

A co-designed and outcomes-based impact assessment model

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4:30-6:00pm

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THE APPROACH

1. Policy strategy/origin of the plan
 2. Co-designed by engaging with stakeholders from the beginning
 3. The Agriculture Energy Investment Plan
 4. Co-design learnings
 5. Case studies on the various challenges and areas for further research and discussion with agricultural community
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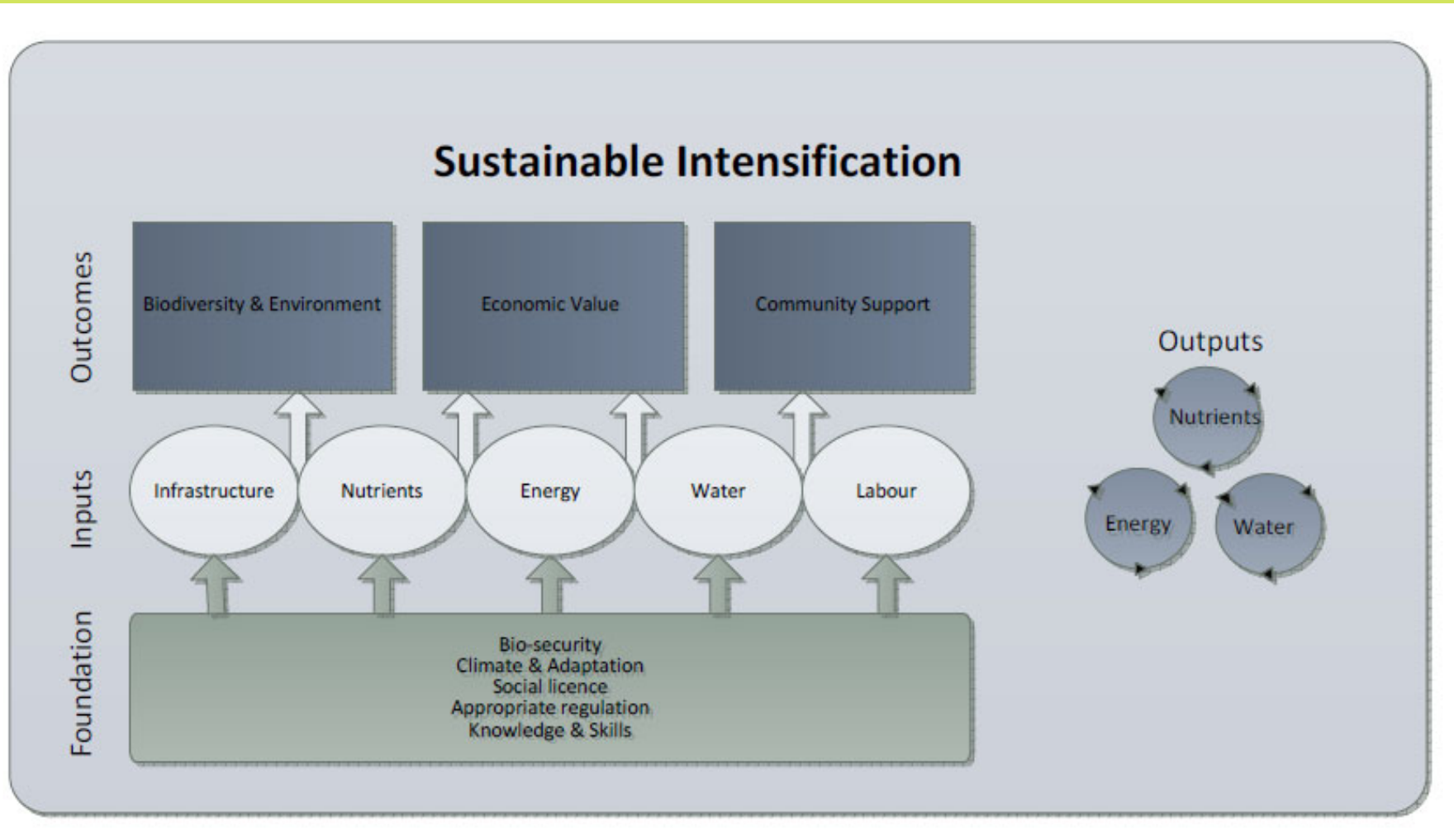
SUSTAINABLE INTENSIFICATION OF AGRICULTURE

