# CARBON NEUTRAL POTATOES

Potatoes and sustainability go hand in hand, not only because carbon neutral potatoes are now for sale in the UK, but because they punch above their weight compared with other food staples when it comes to environmental impact.

The first carbon neutral potatoes hit supermarket shelves in October 2021.

However, potatoes are also being recognised more widely for their lower environmental impact compared to grain crop staples.

Potatoes have proven themselves an efficient and sustainable source of calories. A World Potato Market report says potatoes will play a major role in feeding the world, using fewer resources and requiring less land than other foods.

High yields per hectare contribute to potatoes scoring well on environmental impact. Potatoes produce less carbon dioxide, leach fewer nitrates and require less water to grow than legumes, wheat or rice.

With yields commonly 50t/ha, they need about a quarter of the area required for similar volumes of rice and far less than needed for legumes.

The volume of protein produced has been estimated as between 354 kg and 417 kg/ha, based on 2.05 g of protein per 100 g and average global yields of 17.3 t/ha (EAT Forum), or 20.33 t/ha (UN FAOSTAT). However, Australian yields are up to three times this, making potatoes an efficient source of protein compared to other staple crops.

Research on environmental impact by the Barilla Center for Food & Nutrition

HUW Thomas, MD of Puffin produce UK


calculates that the carbon dioxide emission of potatoes is 1,205 g per kilogram produced, compared to 1,660 g for legumes and 3,755 g for rice. Another analysis found that eating potatoes three to five times a week results in greenhouse gas emissions of 9 kg a year, compared to 69 kg for rice, 25 kg for pasta and 12 kg for bread[11].

The analysis points to a good future for potatoes as an efficient source of nutrition, while growers are well placed to benefit from the sustainability of their crop.

Meanwhile, in Wales, the carbon neutral potatoes grown by Puffin Produce and sold under its Root Zero brand, are now available in 400 Co-op and Waitrose stores across the UK, with plans to expand further.

The potatoes are certified carbon neutral, and grown using sustainable farming practices which remove carbon dioxide from the air, create healthy soil and increase local biodiversity.

Managing director of Puffin Produce, Huw Thomas, says: "We have to act now, so we're on a mission to become carbon neutral and farm in a way that protects and regenerates our land, plants and wildlife."

Sustainability measures include consideration of power used on the farm, transport to the supermarket, eco packaging components, and even how customers cook their potatoes.

Based on its footprint assessment, Puffin Produce has set a target to reduce the carbon intensity of Root Zero potatoes by 51 per cent by 2030, including emissions from the entire supply chain as well as carbon offset investments.

[1] https://www.bbc.com/news/science-environment-46459714

# THE DEVELOPING CONNECTION BETWEEN BANK LOANS AND CARBON

Agribusiness lenders are taking a keen interest in sustainability, while also looking at practical ways to support growers embarking on carbon management journeys. These factors are likely to become more important when it comes to accessing capital on optimal terms, writes **Linda Drake**.

Unless you're dealing with a loan shark, lenders will always want to know about your business before providing a loan. This information is increasingly going to include sustainability criteria.

At this stage, it's less about any action you've taken, and more about early planning on how you could either reduce emissions, or earn carbon credits.

It's yet another reason why growing sustainably will make a difference to your bottom line.

For lenders, this is seen as good business. The country's biggest agribusiness lender, National Australia Bank, holds about 30% of the Australian market, followed by Netherlands based Rabobank at 20%. They are among many banks globally now actively linking sustainability outcomes on farms to lending risk, with teams working on developing tools and resources to support clients.

## RABOBANK

Rabobank's head of sustainable business development, Crawford Taylor, says: "We need to think about what we don't know about a client."

"The first step for a farmer is to understand their own emissions, and take time understanding this before formulating anything else. Establish a baseline, work out what the drivers are and what this means for opportunities."

Good record keeping, tracking inputs and keeping data that measures the farm's emissions are the absolute starting point. There is also interest in supporting emission reductions and carbon offsetting activities on farms.

"We really need to understand where the clients sit, look at solutions and take a collaborative approach," Crawford says.

