Factory Farming
Understanding the risks and opportunities

INVESTOR BRIEFING

December 2015

Executive Summary

This briefing sets out the case for greater investor scrutiny of the factory farming sector. After providing an overview of the rapid industrialisation of livestock production, the briefing explores the wide-ranging and often interconnected web of Environmental, Social and Governance (ESG) risks the industry faces; offering specific recommendations to advance with investee companies. These findings draw upon research commissioned by Farm Animal Investment Risk and Return (FAIRR). Key themes for investor engagement include:

- Close-confinement of animals
- Climate change
- Routine use of non-therapeutic antibiotics
- Land rights in supply chains

Compared to sectors such as energy and extractives, companies directly and indirectly exposed to intensive livestock production ("factory farming") have received relatively minimal shareholder attention regarding ESG risks. At the same time, there are upside opportunities for investors who give closer attention to how sustainability issues will play out in the agricultural and food sector, creating future corporate winners. This briefing addresses both the risks posed and opportunities available for investors with exposure to factory farming.

Introduction

The industrialisation of livestock production is a recent trend, set to escalate as prosperity increases in emerging markets along with demand for animal produce. Over 70% of the world's farm animals are now intensively farmed, including an estimated 99% of US livestock.[1] Despite heavily contributing to environmental and social issues that are commonly raised with companies in other sectors – including climate change, human rights concerns and public health scares – factory farming remains under-scrutinised by the investment community.

This briefing explores some of the key issues related to factory farming and how these might manifest as financial risks. It also examines the investment opportunities available in the creation of more sustainable practices and supply chains. Concerns lie both within the farm gates and beyond; are wide-ranging in scope and often interwoven in substance. As such, a holistic approach is recommended, ensuring solutions at the farm level that facilitate long-term sustainability in shareholder value for all companies in the value chain.

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After providing a background on factory farming and looking at problems related to the treatment of animals; the briefing moves on to map out broader ESG concerns. Recommendations are offered to assist investors in driving dialogue forward with investee companies. This briefing is aimed as a starting point, and investors are encouraged to explore the issues most relevant to their own portfolio in more depth.

Background

What is factory farming?

Factory farming is a term used to describe the consolidation of agricultural operations to produce high volumes of food at low upfront cost. This briefing focuses on the large-scale production of animal produce, including meat, eggs and dairy. Factory farming is a phrase without strict definition, and is used to capture certain production methods that differentiate it from traditional, non-intensive livestock production. Under these conditions, mobility is restricted and animals are usually fed a high-calorie, grain-based diet, often supplemented with antibiotics and hormones to maximize weight gain and avoid infection.[2]

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Many definitions of factory farming are based upon the US Environmental Protection Agency's 'Confined Animal Feeding Operation' (CAFO).[3] To be considered as a CAFO, a farm must initially be considered an Animal Feeding Operation (AFO). AFOs are agricultural operations where animals are confined for at least 45 days in a 12-month period, and there is no grass or vegetation in the confinement area during the normal growing season.[4] CAFOs are categorised further by the numbers of animals confined, how wastewater is managed, and whether the operation is a significant contributor of pollutants.

Recent trends

Over the past half-century, factors including population growth, rising incomes and urbanisation have driven a sharp increase in global meat consumption. Production grew worldwide from 44 million tons in 1950 to 211 million tons in 1997.[5] With the global population set to rise by a third between 2014 and 2050, there are predictions that demand for animal protein will increase 70% by 2050. The industrialisation of meat production in Asia has been significant in advancing this trend. In particular, China has seen a substantial increase in meat consumption, with urban demand doubling between 1979 and 2003.[6] This boom was highlighted recently by confirmation of plans to build a one million cow cloning factory – by far the largest of its kind.[7] Whilst this trend towards factory farming has helped meet burgeoning demand, it seems timely to now consider the full impacts of rapid growth and assess the long-term risks and implications of this form of protein production.

