HESTIA

Data and Models for More Sustainable Agriculture

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HESTIA *provides the data and models needed to quantify, and reduce, food's environmental impacts.*

HESTIA provides **three** key resources

1. Data Standard

2. Models

3. Database

HESTIA key definitions

Cycle: The Inputs, Emissions, Products, and Practices created or used during a period. A Cycle also includes a Completeness assessment, describing how complete the data is.
E.g., Cycle = Wheat produced in the Devon (UK) in 2020.

Aggregated Cycle: Represents the average impact of producing a product, in a specific region and time period.
E.g., Wheat produced in the UK between 2010-2026.

1. Data Standard

The data standard forces ***harmonisation*** of agri-environmental data.

HESTIA includes data from ***LCA studies***, ***farm surveys***, ***industry/farm tools***, and ***experimental trials***.

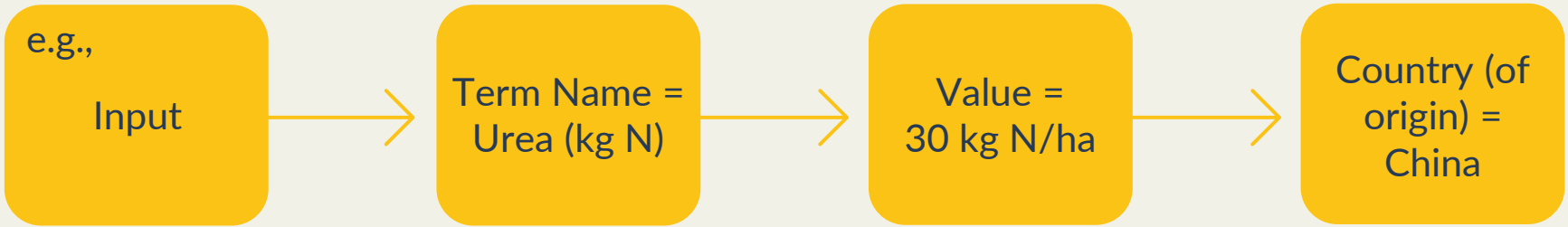
This disparate data is formatted following the ***schema*** and ***glossary***.

Data is passed through the ***validation pipeline*** and ***manually reviewed***.

Schema

The schema allows a high level of detail to be recorded about an agricultural system, including:

Inputs, Products, Practices, Site Infrastructure, Management and Measurements, and Completeness.

