

SDX Energy

Morocco - a simple, low-cost operation with growth

Site visit

Oil & gas

Key takeaways from SDX's analysts' site visit to Morocco include the asset's operational simplicity and low operating costs. Realised gas prices averaging \$10/mcf combined with a 10-year tax holiday drive unit netbacks in the \$8.5-9.0/mcf range. Demand growth potential in Kenitra, the fourth largest industrial town in Morocco, was very visible with the emphasis on SDX to grow the company's gas resource base in order to underpin contract base expansion. SDX's 2017/18 well programme should go some way to deliver on a 2018 production target of an 8-10mmscfd exit rate, and we estimate the market could support an incremental 10-11 wells of gas resource in 2019/2020. We have increased our core NAV from 52.5p/share to 58.3p/share (+11%) and RENAV from 64.0p/share to 65.6p/share (+3%).

Year end	Revenue (\$m)	PBT (\$m)	CFO (\$m)	Net cash (\$m)	Capex (\$m)	Yield (%)
12/15	11.4	11.1	(5.2)	8.2	(5.1)	0.0
12/16	12.9	(26.7)	(1.9)	4.7	(11.9)	0.0
12/17e	36.3	6.0	25.7	25.5	(23.5)	0.0
12/18e	65.2	31.2	49.8	26.1	(50.6)	0.0

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

80% exploration success rate to date

SDX's 2017/18 Moroccan well campaign has got off to an excellent start with an 80% success rate to date. Discovered resource within compartmentalised gas pockets ranges from 0.8bcf to 2bcf, but with completed well costs of just \$2m and net-backs of \$8-9/mcf, risked returns are attractive. The remainder of the company's drilling campaign targets slightly higher risk prospectivity, with follow-on potential across Gharb central and the Lalla Mimouna exploration permit in the success case. The basin-wide unrisked prospective resource stands at c 50bcf providing adequate resource on which to base future drilling campaigns.

Bolstering the gas resource base to meet demand

We estimate that SDX will need to add 11.9bcf of gas beyond the current nine-well drilling campaign in order to support risked market demand. This would require a further 10-11 wells to be drilled over the next 12-24 months. We do not include this incremental value in our NAV at this point in time, with value expected to be unlocked as drilling is committed and gas contracts signed.

Valuation: Core NAV increases 11% to 58.3p/share

Key changes to our valuation include a revised production profile for Morocco, the inclusion of residual value for the company's Kenitra-based pipeline network (at 50% of cost), and asset updates for the latest company production and capex guidance. Other material changes include an increase in our short-term oil price assumptions to reflect latest EIA forecasts (long-term Brent remains \$70/bbl in 2022), and a mark-to-market for fx movements. Our group RENAV increases by 3% to 65.6p/share.

30 January 2018

Price **53.0p**

Market cap **£108m**

£0.72/US\$

Net cash (\$m) at 30 June 2017 28

Shares in issue 204.5m

Free float 80%

Code SDX

Primary exchange AIM

Secondary exchange TSX Venture

Share price performance



% 1m 3m 12m

Abs (4.5) 0.0 38.6

Rel (local) (4.3) (2.1) 28.3

52-week high/low 67.4p 38.1p

Business description

SDX is a North African onshore E&P listed in Toronto and London. It has oil and gas production in Egypt, and Moroccan gas production. The company's nine-well Moroccan well programme has an 80% success rate to date.

Next events

ONZ7 well flow test Q118

2018 Sebou campaign H118

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Kenitra gas demand growth

Kenitra is the fourth largest industrial city in Morocco and is a significant consumer of liquid fuels, LPG and natural gas. Imported liquid fuels and LPG dominate supply (94% of total), despite significant price and operational benefits of using piped natural gas. The key constraint on pipeline gas market penetration has been supply and, to a lesser extent, the time required to connect new customers.

