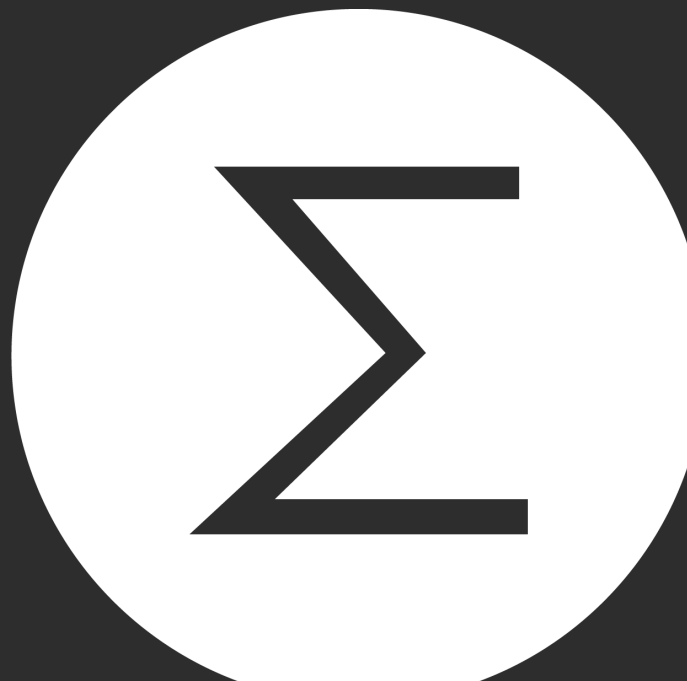


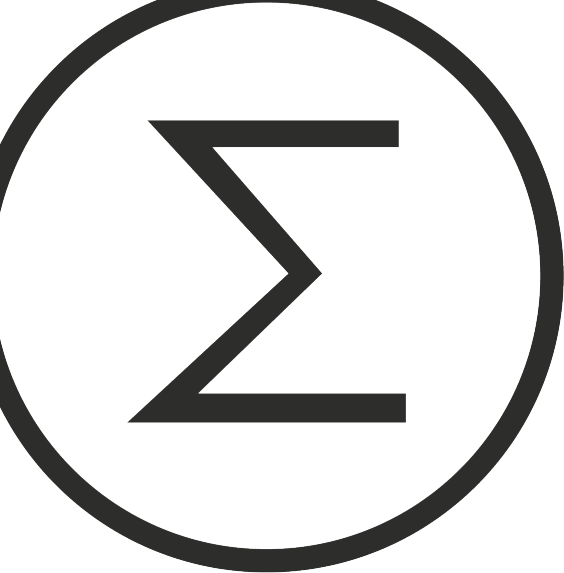


*URANIUM'S BULL RUN:
SUPPLY CUTS AND GLOBAL ENERGY
DEMANDS DRIVE OPPORTUNITY*

WILL THOMSON, MASSIF CAPITAL

MAY 28, 2020





ABOUT WILL THOMSON

Will Thomson is the Founder and Managing Partner of Massif Capital, LLC. Mr. Thomson has experience in private equity and credit/political risk insurance, in addition to having served as a strategic and economic adviser to NATO/ISAF in Afghanistan.

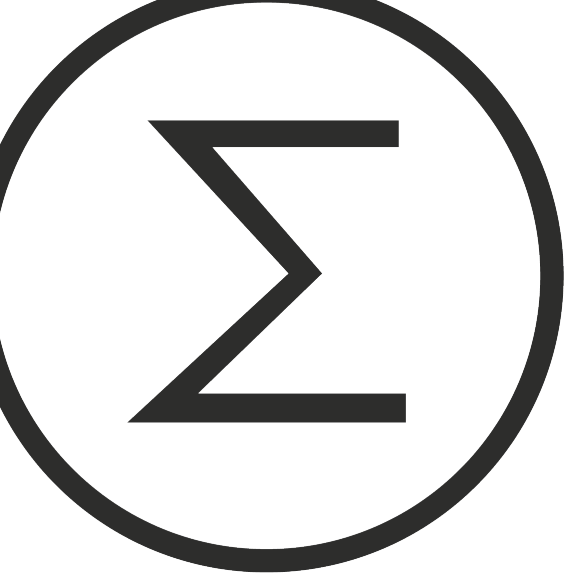
Before starting Massif Capital, Mr. Thomson worked in the New York office of Chaucer, a Lloyd's of London insurance syndicate, serving as the co-portfolio manager for a \$2.6 billion portfolio of credit and political risk insurance policies.

