



COOL FARM ALLIANCE

AgroConnect Winter Seminar 21st November 2019

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Cool Farm Alliance

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Cool Farm Alliance

Mission:

To enable millions of growers around the world to make more informed on-farm decisions that reduce their environmental impact.

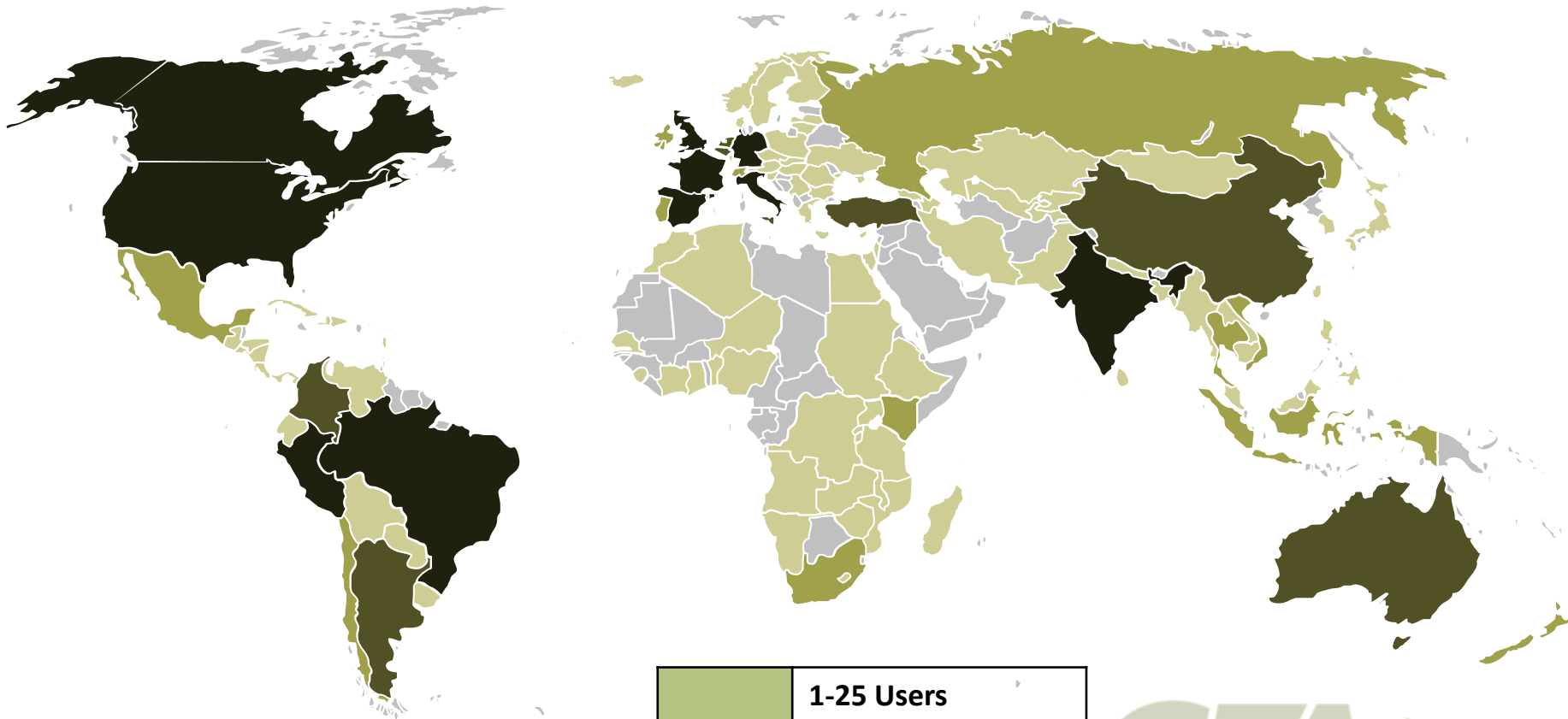


Our Member, Partner & Research Alliance



CFT User Distribution

(9,000+ Users across 118 Countries) + API Users



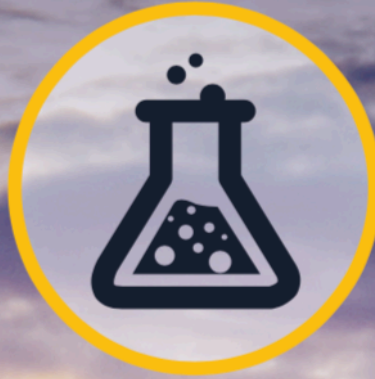
1-25 Users
26 – 50 Users
50 – 100 Users
>100 Users



