BSE Sector index vs BSE Sensex

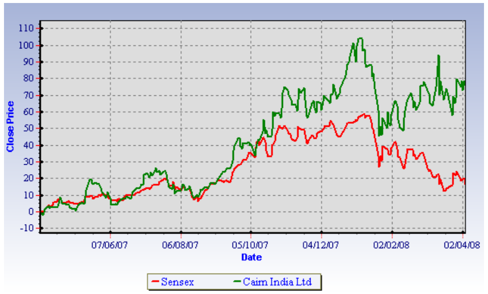
Cairn India Ltd. (CIL)

7 April 2008

No. of shares :	17784 mn
Market cap :	406278 mn
52 week high/low :	268.90 / 123.55
Avg. daily vol. (6mth) :	4.4 mn
Bloomberg code :	NCAIR IN
Reuters code :	CAIL.NS

Rs 228
Target Price Rs 290
BUY

Relative Performance



Rajasthan Block: An Oasis In Sight

Y/E March	Sales (Rs mn)	PAT (Rs mn)	EPS (Rs.)	P/E (x)	RoE (%)	RoCE (%)	EV/EBITDA (x)
CY2007	10,123	-187	(0.1)	-	-	-	75.0
CY2008	9,649	-245	1.7	134	1%	1%	64.2
CY2009	59,858	3,200	20.7	11	11%	12%	9.8
CY2010	97,455	60,982	32.4	7	15%	16%	6.9
CY2011	128,287	81,741	43.5	5	17%	18%	6.0

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- **<u>CIL's key oil asset (Rajashthan Block) is just a year away from being monetized</u>**
  - Great timing: Oil futures indicative of high oil prices. CIL can hedge its future output at $90 per barrel for the next five years
  - Explosive growth in earnings: CIL's earnings will increase nearly 25x from Rs1.7 to Rs43.5 through CY08-11 on the back of a nearly seven-fold increase in oil output (6.8mmbpa to 48.6mmbpa*)
  - No policy risk i.e. higher oil prices mean higher earnings
- **<u>Earnings upsides likely from</u>**
  - Higher recovery rates in Rajasthan using enhanced oil recovery (EOR) methods
  - Resolution of cess dispute in the company's favour
  - Higher oil prices and/or option values on exploration upsides
- **<u>Valuation – discount to global peers is unwarranted</u>**
  - On EV/barrel, CIL trades at 35% discount to global peers. Given similar operating characteristics and profitability, this discount seems unwarranted
  - We expect the discount to narrow, as time to commercial production in Rajasthan shrinks, improving earnings visibility
- **<u>Key risk</u>**
  - Crude oil prices could pull back sharply if global growth deteriorates and/or investment demand falters
  - Applicability of cess is still pending resolution
  - Crude evacuation will necessitate an additional expenditure on heated pipeline. It is unclear whether this expenditure will be recoverable under the production sharing contract with government of India (GOI)

**million barrels per annum*

CIL: A brief

Background:

- CIL was listed in India with a USD2bn IPO in CY07
  - India's largest independent upstream oil company
  - Subsidiary of Cairn Energy, UK
  - Petronas, Malaysia, other important shareholder
  - Out of IPO proceeds, USD600mn was retained by the company. The balance was repatriated to the parent company

CIL's Assets:

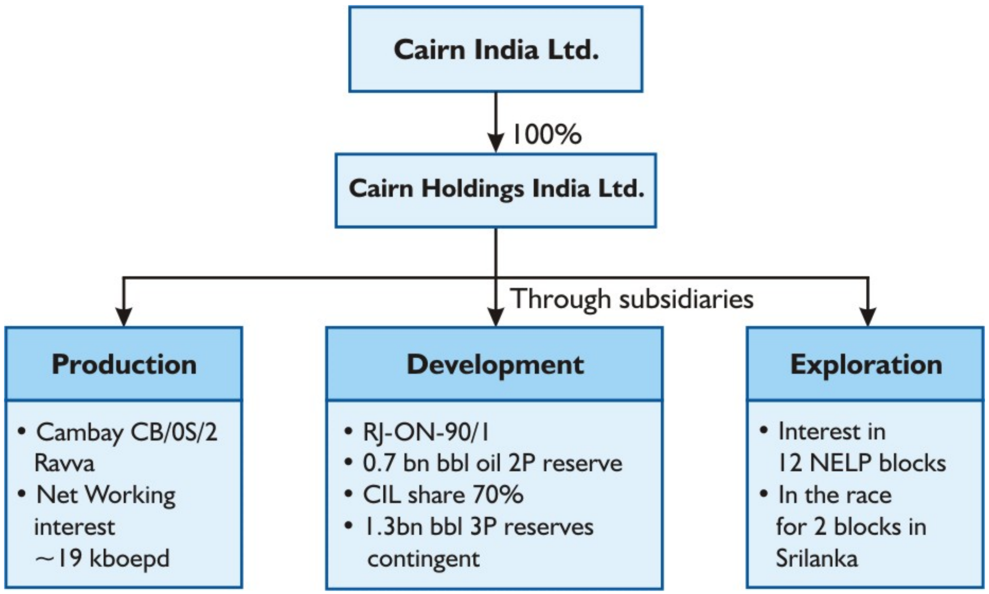
- Rajasthan Property is a world-class asset
  - CIL has 70% share in Rajasthan block with 2P reserves of 693mn bbl
  - Production is expected from H2CY09
  - Oil to be evacuated via a pipeline to Gujarat coast

Other assets

  - Two producing properties: Cambay & Ravva. CIL share ~19 kboepd
  - 12 exploration blocks in India in proved & frontier basins

Details of recent USD625mn private placement:

- 113mn new shares to be allotted to Petronas and Orient Global Tamarind fund at Rs.224/share
  - Parent's stake to come down from 69% post IPO to ~65%
  - Petronas stake to increase from 10% post IPO to 12.7%, Orient Global to have 2.6%
  - Funds to be used for ongoing projects



Source: BRICS Research

CIL: Evolving from an exploration company…

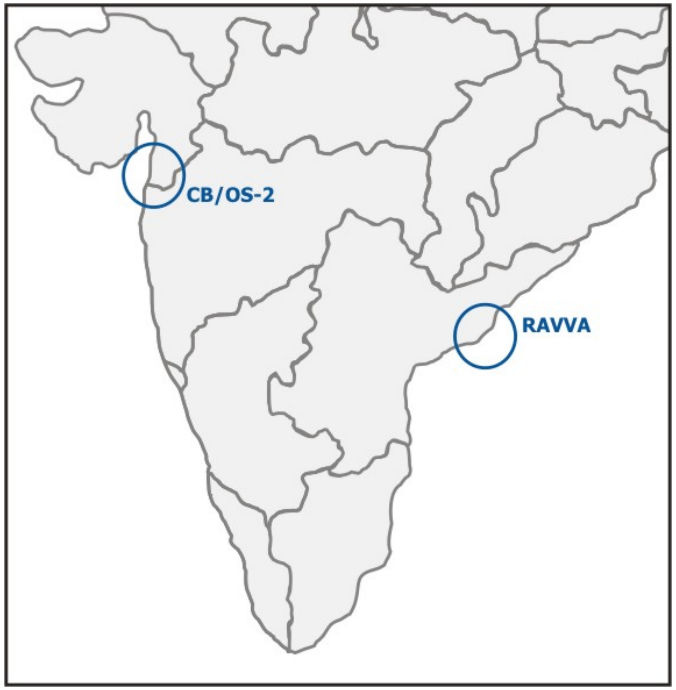
CIL has two existing oil producing properties with a combined output of 18,700 boepd[1]

- Cambay gas field (CB/OS/2)
    - Natural gas field discovered in 2000 and took only 30 months to start commercial production
    - Cambay's production is 12746 boepd, wherein CIL's participating interest is 40%
- Ravva oil field
    - Largest oil field in the Indian private sector with an output of 60441 boepd
    - CIL's participating interest is 22.5%
- Other key highlights
    - CIL share of combined reserves is ~ 52mn bbl
    - The company plans to invest US$100mn through CY10 to maintain production

[1] *barrels of oil equivalent per day*

Block	CIL share	Partnership	Production (boepd)
Cambay (CB/OS/2)	40%	ONGC (50%), Tata (10%)	12746
Ravva	22.50%	ONGC (40%), Videocon (25%), Ravva Oil (12.5%)	60441

Source: Company, BRICS Research

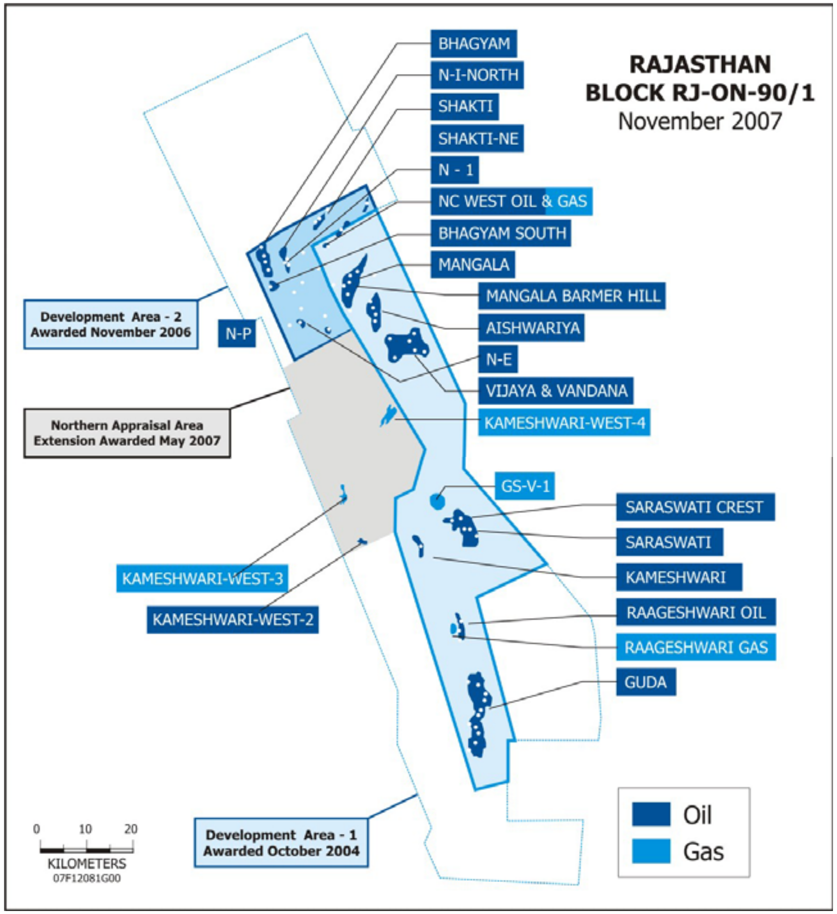


Source: Company

CIL's discovery of Rajasthan oil block with 3.6bn bbl of in place oil reserves was India's biggest since 1985

(mmboe)	GOIIP-Cairn Estimates	Gross 2P reserves
Rajasthan Block (Total)		
Mangala	1,293	489
Bhagyam	468	140
Aishwariya	249	56
Total "MBA" Fields	2,010	685
Rajasthan Block Small Fields(5)	298	8
Rajasthan Block Other Fields	1337	0
Rajasthan Block Total	3,645	693

