



PRECISION AGRICULTURE

VERTICAL FARMING

CELL CULTURED AND
PLANT-BASED FOODS

How to invest in the future of food

ASX: IEAT

Betashares Future of Food ETF

Introducing the Betashares Future of Food ETF (ASX: IEAT)

Technological innovation is re-shaping every part of our lives, from how we work and entertain ourselves, to what and how we eat.

Given the rising global population, and improvements in living standards, demand for protein-rich and often highly processed food is destined to continue to grow strongly. Yet meeting rising food demand through traditional ways has led to increased environmental, ethical and health concerns. After all, the traditional means of producing food is a significant contributor to global greenhouse gas emissions and requires the slaughter of billions of animals each year. Tasty but often unhealthy processed foods are also contributing to human obesity levels and heart disease.

These concerns have in recent years led to an increased focus on more sustainable, humane and healthier ways to produce the food we eat – such as replacing animal-based foods with plant or cell-based alternatives, more efficient use of land and fertilisers and more sustainable ways of processing, packaging and distributing food. This collection of activities has been dubbed the ‘future of food’ and has become a major growth segment within the global food industry.

To tap into this growth potential, Betashares is pleased to introduce the Betashares Future of Food ETF (ASX: IEAT), which provides exposure to some of the world’s most innovative companies in the areas of global food production and supply.



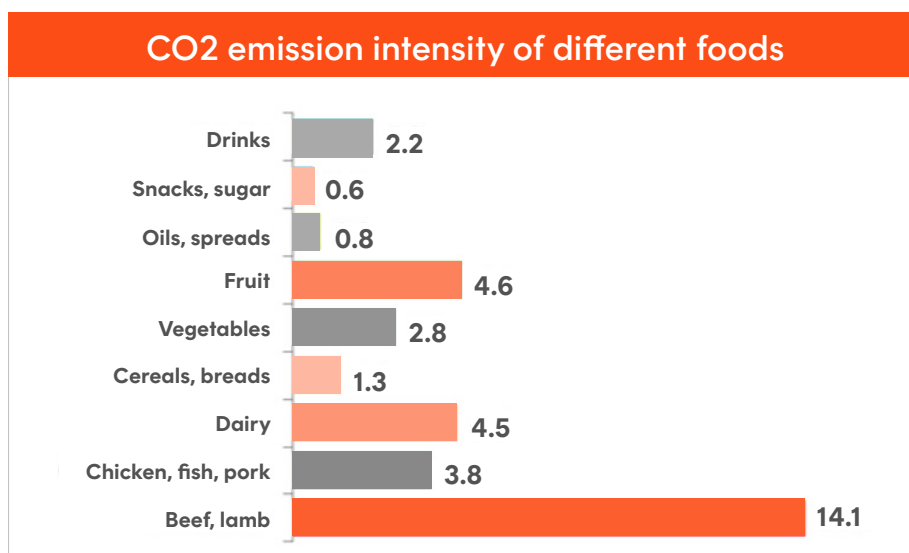
The history of food: growing environmental, health and ethical concerns

Today's system of global food production has arguably done well in managing to feed our growing population. But as outlined below, this has not been without environmental, health and ethical concerns – challenges which will only grow as the global population gets bigger and more demanding in what it wants to eat.

Environmental concerns

In the 70 years since 1950, the world has faced the challenge of having an extra 5.1 billion mouths to feed, with the global population rising from 2.6 billion to 7.7 billion according to United Nations (UN) estimates. According to the UN, the challenge will not get any easier, with the global population expected to grow by around 2 billion by 2050 (to 9.7 billion), before potentially peaking at 11 billion by 2,100¹.

At the same time, living standards are also expected to rise, as economic development in lower-income countries continues to catch up to that in higher-income economies. In turn, that means that not only should food demand continue to grow, but more of the population can be expected to want more protein-rich and highly processed food, such as meat and dairy products, compared to traditional cereal staples such as wheat and rice. One obvious problem with the transition from cereals to meats is that production of the latter results in much higher CO₂ emissions per unit of calories consumed.