Lenders are also being influenced by customers who want to know more about the carbon footprint of their food, already a strong driver in other countries that have greater commitments to being carbon neutral by 2050. Wholesale funders to banks also want information about the sustainability of their exposures. For example, there are moves to include climate risks within business financial statements.

"While it's important for investors, eventually it will track down to inside the farm gate," Crawford says.

Agriculture is expected to be a heavy lifter in Australia to reach its carbon goals, with a strong reliance on soil

Crawford Taylor, Rabobank's head of sustainable business development

Julie Rynski, regional and agribusiness executive at NAB. - ATN

carbon to meet these outcomes. Cost considerations, and concerns about climate variability, could make this challenging.

"There is so much work in where and how to implement effective and efficient farm practices," he says.

Developments such as cheaper soil testing, or appropriate carbon calculators would make this easier, he says.

In other agricultural commodities, there's already a stronger link to carbon management and access to markets, as has been seen with canola exported to Europe. It is expected that accessing capital for farming business investment will increasingly be based on sustainability criteria across many sectors.

## NATIONAL AUSTRALIA BANK

NAB has partnered with the Food Agility Co-operative Research Centre, with an aim to provide practical guidance to farmers on how they can use climate and sustainability research to make science-based, commercially considered decisions about where to invest their time, effort and money.

NAB executive for regional and agribusiness, Julie Rynski, says there's a vast amount of scientific research on sustainability and adaptation, but it's difficult to translate into practical guidance.

"Many of our agribusiness customers are telling us they experience 'analysis paralysis.' When it comes to adapting their business practices, they feel overwhelmed with the research and don't know where to start," Ms Rynski says.

"We play an important role in supporting customers on ways they can improve the long-term sustainability and viability of their business".

"Many of our agri customers recognise the importance of transitioning to a low carbon economy. We want them to have practical guidance on how to use less water and chemicals, or how to reduce emissions as an example. Ultimately, it's about building resilience for the long-term."

## WHY ACT NOW?

On the market driven side, food companies are among those announcing ambitious carbon targets. They will be looking increasingly at suppliers' efforts to meet their own sustainability goals.

**McCain Foods** says regenerative agriculture will be the foundation of its approach and by 2030 all potatoes that it turns into fries will be sourced from farms using regenerative ag practices. McCain's global sustainability report, *Together, Towards Planet-Friendly Food* says it will implement regen ag practices across 100% of its potato acreage - representing 150,000 hectares worldwide by the end of the decade.

**PepsiCo** says it aims to impact 2.8 million hectares of farmland and reduce an estimated 2.7 million tonnes of greenhouse gas emissions, also by the end of the decade. PepsiCo also aims to improve the livelihoods of more than 250,000 people in its agricultural supply chain and sustainably source 100% of the company's key ingredients by 2030. "Taking action in the next decade is crucial for the development of a more sustainable, resilient and inclusive food system," it says. A recent innovation in the UK includes using potato peel left over from making Walkers crisps into low carbon fertiliser for potato growers to use in their fields. PepsiCo is buying oats in Western Australia on the basis of rigorous sustainability credentials, an early example of looking towards its supply chain to meet sustainability goals.

**Coles** has taken the approach that customers and stakeholders want products that are sourced in an ethical, transparent and responsible way. It's strongly signalled its intent to meet robust sustainability targets on carbon emissions within its operations. Seafood and tomato production have been at the forefront of its efforts in sustainable sourcing of products so far, as well as a move towards locally grown produce.

**Woolworths** says that by 2022, in collaboration with its farmers, suppliers and other partners, it will carry out and publish a review of the potential for adopting sustainable and regenerative agriculture practices across its fresh food supply chain. The aim will be to improve areas such as soil health and water efficiency in high-risk areas, and it will provide an annual update on implementation actions.

**Institutional investors** include superannuation and overseas pension funds. They are looking for ways to meet their sustainability commitments in line with member expectations and investment mandates. With long-term investment horizons, funds are increasingly recognising the importance of sustainable agricultural production, agritech and initiatives encouraging soil carbon and soil sequestration. North American and European pension funds already view agriculture-based and natural capital assets in Australia as an important asset class with high potential for growth in future, as well as an important risk mitigation strategy by diversifying exposure to investments outside the northern hemisphere.