Six Cool Farm principles of the CFT



FARMER FOCUSED



SCIENCE BASED



MEMBER OWNED



MULTI PATHWAY

Crops, Livestock



GLOBAL



MULTI METRIC

GHG, Water, Biodiversity,
Food Loss & Waste, Costs

Science Based Cool Farm Tool: Innovation Hub Academic Partners

- University of Aberdeen
- University of Cambridge
- University of East Anglia
- University of Edinburgh
- GFZ German Centre for Geosciences
- University of Oxford
- Wageningen University & Research



CFA Governance Structure

Executive Committee



Management Team



Science
Committee

Methods
Committee

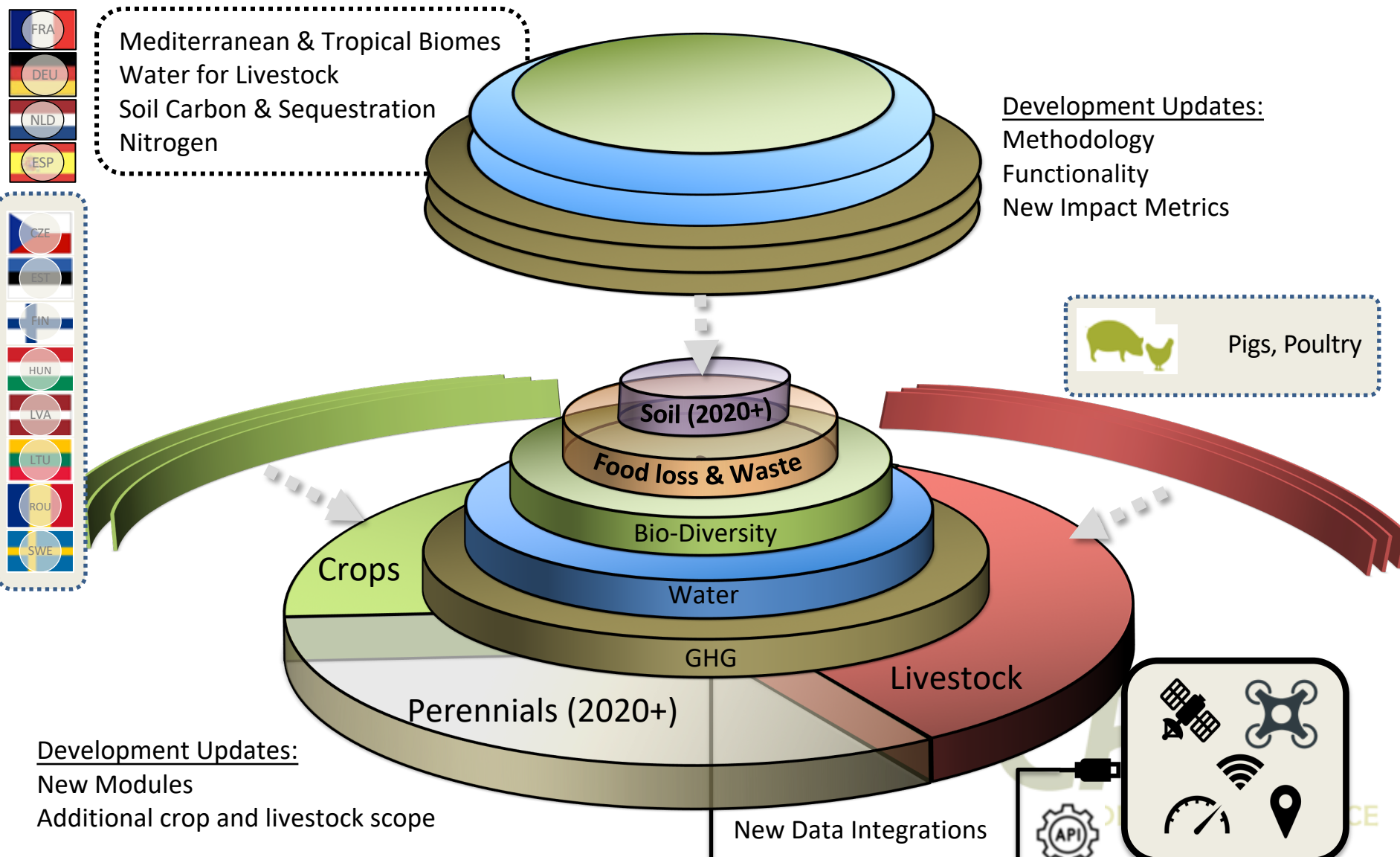
Comms
Committee

DevOps
Committee

Working
Groups

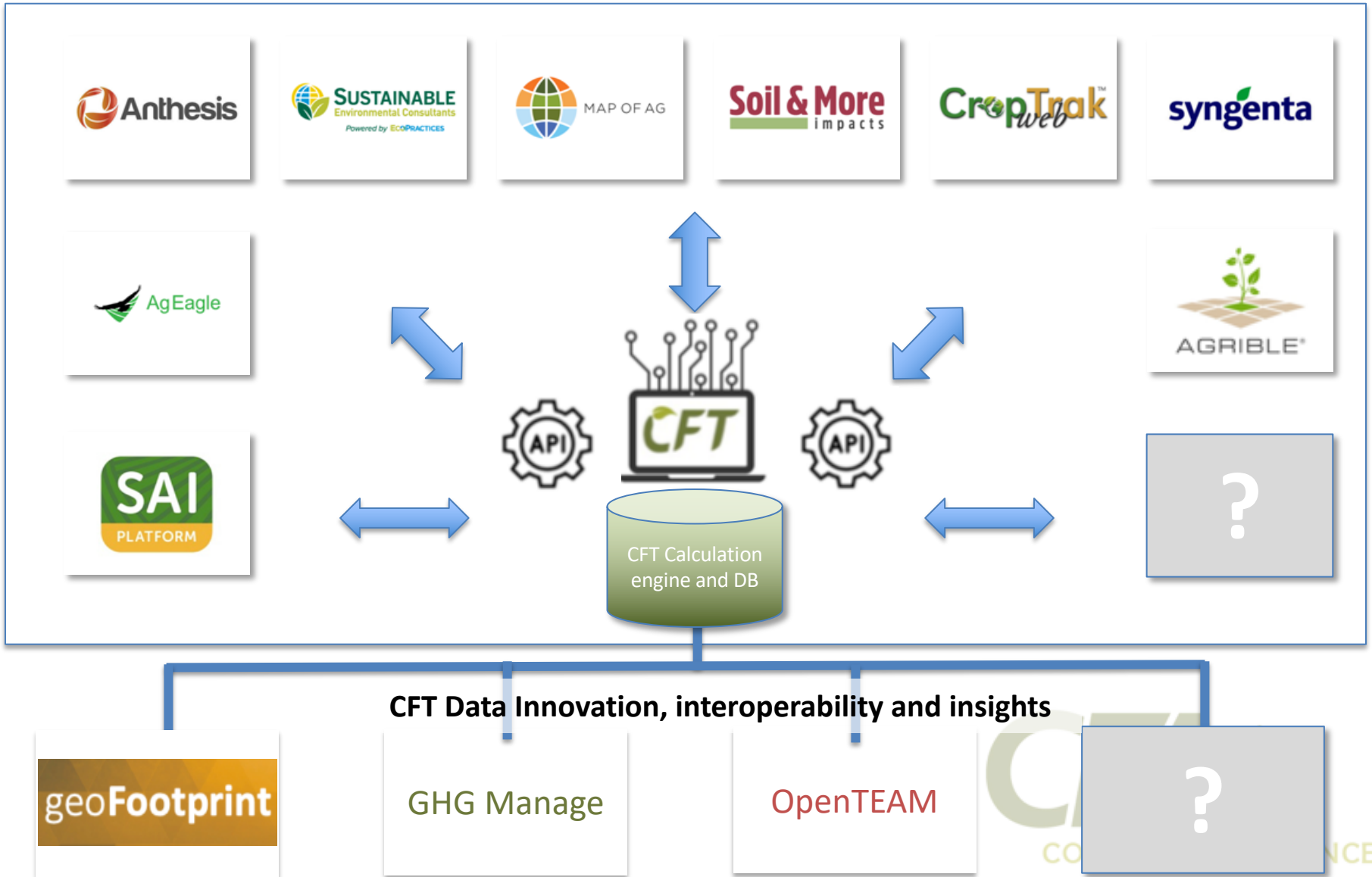
Alliance members

Cool Farm Tool Current and Future



Data exchange with API

(currently for specific crop metrics)



How is the Cool Farm Tool used?

- Baseline assessments to understand the start point for their strategy.
- Identify hotspot target areas.
- Monitor progress over time.
- Engagement & decision support tool
- Benchmark suppliers and supplier scorecards.
- Validate data for external reporting.
- Develop product attributes to sell premium products in addition to quality, price etc.
- Measure the impact of research and strategy.



Why the Cool Farm Alliance & Why the Cool Farm Tool?

Benefits of the Alliance

- **Access to a community** and play and active role in driving sustainable agriculture, including FMCG businesses, leading academics and other industry stakeholders, to share knowledge, best practices and cases studies.
- Brand visibility to **publicly show commitment** to sustainable agriculture.
- To provide a voice and influence on the **future development** and direction of the Cool Farm Tool, through voting rights, committee appointments and working groups.

Benefits of the Tool

- Global Application
- Scientifically credible
- Free for farmers
- Data interoperability



Drivers for Sustainable Agriculture

Risk

(global trends, compliance, changing policy landscape – consumer, customer and regulatory pressure, ESG reporting, eco-system services, soil degradation, supply interruptions and uncertainty).

