NB: This document is only intended for individuals in jurisdictions where the distribution of this type of information is unrestricted. Not for distribution in the US. The author is biased and holds long positions in Africa Oil, Africa Energy and Eco Atlantic. Shares are risky securities and can both rise and fall in value. Do not buy shares based on individual tips, buying advice or rumors. Do your own due diligence. The author reserves the right for factual and writing errors.

Join the Facebook group Africa Oil investor group: https://www.facebook.com/groups/1406968422792469/

CRASH COURSE IN AFRICA OIL

February 5 2020. The purpose of this document is to provide an overview of what Africa Oil is, the company's history and what is expected to happen in the coming year. Furthermore, inspiration is given to how one can value the company's various parts yourself.

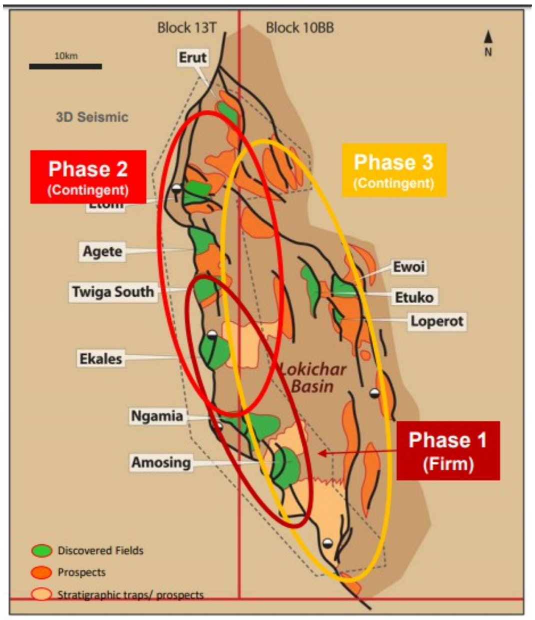
WHAT IS AFRICA OIL?

Africa Oil is an oil prospecting company and since this year oil-producing listed company, ticker AOI on the Stockholm Stock Exchange and the Toronto Stock Exchange. The stock is an exciting investment case then:

1) There have been recent events in the business which impact the market may have underestimated.
2) The share has long been adversely affected by, deserved or not, a crisis of confidence in the management. This can now face a turning point.
3) The company is facing a series of possible “triggers” during 2020 that can drive the share price.

THIS HAS HAPPENED

If we go back a decade to 2010, Africa Oil is without oil reserves or production. The aim is to drill blocks 10BB and 10A in Kenya. A 50 percent Tullow Oil farmout is announced this year. The remaining 50 percent is now held by Africa Oil or companies that will later be incorporated into Africa Oil. In 2011, preparations are being made for the exploration program in Kenya. In 2011, the share fluctuates between SEK 8-14. The program starts in early 2012 and the first oil discovery, Ngamia, is announced in March. At the end of 2012, discovery number 2, Twiga, is presented. Then the stock is north of SEK 70 and the oil price around USD 100. A string of new discoveries follow. At the end of 2015, Maersk Oil acquires half of Africa Oil's interest in Kenya. The purchase price is USD 427 million plus conditioned addons of USD 480 million (carry of development, depending on when first oil occurs etc.)[1]. The timing is perceived by the market as somewhat unfortunate as the price of oil has then fallen to USD 40. In the middle of 2016, a 2C resource update will bring the known reserves in Kenya to add up to 753 million barrels (with a 3C of 1.6 billion barrels)[2].



Field	Unrisked GROSS 2C Estimate Millions of barrels ("mmbo")[2]
Development Pending	
Ngamia	296.7
Amosing	151.1
Ekales	104.5
Etom	96.9
Twiga	86.7
Agete	17.9
TOTAL	753.7

Source: Africa Oil

Following this resource update discoveries on prospect Erut (25 m net pay) and Emekuya (75 m net pay) are announced. The JV partners believe that at this time, it is not worthwhile to look for more reserves until the

[1] https://news.africaoilcorp.com/releases/entry/122515
[2] https://news.africaoilcorp.com/releases/entry/122510

process of obtaining approval, pipeline planning, etc. by the Government of Kenya to reach the Final Investment Decision. In the meantime, an Early Oil Pilot Scheme is being launched, which means lifting and transporting 2,000 barrels of oil a day on trucks to an oil depot on the coast. The project now encounters a number of bureaucratic and political obstacles. The management recognizes that the development of production facilities and pipeline may be significantly delayed.Therefore they are now seeking to get the capital from the Maersk farmout to work by finding new exploration projects as well as production which can finance exploration.