Source: Company, BRICS Research



Source: Company

1P: Proved reserves (90% probability of recovery)
2P: Proved + Probable reserves (50% probability of recovery)
3P: Proved + Probable + Possible reserves (10% probability of recovery)

- Ownership details:
  - Exploration rights originally awarded to CIL/Shell/ONGC; subsequently CIL bought out its partners
  - CIL's current participating interest in the block is 70% as ONGC exercised its right to buy back a 30% interest
- Reserves
  - Gross oil in place reserves are estimated at ~3.6bn bbl oil
  - Area under development has 3P & 2P reserve of 2.3bn bbl & 693mn bbl, respectively
  - Contingent reserves are estimated at 1.3bn bbl

MBA fields: Close to being monetized…

- MBA fields are close to being monetized; commercial production likely in H2CY09
  - Production/evacuation infrastructure being created: EPC contracts awarded and construction work on track
  - Right of use for transport pipeline obtained, EPC contract awarded and order for long-lead items placed
  - Mangla - the biggest field (70% of total output) to go live first followed by other two

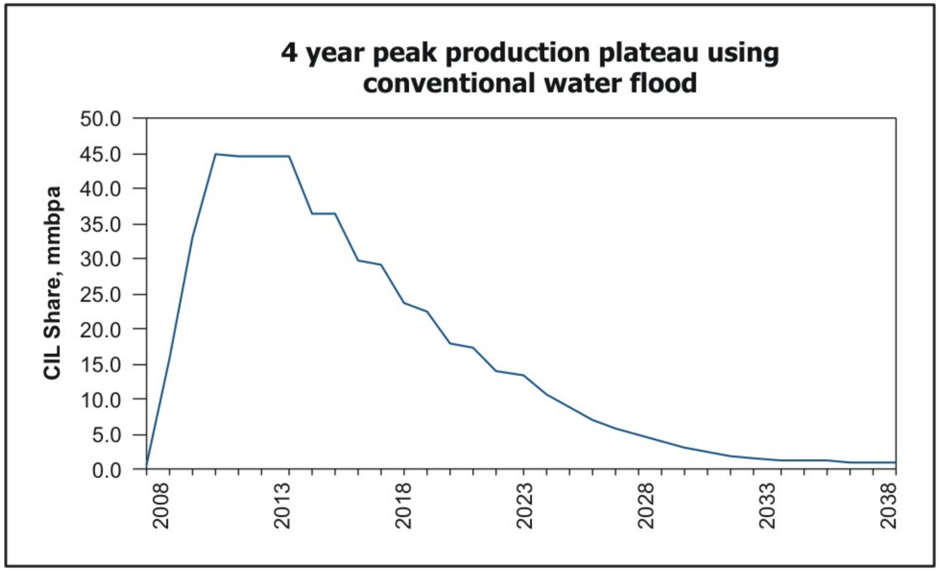
- Total estimated capital spend on the MBA fields is ~ $2.7bn ; CIL's share will be $1.8bn

- Conventional water-flood techniques will yield a peak production rate of 44.5mmbpa by CY11
  - Peak production rates could likely be extended by using newer technologies as detailed later

- **The timing of monetization of the MBA fields seems perfect… even though it could be a coincidence..**

Field	Start of Production	Peak Production Rate	CIL working interest
Mangala	H2CY09	125 kbpd	87.5 kbpd
Bhagyam	Q1CY10	40 kbpd	28 kbpd
Aishwarya	Q3CY10	10 kbpd	7 kbpd
	Total	**175 kbpd**	**122.5 kbpd**

Source: Company, BRICS Research



Source: Company, BRICS Research

- Oil futures through 2012 are at over $90/bbl.
- An oil producer has the choice to hedge its output at these prices

Long-term oil demand is robust

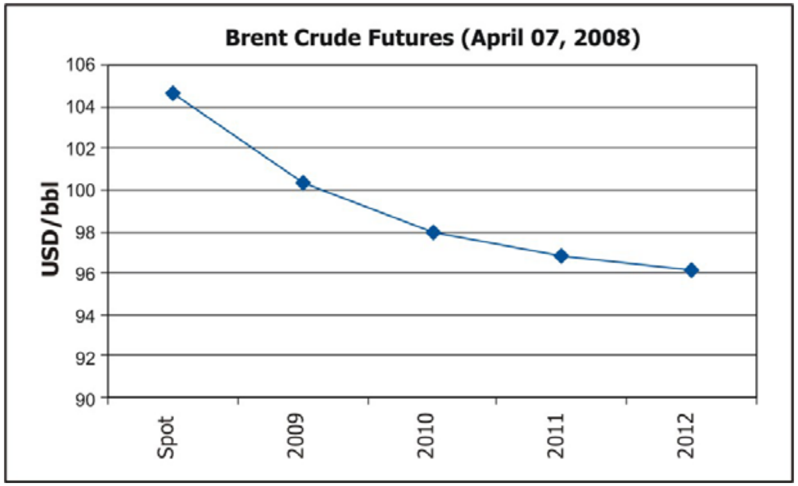
- IEA projecting a 2.2% CAGR in oil demand between 2007-12
- For 2008, projected world oil demand at 87.5mmbbl/d* with OPEC spare capacity of only 2.2mmbbl/d

