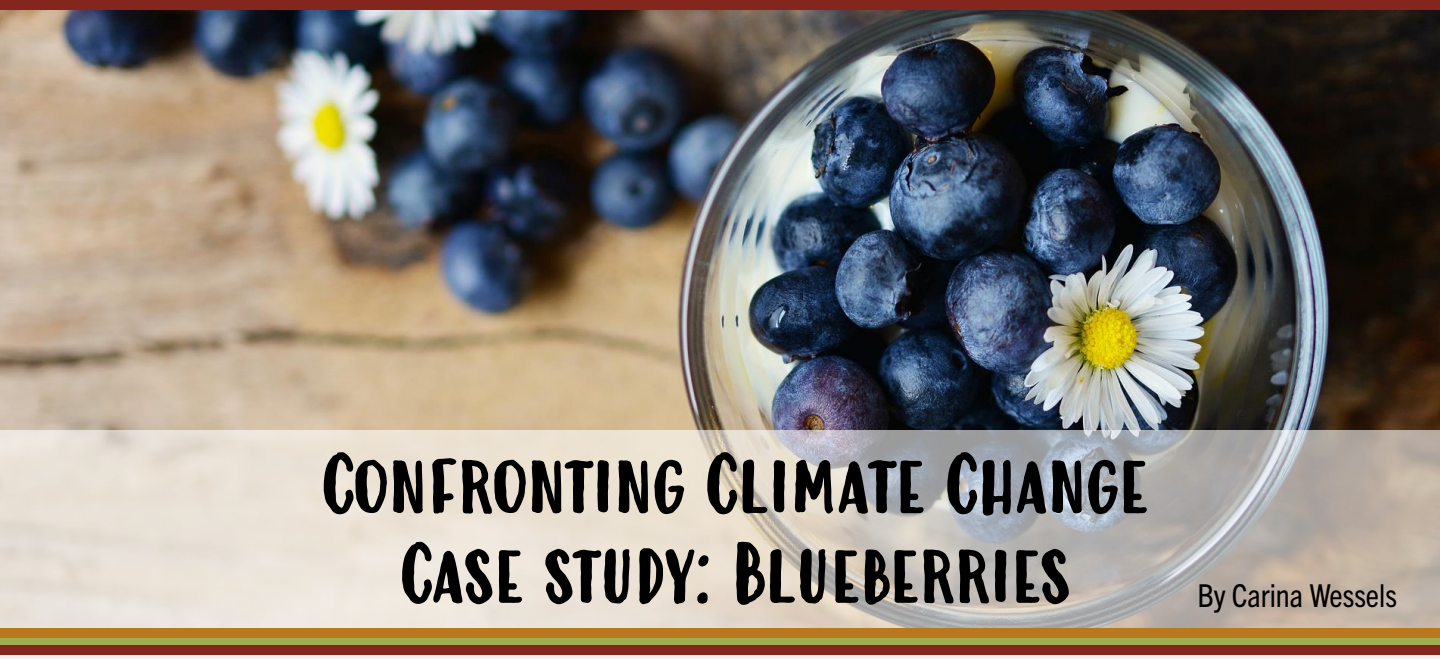


Confronting Climate Change Case study: Blueberries

By Carina Wessels

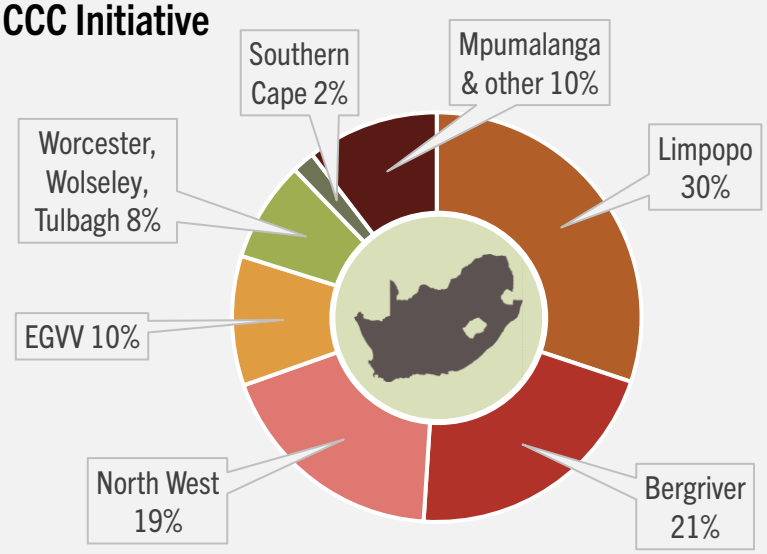
Blueberries have grown in popularity in recent years with shoppers attracted to their taste, convenience, and health qualities. However, consumers' desire for fruit produced in a socially and environmentally conscious manner have put pressure on blueberry farmers to produce and pack their fruit more sustainably. Many South African blueberry farmers have signed up to the UN Sustainable Development Goals and a number of projects are taking place across farms, including the use of renewable energy, promotion of biodiversity, reforestation strategies, as well as the implementation of detailed waste-reduction and recycling initiatives.