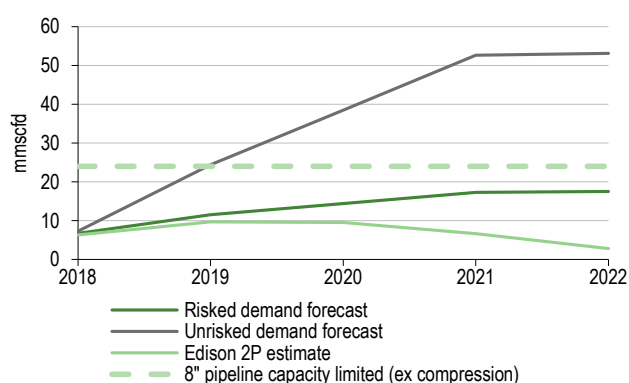
Edison's recent site visit to Kenitra provided us with an appreciation of the depth of the thermal gas market in Kenitra and the relative ease at which gas can be supplied to customers within key industrial areas including the regions new Atlantic Free Zone (AFZ) - a regional hub offering significant tax incentives for exporters located within its boundary.

SDX's current gas customer base is dominated by three large customers: Super Cerame, CMCP, and Peugeot (located within the AFZ) which combined are forecast to consume approximately 6mmscfd of natural gas. Incremental demand is set to come from smaller thermal offtakers with the potential for a significant step-up in demand if SDX was to enter the power generation market and supply the Kenitra-based, state-owned ONEE power plant.

We base our market demand forecasts on company analysis of identified natural gas customers and SDX's connection goals for 2018. Combined, these act as the basis for the company's 2018 Moroccan sales guidance of an 8-10mmscfd exit rate. Demand analysis suggests that piped gas sales have the potential to increase dramatically over the next two to three years, especially if SDX is able to penetrate the power generation sector.

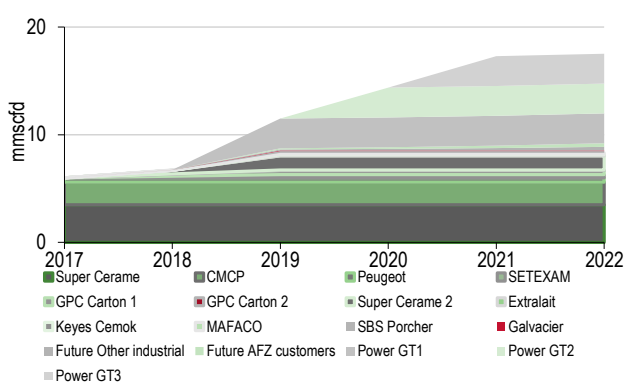
We see risk around this step-up in gas demand, as it is unlikely that every identified customer would necessarily switch to gas whilst some may already have existing long-term fuel supply arrangements. In addition, negotiating with large-scale state-owned entities adds additional risks and complexity. We have risked SDX's projected market demand forecasts using a simplistic approach applying a 75% risk to existing customer Super Cerame's second plant, a 50% risk to new thermal customers and a 20% risk to power plant consumers. Our risked demand profile is shown in Exhibit 1, which implies a 2018 exit rate of just over 10mmscfd, growing to 17.5mmscfd over the medium term. This is materially ahead of the production profile implied by our base case 2P reserves and risked volumes from the current nine well campaign. In other words, further gas supply, from incremental discoveries or externally sourced gas, would be required to meet our projected risked demand.

Exhibit 1: Gas demand forecasts



Source: Edison Investment Research, SDX Energy

Exhibit 2: Key consumers – risked demand



Source: Edison Investment Research, SDX Energy

SDX Kenitra piped gas supply

As of December 2017, SDX Energy had a Moroccan 2P gas reserve base of 7.1bcf backed by 10 producing wells connected to pipeline infrastructure. The company's current nine-well drilling campaign is targeting 15bcf of resource, with four discoveries out of five wells drilled to date.