As it takes time to find and obtain new prospectuses with direct interests, Africa Oil are now taking a portfolio approach where they buy into other exchange traded and private oil exploration companies. At the end of 2017, they buy into Eco Atlantic (with interests in Guyana and Namibia) and now hold 19%. In the spring of 2018, its holdings in Africa Energy (South Africa, Namibia) is increased to 35% and in Impact Oil and Gas (Namibia and South Africa) a position of 30% is taken.

However, these investments only put a relatively small portion of the cash assets to work. Africa Oil now wants to buy into already producing assets to take advantage of continuous cash flows, which in turn can finance future exploration. The opportunity comes when Petrobras has to sell its 50 percent stake in POGBV, which owns 8 and 16%, respectively, in two producing offshore blocks in Nigeria. Africa Oil is taking a 25% stake in a consortium otherwise consisting of Vitol and Delonex and the deal is announced on October 31, 2018. The deal now only needs approval by the Nigerian authorities. Nothing happens in a year and it is speculated as to whether the Nigerian authorities opposed the deal and is trying to improve the state take. This adds to the growing mistrust of Africa Oil's management's ability to create shareholder value and Kenya's ability to create conditions for FID, which means that the share from the beginning of 2017 goes from SEK 18 to in 2018 and 2019 to fluctuate between SEK 7 and 10, which basically is below the value of the cash holdings and equity portfolio. Positive press releases make the share price to twitch slightly while it subsequently slowly erodes.

In November 2019 it is announced that Vitol and Delonex withdraw from the POGBV deal and that Africa Oil's share increases from 25 to 100%. No cause is disclosed, but speculation is that the deal will not go close, alternatively that changed tax conditions is making the deal less profitable. This quadrupling of the share of the deal has a weak initial effect on the share price. After a couple of weeks, the share is back at the same level as before the press release. However, on January 14, 2020, the press release states that the deal is approved. The stock has the days before the announcement started to move upwards and peaks in excess of SEK 12 the day after the press release. Since then, the share has once again slumped below SEK 9,70 SEK (end of day Feb 3, 2020).

The recent decline can be explained by the fact that Tullow Oil, operator and partner with 50% ownership in Kenya, is facing financial problems, partly in the form of big debt and lower production than expected. They now want to focus on projects that provide cash flow in the short term and then sell off parts of the exploration portfolio. Tullow Oil has said that it wants to get rid of its interest in Kenya and together with Total (which now owns the 25% Maersk interest) has now gone on the market in a joint attempt to sell these. This will likely lead to the Final Investment Decision for Kenya being delayed further. On the other hand, onn pro of these events would be that the Kenya project, to which the market assigns no value at all, in connection with a sale of Tullow's and Totals' interests may receive a valuation.

Tullow Oil's financial problems also have an impact on Africa Oil's portfolio company Eco Atlantic and to a lesser extent Africa Energy. Tullow Oil is the operator of the Guyana block “Orinduik”. Previously anticipated drilling program for two to three drills in 2020 may be postponed. After reporting two successful drills in a row, Jethro and Joe, the JV partners have found the oil in these is of poorer quality (low API and high sulphur), which makes the market speculate that these fields are not commercially viable. Therefore,it is important for Eco's valuation to carry out drilling on its prospects in the deeper Createaceous geolayers (Jethro and Joe are finds in the Tertiary). For Africa Energy's Tullow operator is on their block PEL37 in Namibia, where they drilled a dry hole in the prospect Cormorant. There are three more named prospects on that block but no drilling will be done there until drilling on surrounding blocks has derisked these prospects.

OTHER

In addition to Nigeria, Kenya and the three portfolio companies, Africa Oil has entered a 20% farmin on block 3B/4B in South Africa. The information on this is scarce but a number of leads have been identified from existing 3D seismic. Furthermore, Africa Oil has been allocated block EC-18 in Equatorial Guinea[3]. There ha not been any official press release mentioning this.

---

[3] https://egronda.com/oilandgas/

VALUATION

The following calculations are gross simplifications and made with a number of assumptions. They should only be seen as illustration and inspiration for your own calculations.