Oil reserve replacement slower than consumption

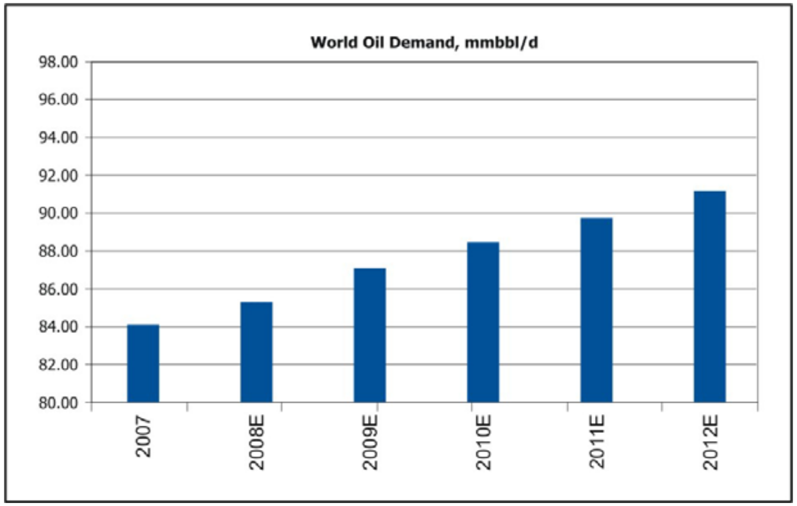
- 2006 world reserves at 1.2 tn bbl^
- Reserve/Annual production ~40.5
- Between 1981-2006 world consumption exceeded reserve accretion by 118 bn barrels

Key macro risks

- Supply shocks from terrorism/ geopolitics
- Increased resource nationalization



Source: Bloomberg, BRICS Research

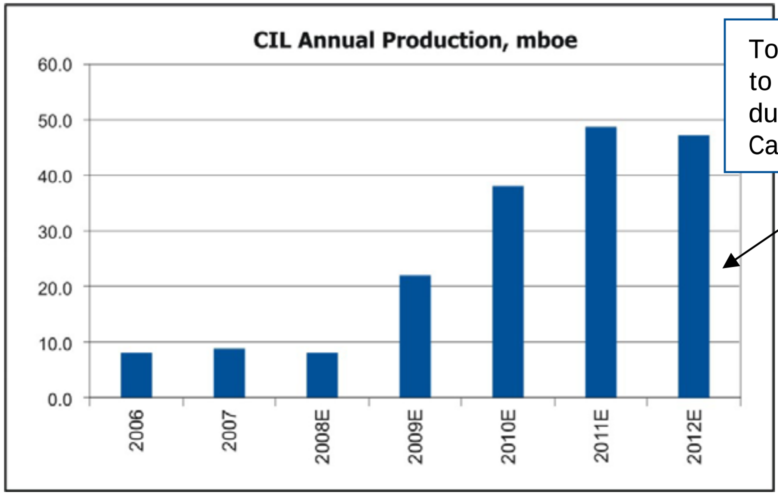


Source: IEA

**million barrels per day*

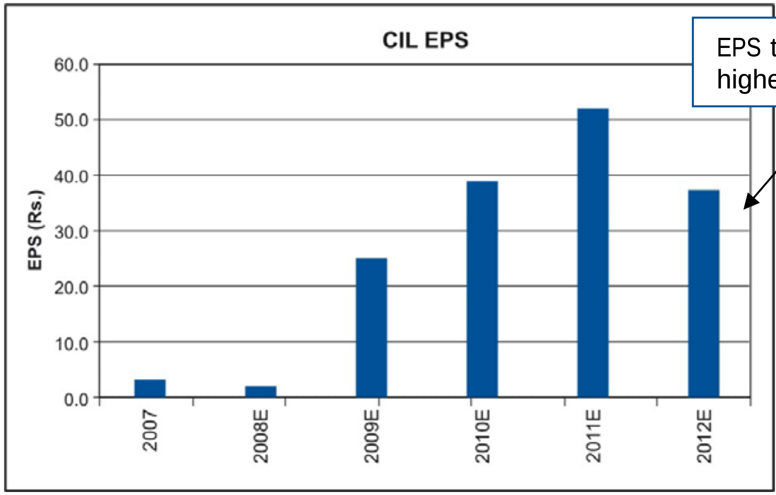
^ Source: BP Statistical Review

CIL's earnings: Explosive growth



Total production to fall marginally due to drop in Cambay, Ravva

Source: Company, BRICS Research



EPS to fall due to higher govt. share

Source: BRICS Research

- CIL's earnings will multiply 25x through CY08-11 on the back of higher throughput and higher oil prices
  - Higher oil prices mean higher earnings; CIL is immune to subsidy sharing risk
- Key Earnings Drivers
  - Production volumes which can be improved through enhanced recovery methods
  - Crude oil quality which will determine the benchmark crude oil price
  - Operating cost
  - Production sharing contract which determines the IRR on the project
- Contentious issues, pending which can impact earnings
  - Cess applicability
  - Capital recoverability of pipeline infrastructure cost

Higher production to increase EPS 25x through CY08-CY11

Key earnings drivers

Crude quality

Parameter	CIL Rajasthan	Brent
API Gravity	~27	38.5
Sulphur content %	0.14	0.39
Acid number (mg KOH/g)	0.42	0.03
Pour Point (ºC)	~42	7

Source: Company, BRICS Research

- MBA's crude is heavy and viscous which necessitates a heated pipeline for transport
- We expect MBA crude to be benchmarked to a 58:42 blend of Duri & Widuri crude from Indonesia. Accordingly, we have assumed an average discount of 8% over Brent crude in our forecast

Operating cost

Companies	Operating Costs USD / bbl
Burren Energy	3
CIL*	3.5
Woodside	5.4

Source: Company Annual Reports, BRICS Research

**excluding pipeline operating cost*

- CIL's on-shore production cost will likely be $3.5/bbl and in line with other global peers. Pipeline transport cost could add about one dollar to the base estimate

Production Sharing Contract

Contractor's share as per PSC		
Investment Multiple*	CIL	RIL KG-D6
<1.5	80%	90%
1.5<2	70%	84%
2<2.5	60%	72%
>2.5	50%	15%

Source: Company Reports, BRICS Research

- We believe that PSC is very much in favour of the company. The maximum government share (post a 2.5x recovery of invested capital) is capped at 50%
- The government is yet to rule whether the supporting capex on pipeline will be eligible for recovery

