Hypothesis Research

Initiation of coverage

Equity Research

Diversified metals

Freeport-McMoRan

Overcoming trough, focused on execution

- **Freeport-McMoRan (NYSE: FCX) share price up 64% YtD indicating positive investor reaction to the strategy execution.** The world's largest publicly traded copper producer, well diversified in gold and molybdenum, as well as gas and oil, is going through a low cycle in both diversified metals and oil. Hot acquisitions of oil and gas market assets should now be repaid with cost discipline, capex cuts, and asset restructuring to enhance the shareholder value.
- **High quality long-life copper assets, positive copper market prospects over longer-term and an experienced team support our investment case.** General trends towards renewables in developed countries and renovation in developing countries, still strong demand for durables and infrastructure in China even during and after its rebalancing and urbanization are supportive for copper consumption. At the same time, the copper supply side looks rather limited due to declining grades, expensive greenfields, and potential underinvestment in medium term.
- **Operating results proving cost control and debt reduction may become drivers of FCX valuation in short-term.** The announced asset sale of $4.2bn is an essential part of the plan to cut $20.8bn in debt. The expected EBITDA reduction by c$0.3bn (at $2.43/lb Cu price) associated with the sale looks a reasonable trade-off with 9-10x EV/EBITDA for the assets sold. Sensitive to even $0.1/lb Cu price increase (additionally gained EBITDA of $0.4bn), the company should be a quick performer during the Cu price upswing.
- **FCX trades with 15-36% discount to peers based on 2018E EV/Sales'18 and P/E'18.** FCX is a high beta commodity play, which reflects high volatility of the product prices and high gearing of the company. Still 55% of consolidated copper and 80% of gold sales to occur in the second half 2016 make the "to do" list longer. Our model implies EV/EBITDA multiples of 7.7x and 6.5x for 2017 and 2018 respectively, which is in line with peers. We estimate the 12M indicative price range at $10.2-16.8 per share.
- **Risks of underperformance are still there.** FCX meets potentially risk of low volumes in Indonesia, higher costs (positive currency depreciation effect is over), and weaker than expected operating cash flow in 2016. The tax matters in Peru and Indonesia could grow to worth over $0.6bn. The company has still to prove its strategy and mettle.

Report date:	**25 May 2016**
Main exchange	NYSE
Price, $	11.04
Current MCap, $ mn	13,820
EV, $mn	34,266
Free float, %	90.2%

Description:
Freeport-McMoRan is the world's largest publicly traded copper producer, with an asset base diversified in gold, silver, cobalt, molybdenum. The company has assets located in North and South America, Africa and Indonesia. The company holds a portfolio of oil and gas assets in the US.

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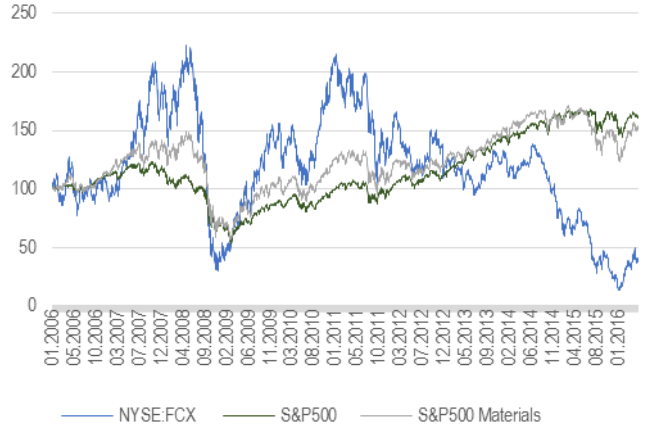
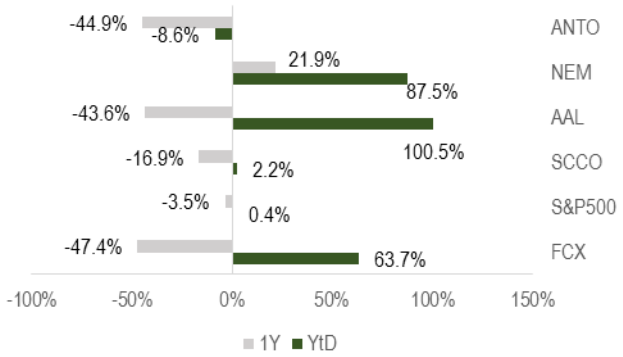
Figure 1: Price performance – 10 years



Source: Capital IQ

Figure 2: Sector stock performance – 1 year and Year-to-Date



Source: Capital IQ, as of 20-May-2016

Contents

Executive summary

We initiate coverage of Freeport-McMoRan Inc. (NYSE: FCX), the world's leading publicly traded copper producer. The company is also a large producer of molybdenum, gold and silver, and has significant oil and gas operations. FCX operates a large long-lived natural resource base diversified geographically on four continents and may benefit from a growing production profile during favorable supply-demand cycles.

Several of the largest copper producers (including FCX, Glencore and BHP Billiton) have both copper and oil & gas assets in their portfolios, thus FCX's move towards diversification into energy commodities back in 2013 was not unique. Bearing in mind that Brent crude oil, key industrial metals and gold prices were not highly correlated during the past decade, the current downturn in resource prices is a challenge for a high-leveraged company: copper and oil prices touched six-year and fifteen-year lows at the beginning of 2016 on the back of concerns about oversupply and low growth in the Chinese economy. A challenging price environment combined with a high debt load was the cause of an over 70% share price drop during 2015.

The company's redefined strategy, which now focuses on its leading global position in the copper industry and which aims to make the copper business cash-positive even with the copper price at a six-year low, should bear results. The list of measures implemented to enhance shareholder value includes most of such measures implemented by peers like Glencore – that includes a significant reduction in capital spending, cost optimization and the sale of targeted assets. The company has also reduced the number of Board members from 16 to 9 and changed the organizational structure of the oil and gas business to cut costs. Major targets, including debt reduction, cost reduction through increased production volumes; other targets which include asset sales are on the agenda in 2016.

We believe that even under the current challenges, the company has the ability to stabilize its cash flows and reduce the risk of potential earnings volatility for shareholders. We outline several important factors supportive of the FCX investment case:

- ✓ FCX operates large long-lived resource base. The asset base includes one of the world's largest copper and gold deposits located in the Grasberg mineral district in Indonesia.
- ✓ FCX is a large producer of copper (ranked second globally and #1 among publicly traded companies) and is the largest producer of molybdenum globally.
- ✓ FCX has modest production costs and relatively good margins for a copper, molybdenum and gold miner, thus the company is more resilient in a weak price environment. Weaker currencies in producing countries positively affect cash costs.
- ✓ The company's oil and natural gas assets are diversified in terms of production costs and, thus, might represent a good commodity play during a market recovery.
- ✓ The company has demonstrated proactive management of its asset base since the downturn in the market environment. Further steps to reduce debt levels and enhance operating profitability look challenging but realistic and may bring results already in 2H16.

With adjusted EBITDA of $4.4bn and a relatively high debt load of $20.4bn at year-end 2015, which was accumulated during the acquisition of oil and gas assets in 2013, the company now needs to implement a number of measures to improve the balance sheet and maintain profitability.

FCX already implemented some measures to stabilize its financial position and cash flows in 2015, including capex reduction, production curtails at its North and South America mines, and measures to reduce operating and administrative costs. The oil and gas business implemented measures to undertake a short-term deferral of exploration and development expenditures by idling the three drillships it has under contract at Deepwater Gulf of Mexico (GOM).

In January 2016 FCX announced initiatives to accelerate its debt reduction plan. These initiatives included a reduction in capital expenditures to $3.3bn; a 28% cut in the estimated average unit cost to $1.10/lb of copper in 2016 vs $1.53/lb in 2015; and a 19% reduction in estimated oil and gas production costs to $15.0/BOE in 2016 vs $18.6/BOE in 2015. The company has already suspended the annual common stock dividend of $0.2 per share (c$250mn of savings). In addition, the company completed c$2bn in equity sales from an at-the-market equity program.

We still see several potential risks, which might affect the company's cash flow generating ability and plans:

- ✓ Weaker-than-expected price environment will create serious pressure for FCX's operating cash flow.
- ✓ Delays in asset restructuring or sale, thus restricting the ability to reduce debt. Lower-than-expected realized gains in a sale would be also rather negative surprise.
- ✓ Weaker cost control and the ability of FCX to cut unit production costs by 19% for oil and 28% for copper are ambitious and should be affirmed during 2016. A positive effect of currency devaluation on cash cost in producing is over. A negative revision of forecasts might create pressure on the company's share price.
- ✓ The company operates a global commodities resource base, which is subject to changing regulations in its business jurisdictions, including Indonesia, Chile, DRC, Peru and the USA. Any potential developments or revision of terms by local authorities represent a risk for potential production and earnings plans.
- ✓ The company faces several potential risks in relation to Cerro Verde and Indonesian tax disputes regarding royalties. The Peruvian authority's tax assessment is $413mn for 2006-11 and potentially another $515mn for 2011-13 which the company is planning to contest. The Indonesian regional authority might ask for a $207mn surface water tax, which the company also plans to contest.

The company believes the current copper market is 'essentially balanced'. Copper exchange stocks are down 2% YTD with 35% reduction on LME offset by 45% YTD increase in Shanghai. Oil and gas prices are stabilizing, but lower levels cannot be ruled out during the year, particularly if new sources increase supply. The gold market demonstrated signs of stabilization already in 4Q15 on the back of supply cuts and growth in demand for gold reserves and investments.

According to the company, the implementation of unit cost cuts and capex reduction will result in positive cash flow after capital expenditures. Based on the target unit costs provided and prices of $2.10/lb for copper, $5/lb for molybdenum, $1230/oz for gold and $43/bbl for oil, we estimate an adjusted EBITDA of $4.2bn for 2016. Based on consensus forecasts (Capital IQ), product prices might recover to $2.4-2.6/lb for copper, $6.2-6.7 for molybdenum, over $55 for oil.

Based on the announced 2016 price and unit cost targets, our estimated multiples are EV/EBITDA of 7.7x for 2017 and 6.5x for 2018. We estimate the 12M indicative price range at $10.2-$16.8 per share, before the asset sale.

Business overview

Company core assets

Freeport-McMoRan (NYSE: FCX) is a natural resource company engaged in copper, gold, silver, molybdenum and cobalt production as well as in oil and gas exploration and production. The company operates long-life resources geographically diversified on four continents. Copper represented 67% of total FCX sales in 2015. The company is the world's second-largest copper producer, with c8% market share.