Opportunity

(differentiator from competition, growers starting to realise it can secure supply contracts, and in some cases win price premiums)

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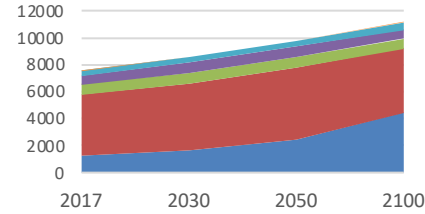
(resource efficiency saves money, maintaining a license to operate to secure future revenue)

Global trends we are facing

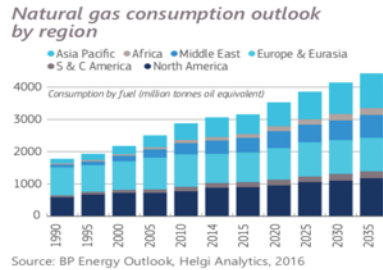
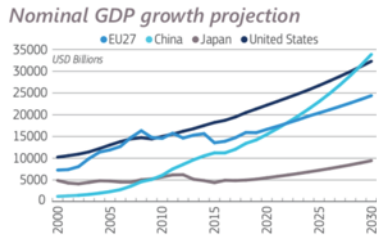
Climate change



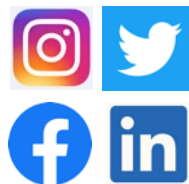
Population, demographics and urbanisation



Economic growth & consumption habits



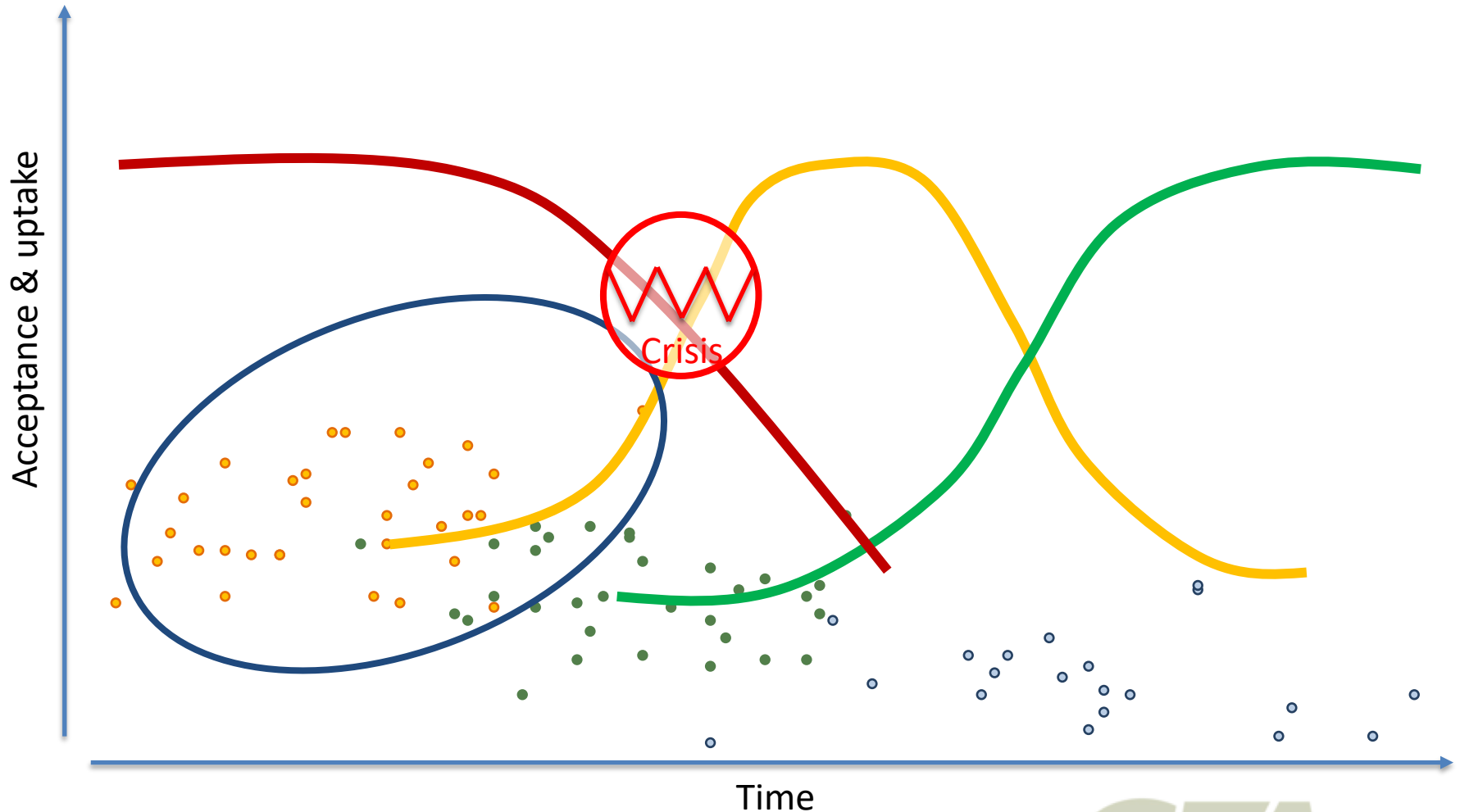
Connectivity



Geo-politics



Transition in response to these trends



Bill Sharpe, [Three Horizons: The Patterning of Hope](#), 2014.

