**Level 3: Future Proofing Strategy - Technology**

**Technology Future Proofing Strategy Worksheet.**

**Teacher Note:**

This worksheet provides an example of a **Technology future proofing strategy.**

This article *“****Halter’s Virtual Fencing Tech Transforms Hill Country Beef Farming*”** has been adapted from:

* **Halter enters beef farm market:** [**virtual fencing to boost efficiency and production**](https://www.halterhq.com/news/press-release-beef)
* **Pilot has near-miss with radio tower on** [**high country farm**](https://www.rnz.co.nz/news/country/562656/pilot-has-near-miss-with-radio-tower-on-high-country-farm)

**Halter** is a New Zealand technology company that focuses on farming. It creates smart collars (wearables) to help farmers manage their animals and land more easily using modern technology.

**Students should research** [Halter](https://www.halterhq.com/about) to understand how this wearable technology works, what it can do now and what it could do in the future.

Recommended resources:

**Videos:**

* **Listen to Halter** [**Farmers**](https://www.halterhq.com/halter-farmers)
* **Halter for** [**dairy**](https://www.halterhq.com/dairy-overview)
* **Halter for** [**beef**](https://www.halterhq.com/beef)

There is a level 2 worksheet “***Halter raises $165M in funding L2”*** which provides more information on Halter and can be used as **prior knowledge** if needed

**Future Proofing Strategy Questions**



**Halter’s Virtual Fencing Tech Transforms Hill Country Beef Farming**

Halter, the world leader in virtual fencing, has launched its innovative technology to beef farmers, bringing a game-changing shift in hill country farming. After rapid success in the dairy sector, Halter’s new system, *Halter Base™*, is now enabling beef operations to adopt efficient rotational grazing, improving productivity and sustainability without the need for costly fences or extra labour.

Beef farms typically utilise only 40–70% of their pasture, compared to 80–90% on dairy farms. Halter’s virtual fencing closes this gap, offering daily shifts and back-fencing that optimise feed intake, improve grass regrowth, and prevent overgrazing, even on challenging hill terrain.

Craig Piggott, Halter’s founder and CEO, says the technology removes long-standing barriers to best grazing practices. “Virtual fencing lets beef farmers adopt rotational grazing with no infrastructure costs or additional labour, unlocking huge productivity gains,” he says.

Northland beef farmer and former Beef + Lamb NZ Chair James Parsons, one of Halter’s first beef clients, describes the technology as a “game-changer.” On his 600ha hill-country Angus stud, cows are already on daily shifts, and uncollared calves are creep-grazing ahead of their mothers, a setup expected to boost weaning weights significantly.

Beyond productivity, Halter’s system also supports environmental goals: improving soil health, protecting waterways, and increasing carbon sequestration, all without reducing stock rates. It also offers a cost-effective way to meet new fencing regulations across New Zealand.

However, as high-tech systems like Halter become more common, safety in the skies is increasingly important. A near-miss incident involving a helicopter and one of Halter’s 10-metre towers highlighted the need for farmers to inform agricultural pilots about tower locations. Halter says it is working closely with aviation authorities and educating farmers on safe practices.

Ultimately, Piggott believes Halter’s tech is unlocking untapped potential. “Many beef farmers have been watching and waiting. This is a leap forward, one that could transform beef production and sustainability at scale.”

**Discussion Questions**

1. Discuss how cow wearables are transforming beef farming operations?
2. Discuss how well Halter technology aligns with the future needs of beef producers?
3. Socially
4. Environmentally
5. Politically
6. Economically

**Future proofing strategy – Technology**

1. Using a sheep and beef farming business, how is Halter technology impacting their viability?
2. How could Halter technology be expanded into other livestock businesses?

**Discussion Answers**

1. How are cow wearables transforming beef farming operations?

Cow wearables, like Halter’s smart collars are revolutionising beef farming by enabling virtual fencing and precision grazing management. These devices guide cattle using sound and vibrations, allowing farmers to set and adjust grazing areas from their phones or computers, without needing physical fences or labour-intensive stock movement.

Keys areas of transformation include:

* Virtual fencing enables daily pasture shifts without the need for physical fences. This practice improves pasture utilisation and regrowth and helps prevent overgrazing or under grazing, improving animal performance and pasture management.
* On traditional beef farms pasture utilisation is around 40–70%, compared to 80–90% typically seen on dairy farms. Virtual fencing helps close this gap by allowing farmers to graze more of their available land effectively.
* With more efficient rotational grazing, beef farmers are seeing benefits like higher liveweight gains, better calving outcomes, and increased weaning weights. For example, calves on some Halter managed farms are already creep-grazing ahead of their mothers, an approach expected to improve growth rates.
* Halter’s system eliminates the need for permanent fences and reduces labour demands, making it easier for farmers to manage large or steep country with minimal manual effort.
* Virtual fencing allows farmers to exclude stock from waterways and sensitive areas, helping protect soil health, which supports compliance with environmental regulations without decreasing stocking rates.
* Wearables allow farmers to remotely monitor and manage cow movements in real time, helping decision making and reducing the need for physical presence in the paddocks.
* However, as high-tech systems like Halter become more widespread, air safety is increasingly important. A near-miss incident involving a helicopter and one of Halter’s 10-metre towers stresses the need for farmers to inform agricultural pilots about tower locations. Halter is working with aviation authorities and educating farmers on safe practices.

