NEW FINANCIAL MODELLING ON CLIMATE SHOWS BILLIONS OF DOLLARS AT RISK IN THE MEAT SECTOR

$20 trillion investor network releases first of its kind tool to model the impacts of climate change on five leading meat firms and wider animal protein sector.

• Scenario analysis shows “twin forces” of increasing climate costs and alternative protein growth will impact profitability of meat companies in a 2°C world
• **Tyson Foods** (US), **Maple Leaf Foods** (Canada) and **JBS, BRF** and **Minerva** (Brazil), suppliers to likes of McDonalds and Walmart, all analysed in pilot scenario analysis.
• “Food industry is burying its head in the sand” on climate, with only 2 in 43 (5%) leading meat companies having undertaken a climate ‘scenario analysis’.
• Model predicts that alternative proteins will command at least 16% of total meat market by 2050, potentially rising up to 62%.

(12 March 2020, London and Rio de Janeiro). A ground-breaking new financial model, published today by the $20 trillion investor network **FAIRR**, aims to help investors understand the financial implications of climate change on the meat sector. The **Coller FAIRR Climate Risk Tool** provides investors with an online model to help quantify potential downside risks and upside opportunities for meat companies in a scenario of 2°C of global warming. The tool is based on scenario analysis aligned with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD).

The model finds that the likely physical impacts of climate change and rapid growth of alternative proteins will put billions of dollars at risk for current food sector giants such as **Tyson Foods** and **JBS**, suppliers to household names such as **McDonalds, Walmart, Burger King** and **Marks & Spencer**.

The model identifies 7 key risks that will impact the profitability of the meat sector in the IPCC’s scenario of a 2°C warmer world in 2050. Risks include the increased cost of electricity due to carbon pricing, higher costs of feed due to poor crop yields and increased livestock mortality due to heat stress. It forecasts that by 2050 ‘alternative proteins’ - such as plant-based burgers - will command at least 16% of the current meat market, rising to 62% based on factors such as technology adoption rates, consumer trends and a carbon tax on meat.

**Jeremy Coller, Founder of FAIRR and Chief Investment Officer at Coller Capital, said:**

“Climate change is real and so are its financial impacts. The cost of powering poultry sheds, of sourcing feed for livestock and veterinary care will all rise as global temperatures do. This ground-breaking financial model has done the maths. Investors can see the inescapable truth for the meat sector is that it must adapt to climate change or face ruin in the years ahead. Conversely, there is also an appetising prospect of enormous upside if the world’s meat companies shift their protein mix to align with a climate-friendly path.

“It’s not an acceptable strategy when it comes to this level of climate risk for the food industry to bury its head in the sand.”

“This tool is the first step to help investors and companies understand the risk and opportunities of global
warming in the meat sector. FAIRR will continue to build on this model in the upcoming months to ensure that investors have resources to quantify how the twin forces of climate risk and alternative protein growth will impact the food sector. When it comes to climate’s impact on the meat industry, the numbers are too big, and the quantum of environmental damage too substantial, for investors to ignore.”

FAIRR’s Climate Risk Tool identifies three climate pathways for animal protein companies to take, which will define the extent of their upside opportunity or downside risk:

- **Climate regressive pathway**: The company sticks to its 2020 market position, with no market share in alternative proteins and maintains carbon-intensive species such as beef in 2050.
- **Baseline (market pathway)**: The company grows protein share (conventional and alternative) in 2050.
- **Climate progressive pathway**: The company grows alternative proteins faster than in the baseline, shifts feed and livestock mix towards less climate-influence crops and species in 2050.

In an assessment of 43 of the world’s largest listed meat companies – itemised in the Coller FAIRR Protein Producer Index – only two (Tyson Foods and Marfrig) has publicly disclosed a climate-related scenario analysis, despite such an analysis being recommended by the TCFD. In other high-emitting sectors, by comparison, 23% of oil and gas, mining and utilities companies have undertaken this sort of climate scenario analysis. Mr Coller added, “The failure of the meat and dairy sector to proactively plan ahead for climate risk as suggested by the TCFD has left investors no choice but to take matters it into their own hands and do the analysis themselves.”

**Pilot scenario**

To illustrate the model, FAIRR has undertaken a pilot **scenario analysis** on five animal protein giants (BRF, JBS Maple Leaf, Minerva and Tyson Foods) with a combined market capitalization of $50 billion (as of Feb 2020).

Any results from FAIRR’s model are highly dependent on input parameters and the model emphasises that all companies have the potential to turn climate risk into upside opportunity by choosing a ‘climate progressive pathway’. In the illustrative scenario, that assumes high rates of alternative protein growth, the model found that Canadian firm Maple Leaf, could see EBITDA grow by 77% in a climate progressive pathway (versus a baseline pathway)[1], given its significant investments in alternative proteins relative to peers and no exposure to beef. Maple Leaf is currently the only meat producer to disclose sales from plant proteins, reporting 4.3% of total sales from its plant protein segment in Q3 2019.

On the other hand, Brazilian beef giants JBS and BRF could see EBITDA reduce by 30 and 45% respectively (versus a baseline pathway) if they fail to improve market share in alternative proteins and reduce exposure to beef and poultry (i.e., choose a climate regressive pathway).

See [notes to editor](#) for more details on the pilot scenario.

Companies with high exposure to beef, such as Brazilian giant JBS, face risks without a clear climate adaptation strategy. The overall beef sector is likely to be hit hard—a loss in market share due to increased temperature resulting in cattle mortality and reduced productivity as well as higher exposure to potential taxes on the most carbon-intensive proteins. Substituting to ‘lower carbon-intensive species,’ such as poultry is an option, but there are off-setting trade-offs, including higher electricity and energy costs (poultry production requires more energy than beef production) and volatile feed costs. Pivoting towards alternative proteins is the most climate-friendly strategy.