The treatment of animals

The issue which perhaps most commonly brings the spotlight onto factory farming is the treatment of animals raised under methods of intensive production. These approaches underpin the economics of the intensive livestock sector, driving down upfront costs. Whilst varying across different regions, practices that frequently raise welfare concerns include:

- **Close confinement of animals**, heavily restricting mobility and preventing natural behaviour. Forms of close confinement include battery cages, tethering, veal crates, sow stalls, gestation crates, feedlots and farrowing crates.
- **Use of hormones and antibiotics as growth promoters**. This is prominently seen amongst broiler chickens, reaching slaughter weight within 40 days of being hatched, compared to five to six months under natural conditions.[8]
- **Routine mutilation**, such as the castration of piglets and removal of the beaks of hens.[9]
- **Long-distance transportation**, with journeys between 30 and 70 hours often in overcrowded conditions with insufficient food or water.[10]

- **Inhumane slaughter methods**, where avoidable pain or suffering has not been curtailed. For example, it is predicted that annually nine billion chickens and turkeys in the US are killed whilst conscious using the 'live hang' method.

Risks and opportunities for investors

Legal and regulatory risk

Policy changes regarding animal welfare can impact access to international trading markets, leading to prohibitions on the import of produce which does not meet legal standards. For example, the European Commission's Strategy for the Welfare and Protection of Animals 2012–2015 resulted in legislative changes to improve living and transportation conditions. This impacted meat imports into the EU due to the prohibition of practices such as sow stalls and conventional cages for laying hens.[11]

In the USA, whilst there are no federal laws governing farm animal conditions, regulatory standards have been implemented on a state-by-state basis. For example, in 2015 California adopted landmark welfare laws requiring egg-laying hens, pregnant sows and calves raised for veal to have enough room to stand up, turn around and fully extend their wings or limbs.[12] Similar legislation has been implemented in other states, with prohibitions on certain practices coming into place within the next five years.[13] For example, at the time of writing there is a Massachusetts ballot initiative on farm animal confinement, set to prohibit close confinement.[14]

As standards and expectations continue to rise, investments in facilities underpinned by practices commonly identified as breaching welfare standards are at risk of becoming stranded, whilst early adaptation to higher standards could assist in 'future proofing' capital investments and supply chains. Conversely, companies and their investors will face costly retrofits in cases where facilities can no longer meet minimum legal standards.[15]

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Reputation and consumer preferences

Beyond the legislative framework, shifting perspectives around animal welfare can also have material implications through changing consumer preferences and the reputational damage that high-profile exposés can cause. In the US, recent research suggests that almost half of consumers support companies that avoid inhumane treatment of animals,[16] whilst nearly 70% of UK consumers believe welfare protection of farmed animals needs to be improved.[17]

Increased welfare can be a competitive advantage for companies that capitalise on shifts in public perception, even when there may be upfront costs in doing so. For example, when the US fast food restaurant chain Chipotle raised the price of burritos by $1 in 2000 due to a switch to sustainable pork suppliers, they experienced a sharp increase in sales. Furthermore, industry metrics following Chipotle's 2014 '*Cultivate a Better World*' marketing campaign showed improved customer loyalty.[18] This highlights a business opportunity for companies modelled on the buying habits of the increasing market share of ethical consumers.[19]

On the other hand, companies perceived to have poor welfare standards can face negative repercussions, particularly when these concerns are amplified by the media and civil society. A firm's licence to operate can also be challenged by community opposition, leading to the rejection of planning applications for intensively reared livestock farms. This was seen recently with the rejection of Nocton Dairies' proposed 8,100-cow dairy in Lincolnshire.[20]

Close confinement: Not just a welfare concern
Close confinement is one of the key enablers of intensive livestock production. Whilst these practices raise welfare concerns, the risks associated with this model span the ESG framework more broadly.

Operational risks
Close confinement magnifies production disruption in cases of disease outbreak and natural hazards.[21] The close proximity of animals enables the rapid spread of viruses, and makes operations more acutely exposed to destruction of value in cases of flooding and drought. This vulnerability will be exacerbated by climate change and any increase of extreme weather events.[22] Further, intensively raised animals are more susceptible to heatstroke, unable to seek shade or perform natural cooling mechanisms such as wallowing.[23]

Legislative changes
Intensive livestock production is supported by a raft of government subsidies, particularly in the US where farmers receive assistance directly through insurance payments, and indirectly through the subsidised production of commodities crops used for feed.[24] The sector is less independently sustainable compared to farming models that are less reliant on feed brought in from off-site.