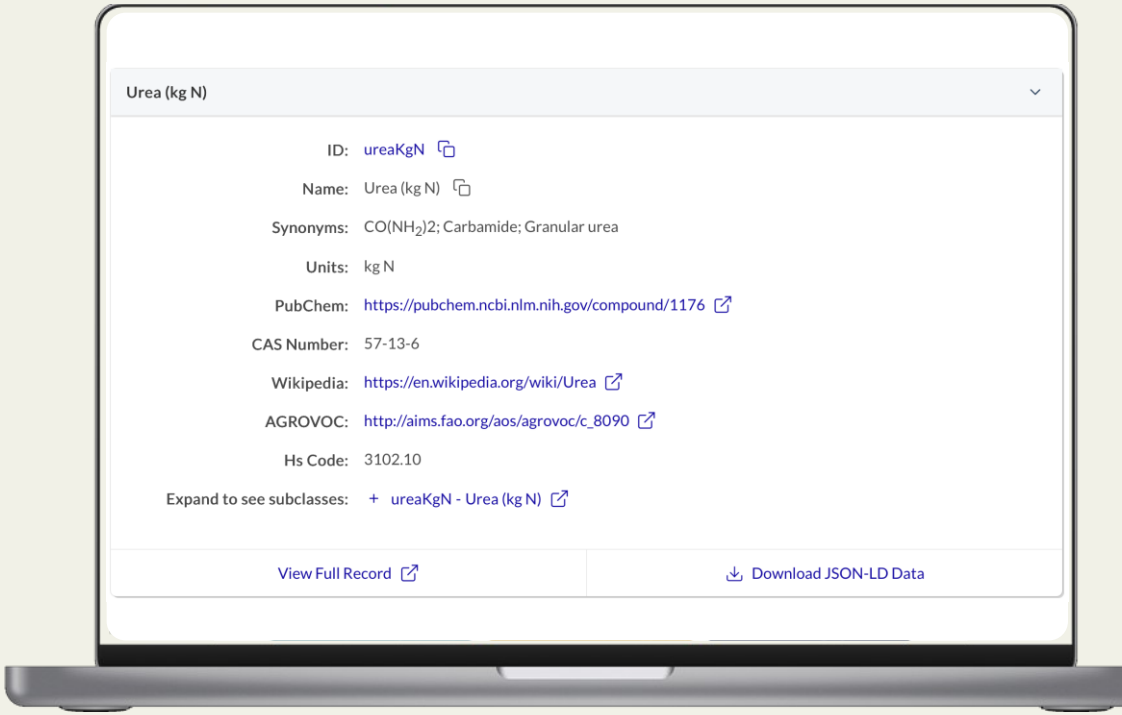


1. Data Standard

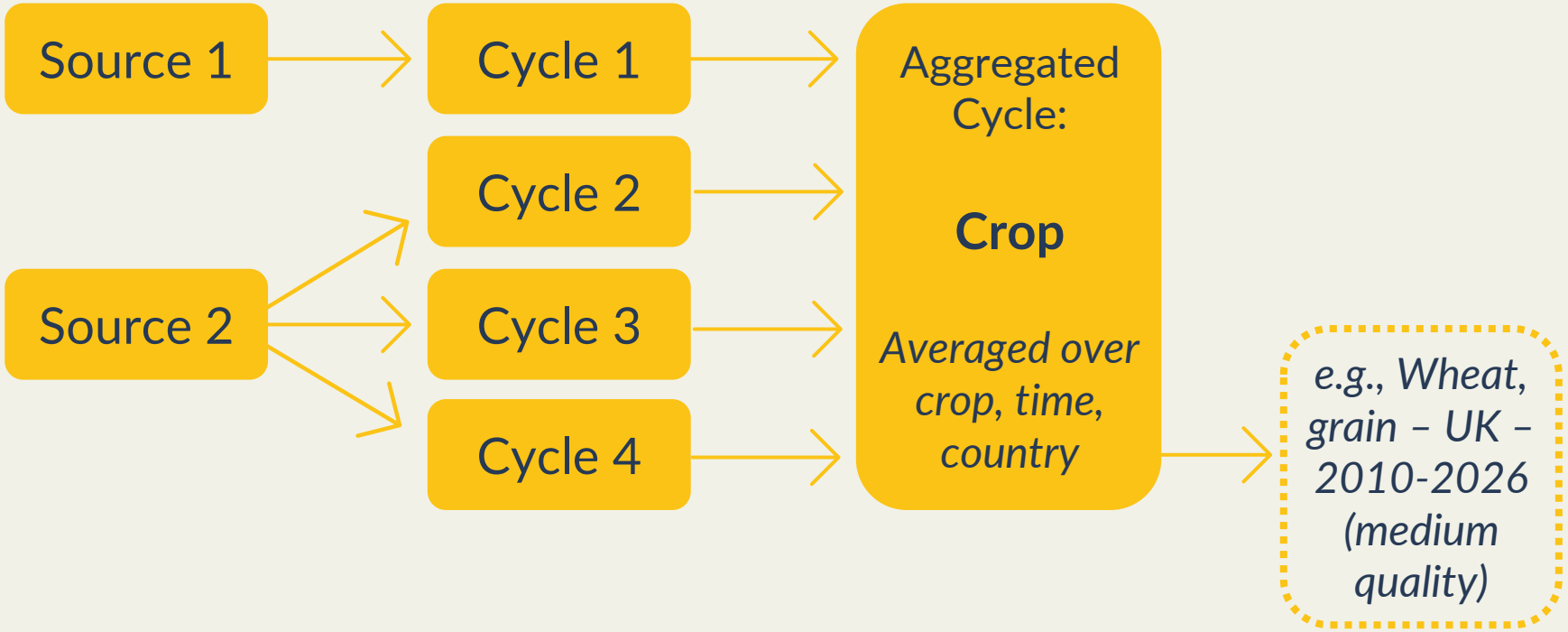
Glossary

The glossary ensures consistency in how a term is used. Units are always specified.

