



ESG Investing

Operational excellence in real assets

Joachim Klement, CFA
Head Investment Research

Click or tap to enter a date.

“

This report is part four in our trilogy on ESG investing in real assets. We focus on the most important steps investors need to take to integrate ESG criteria throughout the lifecycle of a real asset investment. As we will show, integrating ESG-related tasks into the operation of real assets is likely to reduce costs and boost returns for investors.

”

This communication contains written material that is generic in nature and not related to a specific financial instrument. It is not personalised to reflect the circumstances of an individual client and therefore does not amount to a personal recommendation to any person. It does not contain any substantive analysis and does not and is not intended to recommend or suggest any investment strategy or opinion as to the future value or price of financial instruments of any kind. This communication is also made openly available at the same time to any investment firms wishing to receive it or to the general public on the Fidante Partners Europe Limited ("Fidante Partners") website www.fidante.com. Recipients of this communication based in the EEA who are subject to regulation under MiFID should note that while they must make their own determination Fidante Partners Europe Limited ("Fidante Partners") is of the view that this communication constitutes a "minor non-monetary benefit". This communication will not be regularly updated.

Introduction

When we wrote our series of three papers on ESG integration in real asset investments, we focused on the benefits and challenges of selecting ESG investments in listed and private markets for infrastructure, property and natural resource investments.

However, one of our colleagues came to us, saying that we should also focus on the operational challenges of ESG integration in real assets – essentially all the things that should be done and that potentially go wrong when planning, constructing, and running a property or a piece of infrastructure.

We have a hard time saying no to such requests, so in the best tradition of the "Hitchhiker's Guide to the Galaxy" this report constitutes the fourth part in our trilogy. In it we will focus on the environmental, social and governance challenges throughout the lifecycle of a real asset. We aim to enable investors and asset managers to achieve a higher level of operational excellence when assessing and managing real assets.

The following sections track the typical lifecycle of a real asset investment:

- Planning and development
- Construction
- Usage
- Recovery and recycling

For each of these four stages, we will try to outline the most important challenges in the E, S and G dimensions and provide guidance on how to best address them. We will also try to sprinkle in a few case studies so that readers can get a better understanding how other investors have tackled some of these challenges.

Before we address these questions, let us state again, though, that pension funds, insurance companies and other institutional investors who want to invest in real assets need to have the appropriate internal structures in place before engaging in these investments. A clear commitment of the entire organisation and senior management to ESG-related policies needs to be in place. Written guidelines, such as investment policy statements or ESG strategy descriptions for the organisation help gain a common understanding how to engage in ESG-related matters.

And of course, the proper monitoring and controlling mechanisms must be in place to compare actual developments in ESG factors within specific investments with the stated goals of the organisation. In the previous three reports in this series, we have provided guidance how this can be achieved in each of the major real asset classes.

Planning and development

In this section we address the ESG-related challenges that arise during the planning and development stage of a real asset. No matter whether we are talking about property or infrastructure projects, this stage is dominated by the acquisition of land and, if necessary, the change of its zoning status to the desired use. It also covers the planning efforts for the project, including the application for regulatory approvals.

Because of its fundamental nature and because the development stage is often outsourced to dedicated external developers who then hand over the project at construction or after construction is finished, bad practice in this stage can have a negative impact on all subsequent stages. Insufficient environmental planning, for example, potentially creates hazards and substantial unforeseen costs during the usage and the recovery stage of the lifecycle.

Land governance

One of the key requirements for any real asset project is to secure a title to an appropriate piece of land that is fit for purpose. In developed countries, this means ensuring that the title of the land is secured and registered at the appropriate authorities and that no disputed ownership issues exist. The land also needs to be designated for the desired use, be it residential or commercial property, roads, farmland, etc. This may seem straight forward at first, but even in highly developed countries like the US, land disputes are common. Faulty registries, unknown ownership and even forged title deeds can create a host of legal problems for a new project before it even begins. Companies should ensure that land acquisitions have been done properly and recorded in official government registries. When possible, title insurance can sometimes help reduce the risk of legal costs for land disputes.

The issue of land governance becomes much more crucial in emerging markets where land sometimes has been expropriated from indigenous people or obtained from deforestation. Greenfield projects are particularly vulnerable to these risks.

