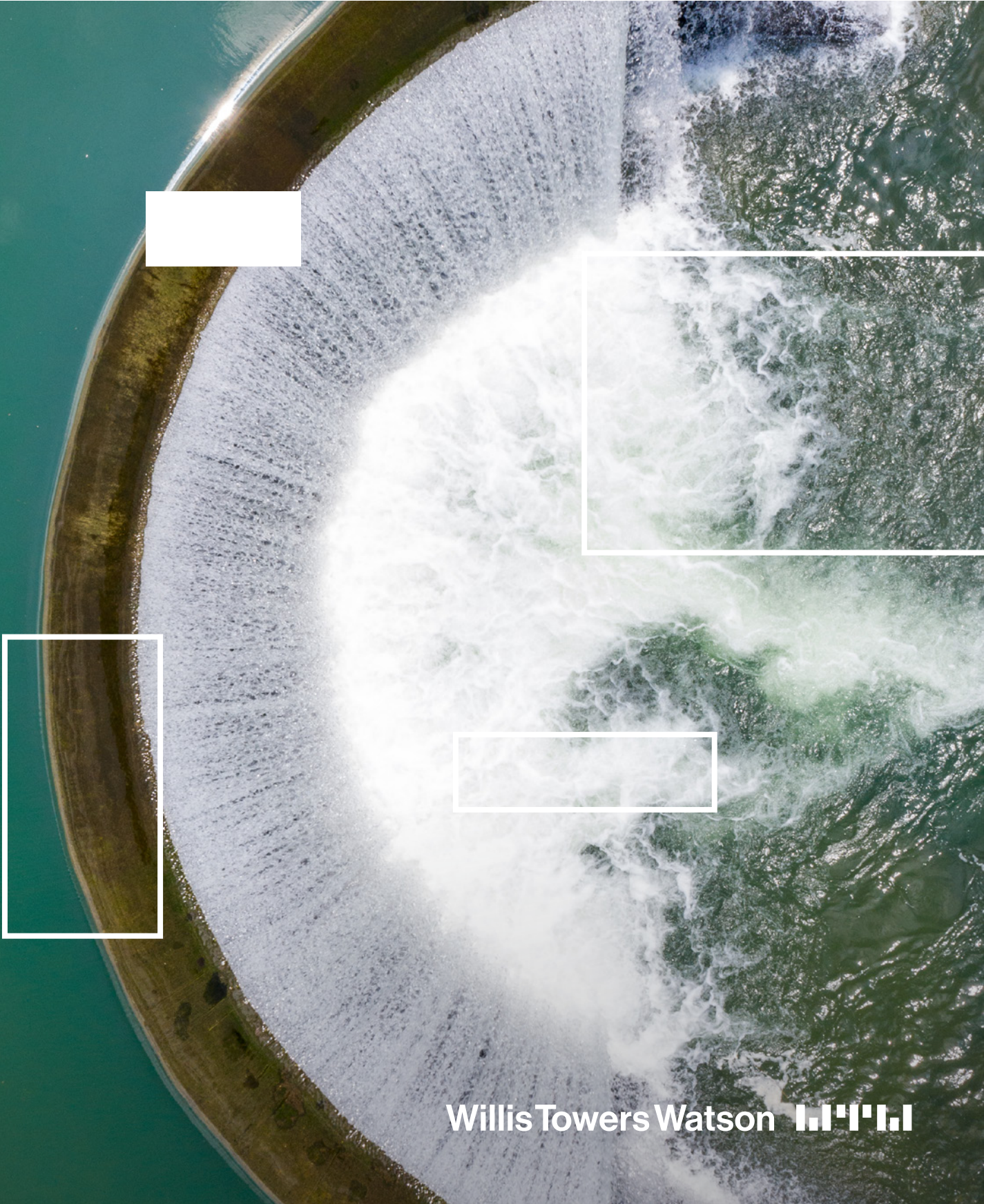


Investments

ESG in Real Assets:

A real world impact combined with potentially higher returns and lower risk



We believe that fully integrating ESG (Environment, Social and Governance) into the investment process leads to better and more resilient performance, and that sustainable investment (SI) is central to successful long-term investment outcomes. It is therefore a key part of Willis Towers Watson's beliefs and investment approach.

