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THAT DRIVE  
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**PERIOD ENDING: DECEMBER 31, 2020**

Real Assets Review

**San Mateo County Employees' Retirement Association**

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# Real Asset Outlook

# Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
<b>Private Real Estate</b>	Transaction volumes are picking up after a slow 2020, which should help price discovery in some sectors. Private market valuations have been slower to adjust than the public markets. Rent collections are back to normal levels for all but retail and hospitality however uncertainty remains on the demand side as the recovery progresses. It will likely take several years to fully understand the impact that work from home will have on office demand.	<ul style="list-style-type: none"> <li>— Core real estate returns tend to have high correlation to overall GDP growth. Any hiccup to the recovery or reversal in vaccination progress will have an impact.</li> <li>— A sharp rise in interest rates could create upward pressure on cap rates, hurting asset values.</li> <li>— Increasing e-commerce adoption rates may continue to impact retail.</li> </ul>	Our outlook remains neutral; however, we continue to take a barbell approach. A lagging appraisal process may impact office/retail values, giving us concern over existing traditional core assets. We recommend leaning away from traditional core and diversifying into alternative property types such as self storage, senior/student housing, medical office, life science as well as dedicated industrial. We also continue to recommend deploying fresh capital in non-core closed end funds with value added or opportunistic strategies.	<b>Neutral</b>
<b>REITs</b>	REITs experienced high volatility in 2020, declining almost 40% by April and recovering to down only 10% for the year, yet still underperforming broad equities. Sector dispersion was incredibly high as Covid-19 shutdowns negatively impacted some sectors (retail/office/hospitality), while others benefited (industrial/data centers).	<ul style="list-style-type: none"> <li>— REITs have higher leverage than core real estate and have higher exposures to non-core sectors such as hotels, self-storage, for-rent residential homes and senior/student housing.</li> <li>— Rising interest rates can have a negative effect on REITs and all yield-sensitive assets over short periods.</li> <li>— REITs are sensitive to economic decline and general equity market volatility.</li> </ul>	Although performance diverged in 2020 as REITs experienced more pain than private real estate, current premiums to NAV remain high and relatively unattractive. REITs can provide liquid exposure to real estate with the following caveats: high sensitivity to equity market volatility over shorter holding periods, higher leverage and higher exposures to non-core sectors such as hotels, self-storage, for-rent residential. Active management is preferred.	<b>Neutral</b>
<b>Commodities</b>	Commodities futures have had lackluster performance over the last decade. An upward sloping futures curve has been a headwind for the asset class, and, with the exception of oil futures, this condition remains for most commodities today. The current economic recovery and re-opening is creating higher forecasted demand from energy and industrial metals which has led to a strong recent recovery in performance.	<ul style="list-style-type: none"> <li>— Oversupply issues across energy, metals and agriculture have driven much of the negative performance, that condition could remain.</li> <li>— Energy prices remaining at sustainable levels is largely dependent upon a continuation of OPEC led production restraint.</li> <li>— Any reversal in the economic recovery or vaccination roll-out will impact demand for energy and industrial metals.</li> </ul>	Futures based commodities strategies continue to face structural headwinds with steep contango and low collateral rates. A strong economic recovery could be bullish for spot prices, however. Futures based commodities potentially offer insurance against an unexpected spike in inflation, although that can be an expensive policy as we've seen over the past decade.	<b>Neutral</b>

# Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
<b>TIPS</b>	Declining nominal interest rates have led to positive total returns and recent increases in inflation expectations have caused TIPS to outperform nominal bonds. Breakeven rates have risen sharply during the recovery, although it may be technically driven through government purchases.	<ul style="list-style-type: none"> <li>— Decreasing inflation expectations or rising nominal interest rates would be a headwind to TIPS.</li> <li>— Continued low rates creates a high cost of carry.</li> </ul>	Low absolute current yields and moderate inflation expectations has led to low total return expectations for TIPS, especially relative to other real asset investment opportunities. If inflation continues higher, TIPS could provide protection to portfolios.	<b>Neutral</b>
<b>Core Infrastructure</b>	Performance within infrastructure was mixed for 2020 as several sectors faced Covid-related challenges, while some industries in communication and logistics thrived. With the global economy is set for a recovery, we expect lower risk infrastructure assets will continue to deliver modest high single digit returns. The asset class could see some tailwinds as investors search for income above that available in fixed income. In addition, inflation concerns from some investors may lead to additional capital entering the space.	<ul style="list-style-type: none"> <li>— We remain cautious on public-private (PPP) infrastructure assets, especially in the U.S and Europe. Assets with high regulatory oversight have had a mixed history of success and the recent political environment has seen an uptick in hostility to private ownership of public goods.</li> <li>— Strong fundraising trends in infrastructure has, in part, kept valuations elevated despite the asset classes challenges. For open-end infrastructure funds with mature portfolios, we would pay particular attention to valuations and embedded risks from exposure to energy and transportation assets.</li> </ul>	The asset class offers a compelling return profile that aligns well with long duration pools of capital. We favor private infrastructure funds that have in-house capability to improve operations and manage complex deal structures.	<b>Neutral</b>
<b>Value-add Infrastructure</b>	Similar to core infrastructure, exposure to certain transportation assets and midstream energy likely presented performance challenges in 2020 for infrastructure investors. In addition, the markets desire for high growth assets led to underperformance within traditionally low growth industries like infrastructure. While we would not call infrastructure cheap, on a relative basis, the segment appears attractive.	<ul style="list-style-type: none"> <li>— Regulatory risk, falling power prices, demand for green energy and Covid-19 are just a sample of the challenges that infrastructure has faced in the past year. Opportunities are also created from those challenges, and we believe with the right manager, value-add infrastructure will be best positioned to take advantage of any disruptions in the industry.</li> </ul>	The asset class offers a compelling return profile that aligns well with long duration pools of capital. Value-add infrastructure comes with higher operational/execution risk than Core so investors should expect a broader range of outcomes and greater emphasis on manager selection.	<b>Positive</b>

# Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
<b>Energy Transition</b>	New development projects of renewable assets will continue to accelerate as solar and wind farms are now the cheapest form of new build electricity generation for over two-thirds of the global population. However, there is continued downward pressure on the cost of capital in the sector to mid-single digits. Outside of traditional solar & wind, there are potentially higher returning opportunities for newer technologies such as battery storage.	<ul style="list-style-type: none"> <li>Several approaches to a carbon-neutral energy system such as green hydrogen and carbon capture technology are nascent and not yet economically viable. Investments in this space will take venture-like risk and rely on significant cost reductions as well as favorable policy regimes to be successful.</li> </ul>	While the opportunity to achieve an attractive return in solar & wind has passed, we do think there will be potentially attractive opportunities in sectors that still require innovation. However, it is difficult to find areas where investors will be appropriately compensated for risk given the amount of capital in the space.	<b>Neutral</b>
<b>Oil &amp; Gas</b>	The oil & gas industry enters 2021 with hopes for an improved market environment following several years of weak commodity prices. The dual impact of Covid related demand destruction and the disintegration of OPEC+ supply controls sent oil markets into a tailspin last year. Higher commodity prices have begun to breathe some life into publicly-listed upstream companies and likely some areas of the capital markets will return to provide funding for independent drillers. Our belief is that the private markets that funded a lot of the growth in energy production will continue to shrink as institutions shift capital towards cleaner forms of energy.	<ul style="list-style-type: none"> <li>The industry could see a rebound in 2021 if prices stabilize around \$65-70/bbl, or higher. Public equity and debt markets could re-open for oil/gas producers as investors look for higher potential returns. We expect fundraising within private markets will remain challenging for carbon-heavy industries.</li> <li>Longer-term, oil demand is expected to decline as non-carbon sources of power outcompete hydrocarbons.</li> <li>Geopolitics and the tension between OPEC and non-OPEC producers presents an additional risk for investors.</li> </ul>	Higher commodity prices have improved the outlook for the energy industry and if prices hold at current levels, or move higher, the sector could rebound sharply. That said, there is still too much uncertainty around oil/gas demand, access to capital, and geopolitics for us to gain comfort in the long-term outlook for the oil/gas industry. As long-term investors, we recommend avoiding the upstream energy market but recognize that performance in the short-term could be exceptional.	<b>Negative</b>
<b>Midstream Energy / MLPs</b>	As in prior years, the MLP/midstream market appears cheap both historically and relative to other areas of the market with a yield above 8.0%. An uptick in drilling rig count and an improving outlook for the broader economy provide some tailwinds for the sector. On the flipside, the Biden administration will likely usher in greater regulatory risk and perhaps hasten the move away from carbon-based forms of energy. We wouldn't be surprised to see midstream energy perform quite well in 2021 but we remain cautious on the long-term outlook for the industry.	<ul style="list-style-type: none"> <li>Expectations have improved for the midstream industry and a strong rally in the beaten down sector is highly probable if oil prices stabilize at or above current levels. But the experience of the last several years has taught investors how quickly the tide can shift and how unpredictable those shifts can be.</li> <li>Regulatory risk has gone up considerably in the U.S. with the Biden administration and both houses in Democratic hands.</li> </ul>	We retained a negative outlook for midstream energy, despite the positive tailwinds that higher oil prices and economic growth could bring to this sector in the near-term. Longer-term, we think the unknown risks remain too high for our comfort.	<b>Negative</b>

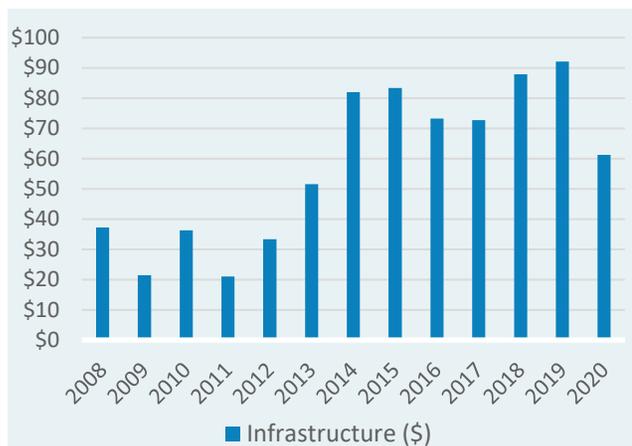
# Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
<b>Mining</b>	The mining industry has not suffered quite like the oil & gas market, but it has been a weak sector for several years. Unlike oil, we see growing demand for industrial metals like copper, nickel, zinc and steel inputs as electrification takes market share from carbon-based power generation.	<ul style="list-style-type: none"> <li>Global GDP growth and the economy in China are the two biggest risks in the sector. China represents a disproportionately large buyer of industrial metals, so its economy and industrial output have a large impact on metal prices.</li> </ul>	Longer-term, we believe the demand outlook looks favorable for several industrial metals. However, there are a host of idiosyncratic risks in funding mining operations outside of the macro-economic environment. We will look for skilled GPs with a track record of successfully managing these risks while generating attractive returns.	<b>Positive</b>
<b>Timberland</b>	Timber markets in North America continue to face challenges from excess inventory, low interest rates and unfavorable transaction market. Homebuilding has surged back to life after the initial decline due to the Covid lockdown. Despite the rise in homebuilding and appreciation in lumber prices, stumpage prices for southern pine remained flat. Our outlook on timber has been negative for several years due to the headwinds the asset class has faced. Despite broadly negative sentiment towards the timber industry, we struggle to make a case for returns to reach higher than mid-single digits.	<ul style="list-style-type: none"> <li>Coming off trade war headwinds, the timber market hit another bump when Covid-19 stalled exports to Asia and home building activity declined. Exports resumed in the Pacific Northwest and prices have recovered for Douglas Fir. Southern pine stumpage, on the other hand, saw little appreciation.</li> <li>Timber markets outside the U.S. face varying degrees of currency and political risk which in many cases has resulted in disappointing returns for investors. With few exceptions, returns do not justify the additional risk.</li> </ul>	For most investors, high single-digit expected returns for timberland in the U.S. is too low for the illiquidity and risk assumed within the asset class. Fundraising has been slow for several years which has resulted in a slow transaction market and less competition but finding attractive deals remains elusive.	<b>Negative</b>
<b>Agriculture</b>	Farmland prices nationally leveled off after 2014 but remain too expensive for the income and return potential. Rental income yield for permanent crop farmland hovers around 3.5% which after fees/expenses leaves little income return for investors. We are interested in opportunities where we can control more of the value-chain associated with food production.	<ul style="list-style-type: none"> <li>Similar to timber markets, we have concerns around valuations and the risk/return proposition for farmland investments.</li> <li>The income potential within farmland is slightly more attractive than timber and the global growth in food is a more compelling macro trend than pulp and paper but we remain bearish on the sector, in general.</li> </ul>	Currently, we find the asset class to be broadly expensive. We are selectively looking at agriculture business investments where crop and land are a component of a broader value-add investment strategy.	<b>Negative</b>

