

# AgNav: Putting Climate Action Planning in Farmers' Hands

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A Sea of Numbers....

How do we plot a course ?

# Multi-Level Targets



# FROM NUMBERS TO ACTIONS...

WHAT ARE THE CURRENT GREENHOUSE GAS EMISSIONS ?

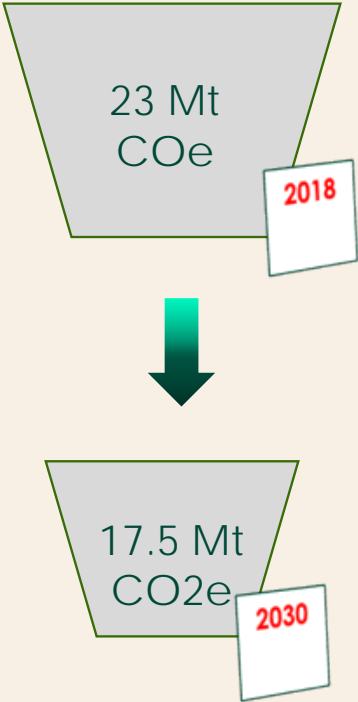
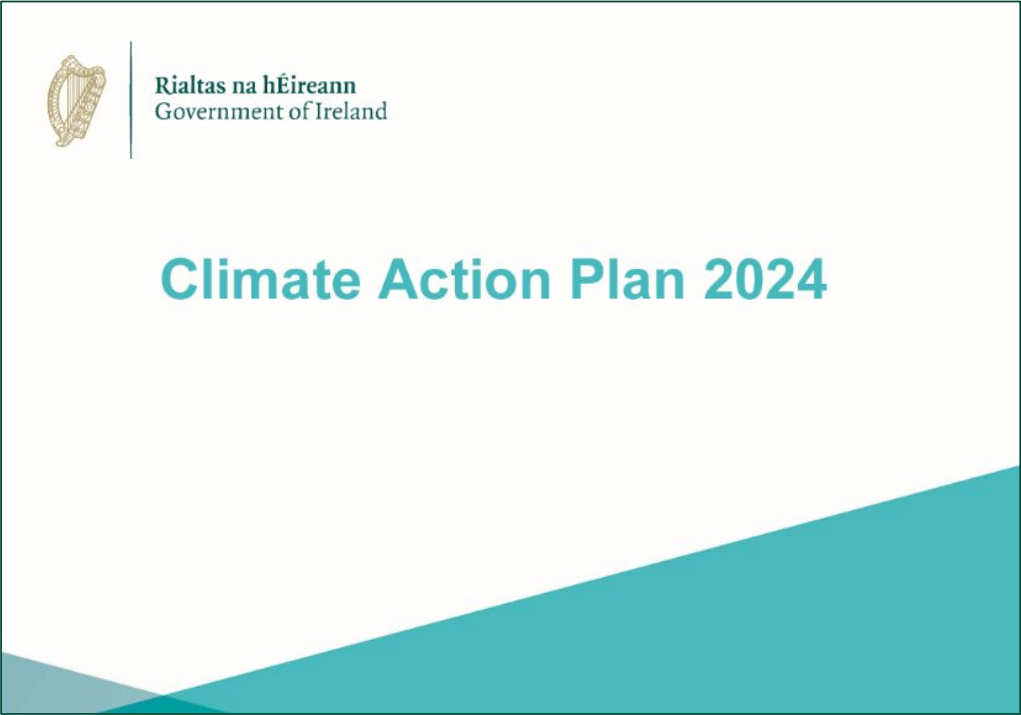
WHAT ARE THE SOURCES?

WHAT IS THE TARGET FOR OUR SECTOR?