With respect to land governance we thus recommend the following steps investors and their agents should take to mitigate risks:

- Ensure that land is acquired using the official government institutions and at fair market prices. Previous owners may also need to be compensated for lost harvests and other forms of forfeited future income.
- Carry out a full ESG impact assessment that adheres to the [FAO Guidelines of Responsible Governance of Tenure](#) that protect basic human rights, such as access to drinking water, food, housing, etc. Part of this ESG impact assessment should be a full consultation with residents and other stakeholders to guarantee the rights of indigenous people and local land owners. Part of the consultation process should also be the establishment of dispute resolution mechanisms that are accepted by all stakeholders.
- Ideally, hire local businesses and local labour to provide additional economic benefits to the communities.

The benefits of these practices are straight forward. They help avoid unwanted surprises at later stages of the lifecycle and at the same time create goodwill with the local community. There is no use in having title to a piece of land if construction is blocked by protesting indigenous people who consider this land sacred and want to prevent a pipeline on it. This is what has happened to the developers of the Keystone XL pipeline and it caused massive delays and cost increases, not to mention the reputational damage to the developers.

Case study: TIAA-CREF farmland investment¹

TIAA-CREF is one of the largest providers of retirement and investment funds in the US. In 2012 the company established a global agricultural company, TIAA-CREF Global Agriculture (TCGA) with \$2bn in assets from institutional investors. TCGA looks to invest in farmland, predominantly in Australia, the US and Brazil.

To select appropriate pieces of land, TCGA follows several due diligence procedures prior to acquisition. Projects that do not meet the [UNPRI Farmland Principles](#) are rejected outright. The projects that meet these standards have to pass additional due diligence criteria that cover a detailed analysis of previous ownership, the identification of any boundary disputes, the uses and conditions attached to the land and any environmental issues like the presence of rare species or fragile wetlands. TCGA also checks for any issues concerning water rights, patent rights, crops usage, etc.

Once an investment is made, TCGA applies the TIAA-CREF corporate governance standards to address issues like voting rights, anti-corruption measures and compliance with local law. To ensure that their farmland investment does not lead to deforestation the company focuses on improving the productivity of existing farmland and each investment has to undergo regular environmental assessments that are made by TCGA representatives on site.

TCGA's cooperation with the farmland operators depends on the type of crops cultivated on the land. For annual crops the farmer leases the land from TCGA and pays rent. The farmer is responsible for growing, harvesting and selling the crops providing an incentive to create the best possible harvest. For permanent crops (e.g. nuts or timberland) the farmer is employed by the investment entity providing an income in the years when the trees and vines are not fruit-bearing. The farmer has a crop management contract with TCGA to ensure the farm is managed according to the standards desired by the investor, but the trees and vines belong to the investor as they form a substantial part of the value of the farm.

Corruption

Corruption can thrive in countries and regions where there is a lack of governmental oversight or where the rule of law is not properly enforced. Particularly in emerging markets, corruption can be widespread or even an integral part of "doing business". The damage to an investor's reputation, let alone the potential financial damage for engaging in corrupt business practices can be massive. In the US, the Securities and Exchange Commission (SEC) can fine any company that has issued stocks in the US for corrupt business practices anywhere in the world. The list of offenders reaches far beyond the well-publicized record fines of \$3.2bn for Brazilian company J&F in 2017. Here is a short list of examples from real assets related fines in 2018:

- Petrobras had to pay \$1.78bn in a resolution arising out of massive bribery and bid-rigging for energy projects.
- United Technologies was ordered to pay \$14m to settle charges that it had made illicit payments to facilitate sales of elevators.
- Kinross Gold agreed to pay \$950,000 for violations of accounting controls in Africa.
- Israeli company Elbit Imaging paid \$500,000 for illegal payments to consultants in a property deal.

Corruption costs are particularly high in public infrastructure projects where Transparency International estimates that losses due to corruption can range between 10% and 30% of the overall contract value. The global cost of corruption is estimated to be around 5% of global GDP.

¹ Adapted from Kaminker, C. et al. (2013). "Institutional Investors and Green Infrastructure Investments: Selected Case Studies." OECD Working Paper on Finance, Insurance and Private Pensions, No. 35.

Avoiding corrupt activities provides clear financial benefits but it also reduces reputational risks and encourages innovation since companies that do not engage in corrupt business practices have to compete on other dimensions.

To foster a more transparent business environment and reduce corruption, investors and their agents should:

- Put in place control and oversight mechanisms that prevent people from engaging in corrupt business activities. This includes different measures from training employees on corruption issues, introducing whistle-blower policies to adopting anonymous bidding procedures in the form of sealed bids and other mechanisms.
- Introduce local ethics committees that assess all reported and known ethics issues on a case by case basis and report these issues together with the actions taken to the investors.
- Publicly report progress and achievements on transparency and anti-corruption measures as well as promote transparency measures with other business partners.

