ALIGN
RESEARCH

Zenith Energy – Update Note

7th November 2017

On the cusp of operational transformation & full steam ahead towards 1000 bopd in early 2018

Zenith Energy Limited is a dual listed LSE & TSX Venture Exchange oil & gas development and production company. In 2016 the company vastly expanded its oil and gas portfolio via a substantial acquisition in Azerbaijan which we anticipate will propel Zenith toward a mid-cap oil company valuation over the coming years.

Unlocking value in Azerbaijan with a systematic program of workovers & drilling

The 642.4km^2 Muradhkanli Block is the largest onshore oil/gas concession in Azerbaijan, with 3 under-developed fields. Production is set to treble to 1,000 bopd within 6 months, at a cost of $11/barrel, but could grow substantially higher given the block produced 15,000 bopd using old Soviet technology.

Diversification of geography/product provided by Italian gas assets

The company also has significant gas producing assets in Italy which include the production of electricity and of condensate. There is an ambitious program to enhance the Italian daily gas production rate in the Puglia Region by 100% through a technical program employing additional workovers that will be financed using local cash flow.

Attractive discount to E&P universe on compelling peer comparisons

Zenith shares trade on an EV/2P ratio of just 0.48 against a peer median of 3.48. This illustrates starkly the stock's potential upside once there is further evidence of successful oil development in Azerbaijan from drilling & which is planned to begin in April/May 2018.

Heavily risked DCF analysis suggests in excess of 100%+ upside

Valuing the Azerbaijan and Italian assets using a very conservative DCF model based on the CPR report gives a new sum-of-the-parts valuation of 22.28p per share. **We remain buyers with a Conviction Buy stance.**

Table: Financial overview. Source: Company accounts & Align Research

Year to end March	2016A	2017A	2018E	2019E
Revenues (C$m)	0.79	4.42	9.37	13.03
Pre-tax profit (C$m)	(9.22)	571.74	0.78	3.89
EPS (c)	(0.11)	8.15	(0.006)	0.021

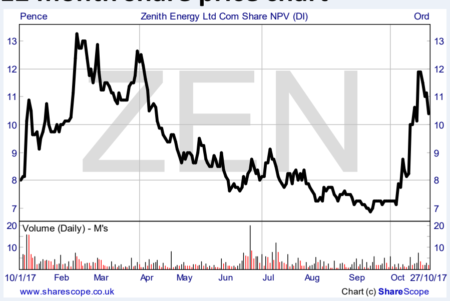
This investment may not be suitable for your personal circumstances. If you are in any doubt as to its suitability you should seek professional advice. This note does not constitute advice and your capital is at risk. This is a marketing communication and cannot be considered independent research.

CONVICTION BUY – Short Term Price Target 22.28p

Key data

EPIC	ZEN
Share price	10.875p
52 week high/low	13.75p/6.75p
Listing	LSE/TSXV
Shares in issue	134,287,977
Market Cap	£14.60m
Sector	Oil & Gas

12 month share price chart



Analyst details

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IMPORTANT: Zenith Energy is a research client of Align Research. Align Research and a Director of Align Research hold an interest in the shares of ZEN. For full disclaimer information please refer to the last page of this document.

Business overview

Zenith Energy's operations

• **Azerbaijan** – Zenith operates the largest onshore oilfield in the country, with a total of 75 wells across three fields. In 2016 Zenith entered a 25-year REDPSA (Rehabilitation, Exploration, Development and Production Sharing Agreement) with SOCAR (State Oil Company of the Azerbaijan Republic), granting Zenith an 80% participation agreement in current and future production over three oil fields – Muradkhanli, Zardab and Jafarli. **Proved and probable 2P Reserves have been independently assessed at approximately 32.1 million barrels of oil (March 2017) net to Zenith**.

• **Italy** – Zenith has a broad portfolio of interests in onshore natural gas production and exploration assets across the country. The production portfolio consists of interests in six operated and three non-operated gas production concessions. **The company also holds an operated production permit for the Montalbano concession and has submitted three exploration permit applications awaiting the approval of the Italian government.**

Oil and Gas reserves

AZERBAIJAN	**Light and Medium Oil**	
Reserve category	**Gross MSTB**	**Net MSTB**
PROVED		
Developed Producing	424	424
Developed Non-Producing	0	0
Undeveloped	3,741	3,741
TOTAL PROVED	4,166	4,166
TOTAL PROBABLE	27,938	27,938
TOTAL PROVED + PROBABLE	32,103	32,103

ITALY	Natural Gas		Natural Gas Liquids	
Reserve category	Gross MMscf	Net MMscf	Gross Mbbl	Net Mbbl
PROVED				
Developed Producing	1,300	1,300	18	18
Developed Non-Producing	118	118	0	0
Undeveloped	0	0	0	0
TOTAL PROVED	1,148	1,148	18	18
TOTAL PROBABLE	13,948	13,948	223	223
TOTAL PROVED + PROBABLE	15,366	15,366	241	241

Tables: Summary of Zenith Energy's oil and gas reserves on forecast prices and costs as at 31st March 2017, as evaluated by Chapman Petroleum Engineering dated 26th June 2017. Source: Company

Operations

Zenith Energy Limited is a dual listed Main Market London Stock Exchange and TSX Venture Exchange listed oil & gas development and production company. In 2016, the company vastly expanded its oil and gas portfolio via a substantial acquisition in Azerbaijan which we continue to believe could propel Zenith towards having a mid-cap oil company valuation over the coming years.

Locations of Zenith Energy's operations. Source: Company

Today, Zenith operates the largest onshore oil field of Azerbaijan through a fully owned subsidiary. The company also has significant gas producing assets in Italy which include the production of electricity and of condensate. We intend to focus on the new Azeri acquisition in this note, as we believe it is an order of magnitude more valuable than the Italian assets.

Azerbaijan

After one year and half of negotiations, In September 2015 Zenith Energy Ltd opened an office in Baku, Azerbaijan as part of management's nascent expectations to become an operator in the country. Within a month, a presidential decree was issued instructing SOCAR to negotiate a PSA with Zenith. This directed SOCAR to negotiate a REDPSA with Zenith over rights to an onshore oil concession known as the Muradkhanli-Jafarli-Zardab field

Located in the Lower Kura Basin and around 240km inland from Baku, the Muradkhanli field is a huge concession, the largest onshore oil and gas concession in the country, covering 642.4km² with three under-developed oil fields, the Muradkhanli, Zarbad and Jafarli Fields and both development and exploration upside.

Oil agreements background

The oil and gas industry around the world operates in accordance with a number of different types of agreements. **These agreements generally fall into one of four categories (or a combination of the categories): risk agreements, concessions, production sharing agreements (PSAs, also known as production sharing contracts, PSCs) and service contracts.**

Traditionally, concession agreements were granted pre-1940 for large areas and sometimes even for the whole countries e.g. Iraq. These grants were for long periods (50 to 99 years) and gave International Oil Companies (IOC) total discretion and control over exploration and subsequent development decisions.

This structure was seen to cause developments to be delayed, postponed or indefinitely postponed, with no actions taken, against the host government's best interests. The contracts rumbled on and there was no structure to force relinquishment of non-explored areas and worse still, from the perspective of the host state, the concession agreements granted petroleum "in situ" to the international oil company with both market and pricing powers. Negotiated royalty structures, tax structures and bonus structures have all now been called into question.

After the Second World War, matters began to change as host governments relocated the economic rent costs, with the aim of increasing passive profit sharing. Towards the 1960s and 1970s governments moved further too, demanding more active profit sharing through National Oil Company (NOC) joint ventures (JV) participations.

In a participation agreement, the NOC is carried by an International Oil Company (IOC) with the NOC effectively burdening the IOC by not fully compensating the IOC for the risks assumed during the exploration phase which is necessary to making a commercial discovery. In this structure the IOC faces the full losses, which pushes the IOCs to look for only the biggest prizes or safe areas with high success rates. The IOC benefits by having the NOC as a partner when faced with nationalistic treats but the pendulum had swung too far, and many assets and areas became sub-material targets to the majors and countries were being bypassed for investment.

So, starting in Africa and Asia, Participation Agreements (PSA) or Production Sharing Contract (PSC) structures were developed between the National Oil Companies and the International Oil Companies to develop new oil and gas fields, for which NOCs had limited experience and/or financial resources.