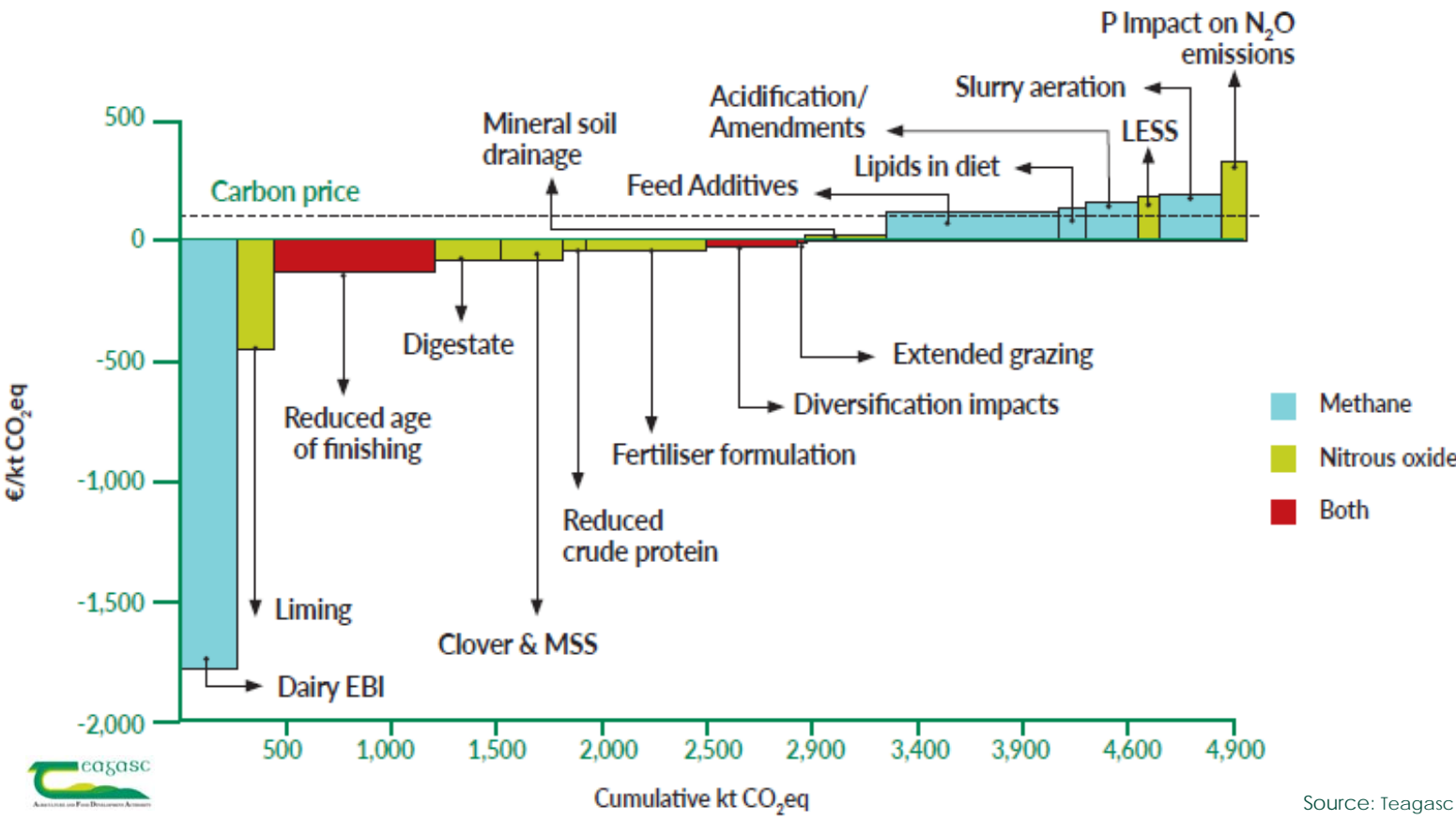
HOW DO WE GET TO THESE TARGETS ?

WHAT DOES IT MEAN FOR AN INDIVIDUAL FARMER ?

