Mangalore Refinery & Petrochemicals Ltd.

Buy

CMP: ₹51 | **Target Price: ₹97**

All set to join the league of complex refiners

MRPL, a 71.6% subsidiary of ONGC, **is all set to join the league of complex refiners with its Phase III expansion project, scheduled to be completed by 4QFY12**. The ₹121.6bn project will result in addition of a new 3mmtpa CDU/VDU and other major secondary units, **which will increase the refinery capacity to 15mmtpa and improve its complexity to 9**. This will help MRPL optimise GRMs through alignment of its product slate more towards middle distillates like ATF and high octane HSD, for which there is significant demand. Integration of the polypropylene plant will see addition of value-added polyolefins like PP to MRPL's product slate and further boost GRM's. With the increase in complexity, MRPL will be able to optimise its crude mix through intake of heavier and new crude variants (like Rajasthan crude, Kuito and Arab Mix). Average API of the new crude mix will reduce to 28.9° (from the current 33.7°), which will lower input costs and dependence on geo-politically sensitive sources like Iran. Overall, **we expect MRPL to post GRMs of US$6.9/bbl and US$9.4/bbl in FY13 and FY14 respectively**, based on our Brent and Re/US$ assumption of US$100 and ₹47 for both these years, respectively. The MRPL stock currently trades at an attractive 2.5x FY13E EV/EBITDA. **We Initiate Coverage with a Buy and Target Price of ₹97.**

Phase III expansion to tweak product slate and optimise GRMs: The Phase III project, apart from expansion, would largely concentrate on tweaking MRPL's product slate to meet Euro III and IV specifications. It will also result in value addition with production of propylene and paraxylene, upgradation of residue to minimise FO output and produce API group II/III LOBS. Such modications will help MRPL optimise GRMs.

Polypropylene plant will add value-added polyolefins in the product slate: The PP plant will produce 460tpa of PP by converting 0.45mmtpa of propylene produced from the PFCCU through polymerisation. The project will equip MRPL to capitalise on the rising demand of PP both domestically and globally. The project entails capex of ~₹18bn and will be completed by 2QFY13.

Higher complexity to optimise crude mix: Post expansion and increased complexity, MRPL will be able to process heavier and sour crude variants. Hence, MRPL is expected to benefit from the light-heavy differential resulting in lower input costs along with more diversified sourcing options.

Initiating Coverage with Buy and DCF Target Price of ₹97: We have used a three-stage DCF model to value MRPL, assumed an explicit forecast period of three years, stabilisation period of six years and fade period of ten years. Assuming terminal growth rate of 2% and WACC of 13.9% our DCF-based Target Price works out to ₹97.

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Key Stock Data

BSE Code	500109
NSE Code	MRPL
Bloomberg	MRPL IN
Shares O/s mn (FV ₹10)	1,753
Market cap (` mn)	91,135
52-week High/Low	85/50
6-m daily avg vol.	960,784

Price Performance

(%)	1m	3m	12m
MRPL	(17.0)	(17.3)	(28.3)
BSE OIL	(9.3)	(10.2)	(27.7)
NIFTY	(8.2)	(6.2)	(24.2)

Shareholding Pattern

(%)	Jun11	Mar11	Dec10
Promoter	88.6	88.6	88.6
FII	4.4	1.2	1.3
DII	2.2	2.2	2.1
Others	7.8	8.0	8.0

CAGR (%)

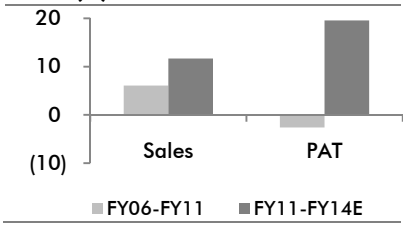


Exhibit 1: Key Financials

Y/E Mar (₹ mn)	FY11	FY12E	FY13E	FY14E
Sales	389,567	521,563	523,834	543,343
yoy (%)	*22.2*	*33.9*	*0.4*	*3.7*
EBITDA	19,973	9,882	32,772	41,003
yoy (%)	*31.9*	*(50.5)*	*231.6*	*25.1*
PAT	11,763	5,551	14,048	20,132
yoy (%)	*5.8*	*(52.8)*	*153.1*	*43.3*
Equity	17,527	17,527	17,527	17,527
EPS (₹)	6.7	3.2	8.0	11.5

Exhibit 2: Key Ratios

Y/E Mar	FY11	FY12E	FY13E	FY14E
EBITDA Margin (%)	5.1	1.9	6.3	7.5
NPM (%)	3.0	1.1	2.6	3.6
PER (x)	7.6	16.1	6.4	4.4
P/BV (x)	1.4	1.3	1.1	0.9
EV/Sales (x)	0.2	0.2	0.2	0.1
EV/EBITDA (x)	4.0	8.2	2.5	2.0
RoACE (%)	16.2	5.6	12.3	15.9
RoANW (%)	19.5	8.3	19.0	22.7

Source: Company, AMSEC Research

Investment Arguments

Phase III expansion augurs well for MRPL

Expansion will increase refinery capacity to 15mmtpa (from 11.8mmtpa) along with achieving higher complexity of 9 (from 6)

MRPL, which presently operates with a nameplate capacity of 11.8mmtpa (rising from 9.69mmtpa after Phase II expansion), is currently implementing its Phase III expansion project to augment its refining capacity to 15mmtpa at overall capex of ₹121.6bn. The Phase III project, apart from expansion, is largely concentrating on tweaking the company's product slate to meet Euro III - IV specifications. It will also result in value addition with production of propylene and paraxylene, upgradation of residue to minimise FO output and manufacturing API group II/III LOBS.

On the technical front, the project involves revamping the current CDU/VDU along with setting up of a new CDU/VDU. It also includes setting up and/or expansion of other units like PFCCU, DCU, DHDTU and CHTU, among others.

Exhibit 3: Phase III refinery expansion project scope

Description of unit	Unit capacity	Changes in project scope after DFR
PFCCU	2.2mmtpa	Revised upwards from 2.07mmtpa
PRU	0.35mmtpa	Unchanged
DCU	3mmtpa	Revised downwards from 3.18mmtpa
FCC naphtha splitter unit	0.55mmtpa	Unchanged
DHDTU	3.7mmtpa	Revised upwards from 3.25mmtpa
CHTU	0.65mmtpa	Not envisaged earlier
CDU/VDU	3mmtpa	Unlike before, now planned along with LPG TRT and ATF Merox
HCU	Revamp	Unchanged
SRU block	555tpd	Revised upwards from 315tpd
HGU	70ktpa	Revised upwards from 47ktpa
CPP	2 X 28.5MW	Change in configuration from 2 X 32MW

Source: Company, AMSEC Research

Various changes/additions in the units/capacities were made after the initial DFR considering the need for optimisation of economies and product slate. The rationale behind the changes and usage of the various major units are as below:

PFCCU will be majorly concentrated towards production of low sulphur feedstock and propylene

- **PFCCU:** The PFCCU will be designed to operate on low sulphur feedstock, maximising production of propylene and the FCC naphtha will be utilised for producing paraxylene. The upward revision in capacity is undertaken to handle the mixture of light (5.5mmtpa) and heavy (9.5mmtpa) crudes like Mumbai High and Arab Heavy.

DCU will provide feedstock for maximising production of diesel

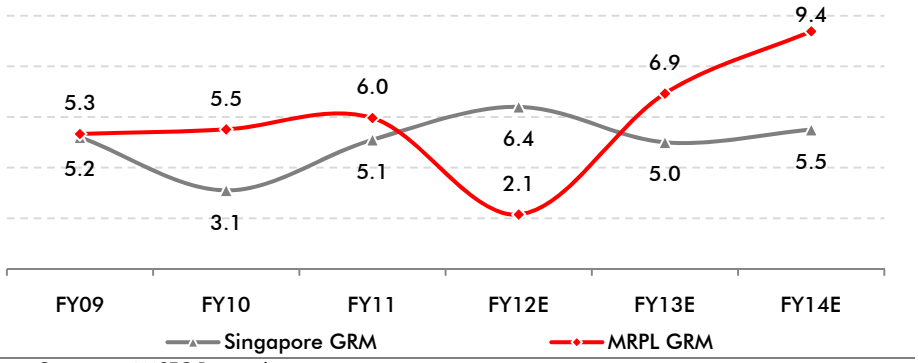
- **DCU:** The main objective of this unit is to upgrade the high sulphur vacuum residue into distillates and naphtha. The resultant light coker distillate will be used in maximising production of diesel in the DHDTU, while the high coker distillate will be used as feed for the HCU. However, the capacity of this unit has been revised downwards due to the revision in capacity of the DHDTU.

The DHDTU will augment production of Euro III-IV grade diesel

- **DHDTU:** This facility will be largely concentrated towards augmenting production of Euro III-IV grade diesel. Initially, separate light naphtha hydrotreatment and heavy naphtha hydrotreatment units were planned. However, the light naphtha hydrotreatment unit will now be considered as part of the DHDTU, thus increasing capacity of this unit from what was planned earlier.
- **Setting up of new CDU/VDU:** The setting up of the new CDU/VDU, along with revamping the Phase I and II units will enable the company to process heavier and sour crude variants.

