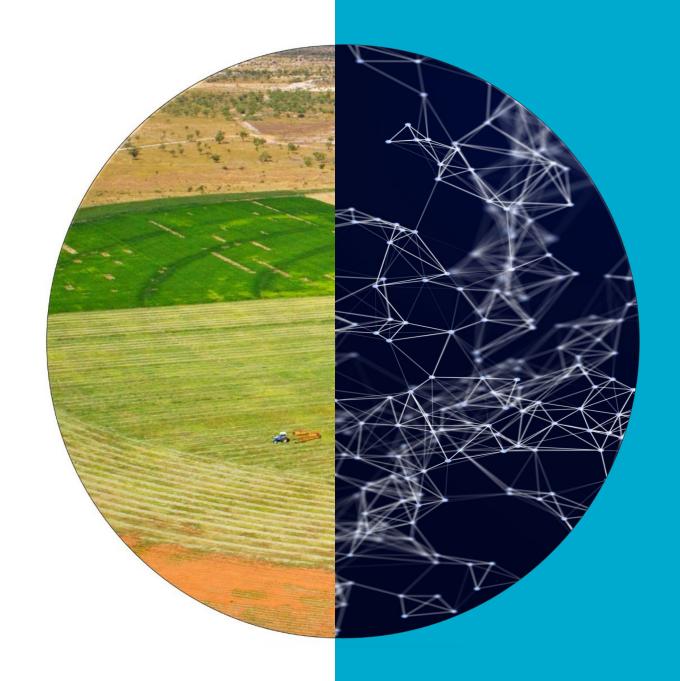


AASF Data Ecosystem Project

Stage 2+ Report Update

December 2025



Previously...



Current State – Insights

Different drivers are informing how organisations develop their data practices, frameworks and governance arrangements

Data sharing within the agricultural sustainability sector is undertaken on an ad-hoc basis

The current
agriculture
sustainability data
ecosystem is
anarchic in nature

In general, stakeholders can see a range of benefits coming from the AASF Data Ecosystem Different users will engage with and use the AASF and hence the AASF Data Ecosystem in different ways The greatest opportunity of, and the greatest risk to, the data ecosystem is trust



Current State – *Use Cases*

Develop National Scale Sustainability Data Standards

Develop National Scale Sustainability Data Sets

Access subsetted aggregated sustainability data

Create sustainability benchmarks

Trace sustainability credentials along supply chains

Assess sustainability credentials

Assess farm sustainability

Improve farm sustainability

Reporting



Current State – Stakeholder Cohorts



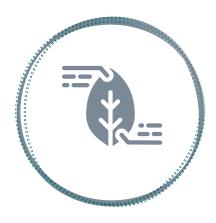
Primary Producers and Processors

Are at the forefront of producing data and information about sustainability practices within their operations; use a diversity of digital services to manage operations and communicate with evidence requestors; and, have variable levels of digital literacy and knowledge of the AASF



Data and Digital Service Providers

Provide digital systems, analytical tools and/or value-added datasets for a range of agricultural and sustainability related sectors; and, enable multiple connection points between Primary Producers & Processors with Evidence Requestors



Evidence Requestors

Require data and information about agricultural sustainability practices for multiple purposes; use a variety of digital services (including in-house services) to request information, analyse data and communicate findings