The mineral asset base of FCX includes large deposits in North and South America, assets in the Grasberg minerals district in Indonesia, and the Tenke Fungurume minerals district in the Democratic Republic of Congo.

Copper is processed either by smelting and refining or by solution extraction and electrowinning (SX/EW). In smelting and refining the ore is first crushed and treated to produce a copper concentrate with a copper content c 20-30%, the concentrate is then smelted to produce copper anode with an average copper content of 99.5%. The anode is treated by electrolytic refining to produce cathode with average copper content of 99.99%. In SX/EW the copper is extracted from the ore by dissolving it with a weak sulphuric acid solution with the content increasing in two additional extraction stages, and then the copper solution goes through the electrowinning process to produce cathode with 99.99% copper content. Copper cathode is used to produce copper rod, brass mill products and others. FCX produces copper concentrate at six mines in North America, South America and Indonesia, copper cathode at 10 mines in North America, South America, Indonesia, and at Atlantic Copper in Spain. Cast copper rod is produced at El Paso and Norwich facilities and Miami. In 2015, 43% of the mined copper was sold in concentrate, 33% in cathode and 24% in rods from North America.

Cathode and rod prices are based on the COMEX monthly average spot price and include a premium. Copper rod is sold to wire and cable manufacturers and cathode is sold to rod, brass and tube manufacturers. The South American mines sell copper cathode or copper concentrates under US dollar-denominated contracts with prices based on the LME monthly average spot copper prices. The Indonesian subsidiary PT-FI sells its products in the form of copper concentrate with a significant content of gold and silver under US dollar-denominated long-term contracts primarily based on LME monthly average spot prices. TFM in Africa sells copper cathode under US dollar-denominated contracts.

Gold is sold mainly from Grasberg mineral district as a component of copper concentrate or in slims, which are produced by Atlantic Copper.

The company is the largest global producer of molybdenum and molybdenum-based chemicals. Molybdenum is produced in Henderson, Climax and some other North America mines and also at Cerro Verde copper mine in Peru. Molybdenum concentrate is processed at the company's own conversion facilities.

Cobalt hydroxide is a product of Tenke in Africa. Silver is a component of FCX's copper concentrate or produced in slims.

FCX's oil and natural gas resource base includes oil facilities in Deepwater Gulf of Mexico (GOM),

FCX has a portfolio of oil and gas operations through its subsidiary FM O&G. Oil and gas is produced and sold in the USA. Oil is sold under contracts based on regional benchmarks, and the gas price is based on indexes with only a small portion sold on spot. The 70% share of production from California is attributable to heavy crude oil, which is primarily sold under long-term contracts with prices based on regional benchmarks. In the GOM, the share of oil and gas production is sold under contracts pursuant to which crude oil is sold directly to refineries in the Gulf Coast regions of Texas and Louisiana.

Figure 3. FCX main production assets

Location / Asset	Production description	Reserves / Production
North America, USA – 7 Cu mines, 2 Mo mines Cu: Morenci (85%), Bagdad, Safford, Sierrita and Miami in Arizona, and Chino and Tyrone in New Mexico Mo: Henderson, Climax in Colorado	48% of copper, 92% Mo produced by FCX (2015)	34% of the company's copper reserves, 78% of molybdenum reserves
North America, USA – O&G Deepwater GOM, California, Haynesville, Wyoming and South Louisiana	Onshore and offshore operations in California, offshore operations in Deepwater GOM, Shale gas production in Haynesville, natural gas production in Wyoming and South Louisiana	Oil and gas proved reserves amounted 252MMBOE and probable reserves amounted 129MMBOE
South America, Peru and Chile Cu, Mo: Cerro Verde in Peru Cu: El Abra in Chile	22% of copper produced by FCX	31% of copper reserves
Indonesia Cu, Au: Grasberg mines	19% of copper, 98% of gold produced by FCX	28% of copper reserves, 99% of gold reserves
Africa, DRC Cu: Tenke Fungurume	11% of copper, 100% of cobalt hydroxide produced by FCX	7% of copper reserves, 100% of cobalt reserves
Atlantic Copper, Spain	Produces copper cathode and gold slims	

Source: Company data

Recent developments

The company significantly changed its profile in 2013 when oil and gas properties were added to its portfolio of assets. The acquisition of the oil and gas assets was paid for with cash and shares and an essential debt increase. As of end of March 2016 the reported debt level reached $20.8bn.

An essential part of the future performance of FCX is its ability to produce in different regions keeping control over capex and costs. In 2015 the company achieved progress with following:

- ✓ The new concentrating plant at Morenci reached its full capacity.
- ✓ The construction of the world's largest concentrate facility at Cerro Verde was completed.
- ✓ FCX received some important assurances from the Government of Indonesia regarding its long-term operating rights.
- ✓ FCX drilled 10 successful wells in the Deepwater GOM.

Operating in the resource industry the company is involved in active M&A reshuffling, optimizing its portfolio of assets. Since 2013 FCX has completed the sale of 80% ownership in the Candelaria and Ojos del Salado copper mining operations in Chile and the Eagle Ford shale asset in Texas, and it has acquired additional interests in GOM and established an unincorporated JV with Rio Tinto related to operation in Indonesia. Some of the asset sales are targeted in order to repay debt before YE2016.

Figure 4. FCX assets negotiated for sale in 2016

Asset	Date of agreement	2015 EBITDA @$2.43/lb Cu	Acquirer	Consideration	Expected closing
Tenke Fungurume (70% TF Holding Limited)*	09/05/2016	$300mn	China Molybdenum Co Ltd (CMOC)	$2.65bn cash and $120mn contingent consideration	4Q2016
Morenci (13% Interest)	15/02/2016	$115mn	Sumitomo Metal Mining Co	$1bn	2Q2016
Timok Exploration Project	02/03/2016	($16mn)	Reservoir Minerals	$135mn cash and $128mn contingent consideration	Closed
Oil and Gas Royalty Interests	21/04/2016	$10mn	Black Stone Minerals	$102mn	2Q 2016
Total		$409mn		$4.2bn	

Source: Company data

*) Subject to Lundin Mining right of first offer (ROFO)

According to the provided data, a valuation range EV/EBITDA of 8.7-10.3x (at $2.43/lb Cu) is implied for targeted assets, and that looks relatively fair in the current environment. The company said that profits from the sale will be partially used to pay taxes, thus we do not yet include the potential proceeds into the model. The company's current valuation is sensitive to any cash-generating asset disposal, thus the Tenke sale will likely be accounted for by the market only in 4Q16-1Q17, when the asset is finally disposed of.

Reserves

The company reported consolidated recoverable proven and probable mineral reserves totaling 99.5bn pounds of copper, 27.1mn ounces of gold, 3.05bn pounds of molybdenum, 271.2mn ounces of silver and 0.87bn pounds of cobalt as of 31 December 2015. North America accounted for a 34% of the company's copper reserves, South America 31%, Indonesia 28% and Africa 7%. Regarding gold 99% of all reserves are located in Indonesia. A 78% share of molybdenum reserves are located in North America and 100% of cobalt reserves are located in Africa.

Figure 5. Recoverable proven and probable mineral reserves of FCX at YE2015

	Copper, bn lbs	Gold, mn oz	Molybdenum, bn lbs	Silver, mn oz	Cobalt, bn lbs
North America	33.5	0.3	2.38	79.3	
South America	30.8		0.67	85.2	
Indonesia	28.9	26.8		106.7	
Africa	7.2				0.87
Consolidated basis	99.5	27.1	3.05	271.2	0.87
Net equity interest	79.3	24.6	2.73	221.6	0.49

Source: Company data

Figure 6. Reserves and sales volumes of FCX

Resources	Units	Reserves YE2015	Sales FY2015
North America			
Cu	bn lbs	33.5	1.98
Mo	bn lbs	2380	90
Oil & Gas	MMBOE	973	52.56
Indonesia, Grasberg (90.64%)			
Cu	bn lbs	28	0.74
Au	mm oz	28.8	1.24
South America			
Cu	bn lbs	30.8	0.87
Mo	bn lbs	0.67	
Africa, Tenke (56%)			
Cu	bn lbs	7.2	0.425
Co	mn lbs	870	35

Source: Company data

Estimated proved oil and gas reserves totaled 252mn barrels of oil equivalent as of end-2015. An 82% share of reserves is comprised of oil and 67% is represented by proved reserves.

Figure 7. Proved and probable oil and gas reserves of FCX estimated at 31 December, 2015

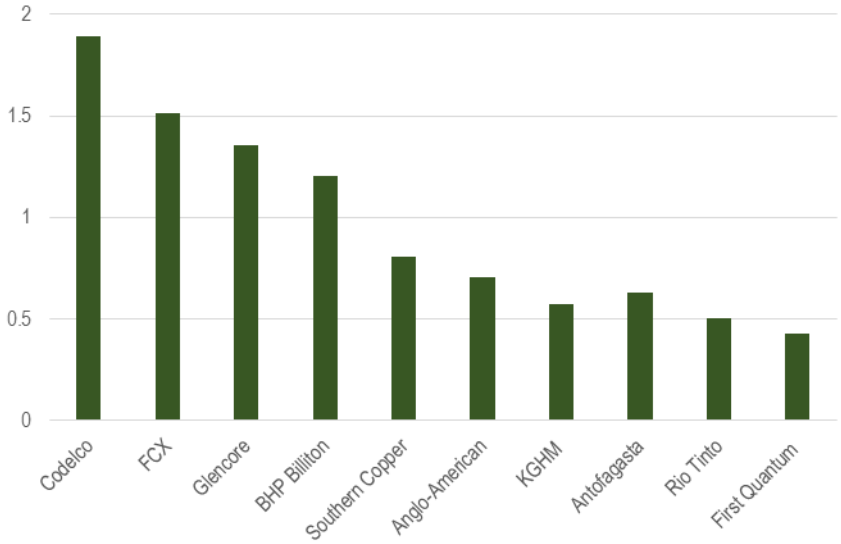
	Oil, MMBbls	Gas, Bcf	Total, MMBOE
Proved developed			
GOM	59	116	78
California	69	12	71
Haynesville/Madden/Other	1	117	20
	129	**245**	**169**
Proved undeveloped			
GOM	65	29	70
California	13		13
	78	29	83
Total proved reserves	**207**	**274**	**252**
Probable developed			
GOM	20	45	27
California	5		5
	25	**45**	**32**
Probable undeveloped			
GOM	65	29	70
California	27	2	27
	92	**31**	**97**
Total probable reserves	**117**	**76**	**129**

Source: Company data (estimates by Netherland, Sewell, & Associates, Inc. (NSAI) and Ryder Scott Company, L.P. (Ryder Scott)

Industry position

FCX maintains its second-place ranking among global copper producers, with an 8% market share, after the global leader Chile's state-owned CODELCO (10% of the copper market).