A starting point for the valuation of Africa Oil are the target price stock analysts have set. Renaissance Capital begins monitoring with a target price of SEK 13.50 (2020-01-28). Sparebank 1 raises its target price to SEK 20 (2020-01-15). Pareto Securities adjusts its benchmark price to SEK 17 (2020-01-24). Noteworthy is that Pareto's previous target price of SEK 16 from 2019-10-17[4] is from BEFORE the announcements of Africa Oil taking 100% of the POGBV deal and the government approval of the deal.

NIGERIA

The Nigeria deal was done with a so-called lock box, ie all dividends from 2018-01-01 paid out from POGBV to Petrobras was deducted from the final payment. USD 1030 million was deducted in this way from the final purchase price which ended up at USD 519.5 million[5]. Of these, $ 250 million was funded by a bridge loan from BTG Pactual. The exact terms of this loan are not disclosed.

During 2019 Africa Oil's share of existing production in the Agbami, Akpo and Egina fields amounted to 33,600 barrels per day. It is reasonable to assume that production for 2020 will end up in the vicinity of that. The natural fall in production from the mature Agbami and Akpo fields is partly offset by the fact that Egina, a field that started in early 2019, reached maximum production some time in the year.

2020 production is 95% hedged at USD 66 / barrel. This means that in the short term Africa Oil is relatively insensitive to price fluctuations, for example due to Coronavirus fear. Operating netback is estimated at 50 USD / barrel.

With this we can make some simple estimates. Let's start with cash flow. $ 1030 million was paid over two years to Petrobras in the lock box. Arithmetically it amounts to USD 515 million in one year. If this holds for 2020, the cash flow per share is 515,000,000 times 9.65 (USD/SEK) divided by 471,000,000 shares = SEK 10.55. Here we overlook the fact that production was higher in 2019 than in 2018 due to the go live of Egina field.

If, instead, one expects production of 33,600 barrels per day times the expected operating netback of 50 USD/barrel, the annual cash flow per share will be 12.55.

How does operating netback relate to profit margin? This is the main black box of this article. This depends on ho and when they can deduct previous expenses, what the tax situation actually looks like aso. The situation will surely crystallize as of the interim report on 25 February. If we take a cautious stance and assume Africa Oil will retain 30% of operating, that would mean a profit per share of SEK 3.77 per share. That would give a P/E figure of just 3. Twice as high would not be unreasonable and would result in a share price of SEK 23, only for Nigeria.

If the present value is calculated with a profit margin of USD 15/barrel (adjusted for an inflation of 2%/year) applied to the production on each field, with an annual production reduction of 10% per year, production per field until the 2P resources are exhausted (on average around 2033) and using a discount rate of 10% we arrive at a value of SEK 22 per share.

A third way to evaluate oil deposits is to take the 2P resources, probable recoverable barrels in the soil, and apply a standard value to these. Reserves without existing production facilities usually get a value of USD 5-8/barrel, depending on the expected cost of production, tax regime, etc. Reserves with ready-made infrastructure for production, in turn, receive higher value. According to a press release Africa Oil's share of Nigeria's 2P resources was 80.6 million barrels at year end 2019. This does not include the undeveloped Preowei field, nor Egina South. Preowei has 2C resources of 300 million barrels gross[6]. For Egina South, there is a figure of 41 million barrels, but these are probably 1C resources. Let's say 350 million barrels times 16% times 50% = 28 million barrels for Africa Oil. Together with existing 2P resources that adds upp to 108.6 million barrels. Although it requires capex to start production from the new fields, existing FPSO facilities will be used. 108.6 million barrels times USD 10/barrel times 9.65 divided by 471 million shares gives a value of SEK 22.25 per share.

---

[4] https://www.paretosec.se/pareto-tv-1?itemId=Aktuelt:926

[5] https://www.energyvoice.com/oilandgas/africa/218078/petrobras-finally-out-of-africa/

[6] https://www.investidorpetrobras.com.br/enu/14733/Teaser-Oportunidade-em-aguas-profundas-na-Nigeria-Ingles.pdf

Final investment decision for Preowei will be made in Q4 2020. Preowei is expected to contribute 70,000 barrels / day gross (5,600 net to Africa Oil) after production start in 2022.