Current State - Personas



Primary Producers and Processors



Marcus







Alejandro



Tayla





Data and Digital Service Providers



Omid



Roger







Maria

Bob





Saeed

Fiona

Evidence Requestors





Daniel



Garry



Troy

Connie





Paris











Helen



Nikola

Paul

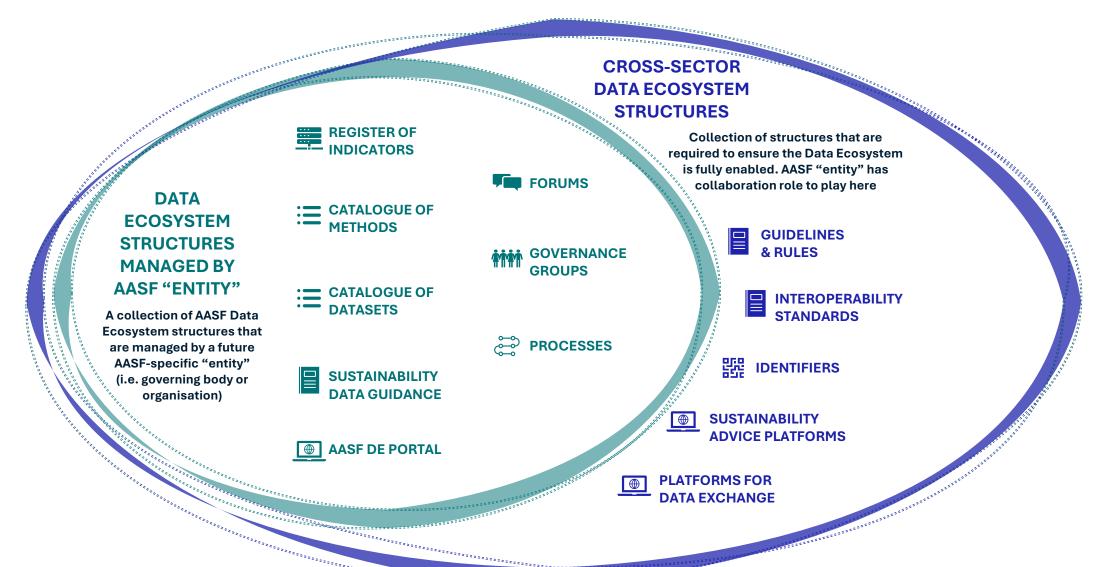


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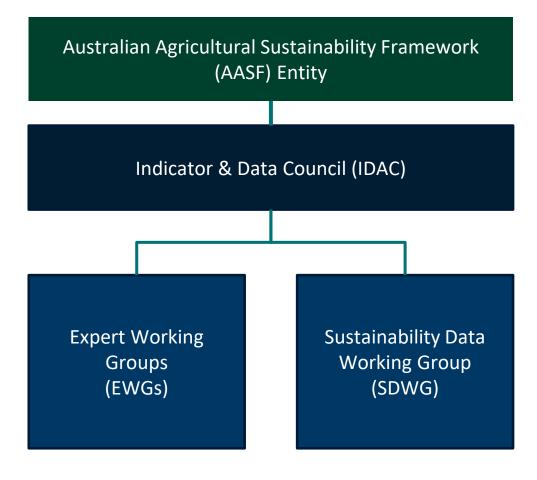
Future State – *Structures*

For the AASF Data Ecosystem to function effectively and meet stakeholder requirements, the following structures are required:





Future State – *Governance Mechanisms*





AASF Data Ecosystem – *Strategy*

VISION	Ensure informed decision making, foster continuous improvement and create enduring benefit through a trusted, interoperable agricultural sustainability data ecosystem								
OBJECTIVES	Sustainability data is interoperable, used and re-usable			ility data is reliable and trustworthy	Stakeholders are collaborating across the data value chain		The value of sustainability data is realised by "investors"		
PRINCIPLES	Data for the AASF Data Ecosystem will be designed to ensure it is: Secure & Private Usable & Value Additive		Processes of the AASF Data Ecosystem will be designed to ensure they are: Equitable Ethical Reducing the burden		Governance of the AASF Data Ecosystem will be: Trusted & Transparent Inclusive & Connected Agile & Responsive		osystem will be: Fransparent • Connected		
STRUCTURES	Register of Indicators Catalogue of Methods		Catalogue of Datasets	Data Guidance	Guidance Forums		Portal		
GOVERNANCE	INDICATOR AND DATA ADVISORY COUNCIL (DAC) EXPERT WORKING GROUPS (EWGs)								
600			SUSTAINABILITY DATA WORKING GROUP (SDWG)						





- A data ecosystem is NOT a database
- The data ecosystem project is not asking for data
- Stakeholders can be active in one or many cohorts
- "Reduction of burden", "trust and transparency" are two of the eight principles in the data ecosystem strategy
- The data ecosystem strategy has a blueprint which defines three horizons for implementation

This time ...