Thus, post the Phase III expansion, MRPL's refinery capacity will stand augmented, along with increase in complexity and optimisation of product slate, resulting in higher GRMs. GRMs will improve primarily due to: i) increase in refinery complexity will shift crude mix towards heavier grades resulting in better spreads, ii) addition of value-added products like propylene and paraxylene in the slate and iii) higher production of Euro III- IV grade diesel, for which the cracks are improving.

Exhibit 4: MRPL's GRM v/s Singapore GRM (US$/bbl)



Source: Company, AMSEC Research

New product slate to help improve realisation

Higher proportion of middle distillates in the new slate will help improve realisations

Post Phase III expansion, MRPL's product slate is expected to witness a major change. While the proportion of light and middle distillates is likely to increase, that of heavy ends is expected to decline significantly. The Phase III unit is designed to minimise FO production through further processing into bitumen and pet coke. However, the most significant change would be the inclusion of propylene in the product slate which was earlier not there. Higher proportion of middle/lighter distillates, lower proportion of heavy ends and presence of propylene in the slate will enable the company to clock better realisation.

Exhibit 5: MRPL's product slate

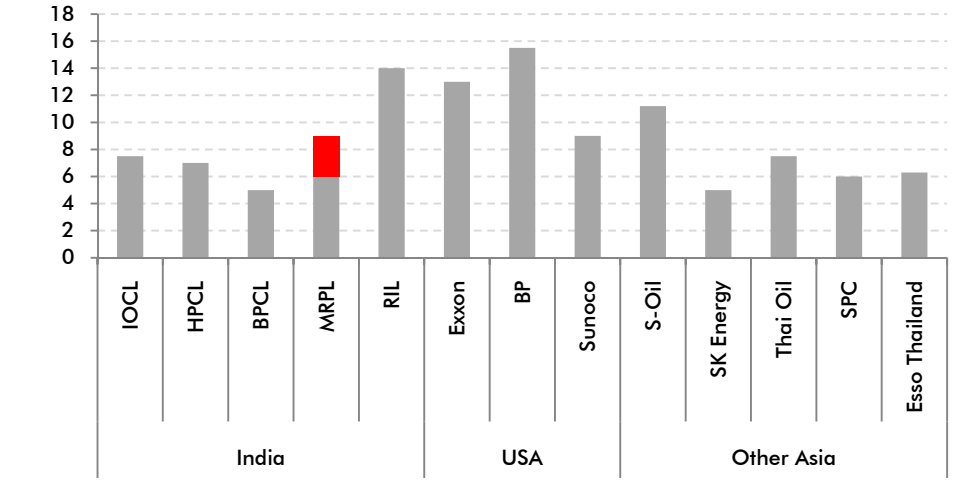
Product slate	Present		Post Phase III	
	Production	*% of total*	Production	% of total
LPG	0.30	*2.6*	1.01	*7.1*
MS	1.19	*10.1*	1.17	*8.3*
Mixed Xylene	0.08	*0.7*	0.25	*1.7*
Naphtha	0.90	*7.6*	1.14	*8.0*
Light Distillates	**2.48**	***21.0***	**3.56**	***25.2***
SKO	0.34	*2.9*	1.05	*7.4*
HSD	5.28	*44.9*	5.75	*40.6*
ATF	1.09	*9.2*	2.06	*14.6*
Middle ends	**6.71**	***57.0***	**8.86**	***62.7***
FO	2.27	*19.3*	0.57	*4.0*
LSHS	0.01	*0.0*	0.22	*1.5*
Asphalt/Bitumen	0.21	*1.8*	0.23	*1.7*
CRMB	0.04	*0.3*	-	-
Sulphur	0.06	*0.5*	0.25	*1.8*
Heavy ends	**2.59**	***22.0***	**1.27**	***9.0***
Propylene	**-**	**-**	**0.45**	***3.2***
Total	**11.77**	***100.0***	**14.14**	***100.0***

Source: Company, AMSEC Research

Improving refinery complexity will enable tweaking crude mix

Post Phase III expansion, Nelson complexity of the refinery will become 9 from the current 6, and will make MRPL the second most complex refinery in India after RIL's Jamnagar refining complex which has Nelson complexity of 14.

Exhibit 6: Nelson complexity – Global comparison



Source: Industry, AMSEC Research

Average API for MRPL's crude mix post Phase III expansion will be 28.9°

Typically, complex refiners are able to process heavier variants of crude, and crudes with higher sulphur content. API gravity, is the measure of how heavy or light a petroleum liquid is compared to water. Higher the API gravity lighter is the crude and vice versa. Generally, crude variants with API gravity of 35° or more are considered light and those with API gravity of 25° or less heavy. Since refining of heavier crudes is challenging (only a complex refinery can process heavy crudes to produce light-end products) compared to light crudes, there is generally a premium for lighter crudes over the heavier ones (though at times light crudes have traded at a discount to the heavy crudes due to other factors like availability, transportation facility, etc.).

Post Phase III expansion, with the refinery gaining in complexity, MRPL will be able to process more of heavier crude variants (including sour crudes with sulphur content of >0.5%). Hence, MRPL is expected to benefit from the light-heavy differential resulting in lower input costs.

Exhibit 7: Present crude mix

Crude mix	% of total	API°
Bombay High	4.4	38.0
Kuwait	11.4	30.2
Iran Mix	28.2	32.0
Iran Heavy	28.0	30.2
Arab Extra Light	13.8	39.4
Murban	14.2	40.2
Weighted average API		**33.7**

Exhibit 8: Crude mix post Phase III expansion

Crude mix	% of total	API°
Bombay High	13.3	38.0
Arab Mix	45.5	27.7
Nile Blend	3.3	33.9
Arab Light	10.1	33.0
Iran Heavy	10.1	30.2
Iran Light	2.5	33.1
Kuito	15.0	19.0
Weighted average API		**28.9**

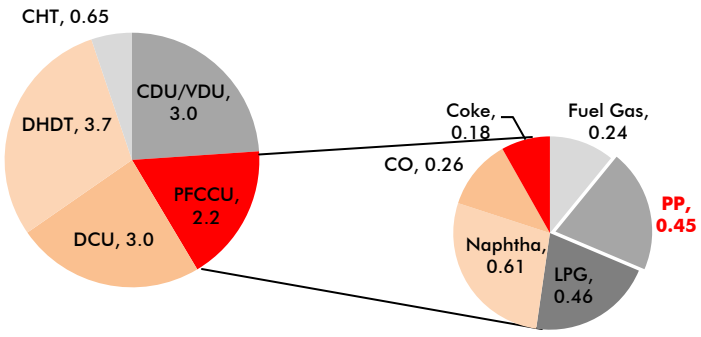
Source: Company, AMSEC Research

Value addition through integration of polypropylene plant

The polypropylene plant will be equipped to produce 460tpa of PP

MRPL has planned to integrate a full-fledged polypropylene unit along with the Phase III expansion within the refinery complex. The plant will produce 460tpa of PP by converting 0.45mmtpa of propylene produced from the PFCCU (which is being installed as part of Phase III expansion with 2.2mmtpa capacity) through the process of polymerisation. The project will entail total capex of ~₹18bn and is expected to be completed by 2QFY13. The project will equip MRPL to capitalise on the rising demand fro PP both domestically and globally. By integrating the facility within the refinery complex, the company will also benefit economically by means of substantial cost savings in storage and cryogenic transportation of propylene for its direct sale (which will now be used as a feedstock at the in-house PP plant).

Exhibit 9: Integration of refinery with PP plant (mmtpa)



Source: Company, AMSEC Research

Polypropylene - The most preferred polyolefin

Global demand for PP expected to reach ~56mmtpa by CY15

Globally, PP is used in a wide variety of applications across industries like packaging, textiles, stationery, plastic parts and reusable containers. It is presently the most consumed polyolefin (among HDPE, LDPE and LLDPE). High melting point, low density, high flexural modulus and good impact strength are some of the features, which make PP the most preferred polyolefin - accounting for ~40% of total polyolefin consumption. PP has seen secular uptrend in demand over the past decade. In CY10, the global demand for PP was ~35.1mmtpa, which is expected to touch ~56mmtpa by CY15. Going forward, the demand for PP is expected to be driven by Western European and Northeast Asian countries (majorly China).

