



# Buy

from No Rec

# Aurelian Oil & Gas

Pole position

**Current price** 57p**Target price** 84p

**Market cap:** £284.2m  
**Shares in issue:** 500.8m  
**NAV (FY1):** €172.1m  
**Interest cover (FY1):** 1.4x

**Performance**

	Stock	All-Share
1 month:	9.6%	-0.8%
3 month:	-21.4%	1.0%
12 month:	39.0%	21.7%
<b>High/low:</b>		
12 months:	92.0p / 35.8p	

**Last results:** Finals, 21 Apr 11  
**Next results:** Interims, 30 Sep 11  
**Next event:** Interims, 30 Sep 11

**Reuters/BBG:** AULL / AUL LN**Analysts:****Sam Wahab**

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**Sales:** 020 7012 2038  
**Sales trading:** 020 7012 2030

**Priced at close:** 30 Jun 2011

**Aurelian's key asset is the Siekierki gas field in Poland, which is currently under development and due to come on-stream in Q4 2012. Poland is presently taking steps to achieve gas self-sufficiency by shifting its dependence away from Russian imports. We believe Aurelian is well-placed to capitalise on Europe's strong gas demand whilst also benefiting from Poland's beneficial taxation regime. We therefore initiate coverage with a Buy recommendation and an overall target price of 120p, discounted to 84p to reflect the implicit long-term risk of development to first stage production.**

Year to Dec	Sales Em	PBT Em	EPS €
2010A	0.0	-9.7	-4.94
2011E	0.0	-3.0	-0.60
2012E	0.0	-3.6	-0.71
2013E	29.6	16.7	3.34

Source: Arbuthnot estimates, company data

- Polish gas gaining ground.** Poland has significant gas potential, with external evaluations assessing reserves as high as 105tcf. However, the country is currently dependent on gas imports, with Russia its main supplier (c.71% for gas, c.90% for oil). The Polish government has stated that it is reluctant to continue on this basis, given Russia's track record of restricting supply in order to impose major price rises on its consumers through its state controlled company - Gazprom. We believe that the Polish government and other industrial customers are prepared to pay higher rates to domestic players in order to reduce exposure to Russian volatility. Against this backdrop, Poland has seen an influx of supermajor multinational and junior E&P companies looking to leverage their US shale gas experience to secure reserves and production.
- Siekierki potential.** Aurelian's major project is the Siekierki tight gas field, located in Poland. In December 2009, the CPR estimated that there were reserves of 640bcf (net to Aurelian, including Krzesinki and Ponzan North) under a mid-case scenario. The company is planning to start production at this field in Q4 2012, and estimates it can achieve annual production of up to 100mmcf by 2016. While the field will require considerable work and capital expenditure in order to meet this goal, we believe Aurelian is well placed both technically and financially to undertake the project.
- Strong balance sheet.** Aurelian has raised over £127m in the past 18 months (through three placings) to facilitate a growing work programme across its exploration portfolio. The company is also fully funded to embark on an extensive capital development programme that will focus on the appraisal and development of the Siekierki field, with the aim of installing a pilot processing plant facility and other infrastructure in Q4 of next year ahead of ramping up to full production.
- Valuation and recommendation.** Our core valuation (producing assets plus net cash and cash equivalents) is 59p/share, and our risked exploration valuation adds 61p. We have subsequently applied a 30% discount to reflect potential development risk at Siekierki, although we see potential for this to be unwound as the company approaches first-stage production in Q4 next year. We therefore initiate coverage with a Buy recommendation and a target price of 84p.

## Overview

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### Company activities

Aurelian is focused on Central Europe with licences in Poland, Slovakia, Romania and Bulgaria. The company recently announced that it intended to exit some areas it deems non-core, most notably Romania and Bulgaria, in order to focus on the Rotliegendes and the Carpathians in Poland and Slovakia as well as the deep thrust belt in Romania. Aurelian's most significant asset is the Siekierki field in Poland; this is a tight gas accumulation that will be developed utilising horizontal drilling techniques similar to those used in North American gas plays. Exploration will focus on the Carpathians and Rotliegendes, where there has been very little modern exploration.

### Key issues on which investors must take a view

Poland has huge gas potential with external evaluations assessing reserves as high as 105tcf. The country is largely dependent on gas imports, with Russia its main supplier. The Polish government has indicated that it is reluctant to continue on this basis, leading to a scenario whereby the government would rather pay higher domestic gas rates in order to facilitate self-sufficiency. Poland also has a clear advantage in terms of its developed infrastructure, fiscal terms, and resilient economy while most of the surrounding countries are also clear importers of energy.

### Likely direction of consensus revisions

Production from the Siekierki block in Q4 2012 would signal that Aurelian can successfully employ the techniques necessary to produce tight gas. We feel the implementation of the pilot processing plant (planned for Q4 next year), and the extraction of commercial flow rates from fracing will be pivotal stages for the company, and it is the risks relating to this that prompt us to apply a 30% discount to our valuation. Furthermore, the company's forecast production in 2016 indicates that it could soon be supplying 7.5% of Poland's total gas consumption. Should this happen, it could warrant a considerable re-rating for the company. In the near term, fracing results from Trzek-3 in August, and side-track results in December will also act as share price triggers.

### Valuation and reason behind target price

We have valued Aurelian in terms of its producing assets and future risked exploration portfolio. We have also included additional cash inflows since the last year-end results, such as the sale of a proportion of the company's Romanian assets. We feel that the market currently does not give enough credit to the value of the company's exploration assets, and Siekierki in particular, given the unconventional techniques employed to explore and produce tight gas and the subsequent time lag associated with this. With this in mind, we feel the shares are currently priced below their risked value, and represent a clear buying opportunity for investors.

### Risks to our view

Drilling success and production ramp-up remain key risks for the company, especially given the expensive and time-consuming nature of tight gas exploration and appraisal. Although we feel production forecasts at Siekierki are achievable, there is a potential risk that these levels will not be achieved due to unforeseen issues such as lower than anticipated flow rates obtained due to technical fracing problems. Although the company has oil-bearing assets, its main focus is gas. The risk here is that wholesale gas prices may fall, resulting in further pressure placed on comparatively low margins resulting from tight gas production. For further analysis, please see Appendix 2.

## Valuation and recommendation

**We have valued Aurelian in terms of its producing assets and its future risked exploration portfolio**

We have valued Aurelian in terms of its producing assets and its future risked exploration portfolio. The company has a clear development plan over the next 18 months to bring its most significant asset, Siekierki, to first-stage production.

We have made the following assumptions in valuing its resource base with regards to hydrocarbon type:

**Table 1: NPV/boe assumptions**

Hydrocarbon type	\$/mmboe
Oil	7.5
Gas	4.5

Source: Arbutnot estimates

**Table 2: Risked exploration valuation**

Project	Interest (%)	CoS/CoD (%)	Prospective Rec. Resources/Reserves (mmboe)		NPV 10% US\$/boe	NPV (\$m)		NPV (£m)		Net risked p/share
			Gross	Net		Unrisked	Risked	Unrisked	Risked	
Siekierki	90	50	64.2	57.6	4.5	259.2	129.6	157.1	78.5	15.7
Siekierki NW	90	20	11.5	10.4	4.5	46.6	9.3	28.2	5.6	1.1
Siekierki SW	90	20	35.8	32.2	4.5	145.0	29.0	87.9	17.6	3.5
Kalisz	50	10	5.3	2.7	4.5	11.9	1.2	7.2	0.7	0.1
Cybinka & Torzym	35	10	97.0	34.0	7.5	254.6	25.5	154.3	15.4	3.1
Bieszczady	25	10	196.0	49.0	7.5	367.5	36.8	222.7	22.3	4.4
Karpaty East	80	10	345.0	276.0	7.5	2,070.0	207.0	1,254.5	125.5	25.1
Karpaty West	60	10	19.0	11.4	4.5	51.3	5.1	31.1	3.1	0.6
Svidnik	50	10	136.0	68.0	4.5	306.0	30.6	185.5	18.5	3.7
Brodina	34	10	50.0	16.9	7.5	126.6	12.7	76.7	7.7	1.5
Cuejdiu	45	10	50.0	22.5	7.5	168.8	16.9	102.3	10.2	2.0
Brodina - Voitinel	34	10	8.0	2.7	4.5	20.3	2.0	12.3	1.2	0.1
Golitz Block B1	30	10	12.0	3.6	4.5	16.2	1.6	9.8	1.0	0.2
			<b>1,029.6</b>	<b>586.9</b>		<b>3,835.8</b>	<b>506.4</b>	<b>2,324.71</b>	<b>306.9</b>	<b>61.3</b>