# Private infrastructure

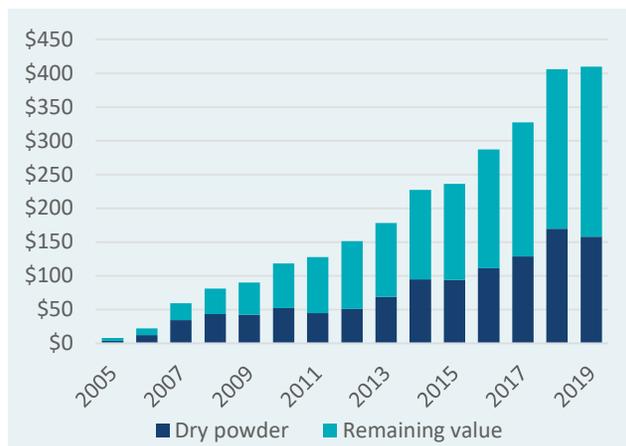
- Fundraising within Infrastructure declined in 2020 though most of that was due to challenges with fundraising across all asset classes during a lockdown. With the oil/gas sector out of favor with institutional investors, infrastructure has been a recipient for some of the commitments which used to go into natural resources. One effect of that shift has been a surge in “energy transition” funds from many of the large upstream energy managers as they try and pivot towards clean energy. It’s still too early to say how successful that pivot will be, but competition should creep up for renewable energy production and storage assets.
- With deal activity slowing during the pandemic, dry powder ticked up during the year though we expect a robust transaction market in 2021.
- As institutions look for asset classes that can deliver returns above their target rates, private infrastructure should be a consideration for many investors. Historical returns range from 8-12% (net) on average, with income of 4-6% for core infrastructure funds.

**FUNDRAISING IN INFRASTRUCTURE (\$B)**



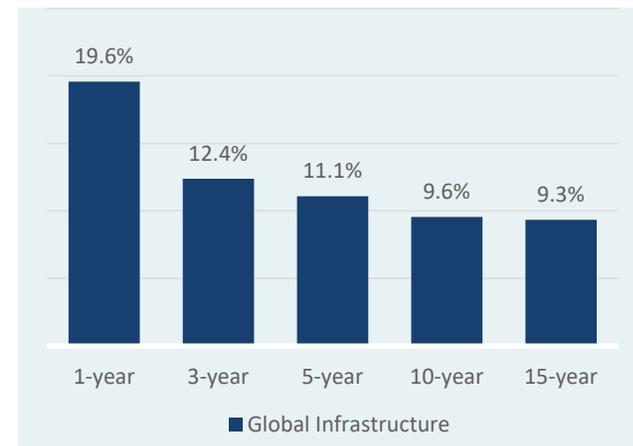
Source: Preqin/Pitchbook

**INFRASTRUCTURE DRY POWDER (\$B)**



Source: Pitchbook

**INFRASTRUCTURE PERFORMANCE (NET)**

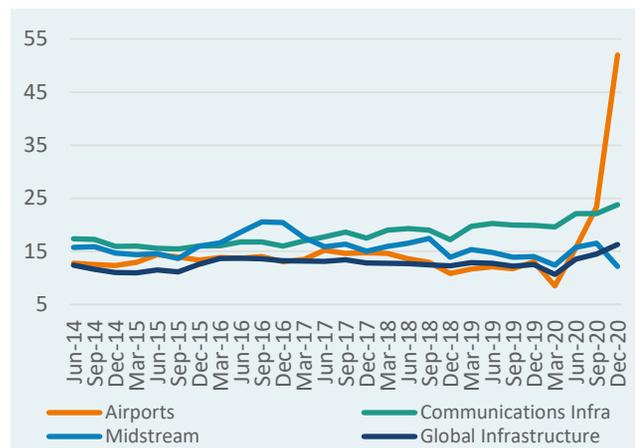


Source: Pitchbook, weighted horizon IRRs as of 12/31/19

# Private infrastructure (cont.)

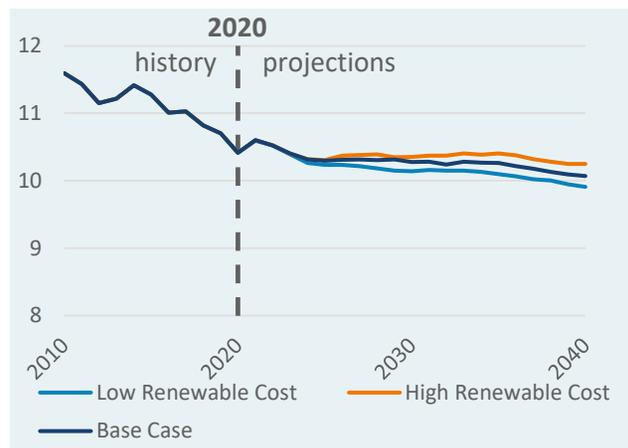
- One of the industries hardest hit by the pandemic has been transportation infrastructure. Airport passenger traffic fell as much 90% during March/April as the full impact of social distancing orders took effect, and was off 50-60% in 2020, relative to the prior year. With traffic volumes declining in such a short period, revenue and earnings took a major hit causing what appears to be a spike in valuations. In contrast, communications infrastructure has largely been a beneficiary as data usage surged. Despite the challenges within segments of the transportation market, we find better opportunities elsewhere in the infrastructure market.
- Communication infrastructure trades at a considerable premium, 23x vs. 16x for infrastructure broadly, which reflects the stability of their earnings and future growth potential. The macro tailwinds within mobile data usage and video streaming are compelling, though valuations, at least within public markets, appear to be pricing in much of the future growth opportunity. Transactions in private markets for digital infrastructure are growing rapidly as more capital is raised to take advantage of the buildout in data storage and transmission. There are still attractive opportunities globally for digital infrastructure, but returns are coming down and finding managers that can identify underserved markets and successfully develop infrastructure will be an area of focus for our team.
- One challenging area for investors has been power production assets in the U.S. as electricity prices have been marching down for several years. The growth in low-cost renewables and stagnant/declining demand for power has hurt investment returns in both thermal and renewable power. This is a challenge for base load power assets and isn't likely to reverse as more renewables hit the grid. An area that we are seeing opportunities is within battery storage and independent power systems for commercial & industrial customers.