To meet growing gas demand, SDX is incentivised to de-risk further gas resource across its Gharb Basin asset base. Much of the early success in the basin was on larger structures delineated on multi-trace 2D seismic, while more recent exploration has relied on high-resolution 3D seismic in order to define smaller pockets of trapped gas. SDX has refined its exploration strategy to focus on bright amplitudes in the basin which are indicative of reservoir sand, which this is then combined with inversion datasets in order to differentiate between fluid phases. The company's current campaign has had an 80% success rate, or 100% success rate with wells drilled on high-resolution 3D. Three E&A wells remain to be drilled in 2018:

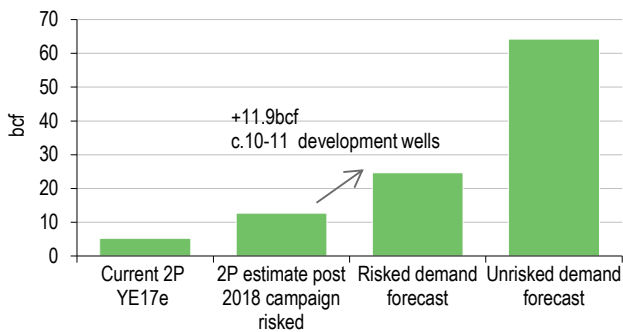
- **KSS-2** – a 1.5bcf prospect targeting Guebbas and Gaddari sands penetrated at Ksiri. SDX estimates a 58% geological chance of success (GCOS). Success here has the potential to de-risk a series of fault separated gas pockets with similar amplitude anomalies
- **SAH-2** – the SAH-2 well is a low risk (80% GCOS) well targeting a small gas pocket adjacent to existing production
- **LMS-1** – the first of two wells to be drilled on the Lalla Mimouna exploration permit targeting sand potential in the Miocene basin depocentre. LMS-1 is a large, unique anomaly located on the top Nappe and is an unusual seismic response not seen before across the 3D dataset. The central compartment of LMS-1 is estimated to hold 2bcf of gas but management regards the risk as higher than historical prospects at c 28% GCOS. Trap and charge remain key risks.
- **LNB-1** – a bright channel sand that is viewed as lower risk than LMS-1 and more typical of targets across the Lalla Mimouna exploration permit.

In addition to the wells described above, SDX is to begin a high-resolution 3D seismic survey over the Gharb centre permit in order to build a prospect inventory to the north of existing production and south-east of Lalla Mimouna. SDX Energy estimates the basin-wide unrisks prospective resource to be 50bcf.

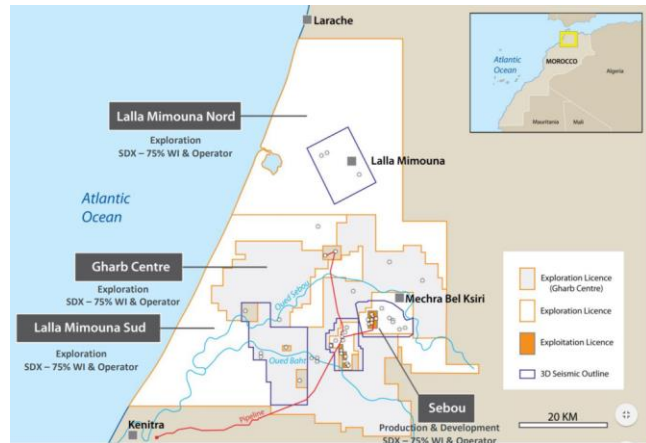
Moving resource into reserves and contracted gas sales

In order to contract new gas supply, SDX is obliged to provide visibility of reserves which is the intention of the company's 2018 exploration campaign. We estimate that SDX ended FY17 with c 5.2bcf of 2P gas reserves (excluding 2017 discoveries) which we forecast would rise to c12.7bcf including existing discoveries and risked 2018 campaign resource (2P + nine-well campaign) .

Our risked five-year demand forecast in Exhibit 1 consumes 24.6bcf of gas, implying further gas will need to be discovered in 2018/19 in order for this to be met. Based on an average discovery size of 1.5bcf and a GCOS of 75%, we estimate that an incremental 10-11 wells are required in order to meet this demand forecast. SDX sees the remaining unrisks exploration potential at over 50bcf, and as such we do not see this as a limiting factor. We note that our valuation only includes value for 2P reserves and the nine-well campaign and excludes incremental value from future Moroccan drilling activity.