VISION STATEMENT

Sustainable intensification of agriculture, is increasing productivity from the same area of land while reducing environmental impacts, maintaining social licence to operate and maximising the value of key agricultural assets, including land, soil, water, energy and infrastructure, across agriculture industries for Victoria.

Source: Definition developed from a range of sources including Food and Agriculture Organisation (FAO) of the United Nations, CSIRO, Primary Industries Climate Challenges Centre (PICCC)

SUSTAINABLE INTENSIFICATION OF AGRICULTURE



PRINCIPLES FOR SUSTAINABLE INTENSIFICATION OF AGRICULTURE

Good governance and a culture of improvement and promoting best practice

Environmental responsibility

Access to knowledge skills , innovation and technology

Creating economic viability (including value from waste)

Promoting and regulating the humane treatment of animals

Engaged and thriving communities

Support research to enable a sound evidence base for decision-making

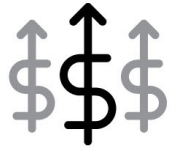
Support the creation of linkages between water, soil, energy, waste, climate, biodiversity and agriculture strategies

SURVEY OF FARMERS: OUTCOMES

What are the main energy-related concerns for farmers?

Cost

of energy was the number one concern



for 75% of gas users,
66% of diesel users,
and 59% of electricity users

Reliability

was also a concern



for 35% of electricity users
and 21% of diesel users

What are the biggest barriers to decreasing on-farm energy costs?

73.5%



High
up-front cost
of investment

63.2%



Low return
on investment

31.8%



Unsure of how
to choose
appropriate
technologies

28.2%



Technology
changes too
quickly

27.7%



Unsure of how
to implement
appropriate
technologies

10.1%



Need to see
others in
my industry
succeed first

8.1%



Lack of
interest

OUTCOMES OF THE SURVEY

Who is using back-up energy supplies?

55%

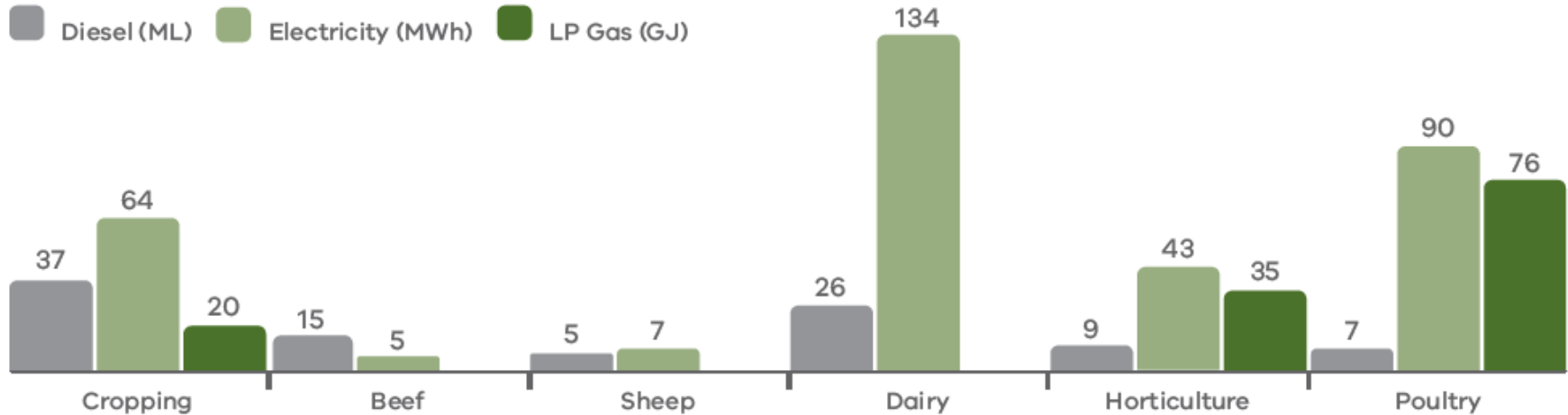
of farmers have **back up energy supply** in place