Mr. Thomson is a Graduate of Trinity College and holds a Masters in Government from Harvard University. Mr. Thomson is a member of Value Investors Club and has won or been a finalist in several investment contests including Sohn and the VanBiema Associates Small Cap Challenge hosted by SumZero. He is consistently ranked as one of the top analysts on SumZero.

ABOUT MASSIF CAPITAL

Massif Capital is a long/short equity fund focused on global opportunities in liquid real assets. The firm simplifies the complex process of investing in Basic Materials, Energy, and Industrial businesses, in a way that balances environmental and economic concerns, creating a unique portfolio that produces uncorrelated long-term capital appreciation.

The management team's work experience with governments in frontier markets, operational experience with growing energy companies, and time spent managing downside risk for project finance lenders gives them a unique edge in the crowded world of asset allocators. Massif utilizes a fundamental, bottom-up investment process that is historically informed and value-driven. Massif Capital's investment strategy provides its clients with: attractive full-cycle returns, downside protection against inflation and event-driven risk, and low correlation to major equity markets.



AVERY PAGAN, SUMZERO: *First off, Will, thank you for making yourself available for this discussion. You are a frequent contributor to our research community - currently our #2 ranked Energy Analyst - and a member of our Cap Intro community. Can you tell us a bit about your investing strategy at Massif Capital?*

WILL THOMSON, MASSIF CAPITAL: Absolutely. First off, let me just thank Sum Zero for its continued efforts to put our research, and that of many other emerging managers, in front of a wider audience. I know it has helped Massif Capital grow our business and I am sure it has done the same for many others. At a high level, Massif Capital runs a long-short equity portfolio that aims to have a roughly market neutral portfolio focused on opportunities in energy, basic materials and industrial firms.

The goal of the portfolio is to generate a net of fees return to our investors of 12% per annum over a complete market cycle. We accomplish the goal by maintaining a portfolio of investments which are diversified in terms of both risk/return profiles and expected investment timelines. We have found that having a mix of both can limit the impact of industry cyclicality, while maximizing the potential for the idiosyncratic company factors to drive returns higher.

Because of this goal, the portfolio is comprised of three different types of investments. First, companies that serve as ballast positions to the

portfolio. These are typical firms that are on the larger side, with rock solid balance sheets and a history of strong returns on invested capital over multiple market and commodity cycles. They have limited downside risk and long-term capital appreciation potential. The second type of investment we look for are positions with asymmetric return potential. These are companies like junior mining firms and renewable energy developers, businesses that we expect can generate a greater than 100% return on our investment in a period of 1 to 3 years. Finally, we like to mix in a few income positions. These are businesses with strong balance sheets, and modest capital appreciation potential that - when combined with a strong dividends - have a return potential that sits somewhere in-between a ballast position and an asymmetric return position.

AP: *Moving to the topic at hand, how did you get involved in uranium and what makes the sector appealing to a value investor?*

WT: As an investor I have been following the uranium industry for almost a decade, and what initially attracted me to the space was a combination of its importance to the broader economy and its opacity. As active managers we are always looking for sectors where we can have an edge. Many commodity-related industries offer managers the opportunity to invest with an edge due to the nature of the way the commodities are priced and sold.

The oil and natural gas market is an interesting market but it's on the front page of the newspaper every day. Having an edge or a unique insight that allows you to deploy capital with oil and gas is hard.

Uranium is very different, it's a contracted market and while uranium futures do exist, they don't really represent the price at which uranium is changing hands. The actual pricing of the commodity occurs via negotiations between utilities and suppliers. Knowing the industry requires knowing the players, engaging with a wide community of industry participants, and in the case of uranium mining, often traveling to places like Kazakhstan. It's not an

industry that a casual investor can easily invest in with confidence.

Another feature of the market we like is its small production base and limited customer pool. Without question there remains opacity in the secondary supply of uranium (meaning the supply of uranium stored in warehouses by governments, utilities and financial participants), but the number of mines and reactors in existence is relatively easy to track in comparison to say the copper market or gold market. As a result, we can get a much clearer picture of the supply demand balance and the capital cycle. These are both important pieces of information for cyclical investing, especially the capital cycle. Knowing who is investing in what projects and what the expected future supply of a commodity looks like can significantly enhance an investor's odds of success.