Source: Company data, Arbutnot estimates

**Table 3: Assumptions used in valuation**

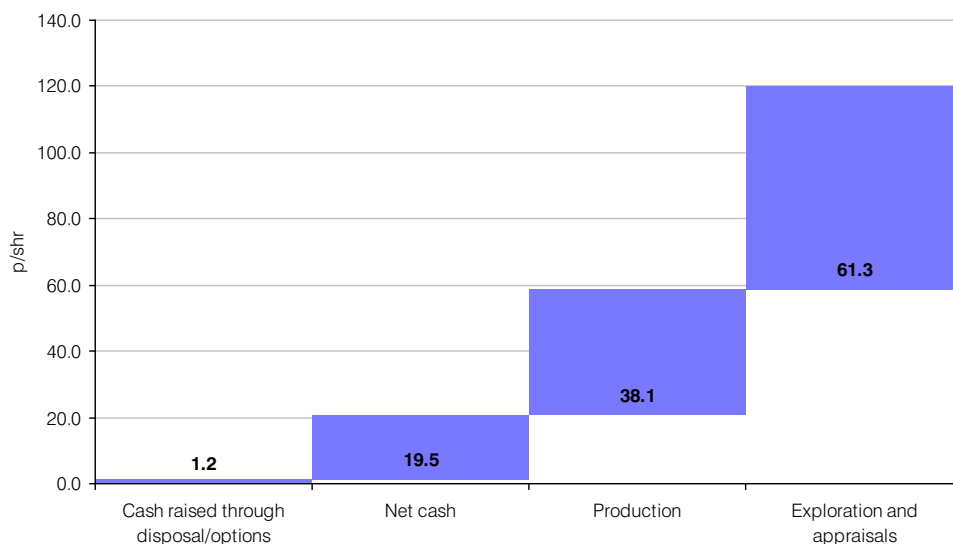
Description	Assumption
Gas price (\$mcf)	7.50
Discount rate (%):	10.00
Long-term \$/£:	1.65
Long-term \$/€:	1.39
Long-term £/€:	1.16

Source: Arbutnot estimates

**Table 4: SOTP valuation matrix**

	£m	p/share
DCF Siekierki valuation (per Table 3 and Appendix 4)	190.7	38.1
Add: Net cash	97.6	19.5
Add: Sale of AOGR*	6.1	1.2
<b>Core value</b>	<b>294.3</b>	<b>58.8</b>
Exploration upside	307.4	61.3
<b>Target market cap</b>	<b>601.7</b>	<b>120.1</b>
<i>Development execution risk discount applied (%)</i>	<i>-30</i>	<i>-30</i>
<b>Discounted target price</b>	<b>421.2</b>	<b>84.1</b>

Source: Company data, Arbutnot estimates. \*The company announced the sale of Aurelian Oil and Gas Romania SRL ("AOGR"). This held the Bilca Gas Project Area which was under production. The cash inflow of €7.1m from this sale has been recognised in H2 2011 (converted at £1/€1.16).

**Figure 1: SOTP waterfall chart (post field development)**

The Siekierki project requires several stages of development ahead of first production

Source: Arbutnot estimates

## Pre-development discount

As with all development projects, there is an element of execution risk associated with each stage. Given that first production is not due until Q4 next year, we have applied an execution risk factor ahead of the Siekierki field reaching completion. We have assumed 30% as a reasonable risk discount ahead of production coming on-stream. Assuming that this event happens, we would revert to the full valuation as laid out in our SOTP analysis. In the near term, successful fracing and flow rates from Trzek-3 in August, and Trzek-2 side-track results in December, will also act as share price triggers.

## Recommendation and target price

**Pre-development target price of 84p**

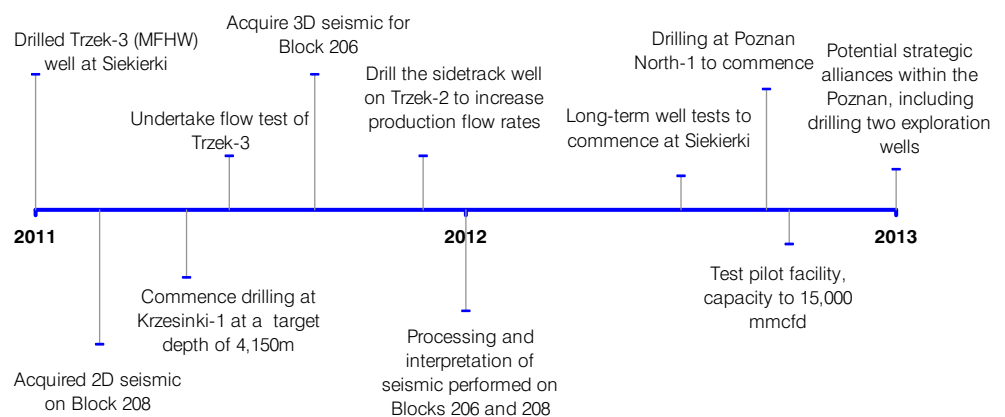
We initiate coverage with a Buy recommendation and set a pre-development target price of 84p. Assuming that development occurs on time and on budget, this would increase to 120p in Q1 2013 when the company expects production revenues to be recognised.

## Siekierki development plan

### Timeline

Aurelian's focus for the next 18 months will centre on Siekierki in advance of entering first-stage production (FSP) from the field in Q4 2012. As outlined below, the company has raised considerable funds to facilitate all stages of development at the field to bring it to production initially at 15mmcf/d on FSP and up to 100mmcf/d by 2016. The below timeline illustrates the key stages that make up Aurelian's development plan:

**Figure 2: Timeline to first stage production (FSP)**



Source: Company data, Arbutnot estimates

Aurelian is currently on track to meet the above milestones; nevertheless we believe the key obstacles facing the company will entail the construction of the pilot processing plant; as well as the technical challenges of commercially flowing tight gas using fracturing techniques.

To mitigate this, the company has taken positive steps to ensure that construction of the plant runs smoothly to Q4 2012. The key environmental approvals have now been received and Aurelian has recently signed a key contract to permit a tie-in to the national gas transmission line, ensuring that the development of the pilot plant and flow lines can continue. In addition, a letter of intent has also been signed with BCKK Engineering Inc, a Texas-based natural gas engineering company, for the major long lead item (nitrogen removal unit), and the company has progressed to the finalisation of a sale and purchase agreement. Progress on the final planning and approvals process continues, and the company will commence construction after receipt of the final construction approval, which is expected later this year.

In the near term, Aurelian plans to drill the Krzesinki exploration prospect, which, if successful, could significantly increase the potential GIIP in the Siekierki structure with a mid-case reserves estimate of 45bcf and a high case of 465bcf. This well, together with two multi-fraced horizontal wells (MFHWs) and an additional well at Poznan North, will provide Aurelian with the necessary data to optimally design the Siekierki field development plan (as Krzesinki and Poznan North are satellites of the field) and also provide the company with a path to first production and ultimately cash flow at the end of next year. This early production will also enable the company to apply for a production concession for the field, which is required to move forward to a "Full Field" development programme of up to 20 wells.

**Aurelian's focus for the next 18 months will centre on Siekierki in advance of entering first-stage production in Q4 2012**

**Aurelian is currently on track to meet all pre-set milestones prior to FSP**

## Tight gas extraction

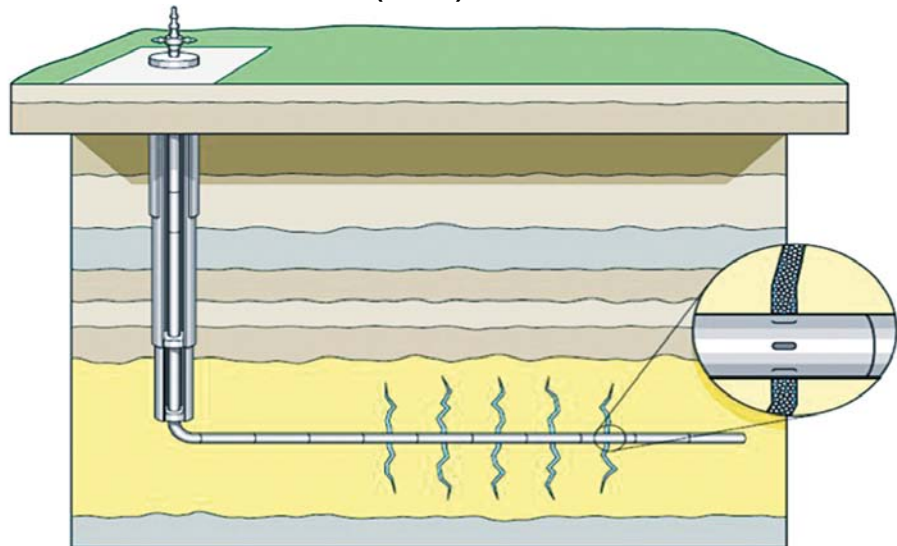
Siekierki is situated in the Rotliegendes, where there has been very little modern exploration. The company's main focus will be the extraction and subsequent production of the considerable accumulations of tight gas here. The field is to be developed using horizontal drilling techniques and multi-stage fracturing similar to those used in North American gas plays.

