

SUMMARY REPORT

Coller FAIRR Protein Producer Index

Launch Date: November 2020

Food safety

Animal welfare

Sustainable proteins

Working conditions

Antibiotics

Waste & pollution

Greenhouse gases

Deforestation



FAIRR Initiative
Most Outstanding Initiative
on Sustainable Animal Agriculture - 2019



Top 3 Provider of Specialist
Sustainable Investment Research



Shortlisted, ESG Research Report of the Year

Coller FAIRR Protein Producer Index

The FAIRR Initiative has developed an Index to assess 60 of the largest, listed global meat, dairy and aquaculture companies against ten environmental, social and governance factors (ESG), all of which are aligned with the Sustainable Development Goals (SDGs). This third edition of the Coller FAIRR Index is designed to be an informative resource for institutional investors, to help them factor the risks and opportunities surrounding the animal protein sector into their investment decisions and engagement strategies.

60
global companies

10
risk & opportunity factors

31
KPIs

SUSTAINABLE DEVELOPMENT GOALS

1



GREENHOUSE GAS EMISSIONS

Disproportionate amount of GHGs generated by livestock makes companies engaged in factory farming vulnerable to transition and physical risks.



2



DEFORESTATION & BIODIVERSITY LOSS

Global movements tracking forest loss target factory farming companies and can lead to shareholder divestment and / or weaken customer loyalty.



3



WATER USE & WATER SCARCITY

Beef, pork, dairy, and poultry companies consume large quantities of water both directly and indirectly via their purchase of animal feed.



4



WASTE AND WATER POLLUTION

Companies are facing greater scrutiny about the impact of waste on surrounding communities and the environment, meaning potential fines and regulation.



5



ANTIBIOTICS

Drug-resistant infections are a serious public health threat which will likely impact productivity on a national scale.



6



WORKING CONDITIONS

Failings in Health and Safety and the protection of workers rights have shown to impact productivity. Increased investor scrutiny and risk of litigation also weigh on financial risks.



7



ANIMAL WELFARE

Poor Animal Welfare presents operational and reputational risks for companies.



8



FOOD SAFETY

A series of high profile food safety incidents in Meat and Dairy have focused consumer concerns on the threat of food contamination and foodborne illnesses.



9



GOVERNANCE

Sustainability Governance is an all-encompassing factor reflecting awareness of the materiality of ESG risks at executive and oversight levels.



10



SUSTAINABLE PROTEINS

Reduced reliance on animal protein sources is key to sustainable development.



Foreword



The COVID-19 pandemic poses severe challenges to the global animal protein sector, pushing an already under pressure Meat and Dairy industry to a tipping point, and causing many investors to lose their appetite for the sector unless standards on sustainability are raised.

At the heart of the COVID-19 crisis, the sector has faced hundreds of factory farming closures and new measures to prevent future zoonotic outbreaks. It also faces enormous downside risk from climate change. With September 2020 being the warmest month on record. These twin crises put pressure on a supply chain already cracking from fundamental constraints around land, water and antibiotics use.

With this as the backdrop, investors must ask, how well are the world's biggest meat, fish and dairy firms managing these sustainability risks and opportunities?

The Collier FAIRR Protein Producer Index's third edition again hands investors the tools to make informed decisions at a critical time for sustainable investment. Putting these factors for the first time at the top table of the financial community's agenda.

Signs of change

Progress on climate transparency has been made, with the findings in the Index showing a quarter of companies now disclose 'Scope 3' emissions, and seven companies now committed to a 'Science Based Target' for emissions reductions. In addition, 22 firms now meet **'BEST PRACTICE'** in terms of sustainable protein diversification, compared to 15 last year and five in 2018. A highly significant trend among these traditional animal protein producers.

However, 86% of major Meat and Dairy suppliers still rank as **'HIGH RISK'** on greenhouse gas emissions and more concerning for investors are the 35% of Index companies showing annual increases in emissions. This shows the urgent progress that still needs to be made.

Equally concerning is the finding that 42 companies (70%) rank as **'HIGH RISK'** for antibiotic stewardship, and over half of Index firms (57%) rank as **'HIGH RISK'** for Working Conditions. To provide further robust scrutiny on this topic and help investors better understand the health and safety risks, FAIRR will be launching a stand-alone engagement on working conditions with eight companies from the Collier FAIRR Protein Producer Index.

An opportunity for a lasting, positive shift

If global animal agriculture was a country, it would be the second-highest emitter of greenhouse gases. FAIRR's data shows three in four global Meat and Dairy giants are hiding the full extent of their climate emissions or failing to set meaningful targets to reduce them. Factory farms are undermining both the climate ambitions of high-street brands and the viability of the Paris Agreement.

However, whilst this landscape for investors remains challenging, for the factory farming industry, it presents the perfect storm for innovation. In fact, it is forcing them to make changes as investors watch closely to determine who fails to rise to the challenge and who takes full advantage of this opportunity.

Jeremy Collier

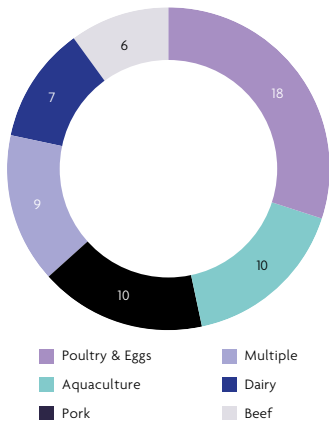
Founder, FAIRR and Chief Investment Officer, Collier Capital

About the Index

The scope of the Collier FAIRR Protein Producer Index focuses on listed companies primarily involved in breeding, processing, distributing and selling meat, dairy or aquaculture products. The 60 Index constituents have a combined market capitalisation of \$338 billion, as of 30 August 2020.