Figure 8. Copper output by top-10 global producers 2015, mt



Source: Companies data

FCX owns production facilities in the main copper producing regions, including Grasberg mineral district.

Figure 9. Top 20 Copper Mines by capacity (2015 Jul)

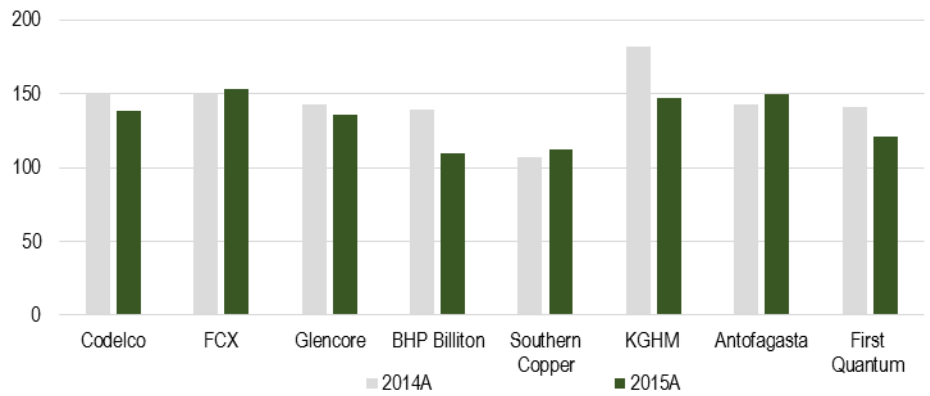
Rank	Mine	Country	Owner(s)	Capacity, kt
1	Escondida	Chile	BHP Billiton (57.5%), Rio Tinto Corp. (30%), Japan Escondida (12.5%)	1205
2	Grasberg	Indonesia	**P.T. Freeport Indonesia Co. (PT-FI),** Rio Tinto	780
3	Morenci	USA	**Freeport-McMoRan Inc** 85%, 15% affiliates of Sumitomo Corporation	520
4	Los Bronces	Chile	Anglo Amercian 50.1%, Mitsubishi Corp. 20.4%, Codelco 20%, Mitsui 9.5%	462
5	Collahuasi	Chile	Anglo American (44%), Glencore plc (44%), Mitsui (8.4%), JX Holdings (3.6%)	450
5	Antamina	Peru	BHP Billiton (33.75%), Teck (22.5%), Glencore plc (33.75%), Mitsubishi Corp.	450
7	Polar Division	Russia	Norilsk Nickel	430
8	El Teniente	Chile	Codelco	422
9	Los Pelambres	Chile	Antofagasta Plc (60%), Nippon Mining (25%), Mitsubishi Materials (15%)	420
10	Radomiro Tomic	Chile	Codelco	400
11	Chuquicamata	Chile	Codelco	360
12	Buenavista del Cobre	Mexico	Grupo Mexico	300
13	Kansanshi	Zambia	First Quantum Minerals Ltd (80%), ZCCM (20%)	285
14	Bingham Canyon	USA	Kennecott	280
14	Batu Hijau	Indonesia	Pt Newmont Nusa Tenggara (PT Pukuafu 20%, Newmont 41.5%, Sumitomo	280
16	Andina	Chile	Codelco	250
17	Kamoto	Congo	Katanga Mining Ltd (74.4% Glencore plc) 75%, Gecamines 25%	245
18	Cerro Verde II (Sulphide)	Peru	**Freeport-McMoRan Copper & Gold Inc**. 54%, Compañia de Minas Buenaventura 19.58%, Sumitomo 21%	240
19	Olympic Dam	Australia	BHP Billiton	225
20	Mina Ministro Hales	Chile	Codelco	220

Source: ICSG

According to the International Copper Study Group (ICSG), in 2014 global copper reserves amounted to 700mt (identified resources amounted 2,100mt and total resources identified and undiscovered amounted 5,600mt), while global mine capacity was 21.7mt as of end-2014, with mine production at 18.7mt. Thus the top-20 producers account for 44% of global capacity. Country-wise, Chile accounted for almost one-third of world copper mine production with 5.75mt in 2014, followed by China (c 2mt), the USA, Peru, Australia and DRC.

Large production capacity, globally diversified, allowed some copper producers to cut their US dollar-denominated unit cash costs, particularly producing countries with weakening currencies versus the US dollar. FCX, as with other global players, is targeting further cash cost reductions in 2016 that should reach 110c$/lb due to production ramp-up in Indonesia.

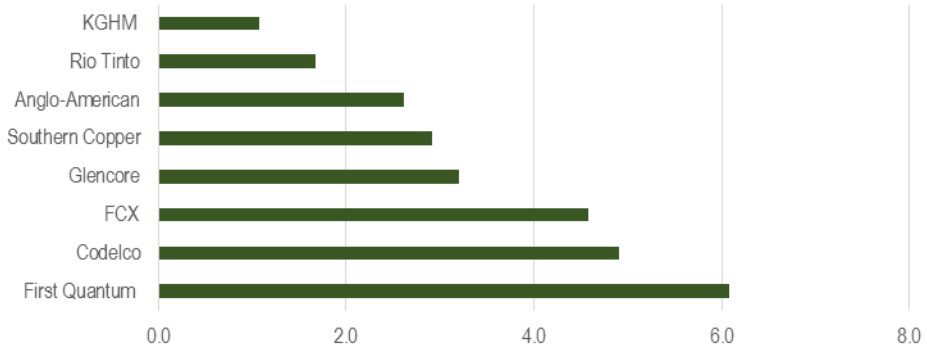
Figure 10. Unit cash cost of largest copper producers (C1), c$/lb



Source: Companies data

The main weakness of FCX versus peers remains its high debt level and the potential vulnerability of the balance sheet under the scenario of further copper price decreases. A debt reduction of 20-25% will bring FCX into a more comfortable zone.

Figure 11. Net debt/EBITDA of the selected largest copper producers



Source: Capital IQ, Company data

In the current environment copper producers are following similar trends: unit cost reductions (if the grade allows to do), sizable capex reductions by over 30% (Glencore -48%, FCX -39%), administrative and operating costs savings, and selected asset sales. This traditional strategy requires only the proper execution to save shareholders' value.

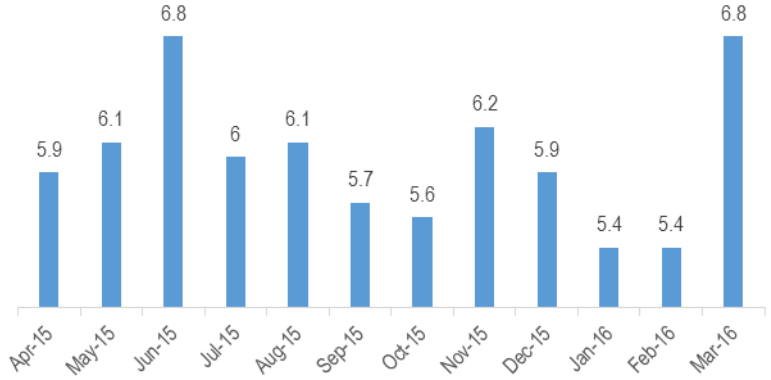
Copper market drivers

Copper demand drivers

The copper market balance was predominantly set by economic trends in China, as the major customer of copper accounting for about 45% of world demand. According to the copper market forecast by the International Copper Study Group (ICSG), the copper market might stay essentially balanced in 2016-2017, from127kt deficit for 2016 to 175kt surplus in 2017.

Copper is predominantly consumed by several large industries (2014 data, IWCC, ICA, ICSG): Transport 12%, Industrial 12%, equipment 31%, infrastructure 15%, building construction 30%. Asia used 62% of copper content in 2014, followed by Americas 14% and Europe 19%.

Figure 12. Chinese industrial production, %



Source: www.tradingeconomics.com, National Bureau of statistics of China

Recent data on the Chinese economy, reforms and potential changes in the industrial profile of the Chinese economy have raised concerns about the short-term prospects for the copper market. In the longer-term, there are supportive drivers for copper demand:

- ✓ China is rebalancing its economy towards a more consumer/services leaning variant, which may influence structural shifts in the future commodities' consumption profile. The growth target for its thirteenth five-year plan for 2016-20 is 6.5% pa. Economic reforms and financial liberalization are essential components of this transformation.
- ✓ China is expected to continue its trend of urbanization, with c240 mn more people to relocate to urbanized areas by 2030. Growth of the middle class will support copper consumption driven by many sectors – new housing, penetration of consumer durables and passenger cars, and upgrades of power infrastructure.
- ✓ Chinese demand for primary copper is expected to grow by 2% pa, with scrap availability to increase by 3-4% pa by 2030. Overall Chinese demand for primary copper might shrink by 3-4% in the long-term, according to BHP Billiton estimates.
- ✓ Consumption in non-OECD regions is expected to grow by 3.6% pa on the back of infrastructure developments in India, urban developments in countries like Indonesia and Vietnam. In OECD countries consumption is expected to increase by 0.6% on the back of developments surrounding renewables and a growing penetration of electric vehicles (consuming c60kg of copper per car) in the OECD region.
- ✓ Risks facing the copper market are coming from substitutes like aluminum (for cables and other applications) and its scrap.

Copper supply factors

Demand for copper had been growing on the back of ramp-ups in industry, however many projects are now suspended and expected to experience delays. Global copper mine production is expected to increase by 1.5% in 2016 (ICSG) to 19.4mt. Higher global production growth of 2% expected in 2017. China will drive the production volumes in both years.