Tight gas is that which is trapped in a very tight formation underground, much like sandstone or limestone. Extraction requires various techniques, including fracturing and acid-based methods.

Due to rapid technological advances, most notably in North America, tight gas extraction has become a commercially viable prospect. In time, we feel that it may become as economical as conventional gas exploration and development. The key difference is the level of difficulty in extracting natural gas using commercial methods. Tight gas does not typically flow freely from a reservoir rock and needs to be stimulated by pumping water, sand and chemicals into the reservoir, fracturing it and freeing the gas to flow to the surface.

**The Siekierki field is a tight gas accumulation that is to be developed using horizontal drilling techniques and multi-stage fracturing**

**Figure 3: Multi-fraced horizontal well (MFHW) illustration**



*Source: Company*

**Gas is trapped in areas where the permeability of the surrounding rock is too low to permit standard drilling techniques**

It is necessary to adopt this particular procedure as gas is trapped in areas where the permeability of the surrounding rock is too low to permit standard drilling techniques. As a result, specialised methods such as fracturing the basin, using a combination of high pressure water and sand, must be used to obtain commercially useful quantities of gas.

Developing the necessary expertise has proven to be extremely challenging and it is only recently, due to increasing investment on behalf of E&P companies, that such resources can now be exploited in a commercially viable way. Of course, this method of extraction carries higher costs than that associated with the extraction of conventional gas, at both the exploration and operating level. However, the company is fully funded to meet all initial costs through three recent placings and we have factored an operating expense of \$0.56/mcf into our model, which, even at this prudent rate, confirms the economic viability of long-term production at Siekierki.

## Fund raising and capital expenditure

Aurelian has raised considerable funds in the past 18 months (through three placings) to facilitate its exploration programme in Central Europe.

**Table 5: Gross fundraising history**

Date	Description	Share price (p)	£m
December 2010	Placing	57.5	83.0
February 2010	Placing	5.0	32.5
May 2009	Placing	12.0	11.6
<b>Total</b>			<b>127.1</b>

*Source: Company data, Arbutnot estimates*

**To facilitate its exploration programme in Central Europe, Aurelian has raised considerable funds in the past 18 months through three placings**

In December 2010, Aurelian placed 146m new common shares at a placing price of 57.5p per share, raising proceeds of approximately €95m net of expenses. At the year end 2010, the company had €117m cash recognised on its balance sheet. The intention of the placement was to facilitate the appraisal and pre-development of the company's recent discoveries, as well as drill exploration wells in existing assets where the company has de-risked its position through investment in seismic. Funds raised have already been used to drill the Trzek-3 appraisal well back to back with Trzek-2 to bring the Siekierki tight gas project into production in Q4 2012.

The company aims to further exploit the potential of Siekierki, drilling one exploration well in Siekierki South West and another in Siekierki North West. Eight wells will also be drilled in the Carpathian Thrust Fold belt (five in Poland: three at the Bieszczady Block, two at East Karpaty), two in Romania (Cuejdiu Deep oil and Voitinél), and one in Slovakia.

Aurelian also intends to drill two exploration wells in a newly established Reef Oil business in the company's Cybinka and Torzym licences (the company is operator and 35% interest holder in each licence). Furthermore, one workover and one exploration well will be drilled in a newly established Carpathian Conventional Gas business in the company's Karpaty West licence (Aurelian is operator and 60% interest holder).

Further funds have been raised to develop potential new strategic alliances within the company's tight gas and Carpathian thrust fold belt core areas. These strategic alliances will involve the drilling of two exploration wells, seismic and technical studies for future initiatives; €20m was raised for additional seismic and drilling in core areas before the end of 2012. This will provide funding for the company to extend seismic coverage over its current acreage and provide flexibility to take advantage of new additional opportunities to both increase its acreage position and carry out further exploration drilling.

In the longer term, the company intends to construct a full development processing plant to facilitate gas production from Siekierki on a larger scale, and to ultimately achieve its forecast production levels from 2014 onwards, costing in the region of €60-70m. These transactions have all been reflected in our forecast financial statements (see Financials on page 13), and illustrate the company's strong cash flow potential.

## Market overview

### European environment

Compared with many E&P companies throughout the world, Aurelian operates in stable and fiscally attractive regions. Europe's long-term dependence on foreign oil and gas supplies, the ageing of the North Sea fields and a determination to reduce CO<sub>2</sub> emissions, leaves Aurelian in a prime position to push forward with its strategy of exploration and production in the continent. European pricing mechanisms (outlined below) also create a stable commercial environment for Aurelian. Furthermore, the relatively new and under-explored tight gas reservoirs create an opportunity for the company to supply the domestic market on a large scale.

#### Aurelian operates in stable and fiscally attractive regions

Central Europe is highly dependent on resource imports, with 67% of its natural gas and 80% of its oil consumption imported via pipeline from the former Soviet Union. To try and remove this security of supply risk, the countries in which Aurelian holds a presence offer attractive fiscal terms and good licensing regimes.

**Table 6: Fiscal terms offered by country**

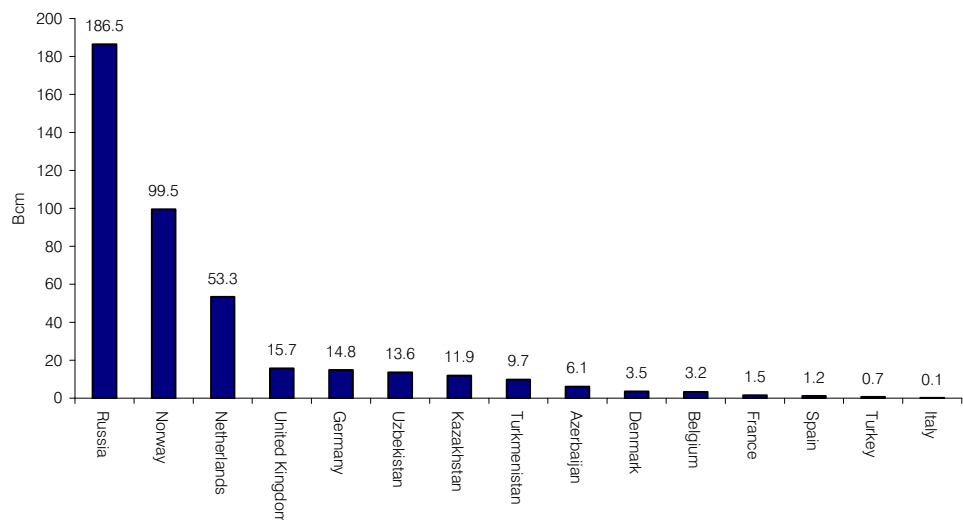
Country	State participation	Corporation tax rate (%)	Royalty
Poland	None	19	PLN5.63 (c.€1.42) / mcm
Romania	None	16	3.5% – 13.5%
Bulgaria	None	10	2.5% – 30.0%
Slovakia	None	19	5% - 10% of revenue

Source: Company

The Polish government is keen to diversify its energy supplies away from its current reliance on Russia. It has been strongly supportive of domestic exploration, creating a strong commercial incentive for E&P companies to develop the country's deposits by seeking a tax take of only 19%.

Oil and Gas consultants (Wood Mackenzie) estimate that there is 48tcf of unconventional gas stretching across northern and central Poland. This would increase the European Union's proven reserves of natural gas – which stand at 101tcf – by 47%, enough to make Poland, which currently imports 71% of its gas, self-sufficient for the foreseeable future. This could serve to reduce Russia's dominance of Europe's energy supplies, with Aurelian potentially supplying 25% of the EU's gas needs.

**Figure 4: Current gas trades to Europe by volume**



Source: BP oil & gas review 2011

**The Polish government is keen to diversify its energy supplies from a reliance on Russia, and has been strongly supportive of domestic operations**

The European Union also aims to increase its gas supplies due to the rapid depletion of the continent's resource base, while seeking to reduce CO<sub>2</sub> emissions (gas emits half the CO<sub>2</sub> of coal) and ultimately increase its energy security. Poland's net share of European reserves is expected to be 29-34tcf, while consultants Advanced Resources estimate the figure for Poland to be as high as 105tcf. This represents an opportunity for both Aurelian and the Polish government to benefit from the significant resource potential to generate export income and enhance gas self-sufficiency in the country.