This paper explores some key challenges to effective integration of ESG factors within the investment process, how investing in real assets can help deliver real-world impacts, and an actual example of a recently rated investment.

Reasons for investors to consider ESG are numerous and range from a license to operate, to risk management purposes and identifying sustainable business models, to name just a few. However, some investors are yet to fully embrace this topic, perhaps not knowing where to start. We have been very vocal here, including via the [Thinking Ahead Institute](#), and have produced numerous articles on this topic as well as a toolkit to help kick-start the thinking process.

Once a sustainable investment strategy has been established, a challenge that often arises is measuring the actual impact on investments which has generally been difficult.

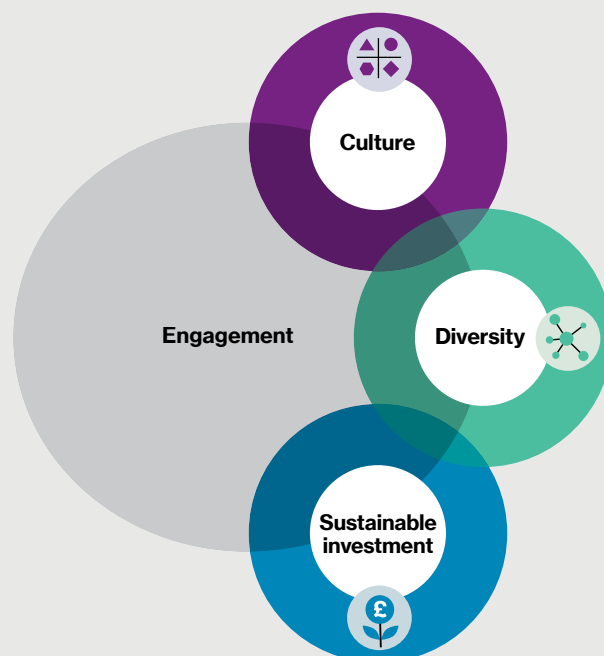
Further, it can prove challenging for investors to articulate an impactful ESG strategy in traditional listed assets, such as equities and bonds, where the challenges of delivering real-world changes are often significant.

The increased popularity of ESG means the vast majority of companies or asset managers will showcase a plethora of initiatives. But what impact are they having? And are these initiatives actually embedded across the organisation and within the strategies? These initiatives need to go beyond simply being a box-ticking exercise, marketing campaign or compliance requirement.

In the next section, we demonstrate how we integrate sustainability and ESG into our real assets research, aiming to provide higher and more resilient returns. We show that real assets can not only provide investments that fit within a well-established ESG strategy but also how it can facilitate ongoing measurements of real-world impacts given their physical nature.

Willis Towers Watson Asset Manager Engagement

As highlighted in the [Willis Towers Watson Manager Ideas Exchange 2020](#), there are three main areas of focus for our asset manager engagement: sustainable investment, (organisational) culture, and inclusion & diversity.





ESG in real assets research

We define real assets as tangible and physical assets typically found across real estate, infrastructure, renewable energy and natural resource sectors. Real asset investments are built to last and expected to provide ongoing value or services to society over several decades. It is therefore imperative to have a long-term mindset and be a responsible steward by ensuring these assets are sustainable and resilient for the future. We believe that the principles underlying sustainable investment form the cornerstone of a successful long-term investment strategy and that sustainability considerations can help materially reduce risk and potentially improve returns of our investments. As a result, ESG integration and sustainability are fundamental components of our research process.

Figure 1 below provides some key focuses of our approach to ESG when going through the three stages of our research process. In order to bring these to life, we will go through the thought process using a recent investment idea, controlled environment agriculture, which we rated in the sustainable agriculture theme.

Figure 1. **For strategies we recommend our clients invest in, we expect asset managers to:**



Sustainable agriculture theme example

This theme can be accessed via a number of different angles such as buying farmland, investing in farm operators, suppliers of agricultural inputs (e.g. seeds or fertilizer), commodities, etc. Separately, investment can be in pure development projects ('greenfield' in the industry jargon), implying the planning and construction of new assets, or through buying existing assets ('brownfield'), both of which will offer different risk and return profiles.