Data Ecosystem Project Phase 2+ - Intent & Outcomes

Data ecosystem activities for Phase 2+ were conducted between April and September 2025.

Project Intent

Prior to implementation, various proposed structures to enable the

AASF Data Ecosystem to become more effective and efficient need be tested and refined.

The purpose of this project is to undertake this testing and refinement.

Broader Outcomes

Primary AASF stakeholders have a clear path forward for implementing and supporting the AASF data ecosystem Practices, frameworks and governance arrangements exist to deliver data for users of AASF Established data supply chains that support use of indicators measuring trends in agricultural sustainability

Project Outcomes

Refine and agree narratives on H1, H2 and H3 for Data Ecosystem design and implementation

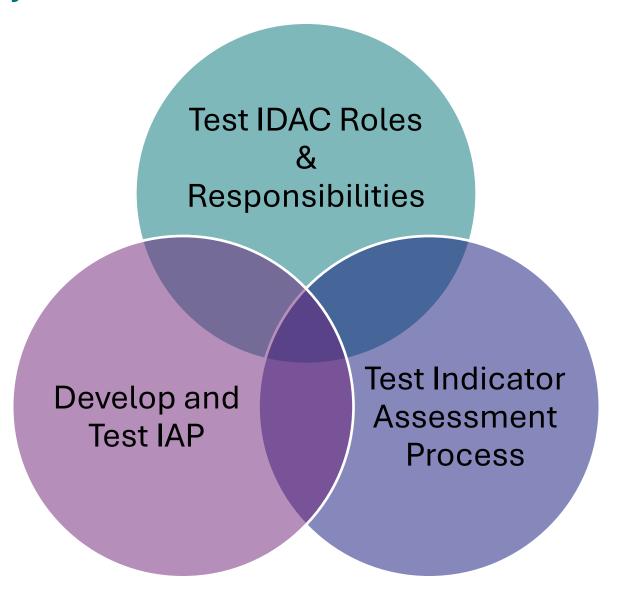
Progress pilot set of indicators through an assessment process

Keep the existing momentum of AASF stakeholders in the design of structures to enable the AASF data ecosystem to become more effective and efficient

AASF Program Managers and the AASF Advisory Committee understand and are confident in the next steps required to commence H1 activities for the Data Ecosystem



Data Ecosystem Project Phase 2+ – *Activities*





Data Ecosystem Project Phase 2+ – *Activities*

mIDAC met twice in 2025, with a set of pre- and post-meeting homework

A-10 June 11 June 12 June – 19 August 20 August

Pre-Meeting Homework

Between-Meeting Homework

Meeting #1

Moot Expert Working Group

Moot Expert Working Group

- Meeting Agenda
- Draft IDAC and EWG Processes
- Draft AASF Indicator Assessment Protocol
- Updated IDAC and EWG Processes for testing
- Updated AASF Indicator Assessment
 Protocol for testing
- Updated IDAC role descriptions for ToR

- To be confirmed during Meeting #1, will potentially include:
 - Reviewing the draft IDAC Terms of Reference
- Considering the structure of the future Register and Catalogues
- Identifying domains or topics of interest for the SDWG to engage with
- Draft recommendations from mEWG regarding indicator(s) for selected AASF Principle/Criteria to be tabled at meeting #2
 - Reflections on mEWG processes for mIDAC consideration

- Recommendations on preliminary indicators to be referred for inclusion in Register
- Updated AASF Indicator Assessment
 Protocol for testing
- Updated IDAC role descriptions for ToR

September

OUTCOMES:

Understand the processes and materials which are required to ensure the AASF Data Ecosystem structures, including the IDAC, can be established and commence H1 activities

Have preliminary indicators to test in AASF Pilot Studies project



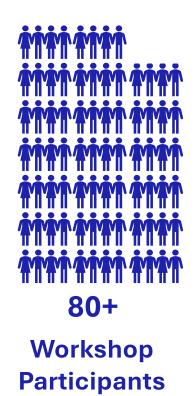
Outputs

Data Ecosystem Project Phase 2+ – Participants



Interview

Participants









Findings ...



