



Australia's National Science Agency

Using the AASF to underpin sustainability research at Chiswick

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“Chiswick” commercial farm

- Commercial farm since 1949 supporting CSIRO’s research
- ~1,500 ha south of Armidale
- Enables trials from experimental to commercial scale
- Fine wool Merino sheep and performance recorded Angus cattle



Sustainable Chiswick Project







A **test bed** for innovation and **demonstrator** of temperate livestock system sustainability;

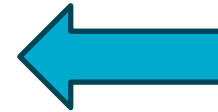
- Environmental Sustainability
- Social Sustainability
- Economic Sustainability

Develop as a **place-based** case study & embed **co-design** into the values and workflow





23 activities focused around 6 priorities themes

Sustainable Landscapes	Derisked Diversification	Animals Demystified	Data with Purpose	Indicators	Community Connected
<p>Trees</p> <p>Strategic improvement of tree-coverage on-farm</p>	<p>Microalgae</p> <p>Scoping & in vitro assessment of microalgae production</p>	<p>Welfare benchmarking</p> <p>Best welfare practices + on-farm welfare benchmarking /reporting</p>	<p>Data focus</p> <p>Prioritisation of existing data sources and user-required information</p>	<p>Linking Sustainability frameworks</p> <p>Linking of Chiswick project activities to sustainability outcomes aligned with sustainability frameworks</p>	<p>Chiswick as a partner</p> <p>relationships and partnerships with researchers, entrepreneurs, farmers, extension, funders, and Aboriginal communities</p>
<p>Soil</p> <p>Improved soil health & groundwater balance through natural capital interventions</p>	<p>Macropods</p> <p>Viability of macropod production as a uniquely Australian diversification option</p>	<p>Animal welfare indicators</p> <p>Novel tools for quantification of animal experiences</p>	<p>Sensors</p> <p>Instalment of new sensors (LiDAR, camera, electrode) towards demo PoC</p>	<p>The right indicators</p> <p>Testing and assessment of sustainability indicators on-farm</p>	<p>Indigenous-led research</p> <p>Transformative opportunities at the intersection of Indigenous knowledge systems, contemporary science & ag</p>
<p>NC Indicator</p> <p>development for soil health, fauna biodiversity, water</p>	<p>Circular economy modelling</p> <p>Pathway for pre-farm gate circular economy modelling</p>	<p>On-animal sensors</p> <p>egrazor collars, deployment of Ceres tags and data integration with other data</p>	<p>Dashboarding</p> <p>Expandable dashboard and data integration system</p>	<p>From paddock to plate</p> <p>Identifying the traceability pathway for livestock through isotopes</p>	<p>Two-way learning</p> <p>Leading, listening, and linking - Amplify and extend the impact of the R&D</p>
			<p>Connection & Prediction</p> <p>Scoping for integration of data flows into predictive models</p>	<p>Digital infrastructure</p> <p>Create supply chain connectivity through interoperable on-farm</p>	

Sustainable Chiswick Project Day in November helped to map the R&D activities to the AASF



23 activities focused around 6 priorities themes

Sustainable Landscapes	Diversified Diversification	Animals Diversified	Data with Purpose	Indicators	Community Connected
Trees Shading, microclimate and soil temperature	Microlgae Microalgae for animal feed and soil health	Welfare benchmarking Soil health metrics for farm systems benchmarking	Data focus Precision agriculture, sensor data, animal health data	Linking Sustainability Frameworks Integrating sustainability frameworks and data to inform decision-making	Chiswick as a partner Collaborative research and innovation with industry, academia and government
Soil Soil health, carbon sequestration, nutrient cycling	Microspores Microspores for soil health and animal health	Animal welfare indicators New tools for early detection of animal welfare issues	Sensors Precision agriculture, animal health, environmental sensors	The right indicators Tools and processes to assist in the design of farm indicators	Indigenous-led research Traditional knowledge and expertise in sustainable farming practices
NC Indicator development New indicators for soil health, carbon sequestration	Circular economy modelling Modelling the circular economy in agriculture	On animal sensors On-farm sensors for animal health and welfare	Dashboarding Data visualization tools for farm management	From paddock to plate Linking farm production to consumer demand	Two-way learning Learning from industry and academia to improve research and innovation
			Connection & Prediction Data-driven decision-making for farm management	Digital infrastructure Cloud-based data storage and analysis for farm management	