The trends we see pulling together for Horizon 2

Strengthening policy in response to the climate emergency & public pressure – support for carbon farming, soil restoration & reforestation.

Increasing demand for carbon sequestration markets.

Increasing demand for local food, meal kits, direct from farmer.

Changing diet choices and alternative proteins.

Increasing demand for food globalisation & international trade.

Increasing demand for food traceability and direct supply chains.

Increasing agriculture intensification and productivity.

Increasing use of mixed farming and landscape systems - agro-forestry, silvi-pastoral, and habitat stewardship.

Urban & vertical farming systems (high value crops only)

Re-kindling of the GMO & precision genetics debate.

Robotics and automation.

Remote monitoring and data integrations.

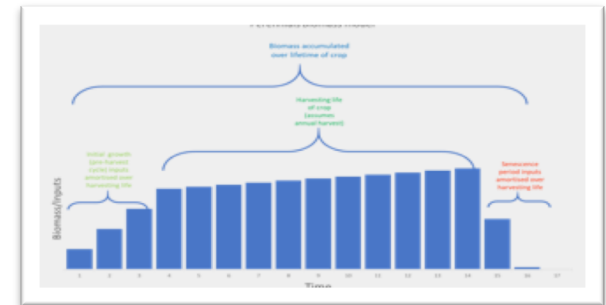


How is the CFA responding?

- Vital that that:
 - the CFA remains at the heart of the debate on sustainable agriculture;
 - the CFT remains at the heart of research and supply chain agriculture quantification and measurement, and as a decision support tool for farmers.

- Maintain a relevant development pipeline:

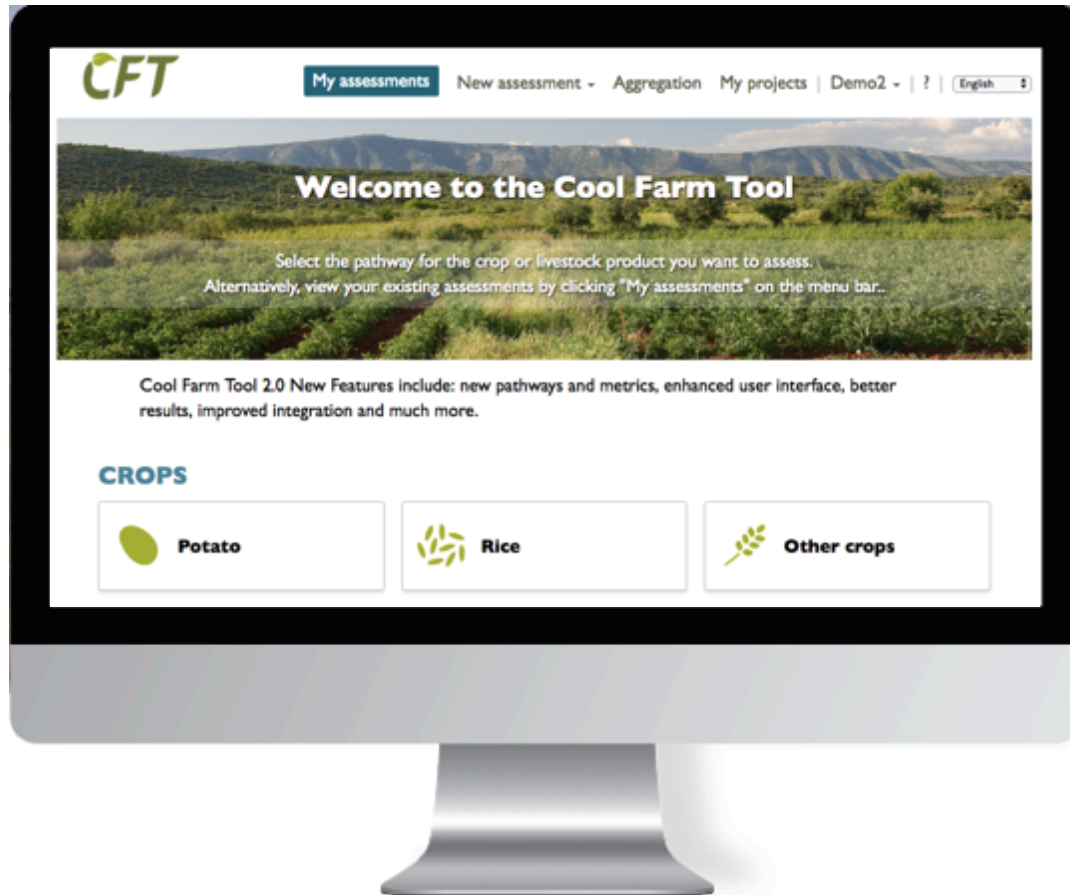
- Increase data interoperability and connections.
- Develop a new perennials module that includes crop rotations and mixed farming systems.
- Develop a new soil module to support soil health, performance, sequestration and carbon credits.