Findings - IDAC

Name, role and scope of decision rights for IDAC require clarification

Diversity of knowledge and experience for IDAC members is critical

to evolve and require appropriate resourcing

IDAC needs a strategy for prioritising indicator assessments

The principles and objectives of the AASF Data Ecosystem strategy need to be reflected in IDAC decisions

All IDAC recommendations must go to public consultation prior to adoption



Findings – Indicator Assessment Process

AASF Indicator Assessment Protocol is generally useful

Diversity of knowledge and experience for indicator assessment is critical

Context and purpose are essential for meaningful indicator assessment

Agreed definitions of "indicator", "metric" and "method" are essential Register and Catalogue content needs to be useful, timely and comprehensive

Indicator assessment processes will continue to evolve and require appropriate resourcing



Recommendations





Definition:

Indicators in agricultural sustainability are variables – either qualitative or quantitative – that provide information about complex sustainability criteria. In the context of the AASF they are used to assess environmental, economic, and social dimensions of agricultural systems and guide decision-making.

Key Points:

- Indicators act as proxies for broader sustainability goals.
- Indicators provide meaning to stakeholders (they have a purpose within a context)
- They are selected by stakeholders for specific purposes based on relevance, feasibility, and reliability.
- Indicators can be individual or composite.

Examples:

- Soil erosion rate as an indicator of land degradation
- Farm profitability as an indicator of economic sustainability
- Freedom from pain, injury, or disease as an indicator of animal welfare





Definition:

Metrics are the **quantitative expressions of indicators**. In the context of AASF, they provide the numerical values that allow for tracking, comparison, and evaluation of sustainability performance over time or across systems.

Key Points:

- Metrics are used to quantify indicators.
- They enable benchmarking and monitoring of progress.
- Metrics, like indicators, must be relevant, feasible, and reliable.

Examples:

- Tonnes of soil lost per hectare per year
- Annual farm profit as a percentage of net income
- Percentage of animals receiving relevant vaccinations; percentage of workforce trained in best practices pain management techniques; number of reported injuries during transport.





Definition:

A method refers to the systematic approach or procedure used to collect, analyse, and interpret data related to sustainability metrics. In the context of AASF, methods define *how* sustainability is assessed, often incorporating scientific, technical, or participatory techniques.

Key Points:

- Methods guide the selection and application of indicators and metrics.
- They may include qualitative, quantitative, or mixed approaches.
- Common methods include life cycle assessment (LCA), multi-criteria analysis (MCA), indicator-based frameworks, and participatory rural appraisal.
- Methods must be scientifically valid and/or have widespread industry acceptance.
- Methods must be cost-effective for those using them

Examples:

- Using soil sampling and lab analysis as a method to measure soil organic carbon.
- Review of ATO annual farm income records
- Conducting **farmer surveys** to assess vaccination rates; review of Registered Training Organisation records on complete training; review of transport logs.



Purpose & Context

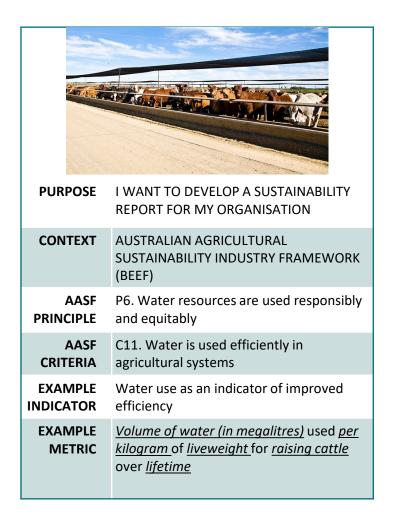
It is essential to understand two key concepts when discussing indicators and metrics:

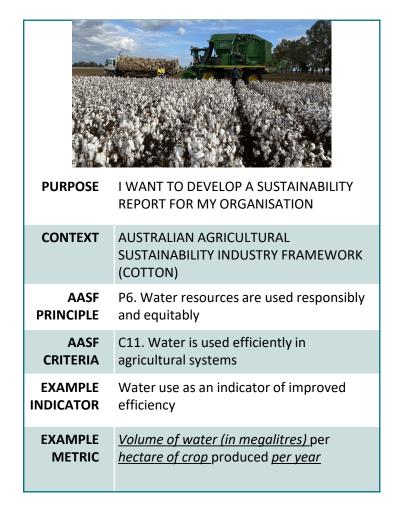
- their purpose (i.e., what an indicator and metrics are being used for, and by whom) and
- the context of use (i.e., the circumstances in which the indicator or metric is being used).