INFRASTRUCTURE VALUATIONS – EV/EBITDA



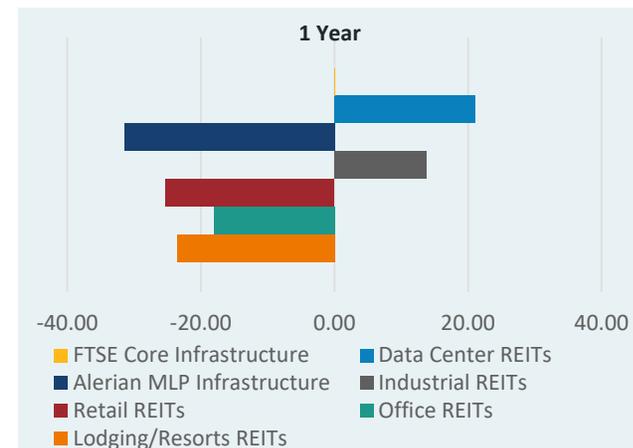
Source: Bloomberg; Dow Jones Brookfield; S&P Indices

U.S. AVERAGE ELECTRICITY PRICES (CENTS PER KILOWATT HOUR)



Source: EIA

LISTED INFRASTRUCTURE PERFORMANCE

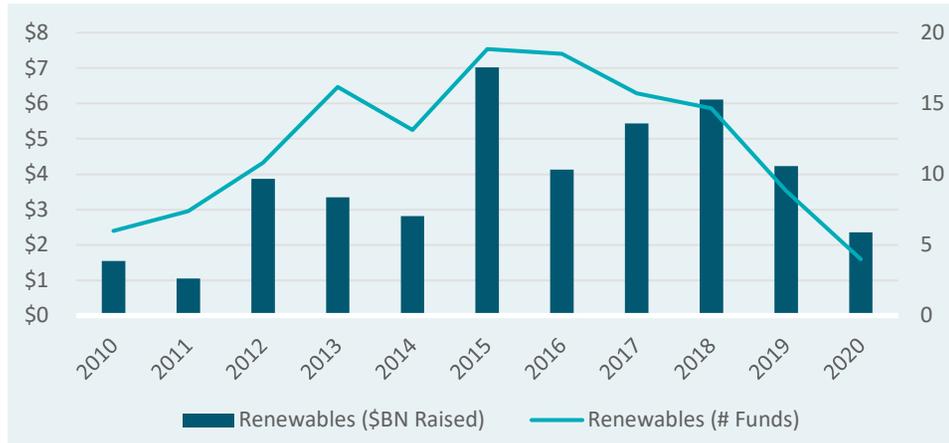


Source: eVestment; FTSE NAREIT; Alerian

# Infrastructure – Energy transition

- Fundraising in dedicated renewables moderated in 2020 to \$2.4 billion. However, this universe is not easily defined and excludes funds that invest in renewables or related energy transition assets as a portion of their strategy. Taken as a whole, investment in the sector has been on a consistent upward trend, with only more room to grow as renewables have become the cheapest form of electricity generation in most geographies and costs continue to decline. According to Bloomberg<sup>1</sup>, over \$15 trillion of investment in new renewable energy generation and battery storage assets is needed by 2050 in order to meet demand purely from economic considerations, excluding any effects of policy changes to meet emission goals.
- Despite a strong outlook for demand, there are challenges to deploying capital in the space. Returns for owning operating wind and solar assets have compressed to the mid-single digits, and the additional returns for taking development risk are only marginal due to the level of competition and the relatively straight forward operational requirements.
- We recommend investors gain exposure to this space through GPs that can invest opportunistically in projects across the energy transition, as opposed to a dedicated solar & wind development mandate.

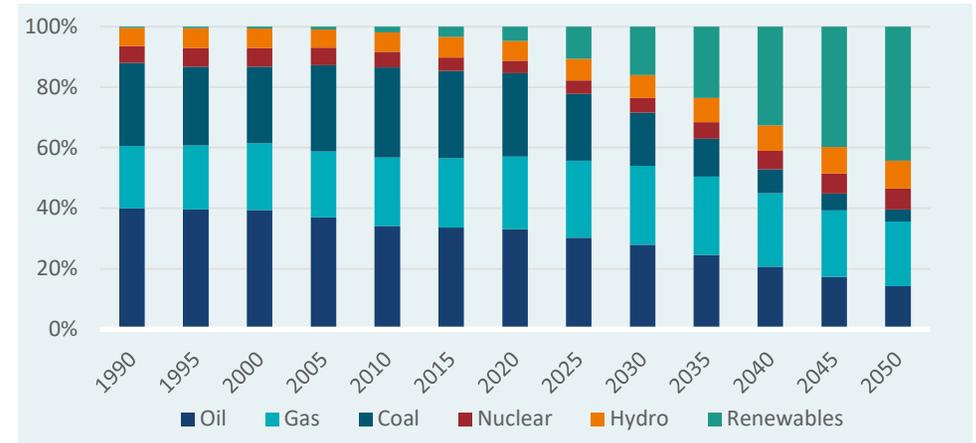
**FUNDRAISING IN ENERGY TRANSITION (\$B)**



Source: Pitchbook

<sup>1</sup> Bloomberg New Energy Finance, New Energy Outlook 2020.

**GLOBAL ENERGY SOURCES**



Source: BP

# Midstream energy/MLPs

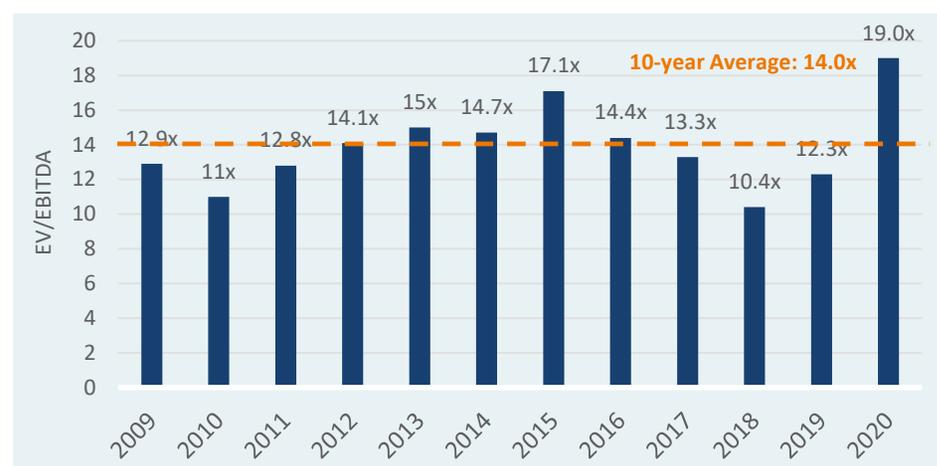
- Midstream energy stocks were down around 30% in 2020. Energy stocks, both upstream and midstream, were down over 50% in the first quarter of 2020 and unlike the broader equity market, failed to recoup those early losses by year-end.
- Yields for listed midstream companies continue to trade at a premium relative to high yield bonds and government bonds but as we cautioned last year that spread comes with an enormous amount of volatility and uncertainty. While higher oil and gas prices have improved the outlook for the upstream and midstream sectors, we remain concerned about the long-term viability of the industry. Like most investors, we've been humbled by the unpredictable nature of the global oil/gas industry. Having informed views on geopolitics, government regulations and social attitudes towards fossil fuels all have an impact on the industry and we do not claim to have special insight into those areas. So, while we recognize that higher commodity prices is a positive development, we think the risks are too great for a tactical investment opportunity in midstream energy.
- Midstream companies on average are trading around 19.0x EV/EBITDA (vs. 13-14.0x long-term average) which would seem to indicate that they are overvalued but much like airports, this is really a function of the denominator deteriorating rapidly in 2020 as earnings took a hit in the oil market sell-off. If you were to normalize earnings, we would expect a discount to historical values but as we've indicated above, cheapness is not enough for us to recommend an allocation.