Figure 13. ICSG copper mine production forecast by region to 2017 (May 2016)

Regions (kt)	Mine production			Refined production			Refined usage		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Africa	1895	1823	2152	1373	1268	1448	258	243	246
North America	2660	2551	2676	1886	1871	1946	2299	2344	2393
Latin America	7892	8239	8637	3310	3185	3168	497	495	497
Asean-10 / Oceania	1905	2297	2349	985	1080	1120	930	1004	1019
Asia ex Asean / CIS	2388	2455	2544	11101	11604	11948	14833	14842	15152
China	1706	1745	1850	7964	8350	8700	11349	11400	11700
Asia-CIS	614	678	728	408	480	485	103	103	103
EU	859	879	896	2707	2669	2747	3117	3124	3151
Europe Others	925	900	909	1050	1041	1059	842	845	855
Total	19138	19821	20889	22821	23198	23920	22878	23000	23416
World adjusted	19138	19432	19869	22821	22943	23436	22878	23000	23416
% change	3.50%	1.5%	2.2%	14.9%	0.5%	2.1%	-2.4%	0.5%	1.8%

Source: ICSG

In the short term, projects launched over the past 10 years are starting to ramp-up and expected to add some 2.7mt of potential capacity by 2017, according to BHP Billiton. The majority of copper producers are targeting cash cost reductions in response to lower price levels, which is possible due to favorable producer-country currencies as well as lower fuel prices, energy costs and other inputs. The weak price environment thus only partially affects the production volumes.

Long-term problems from the supply side mentioned by industry players include:

- ✓ Declining grades, down 19% since 2000, from aging ore bodies; this is expected to deteriorate a further 17% by 2025,
- ✓ Greenfield projects restricted by geographical challenges and social tensions (several producers including FCX and First Quantum Minerals have faced worker protests),
- ✓ Insufficient high-quality discoveries,
- ✓ Water desalination and pumping capacity requirements may affect the cost of production in Chile, one of the largest copper regions,
- ✓ Labor productivity decreased by 20% in the industry over the last decade, according to BHP Billiton data, and it now represents a key challenge in Chile and Australia.

The copper market went through essential supply-demand rebalancing. Aggregate copper stocks rose from 316kt at the end of 2014 to 489kt by the end of 2015. As of 20 May 2016, 257.3kt were accumulated in Shanghai (54.8%) of total exchange stocks, LME and COMEX warehouses accounted for 155.7kt and 56.7kt (YTD changes of stocks were -34% on LME, -12% on Comex and +45% in Shanghai).

Prices

Copper is a global commodity which is primarily traded on three major metal exchanges – the London Metal exchange (LME), the New York Mercantile Exchange (NYMEX), and the Shanghai Futures Exchange. FCX sells copper based on COMEX and LME prices. During 2015 the average copper LME spot price was $2.49/lb and as at 31 December 2015 it had dropped to $2.13/lb. Copper is currently priced at c$2.06/lb.

Figure 14. Copper price dynamics (COMEX) - 5 years, $/lb

Source: Capital IQ

Figure 15. Gold price dynamics (COMEX) - 5 years, $/oz

Source: Capital IQ

The benchmark for gold prices is usually based on the London Bullion Market Association PM quotations. Gold demand was rather stable in 2015 relative to 2014 at 4,212t, down just 14t, according to the World Gold Council. The weak demand of 1H15 was compensated by growth in 2H15. Demand grew 4% yoy in 4Q15 due to purchases by central banks (+33t in 4Q15, 14% of global demand in 2015) and investment (+25t in 4Q15, 21% of global demand in 2015) which compensated a contraction in jewelry (57% of global demand) and a decline in Technology (8% of global demand)). Supply remained restricted with annual mine production growth of just 1%, the slowest rate since 2008. Total supply declined 4% to 4,258t in 2015, which represents the lowest level since 2009. Some demand recovery and relatively modest supply has resulted in the gold price gaining 18% YTD to $1,253/oz. That recovery might indicate equilibrium in the supply-demand market.

Figure 16. Gold supply and demand by WGC in 2014-2015

	2014	2015
Supply		
Mine production	3,140.5	3,186.2
Net producer hedging	103.6	-20.8
Total mine supply	3,244.1	3,165.4
Recycled gold	1,169.7	1,092.8
Total supply	**4,413.9**	**4,258.3**
Demand		
Fabrication		
Jewelry	2,511.9	2,455.2
Technology	346.4	330.7
Sub-total above fabrication	2,858.4	2,786.0
Total bar & coin demand	1,000.5	1,011.7
ETFs & similar products	-185.1	-133.4
Central bank & other inst.	583.9	588.4
Gold demand	4,257.6	4,252.6
Surplus/deficit	156.2	5.7
Total demand	**4,413.9**	**4,258.3**
LBMA gold price (U$/oz)	1266.4	1160.06

Source: World Gold Council, Metals Focus, GFMS, Thomson Reuters, ICE Benchmark Administration

Molybdenum is an alloy component used in steel production and the feedstock for some chemical products used in catalysts, lubrication, smoke suppression, corrosion prevention and dyes. Molybdenum is used in alloys for the electronics and aerospace industries. Molybdenum reference prices are usually available in Metals Week, Metal Bulletin and Ryan's Notes publications. In 2015 the price averaged $6.7/lb, remaining in a range of $4.4-9.3/lb. The price closed at $5.2/lb on 31 December 2015.

Figure 17. Molybdenum price (LME) - 5 years, $/lb

Source: Capital IQ

Figure 18. Oil price dynamics Brent (ICE) - 5 years, $/bbl

Source: Capital IQ

Oil products supplied by FCX include oil, natural gas and natural gas liquids (NGLs). The Brent oil price, West Texas Intermediate (WTI) and Heavy Louisiana Sweet are reference prices and usually reflect the global supply-demand balance. Expectations of a global economic slowdown, weak China production figures, high inventories in the USA, political decisions in the Middle East could all play a negative role for oil-price dynamics. Global producers remain close to their production unit costs, however some US-based oil and gas producers have demonstrated impressive ability to cut unit cash costs in order to maintain production and not lose market share relative to 2014. The Brent oil price dropped 35% during 2015 following a 47% correction in 2014. Brent crude prices averaged $54/bbl last year and closed at $37/bbl on 31 December 2015. Current Brent price of $47-49/bbl reflects the stabilization of the supply-demand balance.

Maintaining equity positions in commodities companies may sometimes offer plays on different cycles among commodity products. Note the correlation between the product prices of FCX presented in the table below. Prices for minerals and fuels were driven by different factors over the previous decade. However, the price environment became more challenging in the last two years, when the Chinese economy started to demonstrate signs of slowdown. In addition, the political landscape in the CIS and Middle East looks more complex and investors have become more cautious about global economic trends.

Figure 19. Correlations of commodity prices in US dollar

	Gold ($/oz)	Silver ($/oz)	Copper LME ($/t)	Brent crude oil ($/bbl)	Molybdenum ($/lb)
Gold ($/oz)	1.00				
Silver ($/oz)	0.89	1.00			
Copper LME ($/t)	0.74	0.89	1.00		
Brent crude oil ($/bbl)	0.70	0.73	0.87	1.00	
Molybdenum ($/lb)	0.68	0.80	0.90	0.83	1.00

Source: CapitalIQ, Hypothesis Research estimates

Thus, the forecast is confirmed by the recent spot price dynamics – copper and oil price stabilization and some gold and molybdenum price recovery.

The forecast we use in our model is presented below. We expect only a modest recovery in copper and molybdenum prices until 2019. Sizable capex reductions by copper and oil produces in 2015-16 may result in undersupply after 2018, and thus a more economically stimulating price environment.

Figure 20. FCX product prices actual and forecasts

	2012	2013	2014	2015	2016E	2017E	2018E
Copper, $/lb	3.6	3.3	3.1	2.4	2.1	2.3	2.5
Gold, $/onz	1665	1315	1231	1129	1230	1169	1184
Molybdenum, $/lb	14.3	11.9	12.7	8.7	5.0	6.3	6.6
Cobalt, $/lb	7.8	8.0	9.7	8.2	7.0	7.0	8.7
Oil, $/bbl		98.3	90.0	57.1	43.0	45.0	67.0
Weighted product price*, $/BOE		74.5	69.4	43.6	33.7	36.0	51.7

*) Weighted price based of oil, gas and NGL historical production mix

Source: Company data, Capital IQ

Financials

The financial position of the company was fairly stable prior to 2013 when FCX raised debt to finance the acquisition of oil and gas assets in the USA. As of end-2013 the debt load reached $20.7 bn vs $3.5bn at year-end 2012. The weak price environment is 2014-15 was not constructive towards cutting the debt load which totaled $20.4 bn by year-end 2015.

In 2015 the mining operations and metal sales generated $13.9 bn or 87% of revenues for the company. The $3.3 bn of capital expenditures allocated to the mining division in 2015 was comparable with the $2.9 bn capex spent in the O&G segment. FCX's operating income of $1.2 bn was generated by the mining business whereas the oil and gas business generated an operating loss of $1.2 bn before the impairment of oil and gas assets and $14.2 bn including those impairments.

Last year and the first quarter of this year the financial performance of FCX was affected by several factors, including:

- ✓ Revenues came in at $15.9bn in 2015 compared with $21.4bn in 2014 due essentially to a correction of product prices: copper price dropped 24% yoy as of end-2015, molybdenum corrected 43% yoy, gold fell 10% yoy and oil price contracted 35%. Lower yoy copper and molybdenum prices resulted in 15% yoy revenues decline in 1Q16.

- ✓ Operating cash flows were $3.2 bn in 2015 vs $5.6 bn in 2014, positively supported by cash cost reductions and other cost cutting initiatives. In 1Q16 operating cash flow reached $740mn.

- ✓ The impairment of oil and gas properties amounted to $12,980 mn in 2015 up from $3,737 mn in 2014, following the correction in Brent oil prices from $110.8/bbl at year-end 2013 to $58.2/bbl at year-end 2014 and down to $37.7/bbl at year-end 2015. That resulted in an operating loss, including the impairment of oil and gas properties, of $13,382 mn in 2015. Impairment of $3,787 mn still affected 1Q16 results.

- ✓ Debt totaled $20,428 mn as of year-end 2015 compared to $18,849 mn as of year-end 2014 and stay at $20,777 mn as of 31 Mar 2016.

Outlook for 2016

In January 2016 FCX announced an initiative to accelerate its debt reduction plan and stabilize its cash flows. Apart from the asset sale, the operating initiatives were further developed through 1Q16 and include the following:

(i) reduction in capital expenditures to $3.3bn for 2016 vs $6.3bn for 2015;

(ii) cut in the estimated average unit cost of copper to $1.10/lb in 2016 vs $1.53/lb in 2015;

(iii) reduction in estimated oil and gas cash costs to $15/BOE in 2016 vs $18.59/BOE in 2015.