To determine whether an indicator is fit for purpose – or to identify appropriate metrics for quantifying it – stakeholders must clearly understand both their intended purpose and the specific context in which the indicator and metrics will be used.



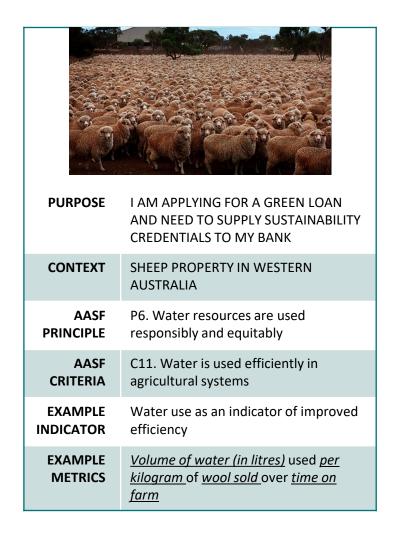
Examples

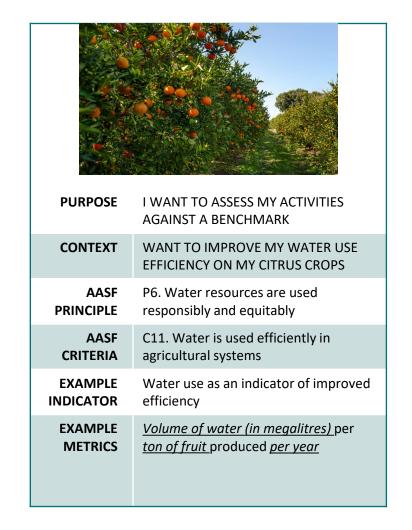






Examples







Examples



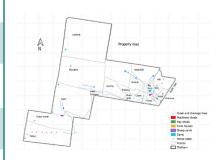
PURPOSE	DEVELOP A SUSTAINABILITY REPORT FOR THE NATION
CONTEXT	ALL OF AUSTRALIAN AGRICULTURE
AASF PRINCIPLE	P18. The economic viability of agricultural businesses is protected and enhanced
AASF CRITERIA	C49. Agricultural businesses are profitable across varying operating conditions
EXAMPLE INDICATOR	Farm profitability as an indicator of economic viability
EXAMPLE METRIC	<u>Average annual farm profit</u> as a <u>percentage</u> of <u>net income</u>



DEVELOP A SUSTAINABILITY REPORT FOR MY REGION
YASS VALLEY LOCAL GOVERNMENT AREA OF NSW
P18. The economic viability of agricultural businesses is protected and enhanced
C49. Agricultural businesses are profitable across varying operating conditions
Farm profitability as an indicator of economic viability
<u>Average annual farm profit</u> as a <u>percentage</u> of <u>net income</u>



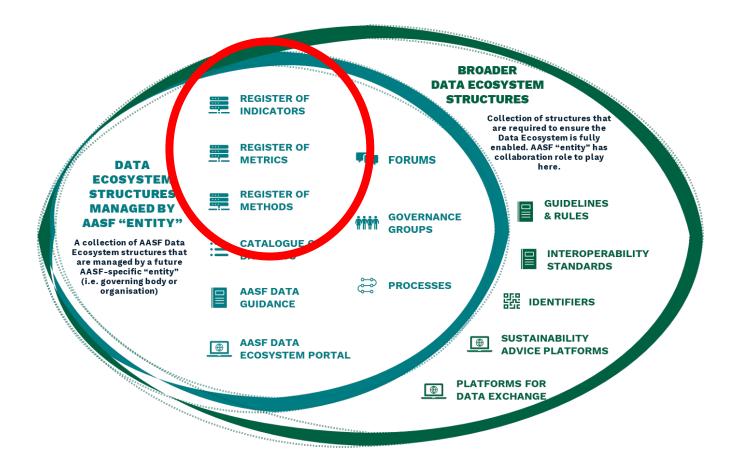
PURPOSE	DEVELOP A SUSTAINABILITY REPORT FOR MY SECTOR
CONTEXT	AUSTRALIAN BEEF SUSTAINABILITY FRAMEWORK
AASF PRINCIPLE	P18. The economic viability of agricultural businesses is protected and enhanced
AASF CRITERIA	C49. Agricultural businesses are profitable across varying operating conditions
EXAMPLE INDICATOR	Farm profitability as an indicator of economic viability
EXAMPLE METRIC	<u>Average annual farm profit</u> as a <u>percentage</u> of <u>net income</u>