Labour rights

Because developers and constructors often use sub-contractors, ensuring that labour rights are followed through the entire supply chain of a project can be difficult. Labour rights abuses can range from the suppression of labour unions, to slave and child labour in the most extreme cases.

Because of the immediate impact to local communities, violations of labour laws are amongst the most likely ESG-risks to materialise in practice. On the other hand, there is hardly an issue that lends itself more to creating goodwill than upholding labour laws and treating workers fairly. This can be done through the following measures:

- Thoroughly assess the impact of a real asset project on human rights and labour rights. Developers should have a publicly available and frequently monitored labour rights supply chain policy.
- Investors and their agents should conduct due diligence about labour practices of suppliers and sub-contractors, especially in countries where labour laws may not

prohibit child labour or where labour laws may not be enforced by authorities.

- Investors and their agents should refuse to do business with suppliers and sub-contractors that do not have a proven track record of respecting worker's rights as well as rights of vulnerable groups, such as women, racial minorities or migrants.
- Investors and their agents should ensure a healthy and safe work environment in accordance with international labour standards, not just local standards which may be lower.
- Ideally, investors and their agents should hire local small businesses and women-owned businesses to support their development.

Environmental issues

Environmental issues in the planning and development stage can range from an understanding of risks such as water contamination, management of vulnerable ecosystems and waste recycling to more comprehensive issues like sea level rise and the impact of climate change on the project throughout its lifecycle.

Environmental impact assessments of the planned project are becoming increasingly the norm and are typically demanded by regulators in the developed world. These impact assessments typically cover the expected use of energy and the expected emission of greenhouse gases of the project. They also typically study the impact of the planned project on local wildlife, as well as valuable resources like groundwater, local lakes and rivers. The impact on local infrastructure in terms of additional traffic is also typically assessed as is the impact of noise pollution on local residents.

Beyond these environmental impact assessments, investors and their agents should consider taking additional measures to reduce greenhouse gas emissions through insulation and other measures designed to reduce energy consumption. Especially in or near urban areas, the improvement of local greenspaces and more efficient land use (e.g. ensuring walkability of local areas or easy access to public transportation) can additionally reduce ESG-related risks.

The current gold standard for projects is to engage in a full Life Cycle Assessment (LCA)

of the project according to ISO 14040. An LCA assesses different project alternatives and their environmental impact throughout the entire life cycle of the asset. In order to do this, developers need to get

Construction

Enforcing high standards of worker and building safety during the construction phase is paramount. Additionally, investors should ensure that no corners are cut with respect to building materials and construction processes to avoid potential life-threatening disasters once a building, a road, or any other infrastructure asset has been finished.

The use of cheap or even illegal building materials can threaten the static integrity of an asset and may endanger the lives of inhabitants and users of the asset. For example, on 15 March 2018, a 53m long pedestrian bridge in front of the campus of Florida International University in Miami collapsed as construction was about to be finished. The bridge collapsed on a road underneath that had already been opened to traffic, killing six and injuring nine people.

Similarly, toxic building materials (e.g. asbestos or lead paint) can lead to adverse health outcomes and expose the owner of the asset to legal and operational risks that can, in the worst case, force a total shutdown of the asset.

A well-designed construction, on the other hand, can reduce the costs for waste recycling and waste disposal, the costs for heating and air conditioning the asset throughout its use phase and reduce insurance costs. As we have discussed in our previous report on property investments, high construction standards that reduce energy usage of buildings are associated with higher market prices for the property and lower vacancy rates, creating a direct economic benefit from incorporating ESG-

Environmental Product Declarations from all their suppliers that certify the product standards for all the components used in the project throughout the life cycle.

related criteria in the construction phase of a project.

Investors and construction companies can ensure high construction standards through the following steps:

- Only hire experienced professional construction companies with a proven track record of safety and know how in the construction project at hand. Ensure that these construction companies follow local and ideally international construction standards, such as ISO 9001 (Quality Management System) and ISO 14001 (Environmental Management System).
 - Ensure that buildings and infrastructure assets can safely sustain foreseeable loads and impacts. This includes potential hazards from wind, flooding, fire, seismic shifts and sea level rise due to climate change.
 - Ensure that only high-quality materials are used. They should be free from toxic ingredients and not so fragile that they could pose a danger to future users.
 - Ideally, reflect potential future changes of use to the asset and construct the project in such a way that changes can be made with minimum effort in the future (e.g. through modular construction of buildings and airplanes).
 - Closely work with stakeholders that construction standards are maintained (e.g. by working with unions) and protect whistle-blowers.
-

Case study: Modular building in Singapore²

In 2014, Singapore-based BBR Holdings pioneered the use of the Prefabricated Prefinished Volumetric Construction (PPVC) method to build an apartment complex with 638 flats. Adopting this technology helped in several respects. First, worksite safety was increased as the building modules were prefabricated in a factory and assembled on site. It also reduced waste during the construction of the building and enhanced construction quality as individual modules could be tested in the factory before use in the construction. The use of prefabricated bathroom units allowed productivity gains of up to 80% and led to significant cost reductions. The company estimates that productivity gains amounted to 40% for the entire project and saved about 55,000 man days. Today, the Singaporean government requires PPVC based construction methods in almost half of new land sales.