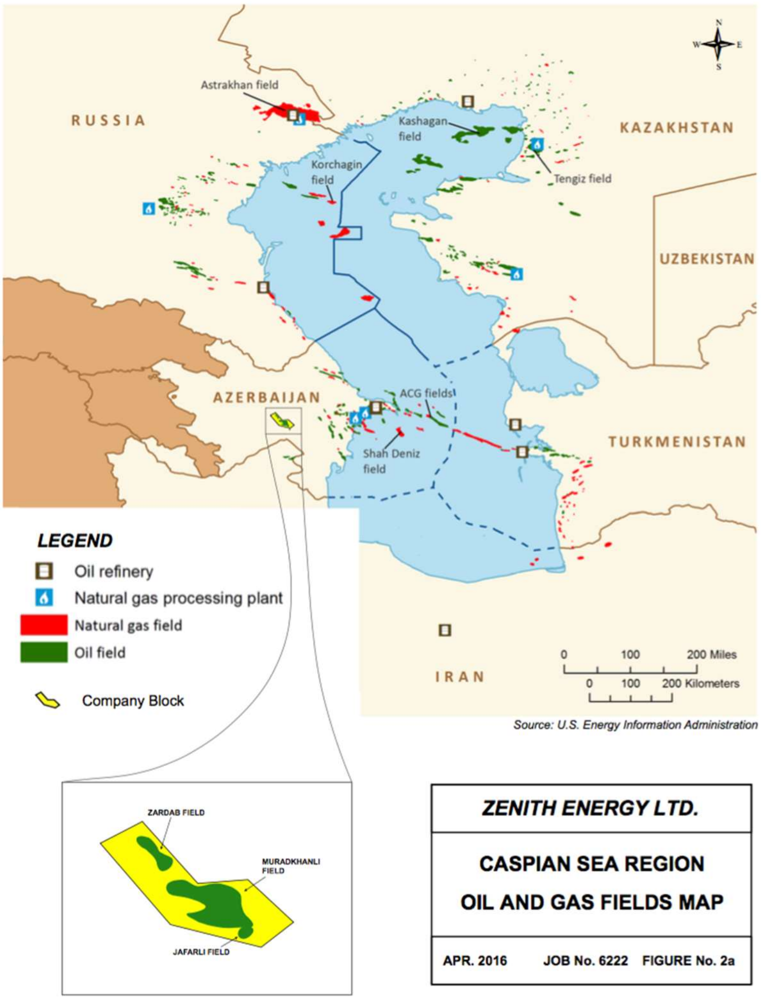
Zenith's REDPSA is almost a new 'third generation' PSA whereby the company is participating in a 'field-revival' (redevelopment) PSA which on the one hand brings inward investment technical ability and modern environmental implementation for the country/national partner, but does not over-burden the IOC.

In a nutshell, Zenith has secured the working-interest rights to a 25-year development and exploration concession with a potential option for an additional extension.

Negotiation and Handover

Negotiations took a while to process as agreements passed through the various legal processes but essentially by 30th June 2016 an agreement had been reached, a new law passed through the Parliament of the Republic of Azerbaijan and the whole process signed into law by the President of the Republic of Azerbaijan.

Under the agreement Zenith would receive all the rights and obligations associated with an 80% participating interest, including current and future production when technical transfer of the operatorship could be completed. Operatorship on the block has been transferred to a new SPV, Aran Oil Operating Company Limited ('Aran'), which is jointly owned by Zenith Energy Limited (80%) through its 100% owned subsidiary Zenith Aran Oil Company and by local NOC SOCAR (20%). SOA is the SPV formed by SOCAR in the joint operating group with Aran.



Map of oil and gas fields in the Caspian Sea region. Source: Company

On 11th August 2016 the handover was finally signed off, with Aran taking over full operatorship of the three fields and the defined block. As Aran took over the existing commercial assets of the Muradkanli INM, the previous producing unit of SOCAR, the transfer was regarded as a business combination under IFRS guidelines and the independently measured net fair-value of Zenith's net acquisition was recorded in the profit and loss of Q1 FY2017 under IFRS 10 reporting.

The complications of corporate combination and accounting aside, the new joint entity Aran became the operator of the block, with Zenith the majority (80%) shareholder in its new partnership with SOCAR (20%). **This is one big task completed, and a huge result for a minnow of a company in an environment populated by majors and supermajors.**

Country profile

Azerbaijan is a Former Soviet Union (FSU) country located in the south Caucasus region, bordered by the Caspian Sea to the East, Armenia and Turkey to the west, Russia to the north and Iran to the south.

Since independence from the Soviet Union in 1991, Azerbaijan has established itself as one of the more stable and affluent countries in Central Asia with a population of roughly 9.5 million people, mostly of Turkic ancestry. Due to the Soviet legacy, and subsequent affluence from petroleum revenue, literacy and other human development indices are relatively high, albeit that as a FSU country it would also be fair to say that its democratic, commercial and financial institutions are still evolving. Azerbaijan has an established oligarchy where political and commercial powers are concentrated in line with the systems evolved throughout Asia after the fall of the Soviet Union.

Despite the control maintained by the ruling elite on political and economic matters, the country enjoys relative stability because of the wealth gained from petroleum production, even though distributed unevenly, as is consistent in the region. However, the stability of the political, operational and economic structure has realistically allowed the country to attract continued investment to develop the extensive energy reserves. Citizens also largely enjoy civic liberties, unlike many of the surrounding Arab and central Asian republics.

Outsiders frequently perceive there to be higher inherent risks in doing business in Azerbaijan than is actually the case. In essence the salient facts are:

- **Azerbaijan has an important place in the global oil and gas industry being a key hub on alternative transportation routes for central Asian oil and gas outside of Russian territory. This hub has been fully-functional and reliably engaged with the international markets for more than 20 years without major dispute.**

- **Native Azerbaijani production has fuelled Europe's energy needs.**

- **Azerbaijan's international partners appreciate the geopolitical importance of the country and are keen to help maintain its stability.**

- **Azerbaijan's relatively secular populace and government provide an important bulwark against the Islamic militancy that has created regional chaos.** This is especially important given Azerbaijan's location just to the north of Iran. For this reason, the Azerbaijani regime receives explicit and implicit support from most Western quarters.

Oil and Gas Production

Azerbaijan has some of the earliest recorded petroleum production and is even referenced back to the chronicles of Marco Polo. As early as 1842, 136 wells were producing around

24,000 barrels of oil per annum and by the 1870s there was a full-scale oil boom, with a concession system introduced. Russian, Anglo and Dutch companies competed for and controlled oil production in the country. By 1901, Baku produced 212,000 barrels of oil per annum, around half of the world's production at that time.

After World War 1, the short-lived Democratic Republic of Azerbaijan was annexed by the Soviet Union, mainly in a grab for its oil assets. Having been a source of fuel for the inter-war and WW2 era, oil production started to decline as a result of over-production and under investment. Significant discoveries were made onshore, but Soviet technologies were not adept at exploring deep offshore waters.

During the last 20 years of the Soviet regime, investment was increasingly diverted from Azerbaijan to western Siberia, which further precipitated production decline, with production only recovered to the peak rates of Soviet times in 2005. In more detail, petroleum and other liquids production in Azerbaijan increased from 315,000 bopd in 2004 to slightly more than 1 million bopd in 2010. However, production has generally declined since then, falling to about 850,000 bopd in 2015.

Exports and Pipeline Capacity

Azerbaijan has three crude export pipelines although the country also exports small amounts of oil by rail. The completion of the Baku-Tbilisi-Ceyhan (BTC) pipeline has significantly transformed Azerbaijan's oil industry, unlocking an outlet to world markets for crude oil.

Most of the oil produced in Azerbaijan, is medium-light, sweet crude and is exported through the BTC pipeline, marketed as BTC blend (36.8° API gravity, 0.15% sulphur). The BTC pipeline allows for exports of lighter and sweeter crude than Russia's Urals blend and provides capacity out of the Caspian region circumventing the congested Turkish straits and avoiding Russian territory.

The smaller Baku-Supsa pipeline carries a similar grade of oil, which is marketed as Azeri light (35.2° API gravity, 0.14% sulphur) while small volumes of lower-quality oil are exported through the northern export pipeline to Russia. This oil is blended in Russia and marketed as Urals blend. The quality of Urals blend can vary, but the oil is generally a medium, sour crude.