In terms of infrastructure, Aurelian will benefit from existing export links via the Yamal gas pipeline, which is currently used to supply much of central Europe, and which is currently the key export link of Russian gas.

**Figure 5: Yamal pipeline**



Source: Gazprom

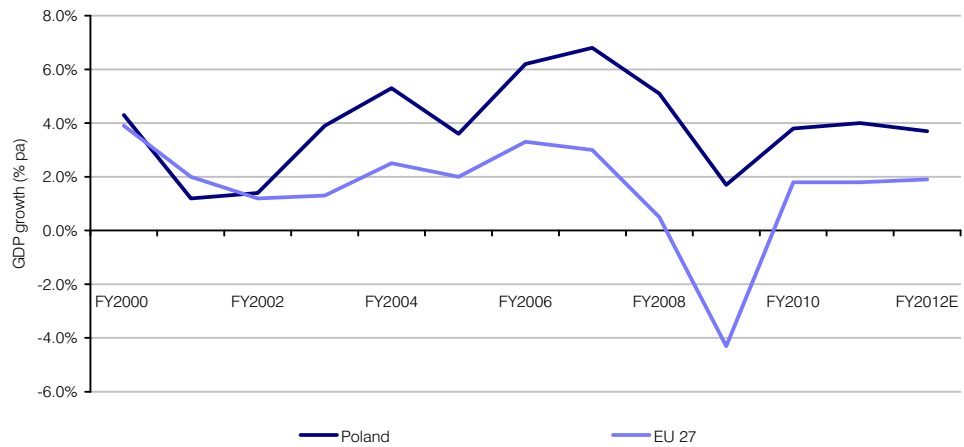
The pipeline's capacity is 33bcm pa of gas and is operated by EuroPol Gaz S.A, a joint venture of the Polish state-controlled PGNiG, Russia's Gazprom and Polish Gas-Trading S.A. With such existing infrastructure, Poland is well placed to exploit its natural resources and supply neighbouring energy import-dependent countries, potentially presenting Aurelian with a significant stream of demand.

## Economic factors

Aurelian's primary focus will centre on its Polish operations, given that its most significant asset is situated in the country. As such, initial demand for gas produced, and fiscal terms offered by the government, will be largely influenced by the Polish economy prior to exporting to other neighbouring European countries.

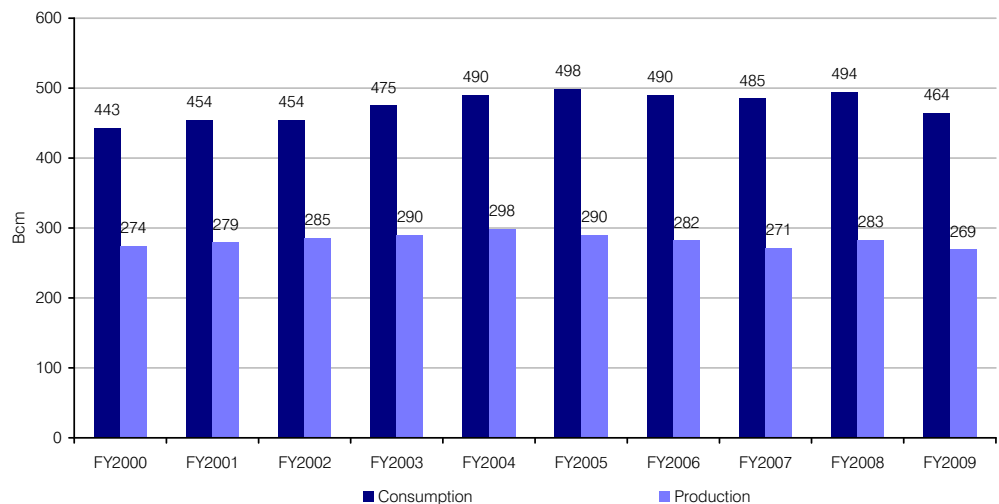
Poland benefits from a stable economy and is one of the fastest-growing countries in Central Europe, with a yearly GDP growth rate of over 3.0% prior to the recession. It is the only member country of the EU 27 countries to have avoided negative GDP growth, suggesting that the Polish economy actually grew through the recession.

**Aurelian has suitably positioned itself to capitalise on Europe's gas demand**

**Figure 6: Comparison of Polish and EU27 GDP growth**

Source: Eurostat

Aurelian will clearly benefit from Poland's economic and fiscal stability, whilst continuing GDP growth will invariably fuel demand for oil and gas resources in the country. The steady growth in gas demand from the domestic market is also apparent in the European environment.

**Figure 7: Historical EU production and consumption – natural gas**

Source: BP oil & gas review 2011

On this basis, Aurelian is suitably positioned to capitalise on Europe's gas demand. Figure 7 above illustrates that natural gas consumption in the continent exceeds production, ensuring that there is a strong domestic demand for the resource. Poland's quest for gas self-sufficiency, coupled with Europe's intention to dilute the Russian gas monopoly in the market, ensures that demand will invariably continue to exceed supply, even at Aurelian's 2016 forecast production of up to 100mmcf. Where gas demand outstrips supply in this way, wholesale European gas prices will potentially increase, creating material growth in Aurelian's future revenue and distributable profits.

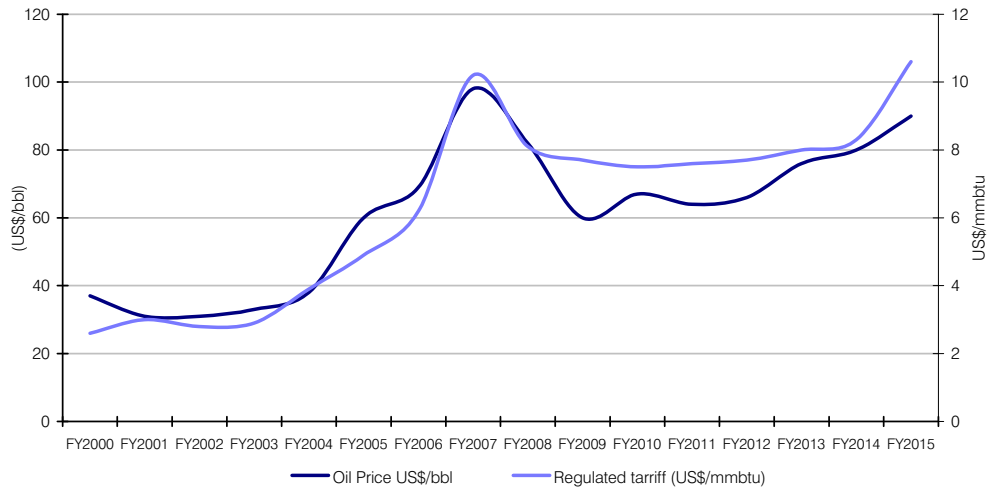
The macro-economic factors and domestic growth in demand analysed above is exemplified through the current upward trend exhibited in European natural gas prices. The existing Polish pricing mechanism is based on long-term contracts with Russia. Local industries and consumers are offered prices based on wholesale tariffs agreed with the local regulator, with wholesale prices calculated by PGNiG based on Russian price contracts, crude oil prices, exchange rate projections, and the cost of local production and transit fees.

**European natural gas prices are currently on an uptrend; Aurelian intends to capitalise on this as it moves into first-stage production in Q4 2012**



Whilst European gas prices have also been fuelled by the deregulation of the domestic gas market in Poland, there is a strong correlation with the Brent Crude spot price as illustrated in Figure 8 below.

**Figure 8: Historical and projected oil and gas prices**



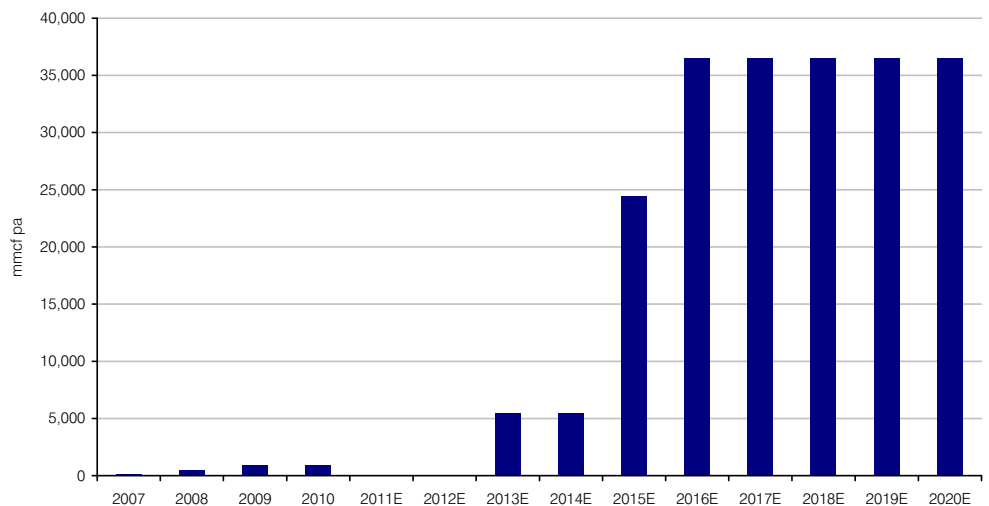
**In our production forecast, we have used a flat \$7.5/mcf from 2011 onwards reflecting a conservative approach**

Source: Advanced Resources

Growth in European gas prices are forecast to coincide with Aurelian's production ramp up in the continent. Our model assumes a flat \$7.5/mmbtu from 2011 onwards reflecting a prudent approach; although the growing trend illustrated above suggests potential for 47% upside in expected 2015 revenues.