CONFRONTING CLIMATE CHANGE
A SOUTH AFRICAN FRUIT & WINE INITIATIVE

The **Confronting Climate Change (CCC) Initiative** can support blueberry farmers on their sustainability journey. The CCC Initiative is an industry wide, online carbon footprint calculator that assists farmers in calculating their carbon emissions, identifying emissions hotspots, and understanding where to focus their efforts to commence on a journey to reduce their carbon footprint.

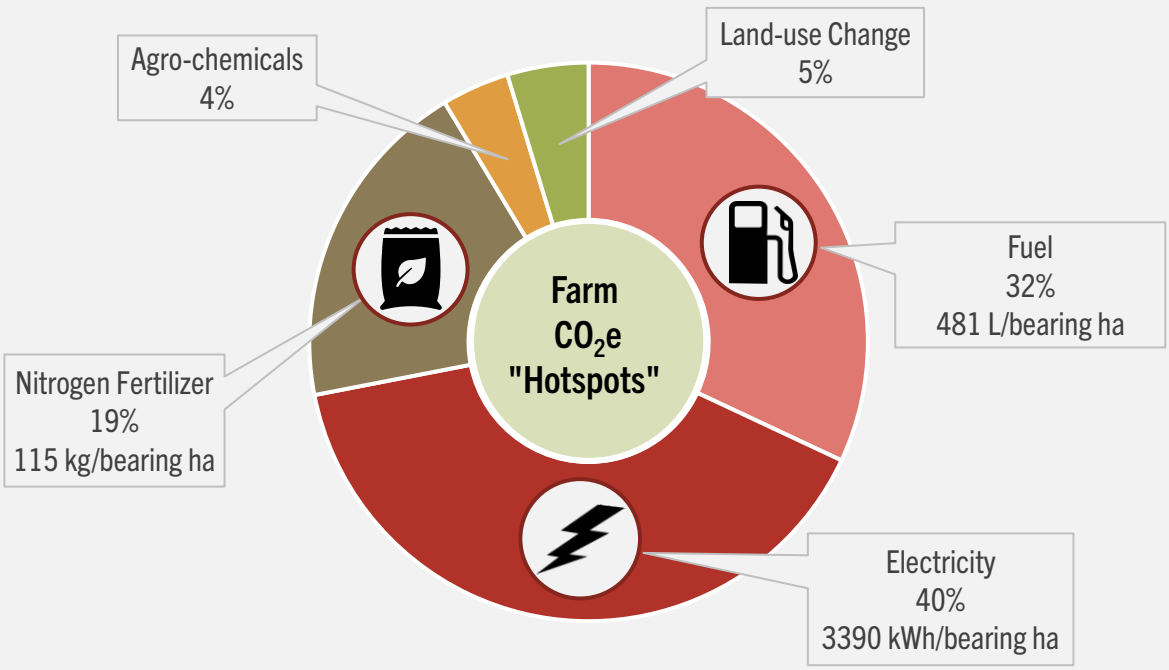
Regions that participate in the CCC Initiative

The CCC database currently covers 1152 unique hectares of blueberry farms in South Africa, including graded and ungraded data. This represents 38% of the blueberry industry in the country.



Typical blueberry farm hotspots

Electricity is the highest contributor to blueberry farm CO_2 emissions, followed by diesel and nitrogen fertiliser.



