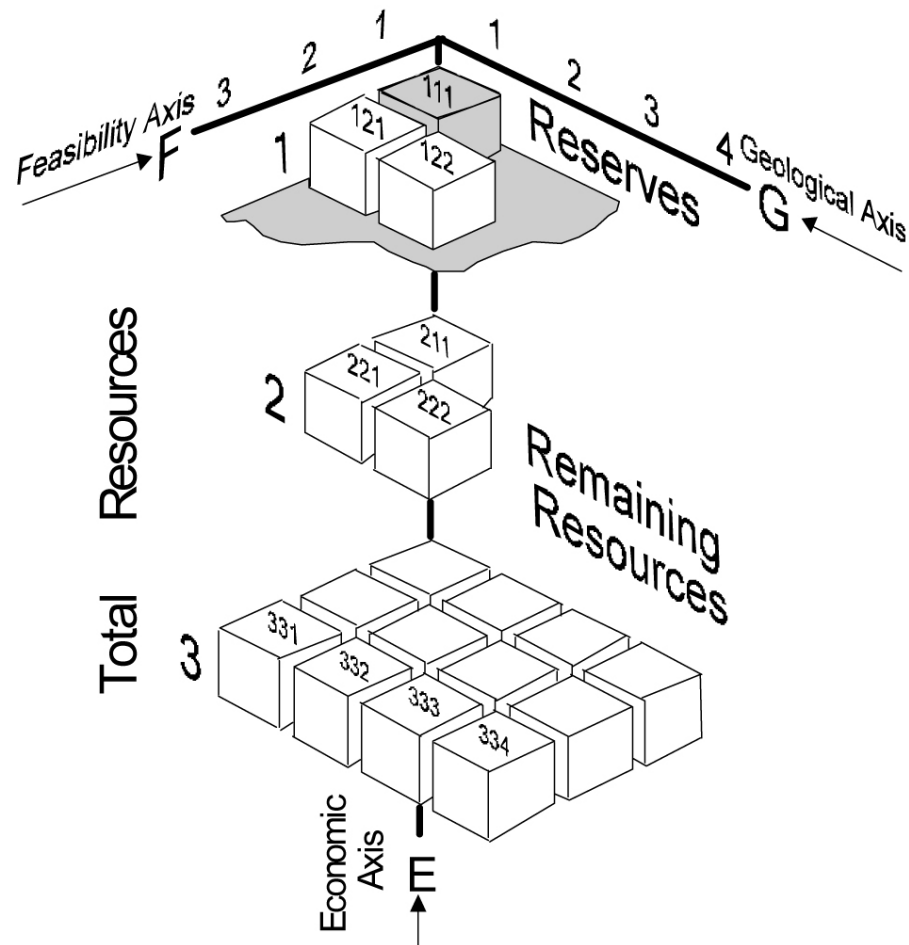
- Considerable doubt about accuracy of even the new, reduced reserve figures as feasibility studies have not been done :
  - No assessment of reserves under forests, water bodies, townships, protected areas etc.
  - Data not public