All else being equal, greenfield projects are typically riskier, but returns are usually higher to compensate. Since greenfield projects involve the creation of new assets it is typically easier to engage in the design and parametrisation of those assets and consequently it is also easier to quantify the real-world impacts of these investments.

Separately, buying brownfield assets offers an exit route to developers or investors in greenfield assets who can then recycle capital into new projects, and therefore it can stimulate the development of new projects. However, given brownfield assets are already built there is perhaps more limited scope for engagement unless a partnership exists between the developer and the strategic buyer, or if achieved through improvements over the life of these assets, potentially facilitating the quantification of real-world impacts.



We believe real asset investments are built to last and expected to provide ongoing value or services to society over several decades. It is therefore imperative to have a long-term mindset and be a responsible steward by ensuring these assets are sustainable and resilient for the future.

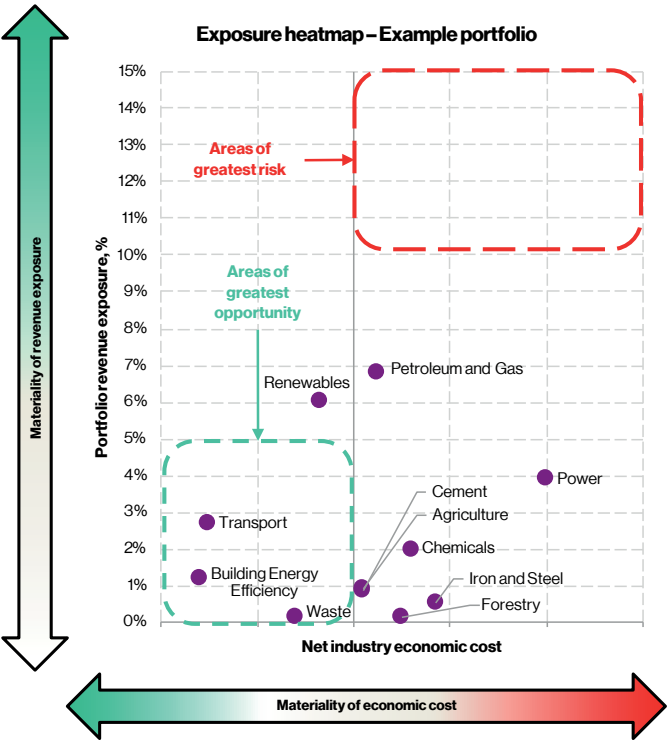
Below we highlight how we integrate ESG considerations in our process.

- 1. Themes and trends:** Our investment process starts with the identification of attractive themes or long-term trends in the real assets sectors. During this stage, we consider future societal needs (e.g. changing demographics, food scarcity, increased connectivity or sustainable cities); identify areas where governments have pledged support (e.g. subsidies regime or favourable regulatory environment such as climate change policies); and examine the evolution of consumer preferences (environmental focus, equality issues, or ‘instant’ access to goods & services).

We incorporate ESG considerations to determine attractive themes and focus our research allowing us to match investment opportunities with our long-term thinking and beliefs.

Figure 2 below outlines a framework that allows comparison between different portfolios or benchmarks under a climate risk lens – the heatmap identifies the portion of portfolio revenue exposure to various sectors on the vertical axis against the corresponding net industry economic cost on the horizontal axis. The bottom left corner represents the area of greatest opportunity where the portfolio exposure is currently low, but the net industry economic cost of those sectors is minimal.

Figure 2. Example exposure to climate risks and opportunities



Source: McKinsey Global Institute, Factset, Willis Towers Watson

- 2. Market mapping:** Once the identification of attractive ‘themes and trends’ stage is complete, we then need to understand the landscape, identify available strategies and search for high conviction teams with the appropriate skills for each of the chosen themes; we call this stage ‘market mapping’. During this stage we also consider ways to access a theme and at what stage of a project capital is the most needed to target a suitable return for our clients.
- 3. Manager engagement:** The next step is to engage in the design of the strategy and conduct in-depth due diligence on the investment strategy. In this stage, we spend considerable time assessing the extent to which, and success with which, ESG considerations are incorporated into the decisions made by the manager. Separately, we need to understand the exposure of the strategy to sustainability-related risks and opportunities, such as political risk (e.g. social unrest, trade wars or protectionism), operational risks (e.g. disruption of supply chains) or physical risks (e.g. likelihood of flooding or tropical storm). During this stage, we also produce a physical risk peril map, shown in Figure 3 below, to understand the extent to which these risks could affect the strategy. The physical risk peril map allows us to identify any specific asset location to help understand the potential climate-related risks. This is particularly useful when considering co-investment opportunities.