The company also relies on the renewal of export permits from PT-FI in Indonesia after 8 August 2016. It continues to pay a 5% export duty on concentrate implied by the Indonesian government.

Operating forecast

We base our forecast on production targets set by FCX in May 2016. Projections are based on renewal of the PT-FI export permit after 8 Aug 2016 and closure of 13% of the Morenci sale in 2Q16. Other transactions, including sale of the African entity, are not reflected in the model.

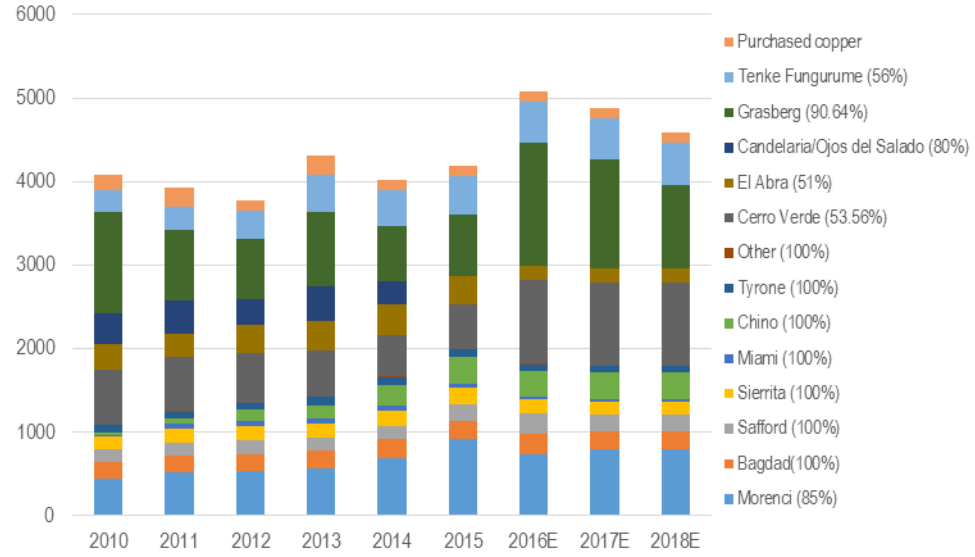
Figure 21. Projections for consolidated sales volumes for 2015 and actual 2015 volumes

	2016E	2015A	YoY
Copper, mn lbs			
North America	1750	1988	-12%
South America	1370	871	57%
Indonesia	1410	744	90%
Africa	485	475	2%
Total copper	5015	4078	23%
Gold, k onz	1850	1247	48%
Molybdenum, mn lbs	71	89	-20%
Oil equivalent, MMBOE	54.4	52.6	3%

Source: Company data

The most important production targets include the growth of Indonesian copper and gold output which will drive the copper cost reductions and cash flow generation. The share 80% of copper volumes from Indonesia should be produced and sold in 2H16.

Figure 22. FCX copper sales dynamics and forecast, mn lbs

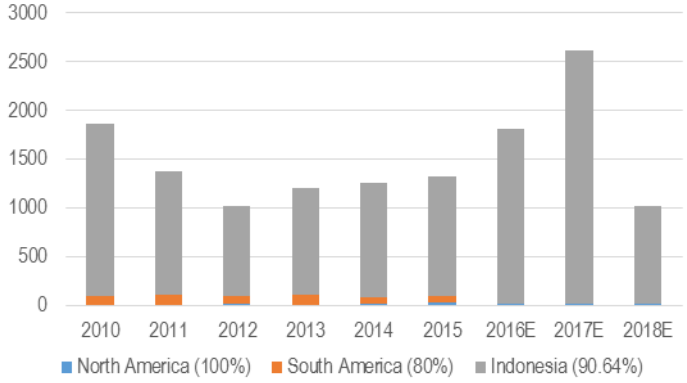


Source: FCX, Hypothesis Research forecast

We believe that a cost-driven approach which relies on lower energy costs, relatively weak local currencies vs. the US dollar and modest labor costs will help the company to improve margins.

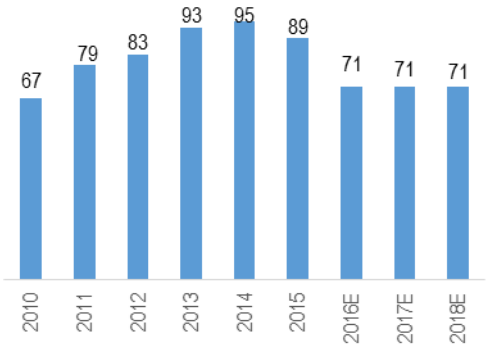
The impressive year-on year increase in copper and gold production planned for Indonesia has yet to be delivered and represents potential downside risk for the stock if not realized.

Figure 23. FCX gold sales dynamics and forecast, 000 ounces



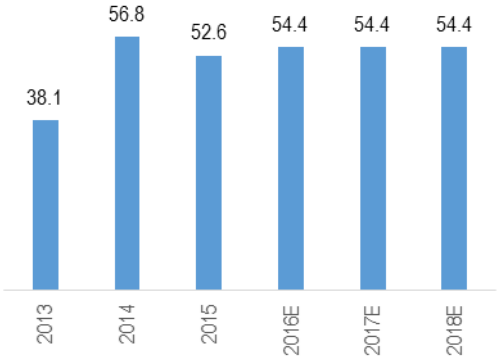
Source: Company data, Hypothesis Research estimates

Figure 24. FCX molybdenum sales dynamics, mn lbs



Source: Company data, Hypothesis Research estimates

Figures 25. FCX oil and gas production dynamics, mn BOE

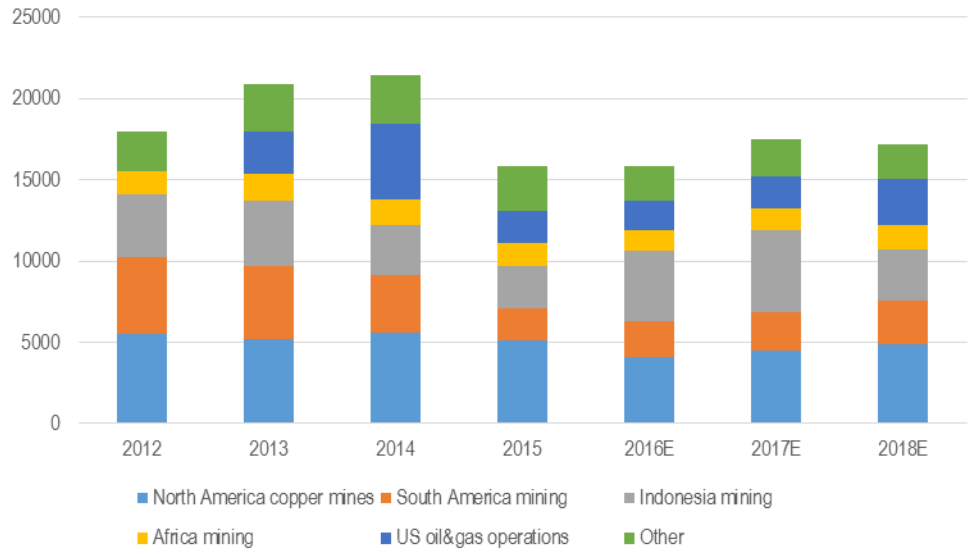


Source: Company data, Hypothesis Research estimates

Revenue forecast

Based on production and price forecasts, we estimate total revenues of $16.4 bn for FY2016, mainly driven by volume growth and unit cash cost reductions across the product range. The revenue forecast is presented in figure 26.

Figure 26. FCX 's revenue by segment dynamics and forecast.



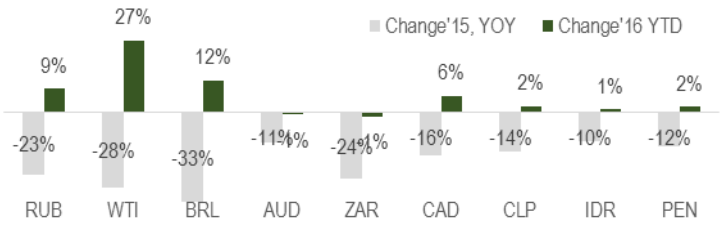
Source: Company data, Hypothesis Research estimates

The sale of Tenke is not reflected in the figure above. The company will lose c$1.4-1.5bn in revenue in 2017-18 once the asset is disposed. Gross profit in Tenke amounted to $0.2/lb of copper and $0.54/lb of cobalt in 1Q16, with revenue at $2.1/lb and $6.32/lb, respectively. A copper and oil price recovery could be very strong drivers for EBITDA should FCX meet its targets for copper and oil unit costs.

Cost forecast

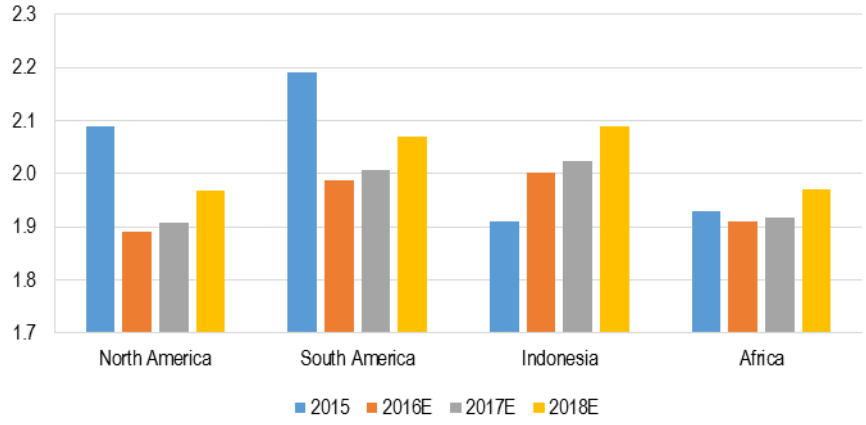
FCX's costs are driven by the regional location, grade and nature of the ore bodies, energy, labor and equipment costs. A strong US dollar vs the weaker currencies in production countries also helps to maintain lower production costs. FCX's competitors in South America and Africa also reported reductions in unit costs in 2015 on the back of weaker currencies vs the US dollar in those countries.