PURPOSE	DEVELOP A SUSTAINABILITY REPORT FOR MY PROPERTY
CONTEXT	WOOL GROWER IN SOUTHERN NSW
AASF PRINCIPLE	P18. The economic viability of agricultural businesses is protected and enhanced
AASF CRITERIA	C49. Agricultural businesses are profitable across varying operating conditions
EXAMPLE INDICATOR	Farm profitability as an indicator of economic viability
EXAMPLE METRIC	(Average) annual farm profit as a percentage of net income



Updated Structures



Structure	Description
Register of Indicators	Well governed list of indicators aligned with the AASF Principles and Criteria
Register of Metrics	Well governed list of approved metrics associated with AASF Indicators
Register of Methods	Well governed list of context-specific methods for measuring AASF Metrics
Catalogue of Datasets	Maintained list of datasets (and their locations) that contain data related to specific AASF metrics



IDAC Roles and Responsibilities

Change of Name

IDAC is not an Advisory group and the term 'Council' can be problematic

Suggested alternatives are:

- Indicator, Metrics and Data Committee (IMDC)
- Australian Agricultural Sustainability Metrics Committee (AASMC)
- Indicators and Data Assessment Panel (IDAP)

IDAC Accountabilities

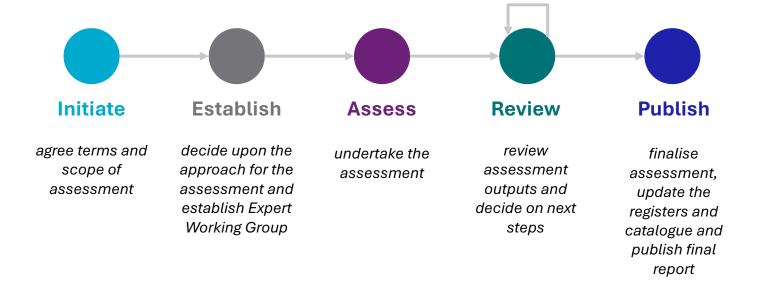
• to be the custodian of the AASF Register of Indicators, Register of Metrics, Register of Methods and the Catalogue of Datasets.

IDAC Responsibilities

- Develop and oversee implementation of the 3-year strategy for the AASF Data Ecosystem
- Undertake 6 monthly reviews of the strategy and adjust as needed
- Review and endorse recommended changes to AASF Data Ecosystem Registers of Indicators, Metrics and Methods, the Catalogue of Datasets, and Guidance materials
- Establish:
 - Expert Working Groups (EWG); and
 - a Sustainability Data Working Group (SDWG)
- Provide advice to the ASA on identified gaps in national datasets and/or tools for which programmes of work may be required