- Remain dynamic and open to the emerging trends.



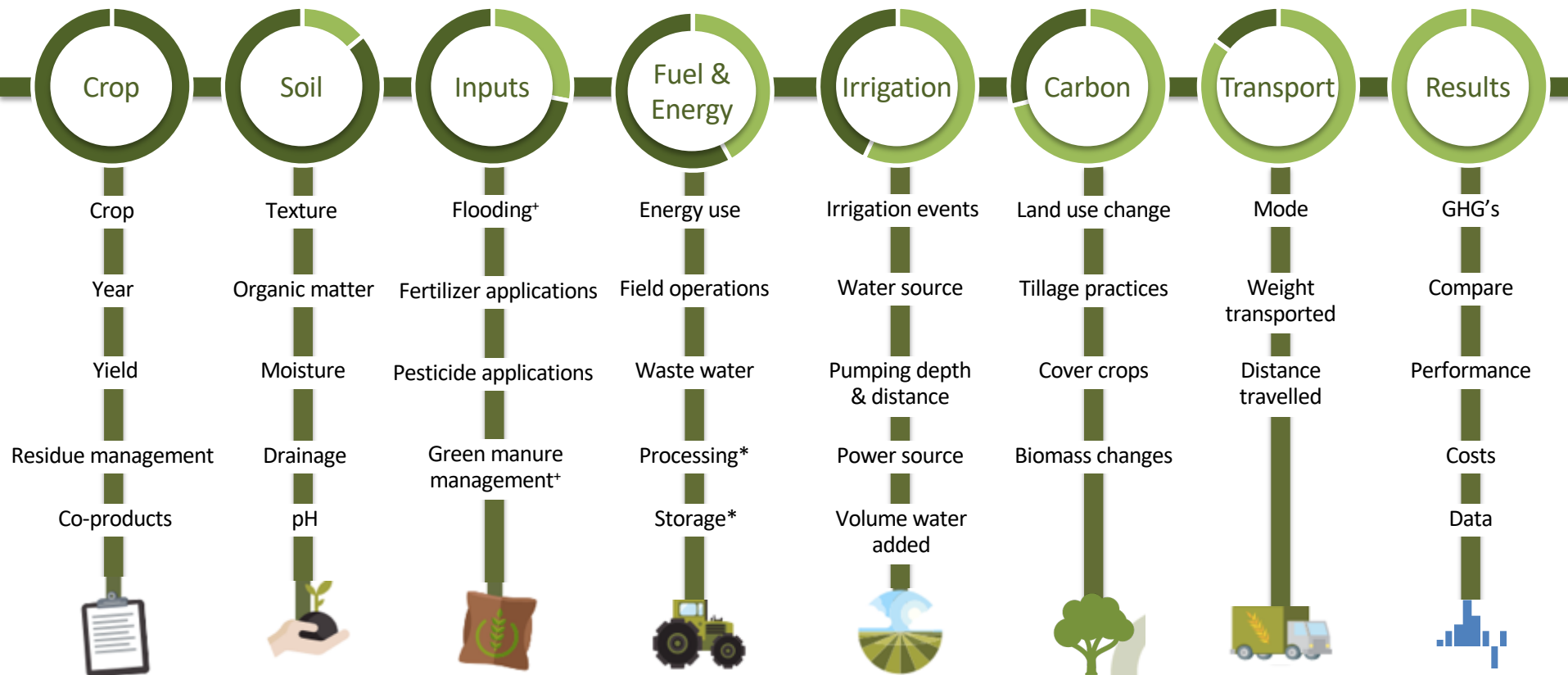
Cool Farm Tool



DATA INPUTS

+ Rice assessments only
* Potato assessments only

The data needed to calculate Crop GHG emissions is summarised here at a glance.



Tool screenshot

Assessment name & descriptors

The header shows the CFT logo, navigation links for 'My assessments', 'New assessment', 'Aggregation', 'My projects', and 'Demo2'. The assessment title 'potato_2018' is displayed in large blue text, with sub-text 'Potato · Potato · Finished product: 35 tonnes · Yield: 35 tonne / ha'. There are 'Share' and 'More...' buttons on the right.