In Q4 2012, the company has forecast to commence production to 15mmcf/d, and subsequently accelerating it to 100mmcf/d by 2016.

**Figure 9: Forecast production profile**



Source: Company data, Arbutnot estimates

The forecast ramp up in production overlaps with the Polish government's strategy to move away from its current exposure to foreign gas imports and rely on domestic supplies.

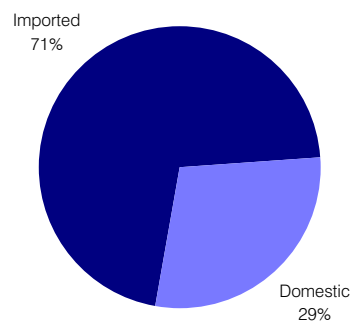
**Poland has significant gas potential with external evaluations of its gas resources assessing total reserves at 3tcm**

## Poland's dependency on Russia

Poland is significantly dependent on gas imports, with Russia its main supplier. The Polish government has indicated that it is reluctant to continue on this basis given Russia's track record of restricting supply and varying prices without warning, most notably through Gazprom. As such, there is a likely scenario that the Polish government will pay higher wholesale gas prices to domestic companies in order to facilitate gas self-sufficiency, in addition to preserving its current low tax rate. This presents Aurelian with a clear advantage, given the company's stage of development and geographical acreage.

**There is a likely scenario that the Polish government will pay higher wholesale gas prices to domestic companies in order to facilitate gas self-sufficiency**

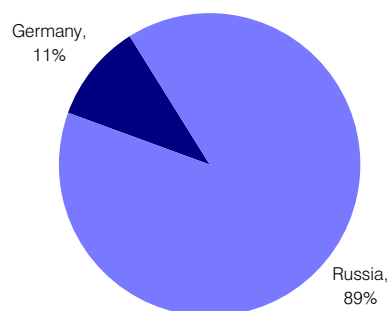
**Figure 10: Sources of Polish gas consumption**



Source: BP oil & gas review 2011

With Polish gas consumption widely expected to increase, an exposure of 71% import dependency has led the Polish government to focus on exploiting its existing undeveloped resources. This has led to many of the supermajors (eg, Exxon, ConocoPhillips, ENI) to secure exploration licences in the country to take advantage of the government's intention. However, we feel that Aurelian's existing presence arising from its first mover advantage ensures that it is in a prime position to benefit from the diversion of foreign imports to domestic producers.

**Figure 11: Origin of Polish gas imports**



Source: BP oil & gas review 2011

There has been a history of volatile contract negotiations between Poland and Russia, most notably with regards to pricing. Issues have also arisen over the restriction of supply to force higher tariffs, leaving Poland in a weak position. It is on this basis that Aurelian can capitalise on the country's need for domestic gas, and why in our view, the Polish government will continue to offer its existing fiscal terms to ensure the country can become self-sufficient in the long term. Furthermore, the company's 'first mover advantage' has ensured that it has already secured contracts and licences to supply gas to the domestic market in Q4 of next year, hence our confidence that a re-rating to 120p will be warranted on FSP.

**There has been a history of volatile contract negotiations between Poland and Russia**

## Financial statements

**Table 7: Income statement**

Year ended December (€000)	2009A	2010A	2011E	2012E	2013E
Revenue	-	-	-	-	29,607
Cost of sales	-	-	-	-	(7,577)
<b>Gross profit/(loss)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>22,031</b>
<i>Gross margin (%)</i>	<i>nm</i>	<i>nm</i>	<i>nm</i>	<i>nm</i>	<i>74</i>
Other administrative expenses	(2,251)	(3,763)	(4,278)	(4,278)	(5,921)
Transaction related professional costs	659	(14)	-	-	-
Exchange gain/(loss)	74	(399)	-	-	-
Share-based payment costs	(394)	(170)	-	-	-
Exploration costs written off	(33)	(4,620)	(100)	(100)	(100)
<b>Total administrative expenses</b>	<b>(1,945)</b>	<b>(8,966)</b>	<b>(4,378)</b>	<b>(4,378)</b>	<b>(6,021)</b>
Other operating income	42	14	(216)	-	-
<b>Operating income/(loss)</b>	<b>(1,903)</b>	<b>(8,952)</b>	<b>(4,594)</b>	<b>(4,378)</b>	<b>16,009</b>
<i>Operating margin (%)</i>	<i>nm</i>	<i>nm</i>	<i>nm</i>	<i>nm</i>	<i>54</i>
Finance income	73	1,055	1,616	836	718
Finance expense	(493)	(1,782)	(20)	(20)	(20)
<i>Interest income (%)</i>	<i>1</i>	<i>1</i>	<i>2</i>	<i>2</i>	<i>2</i>
<i>Interest expense (%)</i>	<i>22</i>	<i>144</i>	<i>2</i>	<i>2</i>	<i>2</i>
<b>Profit/(loss) before taxation</b>	<b>(2,323)</b>	<b>(9,679)</b>	<b>(2,998)</b>	<b>(3,562)</b>	<b>16,707</b>
Taxation on ordinary activities	-	-	-	-	-
<i>Tax rate (%)</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Income from discontinued operations (AOGI)	1,894	(7,202)	-	-	-
<b>Profit/(loss) after taxation</b>	<b>(429)</b>	<b>(16,881)</b>	<b>(2,998)</b>	<b>(3,562)</b>	<b>16,707</b>

Source: Company data, Arbutnot estimates

**Table 8: Statement of financial position**

<b>As at December (€000)</b>	<b>2009A</b>	<b>2010A</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>
Oil and gas costs pending determination	40,210	56,511	108,517	136,955	203,775
Other intangible assets	23	16	16	16	16
Property, plant & equipment	4,999	178	0	0	0
<b>Non-current assets</b>	<b>45,232</b>	<b>56,705</b>	<b>108,533</b>	<b>136,971</b>	<b>203,791</b>
Inventory	3	0	0	0	0
Trade and other receivables	4,650	10,977	10,977	10,977	8,955
Cash and cash equivalents	13,989	114,729	66,969	34,969	0
Assets in disposal group classified as held for sale	0	9,020	0	0	0
<b>Current assets</b>	<b>18,642</b>	<b>134,726</b>	<b>77,946</b>	<b>45,946</b>	<b>8,955</b>
<b>Total assets</b>	<b>63,874</b>	<b>191,431</b>	<b>186,479</b>	<b>182,917</b>	<b>212,746</b>
Trade and other payables	3,403	13,163	13,163	13,163	23,881
Financial liabilities	635	1,241	1,241	1,241	1,241
Liabilities in disposal group classified as held for sale	0	1,954	0	0	0
Overdraft facility	0	0	0	0	2,405
<b>Current liabilities</b>	<b>4,038</b>	<b>16,358</b>	<b>14,404</b>	<b>14,404</b>	<b>27,526</b>
Financial liabilities	1,621	0	0	0	0
<b>Non-current liabilities</b>	<b>1,621</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Capital and reserves</b>					
Called up equity share capital	15,498	30,350	30,350	30,350	30,350
Share premium account	65,856	183,406	183,406	183,406	183,406
Equity share options reserve	2,124	2,295	2,295	2,295	2,295
Exchange translation reserve	-9,479	-8,313	-8,313	-8,313	-8,313
Other reserves	3	3	3	3	3
Retained earnings/(deficit)	(15,787)	(32,668)	(35,666)	(39,228)	(22,520)
Shareholder's equity	58,215	175,073	172,075	168,513	185,220
<b>Total equity</b>	<b>58,215</b>	<b>175,073</b>	<b>172,075</b>	<b>168,513</b>	<b>185,220</b>
<b>Total liabilities &amp; equity</b>	<b>63,874</b>	<b>191,431</b>	<b>186,479</b>	<b>182,917</b>	<b>212,746</b>