Usage

Investors face similar ESG-related challenges during the use phase of a project as in the planning and development stage insofar as transparency and anti-corruption measures, labour rights and environmental risks must be managed. Yet, the issues arising during the usage of the project can also be distinctively different.

Key issues in transparency centre around money laundering, ineffective decision-making, and maintenance neglect. In terms of labour rights, issues like excessive working hours, worker discrimination and minimum wage standards are the most relevant. Finally, environmental issues typically focus on energy consumption, waste management and carbon emissions.

Above, we have discussed some of the steps investors can take to ensure that these issues are properly addressed in the planning and development stage that are also applicable to the usage stage. Here we want to focus on additional issues and challenges unique to the usage of real assets.

Transparency and data protection

Money laundering is particularly prevalent in real estate projects. In order to reduce the risk of money laundering activities, investors should establish robust internal compliance programs, including employee training and whistle-blower policies, and ensure proper oversight of transactions.

Another area of special concern is data protection and cybersecurity. Because different infrastructure projects may require the storage of sensitive data, data protection policies and safeguards against hacking and data theft need to be put in place to prevent unauthorised access to sensitive data.

Similarly, crucial infrastructure projects like airports, power plants or electric grids may be taken hostage by rogue actors which could lead to significant damage to the overall society that could endanger lives. In the UK in 2017, about half of the crimes in the country involved cyber security in some way, according to the National Cyber Crime Unit. Yet, law enforcement agencies remain severely underfunded and untrained in this area. This means that investors need to protect themselves since prevention remains the best defence in this case.

A third area of concern is reporting transparency. Because infrastructure, property and natural resources are famously opaque with regards to performance metrics, it is often difficult for investors to benchmark the performance of their investments in economic and ESG-related dimensions. Standards like the ones defined by the [Global Reporting Initiative](#) (GRI) help increase transparency and enable investors to improve investment outcomes.

² Adapted from RICS (2015). "Advancing Responsible Business Practices in Land, Construction and Real Estate Use and Investment."

Environmental aspects

The main focus of environmental risk management during the use phase of an asset is on the amount of energy consumed running the asset and, linked to it, the amount of greenhouse gases produced. Efficient water management and waste disposal/recycling are the other dominant environmental dimensions to focus on.

As a result, investors and the management companies running the assets should make resource efficiency a focus of their daily operations:

- Adoption of ISO 50001 for energy efficiency in operation or ISO 14001 for resource management in operation help provide internationally accepted standards for resource efficiency.
- Monitor resource consumption of the asset during the use phase (e.g. through meters or digitised smart meters) and introduce energy and resource efficient technologies during the maintenance of the asset.
- When sourcing suppliers and renting the asset to other users, consider including environmental clauses in the contracts that provide clear standards for resource efficiency that are regularly monitored.
- Especially infrastructure projects, but also property projects tend to have an element of landscaping involved. Ensure that greenspaces are designed to enhance biodiversity and adapted to the local climatic conditions. Exotic plants may look pretty but tend to consume a lot of extra water.
- Consider reducing energy needs through the installation of solar panels, wind turbines or other renewable energy infrastructure on the premises. Similarly, consider introducing waste water regeneration units and separate brown water usage.

Treatment of communities

Infrastructure and natural resource projects tend to be ugly, noisy and potentially smelly. Similarly, many properties are mostly functional first and don't always win architecture prizes – and even the ones that do may have a look that only an architect can love. During the use phase, workers, tenants and the local communities have to

live with different kinds of emissions an asset produces.

In order to reduce tensions with local residents the operator of an asset should ensure proper dispute resolution mechanisms are in place that are accepted by all parties. Regular community outreach projects and “townhalls” where local residents can voice their concerns are also helpful. Of course, special interests (e.g. from indigenous people) need to be accommodated where possible.