Azerbaijan exported c.707,000 bopd of crude oil in 2014, according to the Azerbaijan's State Statistical Committee. The country's crude oil exports peaked in 2010 when they averaged slightly more than 900,000 bopd but exports have fallen every year since then as production has declined. **The REDPSA issued is really part of the national strategy to diversify away from the majors alone and test smaller private enterprise capacity for growing production.**

In July 2010, near the peak of ACG production and Azerbaijani exports, the BTC pipeline transported slightly more than 1 million bopd of oil. However, the pipeline has recently run with significant spare capacity, exporting 720,000 bopd on average in 2015, considerably below its capacity of 1.2 million bopd. SOCAR has proposed reversing part of the Northern Route pipeline - from Baku, Azerbaijan to Makhachkala, Russia - to bring more Russian oil to

Baku for transport through the BTC pipeline to Ceyhan. This change would allow the Russian oil to bypass the crowded Turkish straits. Russian authorities have dismissed the idea as uneconomic.

The oil produced by Zenith and the other onshore fields is categorized as Urals and is transported through the Baku Novorrsysk pipeline, delivering the oil to buyers in the Black Sea. Ural crude oil is one of the most traded oil types in the world.

Oil majors operating in Azerbaijan

BP is the largest foreign investor in Azerbaijan and the largest shareholder in the Azerbaijan International Operating Company (AIOC) which was formed to develop the offshore Azeri-Chirag-Gunashli (ACG) complex of fields. Other companies with an interest in the ACG fields are Chevron, Inpex, Statoil, Turkiye Petrolleri, ExxonMobil, SOCAR, ITOCHU, and ONGC Videsh. The current production-sharing agreement (PSA) expires in 2024, but negotiations to extend it until 2040 or later have recently been completed.

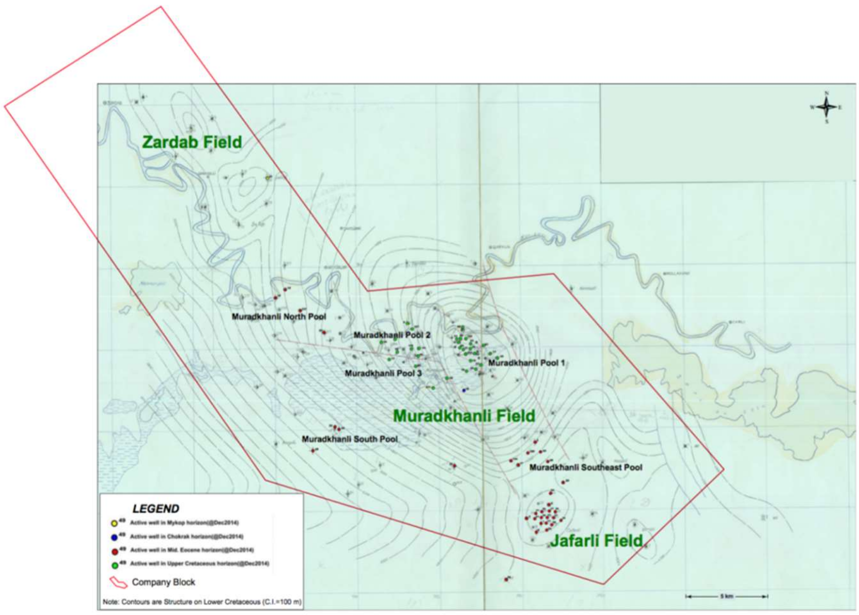
State Oil Company of the Azerbaijan Republic (SOCAR)

The Ministry of Energy formulates state energy policy and regulates the national oil company, SOCAR. The Ministry is also tasked with attracting foreign investment and conducting negotiations on pipelines and production-sharing agreements.

SOCAR, Zenith’s partner in the country, is directly involved in exploring and producing oil and natural gas in Azerbaijan, producing around 164,000 bopd, or about 20% of Azerbaijan’s total oil output. SOCAR also operates the country's two refineries, runs the country's pipeline system, and it manages the country's oil and natural gas imports and exports. In addition, much of Azerbaijan's oil is marketed by the SOCAR’s Geneva-based subsidiary, SOCAR Trading, which has been operating since 2008.

Zenith's Azeri asset: Muradkhanli

The Block covers five separate fields/oil pools, with two ring-fenced out of the REDPSA agreement.



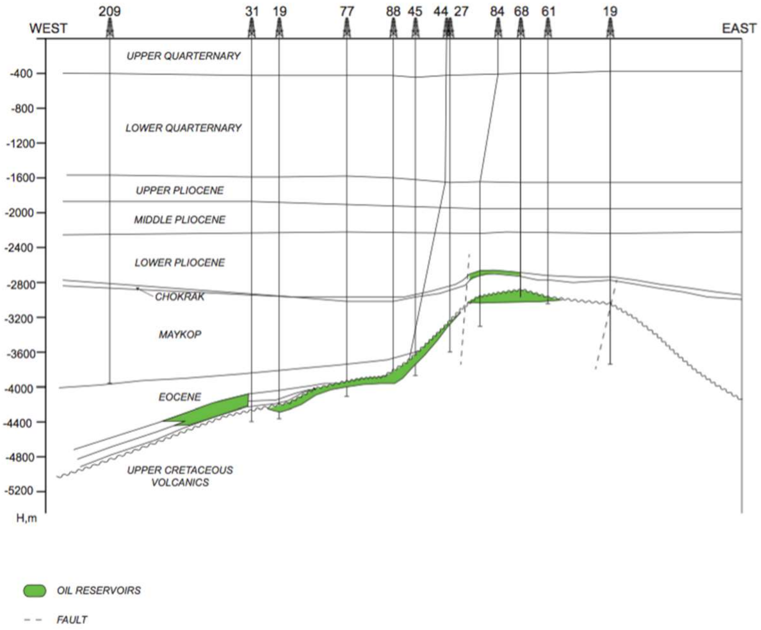
Location map illustrating well and locations and relative locations the named oil pools/fields. Source: Company/Chapman Engineering

The three fields now under Zenith's operatorship are the Muradkhanli, Jafarli and Zardab Fields. Gravity, magnetic and seismic surveys in and around the land area were undertaken in the 1960s, with several structures selected for drill-testing and discovery wells spudded in the 1970s & 1980s. The site is of very low topographical relief in a featureless landscape with shallow marsh areas that desiccate in the summer months. **Much of the area is largely unexploited and although the ability to drill horizontal wells has not been tested in the area, we do not foresee many challenges ahead with rig mobilisation.**

The Muradkhanli Field

The majority of current production and the currently recognised reserves are attributed to the Muradkhanli field, while the Jafarli and Zardab fields are both relatively under-exploited.

Discovered in 1971, the Muradkhanli Field has predominantly produced from an unconventional Upper Cretaceous volcanic reservoir first brought into production in 1972, with additional oil produced from a sedimentary Eocene reservoir zone on the flanks of the structure discovered in 1972. The Eocene section was brought into production in 1975.



Cross-Section of the Muradkhanli Field. Source: Company/Chapman Petroleum Engineering

In aggregate, the field has produced over 17.6 million barrels of 27° API gravity crude oil, 16 million barrels from the volcanic reservoir zone and 1.6 million from the Eocene section from 45 wells. The two smaller associated oil pools were discovered post the major development stage of the main pool in the 1980s, now named the Jafarli and Zardab Fields.

The Jafarli and Zardab Fields

The Jafarli Field, located 12km to the south of the Muradkhanli Field has 19 currently productive wells and has produced 1.73 million barrels of 27° API gravity crude to date from a similar Eocene reservoir to the main field. Production commenced in 1984. The Zardab Field, located to the northwest of the main Muradkhanli Field was discovered in 1981 but has seen only minor production because of sanding issues - a problem in the past but assessed to be relatively simple to address with modern gravel-pack completions.

REDPSA

Zenith will be the operator of the concession for an initial 25 years, having an 80% working interest with SOCAR, through SOA retaining a 20% working interest. As part of the agreement Zenith will pay SOA's 20% of costs until production reaches 620 bopd, or twice the 2014 average production, for a period of 12 months. After this, opex and capex recovery may be made from SOA's share of cost and profit oil under the production sharing agreement.

Zenith will deliver compensatory petroleum to a total of 315,000 barrels at a rate of 5% in the first year and 15% thereafter until the total is met. This is effectively a royalty charge in the early years of Zenith's operatorship. The company will be entitled to recover its costs from production (after the compensatory petroleum). Operating costs can be recovered in full with capital costs accrued to a maximum of 50% of remaining production. All unrecovered costs can be carried forward with interest charged against the unrealised returns until fully recovered.