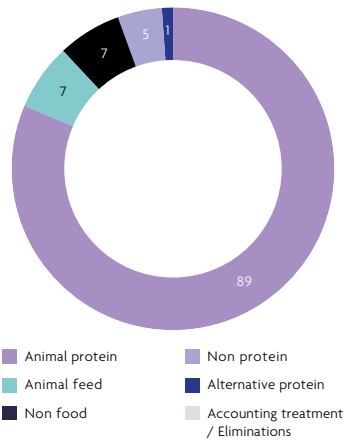
Protein distribution of companies

The 60 companies analysed have material exposure to the five main animal protein categories: Beef, Dairy, Pork, Poultry & Eggs and Aquaculture. The most popular protein produced is Poultry & Eggs, since 18 Index companies (30%) consider it Poultry & Eggs as their main protein category.



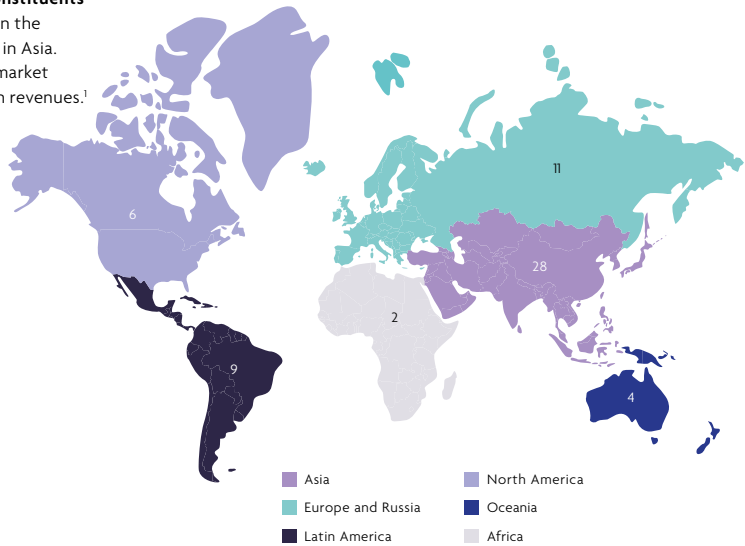
Revenues as a proportion of protein markets

The 60 protein producers have exposure to other product types alongside animal protein. However, the latter dominates their revenue generation. Of their combined \$338 billion revenues, 89% is derived from producing and processing intensively farmed livestock and fish.



Regional distribution of 60 constituents

Almost half of the companies in the Index (47%) are headquartered in Asia. This constitutes \$191 billion in market capitalisation and \$155 billion in revenues.¹

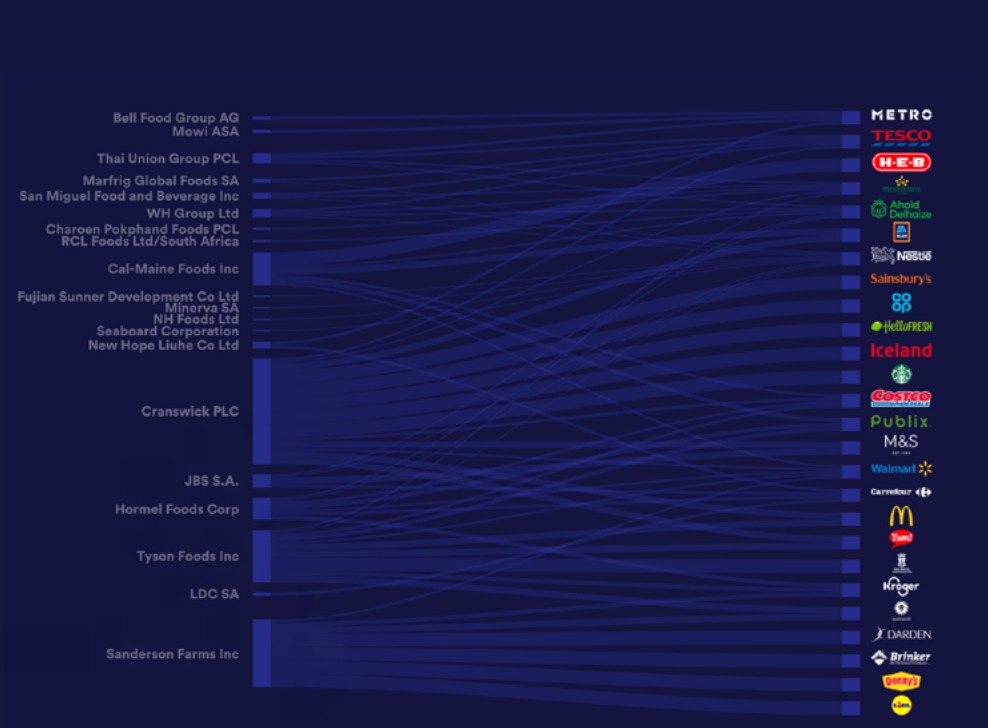


Coller FAIRR Protein Producer Index

We have assessed 60 of the world's largest animal protein producers and targeted companies that supply the biggest global food retailers.

These consumer-facing companies source their meat, fish and dairy from many of the companies in the Protein Producer Index and are, therefore, exposed to myriad ESG risks through their supply chains. Global food retailers will struggle to achieve many of their ESG-related goals (such as emission reduction targets, deforestation-free supply chain commitments, sourcing of antibiotic-free meats) without engagement and certification of their suppliers.

In this diagram, we highlight the client-supplier relationships between food retailers and the companies covered in the Coller FAIRR Protein Producer Index.



Links are non-exhaustive. Data source: Bloomberg.

What's New?

The Collier FAIRR Protein Producer Index continues to evolve to reflect the risks and opportunities of the changing animal protein sector. The latest edition of the Index offers new features to investors, accessible via an interactive online tool.