Figure 3. Example physical risk peril mapping

Breakdown by Peril					
	Winter storm	Flash Flood	River Flood	Tornado	Coastal Flood
Peril Score	3.13	2.87	2.73	2.13	0.67
% Locations	100%	50%	50%	50%	50%
% Asset Valuation	100%	86.7%	86.7%	13.3%	13.3%

Peril score is an average of each location's score, weighted by total insured value. Percent exposed indicates the proportion of locations by count or by total insured value with a high risk score for each (3 or higher)

Case study:

Controlled Environment Agriculture

Controlled environment agriculture is a technology-based approach toward food production with the aim to provide protection and maintain optimal growing conditions throughout the development of crops.

Production takes place within an enclosed growing structure such as a greenhouse. Plants are often grown using hydroponic or soilless-methods in order to supply the proper amounts of water (not too much) and nutrients to the root zone in a controlled and closed environment. This idea was identified within the sustainable agriculture theme and is helping to address a number of challenges that exist in the traditional agriculture sector such as:

- increased scrutiny on resource management (e.g. water management, top soil erosion, loss of biodiversity);
- government ambitions around food sovereignty and the shortening of the supply chains to increase resiliency (e.g. in light of climate change, increasingly extreme weather); and
- changing customer preferences towards more nutritious and higher quality produce leading retailers to increase their demand of produce grown in controlled environment facilities (e.g. increasing demand for more local and regional produce, and that the quality of fresh produce can often be the number one determinant of store selection by shoppers).

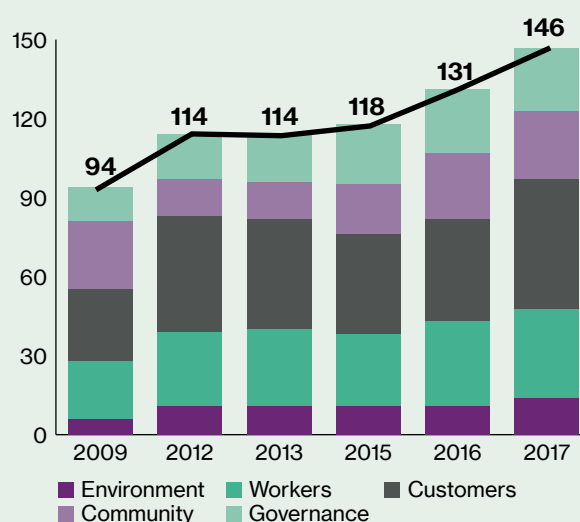
The Willis Towers Watson manager research team identified this opportunity in its early stages of development enabling us to secure capacity for our clients and help structure the investment strategy to ensure strong alignment of interests between the manager and investors. This manager put together a team of highly skilled professionals with complementary skills after gaining necessary knowledge through several years of research on the controlled environment agriculture sector. The findings of the project indicated that the North American food sector is undergoing a transformation to increase levels of controlled environment production driven by fundamental shifts in consumer demand. Established technologies have proven the production of fresh produce at-scale and at a price/quality point that works, providing the foundation for the growth of this sector.

The strategy will invest in existing assets (brownfield) and build a diversified portfolio of assets (greenfield), such as greenhouses, that use established technology to grow and



distribute fresh foods closer to end markets predominantly in the United States – looking to provide higher quality product whilst reducing carbon footprint resulting from transportation over shorter distances. It will provide project-level capital and expertise to operators of advanced agriculture facilities in exchange for long-term leases backed by those assets capable of addressing a growing consumers demand for higher-quality produce in a cost-effective and predictable way all year long. The manager meets standards of social and environmental performance, accountability and transparency under the Global Impact Investing Rating System (GIIRS)¹ as presented in Figure 4. As part of our investment due diligence process, we spent a considerable amount of time discussing sustainability of the strategy with the manager and integration of ESG to assess and quantify its impacts.