The model will be accompanied by an interactive online tool, available exclusively to FAIRR’s Investor Members, where users can input their own data to assess company level impacts.
Robbie Miles, ESG Analyst, Allianz Global Investors said: “When it comes to the global food industry, financial markets have not adequately priced-in the costs of climate change including both the likely physical impacts and the costs of mitigation. Climate risks including extreme weather are already impacting profitability in the Brazilian beef sector and increasing livestock mortality rates in Australia and as climate risks become more severe, this pioneering new financial model will help prepare investors. All investors should run their numbers to better understand their portfolio risks and engage with their investee companies accordingly.”

Robert M. Wilson, Jr, Research Analyst, MFS Investment Management said: “Megatrends like climate have impacts on all sectors, and companies that fail to manage the transition to a low-carbon economy will negatively impact investor returns. Given its significant carbon footprint, the food sector could face substantial disruption. FAIRR's analysis can be used as a tool for informing conversations and driving engagement with protein-producing companies about how they’re preparing strategically for the consequences of climate change.”

Jason Eis, Executive Director, Vivid Economics, who contributed to the Coller Climate Risk Tool said “This will serve as an invaluable tool to enhance investor and company forward-looking analysis. In the run-up to COP26, the food sector, and especially meat companies, need to catch up with other emissions-intensive sectors by conducting climate scenario analyses that support their strategic decision-making in the transition to a low-carbon economy. This Tool shows what that might look like.”

Eva Cairns, Senior ESG Investment Analyst – Climate change, Aberdeen Standard Investments said: “Declining water supplies, growing heat stress in cows and shifting diets towards more sustainable proteins – this model identifies and quantifies the key risks in the animal protein sector. These risks are set to increase significantly as our climate continues to warm. As laid out in the TCFD recommendations, we need to see more transparency from the animal agriculture industry on how climate scenarios are likely to affect them and how they are managing the risks to improve resilience. Disclosure on this is pretty poor in the industry - that is why this tool is so important.”

Nikki Gwilliam-Beeharee, Director of ESG Research, Invesco Ltd said: "With climate change presenting financially material business risk and opportunities, especially in high-emitting sectors, investors increasingly expect companies to undertake climate scenario analysis as part of their strategic planning. In the meat industry, a sector responsible for over 14% of greenhouse gas emissions, FAIRR’s research finds that only 2 of 43 of the largest meat companies appear to have done such an analysis and so this is certainly an area where we would like to see more action and disclosure. FAIRR’s recent research suggests that by not conducting climate scenario analysis, companies may not be appropriately identifying and managing these financially material risks from feed costs to forestry issues.”

Notes to editor

- For more information, a full slide deck of data or additional comment from FAIRR or one of the investors quoted please contact: Sophie Grant, ESG Communications t: +44 7413 636 323 | e: sophie@esgcomms.com
- View the Coller FAIRR Climate Risk Tool at: https://www.fairr.org/climate-risk-tool (From 12 March)
- The 2°C scenario based on established climate scenario sources including IEA ETP, WEO and the IPCC reports. The model includes the most widely-produced and consumed animal proteins globally (beef, poultry and pork) and focuses on geographies with large meat producers: Brazil, Canada, and the US. It aims to give an indication of the trend in a company's financial performance and does not proclaim to predict precise performance forecasts as forward-looking scenarios are inherently highly uncertain. Company financial inputs used are 2018 figures obtained from databases such as Capital IQ.

Details of FAIRR’s pilot scenario [Reprintable image]
To test the model FAIRR chose five large meat producers with exposure to a variety of global climate risks. Assumptions for this pilot analysis include:

- High growth in the **alternative protein market** (i.e., rapid change in technology and innovation will create wide availability of meat substitutes)
- A **carbon tax applicable to electricity and meat** will be introduced in 2025. The model uses IEA projections on carbon prices, which are assumed to increase annually up to 2050.
- There will be a moderate increase in **cattle mortality** due to higher temperatures (heat stress), which in turn will increase production costs for companies that produce beef (higher mortality leads to higher cost of purchasing live cattle).
- There will be an increase in **veterinary and medicine costs** due to higher temperatures (caused by and heat stress and spread of pests and diseases), which will lead to higher production costs for all meat companies (the degree to which it increases depends on a company’s relative exposure to proteins).
- Company financial inputs used are **2018 figures** obtained from **company disclosures**
- Company **revenue by protein** is based on **FAIRR’s estimates** derived from company disclosures
- A company’s ability to absorb any increase in production cost is dependent on its protein split. The model assumes that the **higher the exposure to beef, the lower** the adaptive capacity to **reduce protein-linked emissions** in the future.

- This analysis should be used as a conceptual tool to inform engagements with protein-producing companies about their strategical positioning and adaptation to the consequences of climate change.
- Details regarding the methodological approach can be found in the full report on the FAIRR website.

**About FAIRR**
The FAIRR Initiative is a collaborative investor network, founded by Jeremy Coller. It works with institutional investors to define the material ESG issues linked to intensive livestock and fish farming systems and provide them with the tools necessary to integrate this information into their asset stewardship and investment decisions, including the Coller FAIRR Index, The world’s first comprehensive assessment of the largest global animal protein companies on environmental, social and governance issues. Visit www.fairr.org and follow @FAIRRinitiative

[1] These numbers aim to indicate the trend in a company's financial performance. They do not proclaim to predict accurate and precise performance forecasts, and should not be described as such.
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