Exhibit 10: Global polyolefin demand

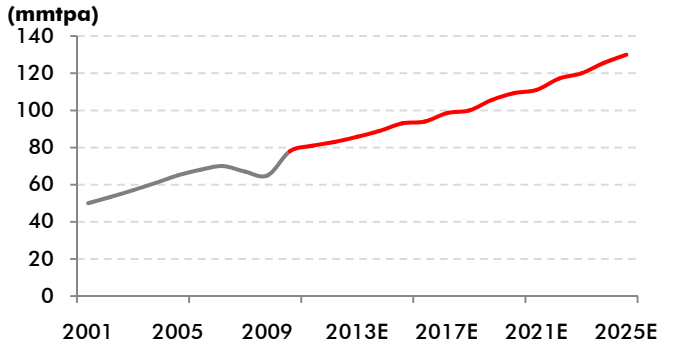
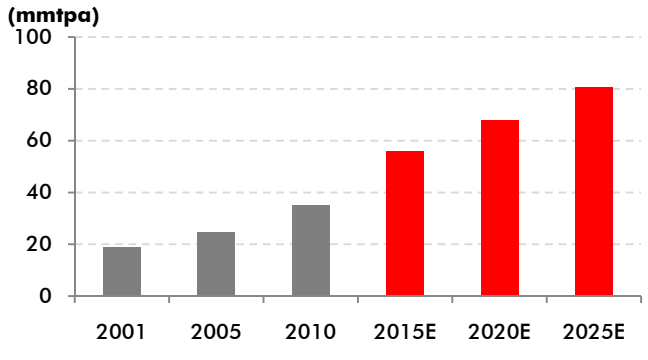


Exhibit 11: Global PP demand



Source: Industry, AMSEC Research

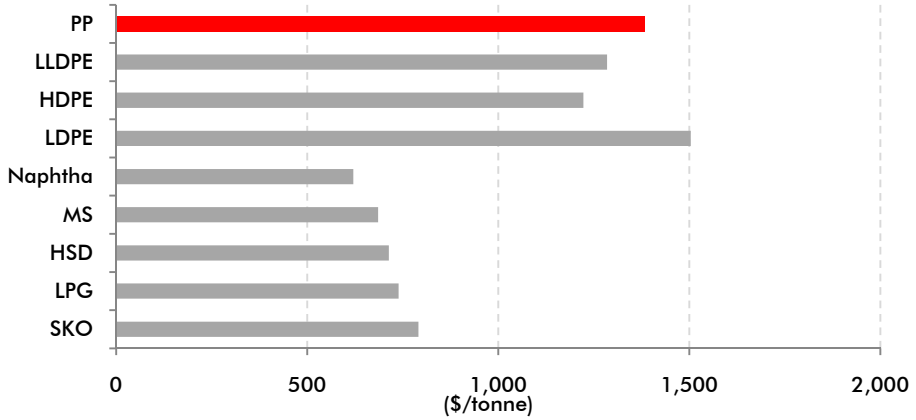
In India, PP is the polyolefin with highest demand, accounting for 45% of the total polyolefin market. Current demand of PP in India is 2.3mmtpa and is expected to reach 4.5mmtpa by 2025. Significant proportion of the domestic PP capacities were commissioned only over the last few years, with additional capacities expected to come on-stream shortly. This may result in oversupply of PP in the domestic market. However, with robust growth in global demand, particularly from North East Asia and Western Europe, we expect net PP exports from India to rise going ahead.

Polypropylene fetches higher realisation than other petroleum products

PP is expected to fetch higher realization and better GRMs for MRPL going ahead

With the introduction of PP in MRPL's product slate, post completion of Phase III and the PP unit, we expect the company to benefit from higher PP realisations. Historically, PP has traded at a premium to most other petroleum products given its robust demand. Average international PP realisation stood at US$1,385/tonne in FY11. The only other petroleum product which has seen higher realisation than PP is LDPE. However, the demand for PP has constantly outpaced that of LDPE because of its high melting point. Going ahead, we expect PP to trade at a premium over other light-end products resulting in higher realisation and better GRM's for MRPL.

Exhibit 12: International petroleum products prices - FY11



Source: Industry, AMSEC Research

SPM project to support infrastructure

SPM will help MRPL to reduce freight cost through import of crude oil in VLCCs

Post increase in capacity, MRPL will need to import crude in large parcel sizes by using VLCCs. Currently, the new Mangalore port is not equipped to handle heavy VLCC traffic. Hence, the company has planned a single point mooring system, allied facilities and intermediate crude pumping facility at the Mangalore coast. MRPL will share the SPM project with ISPRL, an SPV promoted by OIDB, which has been planned by the government for India's strategic crude reserve of 1.5mmt at Mangalore.

Exhibit 13: SPM project - cost break-up

	Total cost (₹ mn)	Remarks
SPM system and 48" Subsea pipeline	3,640	Cost to be borne by MRPL
Cavern storage facility	2,200	Cost to be shared between MRPL and ISPRL in 1:4 ratio
Booster pumping station	1,298	Cost to be borne by MRPL
36" Onshore pipeline from cavern to refinery	273	Cost to be borne by MRPL
Land development & Oil spill mgmt.	70	
Total basic cost	**7,481**	
Other costs	2,966	Cost to be shared between MRPL and ISPRL as per the nature of the cost
Total project cost	**10,447**	

Source: Company, AMSEC Research

Capex for the SPM project is estimated to ₹10.4bn and scheduled to be commissioned by April 2013. Also, MRPL recently received the much-awaited environment clearance from the government for the SPM project. The SPM facility will help MRPL to reduce its freight cost through import of crude oil in VLCCs from West Africa, Venezuela, Mexico etc., as well as reduction in congestion in existing jetties, which will in-turn reduce demurrage charges.

Comfortable leverage eases huge capex funding

Currently, MRPL is in the midst of executing its huge capex plan of ~₹142.9bn spread across FY09-13E. Of the total capex, ~₹121.6bn is expected to be spent solely for Phase III expansion of the refinery, of which the company has incurred ~₹55.6bn till FY11. Another ~₹15.0bn capex has been lined up for the PP plant and ~₹6.3bn for the SPM project (MRPL's share of capex), of which ~₹8.9bn (₹8.3bn for PP plant and ₹647mn for SPM project) has already been spent till FY11.

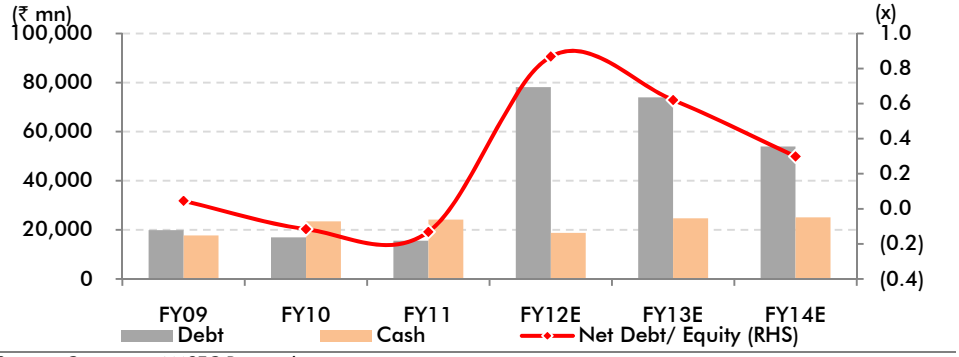
Exhibit 14: MRPL's capex schedule

		FY09	FY10	FY11	FY12E	FY13E
Phase III expansion	**(D:E=2:1)**					
Equity	40,534	2,027	5,835	12,706	18,751	1,216
Debt	81,068	4,053	11,669	25,412	37,501	2,432
Total	**121,603**	**6,080**	**17,504**	**38,119**	**56,252**	**3,648**
% of total		*5.0%*	*14.4%*	*31.3%*	*46.3%*	*3.0%*
Polypropylene Plant	**(D:E=2:1)**					
Equity	4,995		499	2,248	1,498	749
Debt	9,990		999	4,495	2,997	1,498
Total	**14,985**		**1,498**	**6,743**	**4,495**	**2,248**
% of total			*10.0%*	*45.0%*	*30.0%*	*15.0%*
Mooring Terminal (MRPL's share)	**(D:E=70:30)**					
Equity	1,894			194	898	802
Debt	4,420			453	2,095	1,872
Total	**6,315**			**647**	**2,992**	**2,675**
% of total				*10.3%*	*47.4%*	*42.4%*
Total capex						
Equity	47,423	2,027	6,334	15,148	21,147	2,768
Debt	95,478	4,053	12,668	30,361	42,593	5,803
Total	**142,902**	**6,080**	**19,002**	**45,509**	**63,740**	**8,571**

Source: Company, AMSEC Research

MRPL has strong financials to support the heavy capex, which insulates it from the risks of uncomfortable leverage. The company currently has negative net debt, though debt funding of ongoing projects of ~₹62.6bn in FY12 will increase its net debt/equity ratio to 0.9:1. Implementation of new projects are expected to start generating cash from FY13, which will enable MRPL to repay debt and lower its net debt/equity ratio quickly.