Figure 27. Mining currencies and oil price depreciation (in US$).



Source: CapitalIQ, Hypothesis Research estimates

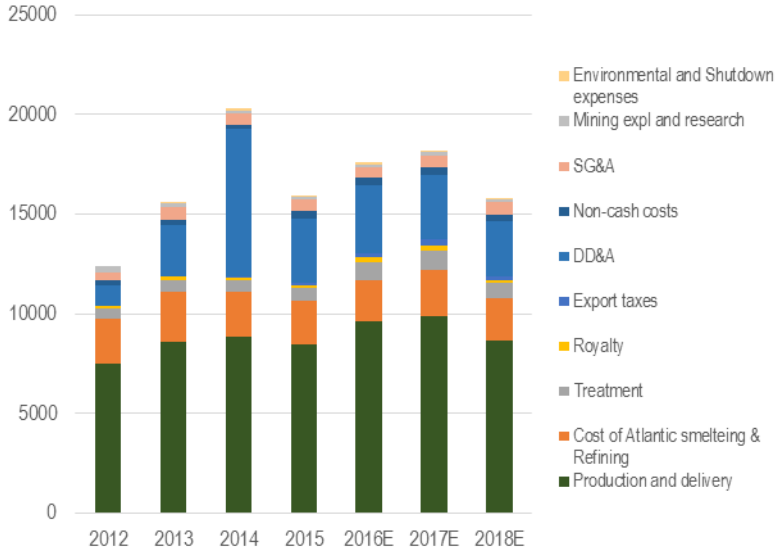
Figure 28. FCX unit cost dynamics by region, $/lb



Source: Company data, Hypothesis Research estimates

The main operating expenses are presented below. The main costs are site production and delivery. Export duties and royalties are also significant as they paid from revenues and cut into margins. Some reduction of royalties, export duties and other are expected by us on the back of possible reduction of gold volumes from Indonesia after pick in 2016-2017. Aside from contractors, FCX employed 34,500 people, including 12,400 in the USA, 5,200 in South America, 3,400 in Africa and 1,400 in Europe and other locations as at 31 December 2015.

Figure 29. FCX consolidated operating cost dynamics, $mn



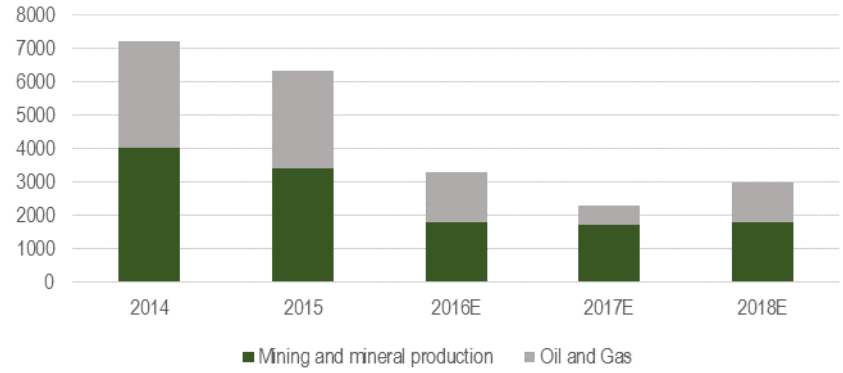
Source: Company data, Hypothesis Research estimates

Capital expenditure

Capital expenditure at FCX totaled $6.4bn in 2015, including $2.9bn assigned to US oil and gas operations and $3.3bn dedicated to total mining. In 2014 FCX spent $7.2bn, including $3.2bn on oil and gas and $4bn on mining. Further reductions in capex look reasonable taking into account the current commodity price environment.

FCX estimates that its capex program should stay at $3.3bn, including $1.5bn to be spent by the oil and gas business and $1.8bn by the mining business. The cost of idling of 3 drilling ships of over $0.755 bn (potentially to add $102mn) are not yet counted in our model. The company has to delay some of its mining and oil and gas projects, which are impacted by the price environment.

Figure 30. FCX capital expenditures, $mn



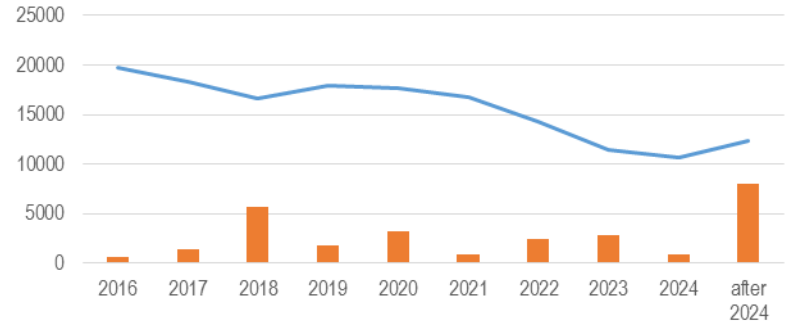
Source: Company data, Hypothesis Research estimates

Debt dynamics and forecast

FCX had to tap the debt market to finance the acquisition of the oil and gas properties (PXP and MMR) in 2013. This raised its total debt load to $20.7bn by year-end 2013, including $10.5bn of acquisition-related debt, $6.7bn of PXP debt, and $3.5bn of FCX's previously existing debt. The total purchase price of PXP amounted to $6,639mn and MMR cost $3128mn.

Since the acquisition of oil and gas assets the market situation has been unfavorable and the company has had to revise its strategic alternatives in order to manage and reduce the debt level. Consolidated interest expense excluding capitalized interest totaled $860mn in 2015, $866mn in 2014 and $692mn in 2013.

Figure 31. FCX debt maturity profile and total debt dynamics, $mn



Source: Company data, Hypothesis Research estimates

FCX's loan agreements contain a number of negative covenants, including financial ratios governing maximum total leverage and minimum interest coverage. In December 2015, the amended agreement set FCX's net debt/EBITDA at a maximum of 5.5x, as of 3 December, 2015, 5.9x for the quarter ending 31 March 2016, and 30 June 2016, declining to 5.0x by the quarter ending 31 December 2016, 4.2x as of end-2017 and 3.7 x thereafter. The company has complied with all covenants as of year-end 2015.

Figure 32. FCX financial forecast

Statements of operations						Statements of cash flows					
$mn	FY2014	FY2015	FY2016	FY2017	FY2018	$mn	FY2014	FY2015	FY2016	FY2017	FY2018
Revenues	21438	15877	15856	17538	17204	Net (loss) income	-745	-12089	-4484	426	1486
Production and delivery	11898	11545	11685	12220	10778	DD&A	3863	3497	3400	3238	2781
DD&A	3863	3497	3400	3238	2781	Impairment of O&G properties	5454	13144	3787	0	0
Impairment of oil and gas properties	3737	13144	3787	0	0	Other	-2309	-1705	-99	-72	19
Inventory adjustment	6	338	0	0	0	WC change	-632	373	1260	20	318
Total cost of sales	19504	28524	18873	15458	13560	Cash flow from operating activity	5631	3220	3864	3611	4604
Gross profit	1934	-12647	-3017	2080	3644	Net Capex	-7215	-6353	-3300	-2300	-3000
Operating (loss) income	97	-13382	-3790	1233	2812	Other investing cash flow	3414	107	0	0	0
Interest expense, net	-630	-645	-624	-579	-525	Cash flow from investing activity	-3801	-6246	-3300	-2300	-3000
Income (loss) before tax	-424	-14021	-4414	655	2287	Net debt raised	-1596	1595	-650	-1449	-1700
Income tax	-324	1935	-70	-229	-800	Dividends paid to common stock	-1305	-605	-188	-188	-626
Net (loss) income	-745	-12089	-4484	426	1486	Other financing cash flow	-450	1796	390	290	526
Net (loss) income attributable to common stockholders	-1308	-12236	-4610	295	1029	Cash flow from financing activities	-3351	2786	-447	-1347	-1800
EPS basic	-1.26	-11.31	-3.68	0.24	0.82	Change in cash	-1521	-240	117	-36	-195
Shares outstanding, mn	1039	1082	1252	1252	1252	Net debt	18506	20204	19437	18024	16519
DPS	1.25	0.2605	0.15	0.15	0.50						
Adjusted EBITDA	7820	4413	4162	5238	6362						
Balance sheets						**Ratios**					
USD mn	FY2014	FY2015	FY2016	FY2017	FY2018		FY2014	FY2015	FY2016	FY2017	FY2018
Cash and cash equivalents	464	224	341	305	110	Gross margin, %	9%	-80%	-19%	12%	21%
Accounts receivables	2563	2277	1607	1778	1508	Operating margin, %	0%	-84%	-24%	7%	16%
Inventories	5361	4788	4127	4084	3771	Net margin, %	-3%	-76%	-28%	2%	9%
Other current assets	657	173	173	191	141						
Total current assets	9045	7462	6247	6358	5530	Revenue growth	2%	-26%	0%	11%	-2%
PPE and other net fixed assets	47773	36873	33123	32015	32081	Net profit growth	-122%	1523%	-63%	-109%	249%
Other assets	1956	2242	2288	2288	2288	EBITDA growth	-12%	-44%	-6%	26%	21%
Total assets	58774	46577	41658	40661	39899	Capex growth, %	36%	-12%	-48%	-30%	30%
Liabilities											
Accounts payables and accruals	3653	3355	3306	3473	3158						
Current portion of debt	478	649	1449	3700	255	EBITDA / Interest coverage	0.2	neg	neg	2.1	5.4
Other current liabilities	1041	303	599	616	740	Net debt/EBITDA	2.4	4.6	4.7	3.4	2.6
Total current liabilities	5172	4307	5355	7788	4153	Net debt/Equity	0.8	1.7	2.5	2.3	1.9
Long-term debt, less current portion	18492	19779	18329	14629	16374	Revenues/Assets	0.4	0.3	0.4	0.4	0.4
Other long-term liabilities	11906	9683	9587	9749	10058	Capex/ EBITDA	0.9	1.4	0.8	0.4	0.5
Total liabilities	35570	33769	33271	32167	30585						
Redeemable non-controlling interest	751	764	764	764	764	FCF yield	-0.1	-0.2	0.0	0.1	0.1
Total stockholders' equity	18287	7828	3345	3452	3855	RoIC	-1%	-35%	-14%	4%	8%
Non-controlling interests	4187	4216	4278	4278	4694	ROE	-6%	-102%	-60%	4%	12%
Total equity	22474	12044	7623	7730	8549						
Total liabilities and equity	58795	46577	41658	40661	39899						

Source: Company data, Hypothesis Research estimates

Valuation

Our forecast for FCX is presented on the Figure 32. We valued the company based on DCF and comparable multiples. Keeping in mind some commodity price recovery and operating income increase, as well as potential debt reduction, which is not in figures yet, we believe the company's 12-month fair value price range might be at $10.2-16.8 per share based on the current number of shares (1,252mn) and before any asset sales expected in 2016.