NEW FACTOR ASSESSED: GOVERNANCE

The Index includes a new risk factor for analysing company performance: Governance. This is a critical addition to help investors understand how companies assess the awareness of ESG risk at management and board level. This new factor includes key criteria on whether companies conduct a materiality assessment and whether governance structures are in place to mitigate and prevent against ESG-related risks.

A GREATER SENSITIVITY TO SUPPLY CHAIN PERFORMANCE

A large proportion of risk exposure for Index companies, and the companies they supply, occurs either upstream or downstream in their value chains. In the case of GHG emissions, it is estimated that on average, large corporations' Scope 3 emissions are 5.5 times greater than their Scope 1 and 2 emissions combined². This year's Index, therefore, addresses whether protein producers have Scope 3 emission targets in place to help institutional investors measure company performance in the context of their wider supply chains and direct operations.

NEW CONTROVERSY SCORE

The new 'Controversy Score' helps investors gain insight into the potential impact of 'controversial' events and announcements. The controversy score can be used as a signal of a company's adherence to its current ESG commitments (e.g., on product recalls or human rights abuses). Similarly, it may be used to highlight recurring issues (e.g., fish escapees), which may develop into more material financial risks.

This new AI-powered score will be updated quarterly.

The Controversy Score is the number of controversies normalised by company size

Lower 1/3 percentile

Middle 1/3 percentile

Upper 1/3 percentile

Absence of detected controversies

Note: This score will not affect a company's overall risk assessment score; rather, it is intended to supplement the risk analysis.

(Note: This should not necessarily be construed as an absence of risk)

“The food sector is facing unprecedented challenges, including being impacted by climate change, COVID-19 and shifting consumer preferences. As investors, we need quality insights and accurate data to assess how ESG performance might affect companies in our portfolios. The Collier FAIRR Protein Producer Index is, therefore, a useful tool and at Invesco, this helps inform our ESG research and company engagement efforts.”

Nikki Gwilliam-Beeharee, Director of ESG Research at Invesco

Company Ranking: Collier FAIRR Protein Producer Index

HIGH RISK

Companies that score under 31% for their overall score are categorised as **'HIGH RISK'**, meaning they are significantly exposed to material ESG risks. These companies often demonstrate limited disclosure or targets.

MEDIUM RISK

Companies that score 31% or higher (but less than 60%) for their overall score are categorised as **'MEDIUM RISK'**, meaning they are moderately exposed to material ESG risks. These companies often demonstrate basic risk management, with some performance disclosure and targets in place.

LOW RISK

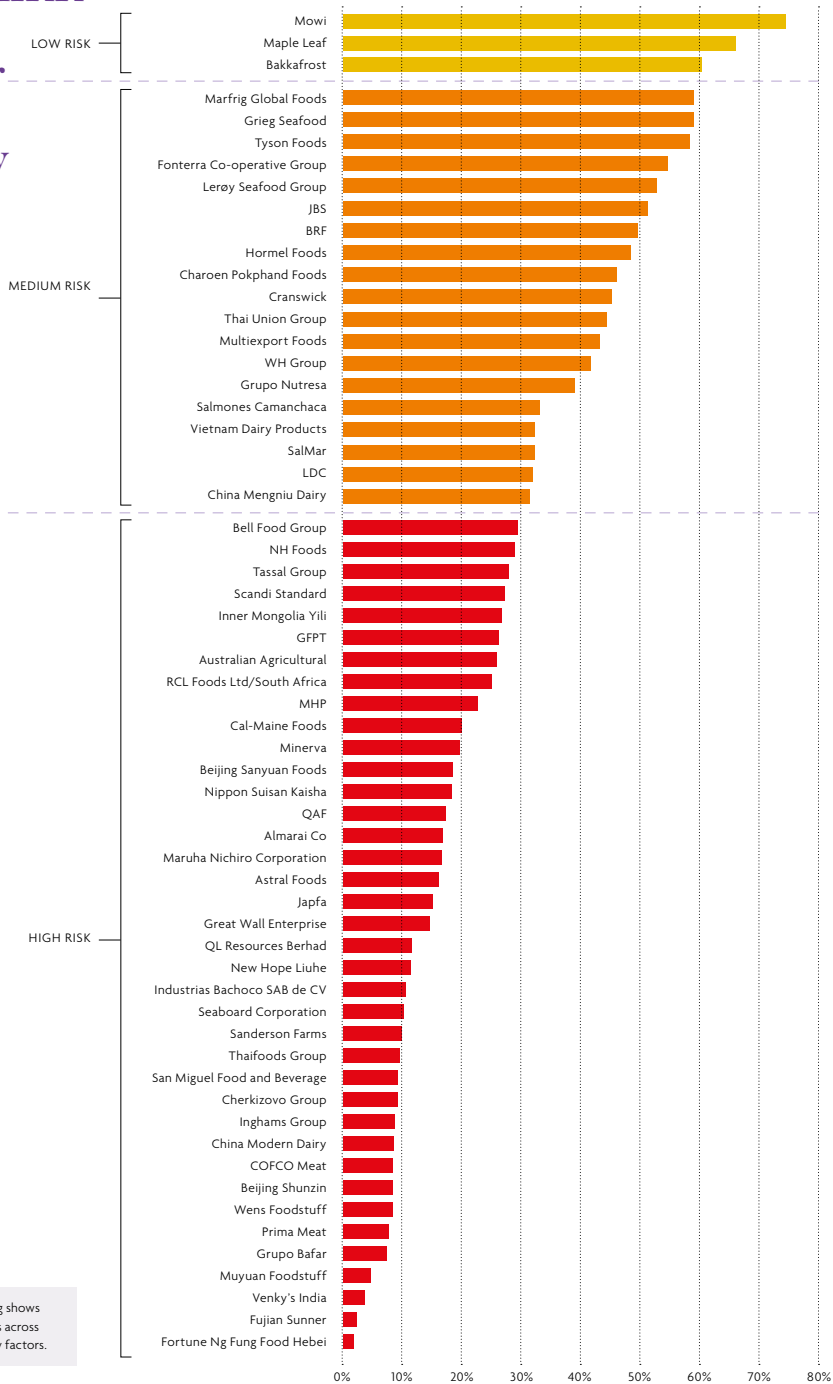
Companies that score 60% or higher (but less than 91%) for their overall score are categorised as **'LOW RISK'**, meaning they are less exposed to material ESG risks. These companies often demonstrate adequate risk management, with more detailed performance disclosure and targets in place.