## MLP SPREADS VS HIGH YIELD & TREASURIES



Source: Bloomberg

## MIDSTREAM VALUATIONS (EV/EBITDA)



Source: Bloomberg; Alerian MLP Index

# Energy – Oil/gas

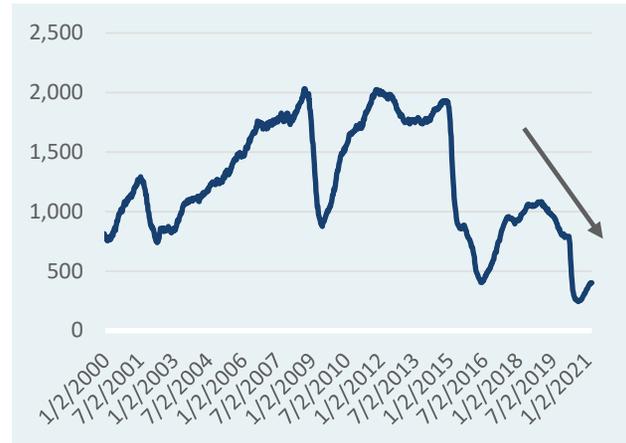
- According to Pitchbook, fundraising within Oil/Gas private equity has collapsed and that mirrors our own experience within the asset class. Historical performance has been poor, more institutions are adopting standards in ESG, and the long-term outlook for the industry appears unfavorable. We do not see this trend reversing in any meaningful way and it would appear the private energy managers agree as they seek to pivot their business towards energy transition funds.
- Historically, oil/gas production levels in the U.S. followed drilling rig activity. If you look at the weekly drilling rig chart below, you would assume that production fell-off starting around 2016. That is not the case. Production has grown each year, hitting a peak in 2019 at around 12 million barrels/day. 2020 production levels declined by around 1 million barrels, but the U.S. is still producing oil at record levels. Without delving into the cause of that divergence, it has frustrated any recovery in oil prices. At some point, if the industry doesn't reinvest in drilling activity, production will fall further but capital spending discipline has not been a strength of the industry.
- For now, we would recommend investors avoid putting new capital into the sector. We recognize that if commodity prices continue to move north of \$65/bbl that energy stocks could be in for a strong recovery, but the long-term trends are not in the sectors favor as renewable energy continues to take market share.

FUNDRAISING IN OIL/GAS



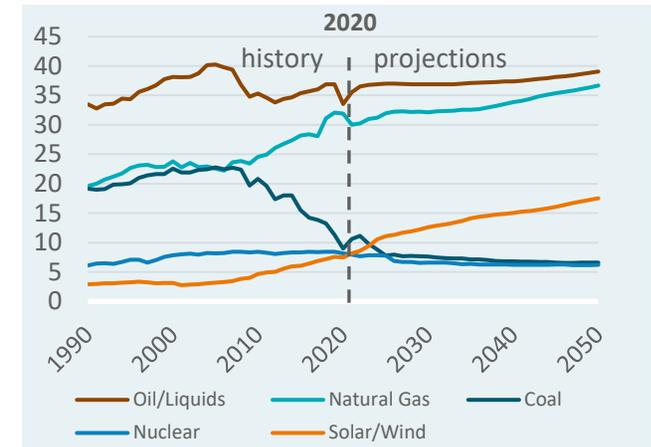
Source: Pitchbook

US WEEKLY DRILLING RIG COUNT



Source: Baker Hughes

ENERGY CONSUMPTION BY FUEL (QUADRILLION BTU)



Source: EIA

# Metals and mining

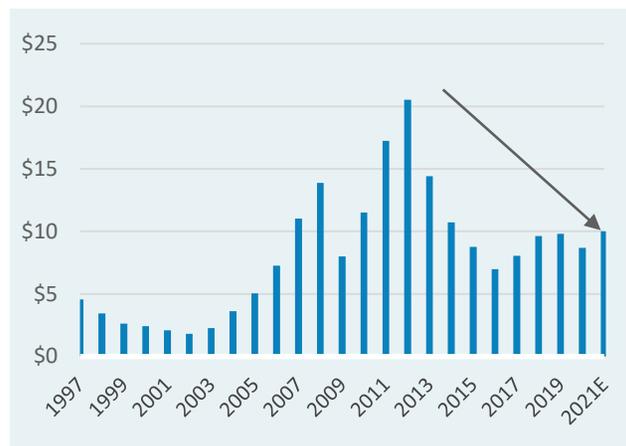
- Fundraising in the private equity mining segment has been lumpy and quite modest since the GFC, with virtually no private capital raised in the space in 2020. ESG issues in the sector have been a barrier for LPs, but it is possible for fundraising to improve if investors see the benefit of funding the extraction of materials that contribute to our shift away from fossil fuels, such as copper and lithium.
- After a modest recovery from a cyclical low in 2016, mining exploration budgets decreased by 11% in 2020 due to an initial demand shock for industrial metals and lockdown measures put in place in many countries mining companies operate. However, the surge in metal prices that followed along with the persistent low investment over the last several years leading to under-supply is expected to drive an increase in budgets for 2021. Our overall outlook within mining is positive with a notable challenge in finding enough investment opportunities that meet our underwriting criteria.
- On the investment side, we have participated in the mining sector by backing teams with expertise in financing mining projects which delivers a high income return with some upside associated with a structured equity security. We are more bullish on base/industrial metals which longer-term will benefit from a shift away from fossil fuels. We are less bullish on bulk and energy-related commodities.