Source: Company data, Arbutnot estimates

**Table 9: Statement of cash flows**

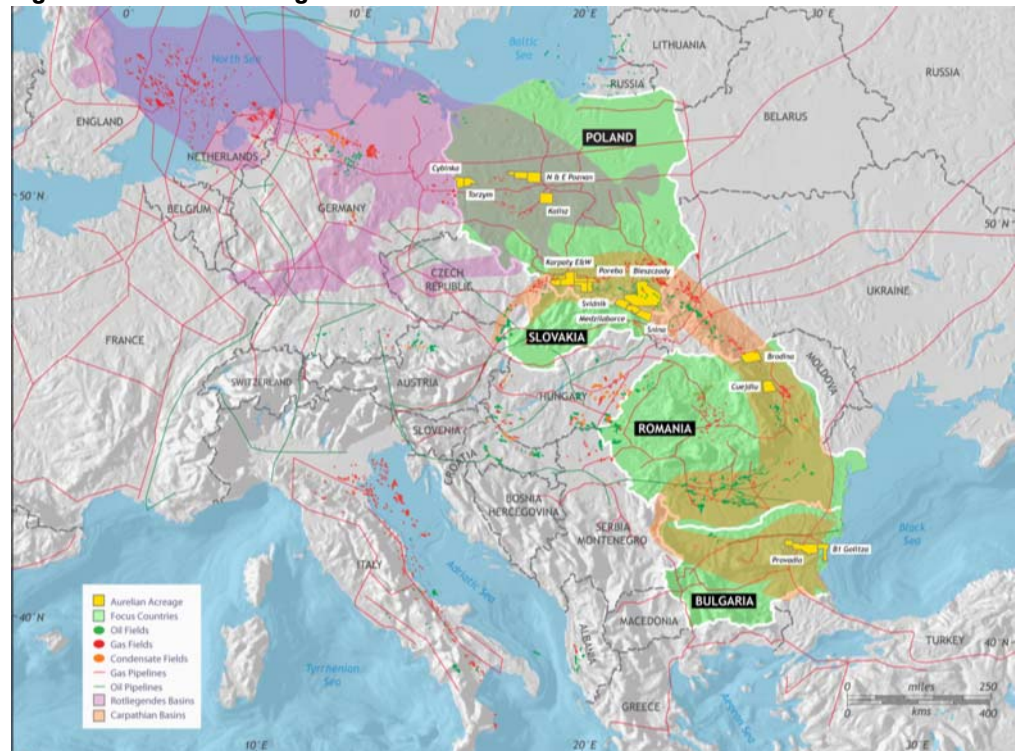
<b>Year ended December (€000)</b>	<b>2009A</b>	<b>2010A</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>
<b>Loss after tax for the period</b>	<b>(429)</b>	<b>(16,881)</b>	<b>(2,998)</b>	<b>(3,562)</b>	<b>16,707</b>
Finance income	(86)	(1,078)	(1,616)	(836)	(718)
Finance expense	495	1,784	20	20	20
Other operating income	(43)	(66)	216	-	-
Tax charge for the period	6	3	-	-	-
Share based payments	394	170	-	-	-
Expensing of exploration costs	92	4,627	100	100	100
Provision on measurement of assets held for sale	-	7,815	-	-	-
Depreciation & amortisation	1,522	851	2,372	4,162	4,672
Impairment credit on oil and gas development costs	(1,005)	-	-	-	-
Exchange differences	(210)	258	-	-	-
Decrease in inventory	3	-	-	-	-
(Increase)/decrease in trade and other receivables	2,614	(7,290)	-	-	2,022
Increase/(decrease) in trade and other payables	(1,411)	1,541	-	-	10,718
Waiver of loan on settlement of exit of farm-in partner	(402)	-	-	-	-
Cash (used in)/generated from operations	1,540	(8,266)	(1,906)	(116)	33,521
Finance income	-	-	1,616	836	718
Finance expense	(487)	(92)	(20)	(20)	(20)
Taxation	(6)	(3)	-	-	-
<b>Net cash used in operating activities</b>	<b>1,047</b>	<b>(8,361)</b>	<b>(310)</b>	<b>700</b>	<b>34,219</b>
<b>Cash flows from investing activities</b>					
Purchase of tangible non-current assets	(238)	(349)	(48,300)	(26,700)	(65,592)
Purchase of intangible non-current assets	(8,242)	(19,912)	(6,000)	(6,000)	(6,000)
Disposal of assets	-	-	-	-	-
Contribution to past exploration costs	2,417	-	-	-	-
Interest received	92	397	-	-	-
Disposal of licences	-	-	6,850	-	-
<b>Net cash used in investing activities</b>	<b>(5,971)</b>	<b>(19,864)</b>	<b>(47,450)</b>	<b>(32,700)</b>	<b>(71,592)</b>
<b>Cash flows from financing activities</b>					
Proceeds from issue of ordinary shares	12,823	132,402	(0)	-	-
Ordinary share issue costs	-	-	-	-	-
Issue of convertible loan stock	-	-	-	-	-
Long-term borrowings introduced	-	-	-	-	-
Repayment of Gemini loan	(247)	(509)	-	-	-
Finance arrangement costs	-	(500)	-	-	-
<b>Net cash flows from financing activities</b>	<b>12,576</b>	<b>131,393</b>	<b>(0)</b>	<b>-</b>	<b>-</b>
<b>Increase in cash and cash equivalents in the period</b>	<b>7,652</b>	<b>103,168</b>	<b>(47,760)</b>	<b>(32,000)</b>	<b>(37,374)</b>
Translation difference	318	(766)	-	-	-
<b>Cash at the beginning of the year</b>	<b>6,019</b>	<b>13,989</b>	<b>114,729</b>	<b>66,969</b>	<b>34,969</b>
Classified as held for sale	-	(1,662)	-	-	-
<b>Cash/(overdraft) at the end of the year</b>	<b>13,989</b>	<b>114,729</b>	<b>66,969</b>	<b>34,969</b>	<b>(2,405)</b>

Source: Company data, Arbutnot estimates

## Appendix 1: Asset overview

There are currently 221 E&P licenses granted in Poland, of which Aurelian holds 21. We summarise the company's core assets below.

**Figure 12: Aurelian acreage**



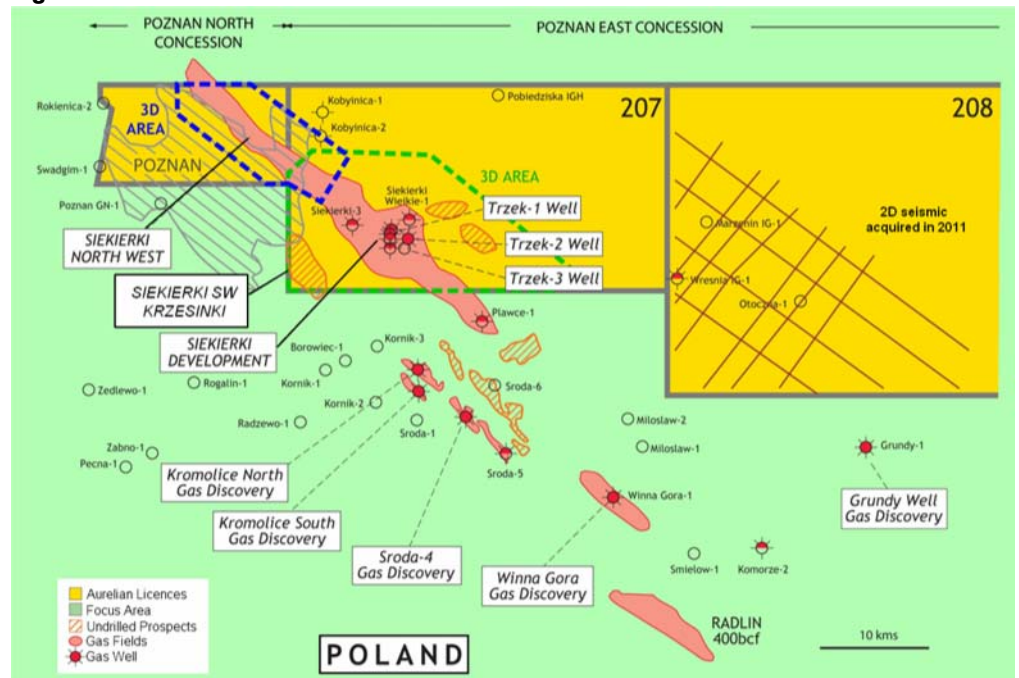
Source: Company

### Core area 1

#### Poznan

The Siekierki field was originally discovered over 40 years ago close to the city of Poznan, but the tight reservoir was found to exhibit low porosity and permeability, which meant commercial flow rates could not be achieved with the technology available at the time. Aurelian was awarded the Poznan East licence in 2003 and drilled the Trzek-1 well in 2007 to appraise the field, confirming the original findings but providing improved quality reservoir data using modern technologies. Significantly, the well flowed at an initial 7.5mmcf/d before being choked back to a stable 2.5mmcf/d. Aurelian's latest CPR estimates 640bcf net to the company on a mid-case scenario (including Siekierki SW and Siekierki NW) representing this largest asset, by confirmed resources, in the company's portfolio.