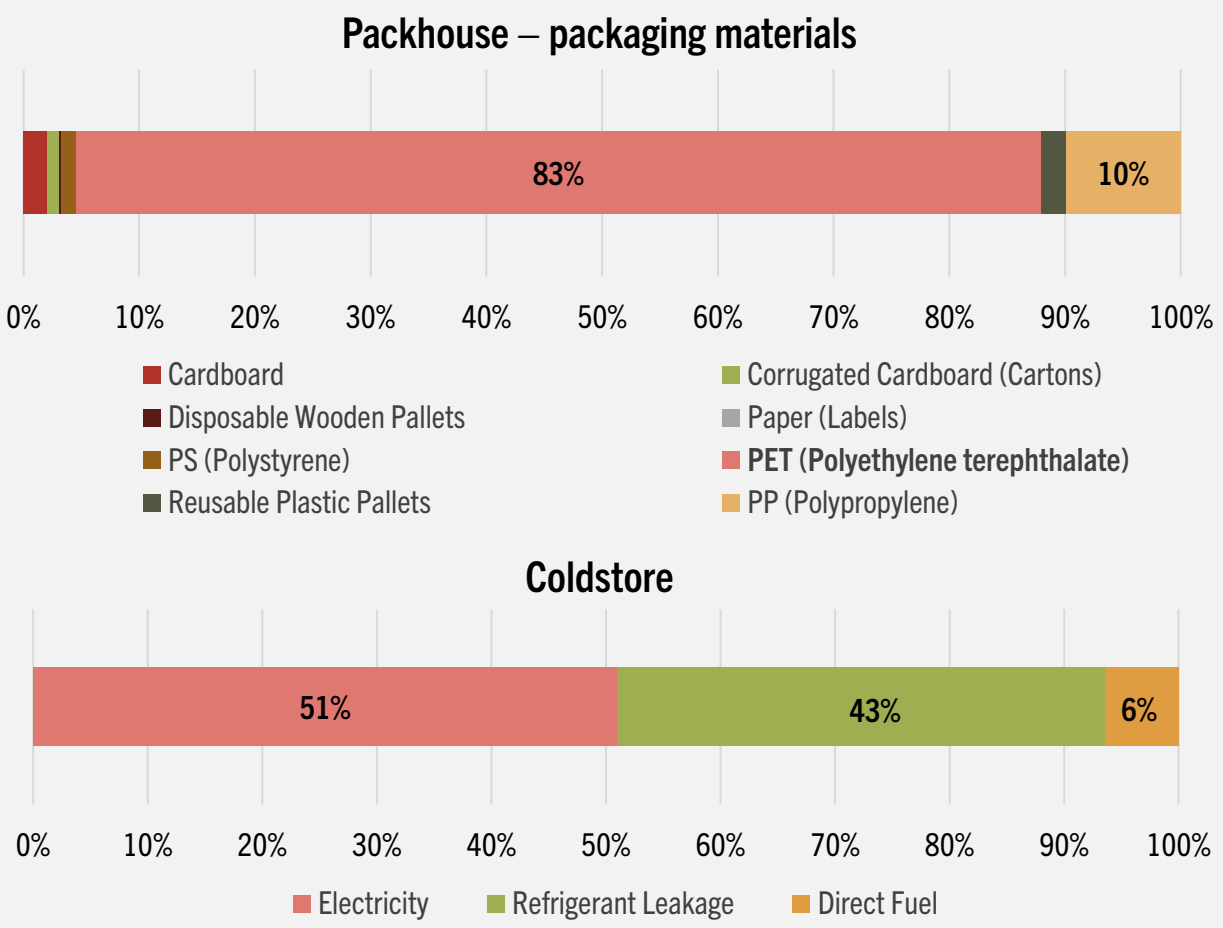
Monitoring and managing your carbon emissions with the aim to reduce emissions is not just the right thing to do in terms of playing your part to combat climate change, it also makes business sense.

Climate change will completely change the way in which food is produced and sold. Climate change has been predicted to directly impact South African mean annual temperatures and rainfall. This will in turn influence production in terms of pest and disease distribution, flowering and fruiting seasons, and water resources. A lack of water could result in smaller blueberry sizes and blueberries that are less likely to survive to be harvested, therefore increasing the need for irrigation.

Electricity used for irrigation is one of the largest contributors to blueberry farm CO_2 emissions. Irrigation energy costs can be saved by using variable speed drives to adjust pump speed. Instead of a pump having to run at full speed, the pumping speed is adjusted to the specific pressure needed. Another easy way in which blueberry farmers could save energy is by improving irrigation efficiency. For example, using the right sized irrigation pipes for production requirements and ensuring that pipes are matched with the correct and proper fittings. In addition, farmers should measure soil moisture and evaporation levels and consider using satellite technology (e.g. FieldLook/FruitLook) to guide and fine-tune their irrigation decisions to prevent over or under-irrigation. By improving irrigation efficiency, blueberry farmers will use less energy, which will not only reduce their carbon footprint but also save water and money.