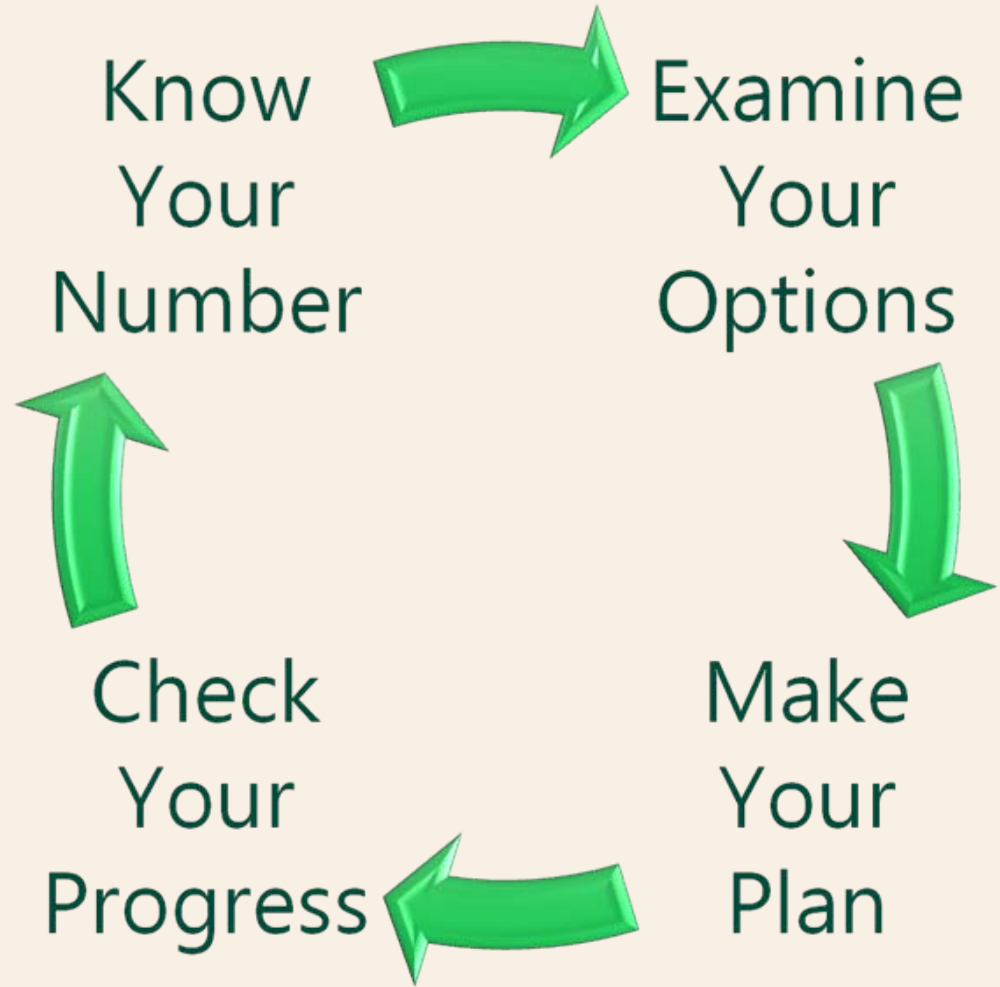
# Emissions Targets for Agriculture



# Marginal Abatement Cost Curve (MACC)



# Virtuous Cycle



- Robust scientific models
- Validated data sources
- Ability to run models at large scale
- Farm specific Action Plans
- Advisory channels to assist farmers on this journey

• **Agnav** platform developed by Teagasc, Bord Bia, and ICBF to support farmers to improve the sustainability of their farms





# Organisational Roles

- Scientific Research
- Peer Reviewed Carbon Models
- Farm Advisory Programmes

- Central Database
- IT Implementation of Models
- User Interfaces

- Farm Level Quality Assurance
- Validated Datasets
- Farm Planning Tools



- Scientific expertise & research outputs
- Carbon assessment models & tools
- Signpost Advisory Services & demo farms
- Relevant datasets