**Figure 13: Poznan blocks**



Source: Company data

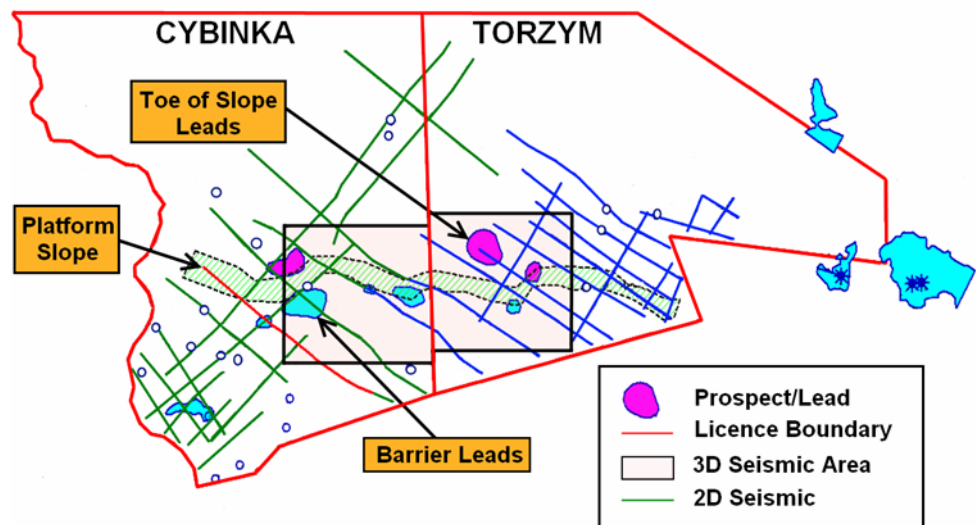
Annual production is forecast to take place from Q4 2012 at a rate of 15mmcf/d and ramp up to 100mmcf/d from 2016.

**Cybinka and Torzym**

Located near the German border and acquired in 2008

These fields are located nearby to the German border and were acquired in 2008. They link to recent oil discoveries in the north, and the basin extends from the prolific UK North Sea. Existing data are being evaluated and have been followed by 3D seismic. The combined volume of hydrocarbons net to Aurelian is 34mmmbbls and the company anticipates starting drilling in Q4 2011.

**Figure 14: Cybinka and Torzym geographical illustration**



Source: Company data

## Core area 2

Aurelian has continued to develop its second Core Area and has executed its strategy of applying modern 2D seismic to explore thrust fold areas. During 2010, the company successfully acquired 776km of 2D seismic across its acreage here.

### **Bieszczady**

In the Polish Carpathians, the first of a three well programme in the company's Bieszczady concession, Niebieszczany-1, was spudded in October 2010. The well is being drilled to target depth of 4,800 metres targeting an oil prospect of up to 100mmbbls (gross). A number of reservoirs, all of which are proven producers in the region, are being targeted by this well and there are several other similar-sized prospects on trend, which would be de-risked in the event of a successful outcome. Using existing 2D seismic data covering approximately 20% of the concession area, prospects totalling up to 680m barrels of un-risked prospective resources have been mapped. The acquisition phase of a second 300km 2D survey covering a further 20% of the concession size was completed in March 2011. The future work programme for the concession is to complete the processing and interpretation of this second 2D survey, and then, following the drilling and testing of Niebieszczany-1 and the reprocessing of the first 2D survey, prepare a revised prospect inventory and drill two further wells.

### **Kaparty**

At East Kaparty, the acquisition of 136km of 2D seismic has been completed. This survey will cover approximately 25% of the concession and the results of the survey are expected later this year. A two well, fully-funded programme is planned for the concession, with the wells being targeted for late 2011 and 2012. It is also anticipated that the company will seek further farm-outs on this acreage, after the drilling of the first or second well in the programme. Also in the Polish Carpathians, Aurelian has been awarded a 100% interest in the Poreba concession which is adjacent to the West Kaparty concession. This new concession gives the company additional scale and prospectivity to launch a new Carpathian Conventional Gas business covering 2,562km<sup>2</sup> which will target shallow gas to potentially commercialise quickly.

In addition, Aurelian's Lachowice Gas project on the West Kaparty concession is its first project in this new business where it will carry out a relatively low cost "work over" process targeting a prospect of 20bcf (gross) and target first gas by the end of 2012.

### **Svidnik, Medzilaborce and Snina**

In the Slovakian and Romanian Carpathians, Aurelian is continuing to make encouraging progress. In particular, in the Svidnik concession in Slovakia, a further 150km of 2D seismic was acquired during the year, with the interpretation of the results expected later this year. Further seismic is planned in the Slovakian Medzilaborce and Snina concessions during 2011 and 2012. This is a highly prospective area with surface oil seeps evident and Aurelian plans to drill one well in H2 2011 and then two further wells in 2012 and 2013. There is significant exploration potential in this area and in addition to the 816bcf (gross) prospect that the company is looking to drill in the second half of 2011, further leads totalling 750bcf(gross) have been identified.

### **Cuejdiu and Brodina**

At Cuejdiu in Romania, 130km of 2D seismic was acquired during 2010 and early interpretation has identified three 50-100mmbbls (gross) oil leads. The final interpretation of this seismic should be complete by Q3 2011, with one well to be drilled on the concession in H1 2012. At the Brodina concession in Romania, an appraisal well is planned for this year to facilitate the company's understanding of the extent of its existing Voitinel discovery.

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**Two well, fully-funded programme planned for the concession**

## Appendix 2: Risks

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### Development risk

The central Siekierki field contains an estimated 385bcf (640bcf including Siekierki NW and SW) of contingent gas resources, net to Aurelian, which represents a substantial proportion of the company's current value. Failure to validate these estimates, either due to the reservoir containing lower volumes of resources than first estimated, or due to the complexity and cost of producing economic amounts of gas from the reservoir, could have a significant detrimental impact on the future value of the company.

Planning for projects such as Siekierki also requires long lead times for both sourcing equipment and obtaining permits. Delays in either of these activities can impede the completion of such projects and potentially have a detrimental impact on the company's valuation.

### Commercial risk

Aurelian has entered into long-term contracts for the sale of gas from Siekierki. If a default arises on behalf of the purchaser, then the impact to Aurelian may be detrimental. If Aurelian was not able to source an alternative buyer and agree similar or better terms than those currently agreed, the long-term commercial viability of the company may be called into question.

### Macro-economic environment risk

#### Commodity prices

Although Poland is heavily gas-import-dependent, the global gas market is in a state of oversupply. On this basis, wholesale global gas prices may decline, which may have a direct impact on Aurelian by placing further pressure on the company's margins, which have already been diminished by costly tight gas development and production. Nevertheless, this may be somewhat mitigated by the Polish government's reluctance to remain dependent on Russian gas, and its willingness to pay higher wholesale prices to domestic players for unconventional gas.

#### Russia

Russia is closely monitoring the progress of unconventional gas exploration and development. In 2009 unconventional sources of gas ensured that the US surpassed Russia in terms of gas production for the first time since 2001. As such, Russia, and particularly Gazprom, has been highlighting the environmental issues resulting from unconventional gas exploration in the US. This is a clear risk for Aurelian, as currently there is limited regulation in Europe covering unconventional gas exploration and development. Should the powerful Russian government apply enough pressure, there is the potential for increased environmental legislation being implemented which may prove too costly for smaller players such as Aurelian to viably continue with their operations in an economical way.

### Environmental risk

Aurelian's involvement in the development of unconventional gas resources involves the use of large amounts of water and chemicals in carrying out the necessary fracture stimulation processes for tight gas. As such, significant care is required both in the carrying out of these processes and the subsequent disposal of waste products created from them. Chemicals used in hydraulic fracturing have proved controversial due to the potentially dangerous effect they can have on water supply by way of contamination. The risk in Poland is exacerbated where there is a reasonably high population density especially given the proximity of the Siekierki gas field to urban areas such as Poznan.