Exhibit 15: MRPL's leverage position



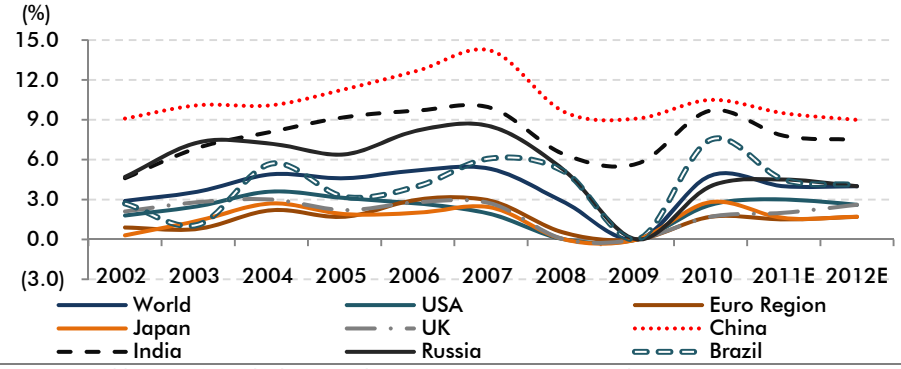
Source: Company, AMSEC Research

Industry Overview

Emerging economies to outpace world GDP growth

The IMF recently (September 2011) revised downwards the world GDP growth forecast for CY11 and CY12 to 4.0% for each of the years from the earlier 4.2% and 4.4% respectively, following concerns of global slowdown post the Euro zone crisis consequent to which the GDP growth forecasts for all major economies have been pruned. However, despite the downward revision, contribution of the emerging economies to the global GDP growth is expected to be promising v/s the developed economies. The growth projection for developing Asia is 8.2% and 8.0% for CY11 and CY12, respectively.

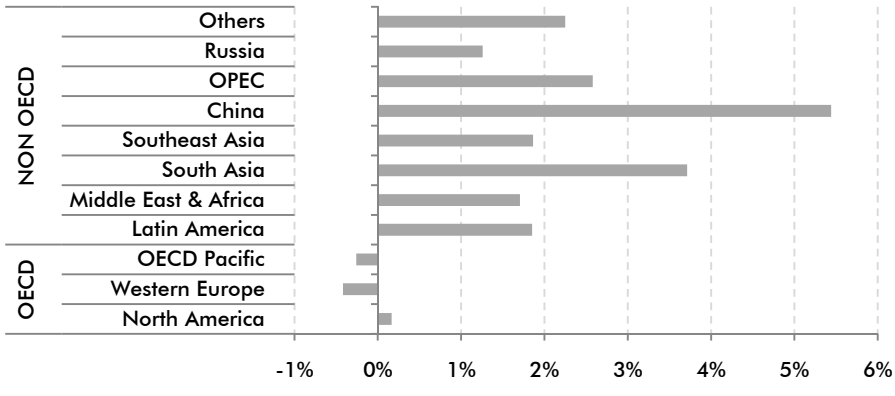
Exhibit 16: Global GDP growth



Source: IMF World Economic Outlook, September 2011, IEA, AMSEC Research

Globally, oil demand is closely correlated to GDP growth, as energy availability is a pre-requisite for the growth of an economy. With the world faced with the threat of another recession and macroeconomic indicators showing no signs of stabilising in the near future, crude oil demand from the OECD members is expected to remain benign. However, going ahead we feel that the slowdown in oil demand from the OECD countries would be more than compensated by the strong demand for oil from the non-OECD countries (especially China), which are expected to log robust growth. Over CY10-15, world oil demand is expected to register CAGR of 1.4% to ~92.9mbpd from the current 86.8mbpd.

Exhibit 17: Global oil demand (CAGR over CY10-15E)



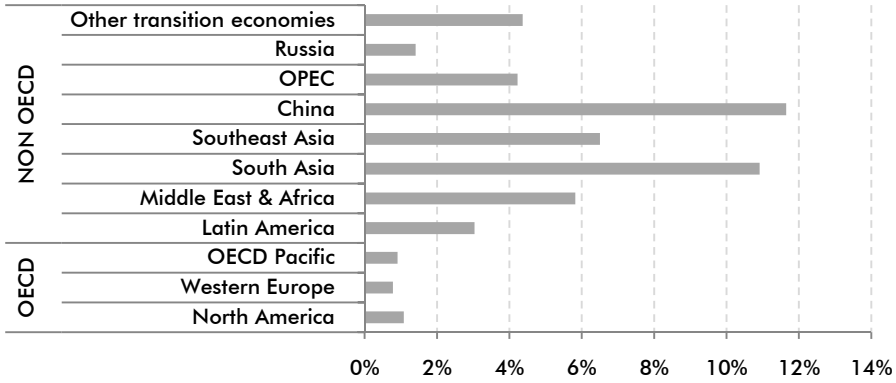
Source: OPEC, AMSEC Research

Transportation sector - Major driver of oil demand

Globally, the transportation sector accounts for ~60% of the total petroleum product usage, of which road transport is the single largest segment in terms of oil usage, in both the OECD and non-OECD regions. Future growth of oil consumption in the road transportation segment is closely correlated with private vehicle ownership dynamics.

Currently, private vehicle ownership in the OECD countries is at a near-saturation stage with benign growth expectations. However, significant growth is expected in both private vehicle ownership as well as public road transportation systems in the non-OECD countries. This will result in healthy contribution towards oil demand growth in the non-OECD countries. Also, demand from household and industrial activities is expected to contribute significantly in driving the global oil demand going forward.

Exhibit 18: Passenger car ownership (CAGR over FY08-20E)



Source: OPEC, AMSEC Research

Middle distillates and light ends to drive product demand

Growth in the road transportation segment, which is expected to significantly steer crude oil demand growth from the non-OECD countries, will majorly boost demand for gasoline and gasoil. Middle distillates, which include on-road and off-road diesel, represent largest market share among refined petroleum products and is also the fastest growing product segment. Out of the 6.1mbpd of incremental demand expected by 2015 (compared to 2010 levels), ~62% is for middle distillates – gasoil and kerosene – and another 30% is for gasoline and naphtha. Thus, the middle distillate and light end markets are expected to be the primary demand and margin drivers for refiners over the next two decades.

Exhibit 19: Global product demand (CY10)

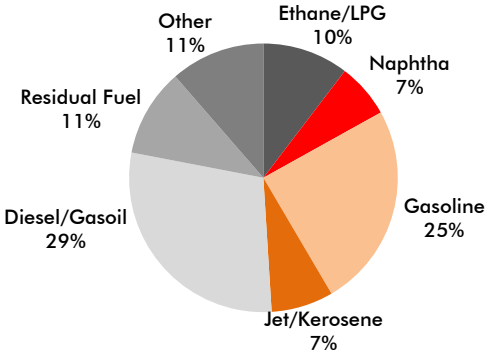
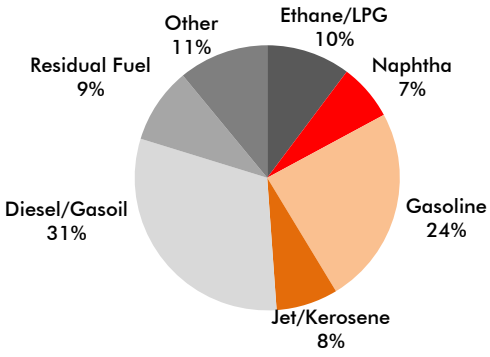


Exhibit 20: Global product demand (CY15E)

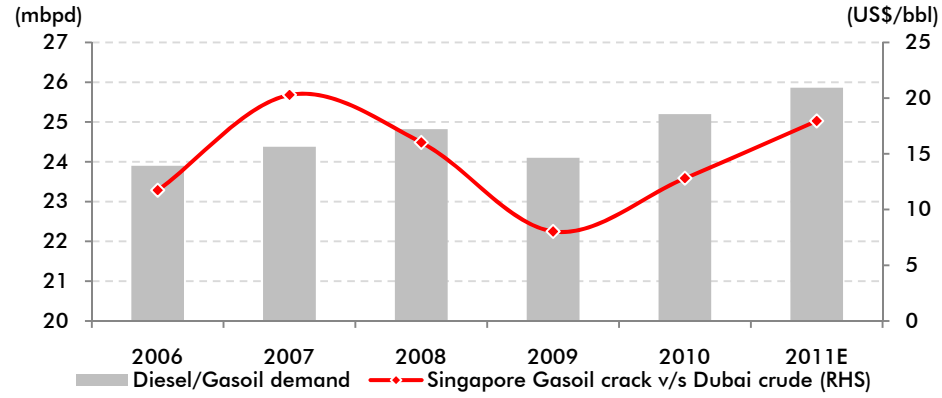


Source: OPEC, AMSEC Research

Growing demand to improve gasoil cracks

With demand for middle distillates set to increase going ahead, gasoil is projected to witness strongest demand growth among all products. The key reason for growth in gasoil demand is growth in the road and marine transportation sectors. Historically, it has been observed that the spread earned on gasoil moves in tandem with demand growth. Hence, we feel that growth in diesel demand will result in better cracks for refiners going ahead.

Exhibit 21: Diesel demand and cracks



Source: IEA, Bloomberg, AMSEC Research

Will future capacity additions outpace product demand growth?