AP: *Who are the primary buyers and sellers in this space?*

WT: In terms of buyers, the only significant commercial use for uranium is as fuel in nuclear reactors for the generation of electricity. As a result, the only significant buyers are utilities. The United States has the largest number of reactors globally, and thus the largest global uranium demand, followed by France, China, Japan and Russia, all of whom have at least 35 reactors. In the case of Japan not all are operating. There are a total of 440 reactors globally according to the World Nuclear Association but that does not translate into 440 individual uranium buyers. Nuclear utilities tend to own more than one, but it gives you a sense of how small the market is.

The sellers (mining firms) are an even smaller group, comprised of a handful of producing miners, and historically, supply from decommissioned nuclear weapons. The concentration of supply has gotten extreme in recent years with **Kazatomprom** being the primary beneficiary of the weakness of other suppliers.

AP: *For those unfamiliar with the intricacies of the uranium market, can you explain the spot price versus long-term contract price?*

WT: The uranium market is primarily a contracted market, meaning utilities contract directly with mines to secure a certain amount of yearly off-take at a pre-agreed upon price, or with a pre-agreed upon pricing formula. There does exist a physical trading market, but it is small and opaque. There is no formal exchange upon which uranium trades, so in order to engage in spot market transactions you need to know who to call.

In terms of pricing, there are uranium price indicators, with emphasis being on the indication. Firms such as UxC, monitor uranium market activities and estimate what the spot price is based on what they are seeing in the market. The UxC price indicator is probably the best known because it serves as the settlement price of CME/NYMEX Uranium Futures, which are cash settled futures.

Long term price indicators, such as what the casual uranium observer might find on the Cameco website, take into account the spot price but then include various elements that would result in price escalation (time frame, quantity, origin specifications, etc).

Like many energy metals, uranium still exists in a market with price reporting, but no price discovery. I think it was the Cameco CEO who said that this past quarter and it's a good way of thinking about it. Many commodities trade in markets with sufficient transparency and transaction volume such that price discovery is possible. Uranium neither has the transaction volume nor the transparency needed for the market to have price discovery. Prices are negotiated on a case by case basis with some anchoring to various fundamentals and past public transactions that allows for the appearance of an orderly market that clears, when in fact it is neither an orderly market with regular transactions nor a market that clears in the absence of secondary supply.

AP: *Let's situate the story in today's climate. Uranium is one of the few commodities that has seen an enormous price lift since global lockdowns took effect earlier this year. The spot price recently cracked \$33/lb representing over*

32% YTD growth while many other metals are either stable or falling in price. What catalysts are contributing to this surge in the price of uranium?

WT: The easy and obvious answer is mine closures due to COVID-19 restrictions. The reality, though, is that the market has been slowly tightening for several years and the recent production curtailments represent a continuation of the ongoing process of market rationalization.

In 2018 and 2019, about 30 million lbs of primary production came out of the market as a result of mines being put into care and maintenance or just shut down. COVID-19 shut-ins have taken an additional 46 million pounds of annualized primary production offline. Last year, global demand was roughly 190 million pounds - a relatively stable demand profile going back to 2018, which means in the last three years, production equivalent to 40% of global demand has come offline. COVID-19 shut-ins do not represent a permanent loss of supply but they do represent a reduction in 2020 supply which will tip the market from balanced/tight into an outright deficit.

I think that there is also a growing recognition that the market for uranium is not just a market for the mined product. It's a market with a complex global supply chain and each stage of that supply chain has gotten weaker over the last decade. Take, for example, enrichment. There is only one place in the US to enrich uranium at the moment: the Urenco USA facility in New Mexico. This facility only has enough capacity to supply about one-third of the US enrichment demand, while the remaining two-thirds must come from facilities abroad, either in Russia or Europe. Unfortunately, Russian and European facilities also supply enrichment services to the rest of the world. If you want to enrich uranium for your reactor, odds are you have to wait in line.