Figure 4. **Manager Impact Assessment – GIIRS Score – year over year**



Note: GIIRS scores shown in year first certified. 3 year certification unless recertification requested. In 2009, these categories were called "Environment, Employees, Consumers, Community, and Accountability." They may not be directly comparable with later years.

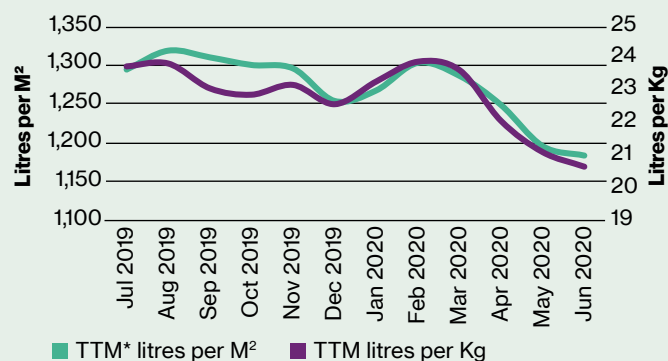
¹ GIIRS Ratings are the standard for funds that manage their portfolios impact with the same rigor as their financial performance, B Analytics 2020: <https://b-analytics.net/giirs-funds>

Environmental benefits of controlled environment agriculture versus traditional field agriculture are numerous and a key part of the investment thesis to ensure the sustainability and robustness of investment return of this novel strategy. Some examples include:

- Minimal use of chemicals and exposure to contaminants in the production process;
- 365-day production facilitates predictable source of supply and detailed tracking systems that ensure transparency on food safety from seed to shelf;
- Materially reduces the amount of water needed per unit of produce, which is important as most field lettuces and much other produce are grown in areas at increased risk of climate change and drought such as California and Arizona (one of the leafy greens facilities uses 10% of the water required for traditional field agriculture);
- Potential to substantially reduce energy consumption and carbon intensity associated with a unit of production through various initiatives such as the addition of renewable energy production on-site.
- Promotes soil health by preserving available high-quality soils for highest and best agricultural uses; advanced greenhouses are not reliant on soil quality, do not create erosion of top soil and do not require crop rotations;
- **Multiplier effect of 14-27x improved yields relative to field agriculture**, significantly reducing land-use requirements and can help reduce loss of biodiversity resulting from deforestation; and
- Measurement of carbon intensity¹. Where feasible, the strategy tracks operational carbon usage of its facilities from primary energy consumption. The asset manager is researching how to determine the baseline for carbon mitigation to compare against field agriculture.

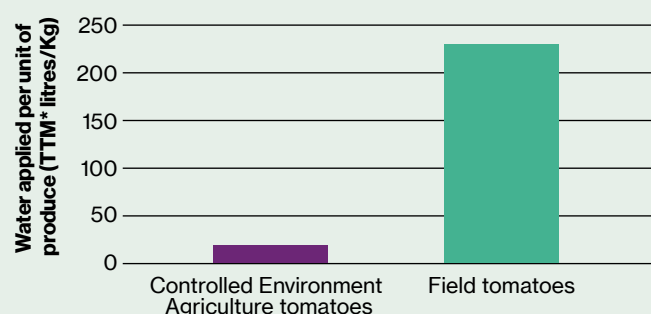
¹The atmospheric waste carbon (CO2 equivalent per output weight, e.g. MtCO2e/ton)
 *TTM = Trailing twelve months