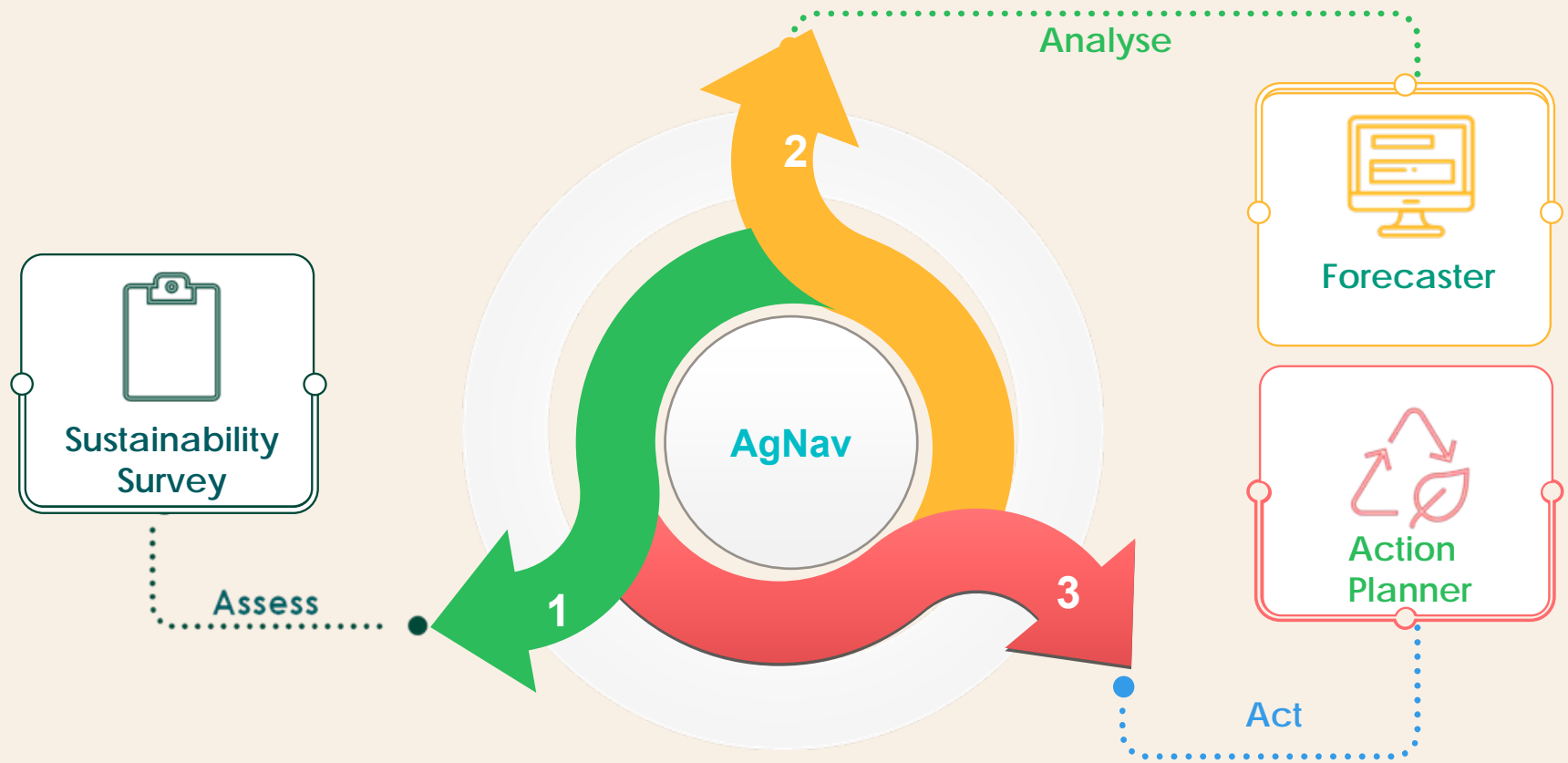
- IT Infrastructure & resource
- Data processing & analysis
- AIM data
- Relevant datasets



- QA scale and infrastructure
- Farm Sustainability Survey
- Carbon Footprints (Farmer Feedback Report)
- E-Learning
- Sustainability Planning Tools
- Relevant datasets