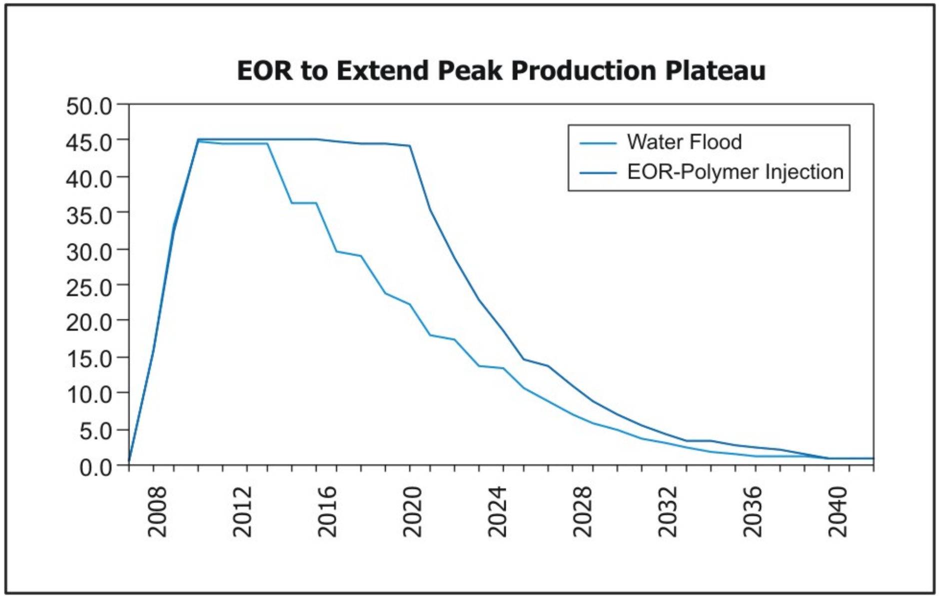
**Investment Multiple= Cumulatiive PAT/Cumulative Capex*

Earnings upsides to the base case could be led by ...

- Improved oil production using Enhanced Oil Recovery (EOR) methods
- Favourable resolution of cess applicability
- Degree of success in the ongoing exploration efforts

EOR can increase volumes by 60-70%

- Conventional water flood techniques can sustain peak production for four years. These methods generally allow recovery rates of 32% (of 3P reserves) over lifetime
- EOR techniques are used to enhance this recovery factor significantly and extend the peak production plateau. Two key EOR techniques are
  - Water flood + polymer injection
  - Water flood + Alkaline Surfactant polymer injection
- Polymer injection EOR can prolong peak production plateau to about 10 years
  - Recovery rates can improve to about 42-47% of 3P reserves
- Alkaline Surfactant EOR can extend the peak production plateau to about 15 years
  - Recovery rates can increase to 52-57%
- The marginal cost of EOR technique is about $1.6-1.8/bbl



Source: BRICS Research

We estimate polymer injection EOR alone can create an incremental $0.9bn in shareholder value

Cess applicability

Table: Sensitivity analysis

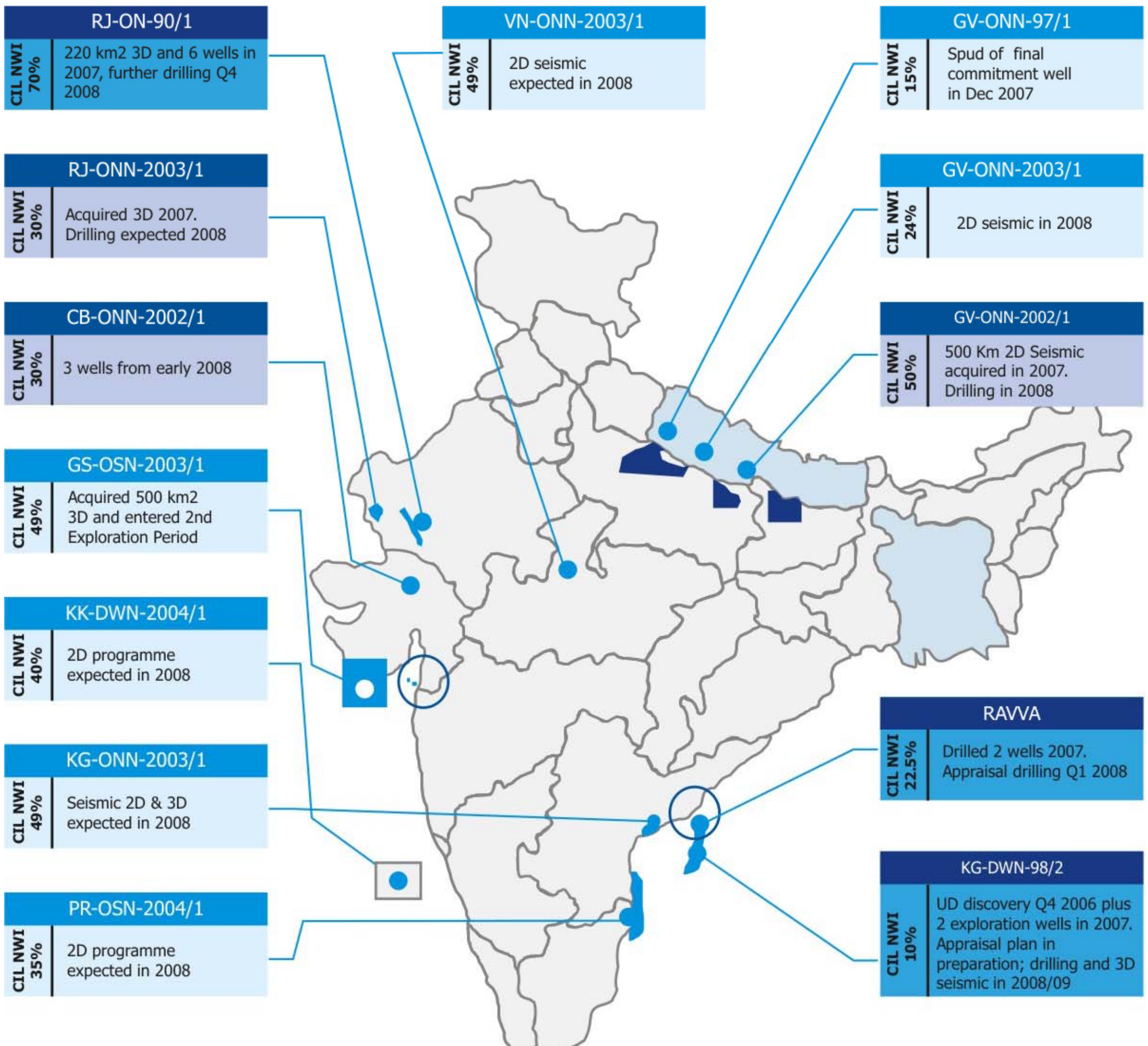
Brent Crude (USD/bbl)	Cess (Rs./ton) -	1,836	2,550
75	29.6	26.4	25.2
90	36.8	33.7	32.5
110	46.5	43.3	42.1