**Coal India has missed production targets for the last five years, and will miss its FY2014 target by around 20 mt.**



# UNFC System

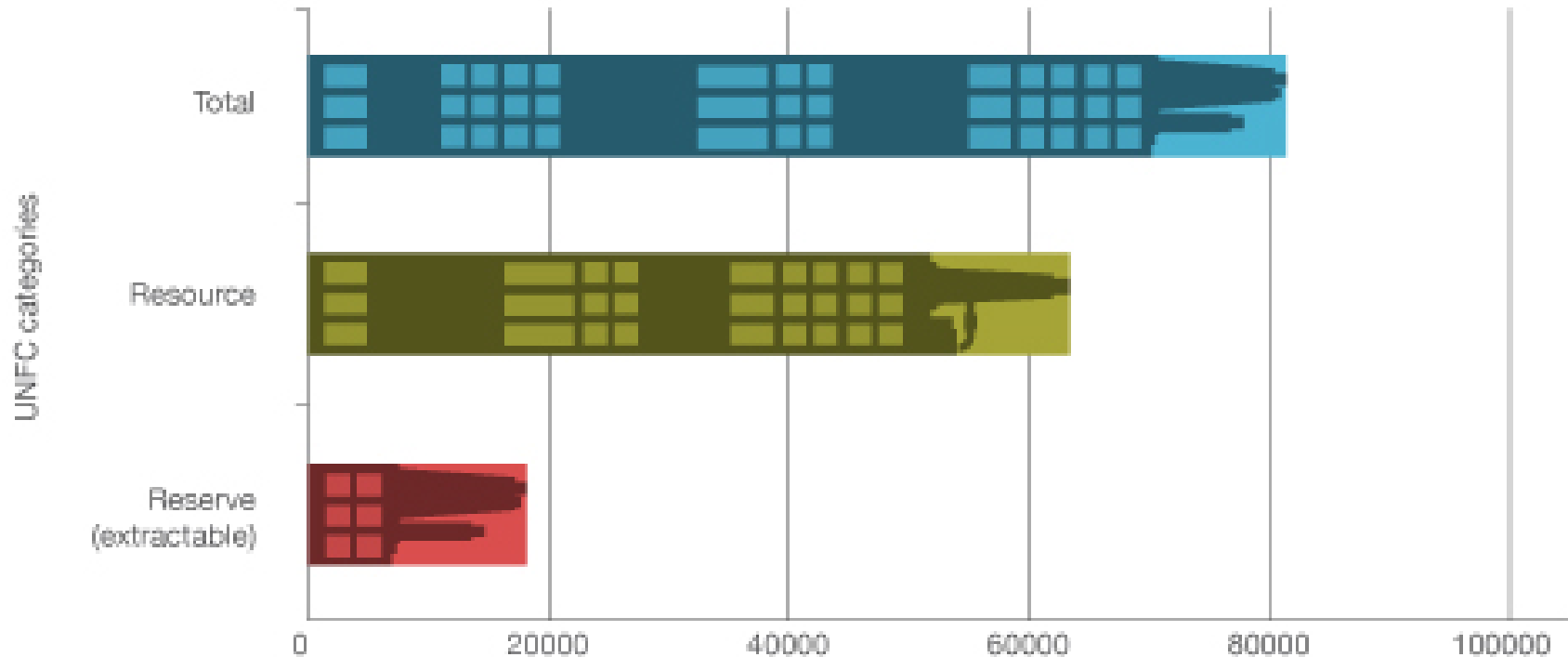
- Govt of India decided to switch to UNFC in 2001. Coal India & Coal Ministry did not act.
- Since then, the need to accelerate the switch to the UNFC system has been stressed by:
  - Expert Committee on Roadmap for Coal Sector Reforms (2007)
  - The Energy Resource Institute, TERI (2011)
  - The Indian Chamber of Commerce, via a PwC report in 2012 on the challenges facing the Indian coal sector and the future outlook.



- Because the UNFC system considers three criteria, economic viability (E), field project status and feasibility (F), and geological knowledge (G), it is considered a more accurate measure of extractable reserves than the ISP system.
- Each criteria has a number ranging from 1 to 3 with 1 being the most valuable.
- A coal reserve of Class 1.1.1 is considered to be of prime interest to investors and is 'proved mineral reserve'.

- The total coal that exists is the resource. Only some of this is extractable.
- CIL's 2010 extractable reserve figure of 21.7 BT based on 1956 India Standard Procedure (ISP) system.
- UNFC assessment done by CMPDIL showed 18.2 BT in 2011.

Figure 2: Coal India's Reserves under UNFC system



# Investor issues

- Government took decision to shift to UNFC from ISP in 2001.
- CIL/CMPDI documents show that the UNFC exercise was underway since 2005 or earlier.
- But no mention made of UNFC assessment in 2010 IPO prospectus.
- UNFC figures submitted by CMPDI in 2011.
- Approved by CIL board in 2012.
- But no announcement or notice to stock exchanges, regulator or investors. CIL continued to use old figures.
- Clear case of non-disclosure. Complaint to regulator
- Can the company be trusted by shareholders and potential investors?