For many years, the bear case for uranium has been the large "inventory" of uranium sitting on the sidelines. What has become increasingly apparent though is that not all inventory is created equal. It's not just a question of having inventory, but of having inventory in the right place and in the right form at the right time such that it can move through the

supply chain. Taking freshly mined uranium and turning it into reactor-ready uranium requires 16 to 18 months, sometimes longer. So, the fact that the inventory of above-ground uranium for reactors is said to be 800 million lbs (or 4 years' worth of demand) represents a simplistic understanding of the market and fails to capture the reality of what is involved in execution.

We are not mining enough uranium to meet demand, we do not have the supply chain facilities necessary to provide for a growing number of reactors globally, and there are currently 55 or so reactors under construction globally, potentially increasing the global reactor fleet by 13% over the next three to five years. Supply is decreasing, demand is increasing and although the significance of these trends has been building for a decade now, they are only now really starting to come to a head and be noticed by the market more broadly.

AP: *How will these drastic supply cuts apply pressure on utilities to re-contract and what does re-contracting mean for uranium producers and traders?*

WT: Hopefully, utilities start coming back to the market in force, but only time will tell. What we do know is that utilities are modestly supplied, at best, in the present and are significantly undersupplied going forward. In the recent past, physical uranium traders have played an important role in addressing the rolling near and mid-term procurement needs of utilities, but as the CEO of Kazatomprom recently noted, traders do not offer security of supply. This is especially true of a market like uranium where there is "price reporting" but no "price discovery", nor any obvious and regular source of primary uranium other than the miners.

As uncommitted inventories of uranium have shrunk in recent years, the ability to secure large volumes of uranium in the open market has decreased. On the third quarter call last year, the Cameco management team told investors that they had put out an RFP to buy 1 million lbs of uranium. Supply proposals came back but only for two thirds of their desired amount.

Management was told they were not giving sellers enough time to fill the spot demand. If they wanted to fill the entire order they would have to wait a few months to a half a year or more. Of course, it's not really spot then, is it?

UxC - a nuclear fuel consulting company that we tend to believe is overly bullish but directionally correct most of the time - believes there are 771 million pounds of uncontracted utility demand over the next ten years. If that is, in fact, true or even if it is just directionally correct and the spot market is drying up in the way that the Cameco story I just told suggests, utilities need to come back to the contracting market to not only secure the product they need but to incentivize new production. If they don't, they will have no choice but to shut reactors down.

AP: *There is justifiable discomfort with nuclear energy because of previous catastrophes like Chernobyl and Fukushima. However, nuclear also represents one of the few carbon-free base load energy sources in existence. How do you predict public sentiment around nuclear power evolving in future generations?*

WT: If we want to combat global warming in a timely way, nuclear likely plays a big role. For that to happen, that narrative must change.

In 2018, nuclear provided 10% of global electricity, yet it represented 40% of all the zero-emission electricity in advanced economies. Between 1970 and 2018, nuclear power provided ten times the zero emissions electricity of wind and solar combined. The fact of the matter is calling for 100% renewables in short order is a pipe dream. We do not have the technology to accomplish it. We might in the future, but climate change is a problem now.

Regarding people's discomfort with nuclear, I would push back against your claim that it is justified. It would be justified if what people thought they knew about Chernobyl and Fukushima was true, unfortunately it is not. Nuclear power is the world's safest source of electricity. In 16,000 reactors over years of operation - one event in the USSR killed maybe 4,000 people over an extended period, one

event in Japan caused no deaths, and one event in America (Three-Mile Island) destroyed an expensive facility. Coal, on the other hand, is estimated to kill 600,000 people a year via particulate emissions that give people cancer. Which is more dangerous?

AP: *That's good food for thought and it seems the US is certainly making moves toward nuclear self-reliance. In late April, Energy Secretary Dan Brouillette presented the Nuclear Fuel Working Group's plan to restore domestic uranium supply in the U.S. The proposed strategy includes a \$150M per annum budget to stand up a uranium reserve. Can the U.S. reasonably compete with foreign producers at this stage and does this plan present a viable pathway to doing so?*

WT: At current price levels the US cannot compete, and this plan will not solve that problem.

Government purchases simply create an opportunity for the government to finance short- and medium-term industry development that in the long-term - absent continued government intervention in the form of either tariffs or direct uranium purchases - will fail to support the price.