While the issues mentioned so far are relevant to all real asset projects, investments in real estate create additional challenges simply because people not only have to live *with* the asset, but *in* it. The following measures are recommended to investors and managers of property to treat tenants fairly:

- Ensure that no tenants or potential tenants are discriminated against or harassed. Rental contracts for tenants should be fair and rents should conform to local rent standards. Also ensure tenants are treated fairly when in arrear with their rents or evicted.
- Ensure that the building is maintained regularly and problems are fixed quickly. Any serious health and safety issues need to be addressed immediately.
- Ensure that the building is safe and legal requirements for health and safety are adhered to by both the company manager as well as any sub-contractors. Sanitation facilities should be maintained regularly and provide for the special needs of women and disabled people.

Labour and human rights

Labour rights of workers who work on the site as well as sub-contractors who carry out project-specific work on site need to be enforced. This means that:

- Investors need to enforce the standards of the International Labour Organisation in contracts with workers and sub-contractors.
 - Investors need to ensure that there is no child labour, slave labour or illegal employment in the project. Minimum wage regulations and other local labour regulations need to be enforced. Ideally, employers adopt an individual policy of
-

what constitutes a living wage (which often is higher than the legal minimum wage) and commit themselves to paying at least this living wage.

- Employers running the project need to ensure that safety equipment is available

at any time and employees are regularly trained on health and safety issues.

- Employers should introduce diversity programs to promote diversity and gender equality within the workforce.

Case study: Welsh Water RainScape³

Most sewage systems are single pipe constructions that have to carry both wastewater and rainwater. This means that in times of heavy rainfall the sewage system may not be able to cope with the amount of water and sewage may spill out of the sewage system, polluting land or houses. Instead of building expensive overflow tanks and installing additional pipes, Welsh Water learned from peers in Malmö and Portland, Oregon, how to use surface water schemes to reduce the risk of pollution.

Shallow planters and basins were installed in cities and villages. These basins capture rainwater, store it and filter it as it passes through the root systems of the plants. Long, shallow channel of surface water collect runoff and are constructed so that the water infiltrates the soil only gradually. Grass channels and filter strips were installed on side streets and back alleys. Through these strips, surface water can soak into the ground instead of running into the sewage system.

These measures make the environment more attractive and create new habitats for wildlife. Additionally, Welsh Water initiated a community outreach programme, where customers who live near existing or future sites can meet company representatives to provide feedback and help Welsh Water develop the scheme further.

Recovery and recycling

As a project reaches the end of its economically useful life, the asset needs to be demolished, refurbished or otherwise re-used. If the project is demolished, then brownfield restoration becomes a final step in the lifecycle of the project. Each of these different options at the end of the lifecycle brings with it a different set of challenges and opportunities for ESG investors.

Refurbishment and restoration

The case of property investments has a unique end of life option in the potential refurbishment or restoration of an existing building. Most buildings are used for much longer than the originally planned project length. Similarly, most buildings in use today have been built long before ESG-related issues were considered as part of the construction or use phase. This creates opportunities to refurbish existing buildings to update them to modern standards. Depending on the project, refurbishment can be a low-level intervention, such as the

introduction of energy saving lighting, motion sensors to regulate light and air-conditioning systems, or the introduction of blinds. More commonly, refurbishment will consist of more invasive measures like the introduction of double or triple glazed windows, a newly insulated modern façade, or the introduction of solar panels and heat pumps to generate electricity.

Investors and their agents should consider the following measures to mitigate greenhouse gas emissions and improve resource efficiency of buildings:

- Systematically review the options for refurbishment including their impact on the economics and performance of the building. This typically requires a trade-off between upfront capital expenditures and long-term gains from new uses.
- Review the level of protection and resilience against fire, flooding, wind and

³ Adapted from Welsh Water website.

the effects of climate change such as heat waves and more intense rainstorms.

Demolition

When a building, an infrastructure asset or any other real asset is demolished, waste reduction, recycling and health and safety of the workforce become the dominant issues for ESG investors. Materials that may be safe to use during the use phase of the project may become hazardous when demolished. Plasterboards, for example, are perfectly safe to use, but once they end up on a landfill the exposure to rain leads to chemical reactions that create the toxic gas hydrogen sulphide that creates a severe health risk.

Ensuring that the demolition is done professionally and safely requires several steps:

- Before starting the demolition, a demolition audit should be conducted. Such an audit should define a demolition schedule and focus on avoiding waste that ends up in landfill and maximising the recycling of existing materials. The demolition audit should also pay particular attention on how to handle and dispose of hazardous material.
- Waste management strategies must include the entire process from demolition to the final disposal of the waste. This also includes temporary disposal sites and haulage of the waste.
- All legal requirements must be followed, and any required certifications must be available from the demolition company or the responsible sub-contractors.
- Ensure that safety standards for workers as required by local law or the International Labour Organisation (whichever is more stringent) are followed.
- Ensure that wastewater is handled correctly and does not pollute groundwater or any nearby surface water areas.
- Ensure that waste material is not stored in places that affect the local community without prior informed consent.
- Minimise the negative impact from noise, dust and other pollutants on local residents.