**Competition risk**

Many large global producers have secured acreage in Poland to take advantage of the considerable gas reserves in the country. Most notably, ConocoPhillips, Exxon-Mobil, Marathon and Talisman Energy have a presence in many of its regions, as do smaller players such as San Leon Energy, which provide direct competition with Aurelian. Therefore, although Aurelian has first-mover advantage in the country, the company does not have the same level of technological experience and financial resources as its more established peers. This not only highlights risks around the facilitation of costly exploration and development, and resilience to fluctuating gas prices, but also the Polish government's preferred choice of domestic supplier may focus on larger companies. A key advantage for Aurelian is its 90% interest in the Siekierki field; however, with first production still 18 months away, there is the potential for larger companies to move quickly to secure lucrative contracts with the Polish government and neighbouring countries.

**Political climate and fiscal regulation risk**

The company is active in several European markets and may be affected by any changes in fiscal policy in respect of these markets. Currently, tax rates on oil and gas activities in the countries in which Aurelian operates are not onerous. A significant change in those rates could impact materially on the company's financial condition and operating results, and subsequently its valuation.

## Appendix 3: Management

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### **Rowen Bainbridge, Chief Executive Officer**

Rowen Bainbridge joined Aurelian as chief executive officer in July 2009. He has over 22 years of experience across the energy and petrochemicals sectors. He started his career as a graduate trainee with ICI and held roles in marketing, commodity trading and risk management at RWE, Centrica and Fletcher Challenge. He joined BHP in 2000 and held a number of senior roles in finance, strategy and business development, culminating with his appointment as vice president, Market Development, BHP Billiton Petroleum. In 2006 he became chief executive officer of Ferrexpo Petroleum, exploring and appraising deep tight gas reservoirs in the Ukraine, establishing production operations there in 2007. In 2009 he founded Warrior Energy Resources LLP as a private equity-backed vehicle to acquire and develop underperforming oil and gas assets in Eastern Europe and the FSU. He holds a BSc Hons in Civil Engineering from Loughborough University and an MBA from Durham University.

### **John Conlin, Chairman, Independent Non-executive Director**

Mr Conlin is a petroleum engineer and has over 34 years' experience in the oil and gas industry; spending 28 years at Shell in various senior management and operational positions. During that time he also gained significant experience outside Shell through secondments to Maersk, Woodside, Sakhalin Energy and Exxon Mobil. He was also Head of Petroleum Engineering for the Central North Sea with Shell Expro, where he gained extensive exposure to the Rotliegendes play types which form a core part of Aurelian's business. He has served as a non-executive director at Hardman Resources and Delphian Technology and was chairman of Fulture Limited. He is currently chairman of AIM-listed Nautical Petroleum. He holds a BSc (Hons) from Edinburgh in Chemical Engineering/ Mathematics and completed the Advanced Management Programme at Harvard and the Shell Strategic Leadership Programme at INSEAD. John Conlin joined the board in March 2010 and became chairman at the conclusion of the 2010 Annual General meeting.

### **Mark Reid, Chief Financial Officer**

Mark Reid joined Aurelian in September 2009. He has over 20 years of experience in investment banking and financial services. He joined Aurelian from the London office of BNP Paribas Fortis where he was head of Oil and Gas. He has also held senior positions in the Oil and Gas team at National Australia Bank and in Ernst & Young's corporate finance division where he spent eight years providing M&A and corporate finance services to clients globally. He is both a member of the Institute of Chartered Accountants of Scotland and a Fellow of the Chartered Association of Certified Accountants. He holds an MBA (Distinction) from Strathclyde University and is a Member of the Chartered Institute for Securities & Investment.

### **John Smallwood, Exploration Director**

John Smallwood was appointed to the Board on 20 April 2011 and formally assumed his executive responsibilities as Exploration Director on 13 May 2011. He spent 15 years with Hess Corporation, culminating in leadership roles in its global exploration and business development functions. He recently completed a successful four-year tenure as Exploration Manager in Australia, during which time his team made 17 discoveries. He has also had success with Hess Corporation in the North Atlantic Margin, Africa and Asia. He holds a degree in Geological Sciences and a Ph.D. in Marine Geophysics from Cambridge University.

## Appendix 4: Valuation methodology

Petroleum companies are valued in terms of their portfolio of exploration and production assets. Our overall target price comprises a core valuation for the producing and near-term production assets and a risked net asset value (RENAV) for the exploration assets.

### Exploration

Prior to drilling, a huge amount of work has been done to de-risk a prospect. We apply a simple arithmetic approach to attempt to value such prospects ahead of drilling. The calculation is:

$$\text{RENAV} = \text{gross resource estimate} \times \text{company interest} \times \text{chance of success} \times \text{NPV/bbl}$$

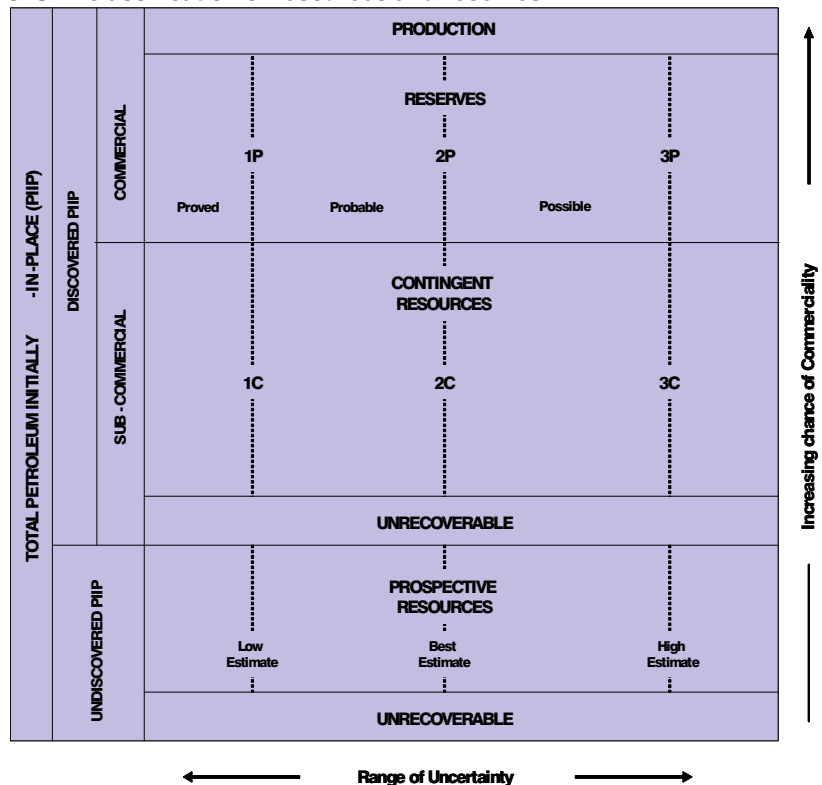
The company provides most of this data; the chance of success (CoS) is probably the most important factor and is very company- and country-specific. Some companies are better at exploration than others. Also, some countries have more hydrocarbons than others. The CoS tends to be higher in mature exploration than in frontier regions.

The NPV per barrel varies from country to country and reflects the prevailing fiscal terms and transaction values on a per barrel basis.

### Production

We write an operational model for the company's producing assets. This reflects historical data and our assumptions for the future. We model production, prices and costs and overlay the fiscal terms of the country where the asset is located. From this model we derive a DCF which we then use to value the asset. See the valuation section for the assumptions used for this company.

Figure 15: SPE classification of resources and reserves



Source: SPE

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Our analysts award a Strong Buy rating in those cases where they believe there will be total shareholder return - defined as the absolute rise in share prices plus dividend payment - in excess of 20% over a 12-month period. We assign a stock a Buy recommendation where our analysts believe there will be a total shareholder return of 10% or more over a 12-month period. We apply a Neutral recommendation where we anticipate a shareholder return of between plus 10% and minus 10%. We assign a Reduce recommendation where we anticipate a shareholder return of between minus 10% and minus 20%. Our Sell recommendation implies an expected shareholder loss over a 12-month period of 20% or more. Analysts have assigned a 'trading view' to stocks that they think might move materially within the following ten trading days; possibly in response to a move in currency, sentiment, or a specific event. The trading view is a short-term suggestion and does not contradict the 'recommendation'.

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Darren Winter      020 7012 2042

Chris Morris      020 7012 2037

Jonathan Clements      020 7012 2044

Alexandra Clement      020 7012 2036

**Sales trading**

Paul Kersey (Head of Sales Trading)      020 7012 2030

Lisa Letham      020 7012 2029

Mark Barnes      020 7012 2019

Michael Harrison      020 7012 2031

**Trading**

Bobby Tipping (Head of Trading)      020 7012 2017

Andy Lewis      020 7012 2028

Edward Malone      020 7012 2027

Majid Haq      020 7012 2060