BEST PRACTICE

Companies that score 91% or higher for their overall score are categorised as **'BEST PRACTICE'**, meaning they are minimally exposed to material ESG risks and exemplify sufficient mitigation pathways. Note that no company in the Index has achieved a **'BEST PRACTICE'** score.

Coller FAIRR Protein Producer Index: Company Ranking

TOTAL SCORE BY COMPANY



TOTAL SCORE: This ranking shows the average company scores across the 10 risk and opportunity factors.

Key Findings

This year's Index demonstrates that, once again, the vast majority of the companies have yet to meaningfully address even the most basic sustainability risks. Of the 60 companies covered by Index, 38 (valued at \$165 billion) rank as **HIGH RISK**, on average, across all of the 10 risk and opportunity factors.

BEST PERFORMERS

Mowi and Bakkafrøst, both of which are aquaculture companies, show strong performance on Antibiotics. Maple Leaf benefits from its **'BEST PRACTICE'** ranking for the Sustainable Proteins opportunity factor.

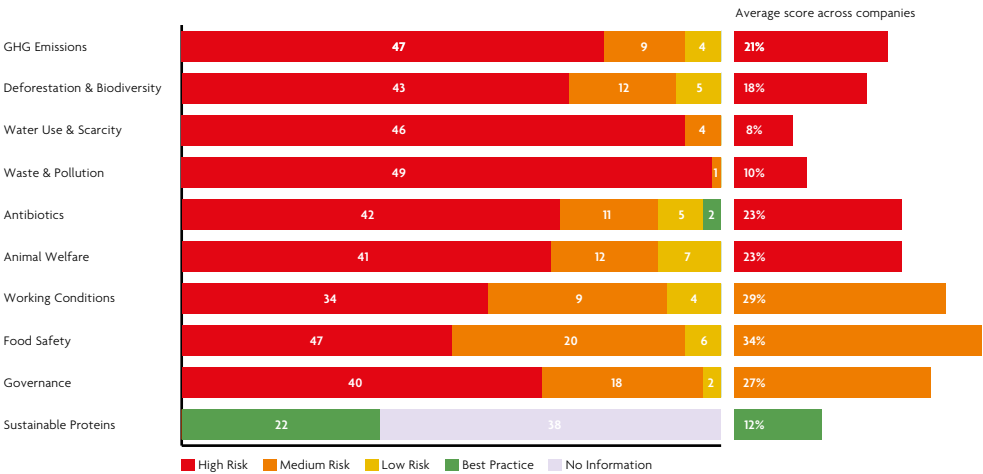
Mowi (Norway)
Maple Leaf Foods (Canada)
Bakkafrøst (Faroe Islands)

WORST PERFORMERS

Fortune Ng Fung Food (Fucheng), Fujian Sunner and Venky's weak performance is linked to a lack of disclosure on a large number of risk factors, including GHG Emissions, Deforestation & Biodiversity and Antibiotics.

Fortune Ng Fung Food Hebei Co (China)
Fujian Sunner Development Co (China)
Venky's India (India)

Animal protein producers by ranking and risk factor



Risk & Opportunity Factors



GREENHOUSE GAS EMISSIONS

Climate change is both a risk and a vulnerability for the livestock and farmed fish sectors, with livestock supply chains accounting for 14.5% of global anthropogenic greenhouse gas emissions³. Despite the sector being highly vulnerable to a changing climate, many protein producers are still failing to manage this risk.

- Of the 60 Index companies, 47 (over 75%) rank as **HIGH RISK** for Greenhouse Gas Emissions. There are nine **MEDIUM RISK** companies, and only four **LOW RISK** companies.
- Of the 47 **HIGH RISK** companies in the GHG Emissions Risk actor, 25 are located in Asia, making it the highest-risk location for this factor. Latin America was the second-highest risk location, with seven companies ranking as **HIGH RISK**.

- The protein type that constitutes highest proportion of **HIGH RISK** companies is Poultry & Eggs, accounting for 18 of the 47 **HIGH RISK** companies.
- This year, three companies have announced or approved science-based targets (SBTs) for Scope 1, 2, and 3 emissions, Mowi, Maple Leaf, and Grieg Seafood. They join Tyson, which was the only company with SBTi-approved targets last year.
- Emissions disclosures remain high-level with only one-quarter of the Index companies reporting their Scope 1, 2 and 3 emissions. In terms of Scope 3 emissions targets, 72% of the companies assessed have provided no disclosure.

STAGES OF CLIMATE TRANSITION

Of the 60 companies assessed in the Index, 35 have taken steps towards climate transition. The remaining 25 companies have yet to disclose any initiative that would place them on this pathway.

According to the Index, 17 companies have disclosed figures for Scope 1 and 2 emissions, while 22 companies have set targets. **WH Group** and **Yili Group**, however, do not disclose their emissions for Scope 1 and 2, despite having previously set targets.

Only 15 companies have disclosed their emissions for Scope 3 while just six companies have set a target. Of these six companies, two (**Tyson** and **WH Group**) have not disclosed emissions data for Scope 3, even though a target had previously been set.