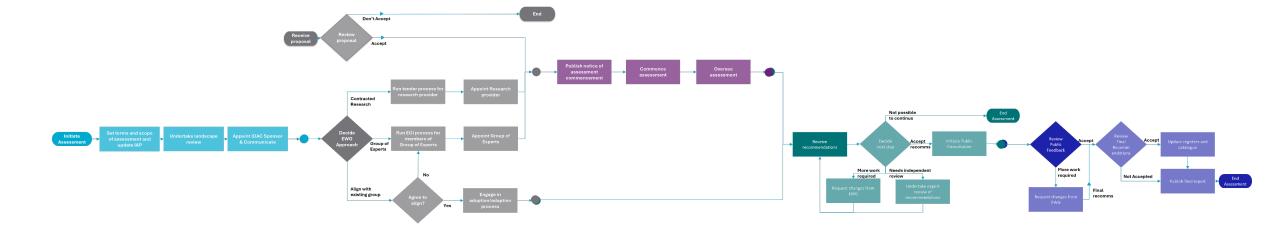


Indicator and Metric Assessment Process



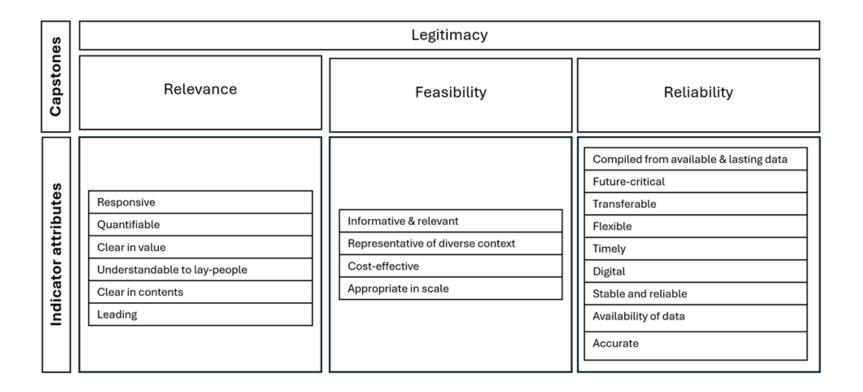


Indicator and Metric Assessment





Indicator and Metric Assessment Protocol



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Expert Working Groups – Roles and Responsibilities

Expert Working Groups can have one of two roles:

- 1. The primary role develop and provide recommendations on changes to the AASF Registers of Indicators, Metrics and Methods and Catalogue of Datasets to IDAC
- 2. Secondary role review recommendations made by other working groups at the request of IDAC.

In all cases, an Expert Working Group (EWG):

- · works within the scope agreed
- is time bound
- is open and transparent
- must consider the needs of all stakeholders
- must provide evidence that they have applied tools/methods
- must respond to feedback/suggestions from IDAC
- will **provide updates** on progress, learnings and outcomes



Expert Working Groups – *Types*

Appointed Groups of Experts

- drawn from a public Expression of Interest process run by IDAC. Members of the group must:
- be representative of:
 - Expert in the field of interest
 - Data collectors those who will be expected to collect data to support the use of the indicator/method
 - Data users those who have an interest in using the indicator and associated data

Aligned Programmes of Work

- existing programmes of work or activities that are seeking to address related or similar subjects as those that IDAC is seeking to address.
- IDAC should reserve the right to appoint a group of experts to review the work of the aligned programme if necessary.

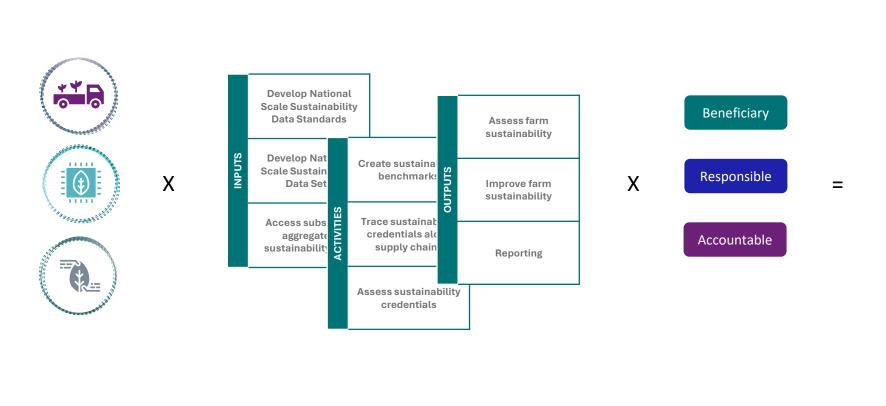
Contracted Research

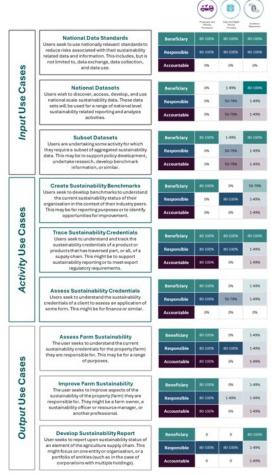
- ASA Alliance entered a contract to complete the work as a research or consultancy activity
- Small number of cases, area is very niche and the expertise required exists within only one or a small number of people, or the work needs to be completed in a short timeframe.