Tabs for completion

A row of seven tabs: 'Crop', 'Soil', 'Inputs', 'Fuel & Energy', 'Irrigation', 'Carbon', and 'Transport'. The 'Crop' tab is currently selected and highlighted.

Completion status

A 'Results' button next to a blue badge that says '100% Complete'.

Data entry

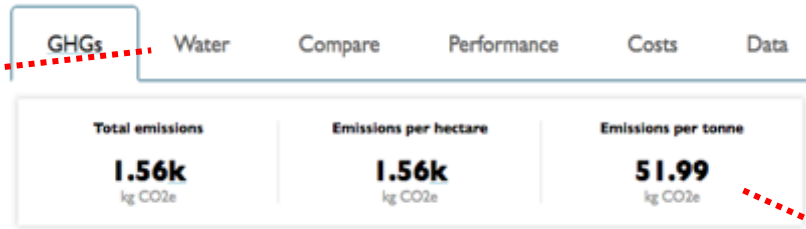
The form is titled '1. Crop details' and includes the instruction 'Enter basic details about your crop to get started.' It contains several input fields: 'Crop name' (Potato), 'Harvest year' (2018), 'Crop area' (1 hectares), 'Gross yield' (40 tonnes), 'Seed amount' (2 tonnes), 'Net yield' (35 tonnes), and 'Assessment name' (potato_2018). Each field has a dropdown menu for units and a help icon.

Live summary results

The 'Summary' panel shows key metrics: Crop (Potato), Year (2018), Finished product (35 tonnes), and Product yield (35 tonne / ha). Below this is a 'GHG emissions' section with a 'Total' of 1,350 kg CO2e. A horizontal bar chart shows the contribution of different categories: Residue mgmt (8%), Soil / fertilisers (55%), Crop protection (6%), and Land management (0%).

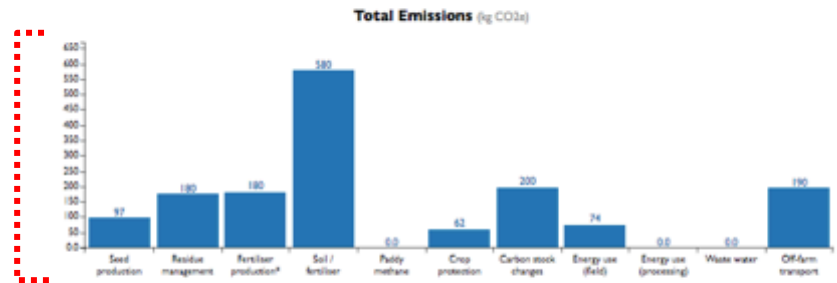
Results

Tab views



Headline results

Graph of emissions by category



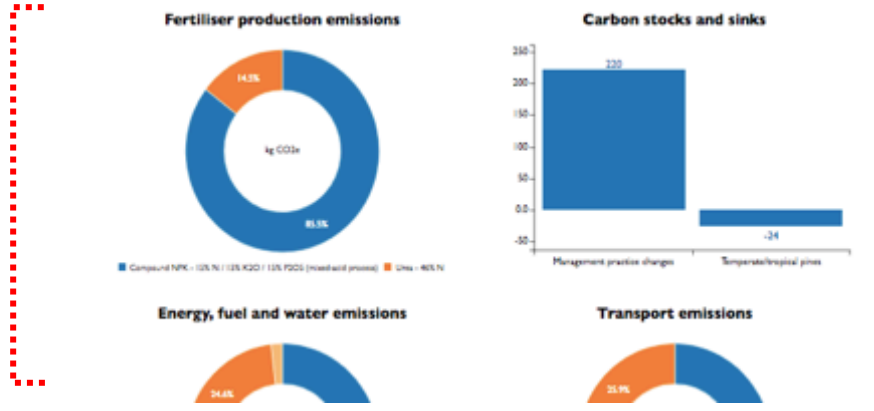
Detailed emissions by category and greenhouse gas (CO₂, N₂O, CH₄)