Version 5

Chiswick – Use case for AASF

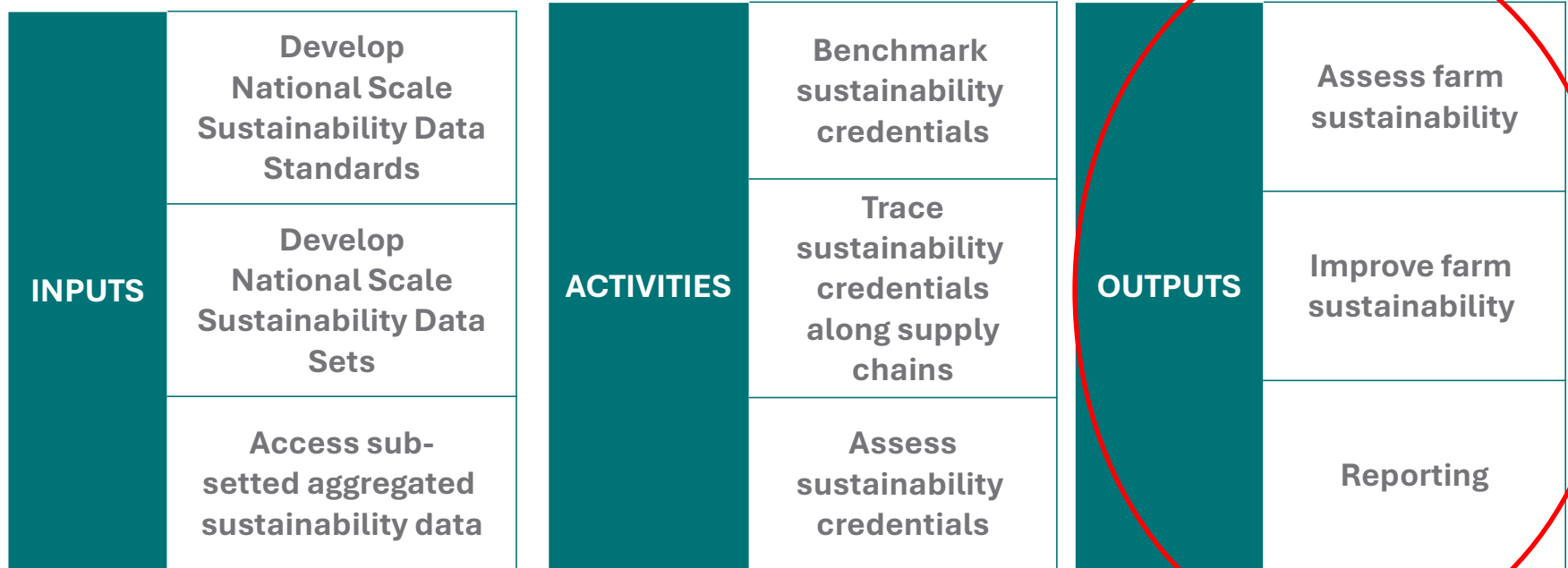


WHY AND WHAT TO MEASURE TO COMMUNICATE THE CHISWICK SUSTAINABILITY STORY

WHAT ARE THE EMERGING R&D NEEDS TO COMMUNICATE SUSTAINABILITY PROGRESS



Purpose - Chiswick use case



Chiswick Stakeholder group & Persona



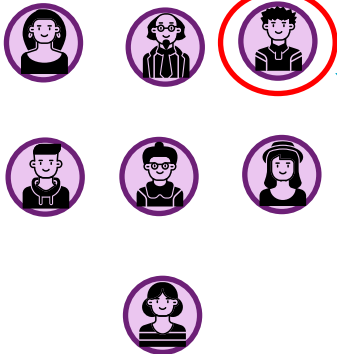
Primary Producers and Processors



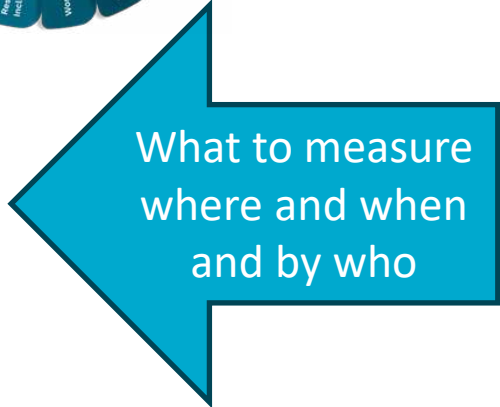
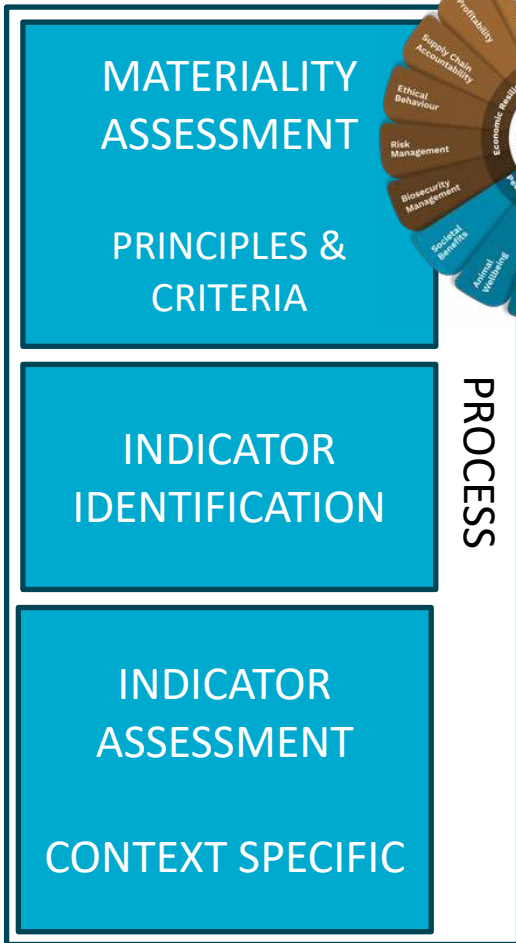
Data and Digital Service Providers



Evidence Requestors



Beef and fine wool Merino grazing operation in the New England



INSERT CONTEXT HERE

- Scale
- Geographical location
- System
- Commodity



INDICATOR ASSESSMENT

Capstones	Legitimacy		
	Relevance	Feasibility	Reliability
Indicator attributes	<ul style="list-style-type: none"> Responsive Quantifiable Clear in value Understandable to lay-people Clear in contents Leading 	<ul style="list-style-type: none"> Informative & relevant Representative of diverse context Cost-effective Appropriate in scale 	<ul style="list-style-type: none"> Compiled from available & lasting data Future-critical Transferable Flexible Timely Digital Stable and reliable Availability of data Accurate

Chiswick – Use case for AASF



Guided by the
AASF



Consistent
indicators for
monitoring

Know the
quality of the
indicators

Guiding the
needs for
R&D

Thank you!

If you want to get involved – please get in touch

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