Details of the Scope 3 targets set by **Fonterra** and the **WH Group** are shown below. As yet, this is the furthest that these two companies have come on the climate transition pathway.

SCOPE 3 TARGET				
Company	Geographic Scope	Base Year	Target Year	Reduction
Fonterra Co-operative Group Ltd	Dairy farming in New Zealand (88% of raw milk collected)	2014/15	2030	Climate-neutrality for all on-farm emissions
	Manufacturing emissions, global	2014/15	2030	30% reduction in absolute manufacturing emissions
WH Group Ltd	Smithfield Foods operations only	2010	2025	25% across entire U.S. supply chain

Note: Fonterra's Scope 3 emissions include 'on-farm', 'manufacturing and distribution' and 'other' emissions from its supplying farms. Its targets address on-farm and manufacturing emissions only.



DEFORESTATION & BIODIVERSITY

Livestock farming is the primary cause of habitat loss. Cattle ranching is estimated to account for 80% of deforestation in the Amazon⁴, much of which is illegal. Despite pressure on meat giants to address this issue, there is a lack of progress in halting deforestation amidst the growing demand for soy and beef.

- Of all the land-based companies, 82% rank as **HIGH RISK** for Deforestation & Biodiversity.
- The best-performing region is Oceania, with an average score of 36%. Africa, which scores 0%, is the worst performer, followed by Asia, with a score of 1%. This indicates that companies in this region disclose almost no information relating to Deforestation & Biodiversity.
- Of the land-based proteins, Beef performs best on deforestation risks. Beef companies make up the lowest proportion of **HIGH RISK** companies and the highest proportion of **LOW RISK** companies.
- The worst-performing protein is Dairy, with all companies ranking as **HIGH RISK**. Five Dairy companies receive an overall score of 0% for Deforestation & Biodiversity.
- Only four (21%) of the 19 companies have conducted a Cattle Deforestation Risk Assessment and identified sourcing regions, which include **HIGH RISK** locations.

MITIGATING FACTORS

Mitigating Factors reflect actions/policies that can help to offset the negative impacts of a company's activities.

LAND-BASED PROTEINS		
Deforestation KPI	Mitigating Action	Number of Companies Disclosed
Engagement, Monitoring, Traceability – Soy	Discusses innovations to move towards sustainable feed sources and/or discusses sustainable sourcing in other feed commodities	4
Engagement, Monitoring, Traceability – Cattle	Encourages or collaborates with suppliers to adopt innovative farming techniques	2
PURE-PLAY AQUACULTURE		
Deforestation & Biodiversity KPI	Mitigating Action	Number of Companies Disclosed
Engagement, Monitoring, Traceability – Soy	Discusses innovations to move towards sustainable feed sources and/or discusses sustainable sourcing in other feed commodities	5
Ecosystem Impacts	Makes a commitment to reduce escapes for all species	6
Ecosystem Impacts	Discusses work to reduce biodiversity impacts	9



WATER USE & SCARCITY

Water use in livestock production



Water use in feed farming

98% of the total volume of water for animal farming is used for feed production, which makes it highly vulnerable to droughts and other extreme weather events.

Water use in animal farming

Water use in animal farming is primarily for drinking, service water and feed mixing water.

Water use in direct operations

Water is used primarily in slaughtering and processing, for washing livestock, rinsing carcasses, cleaning process equipment as well as any processing operations.

The water footprint for animal proteins is significantly larger than crops, with the average water footprint per calorie of beef being 20 times larger than that of cereals. Animal protein production is highly reliant on water availability for a wide range of operations including feed production, making water scarcity in a warmer world, therefore, a severe material risk to the future of animal agriculture.

- Of the 50 companies assessed for Water Use & Scarcity, 46 (92%) rank as **HIGH RISK**.
- On average, companies in Asia, Africa and Europe & Russia rank as **HIGH RISK** for Water Use & Scarcity. Asia is the worst-performing region for Water Use & Scarcity and is home to 26 of the 46 **HIGH RISK** companies.
- The protein type with the highest number of companies ranking as **HIGH RISK** is Poultry & Eggs, followed by Pork.
- Water Use & Scarcity is one of the worst-performing risk factors, with companies receiving an average score of just 8%.
- Eight out of the 50 Index companies assessed for Water Use & Scarcity provide no disclosure. Discussions around risk are high-level but none of the Index companies rank as **LOW RISK** or **BEST PRACTICE**.
- 15 companies demonstrate water risk awareness through qualitative discussions or by conducting a risk assessment in their owned facilities.
- The majority of companies provide no disclosure on Water Scarcity in both animal farming (76%) and feed farming (82%).



WASTE & POLLUTION

Intensive animal production is a key contributor to air, water and land pollution. This is often due to the use of synthetic fertiliser and the improper disposal of manure, which not only affects local ecosystems but also impacts the health of local communities through groundwater contamination and air quality issues. Companies are now under growing pressure to improve waste management practices and reduce pollution linked to fertiliser use and manure.

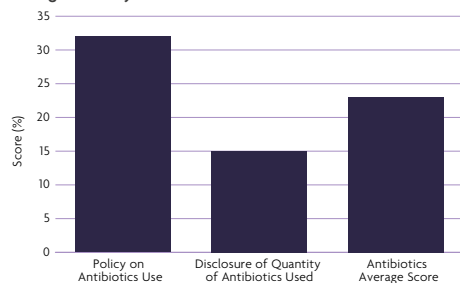
- For Waste & Pollution, Fonterra earns the highest score across all companies. It scored 55% and is the only company to rank as **MEDIUM RISK**. The remaining 49 companies rank as **HIGH RISK**.
- With 26 companies ranking as **HIGH RISK**, Asia is the worst-performing region. It is followed by Latin America (LATAM) with seven companies ranking as **HIGH RISK**.
- Poultry & Eggs is the protein type with the highest number of companies (33) ranking as **HIGH RISK**. The second worst-performing protein type is Pork, with 26 companies ranking as **HIGH RISK**.
- Waste & Pollution is the second worst-performing risk factor after Water Use & Scarcity, with an average company score of 10%.
- Only 10% of land-based animal protein companies have a sustainable agriculture policy addressing nutrient pollution in feed supply.
- Only 18% of land-based animal protein companies have their wastewater data audited by a third party.