CY10E EPS based on our assumptions

Source: BRICS Research

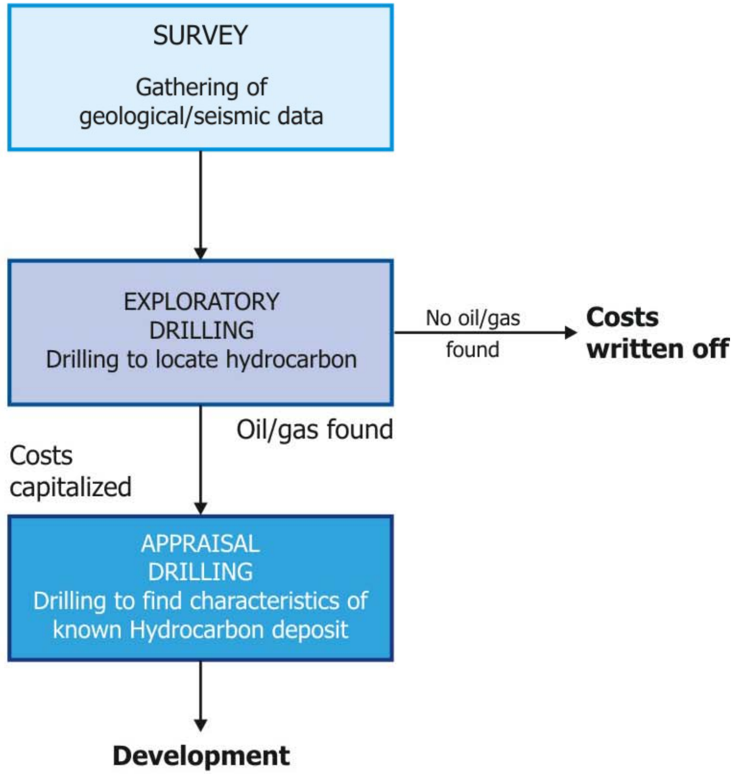
- CIL is disputing government's decision to levy cess on crude production
  - We believe that CIL has strong legal grounds for defending its case
  - If CIL does not have to pay cess, the base case earnings will stand upgraded by ~10%
- CIL's earnings are more sensitive to crude price assumptions
  - For every 1% increase in crude prices, earnings increase by ~ 1.2%

Promising exploratory blocks



Source: Company, BRICS Research

Exploration Process



- **CIL has nearly 12 blocks under different stages of exploration with 1 billion bbl of net unrisked oil. With couple of blocks in proven basins such as Krishna Godavari (KG) and Cambay, the odds of successful strikes are higher**

Two key methods have been used to value CIL

- EV/bbl method: uses peer valuation as a guide; essentially relying on market efficiency as a guide to long-term crude price expectations
  - This could capture some option value on present exploratory efforts
- NAV analysis: using an explicit crude price forecast to value the company's reserves

CIL's reserves trade at a discount

Company	CMP	Mkt Cap (USD bn.)	P/E (x)	EV/bbl (2P,USD)	Reserve/ Production
CIL	INR 228	10.1	-	11.0*	16#
ONGC	INR 1006	53.8	12.1	6.3+	35
Anadarko	USD 63.8	29.85	23.2	18.1	13
Burren^	GBP 1228	3.38	13.9	15.4	17
Woodside	AUD 56.25	35.66	29.78	21.6	24
EOG Resources	USD 123.78	30.57	26.45	26.2	12
Devon Energy	USD 107.34	47.7	14.43	21.6	11
Chesapeake Energy	USD 46.42	24.79	17	18.9	14
Tullow Oil	GBP 665.5	9.505	93.77	19.0	21

Source: Bloomberg, Company Annual Reports, BRICS Research

*Includes 200mn bbl oil net to CIL from EOR

At max. production rate to be hit in CY11E

+ 1P reserves

^ Taken over

- CIL's 2P reserves are being valued at $11/bbl – at about 35% discount to global peers
  - About 5-7% discount could be possibly explained by the crude quality difference and 2P product mix of crude/natural gas reserve mix
- We believe that a large part of the discount owes to time-to-market (TTM) for oil production and nagging issues on cess applicability and evacuation infrastructure
  - Discount will narrow as CIL starts commercial production next fiscal

Our target price of Rs290 values CIL's 2P reserves at $17/bbl – the average of its peer group