We pull from existing repositories where possible (e.g., FAOSTAT, Feedipedia).



Aggregated Cycles



2. Models

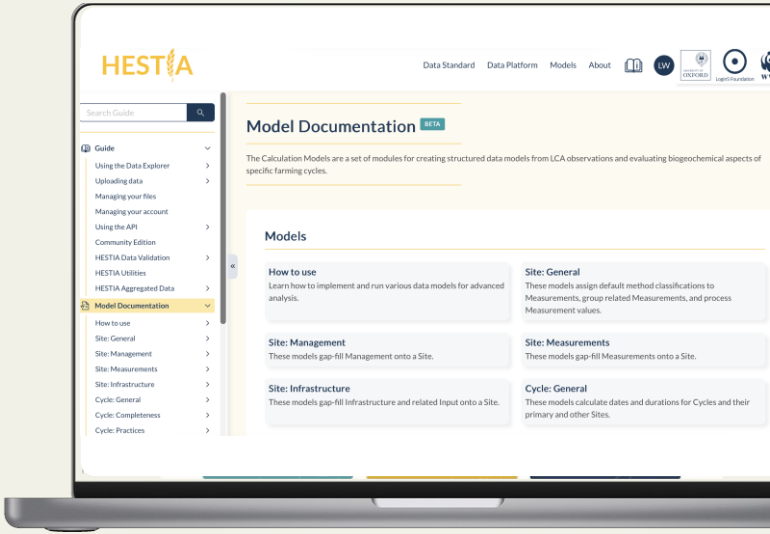
The models robustly quantify multiple environmental indicators.

>1,000 models have been coded up, including CML (2001), IPCC (2021), and ReCipe (2016).

We are aligned with GHG Protocol Land Sector Removal Standard, and we are working towards being aligned with other industry standards.

These models are free, and available to download.

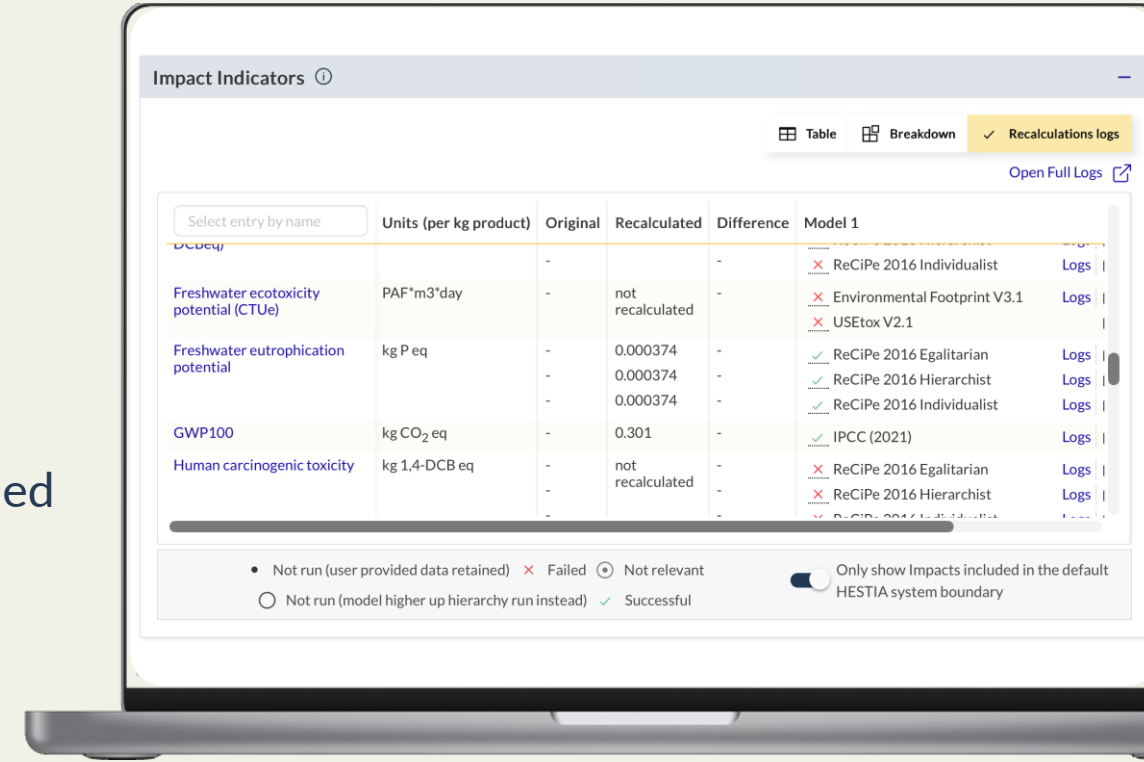
Underlying emissions relating to inputs are from BAFU, Agribalyse, and HESTIA.