KENYA

The reserves in Kenya were, until recently,when the Nigeria business quadrupled and then approved, the mainstay of Africa Oil's operations. The preparatory work to reach the Final Investment Decision - the acquisition of land, the drafting of laws, the distribution of income between the state and local areas in Kenya, FEED, etc. - has drawn out time. Before Tullow Oil's financial problems and their desire to withdraw from Kenya, FID was expected to be reached in the second half of 2020. The pipeline, with a capacity of 80,000 barrels a day, which will go from Turkana to the coastal city of Lamu, will take two years to build. It is therefore probable that production in Kenya can start at the earliest in 2023 and after ramp up, they produce the 80,000 barrels/day the pipeline allows. That would give 20,000 barrels net to Africa Oil.

The 2C reserve figure for Kenya recently used is 560 million barrels gross. This information origins from the operator Tullow Oil[7]. Africa Oil has previously published the figure of 753"+12"[8] + two oil discoveries that have not been estimated, could probably add up to 900 million barrels gross, 225 million net to Africa Oil. Keith Hill has also mentioned that with the unexplored leads in the fields there are twice as many barrels. The difference between Tullow Oil's data and Africa Oil may be due to the fact that in the negotiations with the Kenyan authorities it is desirable to keep the estimates down to obtain more favorable tax terms.

In the calculation of "barrels in the ground" I use Africa Oil's data of 765 million barrels times 0.25 times USD 5/barrel times 9.65 USD/SEK divided by 471 million shares. That gives a value of SEK 19.6 per share, or USD 956 million for Africa Oil's share in Kenya. When Maersk bought 25% of Africa Oil, their total purchase price under optimal circumstances would have added up $ 907 million (and the deal was done when the oil was lower than today).

With a quick present value calculation of future profit flows, assuming that Kenya produces 80,000 barrels/day linearly for the years 2023-2040 (gives a total production of 525 million barrels), a discount rate of 10% and an assumption that the oil price follows an inflation rate of 2% gives a present value of SEK 18.3 per share.

AFRICA ENERGY

Africa Oil owns 35% of Africa Energy. Africa Energy's market cap gives approximately SEK 1.5 per share in Africa Oil. Africa Energy's jewel is the Brulpadda deposit in block 11B/12B offshore South Africa, in which they own 4.9%. A large part of the block is undergoing 3D and 2D analysis, and an update is expected on the size of the Brulpadda discovery and estimates on the upcoming Luiperd and Blaasop prospect to be drilled this year. Furthermore, a "giant prospect" is being hinted at in the eastern part of the block and this could be the third exploration well this year. Prior to this update Brulpadda is estmated to somewhere between 500 and 1000 million barrels, which gives about 25-50 million barrels net to Africa Energy, which in turn with 35% ownership gives around 9-18 million barrels to Africa Oil. Applying a value of USD 5 per barrel would give a value of SEK 0.9-1.8 per share in Africa Oil. This only for Brulpadda. The probability of hits at Luiperd and Blaasop is set to exceptional 80-90%. These two fields have been estimated at >500 million barrels each and subsequently Garrett Soden has said that the 3D seismic shows that these prospects look larger than previously estimated. Adding the "giant prospect" in the eastern part, it is not unreasonable for the block to contain at least 2 billion barrels, which can be proved by the end of 2020. 2 billion barrels would mean 34 million barrels implicitly to Africa Oil, about SEK 3.5 per share.

Furthermore, Africa Energy has 90% in block 2B, an offshore block in South Africa with an existing deposit of 37 million barelst[9]. Africa Energy estimates that the field is commercial at 50 million barrels. Gazania is a prospect of 350 million barrels that Africa Energy would like to drill this year. The condition is that they can farm out a majority share to an operator who pays for the exploration. Africa Energy hopes to get such a deal through soon. Here, there are too many unknown parameters, but let's say that Gazania is a hit of 350 million barrels and Africa Energy still owns 30%, which would mean a value of SEK 3.7 per share in Africa Oil.