ANTIBIOTICS

Historically, protein producers have used antibiotics to help animals achieve higher slaughter weights, and as a preventative measure to help support against disease caused by unhygienic and crowded conditions in slaughterhouses. However, the threat posed by antimicrobial resistance to both animals and humans requires a shift away from a reliance on the routine use of antimicrobials in animal farming. From 2022, the European Union will ban the use of human antibiotics in veterinary medicine⁵.

Average Score by Antibiotics Risk Factor KPIs



- 70% of Index companies, totalling \$243.8 billion in market capital, rank as **HIGH RISK** for Antibiotics. Of the companies that disclose having an antibiotic policy, only 16 (27%) state that they do not use antibiotics routinely.
- Africa and Asia are the poorest-performing regions for Antibiotics. All companies in Africa rank as **HIGH RISK** while 89% of companies in Asia are rank as **HIGH RISK**.
- The best-performing protein type is Aquaculture, with 20% of companies ranking as **BEST PRACTICE** and 30% ranking as **LOW RISK** for Antibiotics. The poorest-performing protein groups are Beef and Dairy. All companies that produce Beef or Dairy rank as **HIGH RISK** for Antibiotics.
- 65% of the Index companies do not disclose information on their antibiotic usage. Only 14 companies (23%) disclose data on the quantity of antibiotics used.
- There are two companies that rank as **BEST PRACTICE** for Antibiotics. These are Bakkafrøst and Mowi. Bakkafrøst has not used antibiotics since 2004 and discloses how it has eliminated the need for antibiotics through the use of selective breeding programmes and vaccines. Mowi, too, does use antibiotics in its operations and ranks as **BEST PRACTICE** due to its strong disclosure regarding its antibiotics policy and the quantity of antibiotics used.
- A third of the companies in the Index have provided no information or discussion about their antibiotic usage.



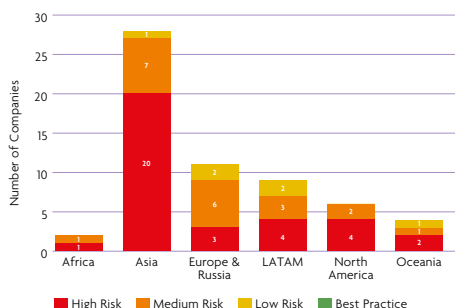
WORKING CONDITIONS

The COVID-19 pandemic has thrust animal protein producers into the spotlight, with stakeholders biw scrutinising the standards of health and safety for their workers. Virus outbreaks in meat processing facilities have reached tens of thousands, caused severe supply chain disruption and put both workers and their communities at risk. There are also significant financial losses as a result of low productivity and the need to 'depopulate' the herds that could not be processed.

- Over half of the companies in the Index (57%) rank as **HIGH RISK** for Working Conditions. These companies constitute \$163 billion in market capitalisation and \$122 billion in revenues. There are no Index companies that rank as **BEST PRACTICE** for Working Conditions.
- Asia has the highest proportion of **HIGH RISK** companies in this factor, with 71% of Asian companies ranking as **HIGH RISK**. There are 13 companies in the region that rank as **HIGH RISK** across all Working Conditions KPIs: Human Rights, Fair Working Conditions, Safety & Turnover Data and Freedom of Association. This is followed by North America, where two-thirds of companies rank as **HIGH RISK**.
- On average, Pork companies score worst on this risk factor with an average score of 26%. Of all Pork companies, 62% rank as **HIGH RISK**. Aquaculture has the lowest proportion of companies (20%) ranking as **HIGH RISK**.

- 30% of companies evaluated by the Index provided zero disclosure on Human Rights.
- Thai Union is the best-performing company, scoring 77% and ranking as **LOW RISK**. The worst-performing company was Fortune Ng Fung Food Hebei Co, which provided no disclosure on Working Conditions.

Regional Analysis by Risk Category





ANIMAL WELFARE

Farm animal welfare has become an increasingly important issue for food companies throughout the protein supply chain. Over 230 US supermarkets, restaurants and food retailers have already committed to ensuring a cage-free egg supply chain following strong consumer pressure. A growing awareness of the importance of animal welfare has led to some improvements in recent years, though many animal protein companies still perform poorly on this risk factor.

- On average, companies perform poorly on Animal Welfare, with 41 (68%) ranking as **HIGH RISK**.
- Of the 41 **HIGH RISK** companies, 24 are located in Asia, making Asia the highest-risk region for Animal Welfare.
- The largest contributing protein to **HIGH RISK** companies on Animal Welfare is Poultry & Eggs, where 13 companies rank as **HIGH RISK** for Animal Welfare. Companies such as Fujian Sunner Development Co, QL Resources, RCL Foods, and Venky's provide no disclosure at all relating to Animal Welfare.
- The three best performers (Cranswick, QAF and BRF) rank as **LOW RISK**.
- Animal Welfare Policy is the best-performing KPI for Animal Welfare. There are four companies (Cranswick, Fonterra, Maple Leaf and QAF) that rank as **BEST PRACTICE**, indicating a stringent animal welfare policy.
- Only 20% of land-based animal protein companies report annually on their progress towards improving animal welfare. This indicates a lack of data monitoring.