Table: Sensitivity analysis

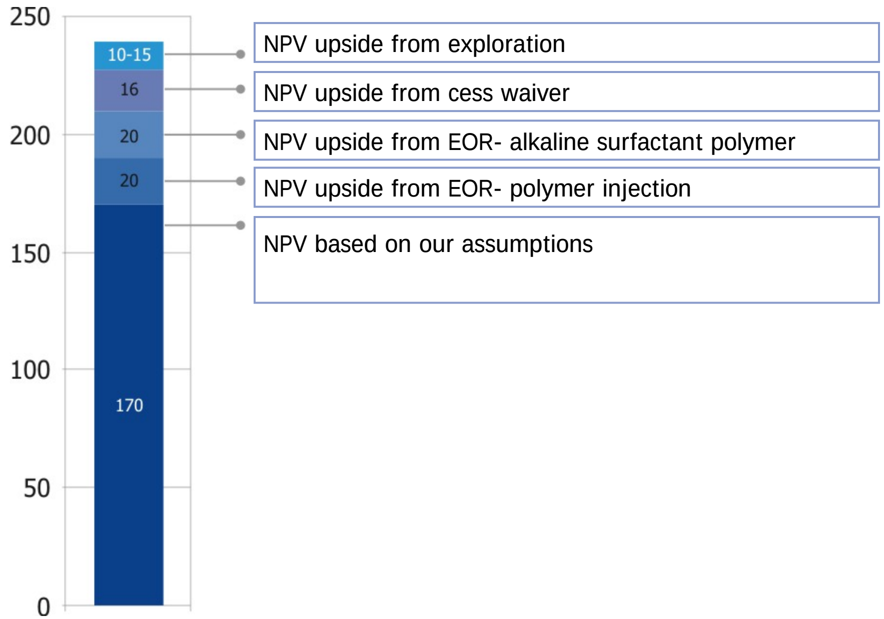
Brent Crude (USD/bbl) \ Cost of Capital	10.0%	12.5%	15.0%
75	163	144	129
90	192	170	152
110	233	206	183

Source: BRICS Research

NPV based on our assumptions

Assumptions:
- *Brent crude = USD90*
- *Discount to Brent crude = 8%*
- *Cost of capital is assumed at 12.5%*
- *40INR = 1USD*
- *Cess is assumed at Rs.2550/tonne (waiver of cess adds ~Rs.16/share to NPV)*

A DCF analysis of producing properties and the fields under development in Rajasthan Block gives a net present value (NPV) of Rs.170/share



Source: BRICS Research

Company Financials

Income Statement (Rs. mn)

Year ended 31 Dec (Rs m)	CY07	CY08	CY09	CY10	CY11	CY12
Net sales	**10,123**	**9,649**	**59,858**	**97,455**	**128,287**	**101,556**
growth (%)	*20.6*	-5%	520%	63%	32%	-21%
Operating expenses	5,571	2,306	10,818	20,075	26,059	25,850
Operating profit	**4,552**	**7,343**	**49,040**	**77,380**	**102,228**	**75,706**
Other income	1,324	62	62	62	62	62
EBITDA	**5,876**	**7,406**	**49,102**	**77,442**	**102,290**	**75,768**
Depreciation	4,589	3,205	4,135	7,721	9,187	9,009
Expenses capitalised	0	0	0	0	0	0
EBIT	**1,286**	**4,201**	**44,967**	**69,721**	**93,103**	**66,759**
Interest paid	27	596	1,032	1,032	1,032	1,032
Associates	0	0	0	0	0	0
Non-recurring items (net of taxes)	-	-	-	-	-	-
Pre-tax profit	**1,259**	**3,605**	**43,935**	**68,689**	**92,071**	**65,727**
Tax (current + deferred)	1,152	404	4,930	7,707	7,707	10,330
Profit after tax	**(187)**	**(245)**	**3,200**	**60,982**	**81,741**	**58,352**
Minority interests	25	-	-	-	-	-
Preference dividend	0	0	0	0	0	0
Net profit	**(245)**	**3,200**	**39,006**	**60,982**	**81,741**	**58,352**

Source: Company, BRICS Research

Key ratios

Year ended 31 Dec (Rs m)	CY07	CY08	CY09	CY10	CY11	CY12
Adjusted EPS (Rs)	(0.14)	1.70	20.77	32.46	43.52	31.06
Adjusted EPS growth (%)	-	-	1119%	56%	34%	-29%
EBITDA growth (%)	-	26%	563%	58%	32%	-26%
EBITDA margin (%)	51%	76%	82%	79%	80%	75%
Pre-tax margin (%)	11%	37%	73%	70%	72%	65%
ROE (%)	-	1%	11%	15%	17%	11%
ROCE (%)	-	1%	12%	16%	18%	12%

25x jump in EPS from CY08-CY11

Balance Sheet

Year ended 31 Dec (Rs m)	CY07	CY08	CY09	CY10	CY11	CY12
Current assets	45,607	65,519	89,974	154,617	242,627	304,902
Investments	4	4	4	4	4	4
Associates	0	0	0	0	0	0
Net fixed assets	35,654	55,122	72,695	72,261	68,059	64,008
Goodwill	212,067	212,067	212,067	212,067	212,067	212,067
Total assets	**293,332**	**332,713**	**374,740**	**438,950**	**522,757**	**580,980**
Current liabilities	890	814	3,836	7,119	9,241	9,167
Total Debt	2,000	12,901	12,901	12,901	12,901	12,901
Other liabilities	3,564	3,564	3,564	3,564	3,564	3,564
Total liabilities	**6,454**	**17,279**	**20,301**	**23,584**	**25,705**	**25,631**
Share capital	17,654	18,784	18,784	18,784	18,784	18,784
Reserves & surplus	269,224	296,649	335,655	396,582	478,267	536,565
Shareholders' funds	**286,878**	**315,433**	**354,439**	**415,366**	**497,051**	**555,349**
Minorities	0	0	0	0	0	0
Total equity & liabilities	**293,332**	**332,713**	**374,740**	**438,950**	**522,757**	**580,980**