# The pathway to Action..

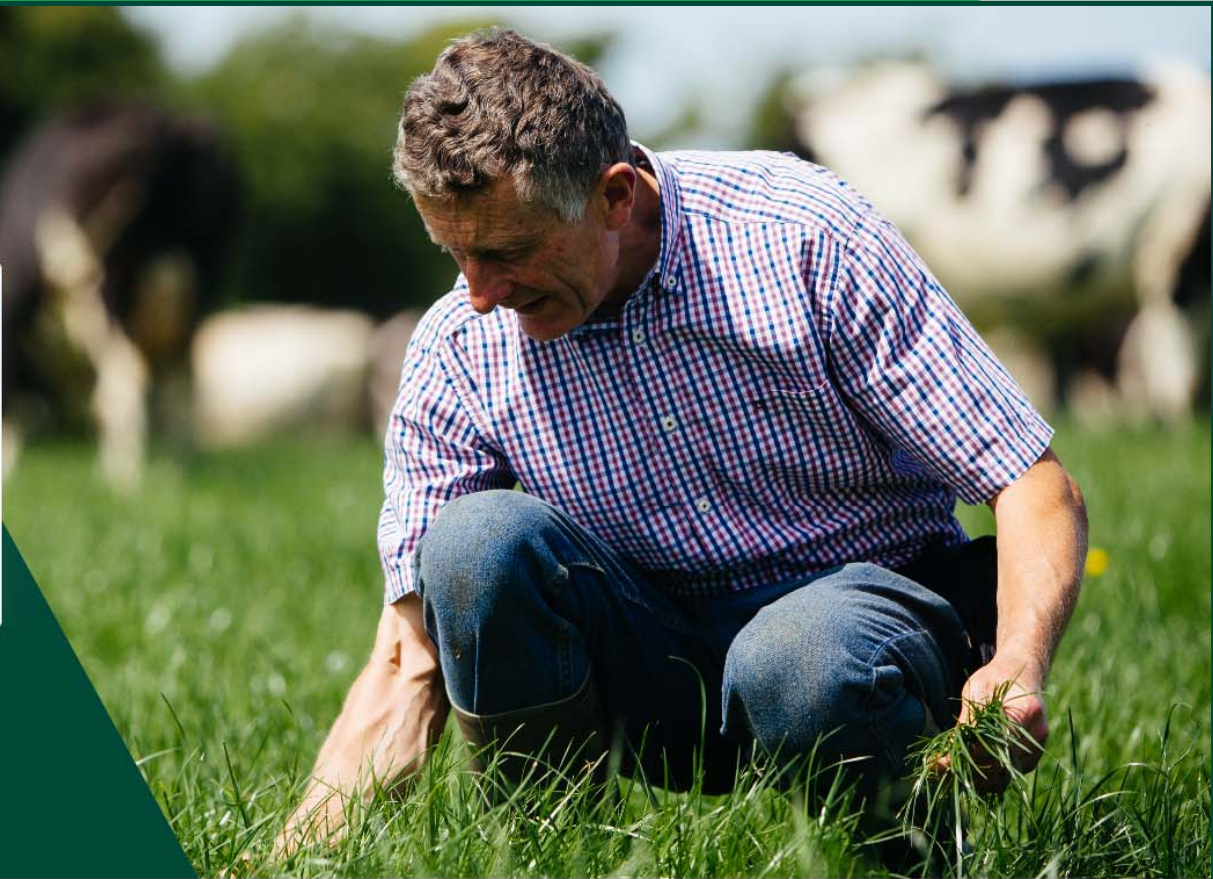




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Login

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# On-Farm Emissions & Forecaster

The screenshot shows the AgNav Forecaster web application. The browser address bar displays `agnav.ie/forecaster/217613241`. The application header includes the AgNav logo and a user profile for Michael Lynch (ADMIN). A sidebar on the left lists navigation options: General, Homepage, Advisor Dashboard, Grant Access, and Processor Admin. The main content area is titled "Forecaster" and features a "Production Year" dropdown set to "2022". Below this, there are three large circular gauges displaying key metrics: "Total Emissions (kg CO2 equivalent)" at 281460, "Emissions Per Hectare (kg CO2 equivalent / hectare)" at 6325, and "Footprint (Beef) (kg CO2 equivalent / kg LW Gain)" at 10.55. A "Greenhouse Gases" tab is selected, with "Ammonia" and "Production" tabs also visible. At the bottom of the main area, there are three buttons: "Calculate", "Save Modifications", and "Reset". A bottom navigation bar includes "Nitrogen Fertiliser", "Slurry Spreading", "Grazing Season", and "Finishing Age". A video player overlay is visible at the bottom left of the screenshot.

AGNAV MY FARM PLAN ADD ACTIONS LOG OUT PROFILE

## Sustainability actions

Search for sustainability actions...

Select a theme: 1. Gaseous Farm Emissions

Select an action area: 2. Forecaster Tool Actions

Key/Legend: Environmental Benefit Economic Benefit

**Implement Practices to Achieve Optimal Grazing Season Length**  
Benefits: [Economic] [Economic] [Economic] [Environmental] [Environmental] [Environmental]  
COMPLETED - 22/03/2023 Quick Repeat View action details

**Reduce Chemical Nitrogen Usage**  
Benefits: [Economic] [Economic] [Economic] [Environmental] [Environmental] [Environmental]  
COMPLETED - 16/04/2024 Quick Repeat View action details

**Use Protected Urea**  
Benefits: [Economic] [Economic] [Economic] [Environmental] [Environmental] [Environmental]  
MORE DETAILS REQUIRED View action details



AGNAV MY FARM PLAN ADD ACTIONS LOG OUT PROFILE

## Use Protected Urea

< Back to Farm Plan

### Guidance / Benefits

**Guidance**  
Consider using protected urea to reduce nitrogen losses and improve fertiliser efficiency. This fertiliser releases nitrogen more slowly, reducing the amount of nitrogen lost to the environment. Apply protected urea at the recommended rate and time to achieve optimal growth.

**Additional information**  
Benefits: [Economic] [Economic] [Economic] [Environmental] [Environmental] [Environmental]  
Expires: After 1 Year

**Further Resources**  
Protected Urea

**Target Completion Date**  
13/05/2024

**Suggested Actions (please select and/or add Action Notes below)**

- Maximize the use of protected urea on the farm to reduce greenhouse gas emissions.
- Order protected urea from the merchant for next year.
- Replace all straight nitrogen with protected urea.
- Replace urea with protected urea.
- Replace CAN with protected urea.
- Trial the use of protected urea on a section of the farm.