Additionally, there are numerous environmental health costs related to systems of intensive production which are currently externalised, but in the future could be borne by the industry. For example, the large quantities of manure produced under conditions of close confinement affect ground and surface water quality. High noise and odour levels can affect the wellbeing of local communities, and human health suffers due to contaminated air and degraded water quality.[25] These issues can lead to litigation and even regional bans, as seen recently with a five-year prohibition placed on new hog farms near the Buffalo River in Arkansas.[26]

Recommendations to investors
From producers to retailers, investors should engage with companies across the supply chain to ensure they are prepared to navigate the different risks and opportunities emerging from the treatment of animals.

Questions to ask companies:
- Does the company have a clearly communicated policy on the treatment of farm animals and specific welfare concerns? How are supply chains monitored to ensure compliance, and what actions might be taken in the event of non-compliance?
- Has the company fully assessed the risks associated with different forms of livestock production, and is the company exploring up-side opportunities regarding welfare improvements?
- How does the company score on the Business Benchmark for Farm Animal Welfare (BBFAW) – the global ranking for food companies regarding farm animal welfare management, policy commitment, performance and disclosure?[27] What is the company doing to improve its score?

For the specific case of close confinement, a company might consider the following steps:
1. Assess and report upon the risks associated with close confinement (i.e. disease outbreak) and convey this information to shareholders;
2. Set a timeline for reducing the percentage of animals in close confinement;
3. Promote and invest in organic/ pasture raised options.

Environmental issues

From water pollution to deforestation, intensive livestock operations contribute to an array of environmental problems. At the same time, the sector is also highly vulnerable to environmental factors. In particular, global temperature rises are expected to reduce yields and trigger production disruption across the supply chain. This complex relationship between livestock and ecosystems presents the sector with a range of financial risks, sitting on a variety of timelines.

It is important here to acknowledge the potential for interplay – and, at times, opposition – between various environmental, social and animal welfare concerns. For example, resource scarcity can contribute towards societal conflict, and drivers of deforestation can be linked to land grabs and the dispossession of pastoral farming communities. On the other hand, whilst the intensification of livestock might help reduce greenhouse gas (GHG) emissions, this needs to be weighed against the problems associated with close confinement – including routine dependency on antibiotics, and the multiple pollution problems that can damage local ecosystems. As such, it is important to take a holistic approach; seeking solutions that are sensitive to the full range of concerns. Whilst there are no silver bullet answers, a pragmatic outlook that acknowledges the variety of issues at stake seems the most prudent way to drive forward progress and reduce aggregate risk.

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Some key environmental issues are outlined below:

- **Climate change** – Emissions from livestock account for around 15% of all anthropogenic GHG emissions, and research indicates that global temperature rises cannot be limited to 2 degrees Celsius if livestock and meat consumption are not addressed.[28] At the same time, this sector is also amongst the most acutely vulnerable to the consequences of climate change.[29]
- **High natural resource use** – Industrial agriculture uses high volumes of fresh water, and is a key driver of deforestation. Large amounts of land are required to produce livestock fodder, in particular soy beans. These practices contribute to resource scarcity, which can undermine economic stability.[30]
- **Biodiversity loss** – Closely correlated to land use change is the loss of biodiversity of both flora and fauna. Further, the commodity crops underpinning the grain-fed livestock industry require large-scale monoculture productions. These practices harm ecosystems and can lead to community opposition.[31]
- **Soil health** – Industrial livestock contributes to soil degradation directly through the exploitation of land, and indirectly through land dispossessions that force pastoralists into marginal land and forest.[32] Soil degradation can lead to underperformance and reduced yields.
- **Air and water quality** – Large concentrations of animals and animal waste cause considerable pollution problems, particularly in relation to manure management.[33] Furthermore, livestock production has a significant impact on water quantity and availability, particularly in water stressed areas.
- **Susceptibility to natural hazards** – Natural hazards including droughts, extreme weather and heatwaves lead to substantial financial impacts, affecting production and operations.