Profit oil is shared between SOCAR and the joint operating company (Aran) as determined by an R-factor calculation which is broadly a function of the cumulative capital expenditure on the redevelopment area (the exploration area forming a separate cost pool). When capital expenditure is high, the profit share to the contractor group is low at 25-55%. This however increases in increments up to 80% once the capital expenditures are fully recovered.

Within 12 months of the effective date of transfer, a new fund was planned to be agreed and set aside to provide for the future abandonment of the field, with contributions to the fund drawn from the operating cost pool within the REDPSA.

Current production

Zenith's first goal is to bring production up to the level which triggers the start of the 12-month period before SOA are fully effective working interest partners. **This means bringing production up to 600+ bopd as rapidly as possible, a task which we believe is relatively straightforward and in hand.** Currently, production is around 350 bopd, but management is convinced that within a matter of months this level will be significantly boosted. Progress made in the program of workover is show in the table overleaf.

The price paid for the company's oil is in US dollars, with the Urals blend being one of the most frequently traded types in the world. Zenith receives what equates to a 1.5 – 2.5% discount to the Brent Crude price, with production pooled and sold along with other operations. There are additional costs of around 1.5%, which consist of a 1% commission for measuring, storing & trading and 0.5% transportation costs by pipeline. Payment is fairly swift (within 37-40 days) and the oil is collected twice a month, which means that there is regular cash flow and no long delays in waiting to get paid. With many operators reducing production in the area, there scope to increase oil sales significantly.

Zenith plans to workover 10 wells in the currently financial year. In all, moving ahead there are likely to be 40 or so out of the 56 wells on the Muradkhanli and Jafarli Fields likely to be on workover in the current three-year period (when Zenith acquired the project only 42 wells were on production). The highest return wells will be targeted first, followed by the medium wells, then the five Maykop-type wells in the Zardab Field will be brought on – here sanding issues need to be addressed (most likely with gravel pack completions).

Current engineering plans, as detailed in the CPR, foresee Zenith initially upgrading the oil gathering system and the central gathering facilities to improve safety, efficiency and fluid handling and these costs are accounted for in our model. These steps will be important in fulfilling the environmental terms of the appointment, as local standards have, to date, fallen below those that would be accepted internationally. This we expect will be carried out in the early phase of the field redevelopment in preparation for the later drilling phase.

Progress in Azerbaijan since the London listing in January 2017.

2017	Comments
24 January	Workover to begin on first two wells in the programme (M-195 and M-45) – the first of 10 well scheduled for recompletion in 2017. Cash flow form production of 295 bopd.
09 February	M-195 – Workover begins by Team B (local drilling company personnel and workover rig).
01 March	3Q results group production 332 boepd (Azerbaijan and Italy)
06 March	M-195 update – casing obstructions resolved & awaiting additional equipment
16 March	Team A (Zenith personnel operating Company's fully owned workover rig) commenced operations and assigned with installation of new submersible pumps at wells M-70 and M-48 in the Muradhkanli field and well C-34 in the Jafarli field. Following this, Team A will be assigned the workover of well M-45
10 April	Team A (Zenith personnel) successfully completed replacing submersible pumps at wells M-67 and M-70 in the Muradkanli field along with C31 and C34 wells in the Jafarli field. Plus, well C-39 in the Jafarli field underwent pump repair work. Increase from this work 14 bopd
18 April	Team A start program of incrementally adding to production by systematic rehabilitation of multiple underperforming wells in the 3 fields beginning with well M-45, J-2 and Z-28 Team B initiated a sidetrack operation on well M-195 in the Muradkhanli field
05 June	M-195 successfully drilled to a depth of 3,050m in the sidetrack operations, initial flow rates of 140 barrels of fluid per day recorded. Intends to install ESP.
08 June	Team B moves to complete workover of well M-45 after success at M-195, assigned the job as Team B has a more powerful workover rig.
23 June	M-195 – despite early flow rates, the pulling the drill string led to the wellbore needing to be cleaned out by coil tubing unit (CTU) to flush the mud out of the open hole. Work to be carried out by newly formed Team C. W-45 – Team B operational and carrying out fishing operations.
30 June	In the 3 months ending 30 June 2017, the company sold 23,390 barrels of oil equivalent to 256bopd.
27 July	M-66 production restored cleaning with CTU/nitrogen led to flow rate of 15 bopd. M-195 and W-45 – awaiting delivery of ESPs.
11 August	M-66 production increases to 50 bopd, after a clean out which was part of the post-work analysis revealed that a pay zone had not been perforated.
22 August	M-45 – ESP installed and current production 49 bopd.
06 September	The Company believes that the ESP replacement activities planned to continue until end of November 2017 at 11 wells could add 219 bopd to current production (c 574 bopd). In total 13 new ESPs to be installed including wells M-45 and M-195. Zarbad field rehabilitation on the least developed field. Work focusing on Z-28, Z-21 and possibly Z-4. Work scheduled to begin by end of September 2017 using Chinese manufactured truck mounted ZJ30 workover and drilling rig with operations directed by Zenith's newly recruit Canadian petroleum engineers. Production averaging 350 bopd.
07 September	C-26 (Jafarli) – Successful perforation of a new unexploited production zone. Previously not producing but now at 70 bopd.
06 October	C-21 (Jafarli) – Successful perforation of new unexploited production zone. Previously not producing, now 15 bopd. ESP installation expected to increase bopd
07 October	Z-28 well workover began
10 October	C-21 – Successful perforation following identification of an additional 7.8m of unexploited pay zone resulting in production increasing to 35 bopd. Z-28 well workover expected to be completed by mid-November 2017
16 October	C-21 – Flow tests show production has stabilised at 50 bopd. Successful outcomes at C-21 and C-26 helped by the use of quad neutron logging technology which is giving the team an exceptional insight into the significant untapped production potential of Zenith's wells.
20 October	Z-21 – Carried out intervention using coiled wire and wireline. Flowed below 5 bopd and decided not to flow test for 2 weeks and there was a blowout – which confirms the variability and abundance of oil in the Zarbad field. Data suggests that there is significant bottomhole pressure with large quantities of oil to be produced. ZJ-30 180 tonne work over rig will arrive in November 2017 to carry out well tests. Z-28 – ZJ-180 tonne workover rig currently engaged in the workover of this well which is the most significant workover undertaken by Zenith to date in Azerbaijan.

Source: Company

Italian assets

Zenith's entry into Italy was on an invitation to bid for a concession from the Italian Ministry of Economic Development back in 2009. The application was accepted in 2011 on the basis of the company's strong technical presentation which outlined how Torrente Vulgano, formerly held by ENI, could be returned to production. An owned subsidiary of Zenith, Canoel Italia Srl, was established in 2011 as an SPV to accept Italian licenses.

The company has six operated onshore gas production concessions: Masseria Grottavecchia (20% working interest (WI)), San Teodoro (100% WI), Torrente Cigno (45% WI) in natural gas production: 100% ownership of four gas powered electricity generation units), Misano Adriatico (100% WI), San Andrea (40% WI) and Masseria Petrilli (50% WI). In addition, there are three non-operated onshore gas production concessions: Masseria Acquasalsa (8.8% WI), Lucera (13.6% WI) and San Mauro (18% WI).

Looking at exploration permits, the company holds one operated production permit for the Montalbano with a 57.15% WI, but is in the process of acquiring a 100% WI. There are also three exploration permit applications that the company has submitted awaiting approval from the Italian government for the following concessions: Serra dei Gatti (100% WI), Villa Carbone (50% WI) and Colle dei Nidi (25% WI).

The bulk of Zenith's licence portfolio was acquired from Mediterranean Oil and Gas Plc's (MOG) Italian subsidiaries in 2012. Most of the Italian properties are located in the South of Italy in the Puglia, Basilicata Molise, Abruzzo and Marche regions, covering an aggregated total area of 1,285,41km² all associated with the Apennine Foredeep Basin.

At the point of acquisition by Zenith MOG's gas licenses were producing approx. 13,800 SMC/day, whereas in recent years three of the production concessions have delivered gas with present average monthly net production as high as 250,000 SMC (8,83 MCF) of gas and 12.5 tons of condensate.

In late-2015 Zenith acquired co-generation equipment and facilities from the owner of a plant that treats gas from the Masseria Vincelli 1 well in the Torrente Cigno concession in Italy. The acquisition has enabled the company to produce electricity from the gas produced by the Masseria Vincelli 1 well which it sells directly into the national energy grid in Italy.