Figure 5: **Strategy water use over time**



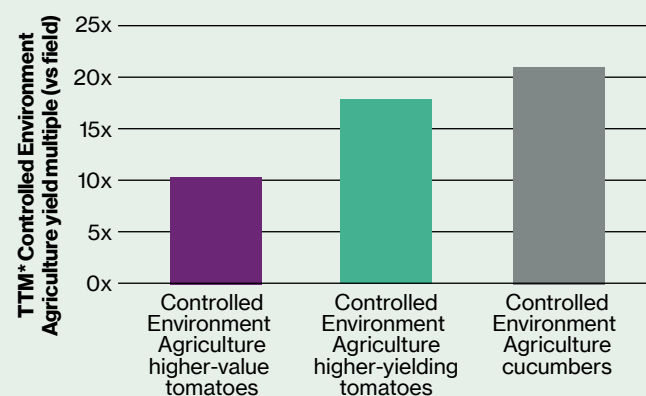
Source: Manager, 2020

Figure 6: **Strategy water use vs field agriculture**



Source: Manager, 2020

Figure 7: **Strategy yields improved vs field agriculture**



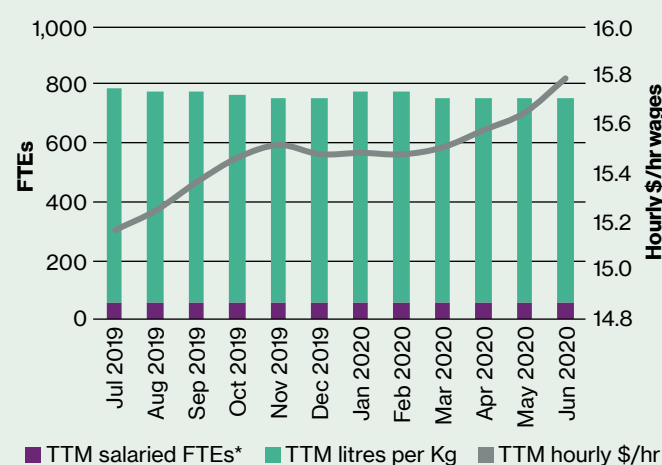
Source: Manager, 2020



Societal benefits resulting from controlled environment agriculture affect the community in which those facilities are located, and some examples of the positive impacts are:

- Produce is harvested when ripe, avoiding the need to spray chemicals 'en-route' to begin the ripening process (which is often required with traditional methods), leading to more nutritious food and improved shelf life once it arrives in-store. For example, one of their leafy greens facilities is located just 60 miles outside of Minnesota and produces ~4m pounds of leafy greens and lettuces a year, enough to provide for 300,000 people;

Figure 8: **Employment characteristics of the strategy**



Source: Manager, 2020.

*TTM = Trailing twelve months and FTEs = Full-time equivalents.

- Employees of controlled environment facilities typically receive higher wages and also do so for the whole year rather than during the harvest season only. Work is also more ergonomic (e.g. strawberries planted at waist height), so can be less physically demanding when compared against field agriculture, leading to better working conditions and fewer injuries;
- Job creation with full-time equivalent positions added during the construction and pre-development phases of the projects, as well as a number of permanent jobs that are created or maintained over time (once the expansion of their leafy greens facility is completed, it will provide family-wage full-time jobs to 30 workers); and
- Controlled environment agriculture jobs can offer the possibility for better career progression in the organisation when compared against temporary field agriculture jobs.

Governance is an area in which we have significant experience and have had meaningful impact as a result of our clients and amount of capital we represent. This, in turn,

allows us to credibly engage with managers and industry bodies on important issues within governance (e.g. fees and terms structures) or in areas such as culture, inclusion & diversity and sustainability. Furthermore, we work with managers to tailor mandates thus increasing alignment with investors whilst reducing risks associated with the investment strategy. For example, here are some ways in which this strategy provides a strong governance framework:

- As a responsible steward of capital, the manager oversees and shares best-practices across the underlying operating partners in addition to encouraging health and safety initiatives. The manager has an official ESG policy and measures the impacts of the strategy's investments;
- We engaged with the manager to put in place investment guidelines (e.g. counterparty concentration, use of leverage, rent coverage limit, etc.) and enhanced transparency in reporting and communications with investors;
- We have conducted Operational Due Diligence on the manager and the strategy in an effort to reduce unrewarded risks for investors; and
- We have negotiated fee discounts to help our investors benefit for backing such a nascent strategy and ensure they retain a fair share of the total expected return.

Furthermore, we can look at recent examples in which this strategy has shown resiliency to different unexpected shocks.