Figure 33. DCF valuation results, $mn

WACC	9.6%	
Terminal growth	2.0%	
Implied EV range, $mn	32472	39462
Net debt range, $mn	19563	18274
Minorities, $mn	125	131
Implied Equity value range, $mn	12784	21057
Number of shares, mn	1252	
Indicative 12M share price, $	10.2	16.8

Source: Hypothesis Research estimates

Peer comparisons

Despite diversification into the oil and gas sector, the share of mineral operations in revenues remain high – 86% in 2015 and 78% in 2014. According to our estimates, the company's share of revenues from sales of oil and gas products may stay at 10-18% over the next three years, depending on the year and how successful the Tenke sale is. Taking that into account, we believe that diversified minerals' valuation metrics are best applicable for FCX. The latter trades in line with its peer group based on 2016-17 multiples, and with a 15-36% discount on EV/Sales'18 and P/E'18. Debt reduction will essentially lighten EV/EBITDA multiple vs peers.

Figure 34. FCX peer valuation

Company	Ticker	Mkt Cap, $mn	EV, $mn	EV/ Sales '15	EV/ EBITDA '15	EV/ Sales '16	EV/ EBITDA '16	P/E' 16	EV/ Sales '17	EV/ EBITDA '17	P/E' 17	EV/ Sales '18	EV/ EBITDA '18	P/E' 18
Teck Resources	TCK.B	5686	11613	1.9x	11.0x	2.0x	8.3x	34.0x	1.5x	5.4x	19.0x	1.3x	4.5x	9.3x
Alcoa.	AA	12204	22082	1.0x	8.6x	1.1x	7.7x	23.0x	1.0x	7.2x	16.6x	1.0x	6.5x	11.7x
Barrick Gold	ABX	21162	30115	3.5x	8.5x	3.8x	8.1x	28.2x	2.8x	6.1x	20.0x	3.1x	6.3x	21.2x
Newmont Mining	NEM	17948	24068	3.1x	8.4x	3.0x	7.9x	23.2x	2.8x	7.2x	20.4x	3.0x	8.6x	22.9x
Rio Tinto	RIO	50593	70858	2.1x	6.7x	2.2x	6.9x	18.1x	2.1x	6.9x	15.9x	1.9x	5.9x	11.5x
Southern Copper	SCCO	20689	26019	5.2x	13.6x	5.1x	12.0x	29.0x	4.5x	11.4x	23.9x	3.9x	8.7x	16.0x
Anglo American	AAL	12145	27062	1.3x	7.8x	1.5x	6.9x	23.5x	1.4x	6.1x	13.2x	1.2x	4.8x	8.6x
BHP Billiton	BLT	62495	93403	2.7x	7.5x	3.0x	7.6x	43.2x	2.9x	7.0x	24.9x	2.7x	6.1x	15.7x
Average				2.6x	9.0x	2.7x	8.2x	27.8x	2.4x	7.2x	19.3x	2.3x	6.4x	14.6x
Freeport-McMoRan	FCX	13820	33258	2.1x	neg	2.1x	-64.6x	-3.1x	1.9x	7.7x	32.5x	1.9x	6.5x	9.3x
Premium/(discount) to Diversified metals				*-19%*		*-22%*			*-21%*	*7%*	*69%*	*-15%*	*0.6%*	*-36%*

Source: Capital IQ, Hypothesis Research estimates

Share capital

The largest shareholders in FCX as of 4 Apr 2016 were Icahn Capital (8.31% according to Capital IQ), The Vanguard Group (7.87%), BlackRock (6.7%), according to FCX. The company has also activist investors, the largest of which is Icahn Capital, and other names include GAMCO Investors (leader by number of campaigns - 106), Appaloosa Management, Passport Capital, D.E.Shaw & Co.

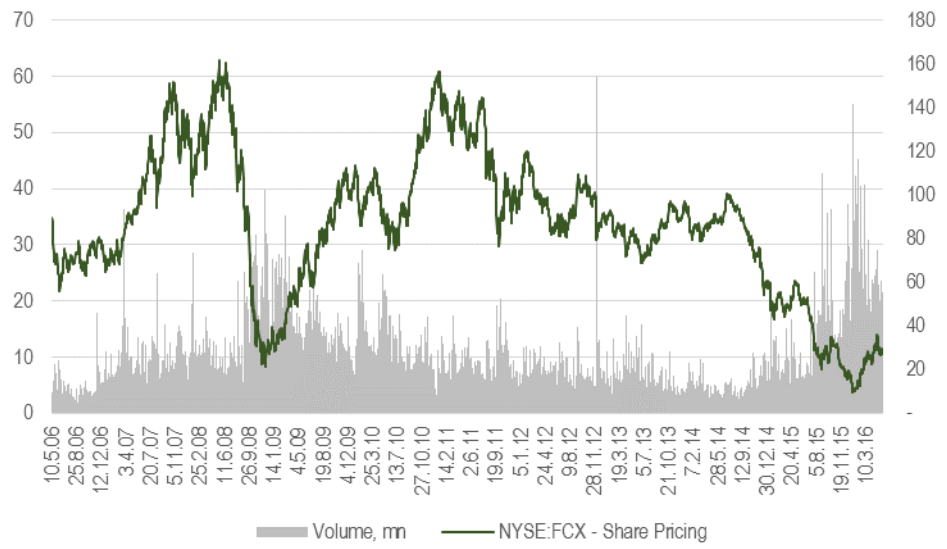
The current number of shares is 1252mn, however the company is increasing the number of authorized shares to 3050mn shares, consisting of 50mn shares of Preferred Stock, par value $0.10 per share and 3000mn shares of common stock, par value $0.10 per share.. The stock is listed on several exchanges with the largest volumes traded on NYSE

Figure 35. Equity listings of FCX

Exchange	Ticker	Security Type	Avg. Vol – 3M (mm)	Currency
New York Stock Exchange	**NYSE:FCX**	Common Stock	51.8	USD
Bolsa Mexicana de Valores	BMV:FCX *	Common Stock	0.21	MXN
Buenos Aires Stock Exchange	BASE:FCX	Depositary Receipt (Common Stock)	0.04	ARS
XETRA Trading Platform	XTRA:FPMB	Common Stock	0.03	EUR
Deutsche Boerse AG	DB:FPMB	Common Stock	0.02	EUR
SIX Swiss Exchange	SWX:FCX	Common Stock	0.00	CHF
Santiago Stock Exchange	SNSE:FCX	Common Stock	0.00	USD
Bolsa de Valores de Sao Paulo	BOVESPA:FCX O34	Depositary Receipt (Common Stock)	0.00	BRL

Source: Capital IQ

Figure 36. FCX share price dynamics and trading volume on NYSE



Source: Capital IQ

FCX has sold 210 mn shares of common stock since Aug 2015 and generated gross proceeds of c$2 bn. The at-the-market equity program created additional pressure on the share price.

Another factor affecting the stock was the suspension of the dividend payment on the back of weak financial results and continuing weakness in the commodity markets. We do not expect high dividends before 2019 under our copper price scenario.

On 10 May 2016, FCX negotiated the termination and settlement of FM O&G, two drilling rig contracts with Noble Drilling, a subsidiary of Noble Corporation. FCX will provide Noble with $540mn in value. FCX also agreed to provide Noble with contingent payments of up to $75mn depending on the oil price trend over 12 months. As a result of the settlement, Noble has released FM O&G from $0.8bn in payment obligations under the two drilling contracts. In May 2016, FCX entered into a distribution agreement with J.P. Morgan Securities and HSBC Securities as selling agents and Noble Drilling regarding the stock which might be issued in favor of Noble Drilling pursuant to a settlement and termination agreement between FCX, FCX O&G subsidiary and Noble Drilling. The amount of stock has aggregate value of $540mn and might be sold through selling agents.

Corporate governance

In 2016 following the serious downturn in financial performance, the company cut the size of the board from 16 to 9 and reduced the average director tenure. The company also appointed a non-executive chairman of the board. The key measures implemented to cut administrative costs included following:

- ✓ No payouts under the annual incentive plan for 2015
- ✓ No increases to base salaries of executives.
- ✓ Reduction of the number of board members and restructuring of the Oil and Gas business organizational structure and discontinued paying 3 top executives in O&G business.
- ✓ Forfeiture of 20% of the 2013-2015 restricted stock unit award.
- ✓ New performance metrics applied based on TSR.
- ✓ The company supports intensive shareholder outreach program to get input from largest investors and other shareholders regarding the corporate governance practices and executive compensation.

The executive compensation program will take into account the peer group compensation plans. The mix of two-thirds mining and one-third oil and gas companies planned to take for the performance management purpose. However finally the peer group includes only mining companies: Anglo American plc, Antofagasta plc, BHP Billiton Limited, Glencore Xstrata plc, Rio Tinto plc, Southern Copper Corporation, Teck Resources Limited, Vale S.A.

The board of the company composes directors with diverse experience in the mining industry, finance, accounting, and public affairs. One of the independent directors, Gerald J. Ford, serves as non-executive Chairman of the Board and Richard C. Adkerson serves as President and Chief Executive Officer.

The board now has five committees: and audit committee, a compensation committee, a nominating and corporate governance committee, a corporate responsibility committee and an executive committee. The committees are composed of independent director.