Indeed, the Torrente Cingo License demonstrates Zenith's entrepreneurial spirit in that the formerly cheap, below average town-gate priced sour-gas is now used to supply the wholly owned co-generation electricity plant which Zenith acquired in October 2015, with electricity generated at approximately 880 MWh per month.

Production in Italy over the last couple of years has averaged around 60 boped. However, results for the three months ended 30th June 2017 showed that the company sold 4,790 MCF of natural gas from these production assets along with 223 barrels of condensate, which was 21% higher than in the same period of the previous year. In addition, the company sold 2,522 MWh of electricity, which was 7% less than the previous comparable quarter.

Strategy for growth

Zenith is seeking to significantly increase oil production revenue in Azerbaijan by undertaking a series of systematic high-impact well interventions across its 642.4km² contract area. At the same time there are well-developed plans to continue to build up levels of revenue from the Italian gas assets.

Azerbaijan

The board is masterminding the unlocking of value from the US$2 billion of 2P reserves which have the scope to provide outsized returns. Currently, production is around 350 bopd, which is not that much higher than when the interest was acquired. However, the production numbers belie a large reorganisation of the operations that is ongoing on the ground.

Heading up the workover operations is Mike Palmer and four managers from Calgary and whom are deemed to be one of the best teams in the area. **These individuals have a proven track record in substantially boosting oil production in similar sorts of fields in Azerbaijan which have been neglected due to lack of investment since the collapse of the Soviet Union.**

Management believe that Zenith is on track to increase production to the 1,000 bopd level by the end of the current financial year (to 31st March 2018). The new ESPs are expected to add 219 bopd. In addition, workovers are beginning in the much more unexplored and very young Zarbad oilfield which is expected to result in some much higher per well production figures - these wells had produced 500 bopd using old Soviet technology to control sand before being plugged and abandoned.

Over the coming months, 3 or 4 of these wells in the Zarbad oilfield will be worked over, which is expected could result in production of 100 bopd per well. These are the most complicated workovers that Zenith has carried out and so are being undertaken by its own specialist teams, which allows for substantially lower costs than would result from bringing in a major international contractor. Experience so far is that workovers are averaging US$27,000 per well. The ongoing weakening of the Azerbaijan manat also means that costs on the ground can be reduced on an ongoing basis.

Progress might have been slower than hoped but essentially this was due to deliveries of equipment being delayed, the state of the roads and the weather. However, everything under the power of management seems to have happened as scheduled and the board is confident that the 1,000 bopd target will be achieved. Located onshore, costs are quite low, currently US$17 per barrel. **These are however estimated to fall to c.$11 a barrel when production hits 1,000 bopd, delivering a good profit at current oil prices.**

In the year-ending 31st March 2019, 11 well workovers are planned, together with the first of three new development wells. Even as a low-cost operator, each well will cost around US$4 million to drill using a rig that the company will be leasing. This option has been chosen as it will ensure that Zenith has the most modern US$15.5 million high-tech rig, quicker operation and faster mobilisation with no debt. By leasing this rig the company will be able to drill new wells at a fraction of the cost of bringing in outside contractors. **It is a tough time for local contractors and so the management is able to negotiate delayed payment deals where the drilling costs can largely be paid out of cash flow from the success of the well**.

The first new development well is planned to be drilled as early as April/May 2018 prior to future horizontal well-developments. It is estimated that the three wells drilled would average production of 330 bopd per well. Estimated costs of US$4 million per well are low by international standards, which means that even a marginally successful well of 250-280 bopd would still represent an economic success.

Progress is expected to continue at this pace in the subsequent year, with 15 more workovers planned together with the drilling of three more development wells. **By 31st March 2020 oil production is expected to be boosted towards a target level of 3,000 bopd, with each of the three development wells drilled once again estimated to produce 330 bopd.**

There could be significant further potential beyond the 3,000 bopd targeted for early 2020. In the past, the level of production from Zardab was 15,000 bopd and that was using old Soviet technology. The team is ensuring that the latest technology is being employed, including state-of-the-art ESPs which are being customised to suit the characteristics of each well and which have already shown dramatic results. From 2018 onward in the CPR version of the plan, 3D seismic programs are anticipated to fully delineate the pools and optimise drilling locations. The average daily production envisaged from full-field development after these future works, is shown in the chart below.

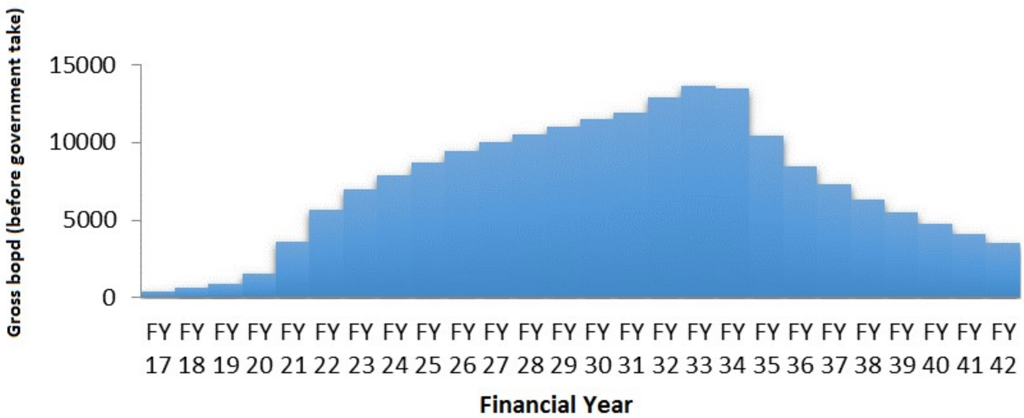
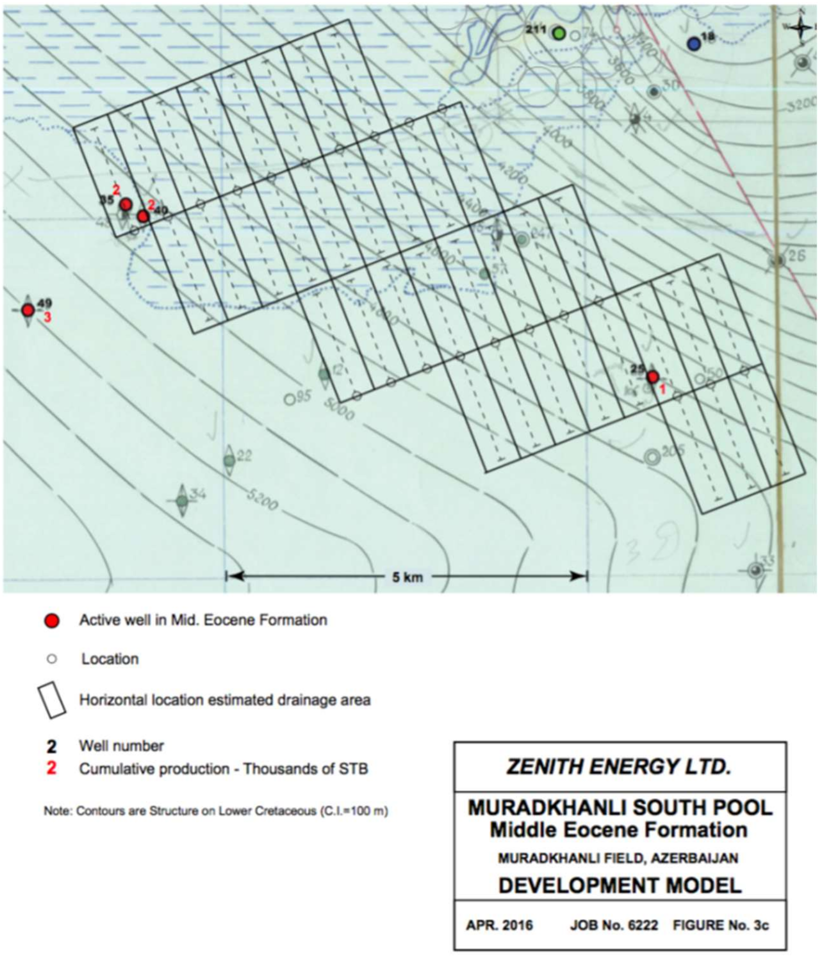


Chart - Full field production curve projection (gross barrels). Source: Company.