South Africa is believed to be a more optimal country to produce oil in. Tax conditions are favorable and the country is in desperate need of energy, which would accelerate the development of the deposits. Further-

---

[7] https://www.tullowoil.com/operations/east-africa/kenya

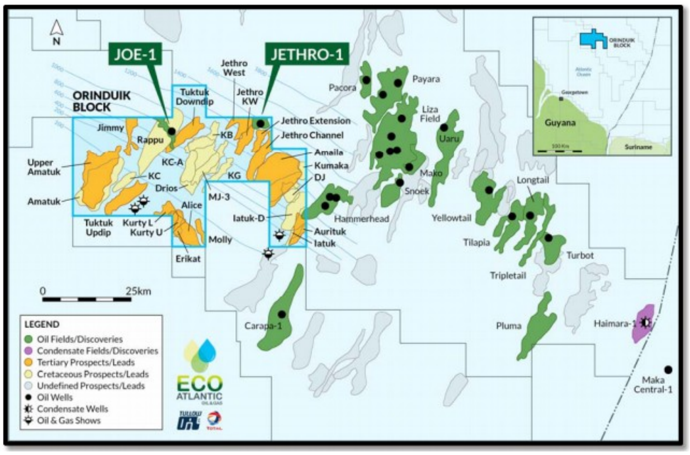
[8] https://www.africaoilcorp.com/s/reserves-resources.asp

[9] https://africaenergycorp.com/site/assets/files/3246/2018-11-block-2b-aow.pdf

more, there is an existing pipeline near Brulpadda, and the whole problem of land acquisition for the pipeline that Africa Oil has in Kenya is avoided. Garrett Soden says that Africa Energy has no ambition to become an oil producer. The assets must be proven through exploration and sold, either by block or the entire company. This within 12-24 months.

ECO ATLANTIC

Africa Oil owns about 18% of the oil exploration company Eco Atlantic. Eco has a 15 percent stake in an offshore block in Guyana, Orinduik and four blocks offshore Namibia. Orinduik is directly adjacent to the Exxon / Hess Stabroek block, with sixteen successful wells estimated at 8 billion barrels.



Source: Eco Atlantic/Gustavson

In 2019 Eco will start its drilling program in Guyana with Tullow Oil as operator. The first prospect Jethro is reported as hit August 12 and drives the share price from CAD 1.14 to 2.85. Th second drill Joe is also a strike September 16th. A few months later it is announced that the analysis of the oil from Jethro and Joe gives the oil is both heavy (low API) and sour (very high sulphur content)[10].The pending question now is whether Jethro and Joe are commercially viable at all. From Eco's side it is argued that the sources have both high temperature and high pressure, which would compensate for the oil being thick. It is also claimed that demand for heavy oil is high as there is a refinery with heavy oil as a specialty that has available capacity. The other side says that you can write off all Tertiary leads because it is likely that they also contain heavy oil and focus on Cretaceous prospect. In the all fresh Competent Person Report, published February 3, 2020[11] Gross prospective resources best estimate increased by 29 percent to 5,141 million barrels, of which 3,936 million barrels in Cretaceous. There are eleven leads in Cretaceous with around 30% probability of hits, of which four with over 500 million barrels each.

Tullow Oil has announced that the CEO was fired and that the company has financial challenges, which has put additional pressure on Eco Atlantic's share price. The likelihood of a drilling program for Orinduik in 2020 has decreased notably. One can hope that a stronger operator can take over Tullow's part of the license.

For the blocks in Namibia, Eco has the ambition to farm out to an operator that carries Eco's cost of exploration. Gil Holzman has expressed hope of presenting such a partner soon.

Tullow, Total and Eco Atlantic will hold an Operations Committee meeting in early February to evaluate results and determine budgets and times for upcoming drilling.

Eco Atlantic is currently trading at one third of the top quotation and Africa Oil's share of market cap is SEK 0.40 per share. Instead, suppose Eco could prove up half of the 4 billion barrels that the CPR says are in Cretaceous. That would give 300 million barrels to Eco and implicitly 54 million barrels to Africa Oil. Applying the value of USD 5 per barrel in the ground would give SEK 5.5 per share in Africa Oil.

IMPACT OIL AND GAS

Africa Oil has a 30 percent stake in privately owned Impact Oil and Gas. Since Impact is not a public company, the information flow is more limited than for other portfolio companies. Impact holds interests in licenses

[10] https://polaris.brighterir.com/public/eco_atlantic_oil_gas_plc/news/regulatory_news/story/rm5j3nw
[11] https://polaris.brighterir.com/public/eco_atlantic_oil_gas_plc/news/regulatory_news/story/rd0n1px/export

in offshore blocks in Namibia, South Africa and AGC.