Exhibit 3: Reserves required to meet demand


Source: Edison Investment Research

Exhibit 4: SDX Morocco asset map


Source: SDX Energy

A key take-away from our site visit was the simplicity of the company's above ground operations. Gas is virtually export quality at the wellhead and land access for well-sites and pipe laying is straightforward. SDX has not experienced any pipeline-related integrity issues, which is a testament to the quality of the recovered gas and the effectiveness of the relatively simplistic cathodic protection system employed. Pipeline gas thefts are so far unheard of. The pictures below show the simplicity of the company's well sites, top-side separation facilities and pipe-laying operations.

Exhibit 5: KSS-15 well site


Source: Edison Investment Research

Exhibit 6: Three-inch pipelay to Peugeot


Source: Edison Investment Research

Valuation

We have updated our valuation to reflect our latest assumptions of gas sales growth in Morocco, and updated our asset models to reflect SDX's latest guidance for its 2018 production and capital spend. Other material changes to our NAV include an increase in short-term oil price assumptions and a mark-to-market for recent fx movements. We reflect the EIA's latest forecasts for Brent and WTI crude in 2018 and 2019, with our 2018 Brent crude price assumption rising from 50.0\$/bbl to 59.7\$/bbl. Our long-term oil price remains unchanged at \$70/bbl in 2022. We continue to use an average Moroccan gas price of \$10/mcf in 2018 rising to \$12.5/mcf by 2022.

Valuing SDX's Morocco asset

We base our valuation of SDX's Moroccan asset on the exploitation of the company's 2P reserve and committed nine-well campaign – an estimated 12.7bcf of gas. Our base case production profile

is shown in Exhibit 1 of this note. We clearly see longer-term upside within the company's Moroccan asset portfolio given our estimates of market risked gas demand, remaining Gharb Basin resource potential and historical exploration success rates. Our valuation of this future potential is sensitive to a number of risks and uncertainties including:

- future exploration success rates and average discovery size
- rate of exploration drilling
- rate at which new customers are added to the pipeline network, in particular the timing and terms under which large-scale power plant customers are added
- success of the company's Gharb Centre high-resolution 3D seismic survey in located undrilled gas pockets and the company's upcoming Lalla Mimouna exploration campaign

We see material value over and above our base case to reflect future gas sales, which would be based on yet to be discovered/acquired gas resource which we have chosen to reflect as residual value in the company's installed pipelined network and customer connections. This residual value component is based on a US pipeline norm of \$100,000 per inch mile of installed pipeline, discounted at 50% to reflect depreciated service life. This equates to \$16m or 5.7p/share in our NAV valuation. This approach reflects the optionality that SDX retains in supplying future demand in existing Kenitra industrial zones and the AFZ. Supplied gas could come from future exploration, or through a JV with a CNG/LNG importer.

Key changes to NAV: 11% increase in core NAV

Key changes in our NAV include an increase in our Morocco valuation, and oil levered assets base on our higher oil price assumption for 2018/19. We only include the Kelvin and Ibn Yunus prospects in our South Disouq exploration valuation (which previously included incremental risked prospective upside) with modified risking to reflect the latest guidance from management.

Exhibit 7: Changes to Edison valuation			
	Old (p/share)	New (p/share)	Change (%)
Core NAV	52.5	58.3	11%
Development NAV	1.6	2.1	30%
Exploration risked upside	9.8	5.2	-46%
Group RENAV	64.0	65.6	3%
Source: Edison Investment Research			