The re-development of the Zardab field is being advanced by drilling work that the engineers estimate will require a total of 142 development wells in all, across the three oil pools on the block. This includes, for the first time, 58 horizontal wells**. It is in the fulfilment of this long-term plan that Zenith will be able to capture the value from around 70 million of net barrels that engineering projects have shown may actually be recovered from the field.**

These projections seem to be realistic in our view. Although they might represent big numbers for a small company they just involve straight-forward step-outs of a development front drilled within an existing oilfield. The diagram below illustrates the well spacing and drainage pattern for a suite of 36 horizontal wells from 21 pads to develop the mid-Eocene section of the 'south' oil pool. These sorts of works have been commonplace in the US for many years.



Source: Company, CPR.

Italy

Overall, Zenith has an ambitious program to enhance the Italian daily gas production rate in the Puglia Region by 100% through a technical program employing additional workovers that will be financed using local cash flow.

The company's technical team has conducted in-depth geological, geophysical and engineering evaluations on all the Italian properties. Drilling plans for side-track drilling operations at the Masseria Petrilli property and drilling of a new well at the San Teodoro field are being evaluated.

The current development programme seems to be focused on the Torrente Cigno concession, where the team has been evaluating the potential of sidetracking the Maseria Vincelli 2 well to restore production. **The CPR that was included in the London IPO document stated that a successful sidetrack could produce 1,000 MCF equivalent per day (equating to 167 boepd), at an estimated cost of US$1.5 million.**

Improvements of facilities at San Teodoro will be completed by the tie-in of new dehydration equipment. While the field has been capable of production, a lack of regional infrastructure had limited additional expansion in the past.

At Torrente Vulgano, the company has entered the final permitting stage for the activation of this concession which was previously operated by the leading Italian oil company ENI. This field benefits from a good infrastructure with connections already in place to the national gas network. In the past, two wells in the concession produced 247MCF/d (equivalent to 41boepd)

There are also plans to rehabilitate the San Teodoro and Masseria Petrili concessions. Currently, both these projects are non-producing but residual reserves could be accessed by sidetracking existing wells.

With regard to the exploration licenses, Zenith's technical team has evaluated and ranked the geological, geophysical and engineering prospects of each of the properties and will, in due course, formalise plans to either participate directly in potential works or farm-out its interests to third parties, most likely we suspect on a carried basis.

Electricity being generated from the big reserves of sour gas from the Masseria Vincelli 1 well in the Torrente Cigno concession could begin to provide a larger contribution to the company. Three years ago, Zenith bought five turbines and the final payment instalment will be made in March 2018. Monthly revenue is around €25,000 currently but repayments of €15,000 per month need to be netted off against that figure. Moving ahead, the economics of the electricity generation interests will be significantly improved.

Further acquisitions

The board's long-term ambition is to become a mid-tier international energy production company. To this end, Zenith plans to continue to focus on both international oil and gas exploration opportunities, as well as continuing its search for smaller producing assets in Italy and Azerbaijan.

Management has demonstrated proven ability in targeting and acquiring material assets being divested internationally and where technical field rehabilitation skills can add long-term value. Sound oil and gas expertise and operational experience has been well-documented in Italy and Azerbaijan in both oil and gas and which gives the company real credibly within the industry. Being able to show that Zenith is a highly successful and competent operator internationally is a very compelling factor, together with having a highly reputable board, in being able to win production sharing agreements with national oil companies.

Financials & current trading

Zenith was established in 2007 and in 2010 acquired two oilfields in Argentina. In 2011 the company established its Italian subsidiary, which was the first step towards acquiring natural gas interests in that country. Revenues were from hydrocarbon production in Argentina and Italy until 2016 when the company vastly expanded its oil and gas portfolio via the Azeri acquisition. The Argentinian interests were disposed of in early 2017.

Y/E 31 March C$'000	2013A	2014A	2015A	2016A	2017A
Revenue	2,474	4,109	4,784	791	4,424
Pre-tax profit/loss	-2,106	4,876	-2,277	-9,220	571,741
Net profit/loss	-2,734	6,318	-2,376	-7,675	576,378

Zenith's five-year trading history. Source: Company accounts

Results for the year to 31st March 2017

This represented a particular busy period for Zenith with a series of important milestones achieved. In August 2016 the company formally gained the asset in Azerbaijan and began commercial crude oil production at a rate of 275 bopd. In January 2017, Zenith's shares were listed on the London Stock Exchange.

Since listing, management's attention has been focused on developing the assets in Azerbaijan. In late January 2017 Zenith was able to announce a well workover contract and the engagement of a highly experienced local drilling team to undertake the workover on the first two wells (M-195 and M-45) in the Azerbaijan program. In February 2017 the company announced the sale of its operations in Argentina to a group of local energy investors. Just ahead of the year-end Zenith acquired Altasol SA, a Swiss-based company.

For the financial period Zenith reported total comprehensive income of C$568.97 million compared with a loss in the previous year of C$7.82 million. This was largely due to a gain on the business acquisition of the assets in Azerbaijan of C$578.995 million. At the time the annual report was published on 27th June 2017 the company had a cash balance of C$3.15 million.

Q1 - Current Year

Quarterly results for the three months ending 30th June 2017 were announced in August 2017 and showed that momentum was maintained in the operations in Azerbaijan and Italy. During the period the company sold 23,390 barrels of oil (257 bopd) from its assets in Azerbaijan and 4,790 MCF of natural gas (52 MCF/d) from its Italian production assets.

In addition, in Italy there was a 21% improvement in sales of concentrate (223 vs 184 barrels) compared with the same period in the 2016 and 7% lower electricity sold (2,522 MWh vs 2,718 MWh) against the same quarter last year due to maintenance work being undertaken. Zenith achieved a quarterly profit of C$0.69 million for the period.

Recent developments

In late-August 2017 the company announced that the latest generation Schlumberger electrical submersible pump (ESP) had been successfully been installed at well M-45, where existing production was 49 bopd. The team has identified a further 11 wells with obsolete and unreliable existing ESP technology where significant increases of production are expected with such an upgrade. The operational team forecast a total increase of 219 bopd over the current production across these 11 wells. The new ESPs have been ordered from Schlumberger and Baker Hughes and are being designed to meet the specifications of each well.

In September 2017 there was news that good progress was being made on Zenith's field rehabilitation activities in Azerbaijan. Work is being focused on three areas, with a goal of achieving 1,000 bopd by the end of the current financial year (to 31st March 2018). This program includes not only systematically upgrading the ESPs, but also a series high impact well workovers in the Zarbad field, along with the perforation of new productive zones in wells with significant unexploited potential.

In early October 2017 investors learnt about the successful perforation of well C-21 in the Jafarli field Azerbaijan, which led to the well producing 15 bopd - previously the well had been non-productive. This was achieved following the successful perforation of 7.1m of unexploited pay zones between the depths of 3706 – 3708.5, 3862 - 3863, 3865 – 3867 and 3869.6 - 3871.2 metres. **Ten days later, production tests showed that the well was producing at a stabilised flow rate of around 50 bopd and the team were evaluating the potential benefit from installing an ESP.**

An operational update announced on 20th October 2017 reported on the performance of the Z-21 and Z-28 wells in the Zarbad Field. Well Z-21 had been shut-in (not producing) since 1988, but since carrying out an invention using coiled tubing and wireline (without needing to use a workover rig), the well flowed at 5 bopd. However, it was decided to not let the well flow for two weeks. **A build-up in pressure led to a blow-out, which suggests that there is significant bottomhole pressure, with large quantities of oil to be produced.** Well tests were planned to continue until the ZJ30 180 tonne workover rig, engaged in the workover of well Z-28, arrives in November 2019.

Risks

Geological risks

There are a series of technical risk factors concerning the amount of understanding of the geology of the project areas, the mineralisation style being targeted and the distribution and magnitude of the indicators that have been identified in exploration work.

Political risk

There are political risks involved in companies operating in Azerbaijan. The oil industry is arguably the most susceptible sector of the market to political risks largely due to its importance to the host county's economy.

Oil price risks

Oil prices are highly cyclical and changes in the price could have a negative or positive impact on the valuation of the company's projects and revenue from the sales of hydrocarbons. Over the past decade the price of oil has been highly volatile, trading in the range of $140 to $28 a barrel. Currently, Brent Crude trades around the $60 level.

Exchange rate risks

Movements in the value of currencies will have an effect on the company's accounts on translation from Azeri manat into Canadian dollars. Fluctuations in the value of the Azeri manat against the Canadian dollar and in the Canadian dollar against the pound may well have an effect on the valuation Zenith is awarded by the UK stock market.