Over 2011-15E as against projected product demand growth of 6.1mbpd, net refining capacity addition of 6.7mbpd is expected. However, this demand-supply mismatch has different dynamics as the situation of supply outpacing demand is only noted in the OECD countries. It is the reverse situation for the non-OECD countries. There are several factors affecting planned capacity additions. For instance, major OECD nations are facing a challenging refining environment due to the adopted or pending mandates for biofuel supply, transport fleet efficiency, stringent emission and carbon footprint regimes. In contrast, capacity expansion in several non-OECD countries is being supported by policy incentives and favourable taxation regimes.

Exhibit 22: Global refining capacity additions and demand outlook

(mtpa)	Present		2012E		2013E		2014E		2015E	
	Capacity	Demand	Capacity additions	Demand growth	Capacity additions	Demand growth	Capacity additions	Demand growth	Capacity additions	Demand growth
Total (OECD)	2,248	2,239	25	(10)	5	(10)	-	(10)	5	(10)
Cumulative (OECD)			**2,273**	**2,229**	**2,278**	**2,219**	**2,278**	**2,209**	**2,283**	**2,199**
FSU	391	208	-	5	10	-	5	5	-	-
China	500	480	20	25	40	1	30	25	25	20
Other Asia	550	515	15	15	25	0	15	15	5	10
Middle East	401	381	5	15	-	0	40	15	10	15
Other Non-OECD	520	520	5	15	10	1	20	10	20	20
Total (Non-OECD)	2,362	2,105	45	74	84	2	109	69	59	64
Cumulative (Non-OECD)			**2,407**	**2,179**	**2,491**	**2,181**	**2,600**	**2,250**	**2,659**	**2,314**
Total	**4,611**	**4,343**	**4,680**	**4,408**	**4,769**	**4,399**	**4,878**	**4,459**	**4,943**	**4,513**

Source: IEA, AMSEC Research

Most of the capacity addition and demand growth are expected to come from Asia with China expected to be the largest contributor. Other Asian capacity and demand growth would be dominated by India which would account for ~70% of the non-Chinese Asian capacity additions. In China, however, refinery capacity additions will be motivated to secure product supplies to meet the domestic demand growth. Hence, the scope for petroleum products export growth from China is minimal. Also, visibility on the status of proposed projects in China remains opaque along with risks to timely completion. Therefore India, where refinery capacity additions are expected to outpace domestic demand, is likely to emerge as a product export hub for meeting non-OECD demand.

India, the next big Asian refining hub

India's refining capacity over time is expected to surpass domestic demand. In India, the OMCs can export excess refined product produced only after meeting the domestic demand. However, other standalone and private refiners have no such directive from the government and are at liberty to tweak their product slate or resort to exports to optimise margins. Exports are hence expected to become an integral part of private/standalone refiners' business model.

Exhibit 23: India - Product slate

(mmtpa)	FY11	FY15E
LPG	14.3	19.7
MS	14.2	19.1
Naphtha	10.7	11.4
ATF	5.1	7.2
SKO	8.9	7.3
HSD	60.0	72.6
LDO	0.5	0.4
Lubes	2.5	2.9
FO/LSHS	10.9	7.9
Bitumen	4.6	5.7
Pet Coke	5.5	8.3
Others	4.7	6.1
Total	**141.8**	**168.6**

Source: PPAC, AMSEC Research

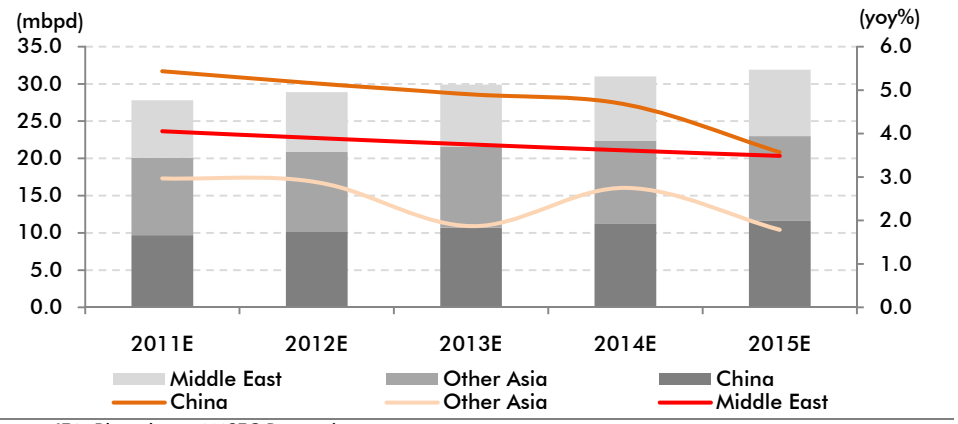
Exhibit 24: India refining capacity additions and demand outlook

Company	Capacity (mmtpa)	Completion
IOC	54.2	-
CPCL	11.5	-
HPCL	14.8	-
BPCL	27.5	-
MRPL	11.8	-
Other PSU	3.08	-
RIL	60.0	-
Essar Oil	14.0	-
Current	**196.9**	-
Brownfield expansion		
HMEL	9.0	Completed
MRPL, Mangalore	3.2	4QFY12
Essar Oil	4.0	FY12
Greenfield projects		
IOCL, Paradip, Orissa	15.0	4QFY13
NOCL, Cuddalore, TN	6.0	4QFY12
Total capacity addition	**37.2**	-
Total capacity post addition	**234.1**	-

Source: MoPNG, AMSEC Research

By FY15E, at total capacity of 234.1mmt (considering only scheduled capacity additions) India is expected to operate at capacity surplus of ~65.5mmt while domestic demand is pegged at ~168.6mmt in FY15. Viability of the expansion plans to make India a major refining hub will hence depend largely on the long-term growth in demand in Asia and the Middle East. Over CY10-15E, petroleum product demand in Asia and the Middle East is expected to clock 5.5% CAGR. On the other hand, China's product demand is expected to witness 4.7% CAGR over the same period. Since majority of the refinery capacity additions in the Middle East and Asia are concentrated in China and India, we feel that the Indian refiners are best placed to benefit from growing exports, as incremental Chinese capacity will be utilised to meet the fast-growing Chinese domestic demand.

Exhibit 25: Crude oil demand growth in Asia and Middle East



Source: IEA, Bloomberg, AMSEC Research

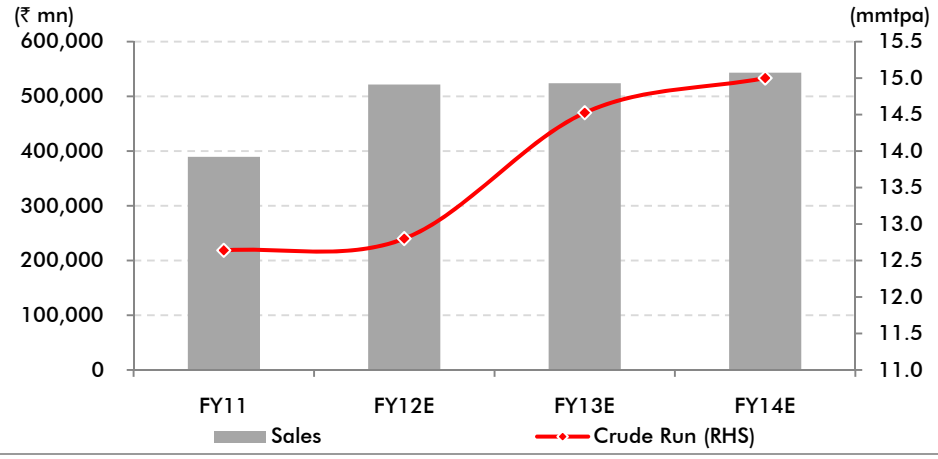
Financial Analysis

MRPL is expected to clock 11.7% revenue CAGR over FY11-14E driven by volume growth and better realisations

Revenues to increase at 11.7% CAGR over FY11-14E

MRPL recorded revenue CAGR of 6.1% over FY08-11. Going ahead, over the next three years the company's growth phase will accelerate owing to the recent developments. Over FY11-14E, we expect the company to post strong revenue CAGR of 11.7% driven mostly by higher production volumes (through Phase III expansion and integration of PP plant) and better realisations.