Brownfield regeneration and land recovery

Brownfield sites often suffer from contaminated soil and structures. Pollutants, such as pesticides, asbestos, lead or other heavy metals may be distributed across the site. Depending on zoning laws and other regulations, the brownfield site can, however, be cleaned up and reused for other commercial purposes, such as office or retail property. Especially in densely populated areas, brownfield regeneration is paramount to prevent the destruction of arable land or valuable green spaces. While many of the steps that need to be taken by investors and their agents are similar to the ones described in the land governance section of the development stage, some challenges are unique to the task of brownfield regeneration:

- Review planning, legal, and environmental restrictions that restrict how brownfields may be used in the future.
- Examine the impact of pollutants on the local community at the moment, as well as the potential future impact after regeneration and the potential hazards during the regeneration process. Ensure the health and safety of workers and the local community during the regeneration works.
- Engage with the local community and consult with them on planned and current work done at the site.

If a brownfield regeneration is not feasible, land recovery techniques to restore the land to its original state or create new green spaces are called for. Land recovery techniques aim to speed up the regeneration of a location and reduce the time until the location reverts to its original state. These techniques are most commonly employed in the natural resource area to clean up unused mining and oil drilling sites, for example.

A common challenge to land recovery projects is how to deal with invasive and introduced species. Foreign crops as well as plants used in greenspaces of the former asset may become endemic and damage the native plants. Especially if a site has been abandoned for some time, these invasive species may have proliferated considerably, creating additional challenges to the recovery process.

A comprehensive plan for land recovery should consist of the following elements:

- Assess competing demands for rural and agricultural land use.
- Examine potential use for forestry, bio-energy, and wildlife.
- Evaluate the value of the land as resource for clean water, marine resources, timber or other food items.
- Assess the possibility to recover the land for agricultural use.
- Consider ways to promote native species and create new habitats for existing species. Ensure that these habitats are adequately connected to existing habitats, so species can migrate from old habitats and populate the newly available space.

Case study: Recycling during a demolition in Oslo⁴

A hospital building complex had to be demolished as part of an urban renewal project in Oslo. The demolition was expected to produce 90,000 tonnes of waste material but thanks to good planning with a focus on material recycling and reclaiming, 98% of the waste could be recycled or reused:

- Waste produced during the demolition was collected and sorted on site.
- Subcontractors were contractually obligated to minimise and collect waste and packaging material.
- Hazardous materials like asbestos, lead and PCB from fluorescent light tubes were collected separately and safely deposited.
- 27,000 tonnes of concrete and 9,250 tonnes of brick were crushed on-site and reused for road construction, pathways and landscaping.
- 2,300 tonnes of granite staircases were used as outdoor steps and for walls in the new development.
- 18,000 tonnes of concrete and bricks were reused to create landslide barriers outside the city and as sub-base material for a car park.
- 3,000 tonnes of steel were recycled and reused for other building projects.

In total, the recycling efforts saved \$700,000 in transportation, disposal and construction material cost – roughly 10% of the total demolition costs.

Summary

In this report we have tried to show which measures can and should be taken to mitigate ESG-related risks throughout the lifecycle of a real asset investment. While the list of tasks may seem daunting at first, we want to stress two points that shine through time and again:

- The most important issues to consider in dealing with ESG-related risks in real asset investments are connected to labour rights, environmental stewardship, transparency and anti-corruption measures. These are the areas that pose significant risks throughout the lifecycle of a project and at the same time are relatively straightforward to manage.
- Taking ESG-related risks into account makes good economic sense. It reduces the costs of development, construction, usage and demolition and it increases use value and resale value. Considering environmental, social and governance criteria in a real asset investment is not just a nice to have, but a true return boost for the investor.

⁴ Adapted from RICS (2015). "Advancing Responsible Business Practices in Land, Construction and Real Estate Use and Investment."