At \$40 plus per pound of uranium, there are US firms that might/should be able to compete but they can only compete with sustained prices above \$40. The proposed plan does not create a viable path to that outcome. This is a ten-year program that could create short to medium term localized price support but that is it. If the price of uranium does enter a secular bull market and establishes a new floor at or above \$40 per lbs, this plan is at best unnecessary and at worst a government give-away to a handful of companies. Businesses and industries cannot be built on government largess. Furthermore, this does not address any underlying issues in the supply/demand situation for uranium.

Let's break it down just a little bit more. Over the next ten years the federal government is going to spend \$150 million a year buying uranium. Are they

going to buy that uranium in the open market and soak up supply? No - they are going to buy it from US producers, of which there are only two currently in operation, UR-Energy and Energy Fuels, neither of which are really supplying the market with much fuel at the moment because neither is really operating their assets.

So theoretically, the first order effect is the two organizations that introduced the initial section 232 case will benefit from this. They will turn their operations back on and bring new supply onto the market. They will attempt to market their uranium globally, of course, because having one customer - a situation referred to as monopsony - is not a good business model. A second order effect is other miners with assets in the US might decide to try and go into production but \$150 million worth of uranium a year is not enough to sustain two businesses (UR Energy and Energy Fuels), let alone other producers.

Maybe Uranium Energy Corp, a mine developer/explorer with significant ISR assets in Texas and hard rock assets in other states decides to bring some of its assets online. Is that capital invested going to create a long-term positive return? Maybe, but only if the price of uranium globally increases. Unfortunately, the additional \$150 million in buying power entering the market is ring-fenced to the US. Might it create a two-tiered market with more expensive domestic uranium? Sure, but again \$150 million in purchases a year is not enough to support two companies, let alone an industry.

On balance, we struggle to see how government involvement in this market is going to make it stronger.

AP: *What lessons can the U.S. learn from countries like France who are already largely nuclear-dependent?*

WT: France built most of its reactors in a short period of time, using a standard model. One of the keys to their success was the repeatability of their process. Nuclear power plants in the US are huge

undertakings and each plant is different from the last. The construction process needs to be improved upon.

I also think that Sweden is a great example to look at for inspiration. Between 1970 and 1990, Sweden cut its carbon emissions in half while the economy doubled and they increased power generation by more than 100%. What can be accomplished with an extremely effective technology like nuclear power is significant. Both examples do raise an interesting question though, and one I struggle with on a regular basis, how much of the success of these two countries is a result of a top-down management system that cannot be replicated in the US for various political reasons? I don't know the answer to that question.

If we look across Europe, we can look to Germany as a prime example of what we don't want to do. Germany has doubled its renewables on the grid since 2016 but they have halved their nuclear power, so they replaced one carbon-free source of power for another. The result has been a huge investment in renewables and their CO2 emissions have not changed. A lot of capital and political goodwill was spent without meaningful return when it comes to addressing climate change.

AP: *Coming down to the portfolio level, which uranium equities does Massif currently hold? How did you rebalance your uranium portfolios in reaction to the March sell-off?*

WT: Our primary investment in the uranium industry is **Kazatomprom**. It took us a while to get invested in the industry, despite having watched it for a long time, because of the nature of the opportunity set. Kazatomprom is, in our opinion, the only investable company in the industry. Everything else is a speculation and keep in mind - we differentiate between the two on the basis of risk, not speculation being worse than investment. They just have different risk/return profiles and return drivers.

Kazatomprom is free cash flow positive down to sub-\$20 uranium, they pay a dividend, they have an opportunity to organically grow production and take

market share, and they have a rock solid balance sheet. The firm is trading at a 44% discount to its intrinsic value at current uranium prices. Nothing needs to happen to the price of uranium in the medium to long-term for us to make money on this investment. On top of all that, the management team is going to pay us a sustainable 7% dividend to wait for the market to recognize the under-appreciated value embedded in the business.

This is very different than any other business in the industry. The vast majority of public opportunities are either exploration companies or mine developers. The problem with these companies is they are not going to build their mines until the price of uranium moves, at which point they will need to either issue shares or take on debt to build their mines. If the price of uranium goes to \$50-\$60-\$100 a pound - for reference, it went to more than \$100 a pound in the last bull market - these companies will go through the roof and investors will make a lot of money. The risk is higher though; you are waiting for the price of uranium to move, as that is the only thing that will move the price of these stocks. You're not being paid to wait and if we are wrong about the price of uranium (which people have been for close to a decade), you're not going to make any money. From our perspective, these are not great bets. We like junior miners, but we like junior miners that are actively developing and building assets, not waiting on the price of a commodity to move so that they can justify to their sources of capital the cost of building the mine.