Typical blueberry packhouse and coldstore hotspots

Most of the emissions at packhouse level are related to packaging material. For blueberries, packaging contributes to most of the packhouse CO_2 emissions, with the amount of Polyethylene terephthalate (PET) used being the biggest culprit. Electricity is the second largest emissions source in the packhouse, and the highest contributor to coldstore CO_2 emissions. Refrigerant leakage is the second largest emissions source in the coldstore.



Consumers' desire for fruit produced in a socially and environmentally conscious manner have put pressure on blueberry farmers to not only produce, but also pack their fruit more sustainably. In a recent survey done by Accenture, it was found that 77% of people agreed that plastic was the least environmentally friendly packaging. Another survey done on behalf of the Canadian Produce Marketing Association found that 57% of consumers would prefer cardboard/moulded pulp packaging over plastic.

Sustainable packaging is about using less plastic (or at least recycled plastic) and reducing waste, but also increasing shelf life, space efficiency, improving sales, and ultimately a lower carbon footprint. Over the last few years many companies have started using more sustainable packaging. For example:

International blueberry producer and exporter, **United Exports** [1], has created a sustainable packaging solution to deliver OZblu blueberries specifically to consumers in Mauritius. Mauritius, like so many island nations, has been heavily affected by land and sea pollution from single-use plastics. Blueberries is packed in a recycled paper cup, that is fully compostable, which enables the company to reduce their use of plastic by 82%, when using this format.

SanLucar [2], a global fruit and vegetable company, has launched a sustainable blueberry punnet that consists of 94% paper, which is FSC-certified and originates from sustainable sources. This will reduce their use of plastic by up to 200 tons per year. The punnet is also resistant to humidity – a crucial characteristic for products such as berries that is stored in the refrigerated area of supermarkets.

Global company **Growers Packers** [3] is now offering all their berries in sustainable packaging made from compostable pulp cardboard with a Mono-PET foil. This allows them to reduce plastics by more than 97%.

Bama Packaging [4] from Norway has come up with a new smart solution for blueberry packaging which reduces the need for plastic by 170 tons per year. The company also claim that this packaging product slashes their CO_2 emissions by 48%. The packaging's shape was designed to make optimal use of packing space in trucks.

Resources

1. https://www.freshplaza.com/article/9342562/ozblu-creates-sustainable-paper-packaging-for-blueberries/
2. http://www.fruitnet.com/eurofruit/article/182999/sanlucar-unveils-sustainable-berry-punnet
3. https://www.freshplaza.com/article/9187112/sustainable-packaging-for-fresh-berries-and-cherries/
4. https://www.freshplaza.com/article/9138518/norwegian-blueberry-packaging-wins-award/

Avinier share their user experience feedback on the CCC carbon calculator

CCC asked Avinier, one of our users and a blueberry producer, to share some feedback on their experience with the online carbon calculator. Avinier produces blueberries in the Lydenburg region in Mpumalanga, South Africa. They have been calculating their farm and coldstore carbon footprint with the CCC carbon calculator since 2018.

Why did you start using the CCC carbon calculator?
We started using the calculator as part of our Siza audits. We've also used it for our GlobalGAP audits.

Have you found any particular value in having everything together online?
Yes, the online tool is very user friendly. We collate all our data in the CCC Excel data collection tool and then transfer the data to the online platform where everything is kept together.

How have you found the use of the online tool, easy or challenging?
It's really easy. But we attended a training workshop which helped a lot. Without the training we might have struggled a bit.

Any suggestions for improvement?
Not at this stage, we are happy with the tool the way it is.

How do you find the support that is given?
It's very good. We always get helped straight away. You do not always get such good support with an online system.

What is your experience with the carbon calculator results/report? Is it easily understandable or challenging?
It's very easy to understand. Our GlobalGAP auditor also went through it last year and he was happy with it. It's also nice to be able to see the explanations of the ratings on the report, to understand what it means.

Have you found that the carbon calculator report has highlighted areas of strength and potential risk?
Yes. It was a shock to see how much our electricity use contribute to our carbon footprint. We know we use a lot, but to see it like that motivates one to reduce your impact.

Would you recommend CCC to others? If so, why?
Yes definitely. It has great benefits, especially for Siza and GlobalGAP.

Contact Confronting Climate Change today to start measuring and managing your carbon emissions!

support@bluenorth.co.za

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