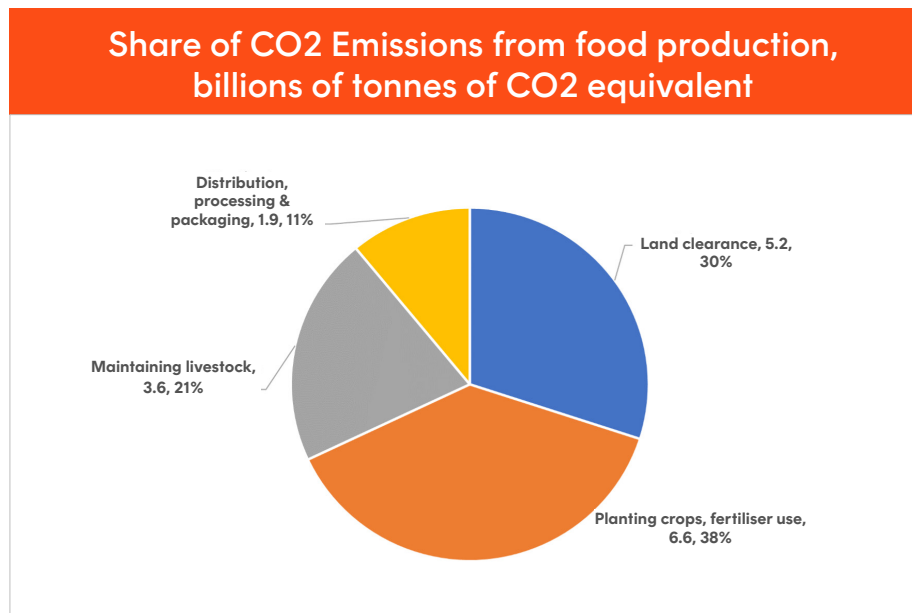


Note: Figures are grams of carbon dioxide equivalents per kilocalorie of food eaten (g CO₂e/kcal). Intensities include emissions for total food supplied to provide each kilocalorie consumed. This accounts for emissions from food eaten as well as consumer waste and supply chain losses. All figures are based on typical food production in the USA. Estimates are emissions from cradle to point of sale, they do not include personal transport, home storage or cooking, or include any land use change emissions.

Source: US Dept. of Agriculture, <http://shrinkthatfootprint.com/food-carbon-footprint-diet>.

¹ UN Population Prospects, 2019.

Estimates suggest that global food production already contributes 17.3 billion metric tonnes of carbon dioxide yearly, or around one-third of human-generated greenhouse gas emissions. Land clearance and crop planting, which reduce carbon storage in soil and trees, accounts for around 70% of food-related emissions, while livestock, largely due to the methane produced, accounts for a further 20%. The processing, packaging, and distribution of food accounts for the remaining 10%.



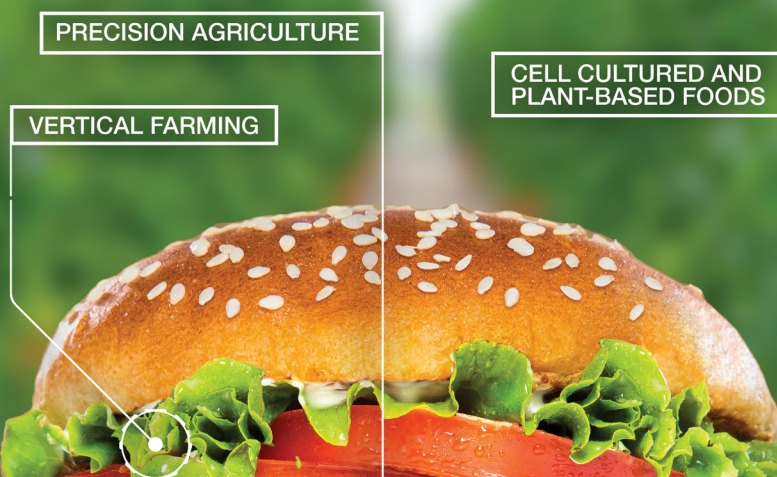
Source: Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods, Nature Food, 13 September 2021

Health concerns

Not only does today's food production place strains on the environment, it also poses risks to our health. In high-income countries, for example, the percentage of the adult population considered obese has tripled since the mid-1970s, from around 10% to almost 30% - which experts attribute to increased consumption of fats, sugar and salt through processed foods, and reduced intake of more naturally derived fruits, vegetables, and dietary fibre.