Risks and opportunities for investors

Legal and regulatory risk

Many of the issues identified above are subject to regulation, with violation of environmental laws resulting in fines. For example, in 1997 US-based pork producer Smithfield Foods was fined US $12.6m for violating the Clean Water Act. Ecosystem damage can also result in litigation, seen with the growing number of lawsuits filed against CAFOs over hazardous pollution in the US.[34] These were supported by a precedent-setting case in 2013, where a federal district court ordered a CAFO to monitor groundwater, drainage and soil for illegal pollution resulting from manure management practices violating the Clean Water Act.[35] Such

legal actions effectively challenge companies to 'internalise' costs. In extreme cases, this even leads to the banning of new CAFOs – as seen recently in North Carolina.[36]

Whilst so far the strongest legislation has been seen in Europe and the US, investors should also consider recent developments in emerging markets. In 2014, Chinese legislators passed the first amendments to the country's environmental protection law in 25 years, offering greater powers for environmental authorities over polluters.[37] Moves towards tougher limits and heavier penalties have already been seen with the revision of air pollution laws, as the Chinese government responded to the dangerous levels of smog fumes in cities.[38] As pollution from livestock operations increases in China, growing public pressure could catalyse stricter legislation, forcing companies and their investors to change production methods and internalise costs.[39]

Climate change presents the livestock industry with both short and long term legislative challenges. Specific regulations around agricultural emissions have not yet been applied, although economy-wide targets (such as the UK's aim to reduce emissions 80% by 2050)[40] will require the participation of the sector. Shorter term legislative risks are likely to arise from the climatic effects of rising temperatures. For example, in July 2015, Californian officials proposed for the first time a US $1.5m fine (rising to $5m) for Central Valley farmers accused of taking water during a drought.[41] As climate change intensifies environmental factors such as heatwaves and resource scarcity, the likelihood of more stringent legal action increases.[42]

Production and pricing

Environmental issues can disrupt the agricultural supply chain, in the short and long term, with knock-on effects for production and pricing. Both livestock and the crops required to feed them are highly vulnerable to natural hazards and extreme weather events (likely to increase in frequency under climate change), which will reduce financial performance at the facility and company level. Droughts and heatwaves have already had substantial financial impacts. Annual losses for the US dairy industry as a result of heat stress have been calculated at US $897 million, or almost US $100 per cow.[43]

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Medium to long-term production risks, such as resource scarcity and climate change, are likely to have more gradual but increasingly severe financial impacts. Intensive livestock production has already been affected by extreme weather events that were consistent with the predictions of climate change. For example, record heat and drought across Australia in 2014 led to the deaths of thousands of cattle and forced farmers to send cattle early to slaughter.[44] As these problems escalate, facilities that are poorly adapted to cope will face the heaviest losses.

By concentrating meat production into non pasture-fed models, factory farms are more reliant on grain inputs. As such, the industry faces an additional level of production risk related to the disruption of grain supply, which is susceptible to factors such as drought and flooding.[45] This was seen recently in Russia, where between 2010 and 2012, drought caused a significant drop in grain production in the country, with total losses from poor harvests exceeding RUB 300bn.[46] This negative impact was widespread, with a 25% reduction in global grain reserves in 2010.[47] This disruption has been acknowledged as a key financial risk by analysts: for example, the Co-operative Asset Management recognises "*Feed costs are a very significant part of the livestock producers' [profit and loss] and disruptions to the supply chain caused by climate change would impact on farm profitability with a consequential knock-on to [the company]*".[48]

Governance concerns
Whilst the environmental impact of the livestock sector is large, there is a lack of comprehensive corporate reporting around this,[49] particularly in relation to climate change.[50] This was highlighted in a recent report by CDP, which revealed that of the 251 companies in the Food, Beverage and Tobacco sector who were asked to respond to data requests for climate risk relevant data, just 40% did so. Of that 40%, most reported solely on emissions within their own operations, with less than a quarter of respondents accounting for agricultural emissions from their supply chains.[51] This is concerning given that the majority of emissions in food value chains occur in agricultural production.

Turning the protein challenge into an investment opportunity
There is growing consensus amongst scientists, civil society and international bodies including the UN that a key factor in mitigating climate change and enabling future food security will be to reduce consumption of animal products.[52] There are various ways investors can increase exposure to alternative protein sources, helping to mitigate long-term risks and capitalise on opportunities in creating a more sustainable food system.