Figure 37. FCX board composition

Name	Age	Director since	Principal occupation	Independent	Board Committees	Total number of shares beneficially owned
Adkerson, Richard C.	69	2006	Vice Chairman, Chief Executive Officer and President, Freeport-McMoRan			9,611,808
Ford, Gerald J.	71	2000	Chairman of the board, Hilltop Holdings, Inc	+	Audit, Nominating and Corporate Governance (Chair), executive (Chair)	2,380,413
Kennard, Lydia H.	61	2013	President and CEO, KDG Construction Consulting	+	Corporate, Responsibility (Vice Chair), Nominating and Corporate Governance	9,325
Langham, Andrew	43	2015	General Council, Icahn Enterprises	+	Compensation, Nominating and Corporate Governance	
Madonna, Jon C.	72	2007	Retired Chairman and CEO, KPMG	+	Audit (Vice Chair), Compensation (Vice Chair), Nominating and Corporate Governance	142,555
Mather, Courtney	39	2015	Managing Director, Icahn Capital LP	+	Audit, Executive	5,346
McCoy, Dustan E.	66	2007	Retired Chairman and CEO, Brunswick Corporation	+	Compensation (Chair), Corporate Responsibility, Executive	145,875
Townsend, Frances Fragos	54	2013	Executive Vice President of Worldwide Government, Legal and Business Affairs, MacAndrews & Forbes Holdings Inc	+	Corporate Responsibility (Chair), Compensation, Executive	10,395
Day, Robert Addison*						444,789

Source: Company data

*) Mr Robert Day is leaving the board

We believe that the board was successful in changing the company's strategy and managing effective communication with investors. The implemented measures such as cost control, restrictions on administrative expenses, effective asset sale negotiations, negotiations with the Indonesian authorities and others instills confidence that the company will improve its balance sheet and cash generation ability through its global operations.

Appendix 1. Mineral subsidiaries

Production unit	Mineral Facility Description
Morenci (85%, 72% upon sale to Sumitomo Metal Mining), Arizona, USA	Open-pit copper mining complex, in operation since 1939. Porphyry copper deposit that has oxide, secondary sulphide and primary sulphide mineralization. Expected production sequencing until 2039. Two concentrators with 115 ktpd capacity which produce copper and molybdenum concentrate, 68 ktpd crushed-ore leach and stacking system, ROM leaching system, 4 SX plants, 3 EW tank houses to produce copper cathode. Total EW capacity 900 mn lbs of copper pa.
Bagdad mine (100%), Arizona, USA	Open-pit copper and molybdenum complex. Expected production sequencing until 2064. There is a 75 ktpd concentrator producing copper and molybdenum concentrate, SX/EW plant with 32 mn lbs pa capacity of copper cathode.
Safford (100%), Arizona, USA	Two copper deposits that have oxide mineralization overlying primary sulfide mineralization. Expected production sequencing until 2025. The property is a mine-for-leach project producing copper cathode. There is a crushing facility for 103 ktpd, SX/EX capacity - 240 mn lbs pa.
Sierrita (100%), Arizona, USA	Open-pit copper and molybdenum mining complex in operation since 1959. Expected production sequencing until 2085. There is a 02 kt concentrator that produces copper and molybdenum concentrate. EW facility has c50 mn lbs of copper pa.
Miami (100%), Arizona, USA	Open-pit copper mining complex since 1915. Expected production sequencing until 2022. There is a 102 kt concentrator that produces copper and molybdenum concentrate. EW facility has c50 mn lbs of copper pa.
Chino (100%), New Mexico, USA	The mine in operation since 1910. Porphyry copper deposit with adjacent skarn deposits. Expected production sequencing till 2036. There is 36 kt concentrator that produces copper and molybdenum concentrate. SX/EW facility has c150 mn lbs of copper pa.
Tyrone (100%), New Mexico, USA	Open-pit mine is in operation since 1967. Expected production sequencing until 2022. There is a 36 kt concentrator that produces copper and molybdenum concentrate. SX/EW facility produces c1.0 mn lb copper cathode pa.
Henderson (100%), Colorado, USA	The mine in operation since 1976. Porphyry deposit with molybdenite as the primary sulphide mineral. There is a 32 kt concentrator that produces molybdenum concentrate. The capacity is 40 mn lb of molybdenum per year. Expected production sequencing until 2030.
Climax (100%), Colorado, USA	Open-pit mine in operation since 1976. Porphyry deposit with molybdenite as the primary sulphide mineral. The capacity is 30 mn lb of molybdenum per year. Expected production sequencing until 2036.
Cerro Verde (53.56%, 21%-SMM CV, 19.58% - Compania de Minas Buenaventura), Peru	Open-pit copper and molybdenum mining complex in operation since 1976. Most of the copper cathode is sold locally. Porphyry copper deposit with oxide, secondary sulphide and primary sulfide mineralization. The predominant oxide copper minerals are brochantite, chrysocolla, malachite and copper pitch. There is a concentrator with 360 kt capacity and SX/EW leaching facility with 200 mn lb of copper pa. Expected production sequencing until 2044.
El Abra (51% with 49% owned by state-owned CODELCO), Chile	Open-pit copper mining complex that is in operation since 1996. This is a porphyry copper deposit that has sulphide and oxide mineralization. Primary sulphide copper minerals and cornite and chalcopyrite. SX/EW facility has 500 mn lbs of capacity pa. Expected production sequencing until 2032.
PT-FI (81.28% directly and 9.36% indirectly, 9.36% held by the state), Indonesia PT Smelting (25% with 60.5% held by Mitsubishi Materials, 9.5% by MCU, 5% by Nippon M&M)	PT-FI entered into initial COW (Contract of Work) with the Indonesian government in 1967, which was then replaced in 1991. COW expires in 2021 but can be extended for two 10-year periods. In 2014, the Indonesian government imposed a progressive export duty on copper concentrate and will restrict exports after 12 January 2017. PT-FI is required to renew export permits at 6M intervals. PT-FI agreed to construct a new smelter and to divest an additional 20.64% in PT-FI at fair market value. The Grasberg mineral district has 3 mines: the Grasberg open pit (in operation since 1990, production until 2021 under current COW, to be extended), the Deep Ore Zone (DOZ) (production until 2024 under COW), the Deep Mill Level Zone (production until 2039). There are Big Gossan (operational from 2017 until 2037), Grasberg Block Cave, Kucing Liar Block Cave (all until 2042). PT-FI has an unincorporated JV with Rio Tinto, under which Rio Tinto has a 40% interest in certain assets. PT-FI's COW requires it to construct a smelter in Indonesia. PT-FI will supply 100% copper concentrate to produce 205 kt of copper pa.
Tenke Fungurume or TFM (56% with 24% owned by Lundin Mining, 20% by the state), DCR	TFM is entitled to mine in DCR under the special convention (ARMC) signed with the government, which will be valid in the current version as long as Tenke concessions are exploitable. TFM pays a royalty of 2% under ARMC. Expected production sequencing until 2042. The deposit contains copper and cobalt. The dominant oxide minerals are malachite, pseudomalachite and heterogenite. Sulfide minerals consist of bornite, carrollite, chalcocite and chalcopyrite. Copper and cobalt are recovered through an agitation-leach plant.
Altantic Copper (100%), Huelva, Spain	Smelter with capacity of 300 kt of copper per year and refinery with capacity of 285 kt of copper pa. In 2015 the company treated 1.05 mt of concentrate and scrap and produced 293.1 kt of copper anode from the smelter and 284.8 kt of copper cathode from its refinery.
Miami smelter, Arizona, USA	Upgraded numerous times over the past 100 years, the smelter processes copper concentrate from North America copper mines. In 2015 it processed 686.7 kt.
Rod and refining operations	There are several conversion facilities in North America: a refinery in El Paso, rod mills in El Paso, Norwich and Miami, special copper products facility in Bayway. The El Paso refinery has potential capacity of 900 mn lbs pa (nickel carbonate, copper telluride, and others).
Molybdenum Conversion, USA, UK, the Netherlands, UK	FCX's molybdenum roasters are in Sierrita, Ford Madison in the USA and Rotterdam in the Netherlands, while molybdenum pressure-leach plant in Bagdad, Arizona. There is also ferromolybdenum production at a conversion plant in UK.
Freeport Cobalt (56%, 24% by Lundin, 20% by Gecamines, Finland	In 2013 FCX acquired a cobalt chemical refinery in Kokkola, Finland and related businesses. It provided direct end-market access for cobalt hydroxide production at Tenke. Kokkola refinery has an annual capacity of 15 ktpa of cobalt.

Oil / Gas Production unit	Property description
Gulf of Mexico (GOM)	FCX through its subsidiary FM O&G owns large properties in Deepwater GOM with existing infrastructure, good margins and significant production. There are four areas of production: - Altwater Valley (several properties, incl 18.67% in Vito and 50% in Power Nap) - Green Canyon (Holstein platform, 100%, commissioned in 2004, 113 MBbls/d of oil, 142 MMcf/d of gas, Heidelberg pl, 12.5% interest, to be commissioned in 2016, 80 MBbls/d of oil, 80 MMcf/d of gas) - Mississippi Canyon (Horn Mountain platform,100%, commissioned in 2002, 75 MBbls/d of oil, 72 MMcf/d of gas) - Keathley Canyon (Lucius platform, 25.1% interest, commiss. in 2015, 80 MBbls/d of oil, 450 MMcf/d of gas) Several locations' platforms are Martin Hub (100%, commissioned in 2000, 60 MBbls/d of oil, 235 MMcf/d of gas), Ram Powell (31%, commissioned in 1997, 70 MBbls/d of oil, 310 MMcf/d of gas) and Hoover (33.3%, commissioned in 2000, 100 MBbls/d of oil, 325 MMcf/d of gas). Deepwater exploration portfolio includes interests in 136 blocks.
California	California assets represent the established production facilities with long-lived reserves. Onshore California properties are located in the Los Angeles Basin (Las Cienegas, Montebello, Packard, San Vicente) with lighter oil (21031 degree API gravity) and San Joaquin Basin (Cymric, Midway Sunset, South Belridge, North Belridge fields) with heavier oil (12-16 degree API gravity) and shallow wells. There is 100% ownership in Arroyo Grande Field with heavier oil (12-16 degree API gravity). Offshore California properties are located in Santa Maria Basin (69.3% interest in Point Arguello Unit – Hidalgo, Hermosa and Harvest platforms)
Haynesville shale, Inboard Lower Tertiary / Cretaceous natural gas trend onshore, Louisiana	At Haynesville shale, FCX has a non-operating interest in over 1,450 producing wells with average working interest of 8.6% and leases covering 72,000 net acres. Haynesville shale is developed with horizontal wells of more than 4,000 feet producing dry gas. At Inboard Lower Tertiary / Cretaceous natural gas trend, FCX is an operator and has 72% working interest (49% net revenue interest) in Highlander with gross rates from well 44 MMcf/d on average.
Madden, Wyoming	Madden Deep Unit and Lost Cabin Gas plant – 14% owned by FCX – gas production from multiple horizons

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