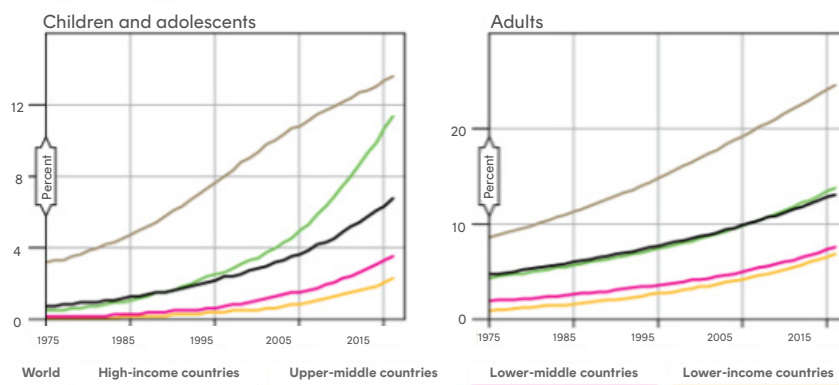
In turn, obesity is associated with higher risk of diabetes, heart disease and certain cancers². As more in the developing world adopt similar higher-income eating patterns, these health concerns under current food production processes are only likely to spread globally.

²The Future of Food and Alternative Pathways to 2050, Food and Agriculture Organisation of the United Nations, Rome, 2018.





Obesity rates among children and adults



Note: Regions are arranged into income groups as defined in WHO Global Health Observatory data (WHO, 2018). Children and adolescents are those between 5 and 18 years of age, adults are those aged 18 and above.

Source: WHO, 2018.

Ethical concerns

Last, but not least, there's the ethical issue that current food production techniques often unfortunately result in the suffering of many animals. According to official estimates³, around 80 billion land animals are slaughtered each year for food, including 70 billion chickens, 1.5 billion pigs, 570 million sheep and 300 million cows. Around 100 million tonnes of fish are also hauled from our oceans, lakes and rivers each year.

Prior to slaughter, moreover, many animals suffer from a poor quality of life, living in cramped factory-like conditions, with little natural light, social interaction, or freedom of movement.

³ Food and Agriculture Organisation of the United Nations.

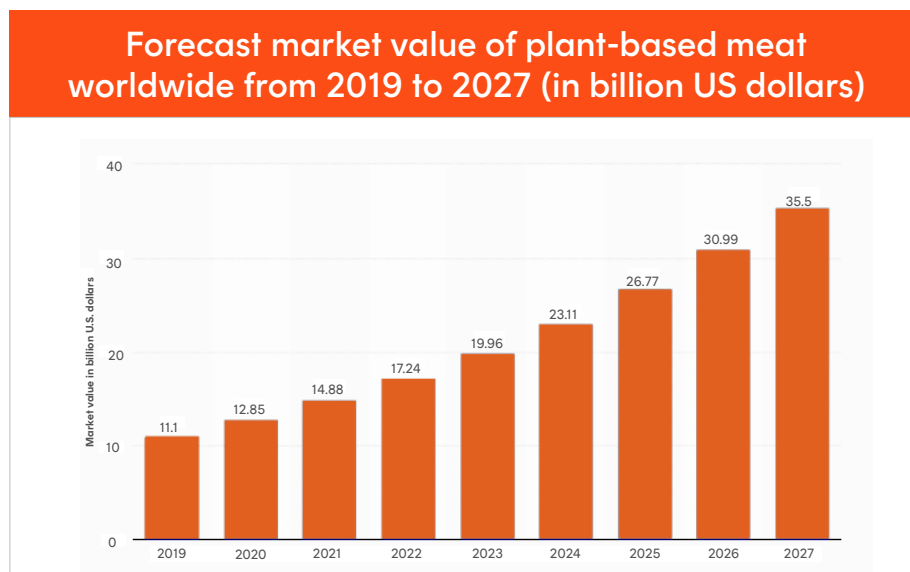
The Future of Food: greener, healthier and more humane

Thanks to emerging technologies, we don't need to eat like this. A range of innovative endeavours are underway to make eating in the future healthier, more humane and less environmentally damaging.

These activities include the following:

- **Plant-based and cell-cultured foods** - experimentation in the use of plants or cell cultures to produce meat or dairy products, or close equivalents, without the need to raise livestock. This innovation is already evident with the proliferation of 'plant-based' burgers in several leading food chains.
- **Smart farming** - more effective ways of growing plants – such as in vertically stacked beds or shelves within controlled-indoor environments – requiring far less land, water or chemical fertilisers.
- **Natural and organic foods** - foods less reliant on environmentally damaging chemicals for fertilisation and disease prevention.
- **Sustainable packaging** - development of more sustainable packaging solutions, such as those that are biodegradable and/or recyclable.
- **Food supply chain** - more sustainable ways to process, pack and distribute food.

As but one example of the potential growth opportunities in this rapidly developing segment, the value of worldwide plant-based meat sales is expected to reach US\$35.5 billion by 2027, up from US\$11 billion in 2019, implying compound annual growth of 15.7%⁴.