Exhibit 26: Revenues and crude run trend



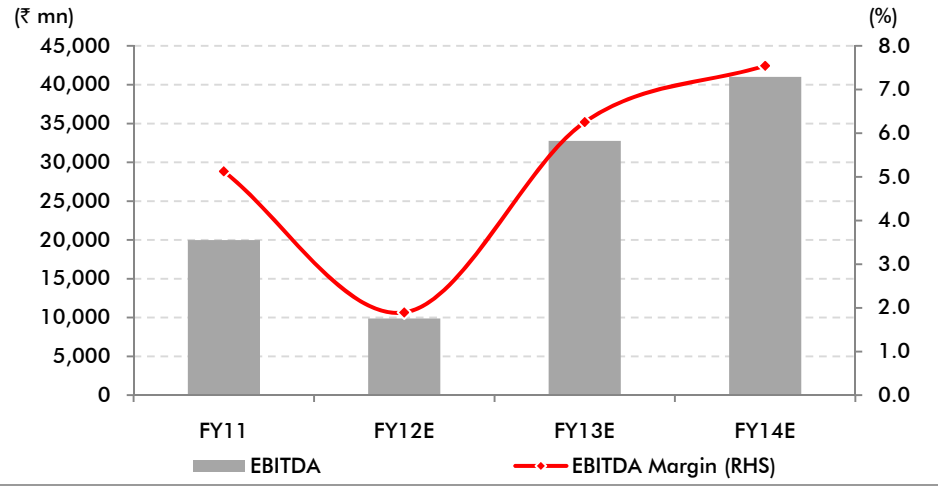
Source: Company, AMSEC Research

EBITDA margins expected to improve to 6.3% and 7.5% in FY13 and FY14, respectively

EBITDA margins to improve post FY13E

MRPL currently operates at EBITDA margins of ~5.0%, which post expansion is expected to improve to ~6.3% in FY13 and ~7.5% in FY14. This improvement in margins is expected to come largely on the back of improving petroleum cracks, which would result in higher GRMs.

Exhibit 27: EBITDA margin trend



Source: Company, AMSEC Research

Exhibit 28: Quarterly performance

Y/E March, (₹ mn)	2QFY10	3QFY10	4QFY10	1QFY11	2QFY11	3QFY11	4QFY11	1QFY12	2QFY12
Net revenues	**78,815**	**93,187**	**88,787**	**78,794**	**84,790**	**103,308**	**124,710**	**133,716**	**116,677**
yoy growth (%)	*(41.3)*	*23.6*	*35.3*	*26.1*	*7.6*	*10.9*	*40.5*	*69.7*	*37.6*
qoq growth (%)	*26.2*	*18.2*	*(4.7)*	*(11.3)*	*7.6*	*21.8*	*20.7*	*7.2*	*(12.7)*
Cost of revenues	74,889	88,214	83,526	75,424	79,165	97,104	114,850	129,924	111,651
EBITDA	**3,377**	**4,486**	**4,496**	**910**	**4,972**	**5,551**	**9,048**	**2,250**	**774**
yoy growth (%)	*129.7*	*(227.8)*	*(53.5)*	*(86.9)*	*47.2*	*23.7*	*101.3*	*147.3*	*(84.4)*
qoq growth (%)	*(51.5)*	*32.8*	*0.2*	*(79.8)*	*446.4*	*11.6*	*63.0*	*(75.1)*	*(65.6)*
Depreciation	974	990	966	990	1,003	982	940	952	965
EBIT	**2,403**	**3,497**	**3,530**	**(80)**	**3,969**	**4,569**	**8,108**	**1,298**	**(191)**
yoy growth (%)	*372.0*	*(178.2)*	*(59.5)*	*(101.3)*	*65.2*	*30.7*	*129.7*	*(1716.2)*	*(104.8)*
qoq growth (%)	*(60.0)*	*45.5*	*0.9*	*(102.3)*	*(5043.1)*	*15.1*	*77.5*	*(84.0)*	*(114.7)*
Interest expenses, gross	302	289	262	252	278	247	266	270	999
Other income	737	697	621	432	437	372	608	1,327	1,502
Exceptional item	-	-	-	-	-	-	-	-	-
PBT	**2,838**	**3,904**	**3,889**	**99**	**4,128**	**4,694**	**8,450**	**2,355**	**312**
Extraordinary items	0	-	-	30	(13)	(13)	1	11	(8)
Income taxes	1,041	1,308	1,350	(156)	1,299	1,543	2,922	639	63
Reported net profit	**1,797**	**2,595**	**2,540**	**285**	**2,816**	**3,138**	**5,529**	**1,727**	**241**
yoy growth (%)	*620.9*	*(190.9)*	*(58.2)*	*(93.2)*	*56.7*	*20.9*	*117.7*	*506.9*	*(91.4)*
qoq growth (%)	*(57.2)*	*44.4*	*(2.1)*	*(88.8)*	*889.4*	*11.4*	*76.2*	*(68.8)*	*(86.0)*
Adj.	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Adj. net profit	**1,797**	**2,595**	**2,540**	**285**	**2,816**	**3,138**	**5,529**	**1,727**	**241**
yoy growth (%)	*620.9*	*(190.9)*	*(58.2)*	*(93.2)*	*56.7*	*20.9*	*117.7*	*506.9*	*(91.4)*
qoq growth (%)	*(57.2)*	*44.4*	*(2.1)*	*(88.8)*	*889.4*	*11.4*	*76.2*	*(68.8)*	*(86.0)*
Earnings per share (₹)									
Basic	1.03	1.48	1.45	0.16	1.61	1.79	3.15	0.99	0.14
Diluted	0.94	1.37	1.34	0.15	1.49	1.65	2.65	0.99	0.14

Source: Company, AMSEC Research

Exhibit 29: WACC assumptions

Particulars	Assumption
Risk free rate of return (%)	9.0
Market risk premium (%)	7.0
Adjusted beta	1.10
Cost of equity (%)	16.7
Cost of debt, after tax (%)	6.0
Target D/E ratio(x)	0.35
Wt. Avg. Cost of Cap. (%)	**13.9**

Source: Bloomberg, AMSEC Research

Valuation

DCF-based Target Price of ₹97

We have used a three-stage DCF model to value MRPL, assuming an explicit forecast period of three years, stabilisation period of six years and fade period of ten years. Assuming terminal growth rate of 2% and WACC of 13.9%, we have arrived at a DCF-based Fair Value of ₹97 for MRPL. **We Initiate Coverage on the stock with a Buy.**

Exhibit 30: Three-stage DCF assumptions

Particulars	Explicit period	Stabilisation period	Fade period
No. of years	3	6	10
Gross asset turnover ratio (x)	4.4	3.5	3.0
RoIC (%)	13.9	12.5	13.9

Source: AMSEC Research

Exhibit 31: Explicit period cash flow

Particulars	FY12E	FY13E	FY14E
NOPAT	4,020	15,370	20,547
Depreciation	3,882	9,832	10,335
Capital reinvestment	71,621	(9,096)	(4,876)
Free cashflow to firm	(63,719)	34,298	35,758
Discount factor	0.907	0.796	0.699
Discounted cashflow	(57,780)	27,298	24,979

Source: AMSEC Research

Exhibit 32: Enterprise value

Value of the firm	(₹ mn)
Explicit period	(5,503)
Stabilisation period	64,876
Fade period	62,050
Terminal value	40,431
Total enterprise value	**161,854**
Value of debt	15,570
Value of cash & cash equivalents	24,151
Value of equity	**170,436**
No. of shares	1,753
Value (₹/share)	**97**

Source: AMSEC Research

Exhibit 33: Global peer comparison

	M Cap (US$ mn)	P/E (x)		P/BV (x)		EV/EBITDA (x)		RoE (%)	
		FY12E	FY13E	FY12E	FY13E	FY12E	FY13E	FY12E	FY13E
US									
Valero Energy Corp	11,626	4.4	5.2	0.7	0.6	2.7	3.0	16	13
Sunoco Inc	4,316	439.5	22.1	3.4	2.9	10.5	6.2	-	13
Tesoro Corp	3,216	4.2	5.7	0.9	0.8	2.4	3.0	21	14
Western Refining Inc	1,182	3.9	4.6	1.5	1.1	2.8	3.1	42	34
Average	**5,085**	**113.0**	**9.4**	**1.6**	**1.4**	**4.6**	**3.9**	**20**	**18**
Europe									
Polski Koncern Naftowy Orlen	4,255	8.6	8.2	0.6	0.6	4.1	4.8	8	7
Neste Oil OYJ	2,504	19.0	7.8	0.8	0.7	6.6	5.3	5	9
Tupras-Turkiye Petrol Rafine	5,134	9.3	8.8	2.4	2.2	3.7	4.1	27	26
Saras SPA	1,167	(23.2)	16.7	0.7	0.7	6.1	4.6	-	4
Hellenic Petroleum Sa	2,508	11.5	7.4	0.8	0.7	8.7	6.3	7	11
Erg SPA	1,718	(180.5)	20.1	0.7	0.7	7.1	4.8	-	4
Average	**2,881**	**(25.9)**	**11.5**	**1.0**	**0.9**	**6.1**	**5.0**	**7**	**10**
Asia - ex-Japan									
SK Innovation Co Ltd.	11,306	4.7	5.3	1.0	0.8	5.2	5.0	24	18
S-Oil Corporation	9,861	7.7	7.0	2.0	1.7	6.1	5.6	30	27
GS Holdings	4,085	4.8	4.6	0.8	0.7	4.7	4.5	19	16
Thai Oil PCL	3,808	7.6	8.3	1.5	1.3	5.2	5.7	20	17
Caltex Australia Ltd.	3,160	11.0	10.1	1.0	0.9	5.4	5.1	8	9
Petron Corporation	2,716	13.4	12.9	2.0	1.8	7.9	7.6	15	15
Average	**5,823**	**8.2**	**8.0**	**1.4**	**1.2**	**5.7**	**5.6**	**19**	**17**
India									
IOCL	11,444	8.9	6.7	1.0	0.9	7.6	6.4	12	14
BPCL	3,365	12.2	8.9	1.1	1.0	9.0	7.8	9	12
MRPL	**1,644**	**15.8**	**6.2**	**1.3**	**1.1**	**8.0**	**2.4**	**8**	**19**
HPCL	1,612	6.9	5.3	0.6	0.6	11.0	8.7	9	11
CPCL	432	13.3	5.6	0.5	0.5	10.6	5.0	8	9
Essar Oil	1,235	7.4	3.7	0.9	0.7	5.6	3.7	12	23
Average	**3,289**	**10.1**	**6.3**	**0.9**	**0.8**	**8.4**	**5.9**	**10**	**14**
Japan									
Tonengeneral Sekiyu Kk	6,051	4.0	17.3	1.3	1.3	3.4	7.6	31	8
Idemitsu Kosan Co. Ltd.	4,057	5.1	5.4	0.6	0.5	5.6	5.7	11	10
Showa Shell Sekiyu Kk	2,499	6.2	8.7	0.7	0.7	6.1	6.7	11	8
Cosmo Oil Company Ltd.	2,321	19.5	11.6	0.5	0.5	7.1	6.6	3	6
Average	**3,732**	**8.7**	**10.8**	**0.8**	**0.7**	**5.6**	**6.7**	**14**	**8**
World Average	**4,162**	**22.8**	**9.2**	**1.1**	**1.0**	**6.1**	**5.4**	**14**	**14**