Transparency

For every recalculated value you can see the:

- Model status
- Underlying values used
- Any original values
- Why the model might have failed
- Model documentation



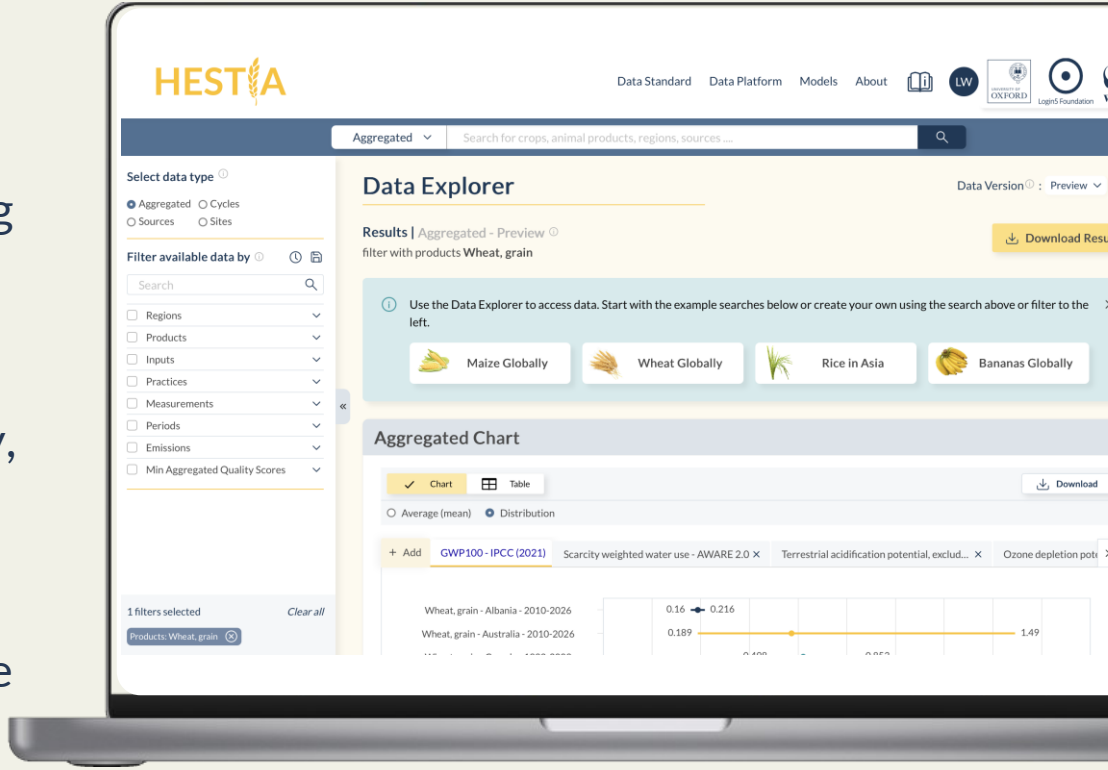
3. Database

The HESTIA database, accessed via the Data Explorer, makes agri-environmental data accessible.