- In December 2018 and November 2019, there were outbreaks of E. coli infections linked to romaine lettuce in the United States leading to significant recalls. However, the leafy greens grown in controlled environment facilities were excluded from these recalls as the enhanced traceability and controlled environment limited the risk of contamination. As a result, these facilities have seen an increase in demand for their produce given it was deemed safe during these outbreaks.
- In 2020, the Covid-19 global pandemic reached most states in the US resulting in varying degrees of lockdown measures which led to severe contraction in economic activity and restrictions to business operations (controlled environment facilities were deemed essential and allowed ongoing operations). As a result of those measures and people being encouraged to stay home, there was a significant increase in demand for fresh produce. This caused prices to rise temporarily which led to record revenues for controlled environment operators. This also helped the owners of the facilities as they benefited from increased rent coverage and the performance rent element of income.

This is a sample representation of our work with an investment manager. Outcomes will vary and there is no guarantee that we can achieve any particular results with any particular manager in any particular asset class.

Who said ESG must come at the cost of lower expected returns?

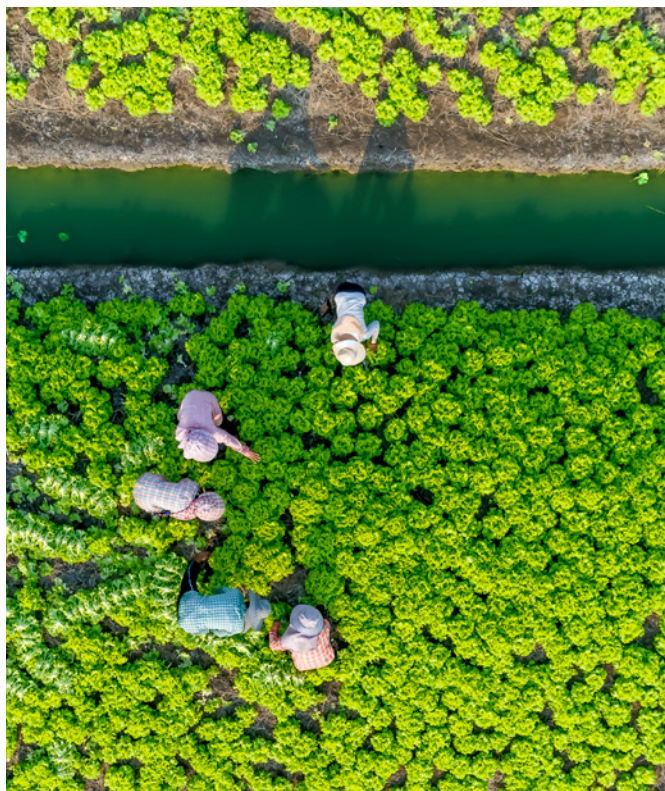
The controlled environment strategy discussed previously aims to deliver strong returns to investors underpinned by a resilient current income from leasing or partnering on facilities that are managed by experienced greenhouse operators. Additionally, most leases include an additional performance rental income that provide upside potential, additional inflation protection and alignment between the strategy and the greenhouse operators.

We believe the thematic tailwinds and sustainability credentials supporting investment in this sector combined with the manager's first mover advantage and market position further support the attractiveness of this opportunity. The strategy has the potential to deliver strong risk-adjusted returns whilst helping provide additional diversification benefits to an investment portfolio and doing so in a resilient and sustainable way providing real-world quantifiable ESG impacts.

As we adapt to live under a 'new normal', the start of this new decade still feels surreal to say the least. We live at a time when the limits of what we considered possible have been bent, such as the record level of deficits observed across developed nations and shutdown of a number of the world economies for several weeks. We believe this new paradigm will drive an ever deeper focus on sustainability and help unlock opportunities for investors operating under an integrated ESG framework.

As an industry, we believe we must truly integrate sustainability and rethink the limit of what is possible and necessary to secure a viable future.

We believe a greater focus should be put not only on the integration of sustainability and ESG within investment processes, but also on improved accountability through better measurement and transparency around real-world impacts generated by those investments. We believe such ideals can be facilitated through investing in real assets and doing so while potentially securing higher and more resilient investment returns.



For more information

Please contact us if you would like to know more about how real assets can support your strategy.

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