Source: Company, BRICS Research

Cash Flow Statement

Year ended 31 Dec (Rs m)	CY07	CY08	CY09	CY10	CY11	CY12
Pre-tax profit	1,259	3,605	43,935	68,689	92,071	65,727
Depreciation	2,077	2,053	2,983	6,471	7,937	7,759
Tax paid	(388)	(404)	(4,930)	(7,707)	(10,330)	(7,375)
Chg in working capital	(3,358)	(348)	(14,952)	(8,680)	(7,352)	7,098
Other operating activities	-	-	-	-	-	-
Cash flow from operations (a)	**(409)**	**4,905**	**27,037**	**58,773**	**82,326**	**73,209**
Capital expenditure	(21,274)	(21,521)	(20,556)	(6,038)	(3,735)	(3,707)
Chg in investments	-	-	-	-	-	-
Chg in associates	-	-	-	-	-	-
Other investing activities	101	163	19	0	0	0
Cash flow from investing (b)	**(21,274)**	**(21,521)**	**(20,556)**	**(6,038)**	**(3,735)**	**(3,707)**
Free cash flow (a+b)	**(21,683)**	**(16,616)**	**6,481**	**52,735**	**78,591**	**69,502**
Equity raised/(repaid)	-	25,346	-	-	-	-
Chg in minorities	-	-	-	-	-	-
Debt raised/(repaid)	(2,985)	10,901	-	-	-	-
Dividend (incl. tax)	-	-	-	-	-	-
Other financing activities	-	-	-	-	-	-
Cash flow from financing (c)	**(2,985)**	**36,247**	**-**	**-**	**-**	**-**
Net chg in cash (a+b+c)	**(24,667)**	**19,631**	**6,481**	**52,735**	**78,591**	**69,502**

Large free cash flows to kick in CY10 onwards

CIL's capex plans through CY07-10

Cairn plans to invest USD2.1bn from CY07-CY10:

- USD100mn to maintain current production rates at Cambay and Ravva basins.
- USD200mn exploration capex for new blocks
- USD1.8bn for development of Rajasthan block

CIL plans to raise the capital through -

- Retained IPO proceeds of USD600mn
- Debt facility of USD850mn, which is in place
- Additional loan facility of USD550 mn expected shortly
- Internal accruals of USD100-200mn pa
- Private placement to Petronas, Orient Global of USD625mn at Rs.224/share to give increased financial flexibility. Funds can be used for pursuing growth opportunities or for Rajasthan block development if the need arises.

No further equity dilution expected

Regulatory risk

Cess applicability

- CIL is contesting government's decision to levy a cess of Rs2,550/ton of crude as it was not mentioned in PSC signed in 1995. Also, given the fiscal stability clause, cess even if applicable will likely be at 1995 rates of Rs918/ton.

Recoverability of pipeline cost risk

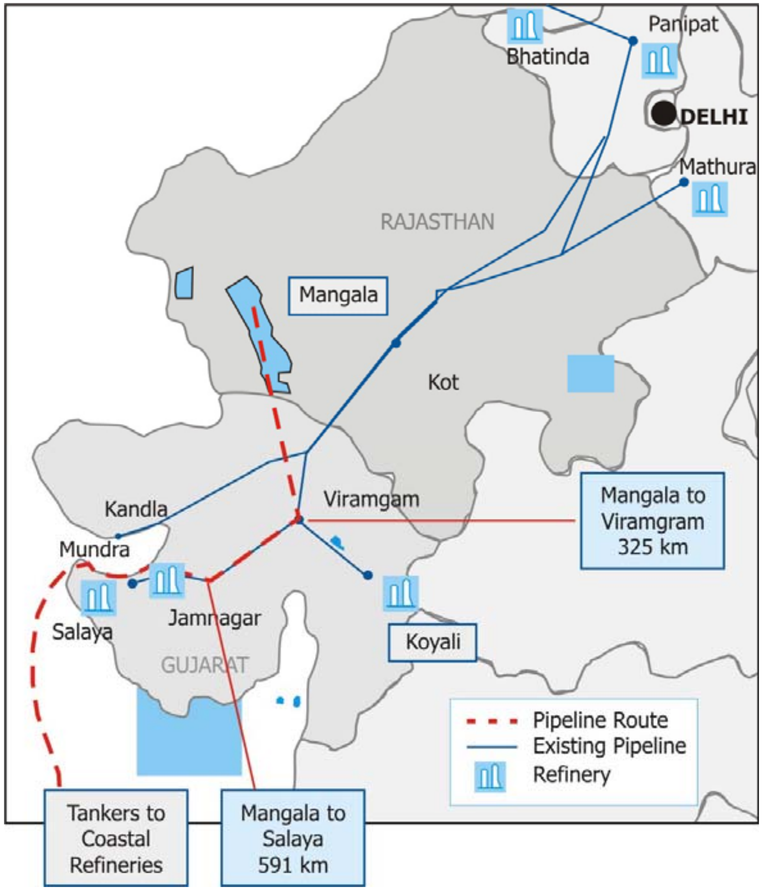
- CIL is investing nearly $560mn in a heated pipeline to for transporting its crude to refineries. However, regulatory nod is still awaited on the whether this cost can be considered as a developmental capital expenditure under the PSC and hence be recoverable.

Business and financial risk

- Delay in project execution can impact finances
- CIL remains exposed to exchange rate risk as crude pricing is dollar denominated

Global macro

- Oil prices: while fundamentals are supportive, prices could suddenly reverse on
  - A sudden pull-back of investment demand perhaps due to dollar stability
  - Improving spare capacity if consumption falls on lower global growth-



Source: Company

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