It contains data on 139,000 farming cycles from >1,000 sources and growing.

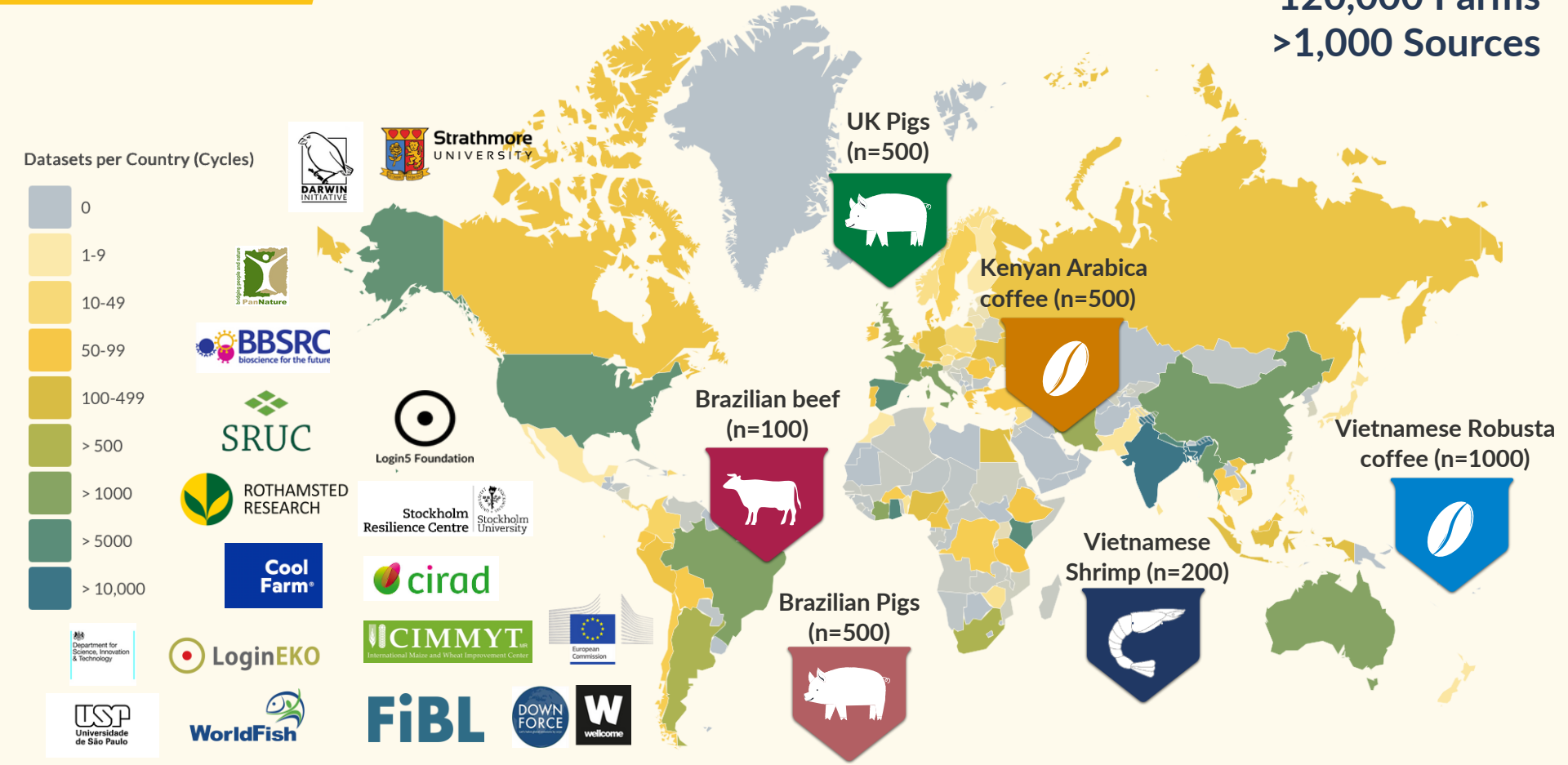
You can search by product, country, and year, and view the results of several impact indicators.