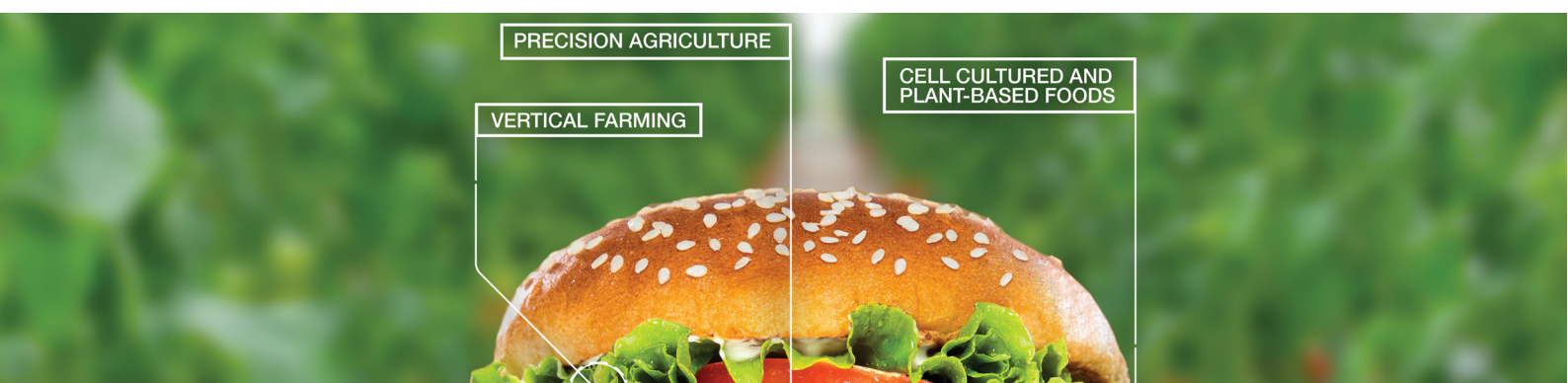


Source: Statista: Polaris Market Research, 2021

Additional information: Worldwide; Statista; Polaris Market Research, 2020

Note: Actual outcomes may differ materially from projected outcomes.

⁴ Statista, 2021 based on Polaris Market Research.





Betashares Future of Food ETF (ASX: IEAT)

To tap into this growth potential, the Betashares Future of Food ETF (ASX: IEAT) is designed to provide exposure to some of the world's leading companies involved in the future food revolution.

To ensure sufficient liquidity and diversification within the index which IEAT aims to track (before fees and expenses), companies must meet minimum market capitalisation thresholds. Other stock and sector-specific limits are also in place⁵.

As evident in the table below, the index of companies which IEAT aims to track currently includes some of the world's more innovative companies in the food production sector.

Top 10 constituents: 29 th April 2022	
Security name	Index weighting
FMC Corp	7.9%
Archer-Daniels-Midland Co	7.9%
Bunge Ltd	7.8%
Danone Sa	6.2%
Chr Hansen Holding As	6.2%
Ball Corp	5.9%
Givaudan Sa	5.8%
Royal DSM NV	5.5%
Intl Flavors and Fragrances	4.9%
Balchem Corp	4.6%

No assurance is given that these companies will remain in the index or be profitable investments.

⁵Further details regarding index construction can be found in IEAT's product disclosure statement.

Summary

As the world's population gets larger and richer, demand for protein-rich and highly processed food is likely to continue to grow strongly in the years ahead. Without improvements in the way food is traditionally produced, packaged and delivered, these demands are likely to place increasing pressure on the environment and our health – not to mention make life miserable for many more animals.

To meet these challenges, innovations are taking place across the industry to make the food we eat in the future more sustainable, healthier and less cruel to animals. This promises to be an attractive new growth opportunity in what is otherwise a relatively mature industry.

With this in mind, Betashares is pleased to offer IEAT, which aims to provide a cost-effective and easily accessible way to gain exposure to some of the world's leading companies in the 'future of food' revolution.

There are risks associated with investment in the Fund, including market risk, sector risk, international investment risk and concentration risk. The Fund's returns can be expected to be more volatile (i.e. vary up and down) than a broad global shares exposure, given its more concentrated exposure. The Fund should only be considered as a component of a diversified portfolio. For more information on risks and other features of the Fund, please see the Target Market Determination (TMD) and Product Disclosure Statement, available at www.betashares.com.au.

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