Source: Bloomberg, AMSEC Research

Key risks and concerns

Sourcing of crude

Presently, MRPL depends heavily on the Middle Eastern crude, which comprises ~95.6% of its current crude mix. Such dependence on one particular region for input crude exposes MRPL to geopolitical risks, wherein, any supply disruption from the region could significantly impact its crude run. Besides, with Iran being its largest supplier MRPL is currently facing difficulties in remitting payments due to the EU sanctions and dismantling of Asian Clearing Union by the RBI. Hence, availability of Iranian crude may become tougher going ahead and the company could have to tackle supply disruptions from the region.

Exchange rate fluctuations

Currently, MRPL is majorly dependent on imported crude. Domestic crude is also based on import parity pricing. Therefore, the company is exposed to forex fluctuation risks. However, since the product prices are also based on trade/import parity prices (Dollar denominated with a lag of one month), the company enjoys a natural hedge except for situations where the Rupee witnesses significant volatility within a month. Also, MRPL exports a sizable portion of its output (petroleum products), which gives it partial natural hedge against exchange rate fluctuations.

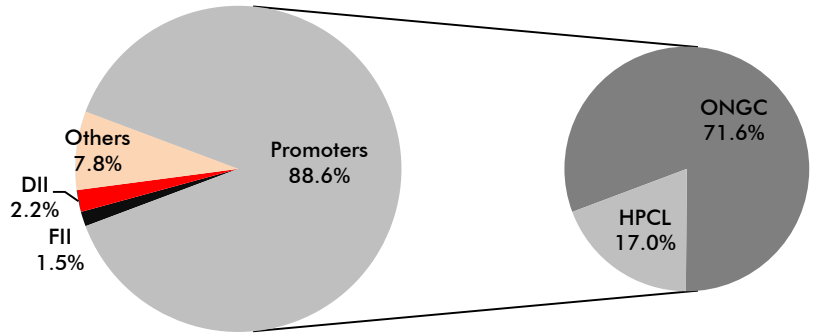
Shift in macro dynamics

India is well poised to become a refining hub, with major refiners planning capacity additions, which will enhance India's role as a major exporter of petroleum products. However, these capacity additions and change in product slates to earn better margins is largely dependent on the global demand-supply scenario. Therefore, if global demand-supply scenario pans out to be significantly different from what is expected, it will pose major threat to our projections.

Company Background

Mini Ratna Mangalore Refinery and Petrochemicals Limited (MRPL) was incorporated in 1988 and commenced business as a joint venture oil refinery promoted by Hindustan Petroleum Corporation Limited (HPCL) and Indian Rayon & Industries Limited (IRIL) & Associates (AV Birla Group).

Exhibit 34: Shareholding pattern



Source: Company, AMSEC Research

MRPL is a majority subsidiary (71.60%) of ONGC with HPCL being the other PSU holding 16.98% stake in the company. HPCL is also a major off-taker of MRPL's products. The refinery was conceived to maximise middle distillates with capability to process light to

MRPL is the only refinery in India to have two CCR units producing unleaded petrol of high octane

heavy crude with 24° to 46 ° API gravity. It is the first refinery in India to produce Euro-III compliant petrol and diesel and is also the only refiner in India to have two CCRs producing unleaded petrol of high octane. Currently, MRPL has refining capacity of 11.82mmtpa which it is being expanded to 15.0mmtpa at an investment of ₹121.6bn.

In FY11, MRPL's refinery throughput stood at 12.64mmt with capacity utilisation of 107%. The refinery produced 11.77mmt of finished products of which major chunk was contributed by HSD (~45% of total production).

HSD contributed ~45% of the total production

Exhibit 35: Product slate - FY11

Product	(mmtpa)	% Breakup
Light Distillates		
LPG	0.30	2.6
MS	1.19	10.1
Mixed Xylene	0.08	0.7
Naphtha	0.90	7.6
Middle Distillates		
SKO	0.34	2.9
HSD	5.28	44.9
ATF	1.09	9.2
Heavy ends		
FO	2.27	19.3
LSHS	0.01	0.0
Asphalt	0.21	1.8
CRMB	0.04	0.3
Sulphur	0.06	0.5
Total	**11.77**	**100.0**

Source: Company, AMSEC Research

Major expansion plans on the anvil

Phase III refinery expansion

MRPL is currently implementing Phase III refinery expansion project to increase refining capacity from the present ~11.8mmtpa to 15mmtpa. The project will also enable the company to process more of comparatively cheaper high sulphur/high acid and heavier crude. It will also increase the distillate yields by upgrading low-value black oils, producing value-added products like propylene and upgradation of its total diesel pool to superior (Euro III/IV) grade.

Exhibit 36: Phase III refinery project status (as on June 15, 2011)

Particulars	Details	Remarks
Current status	Achieved overall progress of 84.4%	Against scheduled target of 92.7%
Expected completion	4QFY12	Project was originally scheduled for completion by June 2010
Total capital expenditure	₹121.6bn (committed)	Original project cost was ₹79.5bn (project delays have resulted in cost over-run of ~53%)

Source: Company, AMSEC Research

MRPL has placed orders for units like PFCC, SRU & PPU, captive power plant (CPP), hydrogen and DHDT units, CHT, DCU, etc., as well as all utility packages like nitrogen, compressed air, raw water, cooling water, DM water and waste water treatment plants. Total value of orders placed was ₹101.9bn as on FY11.

Polypropylene project

Polypropylene unit to produce around 460ktpa polypropylene

Along with Phase III refinery project, MRPL has been integrating a polypropylene unit to produce ~460ktpa polypropylene by converting the propylene produced in the PFCC unit. This is being set up as part of Phase III of the refinery project. Currently, site grading and civil construction work is being carried out. However, after shift of the site

to the present location, fresh environmental clearance from MoEF was required for shifting of the PP unit. This clearance has been obtained by the company recently.

Exhibit 37: Polypropylene project (as on June 15, 2011)

Particulars	Details	Remarks
Current status	Achieved overall progress of 64.2%	As against scheduled target of 67.2%
Expected completion	2QFY13	Expected to achieve mechanical completion by 1QFY13
Total capital expenditure	₹18.0bn (committed)	Expenditure of ₹3.0bn incurred so far

Source: Company, AMSEC Research

Single point mooring project

MRPL is setting up a SPM facility at Mangalore Port to receive crude oil in VLCC tankers. The main purpose of this facility is intermediate crude pumping in the refinery as VLCC traffic cannot be handled at the Mangalore port. The project has obtained environmental clearance from the MoEF and is expected to be completed by 1QFY14 (achieved overall progress of 15.7% as on June 15, 2011) at overall capex of ~₹11bn.

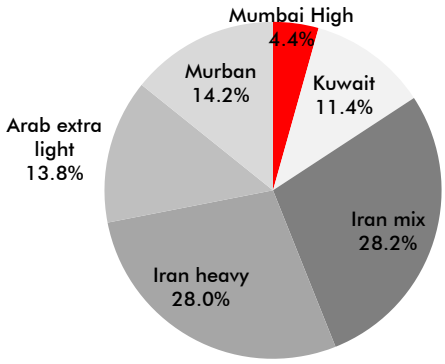
Other internal projects

Many internal projects are also being undertaken by MRPL, which includes major revamp of the CDU/VDU Phase I unit to improve yields and achieve better efficiency. The integration activities were undertaken through a shutdown between September-October 2011. Revamp of the naphtha splitter was also undertaken for maximising capacity utilisation of the existing isomerisation and CCR units used for converting petroleum naphtha, typically having low octane ratings, into high-octane liquid products.