You can download this data for free from the portal, just log in.

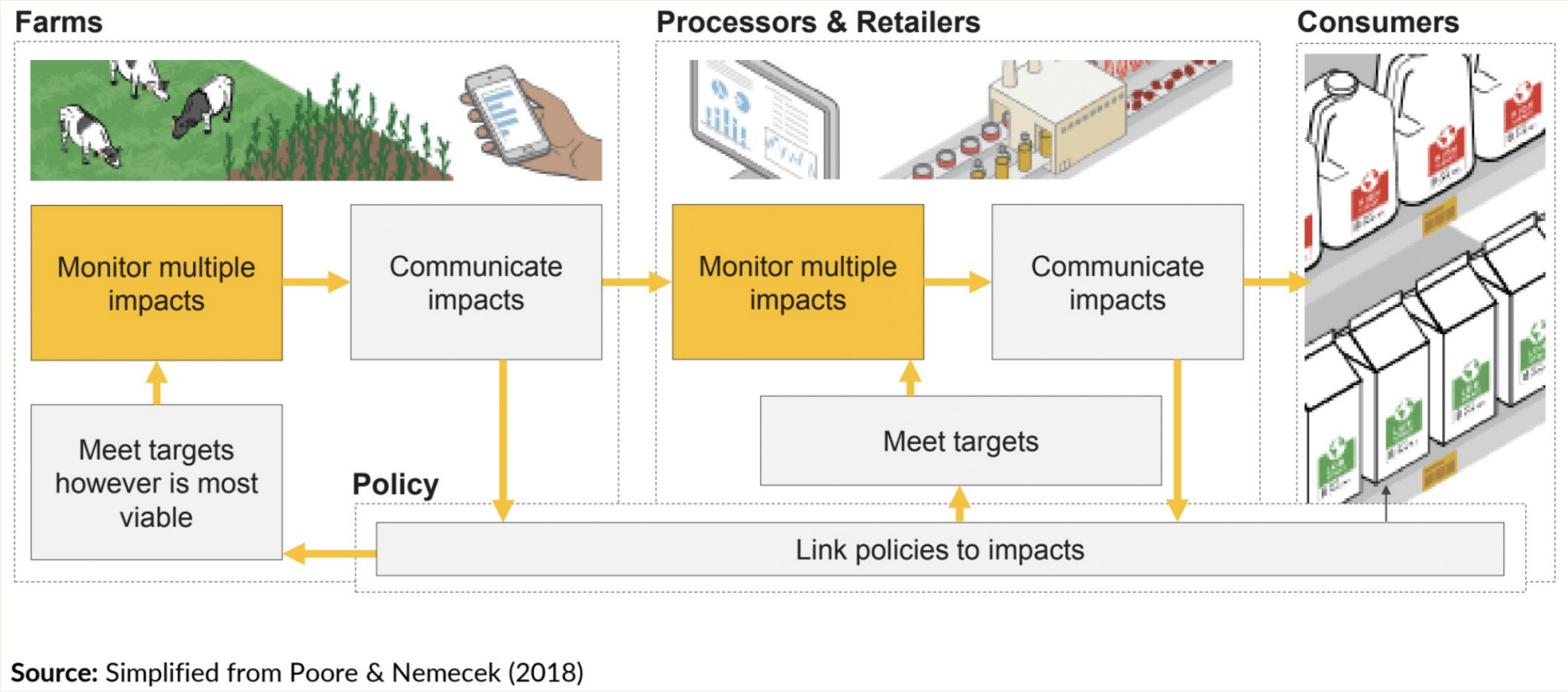


3. Database

364 Aggregated Cycles
120,000 Farms
>1,000 Sources



The Applications of HESTIA



Source: Simplified from Poore & Nemecek (2018)

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