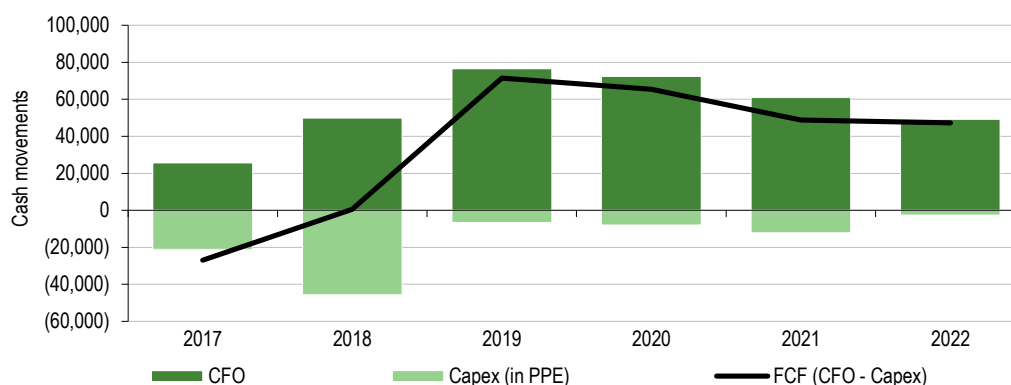
Exhibit 8: NAV summary

Asset	Number of shares: 204.5m			Recoverable reserves			Net riskd value@ 12.5%			
	Country	Diluted WI	CoS	Gross	Net WI	Net	NPV		GBp	C\$
		%	%					\$/boe	\$m	per share
Net (debt)/cash - December 2017e		100%	100%					25	8.9	0.16
SG&A - NPV10 of four years		100%	100%					(17)	(5.9)	(0.10)
Net financial income (expenses)		100%	100%					0	0.0	0.00
NPV two years										
NPV of net receivable recovery		100%	100%					20	6.9	0.12
Sebou pipeline residual value (50% cost)		100%	100%					16	5.7	0.10
Production										
Meseda base case + Rabul	Egypt	50%	100%	5.5	2.7	1.0	5.4	15	5.2	0.09
Meseda base + workovers + Rabul	Egypt	50%	90%	5.1	2.5	1.0	4.1	10	3.3	0.06
Gemsa 1P	Egypt	50%	100%	3.3	1.6	1.6	10.2	17	5.8	0.10
Gemsa 2P	Egypt	50%	100%	1.4	0.7	0.7	4.6	3	1.1	0.02
Sebou 2P	Morocco	75%	100%	0.7	0.5	0.5	41.6	22	7.7	0.14
Sebou – nine-well campaign	Morocco	75%	80%	1.6	1.2	1.2	15.4	15	5.1	0.09
South Disouq SD-1X	Egypt	55%	80%	21.4	11.7	11.7	4.4	41	14.5	0.25
Core NAV				38.9	21.1	17.8	5.8	167	58.3	1.02
Development upside										
Meseda base + workovers + waterflood + Rabul	Egypt	50%	50%	6.2	3.1	1.2	1.7	3	0.9	0.02
Gemsa - Edison modelling on full field	Egypt	50%	75%	1.6	0.8	0.8	5.5	3	1.2	0.02
Exploration (known)										
SouthDisouq-Kelvin	Egypt	55%	24%	15.1	8.3	8.3	3.4	7	2.3	0.04
SouthDisouq-IY	Egypt	55%	32%	14.6	8.0	8.0	3.2	8	2.9	0.05
Full NAV				76.4	41.3	36.1		188	65.6	1.15

Source: Edison Investment Research

Financials

We forecast SDX Energy ended 2017 with just over \$25m of cash and no debt as well as a net working capital position of c \$27m which continues to unwind after the Circle Oil acquisition. The company remains fully funded for anticipated spend in 2018, with flexibility to consider bolt-on acquisition opportunities. Our 2019 and 2020 forecast free cash flow will, to a large extent, be driven by asset production performance, prevailing commodity prices and committed capex. In our base case, we anticipate a material build up in cash available for NAV accretive investment or distribution to shareholders.

Exhibit 9: Movements in forecast operational cashflow (CFO)