FOOD SAFETY

The ability to provide safe food is fundamental to food production and critical to global food security. Food safety scandals and outbreaks of livestock pandemics, such as avian flu, can even impact the value of the largest animal protein producers. The cost of recalling a product, for example, is estimated at over \$10 million. Food safety standards are also a key factor in generating consumer trust and brand loyalty around food companies.

- Food Safety is the best-performing factor in the Index, with 43% of companies ranking as **MEDIUM RISK**.
- Asia has the largest number of **HIGH RISK** companies (57%). Only two, Almarai and Thai Union, disclose that they expect suppliers to be certified by the Global Food Safety Initiative (GFSI) and only four disclose the frequency of their food safety audits.
- The Europe & Russia region has the lowest proportion (27%) of **HIGH RISK** companies. All companies in Europe & Russia disclose that they own facilities with a GFSI-recognised certification, yet the extent to which facilities are certified varies from partial to full certification.
- Beef is the protein group with the highest proportion of **HIGH RISK** companies, with two-thirds of Beef companies ranking as **HIGH RISK** for Food Safety.
- 75% of companies disclose that their facilities have achieved certification recognised by the GFSI. Despite this, only eight companies state that 100% of their facilities are GFSI certified, and the majority are only partially certified.
- On the traceability front, only 23% of companies have implemented, or are in the process of developing, consumer-oriented tracing technology.
- Only three companies, Cranswick, Bachoco and Marfrig, explicitly disclose that there were no recalls and market bans in the reporting year.



GOVERNANCE (NEW)

Governance is a new risk factor in the Index and key to evaluating how resilient companies are to ESG-related event risk. The COVID-19 pandemic and its repercussions across the animal protein industry have shed light on governance failings. In the face of new regulation, standards and changing consumer opinions, robust governance at the operational, Executive and Board level will be fundamental to building resilience and preserving growth in a post-COVID world.

In the Index, 67% of Index companies rank as **HIGH RISK** for Governance.

- North America is the poorest-performing region, largely driven by the lack of disclosure from Cal-Maine Foods, Sanderson Farms and Seaboard Corporation.
- Poultry & Egg companies represent the worst-performing protein type, with 76% ranking as **HIGH RISK**.
- 10% of companies disclose no information relating to sustainability governance.

COMPANIES' STRATEGIC APPROACH

The Governance factor looks at a company's ability to identify market shifts linked to sustainability and support strategic changes through innovation.

Mowi discusses its approach to improve its production of sustainable, healthy and safe seafood. Along with its SeaBOS collaboration, the company has an R&D programme with targets in five key areas: Fish Welfare, Footprint, New Growth, Production Efficiency, and Product Quality and Safety.

Bakkafrost drives innovation to develop and grow the aquaculture industry. It emphasises the need for innovation and R&D in order to meet consumer demands and capitalise on opportunities and sustainability effort. The company plans to do this through continued innovations from building its own biogas plant to have more circular solutions for waste management, to improving its water recirculation at hatcheries and developing the resilience of its Faroese salmon roe to improve health outcomes.

Both of these companies disclose that they use the Collier FAIRR Protein Producer Index to understand its benchmarking position on sustainability alongside the Seafood Stewardship Index, Sustainability and MSCI.



SUSTAINABLE PROTEINS

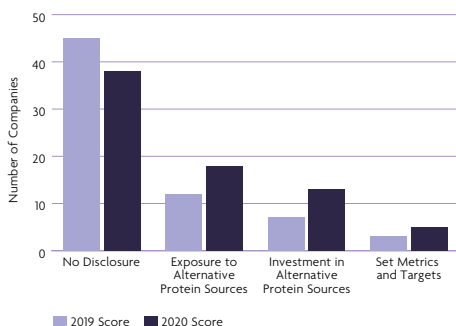
The alternative protein market is expected to grow to \$17.9 billion by 2025. Over \$1.1 billion of venture investment has been injected into the alternative protein market in the first half of 2020, which is more than double last year's total investment (\$534 million).

[FAIRR's Sustainable Protein Hub](#) has found that seven of 15 animal protein retailers now sell, or plan to sell plant-based meat alternatives on the meat aisle. Meat and dairy companies are increasingly transitioning towards alternative protein sources to move away from an overreliance on animal protein and its associated ESG risks.

- This year, 22 of 60 companies (37%) show evidence of sustainable protein diversification – an additional seven companies from 2019.
- 68% of Asian companies do not disclose any information on alternative proteins. Only one Asian company, Thai Union has created a venture fund to invest in alternative proteins.
- Although Dairy companies are the best-performing protein group, Beef companies have seen the largest increase in their Sustainable Proteins opportunity factor by 10% from 2019. This has been driven by increased exposure by Grupo Nutresa, JBS, Marfrig and NH Foods which now have dedicated alternative protein brands.
- Maple Leaf is the leader in the Sustainable Proteins opportunity factor with a score of 100%. It is the only Index company that has set a target to diversify protein sources. It plans to achieve \$3 billion in sales in the Plant Protein Group by 2029.

Companies' Strength of Exposure to Sustainable Proteins

There are 22 companies with exposure to alternative proteins, whereas there are 38 companies that do not disclose any information regarding their diversification of products to alternative protein sources. However, notable progress is being made.





Special Reports

SPECIAL REGIONAL REPORT: BRAZIL

Over the past two decades, the Brazilian meat sector has grown to be an essential source of the country's fiscal revenues, foreign currency inflows and job creation. Brazil holds a large portion of the world's natural capital, on which its economy has become highly dependent. It is, therefore, unsurprising that its meat sector has come under increased scrutiny, with ESG issues being a primary focus in investors' risk analyses of Brazilian companies.

This special report examines how Brazilian meat producers are managing ESG risks; the ongoing contribution of the meat sector to the Brazilian economy; Brazilian meat companies' dependence on international markets; and the importance of Brazil's natural capital for cash flow generation within the livestock sector. In this analysis, we seek to explore animal agriculture's contribution to Brazil's economic development while emphasising the need to balance the environmental and social challenges that have been exacerbated by the country's dependence on its depleting natural resources.