By far the most exciting asset is the 19% interest in the license outside Namibia where the Venus prospect is located. Keith Hill describes Venus as the biggest lead he has ever seen (multi billion barrel) and that it shows all the prerequisites for potential discovery. Total intends to drill Venus in the second quarter of 2020. Here we can play with the idea that a discovery of 2 billion barrels gross would give 114 million barrels implicitly to Africa Oil. With a value of USD 5 per barrel in the ground, it corresponds to SEK 11.7 per share.

The share that Africa Energy holds in Block 11B/12B of 4.9% is a 49 percent share in Main Street 1549 which holds 10% in the block. The other 51% is owned by Arostyle. Arostyle has financed its share through a loan from Impact. The terms of the loan are not disclosed except by the term “on risked return basis”. One can imagine that this means a higher interest rate due to higher risk-taking or that the lender Impact may profit from any positive outcome for Main Street (only the Brulpadda find should do so).

Impact also has 20% in block AGC Profond, where Chinese operator CNOOC intends to drill Gainde prospect in 2020.

SUMMING IT UP

Now we can combine the different parts and derive a motivated value for the whole business. In the first column a base case estimate of the value at the end of the year. The "super bull scenario" is highly speculative, assumping that everything falls into place for Africa Oil within a few years' time (but without any new business being added).

	Motivated value Dec 31 2020	Comment	**Super bull scenario**	Comment
Nigeria	22,00 kr		25,00 kr	
Kenya	19,00 kr		38,00 kr	Present value of Kenya containing twice as much oil
Africa Energy	4,00 kr	3 wells á 500'' barrels weighted with 80% CoS, reevaluation of Brulpadda and farmout block 2B.	5,00 kr	Block 11B/12B containing 3 billion barrels
Eco Atlantic	0,60 kr	Drill program commences early 2021 resulting in the share gaining 50%	13,40 kr	Orinduik proves up 4 billion barrels. Discovery of 500 million barrels i Namibia and 25% interest.
Impact Oil	2,50 kr	2,35 (20% CoS Venus) plus 0,15 (Arostyle loan)	11,70 kr	Venus discovery of 2 billion barrels.
Motivated value	48,10 kr		93,10 kr	
"Africa Oil discount"	-50%			
Share price	**24,05 kr**			

TRIGGERS

So to list all possible major and minor triggers for the share price of Africa Oil

Nigeria
1) Clarification of expected cash flows and conditions for the Nigeria deal and update of the oil reserves in connection with the full-year report for 2019 - 25 February 2020
2) Final Investment Decision for the Preowei field - Q4 2020

Kenya
3) Presentation of new partner taking Tullow's and Total's interest - During 2020
4) Final Investment Decision for the entire Kenya project - H2 2020

Africa Energy
5) Presentation of new 2D and 3D seismic and settled exploration plan 2020 - Q1 2020
6) Drill result Luiperd - Q2 2020
7) Drill result Blaasop - H3 2020
8) Drill result "eastern giant lead" - Q4 2020
9) Farm out of block 2B - after Q1 2020
10) Sale of block 11B/12B or sale of the entire company Q4 2020 or 2021

Eco Atlantic
11) Results of the Operations Committee meeting, budget and plan for upcoming drills - early 2020
12) Blocking in Namibia - 2020
13) Tullow divestment/new operator in Orinduik block - H2 2020

Impact Oil and Gas
14) Drill result Venus
15) Time set for drilling Gainde
16) Presentation of the terms of the loan to Arostyle

Other
17) Plan for block 3B / 4B South Africa
18) Plan for EC-18 Equatorial Guinea

Lastly

Join the Facebook group Africa Oil investor group: https://www.facebook.com/groups/1406968422792469/
Listen to Africa Oil CEO Keith Hill: https://youtu.be/1c-i20PG5LI
Listen to Africa Energy CEO Garrett Soden: https://youtu.be/liojJmz6OiA
Listen to Eco Atlantic CEO Gil Holzman: https://youtu.be/a2q62-vsC0E
Follow Jonas Wander-Levin on LinkedIn https://www.linkedin.com/in/cayoma/ or on Twitter https://twitter.com/ekp95jma

About the writer:
Jonas Wander-Levin has been professionally active in investment management systems for almost 20 years and has worked as a consultant with major asset managers such as the Norwegian Oil Fund, Abu Dhabi Investment Authority, Deutsche Bank, Swiss Life and ATP. Jonas holds a Master's degree in Financial Economics.