

# THE ARBIKIE DISTILLERY SUSTAINABLE CREDENTIALS



# Credential Highlights

- The World's first Climate positive spirits – Nàdar
- The World's first Green Hydrogen Distillery
- Regenerative Farming practices
- Non-GMO Crops
- Conservation Barley Cultivars
- Farm Sustainable Schemes
- Photovoltaic Panels
- Fermentation Co2 Capture
- The Net Zero Potato
- Field Intercropping
- Scientific Papers
- An Ethos to create a more sustainable environment



# From The Field

- **Regenerative Farming practice** - a conservation and rehabilitation approach
  - a. **Soil Regeneration & Increased Biodiveristy**
    - i. Soil structure is analysed on a rotational basis. This is done to provide maximum economic efficiency by minimising any artificial input and maximising the natural nutrient elements of the soil. By adding organic matter the quality of the soil structure is enriched, with improved drainage, water retention, and nutrition.
    - ii. Carbon content of the soil is recorded and monitored to understand the impact of the farm activities and how this can be improved.
    - iii. Ensuring soil suffers no degradation. Rotational soil sampling analyses all nutrients and soil structure and ensures that we carry out no unsustainable agricultural practices.
    - iv. Minimising soil cultivation to help improve soil health, soil structure and water retention.
    - v. Similarly cover cropping improves soil health, water retention and reduces soil erosion. It also provides a natural means of controlling pests, diseases and weeds whilst increasing on farm biodiversity.
    - vi. All inputs are recorded to within 2cm in field. This helps us to analyse the results of our rotational soil sampling and ensure that we address any issues of degradation by specific and efficient compensation of inputs.
    - vii. Mixed crop 7 year rotation see the crop grown each season change. This not only introduces a wider variety of plants being grown across the farm but also reduces the presence of pests and diseases and helps maintain soil fertility.
    - viii. Buffer strips of vegetation around field edges and waterways reduces field run off preventing soil, sediment and nutrient loss from fields.

- ix. Leaving stubble in the fields over winter provides both food and shelter for a range of birds and wildlife.
- x. Growing crops and hedgerows specifically to benefit farmland birds and animals.

**b. Nutrient Cycling**

- i. Legumes in rotation enrich the soil through capturing nitrogen from the air and depositing it in the soil. This results in an increase in natural soil nitrogen reducing the need for synthetic nitrogen fertiliser in the following crops.
- ii. Grazing and natural manure

**c. Water Conservation**

- i. Annual water audit keeps track of usage and identifies areas where water can be conserved
- ii. Helps in enhancing soil structure
- iii. Capturing water run off and building run off

**d. Circular Economy**

- i. We supply straw, spent grains and other final food waste to our neighbouring farmer. He in return resupplies manure that is used as natural fertiliser that improves soil structure which in turn reduces water, soil and nutrient loss.

- **Non-GMO crops-** all of Arbikie's crops are naturally occurring
- **Arbikie is growing conservation barley cultivars.** These were grown historically on our farm and, we believe, are better suited to our ever more variable weather conditions. By moving away from modern high yielding varieties we are also increasing the genetic diversity of the cereals grown.
- **Wonky Veg,** crops which are rejected for their imperfections by our farm buyers are used in the distilling process to minimise waste. They form the very foundations of our distillery with our first product, Tattie Bogle Vodka being made from 'wonky' potatoes.



- **Planting juniper-** we've planted more than 5000 juniper plants to date. Juniper is a key woodland species in Scotland but the natural population is at risk of dying out due to over grazing, changing weather and disease.
- **All raw materials grown on site** (or sourced as locally as possible)- significantly reducing the CO<sub>2</sub> emissions associated with transportation.
- **Research & Development Projects**
  - a. **The Net Zero Potato**
    - i. A 3 year project looking at a variety of ways of reducing the carbon footprint of potato production in conjunction with Branston Potatoes who are the main supplier to Tesco supermarkets.
  - b. **Intercropping**
    - i. A project with the James Hutton Institute to undersow Malting Barley with legumes, thus avoiding the need for nitrogen fertiliser.

#### **Farm Sustainable Schemes**

- LEAF – Linking Environment and Farming
- Red Tractor
- Scottish Quality Crops Assurance



# PRODUCTION:

- **Nàdar Vodka and Gin** - each 700ml bottle avoids 1.53kg of CO<sub>2</sub>e
- **Photovoltaic Panels and Hydrogen Power** - Both sources of green energy reduce our reliance on fossil fuels allowing us to become more energy efficient in a sustainable manner
- **Fermentation CO<sub>2</sub> capture**
- **Water Monitoring & Recycling** - ensures there are no water shortages & the re-use of water in the distilling process & liquid by-products is utilised in hydrogen production
- **Distilling by-products used as fertiliser** - the pot ale from the 1st distillation is used as a natural fertiliser for the crops.
- **Compostable capsules on bottles**- which are more sustainable than plastic alternatives.
- **Paper and card sourced from FSC forests** - this ensures that the process is regenerative and sustainable.
- **Inks are natural vegetable inks**



# POST-PRODUCTION

- **Alcohol from the distilling process** that cannot be redistilled is burnt in the visitor center's fireplace providing supplementary heat to our air source heat pump system.
- **Composting**
- **Draff used to feed the cattle** – this prevents waste and reduces our cattle feed purchases.
- **Barrels in the car park** - instead of paint, to avoid wasting the barrels
- **Second-hand furniture**- the visitor centre uses second-hand furniture from antique shops which is sustainable
- **Cardboard** - excess cardboard is shredded and re-purposed as protective packaging for online orders.
- **Collaboration with eco-Spirits**
- **Staff car-share**- the majority of staff live local and some cycle to work
- **Minimizing single-use plastic**- eg: paper straws & veg-ware for takeaways. We have almost zero single-use plastic on-site



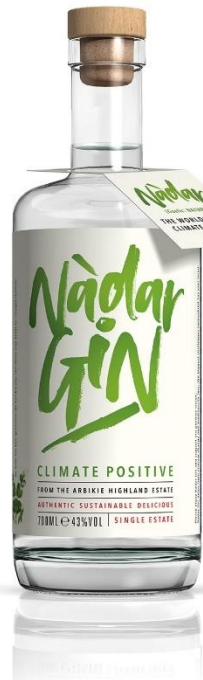


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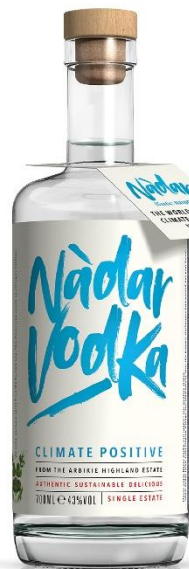
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