Self-initiated Groups

- Group (of individuals and/or organisations) with an interest in having indicators, metrics, methods and/or datasets added to the AASF Registers and Catalogues and who are prepared to provide recommendations to IDAC for their endorsement.
- It is highly recommended that the work of such groups be reviewed by an Appointed Group of Experts.









Input Use Cases







Producers and Primary Processors Data and Digital Service Providers

Evidence Requestors

Beneficiary	80-100%	80-100%	80-100%	
Responsible	80-100%	80-100%	80-100%	
Accountable	0%	0%	0%	

Beneficiary	0%	1-49%	80-100%
Responsible	0%	50-79%	1-49%
Accountable	0%	50-79%	1-49%

Beneficiary 80-100% 1-49% 80-100% Responsible 0% 50-79% 1-49% Accountable 0% 50-79% 1-49%

National Data Standards

Users seek to use nationally relevant standards to reduce risks associated with their sustainability related data and information. This includes, but is not limited to, data exchange, data collection, and data use.

National Datasets

Users wish to discover, access, develop, and use national scale sustainability data. These data sets will be used for a range of national level sustainability related reporting and analysis activities.

Subset Datasets

Users are undertaking some activity for which they require a subset of aggregated sustainability data. This may be to support policy development, undertake research, develop benchmark information, or similar.



Activity Use Cases

Create Sustainability Benchmarks

Users seek to develop benchmarks to understand the current sustainability status of their organisation in the context of their industry peers. This may be for reporting purposes or to identify opportunities for improvement.

Trace Sustainability Credentials

Users seek to understand and track the sustainability credentials of a product or products that has traversed part, or all, of a supply chain. This might be to support sustainability reporting or to meet export regulatory requirements.

Assess Sustainability Credentials

Users seek to understand the sustainability credentials of a client to assess an application of some form. This might be for finance or similar.

	Producers and Primary Processors	Data and Digital Service Providers	Evidence Requestors
Beneficiary	80-100%	0%	50-79%
Responsible	υ%	80-100%	1-49%
Accountable	0%	2%	1-49%
Beneficiary	80-100%	80-100%	80-100%
Responsible	80-100%	80-100%	1-49%
Accountable	80-100%	0%	1-49%
Beneficiary	80-100%	0%	1-49%
Responsible	80-100%	50-79%	1-49%

0%

Accountable



0%

0%

utput Use Cases

Assess Farm Sustainability

The user seeks to understand the current sustainability credentials for the property (farm) they are responsible for. This may be for a range of purposes.

Improve Farm Sustainability

The user seeks to improve aspects of the sustainability of the property (farm) they are responsible for. They might be a farm owner, a sustainability officer or resource manager, or another professional.

Develop Sustainability Report

User seeks to report upon sustainability status of an element of the agriculture supply chain. This might focus on one entity or organisation, or a portfolio of entities (such as in the case of corporations with multiple holdings).



Producers and

Primary



Data and Digital

Service

Providers



Evidence

Requestors

		Tiovideis	
Beneficiary	80-100%	0%	1-49%
Responsible	80-100%	80-100%	1-49%
Accountable	80-100%	0%	1-49%

Beneficiary	80-100%	0%	1-49%
Responsible	80-100%	1-49%	1-49%
Accountable	80-100%	0%	1-49%

Beneficiary	0	0	80-100%
Responsible	80-100%	80-100%	1-49%
Accountable	0	0	1-49%



Next time ...





As Australia's national science agency and innovation catalyst, CSIRO is solving the greatest challenges through innovative science and technology.

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For further information

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