**FUNDRAISING IN MINING (\$B)**



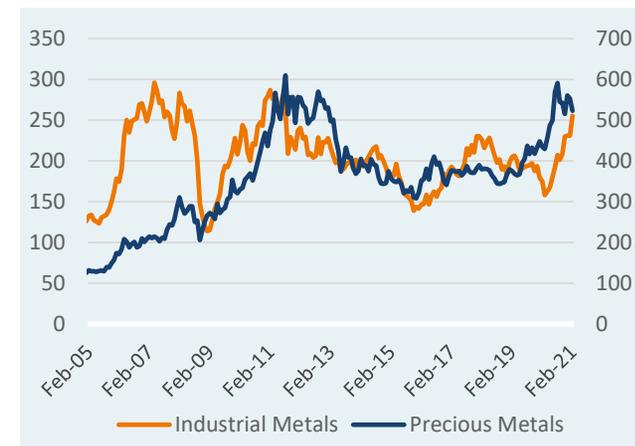
Source: Pitchbook

**CAPITAL EXPENDITURE IN MINING (\$B)**



Source: S&P Global Market Intelligence

**METAL PRICES**

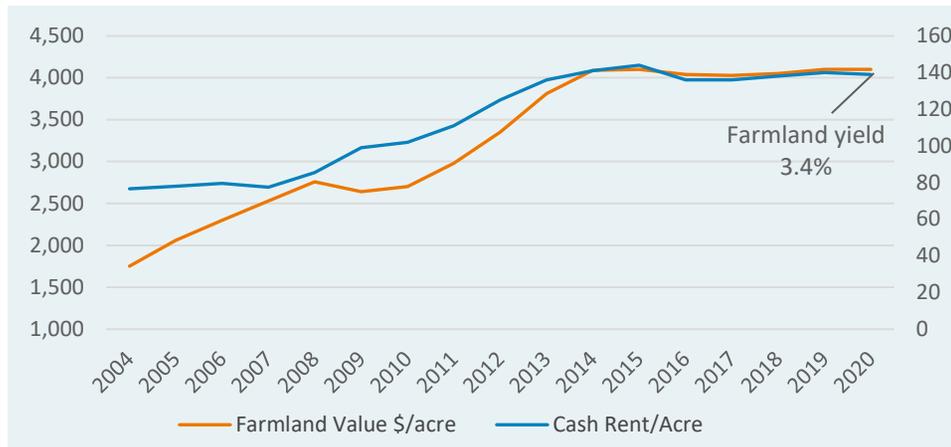


Source: Bloomberg, as of 2/26/2021

# Agriculture

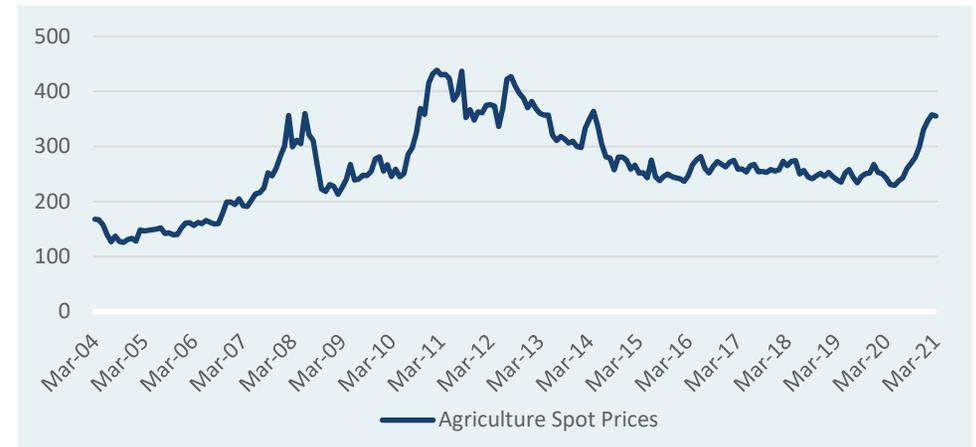
- Farmland values nationally have remained largely flat since 2014, despite a challenging commodity price environment over the last 5 years. That has put pressure on investment returns as income yields have been flat-to-down and capital appreciation has not materialized. For new investors, the investment return potential looks disappointing as rental yields remain stubbornly low (3-4% on average) and land values appear expensive.
- In the row crop segment, rental yields hover around 3% which is insufficient in our opinion for most institutional investors. Permanent crops offer the potential of higher income yields but also carry greater risk and operational expertise. There are additional ways to add value through crop selection, improving crop yields and selling land for higher-and-better-use cases. In addition, managers can control a greater share of the food production value-chain which carries higher returns but also higher operational risk.
- We tend to favor agriculture strategies that both own land for crop production and control the operating verticals that bring food to the consumer. Strategies that can capture more value through processing, storage and marketing, offer the potential of higher returns.

**U.S. NATIONAL FARMLAND VALUES VS CASH RENTS**



Source: USDA

**BLOOMBERG AGRICULTURE PRICES**



Source: Bloomberg, as of 3/31/20

# Timberland

- Fundraising has continued to be a challenge within the timber industry. According to Pitchbook, one timber fund was raised in 2019 and there were no reported funds raised in 2020 (Note: this data does not include any separate accounts that may have been raised). Despite a lack of capital being raised by TIMOs, the investment opportunity within timber has not materially improved.
- Housing starts have experienced a slow rebound since the GFC as millennials delayed buying and urban living trends reduced demand for single family homes. There was a surge in housing starts in 2019 but the impact of Covid-19 caused a sharp reversal in the first quarter of 2020. Much like the broader capital markets, housing starts recovered quickly and have surpassed the highs reached pre-Covid.
- As the chart on the bottom right indicates, one of the challenges that timber investors have faced is that the price they received for their trees (southern pine stumpage) began to decline during the GFC and largely never recovered. With housing construction turning around in 2015/16, lumber prices began to respond but the prices that timberland owners received did not. Two critical issues have kept stumpage prices depressed, excess supply of trees in the region and a lack of mill density that has created bottle necks in lumber production.