Moneycontrol > News > Stocks

Sep 24, 2013, 12.15 PM IST

# Coal India falls 2.5%, Greenpeace files complain with Sebi

Global activist group 'Greenpeace India' released its report on Monday accusing the state-run company of misleading its investors by understating its extractable coal reserves by 16 percent at the time of its 2010 listing which was a violation of Indian Stock Exchange rules.

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### Moneycontrol Bureau

Shares of [Coal India](#) were down 2.5 percent in afternoon trade on Tuesday. Global activist group 'Greenpeace India' released its report on Monday accusing the state-run company of misleading its investors by understating its extractable coal reserves by 16 percent at the time of its 2010 listing which was a violation of Indian Stock Exchange rules. The activist group has now reportedly filed a complaint with market regulator Sebi against Coal India.

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# CIL reaction

- CIL claimed the report was “rubbish” – no obligation to disclose figures to exchanges
- Claimed they add 2 bn tonnes of reserves every year and do not disclose this to exchanges either
- However, 17 days later, on Oct 10, CIL investor presentation used, for the first time, the UNFC figure of 18.2 bn tonnes. ISP figure dropped with no explanation!
- Ex-CIL geologists confirm that the company management wrongly considers its “resources” and its “reserves” as synonyms, creating a false sense of security.

# Implications

- Even with a lower growth rate of 5%, CIL would exhaust its extractable reserves by 2034. This growth rate is too low to meet projected demand.
- This means power plants recently built /under construction/ proposed will face coal supply issues through all or most of their lifetime (~ 25 years).
- Plans to add at least 100GW more coal power by 2017
- Very real risk of stranded or unprofitable investments
- CIL already says it is unable (and unwilling) to meet demand.
- Forced to sign FSAs – only 65% of demand.
- Refusing to add new plants to its supply obligations
- Temporary blip or permanent decline?

# Implications

- Pressure to import coal will rise – price burden will have to be borne by consumers or producers or distributors. Threat to the economy. Example: Mundra and Krishnapatnam projects
- Increased dependence on imports - energy security threat
- India will be hostage to the international coal price
- Impacts on the Current Account Deficit, forex reserves and value of the Rupee
- Increased desperation to tap any coal reserve, irrespective of social and environmental price – intensified conflict
- Privatisation of CIL will not help - basic problem is paucity of extractable reserves, uncertainty around figures, poor exploration



# Can CIL increase its reserves?

## PRACTICAL CHALLENGES:

- **Low exploration rates**

CMPDI's exploration rates are just 33% of their target. 500 billion meters as against a target of 1.5 trillion meters of drilling.

70% of India's proven reserves have been allotted to CIL. CMPDIL has not conducted UNFC assessments outside of CIL's blocks.

***Secretary, Min of Coal: "We don't have too many explored blocks on offer." ---- May 28, 2013.***

# Can CIL increase its reserves?

## PRACTICAL CHALLENGES:

- Shift to deep mining difficult

90% of CIL coal comes from open pit mines, less than 150 m. deep.

Most shallow seams already being exploited. Most remaining coal lies deeper, below 150 m.

CIL has created almost no new deep mining capacity in the last decade.

Shift to underground mining could make consent and clearance easier, but will raise costs, reduce output.

UG mines only able to extract 40-70% of a deposit.

***“Unless CIL shifts to underground mining, output will stagnate by end of this decade” DC Panigrahi, Indian School of Mines, 2012***