Research suggests that 'alternative protein' is set to rise, making up a third of the market share by 2050.[53] Hampton Creek – a firm that produces plant based protein foodstuff – is an example of a company that has enjoyed rapid growth. Since plant protein is less resource intensive and cheaper than egg production, Hampton Creek products are less expensive than equivalent egg-based products. The company has already attracted a number of large customers including Compass Group, a global catering company who supply over 4bn meals a year to schools and hospitals across the US and UK. Furthermore, even some meat companies are beginning to look at alternatives. For example, German meat giant Rügenwalder Mühle plans for 30% of its sales to come from its vegetarian range by 2019.[54]

Beside direct investment in alternative protein companies, investors can engage with retailers and catering firms about product reformulation to reduce diary and meat-content, expanding their range of meat-free options, and creative marketing methods to increase consumer awareness. By focusing on lower-costs and good taste, retailers can encourage consumers' spending patterns towards more sustainable options.

Recommendations to investors
Investors can engage both on the direct environmental impact of companies, as well as the risks and disruption that environmental factors pose across supply chains. As suggested earlier, these issues often can not be meaningfully separated from other impacts and risks – such as animal welfare concerns – and, as such, a holistic approach is recommended.

Questions to ask:
- How does the company analyse the risks presented to its supply chains by environmental factors like climate change and resource scarcity, and what is the company doing to ensure future resilience?
- How does the company measure its environmental impact, and how is this reported? What measures is the company taking to improve this?
- What are the opportunities to promote more sustainable protein options and drive new product innovation?

On climate change:
- Request food companies report on GHG emissions and set targets for reduction. Depending on the company, this could be done through increasing exposure to alternative protein, agroecology methods of production, soil sequestration and lower carbon crops. For retailers and catering firms, this could include the promotion of low-carbon, meat-free or lower-meat options to consumers.

- Request analysis on how the company would respond to different climate scenarios, including stress-testing supply chains against temperature rises above 2 degrees Celsius.

Social issues

Intensive livestock production has a number of social implications, which in turn can lead to a loss of company value. Similar to the environmental issues above, these sit on a variety of time lines and often interact with other topics of concern. For example, poor working conditions in slaughterhouses often reflect less humane treatment of animals, and community opposition to factory farms can be driven by factors such as pollution.

Some key examples of social issues include:

- **Routine antibiotic use** – According to estimates, approximately 50% of antibiotics used in the UK and 80% of antibiotics in the US are given to farm animals.[55] This has been recognised by the World Health Organisation (WHO) as contributing to an emerging global threat of a post-antibiotic era, in which common infections and minor injuries can once again kill humans.[56] Non-therapeutic use of antibiotics is particularly widespread in factory farms, where crowded conditions and build-ups of waste can make animals more prone to infection.
- **Global health pandemics** – Intensive livestock production has been implicated in a number of human health pandemics, including swine flu, avian influenza and Bovine Spongiform Encephalopathy (BSE). Close confinement of animals and movement between countries are often cited as exacerbating these outbreaks, which can result in large losses of livestock and revenues.
- **Poor working conditions** – Due to a number of factors including air quality, dangerous equipment, the repetitive nature of work and often brutal treatment of animals, intensive modes of livestock production tend to have high staff turn-over, injury rates and labour law violations.
- **Negative impacts on communities** – Problems including human health issues, pollution, loss of rural jobs and disputes over land rights can lead to opposition and conflict.

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Risks and opportunities for investors

Legal risk and market access

Antibiotics

Underpinned by conditions of close confinement, intensive livestock production often depends on prophylactic use of antibiotics as a way of suppressing infectious diseases. This practice has been described as "*excessive and inappropriate*" by a recent report commissioned by UK Prime Minister David Cameron, which found that drug resilient infections could kill an extra 10 million people every year by 2050, costing the world around US $100 trillion in lost output.[57] Prophylactic use of antibiotics is coming under increased regulatory scrutiny in both the EU and the US. For example, in October 2015 California passed a bill to sharply limit antibiotic use in farm animals,[58] and in early 2016 MEPs will vote on an amendment to a draft European regulation which proposes to ban non-therapeutic usage.[59]