Future funds

The market for raising funds for small cap companies may have improved from the worse conditions seen around eighteen months ago, however the equity market does continue to be difficult, especially for resources companies. Some recent fund raising in the oil sector has seen share prices being undermining by incoming investors demanding substantial discounts to provide the necessary capital.

Board of Directors

Dr. José Ramón Lopez Portillo - Chairman

Dr. José Ramón Lopez Portillo is the former Chairman of FAO (the United Nations agency for food and agriculture) and a leading researcher on Mexican energy security. He was Vice-Minister of Evaluation (Ministry of Programming and Budget) of Mexico from 1980 until 1982. From 1982 to 1989 he was the Permanent Representative of Mexico to the United Nations Organizations in Rome, Italy. He served as Chairman of the Council of the Food and Agriculture Organization of the United Nations from 1993 to 1998. He has a Doctorate (D. Phil) in Political Sciences and International Relations from Oxford University. In 2002, he founded the Centre for Mexican Studies at Oxford University and has established a large network of international contacts throughout his career.

Andrea Cattaneo - CEO and President

Andrea Cattaneo graduated from the University of Genoa in June 1978, achieving a "pieni voti" in Economics. He studied Tax Law as a post graduate at the University of Bologna. He started to work trading with the USSR and when he started banking in London was assigned to lending with socialist countries before being headhunted by LFC London Forfaiting Company where he started to visit socialist countries meeting sovereign borrowers.

With this attitude he arranged the first loan in history to Vietcombank, the Bank of Foreign Trade of the Socialist Republic of Vietnam in 1987. Later, the relation with Vietnam led him to leave banking to take a more entrepreneurial role trading textiles, hides and crude oil from Asia and Africa. This finally brought him into a lead role in oil trading, exploration and production businesses, advising emerging countries at a governmental level. He also has experience in manufacturing.

Luigi Regis Milano - Managing Director of Zenith's Italian Operations

Luigi Regis Milano is an oil Chemist by education and has 35 years of oil industry experience. He has served as a Director/owner of a large oil refining, processing and trading company and as director of listed company, Autostrada dei Fiori S.p.A., Currently, he is also a Director and part owner of Dpl Lubrificanti SPA, a private bio-diesel refining company based in Italy, and managing Director of Canoel Italia S.r.l., Zenith's Italian subsidiary.

Dr. Dario Sodero - Non-Executive Director

Dr. Sodero received a Doctorate in Geological Sciences (Hons.) from the University of Torino, Italy in 1967. He has served as an Independent Non-Executive Director of Zenith Energy Ltd. since June 2009 and is an experienced energy industry executive with 40 years of experience. Currently head geologist of Zenith Energy he has held management positions with various publicly traded Canadian companies since 1980, mostly as CEO.

Erik Sture Larre Jr. – Non-Executive Director

Erik Sture Larre, Jr., served as Deputy Chairman of Sparebanken Nord-Norge (branded as SpareBank 1 Nord-Norge). He specialises in real estate, banking and finance and has experience in oil & gas. He has wide geographical experience in many countries in East Europe, Southern Europe and the Middle East and was both a former Director & the Chairman of the audit committee of Sparebank, Norway. An Independent Non-Executive Director of Zenith Energy Ltd., Larre is an Engineer and holds a Master's Degree in Civil Engineering from Milan Polytechnic University.

Saadallah Al-Fathi - Non-Executive Director

Saadallah has served as Head of the Energy Studies Department, Organisation of Petroleum Exporting Countries (OPEC) in Vienna, Austria. He has also served as OPEC Representative to the Executive Council of the World Energy Council and Member of its Studies and Developing Countries Committee. He has advised several governments and corporations on energy matters, and is an award-winning oil and gas industry researcher and columnist. He holds a BSc degree in Mechanical Engineering from the University of Manchester. He writes weekly oil price and energy commentary for a newspaper in the Gulf.

Sergey Borovskiy, Non-Executive Director

Sergey Borovskiy has over 25 years of experience in business management in China and Hong Kong. He has lived and worked in China since 1991 and is fluent in Russian, English and Mandarin. Sergey is CEO of Sanju Environmental Protection (Hong Kong) Limited, overseeing the international projects of controlling shareholder Sanju Group, a company specialised in energy purification and environmental protection technologies listed on the Shenzen Stock Exchange. He is CEO and Chairman of General Transactions Inc., an oil & gas consulting, engineering, trading, seismic research and exploration services company. Sergey also serves as Chairman of the Board of Directors at Petro Chemical Solutions and South China Heavy Industries Group. Sergey studied in both China and Russia and holds a degree in economics.

Forecasts

We have updated our coverage of Zenith Energy with forecasts for the current financial year and for full year 2019. **The company is now seeing increased oil and gas revenues as the result of workovers, installing new ESPs and perforation of new productive zones in wells with significant unexploited potential.**

Our estimated operating profit is C$1.428 million in 2018. Our expectation is that the weighted average number shares will rise by 82% due to private placings, along with options and warrants being exercised. For 2018, we forecast a basic income per share of C$0.006.

(000' Canadian Dollars)

Year End 31 March	FY2016A	FY 2017A	FY 2018E	FY 2019E
Revenue	**791**	**4.424**	**9,374**	**13,025**
Cost of Sales				
Production costs	(809)	(3,033)	(2,990)	(2,900)
Depletion and depreciation	(270)	(1,299)	(1,406)	(1,954)
Gross Profit/(Loss)	**(288)**	**92**	**4,978**	**8,171**
Administrative expenses	(2,757)	(4,155)	(3,550)	(3,621)
Operating Profit/(Loss)	(3.045)	(4,063)	1,428	4,550
Fair value movements	(303)	427	-	-
Gain – on business combination	-	578,995	-	-
Impairment	(5,025)	(2,985)	-	-
Net interest expense	(847)	(633)	(650)	(665)
Profit/(Loss) for the year before taxation	**(9,220)**	**571,741**	**778**	**3,885**
Taxation	1,514	-	-	-
Profit/(Loss) for the year from continuing operations	**(7,706)**	**571,741**	**778**	**3,885**
Profit/(Loss) from discontinued operations, net of tax	31	(4,363)	-	-
Profit/(loss) for the year	**(7,675)**	**(567,378)**	**778**	**3,885**
Other Comprehensive Income Items that may be subsequently reclassified to profit or loss: Exchange differences on translating foreign operations, net of tax	(142)	1,595	-	-
Total Comprehensive Income for the year attributable to the owners of the parent	**(7,817)**	**568,973**	**778**	**3,885**
Earnings per share (C$)				
Basic profit/(loss) for the year	(0.23)	8.15	(0.006)	0.021
Weighted average number of shares	29,292,000	69,626,000	126,069,867	186,398,083
Total shares plus options and warrants	73,233,304	177,573,138	170,052,682	198,303,794

Source: Company/Align Research

Valuation

We have determined a sum-of-the-parts valuation for Zenith Energy. Our financial model has been largely based on the Competent Persons Report (CPR) published by Calgary-based Chapman Petroleum Engineering Ltd, dated 31st August 2016. In valuing Zenith's assets the bulk of the value lies within the Azerbaijan oil interests which have rather eclipsed the Italian assets.

Azerbaijan

Looking at the oil assets in Azerbaijan we created a model of the cash flow derived from the annual oil revenue, costs and profits share with SOCAR contained in the CPR. Our timeframe is from 2017 onwards over the life of the licence and the valuation is split into the better known near-term development and the riskier full field development. This was done to be able to allow for differing ranges of geological and economic parameters that impact the commerciality of a project in our analysis.