# Ongoing Developments

- Further **Forecaster functions**:
  - Genetic Gain and Methane Efficiency
  - Feed additives
  - Concentrate feed
  - ...and more..
- Integration with Beef and Dairy Processor Sustainability Schemes

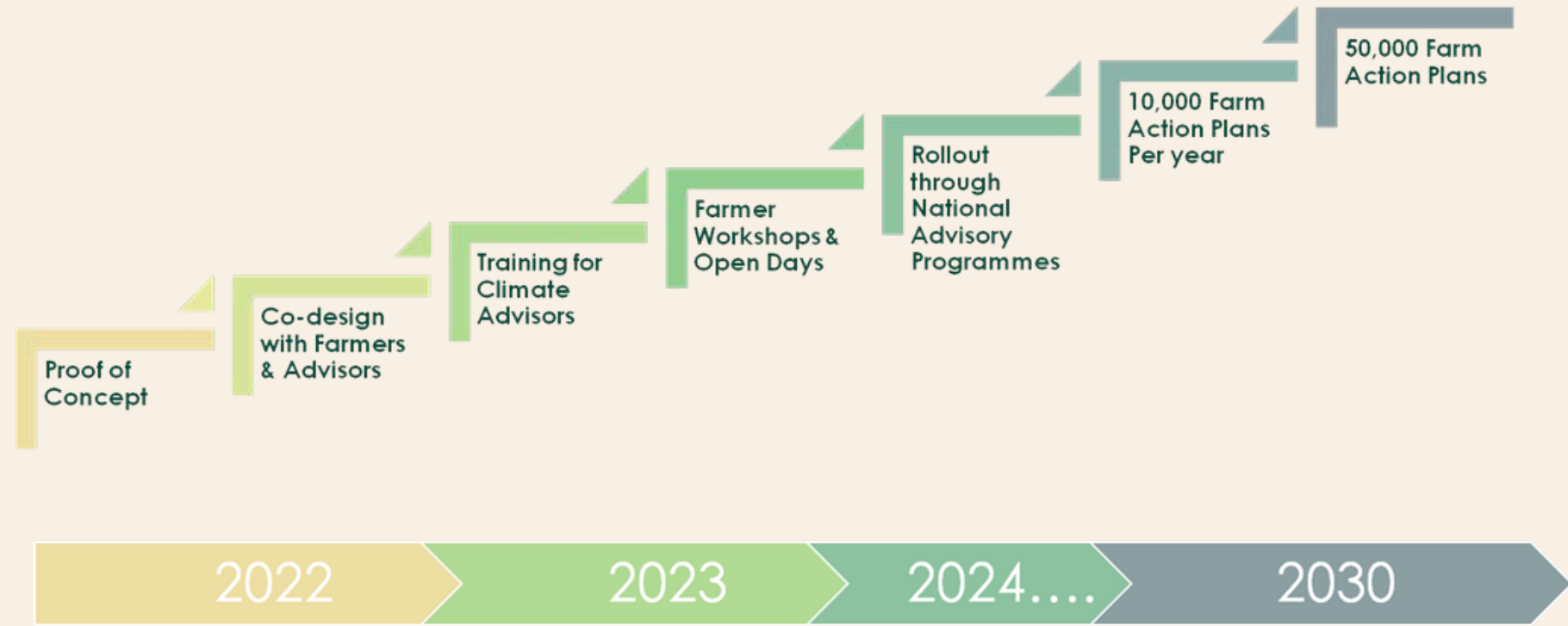


# Future Developments

- Additional **indicators**:
  - Carbon sequestration
  - Biodiversity
  - Water quality
  - Economics of climate action mitigation at farm level



# Progress to data ... future plans





# Future Developments

- High demand from other **enterprises**:
  - Sheep
  - Tillage
  - Pigs
  - Poultry
  - Horticulture
  - Forestry
- All LCA models used must be peer reviewed



# Key Benefits

- **Farmers are requesting guidance and support** to deliver improvements.
- **Maximises use of existing databases** in the agri sector (verified data).
- Opt in, - All subject to **farmers permission**.
- **Scientific oversight** for development of **robust and accurate** system.
- **No duplication** for farmers, - one source of the truth.
- **Freely available to all farmers**.



Thank you for your  
attention

**AGNAV**



**icbf**