This changing legislative landscape will have material implications for factory farms, potentially causing significant operational disruptions and loss of livestock due to the increased prevalence of disease and sickness in densely packed facilities.[60] This was seen following Denmark's 1998 ban upon certain antibiotics, with several large producers experiencing severe health problems and costs. It has been estimated that a similar ban on antibiotics in the US would cost producers US $4.50 per animal during the first year and cost the industry over US $700m over a 10-year period (at 2003 prices).[61] For farms dependent on the prophylactic use of antibiotics to mitigate unhealthy conditions, the introduction of such legislation could require costly restructuring of facilities. Less intensive and organic farming methods are often identified as ways to reduce dependency on antibiotics.[62]

Regional changes to antibiotic legislation can disrupt market access. For example, the introduction of EU legislation banning products where antibiotics are used as growth agents was estimated to have cost US beef exports US $100m annually.[63] Current EU bans on antibiotics remain limited, covering only a small number of drugs rather than the full chain of production. Therefore, this financial impact may be minimal compared to the effects of more comprehensive prohibitions.

Spread of infectious diseases and global health pandemics

At both national and regional levels, intensive livestock production is highly exposed to negative financial consequences in the event of disease outbreak. Large numbers of densely confined animals can facilitate the mutation of viruses into harmful strains, resulting in large disruptions to market access due to both legislative pressures and consumer demand.

This was seen with the 2009 H1N1 strain of swine flu outbreak – which evidence suggests originated in US factory farms[64] – leading major importers such as Russia and China to introduce bans on pork from the US. The outbreak led to an 11% drop in global pork trade, influenced by a sudden reduction in consumer demand.[65] Major producers including Tyson Foods and Smithfields Foods were forced to reduce herds and sell assets, and it is estimated that thousands of producers were put out of business.[66] Similarly, the most recent outbreak of avian flu in the US cost an estimated US $3.3bn in the first half of 2015.[67]

Working conditions and human rights abuses

Compared to smaller and less intensive farms, workers face higher levels of dust, ammonia, hydrogen sulphide, decibel and odour levels due to differences in the amount of time spent in barns. Workers are also more exposed to drugs and hormones associated with intensive production methods. Non-compliance to health and safety standards can result in penalties, with US-producer Tyson Foods fined US $436,000 when an employee was asphyxiated from inhaling hydrogen sulphide.[68]

Besides poor working conditions, companies across the supply chain are exposed to a number of troubling human rights abuses. Indeed, the ILO cites agriculture as a sector where forced labour, human trafficking and slavery are most prevalent.[69] The legal implications of these practices have recently received attention from UK regulators, with the passing of the Modern Slavery Act in March 2015. However, as the August 2015 landmark case of a British company being sued by victims trafficked to work on poultry farms highlights, there remains a need for much greater monitoring of supply chains.[70]

Human rights abuses take place elsewhere along the livestock value chain, particularly in the production of commodity crops used for livestock feed. For example, in South America the fast-growing global demand for soybeans is identified as a key driver of deforestation, which can result in dispossession and conflicts over land-rights; often violent and in cases underpinned by slave labour.[71] Legislative changes and legal challenges can trigger disruptions to production and market access, affecting grain imports and profit margins of non-pasture raised livestock. The need for on-going monitoring and due diligence over supply chain transparency and land rights has been recently highlighted by a report from GRAIN, which found pension funds normally recognised as sustainability leaders to be invested in Brazilian farmland sold through firms under legal investigation for large-scale land grabbing.[72] The pressure to address these human rights abuses is thus not limited to the companies directly involved, but also their investors and purchasers further along the value chain.

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Reputation and social licence to operate

The wide-ranging negative impacts that factory farms have on the communities and ecosystems they operate within can put significant pressures on companies' social licence to operate. Indeed, local opposition to planned construction of farms can lead to costly delays and project cancellation. For example, in Germany, civil society halted the development of 11 intensive livestock operations within a four-month period.[73] In the Netherlands, a judge ruled against what would have been the country's first animal factory farm – a proposed development for housing 1.1 million chickens and 35,000 pigs.[74] Industries which fail to secure the consent of the society they operate within can face on-going opposition and harsher scrutiny, leading businesses to have to go 'beyond compliance' to gain accord, even when there are substantial upfront costs involved.[75]

Recommendations to investors

Questions to ask:

- How does the company – either directly if a producer, or through its supply chains if a retailer/ caterer – monitor and analyse the risks presented by public health and human rights factors? What is being done to ensure financial resilience?
- How does the company measure its own social impact, and how is this reported? What measures is the company taking to improve this?