Some speculative opportunities are better than others, of course. After Kaz, the best opportunity in the uranium space is probably **NexGen**, which has been [written up on SumZero by Joe Boskovich](#).

Two others we like are **GoviEx Uranium** and **Denison Mines**. These are all very different companies. Two are single-asset Canadian developers (NexGen and Denison); the other is a multi-asset African developer, but they share two things: solid high-grade assets and good management teams. Nevertheless, the price of uranium needs to move in order for appreciation to occur or for these developers to actually start building their mines. For us at least, it does not make a lot of sense to put our investors' capital at risk when the investment's success depends on one variable and one variable

alone. We believe it is necessary to build our investment thesis on more than one variable.

During the March sell-off, Kazatomprom did not move much so we did not get an opportunity to add to the position. To date, the position has returned 17.7% in a little under 18 months almost all of it from dividends.

AP: *How would you recommend first-time investors gain exposure to uranium and the inherent rewards in these long-tail development plays?*

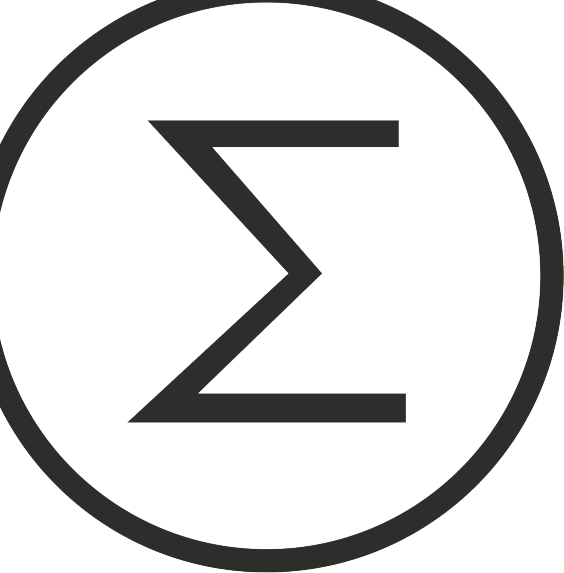
WT: That's a difficult question. In North America, you can invest in **Cameco**, which I think is a dog. Or you can invest in pre-production developers/explorers, but junior mining is not a good industry for tourists. It's technical and high risk; you cannot take your eye off the ball in the junior mining sector. You could also invest in Uranium Participation Corp, which is a Canadian-based physical uranium holding corporation.

I believe there is an ETF and there is at least one publicly traded uranium royalty and streaming company, but I don't know what's in the ETF and the royalty/streaming company is, in my opinion, a classic Canadian equity promotion with royalties or streams on assets of middling value and all the money is being made by management and the promoters.

If you have access to London, you can invest in Kazatomprom or another physical uranium holding company called **Yellow Cake**. We have a lot of internal political risk expertise at Massif, so we can get comfortable with some of the trickier non-business-related risks of Kazatomprom that not everyone can.

In our opinion, the best way to get exposure to uranium is to invest with Massif Capital.





ABOUT SUMZERO

SumZero is the world's largest community of investment professionals working with the industry's most prominent hedge funds, mutual funds and private equity funds. With more than 16,000 pre-screened professionals collaborating on a fully transparent platform, SumZero provides direct access to thousands of proprietary investment reports every year and fosters on-going communication within the network.

The research on SumZero cuts through the noise that pervades the industry and provides its community with in-depth, actionable investment research and data. SumZero offers several ancillary services in support of our research platform. These services include capital introduction, buy-side career placement, media placement and more.

ABOUT CAP INTRO

SumZero Cap Intro is a passive, reverse-solicitation platform that connects eligible funds with pre-qualified institutional LPs for the mutual purpose of capital allocation. Cap Intro is available on an opt-in basis to all hedge funds, private equity funds, and other asset managers that are actively fundraising.

Using Cap Intro, fund managers leverage direct exposure to a community of over 500 pre-vetted institutional investors by presenting their strategy and performance via a self-curated fund profile. In turn, allocators use these profiles to discover, screen, and initiate direct conversations with funds. Since 2015, Cap Intro has catalyzed hundreds of inbound inquiries, resulting over \$400M in capital allocations to member funds.