1. Discuss how well Halter technology aligns with the future needs of beef producers?
2. Socially.

Halter’s technology addresses several social challenges in the beef industry. These include:

* Halter’s system significantly reduces the need for manual labour in tasks like moving fences and checking stock, making farm operations less physically demanding. This aligns with the increasing difficulty of attracting and retaining skilled labour in rural areas, especially among younger generations.
* By enabling remote management of cattle and eliminating the need for daily physical presence in the paddocks, farmers gain greater flexibility and work-life balance, which is increasingly valued in modern farming lifestyles.
* Virtual fencing allows for better pasture management, which leads to improved nutrition and overall animal health. The stress-free nature of virtual guidance using sound and vibration contributes to improved welfare standards, addressing consumer and societal expectations.
* As early adopters like James Parsons share their positive experiences, a broader social shift toward technology adoption in hill-country beef farming is likely to follow. This helps break down resistance to change and fosters a culture of innovation in rural communities.

1. Environmentally.

Halter’s technology is highly aligned with the environmental sustainability goals of beef farmers. This includes:

* Virtual fencing enables effective rotational grazing, which boosts pasture utilisation and prevents overgrazing, leading to healthier soils and improved pasture regrowth.
* Farmers can easily exclude livestock from waterways, wetlands, and erosion-prone zones using virtual boundaries. This supports efforts to protect biodiversity, reduce nutrient runoff, and improve water quality.

1. Politically.

Halter technology aligns well with ever changing regulations in agriculture. This includes:

* New Zealand and region policy makers are introducing stricter rules around stock exclusion from waterways. Halter provides a cost-effective, regulation-compliant alternative to traditional fencing, especially in hard-to-fence terrain.
* Governments are increasingly incentivising sustainable practices through funding, carbon credits, and environmental assurance programs. Halter’s tech positions farmers to benefit from these opportunities by aligning with measurable environmental outcomes.
* By helping beef farmers increase pasture utilisation and animal performance without expanding land use, Halter supports political objectives around increasing food production, export revenue, and rural economic resilience.
* After a near-miss helicopter incident, Halter has taken steps to work with aviation authorities and educate farmers on tower visibility and placement. This shows a willingness to align with broader public safety and infrastructure planning, an important consideration for regulators.

1. Economically.

Halter technology offers economic benefits that directly support the long-term viability and profitability of beef farming operations. This includes:

* Halter enables more precise and consistent rotational grazing. This helps beef farmers utilise 80–90% of their pasture compared to the current 40–70%, leading to greater feed efficiency and more kilograms of beef produced per hectare.
* Daily shifts and creep-grazing for calves result in improved weight gains and weaning weights, increasing revenue per animal.
* One of the biggest economic advantages is the reduction in manual labour. Halter allows farmers to manage stock remotely, reducing the need for staff or personal time spent on routine tasks like moving fences or herding animals.
* Virtual fencing eliminates the capital cost and ongoing maintenance of traditional fencing, particularly valuable in large or difficult hill-country terrain.
* The system supports better time management, allowing farmers to focus on higher-value decisions rather than day-to-day operational tasks.
* Halter helps farmers stay compliant with the new fencing regulations being introduced across New Zealand, at a lower cost, which will help many beef farming operations to stay viable.
* While the upfront investment in Halter collars and towers may be significant, the long-term return on investment is strong through labour savings, increased productivity, and reduced infrastructure costs and the ability to meet environmental regulations. Makes this technology a "game-changer**"** for profitability on beef farms.

**Future proofing strategy – Technology Answers**

1. Using a sheep and beef farming business, how is Halter technology impacting their viability?

On a sheep and beef farm, Halter is improving viability through better pasture management and utilisation. Sheep and beef farmers can utilise 80–90% of their pasture, compared to the traditional 40–70%. This leads to greater feed efficiency and more kilograms of beef produced per hectare, thereby increasing revenue. Cattle can also be used strategically to manage pasture quality. Improved pasture quantity and quality support faster growth rates, resulting in heavier calves and lambs at weaning, achieved without the need for complex fencing setups. This allows for the earlier sale of stock, improving cash flow and overall farm profitability.

Halter reduces the capital and operational expenses associated with traditional fencing and enables remote cattle management, which significantly lowers physical labour demands, particularly on steep hill country. This allows labour to be used more productively, improving operational efficiency and productivity.

Halter technology supports compliance with environmental regulations by enabling precise control over livestock movement. This helps prevent overgrazing and protects sensitive areas, allowing farmers to maintain or even increase stocking rates without compromising environmental goals. As a result, Halter contributes to the long-term economic and environmental sustainability and therefore viability of the sheep and beef farming business.

1. How could Halter technology be expanded into other livestock businesses?

Halter’s core virtual fencing and animal guidance system could be adapted for various other livestock operations, such as:

* Deer farming: Virtual fencing could improve deer grazing rotations and reduce escape risks without the need for tall and expensive fencing.
* Sheep farms: While more challenging due to different behaviour, lightweight collars or ear-tag technologies could be developed for guiding sheep with similar precision.
* Pasture-based poultry or pigs: Although more experimental, virtual boundaries could be used to manage pasture rotations in regenerative poultry or pig systems.