SPECIAL COMPANY REPORT: TYSON FOODS

The COVID-19 outbreak has exposed the underlying social risks that have long plagued the labour-intensive meat processing industry. With investors and regulators increasingly concerned by labour standards within meat supply chains, animal protein producers are facing negative impacts from litigation and market perception linked to working conditions, which could impact the cost of capital.

This special report delves into the working conditions of production processes within the meat sector and how failings in the management of social factors can have significant impacts on the operational performances. We use the example of **Tyson Foods** (TSN), one of the largest protein producers in the Collier FAIRR Protein Producer Index, to highlight the importance of assessing labour-related issues in company risk assessments.

The FAIRR Initiative will be launching a global collaborative investor engagement to help strengthen labour standards and practices at eight of the leading animal protein producers in the US, Brazil, Europe, and Asia. Corporate performance will be assessed annually following the publication of the Collier FAIRR Index methodology.

SPECIAL REPORT: GREENHOUSE GASES

There is an increasing demand for companies to disclose and reduce GHG emissions in their supply chains. Companies have begun to adopt GHG emissions targets as a means of demonstrating their commitments to tackling climate change. The Collier FAIRR Index has incorporated a new climate-related KPI into its assessment methodology which looks specifically at whether companies have conducted a climate-related scenario analysis in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

This special report examines the animal agriculture sector's progress on emissions reporting, climate scenario analysis and ambitions to set emission reduction targets. It explores the different stages of climate transition, the extent to which companies in the Index have set science-based targets, the leaders and laggards on emissions disclosure and best practices for undertaking scenario analysis on climate.



Science-based Targets

TARGETS SET									
Company	Target Classification	Science Based Target Scope 1 & 2			Geographic Scope	Science Based Target Scope 3			Geographic Scope
		Base Year	Target Year	Reduction		Base Year	Target Year	Reduction	
Grieg Seafood	Well below 2°C	2018	2030 2050	35% 100%	Universal	2018	2030 2050	35% 100%	Universal
Maple Leaf Foods	Well below 2°C	2018	2030	30%	Universal	2018	2030	30% per tonne of product produced	Universal
Mowi	Well below 2°C	2016	2030 2050	35% 72%	Universal	2018	2030 2050	35% 72%	Universal
Tyson Foods	2°C	2016	2030	30%	Universal	2016	2030	30% per ton of finished meat for the production of poultry, pork & beef	80% Scope 3 inventory

“There is enormous growth potential in Asia’s animal protein sector but a failure to measure and manage sustainability risks from emissions to antibiotics is likely to ruin investors’ appetite. The fact that nine of the bottom 10 performers in this Index are based in Asia is especially concerning. The global animal protein industry is at a crossroads. On the one hand, there are some signs of improvement with previously poor performers turning their ESG performance around and some greater commitments from food companies on Scope 3 and science-based emissions targets.

On the other hand, it’s clear from FAIRR’s data that the global Meat and Dairy industry, and the Asian suppliers in particular, have more room to improve in order to secure the trust of both markets and wider society in their management of critical risks like climate change.

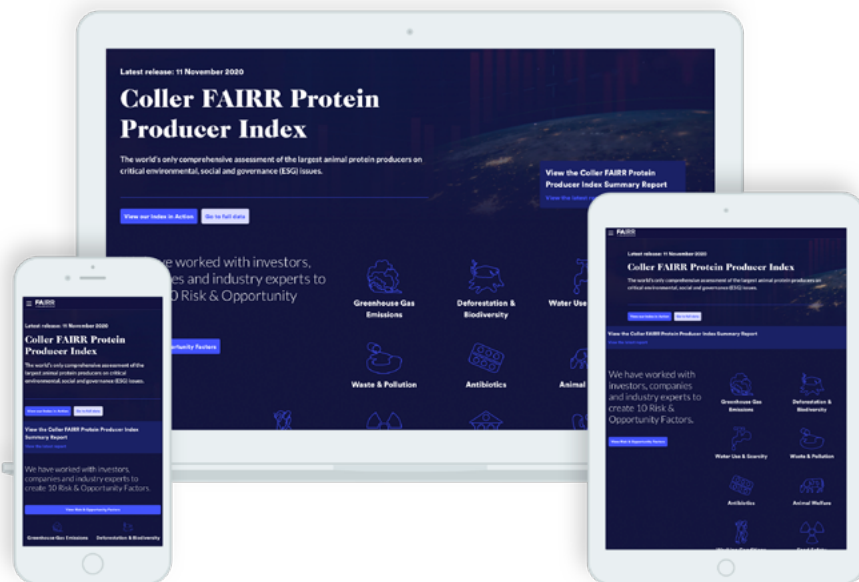
Jerry Goh, Investment Manager at Aberdeen Standard



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- 8 ~

The Collier FAIRR Protein Producer Index is accessible to investors in the form of an interactive digital tool. Investor Members of the FAIRR Initiative can access the full report, interactive graphs and full datasets at faiirr.org/index. Membership is free.



FAIRR

A COLLIER INITIATIVE

Established by the Jeremy Collier Foundation, the FAIRR Initiative is a collaborative investor network that raises awareness of the material ESG risks and opportunities caused by intensive animal production. FAIRR helps investors to identify and prioritise these factors through cutting-edge research that investors can then integrate into their investment decision-making and active stewardship processes. FAIRR also runs collaborative investor engagements with global food companies to improve performance on selected ESG issues in intensive animal production.

CONTACT DETAILS

Sonia Alexandrenne, CFA

Acting Head of Research & Engagement
sonia.alexandrenne@faiirr.org

Lorraine Hau

ESG Analyst
lorraine.hau@faiirr.org

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