RESEARCH

Joachim Klement
+44 20 7832 0956
jklement@fidante.com

Martin McCubbin
+44 20 7832 0952
mmccubbin@fidante.com

Aliy Akbarov
+44 20 7832 0957
aakbarov@fidante.com

MARKET MAKING

STX 79411 79412

Mark Naughton
+44 20 7832 0991
mnaughton@fidante.com

Anthony Harmer
+44 20 7832 0995
aharmer@fidante.com

UK SALES

Daniel Balabanoff
+44 20 7832 0955
dbalabanoff@fidante.com

Max Bickford
+44 20 7832 0934
mbickford@fidante.com

Hugh Ferrand
+44 20 7832 0935
hferrand@fidante.com

Patrick Valentine
+44 20 7832 0932
pvalentine@fidante.com

Justin Zawoda-Martin
+44 20 7832 0931
jzawodamartin@fidante.com

INTERNATIONAL SALES

Christian Andersson
+46 8 1215 1360
candersson@fidante.com

Ian Brenninkmeijer
+46 8 1215 1361
ibrenninkmeijer@fidante.com

Trevor Barnett
+1 212 897 2807
tbarnett@fidante-us.com

Adam Randall
+1 212 897 2807
arandall@fidante-us.com

Yves van Langenhove
AAMYS* (Fidante Partners)
+34 468 29 08 04
yvanlangenhove@fidante.com

PRODUCT DEVELOPMENT

Tom Skinner
+44 20 7832 0953
tskinner@fidante.com

CORPORATE FINANCE

John Armstrong-Denby
+44 20 7832 0982
jdenby@fidante.com

Nick Donovan
+44 20 7832 0981
ndonovan@fidante.com

Will Talkington
+44 20 7832 0936
wtalkington@fidante.com

*AAMYS is a tied agent of Fidante Partners Europe Limited which is authorised and regulated by the Financial Conduct Authority of the United Kingdom and also trades as Fidante Capital

Important Information

This is a marketing communication and is not, and should not, be considered as independent investment research. It is issued by Fidante Partners Europe Limited ("Fidante Partners") which is authorised and regulated by the Financial Conduct Authority ("FCA"). Fidante Partners Europe Limited trades as "Fidante Partners" and "Fidante Capital". Fidante Partners Europe Limited is a wholly owned subsidiary of Challenger Limited, a company listed on the Australian Securities Exchange Limited.

This marketing communication is for persons who are Eligible Counterparties or Professional Clients (for the purposes of the FCA rules) only and it is not available to Retail Clients. It is being distributed (a) in the United Kingdom to, and is directed only at, persons who are (i) investment professionals as defined in Article 19 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Promotion Order") or (ii) are persons to whom this marketing communication may otherwise lawfully be issued or passed on or (b) outside the United Kingdom to, and is directed only at, persons to whom this marketing communication may be lawfully issued or issued without compliance with any filing, registration, approval or other requirement in the relevant jurisdiction, and in each such case without the inclusion of any further warnings or statements as required by the Promotion Order, or other applicable law or regulation, which are not included in this marketing communication (all such persons together being referred to as "relevant persons"). Neither this marketing communication nor any of its contents may be received by, acted on or relied on by persons who are not relevant persons.

No part of this marketing communication may be published, distributed, extracted, re-utilised or reproduced and any attempt to do so may be restricted or prohibited by law. Recipients are required to inform themselves of, and comply with, all such restrictions or prohibitions and none of Fidante Partners or any other person accepts liability to any person in relation thereto.

Fidante Partners does not produce independent investment research within the meaning of the FCA Handbook of Rules and Guidance. Accordingly, this marketing communication is non-independent research within the meaning of those rules, which means it is a marketing communication under the Markets in Financial Instruments Directive ("MiFID") and it has not been prepared in accordance with legal requirements designed to promote the independence of investment research, and it is not subject to any prohibition on dealing ahead of the dissemination of investment research. However, Fidante Partners has policies, internal organisational and administration arrangements and information barriers to prevent or manage the conflicts which may arise in the production of non-independent research, including preventing dealing ahead. This includes physical and electronic information barriers procedures and the operation of a cultural Chinese Wall. For further information, please view the following policies: [Conflicts of Interest](#), [Chinese Walls Policy](#).

Fidante Partners acts as a market maker, corporate broker and, from time to time, bookrunner to companies in the closed-end listed investment company sector. A list of all companies in relation to which Fidante Partners acts as market maker and/or corporate broker and/or bookrunner (and the relevant dates of any closing of any such capital raise) can be viewed here: [Market Making Stocks](#) (of which Fidante Partners acts as market maker and accordingly Fidante Partners may own net long or short positions exceeding 0.5% of the total issued share capital), [Corporate Appointments](#). The Market Making Stocks will indicate any other equity interests held by Fidante Partners or a member of the Challenger Group.