Source: Edison Investment Research

Exhibit 10: Financial summary

Accounts: IFRS, Yr end: December, USD: Thousands	2015	2016	2017E	2018E	2019E	2020E
Total revenues	11,372	12,914	36,281	65,247	102,051	96,537
Cost of sales	(4,973)	(5,282)	(9,828)	(13,639)	(15,409)	(13,405)
Gross profit	6,399	7,632	26,453	51,607	86,642	83,132
SG&A (expenses)	(3,746)	(2,457)	(5,344)	(3,997)	(3,616)	(4,328)
Other income/(expense)	(3)	479	0	0	0	0
Exceptionals and adjustments	(7,676)	(29,089)	(1,000)	(1,000)	(1,000)	(1,000)
Depreciation and amortisation	(2,057)	(3,266)	(14,077)	(15,378)	(17,730)	(16,328)
Reported EBIT	(7,083)	(26,701)	6,032	31,232	64,296	61,476
Finance income/(expense)	(96)	4	0	0	0	0
Other income/(expense)	18,289	0	0	0	0	0
Exceptionals and adjustments	0	0	0	0	0	0
Reported PBT	11,110	(26,697)	6,032	31,232	64,296	61,476
Income tax expense (includes exceptionals)	(1,063)	(1,503)	(541)	(1,046)	(8,429)	(8,455)
Reported net income	10,047	(28,200)	5,492	30,186	55,868	53,021
Shares at end of period - basic	38	80	204	204	204	204
Balance sheet						
Property, plant and equipment	18,401	12,605	26,467	56,669	45,390	36,949
Goodwill	0	0	0	0	0	0
Intangible assets	23,473	10,623	8,772	13,836	14,553	15,429
Other non-current assets	2,106	2,503	2,879	2,879	2,879	2,879
Total non-current assets	43,980	25,731	38,118	73,384	62,822	55,257
Cash and equivalents	8,170	4,725	25,469	26,110	97,538	162,914
Inventories	1,188	1,698	1,698	2,356	2,662	2,316
Trade and other receivables	6,678	9,463	36,900	29,520	23,616	18,893
Other current assets	0	0	0	0	0	0
Total current assets	16,036	15,886	64,067	57,987	123,816	184,122
Non-current loans and borrowings	0	0	0	0	0	0
Other non-current liabilities	286	290	290	290	290	290
Total non-current liabilities	286	290	290	290	290	290
Trade and other payables	3,556	3,674	10,000	8,000	6,400	5,120
Current loans and borrowings	0	0	0	0	0	0
Other current liabilities	928	389	389	389	389	389
Total current liabilities	4,484	4,063	10,389	8,389	6,789	5,509
Equity attributable to company	55,246	37,264	91,506	122,692	179,559	233,581
Non-controlling interest	0	0	0	0	0	0
Cashflow statement						
Profit before tax	11,110	(26,697)	6,032	31,232	64,296	61,476
Net finance expenses	0	0	0	0	0	0
Depreciation and amortisation	2,057	3,266	14,077	15,378	17,730	16,328
Share based payments	761	(47)	1,000	1,000	1,000	1,000
Other adjustments	(12,281)	25,742	(1,156)	(1,503)	(2,159)	(1,736)
Movements in working capital	(2,183)	(3,440)	6,289	4,722	3,998	3,789
Interest paid / received	0	0	0	0	0	0
Income taxes paid	(4,678)	(766)	(541)	(1,046)	(8,429)	(8,455)
Cash from operations (CFO)	(5,214)	(1,942)	25,701	49,783	76,437	72,403
Capex	(5,120)	(11,890)	(23,488)	(50,645)	(7,168)	(8,763)
Acquisitions & disposals net	0	0	(30,000)	0	0	0
Other investing activities	4,836	825	781	1,503	2,159	1,736
Cash used in investing activities (CFIA)	(284)	(11,065)	(52,707)	(49,142)	(5,009)	(7,027)
Net proceeds from issue of shares	0	10,127	47,750	0	0	0
Movements in debt	(3,702)	(96)	0	0	0	0
Other financing activities	0	0	0	0	0	0
Cash from financing activities (CFF)	(3,702)	10,031	47,750	0	0	0
Increase/(decrease) in cash and equivalents	(9,200)	(2,976)	20,744	641	71,428	65,376
Currency translation differences and other	(565)	(469)	0	0	0	0
Cash and equivalents at end of period	8,170	4,725	25,469	26,110	97,538	162,914
Net (debt) cash	8,170	4,725	25,469	26,110	97,538	162,914
Movement in net (debt) cash over period	(7,558)	(3,445)	20,744	641	71,428	65,376

Source: SDX Energy accounts, Edison Investment Research

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