The **near-term development** of the oil assets is represented by the current ongoing well-redevelopment program. This focused on extracting the oil which lies within the Proven Developed Producing, Probable Developed Producing and Probable Developed Non-Producing Reserves. Developed Reserves are where reserves are expected to be recovered from existing wells, Developed Producing Reserves where the reserves are expected to be recovered from completion intervals open when the estimate made and Developed Non Producing Reserves, where reserves have either not been on production, or previously been on production but have been shut-in and the date when production will be resumed is not known. **We estimate total cash flows of C$56.288 million over the near term field development period (until 2034) which relates purely to the workovers and which, discounted at 10%, gives a Net Present Value of $32.524 million.**

	Undiscounted C$ million	NPV(10) C$ million
Near term development	56.288	32.524
Full development	2,443.747	529.064

Table: Valuation of Azerbaijan assets. Source: Align Research and the Company

Over the longer term, the **full field development (24 years)** work on the oil assets is captured by the proved plus probable cases – essentially drilling new wells. The full field development of the oil assets is focused on extracting the Undeveloped Reserves (Proved Undeveloped and Probable Undeveloped), which are those reserves which are expected to be recovered from known accumulations where significant expenditure above and beyond drilling a well is required to make them available for production. **The forecast total cash flows of C$2.44 billion discounted again at 10% discount rate gives a Net Present Value (10) of C$529.064 million.**

We can appropriately risk this full development case independently of the short-term case by stripping out the proven plus probable value from the aggregate figure. This allows us to risk the possible case (the longer-term development plan) alone as it is netted-out. Doing so and risking the geological chance of the plan's success quite harshly at 50%, before seismic works are completed, and horizontal wells are tested on site, we then chose to carry a highly consrvative 10% of that value, or C$26.453 million into our company sum-of-the-parts calculation.

By approaching the valuation in this way some measure of the inherent value in the full field attributable to the company is recognised now. The longer-term plans will need to be sanctioned for active development and funding solutions (reserves based lending most likely) for the proposed development works put in place before a fuller 'carry' of their value can be brought into the company valuation hence us carrying a materially risked figure of just 10% here in our valuation.

We would however add that the CPR document, which was published on 31st August 2016, was highly conservative itself as these reports tend to be for a number of reasons.

Firstly, at the time the CPR was published Zenith Energy was a veritable minnow capitalised at less than £1 million and advisers were justifiably highly sensitive to the fact that such a lowly valued company could potentially have such large oil and gas reserves.

Secondly, Zenith is an out and out low-cost operator and so has the experience and expertise to be able to operate at lower costs than the CPR suggested. The company had established a good track record in Argentina where it had demonstrated the success using own its own equipment for drilling wells and workovers. For example, experience over the initial workover shows that these can be achieved at a cost of US$27,000 per well compared with US$50,000 in the CPR. With the company owning/leasing equipment that means management can meet their own schedules. In addition, sourcing oil production materials from China provides a clear cost advantage to that suggested in the CPR. It should be pointed out however that the CPR has a more aggressive program for drilling new wells.

Thirdly, costs on the ground are paid in local currency which has become highly devalued in recent years. Since 2015 the manat has fallen from 1.4 to 0.6 against the US dollar. Since the time of the **CPR, the devaluation of the manat has effectively given the company 15% more spending power in the country in terms of dollars**.

Italy

For the Italian gas assets we once again created a model of the cash flows derived from the annual gas and condensate revenues, costs and working interest profit share contained in the CPR from 2017 onwards over the life of the licence. Separating the various categories of reserves allows them to be treated differently by varying the chances of success and weighting in later analysis.

Developed Reserves come from existing wells, Developed Producing Reserves come from existing completion intervals and Developed Non Producing Reserves come from wells not on production or shut-in.

	Undiscounted C$ million	**NPV(10) C$ million**
Proven Developed Producing	2.980	2.018
Probable	4.782	1.539
Probable Undeveloped	42.263	7.147

Table: Valuation of Italian assets. Source: Align Research and Company

The total annual cash flows from Proven Developed Producing for the Lucera, Adriatico, San Mauro and Torrente Cigno concessions totalled C$2.980 million and were discounted at 10% to give a Net Present Value (10) of C$2.018 million.

The total annual cash flows from Probable for the Lucera, Adriatico, San Mauro and Torrente Cigno concessions totalled C$4.782 million and were discounted at 10% to give a Net Present Value (10) of C$1.539 million.

The total annual cash flows from Probable Undeveloped for the Torrente Cigno concession totalled C$42.263 million and were discounted at 10% to give a Net Present Value (10) of C$7.147 million.

Once again it should be pointed out that this valuation is fairly conservative as the numbers are based on the CPR. As such, a number of the same reasons that were expressed in the section dedicated to the valuing the Azerbaijan assets also apply.

Sum-of-the-parts valuation

To determine a value for Zenith Energy the NPV(10) values from both the Azerbaijan and Italian assets were weighted using a Geological Chance of Success (GCoS) in order to risk the various categories of oil and gas reserves. These assets are then risked once more using a commercial weighting.

Assets	**Undiscounted cash flow C$m**	**NPV(10) C$m**	**GCoS weighting**	**Carried Value C$m**	**Commercial weighting**	**Carried Value C$m**
Azerbaijan						
Proved	56.288	32.524	100%	32.524	100%	32.524
Full development plan	2,443.747	529.064	50%	264.532	10%	26.453
Sub-total						58.977
Italy						
PDP	2.980	2.018	100%	2.018	100%	2.018
Probable	4.782	1.539	90%	1.385	90%	1.247
Probable Undeveloped	42.263	7.147	50%	3.574	50%	1.787
Sub-total						5.052
					Sum-of-the-parts	**C$64.029m**

Table: Sum-of-the-parts valuation of Zenith. Source: Align Research

Our sum-of-the-parts valuation for Zenith Energy amounts to C$64.029 million (£38.572 million based on current FX rates – CAD$1.69:£1). **Based on the number of shares currently in issue this gives a price per share of 28.31p.** On a fully diluted basis however, the per share value is 22.28p, and which is based on the number of shares, outstanding warrants and options that we estimate will be in existence at the year-end 2018.

	Number of shares	**Canadian dollars**	**UK pounds**
Sum-of-the parts valuation		C$64.029 million	£37.887 million
Currently in issue	133,787,977	C$0.48	28.31p
Fully diluted basis	170,052,682	C$0.38	22.28p

Table: Sum-of-the-parts valuation and target price for Zenith Energy. Source: Align Research

Peer analysis

Looking at a peer group of AIM-listed oil and gas stocks makes for very interesting reading. Viewing Zenith against its peer group illustrates quite clearly the degree f of additional value the company could attract moving ahead.

Company	Share price p	EV £m	2P Reserves mmboe	EV/2p £/boe	Countries of operation
Amerisur Resources (AMER)	19.25	233.5	24.5	9.53	Colombia, Paraguay
Ascent Resources (AST)	2.00	42.7	57.9	0.74	Croatia, Slovenia
Nighthawk Energy (HAWK)	0.25	40.4	10.6	3.81	US
President Energy (PPC)	10.25	109.2	18.1	6.03	Argentina, US
Rockhopper Exploration (RKH)	23.25	59.9	230.0	0.26	Falklands, Egypt, Italy
Saffron Energy (SRON)	4.38	8.0	2.3	3.48	Italy
SDX Energy (ASDX)	53.00	83.0	12.0	6.92	Egypt
Solo Oil (SOLO)	5.00	19.1	65.7	0.29	Tanzania, UK
Victoria Oil & Gas (VOG)	57.25	82.5	38.5	2.14	Cameroon
MEDIAN				**3.48**	
RANGE				9.53 – 0.29	
Zenith Energy (LSE:ZEN)	10.875	16.7	34.9	0.48	Azerbaijan, Italy

Table: Peer comparison. Source: Align Research

The analysis in the above table shows some far higher valuations for fairly comparable companies, with the median Enterprise Value (EV) to 2P reserve ratio being 3.48. **This compares to Zenith, which is trading on a lowly 0.48 times.** Accepted that some of these are in differing geographic regions but, we would argue that the risk discount of Azerbaijan as a country is actually less than others such as Egypt and Colombia. **This valuation table illustrates very succinctly to us the sort of valuation that the company could begin to attract on evidence of the successful development in Azerbaijan, helped by a proactive IR campaign and good investor engagement to really get the message out.** Indeed, if management delivers on the program and the stock price does not adequately respond we would expect the company to be on the radar of other potential acquirers.

Conclusion

As the programme of workovers accelerates and the new wells start being drilled from Q1 2018 in Azerbaijan, we expect that there will be good new flow developing over the next eighteen months. As production milestones are passed, the company will progress further towards its goal of becoming a mid-cap E&P company, with growing revenues and profitability.

Given management's impressive track record of operation at established reference sites like Italy, Argentina and now Azerbaijan, it does show that Zenith Energy can successfully negotiate petroleum sharing agreements with national oil companies. We look forward to hopefully revising up our target price as the company climbs the growth curve. At the moment, we are content to base our target on the sum-of-the-parts valuation. **We therefore update our research coverage on Zenith Energy with a new short term target price of 22.28p as management moves towards the key 1000 bopd rate over the next few months and accordingly remain with a Conviction Buy stance.**

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