On antibiotics

Investors can engage on this topic both directly through meat-producers, and indirectly through retailers and caterers who have contact with producers in their supply chain. The request could be formulated as follows:

1. Prohibit use on farms of antibiotics important to human medicine in the meat supply chain, for purposes other than disease treatment or non-routine control of veterinarian-diagnosed illness.
2. Identify timelines for global implementation of point 1.

On impacts on local communities

- What is the investee company's track record in land operations? Do they have sustainability and human rights policies in place, and how is compliance being monitored?
- Request greater transparency across the supply chain, particularly with regards to land deals that might infringe community rights. Do livestock farmers know where feed is being imported from?

Governance issues

Good corporate governance affects overall company performance, and is important for assuring investors that the directors of a firm are aware of, and actively managing, risks. This seems particularly important for the intensive livestock industry, given its exposure to a remarkably wide range of welfare, environmental and social concerns. It is not currently clear that Boards of companies with significant exposure to factory farming (either directly through ownership of operations or indirectly as a result of their position with the wider value chain) fully understand these risks or are managing them skilfully for the long-term. Boards and senior leadership teams need to be encouraged to take a much longer term perspective, moving beyond short-termism to consider the risks and opportunities 10 to 15 years henceforth.

Good governance will be demonstrated through the incorporation of, and long-term preparation for, issues such as those covered in this briefing. Disclosure and transparency can provide investors with insight into how companies are managing these risks. Some companies in, or exposed to, this sector have already begun to focus on improving their sustainability reporting. Those who do not have come

under criticism for failure to do so – for example, even Chipotle Mexican Grill, with its high sustainability and animal welfare policies, has come under fire from shareholders over its failure to produce an annual sustainability report and validate its credentials.

Recommendations to investors

Questions to ask to companies either directly in, or exposed to, factory farming:

- Does the company have strong sustainability principles which are clearly reported on with evidence provided back to shareholders? How are these principles ensured across the value chain?
- Is the company taking a far-sighted approach to managing risk through consideration of medium and longer-term horizons, including climate change and disease outbreak?
- Is the company engaging with expert independent bodies such as BBFAW in attempts to drive up its standards?

Conclusion

Despite being an industry that currently receives relatively limited shareholder attention, there are a wide range of significant ESG risks associated with factory farming. These various welfare, environmental and social issues are often intertwined – and sometimes conflicting. As such, we recommend that a holistic approach is taken to establish practices which ensure long-term value. This briefing is an introduction and overview of the risks and opportunities, and investors can further explore these issues through collaborative working groups, such as the FAIRR network.

Guidance for investors

1. **Know your investments** – Ensure you have comprehensive information available regarding company practices.
2. **Carry out a risk assessment** – This sector is exposed to a wide range of issues, and it is important to be aware of the risks that your particular investments face.
3. **Minimise your risk** – Encourage companies to adopt practices that minimise risk, considering divesting from those who do not make adequate commitments to improvement.
4. **Maximise your opportunities** – Understand the market opportunities presented by new proteins and alternative production methods.
5. **Keep up to date** – Many of the issues identified in this briefing sit on long-term timeframes but nonetheless pose significant material risk, particularly those relating to climate and health concerns.
6. **Have a positive impact** – This is a sector where there are many viable ethical alternatives. Investors with a responsible investment policy could consider supporting the move towards a more humane way of securing the world's future food supply.

Contact ShareAction

Juliet Phillips
Campaigns Officer
ShareAction
juliet.phillips@shareaction.org
020 7403 7827

Mara Lilley
Campaigns Officer
ShareAction
mara.lilley@shareaction.org
020 3475 7874

Contact FAIRR

Alan Briefel
Executive Director
FAIRR
alan.briefel@fairr.org
07770 681333

About ShareAction

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