Fidante Partners or a member of the Challenger Limited group may have an economic interest (for example, minority equity interest or fee entitlement) in investment managers of the funds of which it provides services (such as corporate finance, listing sponsorship, market maker, corporate broker, bookrunner and administrative and support services). The Corporate Appointments also indicates whether Fidante Partners or any member of the Challenger Limited group holds more than 5% of the total issued share capital of the issuer. Fidante Partners is remunerated by fees for services provided and may be entitled to a share of profits from these investment managers and third parties. There is no direct link between the remuneration of individuals at Fidante Partners and the recommendations or transactions tied to services provided by Fidante Partners. Fidante Partners does not produce buy, sell or hold recommendations with respect to specific securities. Unless otherwise stated, this communication will not be regularly updated.

Please [click here](#) for the Fidante Partners research policy.

This marketing communication does not constitute a personal recommendation or take into account the particular investment objectives, financial situation or particular needs of any specific recipient. It is not intended to provide the sole basis for any evaluation of an investment decision. Your attention is drawn to the date of issue of this marketing communication and of the opinions expressed herein. Before acting on any advice or recommendations in this marketing communication, recipients should consider whether it is suitable for their particular circumstances and, if necessary seek professional advice, including tax advice. Recipients of this marketing communication should note that: All investments are subject to risk; the value of shares may go down as well as up; you may not get back the full amount that you have invested; past performance is not a guarantee of, and

cannot be relied on as a guide to, future performance; fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

This marketing communication is for informational purposes only and does not constitute, and should not be viewed as, an offer, invitation or solicitation in respect of securities or related other financial instruments nor shall it be construed as a recommendation for Fidante Partners to effect any transaction to buy or sell securities or related financial instruments on behalf of any recipient nor shall it, or the fact of its distribution, form the basis of or be relied upon in connection with, any contract or commitment in relation to such action. The securities that may be described in this marketing communication may not be eligible for sale in all jurisdictions or to certain categories of investors.

This marketing communication is based upon information which Fidante Partners considers reliable, but such information has not been independently verified and no representation is made that it is, or will continue to be accurate or complete and nor should it be relied on as such. This marketing communication is not guaranteed to be a complete statement or summary of any securities, markets, documents or developments referred to in this marketing communication.

Any statements or opinions expressed in this marketing communication are subject to change without notice. Neither Fidante Partners, any member of the Challenger Limited group nor any of their directors, officers, employees or agents shall have any liability (including negligence), however arising, for any error, inaccuracy or incompleteness of fact or opinion, or lack of care, in this communication's preparation or publication; provided that this shall not exclude liability which Fidante Partners has to a customer under the Financial Services & Markets Act 2000 or under the Rules of the Financial Conduct Authority.

This marketing communication contains certain forward-looking statements, beliefs or opinions. These statements concern future circumstances and results and other statements that are not historical facts, sometimes identified by the words "believes", "expects", "predicts", "intends", "projects", "plans", "estimates", "aims", "foresees", "anticipates", "targets", "may", "will" and similar expressions. Such statements reflect current views with respect to future events and are subject to risks and uncertainties because they relate to events and depend on circumstances that will occur in the future. These forward-looking statements are based on current plans, estimates, projections and expectations. These statements are based on certain assumptions that, although reasonable at this time, may prove to be erroneous. No statement in this marketing communication is intended to be a profit forecast. No representations or warranties, express or implied, are given as to the achievement or reasonableness of and no reliance should be placed on, such statements, including (but not limited to) any projections, estimates, forecasts or targets contained herein. Fidante Partners does not undertake to provide any additional information, update or keep current information contained in this marketing communication, or to remedy any omissions in or from this marketing communication. There are a number of factors that could cause actual results, developments, financial targets and strategic objectives to differ materially from those expressed or implied by statements in this marketing communication. Fidante Partners, nor any other person intends, and no person assumes any obligations, to update information or statements set forth in this marketing communication. You should not place reliance on forward-looking statements which speak only as at the date of this document.

Where references to external resources such as internet websites are provided these are for reference purposes, and the external resources are not intended to be included as part of this publication; Fidante Partners plc has not checked and is not responsible for any external content, and makes no representation as to its reliability or accuracy.

Any dispute, action or other proceeding concerning this marketing communication shall be adjudicated within the exclusive jurisdiction of the courts of England. All material contained in this marketing communication (including in this disclaimer) shall be governed by and construed in accordance with the laws of England and Wales.

Fidante Partners Europe Limited

Authorised and Regulated by the Financial Conduct Authority

Fidante Partners Europe Limited trades as "Fidante Partners" and "Fidante Capital".

Registered Office: 1 Tudor Street, London EC4Y 0AH. Registered in England and Wales No. 4040660.