Detailed data (all values in kg) Hide data

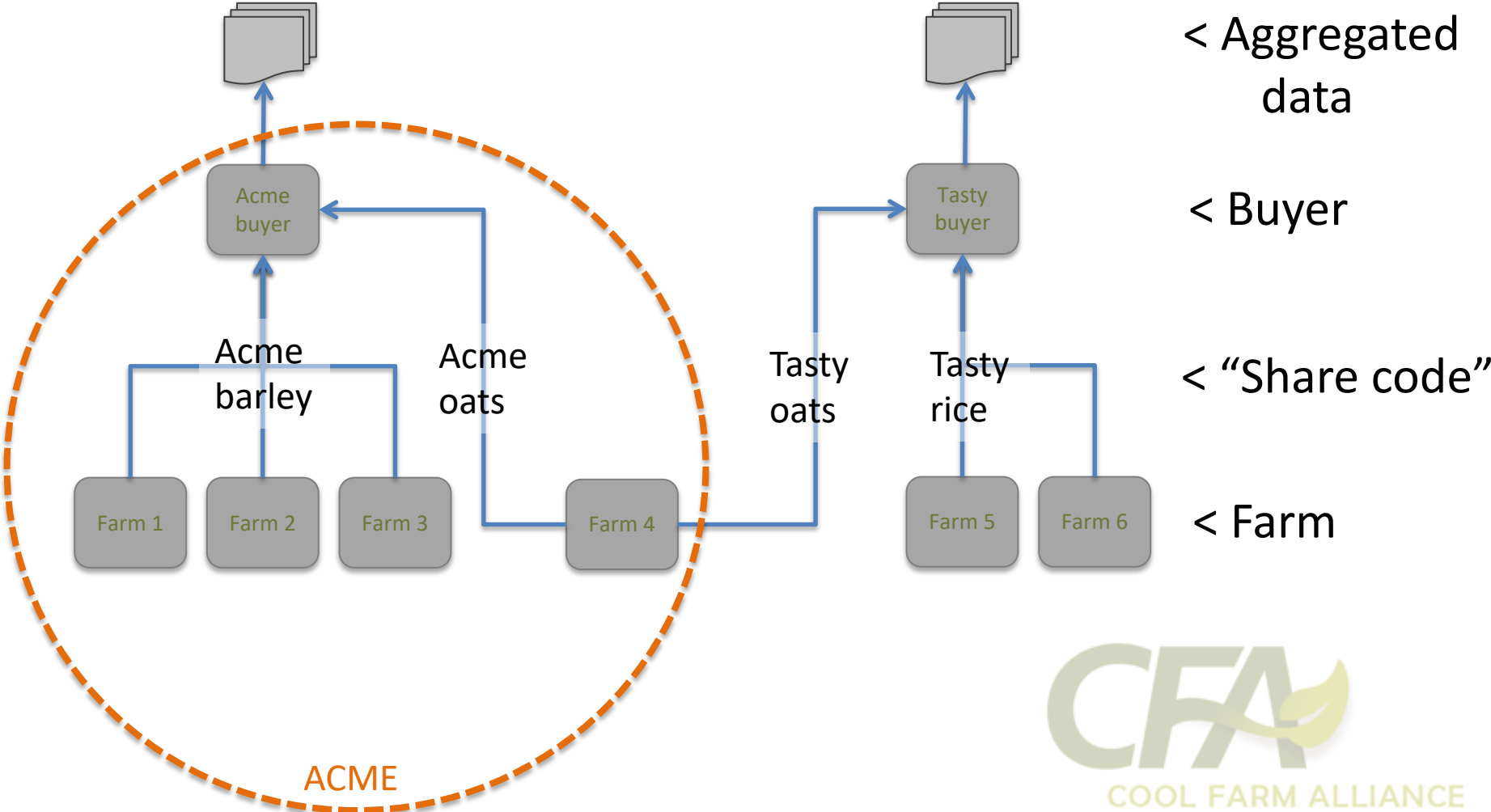
Sources	CO ₂	N ₂ O	CH ₄	Total CO ₂ eq	Per ha	Per tonne
Seed production	97.48	0	0	97.48	97.48	3.25
Residue management	0	0.59	0	175.59	175.59	5.85
Fertiliser production*	181.39	0	0	181.39	181.39	6.05
Soil / fertiliser	22	1.86	0	577.72	577.72	19.26
Paddy methane	0	0	0	0	0	0
Crop protection	61.50	0	0	61.50	61.50	2.05
Carbon stock changes	196.92	0	0	196.92	196.92	6.34
Energy use (field)	74.26	0	0	74.26	74.26	2.48
Energy use (processing)	0	0	0	0	0	0
Waste water	0	0	0	0	0	0
Off-farm transport	194.86	0	0	194.86	194.86	6.30

* Calculated with validated default values for fertiliser production.

Emissions broken down within categories



Data aggregation



Tiered membership to increase accessibility.

The Cool Farm Tool is free to individual farmers.

Type	Classification	Fee per annum (£)
Corporate	Greater than \$1bn turnover	12,500
Large	Less than \$1bn turnover	6,250
Medium	Less than \$10m turnover	3,125
Small	Less than 50 employees	1,563
Project	Dependent on project structure (development requests, data integrations and research collaborations)	From 5,000 (Please discuss)

N.B. Membership types and fees are subject to change.

Registered charities can apply for a membership fee discount (please discuss).

Questions?