Sourcing of crude

MRPL procures major portion of its crude requirements from the Middle East (~95.6% of the total crude processed), with Iran being the major supplier.

Exhibit 38: Input crude oil mix



Source: Company, AMSEC Research

Financials

(₹ mn)

Profit and Loss Account

Y/E March	FY11	FY12E	FY13E	FY14E
Net sales	**389,567**	**521,563**	**523,834**	**543,343**
Cons. of materials	364,041	506,205	484,514	495,385
Staff cost	1,845	1,565	1,833	2,065
Other expenditure	3,708	3,912	4,715	4,890
EBITDA	**19,973**	**9,882**	**32,772**	**41,003**
Depreciation	3,914	3,882	9,832	10,335
Operating profit	**16,059**	**6,000**	**22,940**	**30,668**
Other Income	2,356	3,534	3,711	3,897
EBIT	**18,415**	**9,534**	**26,652**	**34,564**
Interest	1,044	1,250	5,685	4,517
Exceptional items	4	-	-	-
EBT	**17,376**	**8,284**	**20,966**	**30,047**
Income tax	5,609	2,734	6,919	9,916
Reported net income	**11,767**	**5,551**	**14,048**	**20,132**
Extra-ord (inc)/exp	-	-	-	-
Adjustments	4	-	-	-
Adjusted net income	**11,763**	**5,551**	**14,048**	**20,132**
Shares O/s (mn)	1,753	1,753	1,753	1,753
EPS (₹)	**6.7**	**3.2**	**8.0**	**11.5**

Balance Sheet

Y/E March	FY11	FY12E	FY13E	FY14E
Sources of funds				
Equity capital	17,527	17,527	17,527	17,527
Reserves & surplus	47,762	50,868	62,471	80,158
Shareholder's funds	**65,289**	**68,395**	**79,998**	**97,685**
Debt funds	15,570	78,163	63,966	48,966
Total liabilities	**80,859**	**146,558**	**143,963**	**146,650**
Application of funds				
Gross fixed assets	76,038	79,538	201,451	211,772
Less: accu. depreciation	45,220	49,102	58,933	69,269
Net fixed assets	30,819	30,436	142,518	142,503
Net intangible assets	78	78	78	78
Capital WIP	54,674	118,414	500	875
Investments	**948**	**1,897**	**3,793**	**7,586**
Current assets	**98,280**	**88,142**	**101,750**	**107,145**
Inventories	40,974	36,956	42,072	41,612
Sundry debtors	25,266	21,218	24,345	24,852
Cash and bank	24,151	19,015	24,333	29,270
Other current assets	284	522	524	543
Loans, adv. & deposits	7,605	10,431	10,477	10,867
Current liabilities	**100,469**	**88,664**	**100,239**	**106,108**
Current liabilities	96,874	83,448	95,000	100,675
Provisions	3,594	5,216	5,238	5,433
Net current assets	**(2,188)**	**(522)**	**1,512**	**1,037**
Miscellaneous expenditure	-	-	-	-
Net deferred Tax	(3,472)	(3,745)	(4,437)	(5,428)
Total assets	**80,859**	**146,558**	**143,963**	**146,650**

Source: Company, AMSEC Research

Cash Flow Statement

Y/E March	FY11	FY12E	FY13E	FY14E
PBT and exceptional items	17,375	8,284	20,966	30,047
Non-cash adjustments	3,049	1,597	11,806	10,956
Chg in working capital	7,233	(8,263)	3,264	5,236
Income tax paid	(8,216)	(2,460)	(6,227)	(8,924)
Other operating cashflow	(20)	359	5	43
Cash flow from op.	**19,420**	**(483)**	**29,814**	**37,358**
Capital expenditure	(35,616)	(67,239)	(3,999)	(10,696)
Change in investments	15,288	(948)	(1,897)	(3,793)
Other investing cash flow	2,405	3,534	3,711	3,897
Cash flow from invest.	**(17,923)**	**(64,653)**	**(2,185)**	**(10,592)**
Issue/(repay) debt	(1,394)	62,593	(14,197)	(15,000)
Dividends paid	(2,452)	(1,342)	(2,429)	(2,312)
Interests paid	(1,044)	(1,250)	(5,685)	(4,517)
Other financing cash flow	-	-	-	-
Cash flow from fin.	**(4,890)**	**60,001**	**(22,311)**	**(21,829)**
Net chg. in cash	(3,393)	(5,135)	5,318	4,937
Op. cash & cash eq.	**27,544**	**24,151**	**19,015**	**24,333**
Cl. cash & cash eq.	**24,151**	**19,015**	**24,333**	**29,270**

Ratios

Y/E March	FY11	FY12E	FY13E	FY14E
Per share (₹)				
EPS	6.7	3.2	8.0	11.5
CEPS	8.9	5.4	13.6	17.4
Book value	37.2	39.0	45.6	55.7
Valuation ratios (x)				
EV/Net sales	0.2	0.2	0.2	0.1
EV/EBITDA	4.0	8.2	2.5	2.0
P/E	7.6	16.1	6.4	4.4
P/BV	1.4	1.3	1.1	0.9
Growth yoy (%)				
Sales	22.2	33.9	0.4	3.7
EBITDA	31.9	(50.5)	231.6	25.1
PAT	5.8	(52.8)	153.1	43.3
Gross fixed asset	2.4	4.6	153.3	5.1
Profitability & return ratios (%)				
EBITDA Margin	5.1	1.9	6.3	7.5
EBIT margin	4.7	1.8	5.1	6.4
NPM/TI	3.0	1.1	2.6	3.6
RM/Sales	93.4	97.1	92.5	91.2
RoANW	19.5	8.3	19.0	22.7
RoACE	16.2	5.6	12.3	15.9
Tax/PBT	32.3	33.0	33.0	33.0
Working capital & liquidity (days)				
Net working cycle	(19)	(14)	(15)	(18)
Receivables	20	16	16	17
Inventory	36	28	30	31
Payables	75	59	61	65
Current ratio (x)	1.0	1.0	1.0	1.0
Quick ratio (x)	0.6	0.6	0.6	0.6
Turnover & leverage ratios (x)				
Gross asset turnover	5.2	6.7	3.7	2.6
Total asset turnover	2.4	2.5	2.2	2.2
Net debt/Equity	NA	0.9	0.5	0.2
Interest coverage ratio	17.6	7.6	4.7	7.7
Dividend (%)				
Payout	17.9	37.9	15.0	10.4
Per share	12	12	12	12

Glossary

API	American Petroleum Institute
ATF	Aviation turbine fuel
CCR	Catalytic Regenerative Reforming Unit
CDU/VDU	Crude Distillation Unit/Vacuum Distillation Unit
CHTU	Coker Hydrotreating Unit
CO	Cycle Oil
CPP	Captive Power Plant
CRMB	Crumb Rubber Modified Bitumen
DCU	Delayed Coker Unit
DFR	Detailed Feasibility Report
DHDTU	Diesel Hydrotreating Unit
EIA	Energy Information Administration
EU	European Union
FCC	Fluid Catalytic Cracking
FO	Fuel Oil
FSU	Former Soviet Union
GDP	Gross Domestic Product
GRM	Gross Refining Margin
HCU	Hydro Cracker Unit
HDPE	High-density Polyethylene
HGU	Hydrogen Generating Unit
HSD	High Speed Diesel
IEA	International Energy Agency
IMF	International Monetary Fund
ISPRL	Indian Strategic Petroleum Reserves Limited
LDPE	Low-density Polyethylene
LLDPE	Linear Low-density Polyethylene
LOBS	Lube Oil Base Stock
LPG	Liquefied Petroleum Gas
LSHS	Low Sulphur Heavy Stock
MoPNG	Ministry of Petroleum and Natural Gas
MS	Motor Spirit
OECD	Organisation for Economic Co-operation and Development
OIDB	Oil Industry Development Board
OPEC	Organization of the Petroleum Exporting Countries
PFCCU	Petroleum Fluidized Catalytic Cracking Unit
PRU	Propylene Recovery Unit
SKO	Superior Kerosene Oil
VLCC	Very Large Crude Carriers
WACC	Weighted Average Cost of Capital

Notes

Notes

Recommendation rationale

Buy: Potential upside of	>+15% (absolute returns)
Accumulate:	+6 to +15%
Reduce:	+5 to -5%
Sell:	> -5%
Not Rated (NR):	No investment opinion on the stock

Sector rating

Overweight:	The sector is expected to outperform relative to the Sensex.
Underweight:	The sector is expected to underperform relative to the Sensex.
Neutral:	The sector is expected to perform in line with the Sensex.

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