# Can CIL increase its reserves?

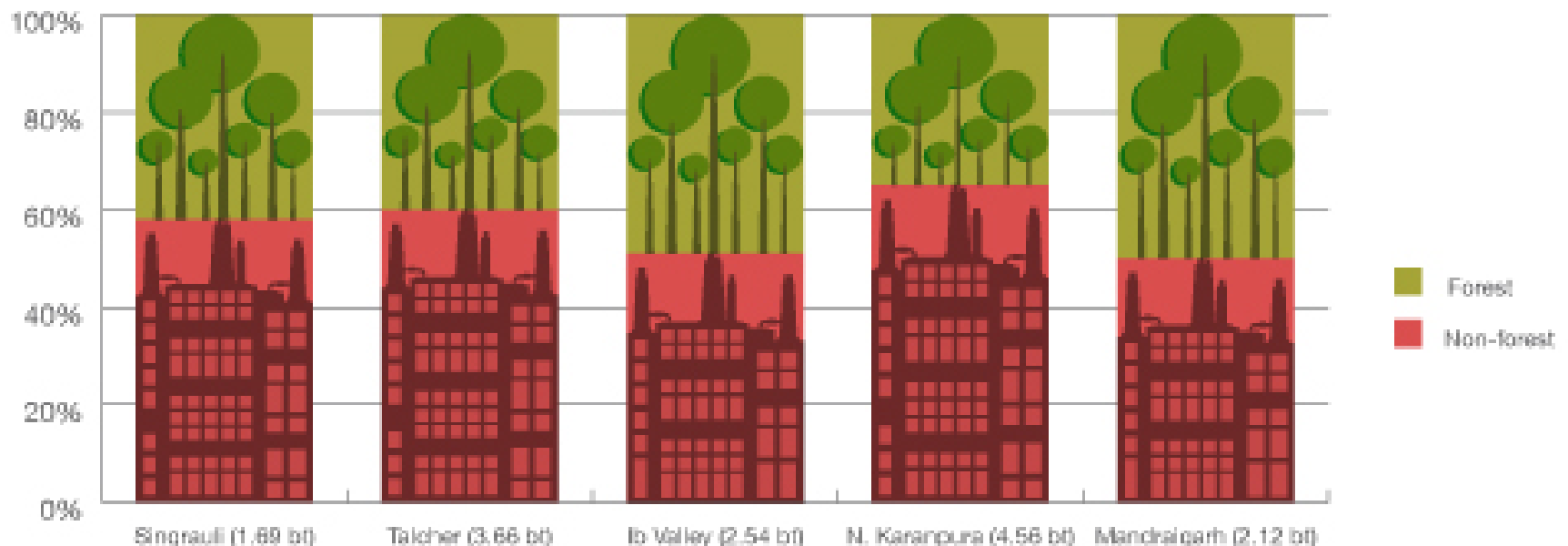
## PRACTICAL CHALLENGES:

- **Forest cover**

Most of CIL's untapped reserves are in forested areas. Difficulty getting clearances & consent from forest communities.

57% of CIL's extractable reserves are in coalfields with average 42% forest.

Figure 5: Percentage of forest cover in major coalfields



# Conclusions

- High degree of uncertainty on actual extractable reserves. Could be even lower than 18.2 BT.
- Reserve uncertainty a serious risk to Coal India investors and investors in the coal/thermal power sector.
- Urgent need for an independent assessment of Coal India's reserves, as stressed by numerous government committees, expert panels and think tanks for the last 7 years.
- Coal shortage will be a chronic, not temporary issue, as long as power plants continue to be built.
- Imports cannot bridge gap, coal power plant capacity addition unattainable
- Continued coal dependence - risk to energy security / economy

# Questions to Coal India

- Is CIL's consistent under production due to faulty calculations of its reserves?
- How accurate is this UNFC assessment, given that it has not taken into account issues like forest cover, water bodies, farm land? What is the scope for a further reduction in the extractable reserve?
- When will CIL commission an independent assessment of its extractable coal reserves?

# “Share offer? What share offer?”

- October: CIL undertook a roadshow in the US, London, Europe and East Asia.
- Claimed a “high level of interest, concerns raised by investors were addressed”
- Nov/Dec: claimed that they would pursue an Offer for Sale with select investors, instead of a public offer; consent from key unions had been obtained
- Finally in Jan, CIL announced a special dividend, abandoned share offer due to “negative market sentiment” and “union opposition” according to unnamed officials.

# “Share offer? What share offer?”

- Still no formal announcement
- Special dividend meant Govt of India got ~\$3 bn dollars in revenue
- CIL’s cash reserves now \$3 bn less
- In the space of less than 6 months, a share offer that was “inevitable” is now no longer talked of
- Feb 2014: Coal India share price sank below 2010 listing price for the first time

# CIL remains a very powerful threat

- Still has ~\$7 bn in cash reserves
- Govt will hope for a revival in market sentiment before trying for another share offer
- Still a lot of work to do in terms of convincing investors that the Indian coal sector is not worth the risk.