**FUNDRAISING IN TIMBERLAND**



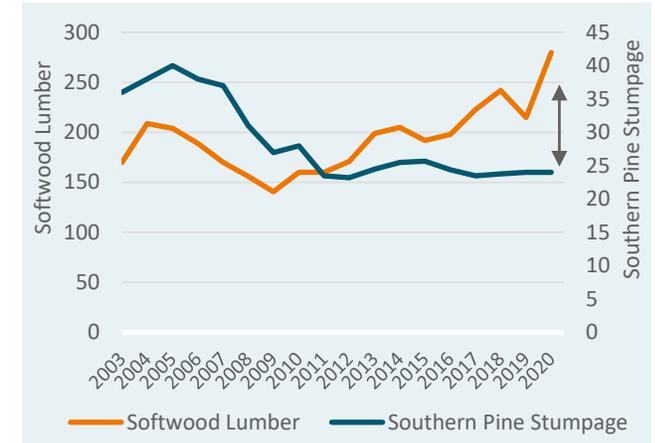
Source: Preqin/Pitchbook

**US HOUSING STARTS**



Source: St. Louis Fed

**SOUTHERN PINE STUMPAGE VS SOFTWOOD LUMBER PRICES**

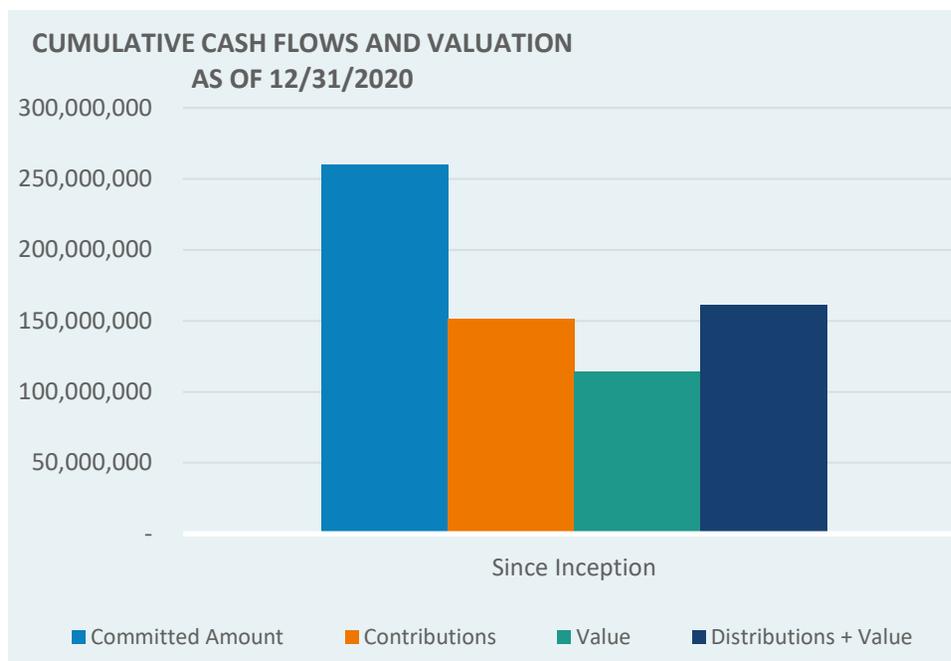
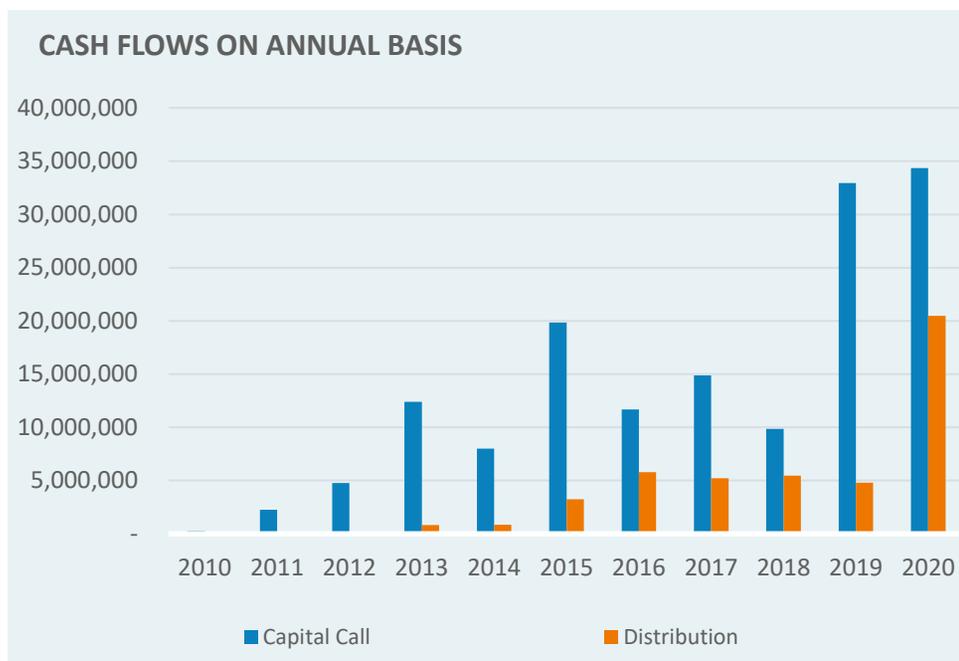


Source: St. Louis Fed

# Real Asset Performance

## Performance

- The portfolio is currently valued at \$114.1 million. Together with \$46.6 million in realized distributions, the Total Value at \$160.7 million is approximately \$9.5 million above \$151.2 million total capital contributions, resulting in a total value multiple of 1.06x and a net IRR of 2.23%. If we exclude the investment in Sheridan, the portfolio IRR would be 9.7%. Capital weighted average investment age of the portfolio is 3.4 years.
- Within Private Real Assets, the current allocation of market value exposure is 14.0% to Agriculture, 15.2% to Energy, 18.1% to Mining, and 52.7% to Infrastructure. The Portfolio is expected to be diversified over a period of 3 to 5 years.

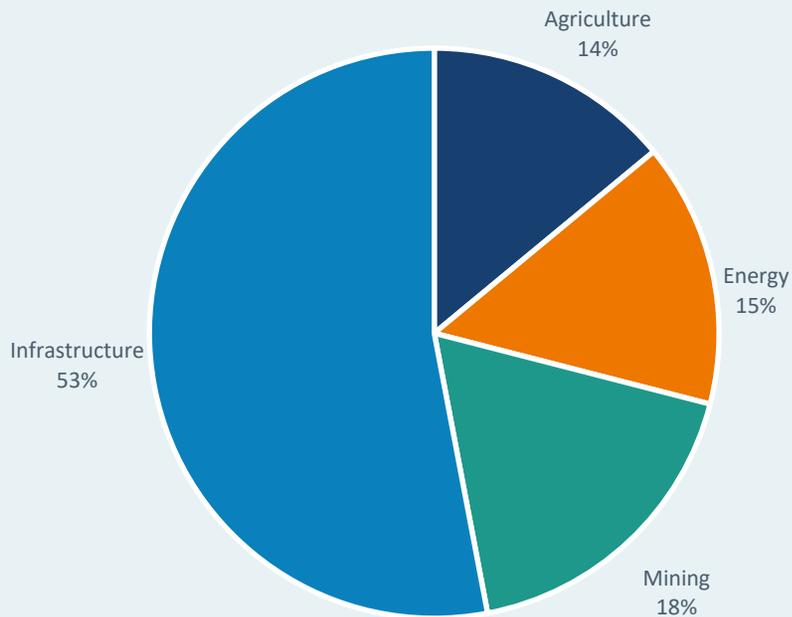


Strategy  
Portfolio Diversification

Period Ending: December 31, 2020

Investment Type	Commitment	Current Exposure	Current Exposure as % of Portfolio
Agriculture	15,000,000	15,988,695	14.0%
Energy	49,800,000	17,327,391	15.2%
Mining	55,000,000	20,683,673	18.1%
Infrastructure	140,000,000	60,116,557	52.7%
<b>Total Portfolio</b>	<b>259,800,000</b>	<b>114,116,316</b>	<b>100.0%</b>

REAL ASSETS PORTFOLIO: CURRENT EXPOSURE

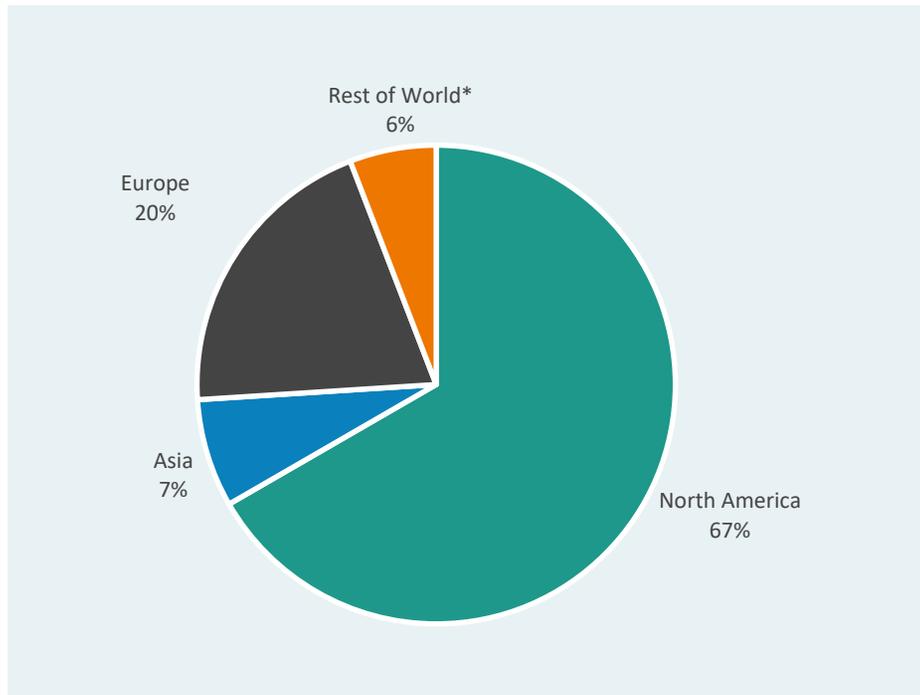


# Geography

## Portfolio Diversification

Period Ending: December 31, 2020

Geography	Reported Fair Value
North America	76,081,993
Asia	8,351,787
Europe	23,003,823
Rest of World*	6,678,713
<b>Total Portfolio</b>	<b>114,116,316</b>



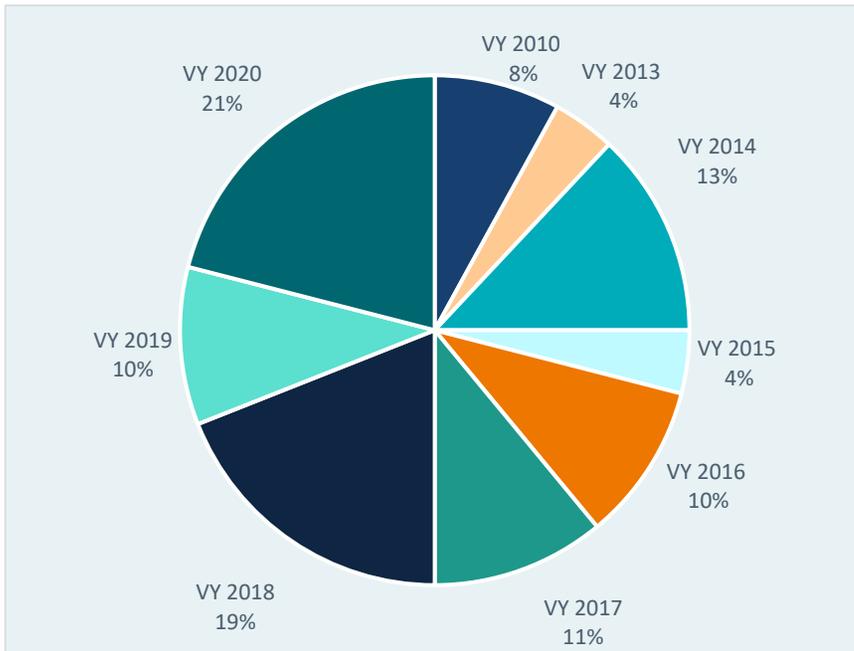
Based on invested capital as of December 31, 2020, if provided by the partnerships. The portfolio is expected to be US-biased given the mandate to hedge domestic inflation.

\* Rest of World includes Australia, Chile, Senegal, DRC, and Burkina Faso.

# Vintage Year Portfolio Diversification

Period Ending: December 31, 2020

Vintage Year	Commitment as of 12/31/2020	% of Portfolio Commitment	Reported Value as of 12/31/2020
2010	20,000,000	7.7%	0
2013	10,000,000	3.8%	3,405,930
2014	35,000,000	13.5%	24,408,670
2015	10,000,000	3.8%	12,781,086
2016	25,000,000	9.6%	17,506,494
2017	29,800,000	11.5%	18,525,972
2018	50,000,000	19.2%	29,828,977
2019	25,000,000	9.6%	7,659,187
2020	55,000,000	21.2%	0
<b>Total Portfolio</b>	<b>259,800,000</b>	<b>100%</b>	<b>114,116,316</b>



The portfolio is increasingly diversified by vintage year with larger capital commitments expected over the next 2-3 years.

- SamCERA committed \$20.0 million to Vision Ridge Sustainable Asset Fund III within the infrastructure portfolio at the March Investment Committee Meeting.
- Several GPs within SamCERA’s portfolio are coming back to market in 2021 so we will be revisiting those opportunities for potential re-ups.
- As the shift away from commodity-oriented sectors continues, we will look opportunistically for strategies in the space, but we expect infrastructure to occupy a larger share of real asset portfolios going forward.