40%+

of farmers generate some renewable energy on-farm

What was the average energy use in 2016-17, by farm type and energy type?

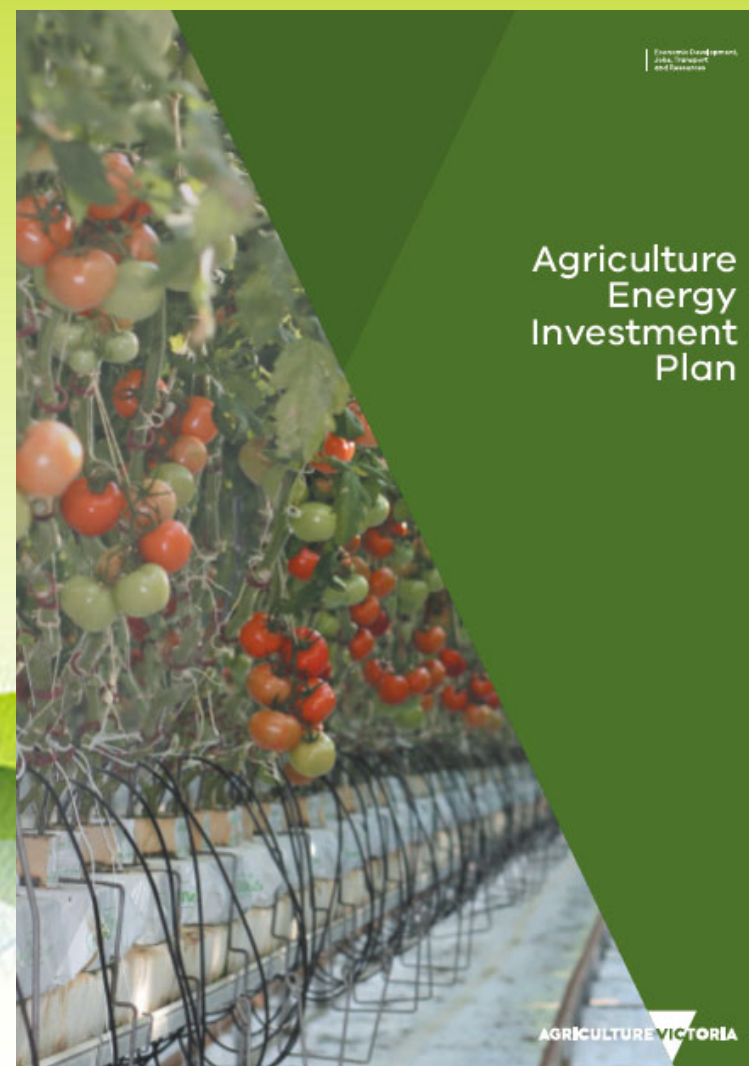
■ Diesel (ML) ■ Electricity (MWh) ■ LP Gas (GJ)



AGRICULTURE ENERGY INVESTMENT PLAN

The investment plan consists of five actions to support primary producers to improve their energy productivity in response to rising energy prices:

1. Assessments
2. Grants
3. Demonstrations
4. Skills and education
5. Research



AGRICULTURE ENERGY INVESTMENT PLAN

On-farm Energy Assessments

1. Assessors attend and inspect each farm
2. An assessment report is tailored to the individual farmer's needs
3. It provides realistic and usable recommendations
4. Provides a catalyst to change on-farm behaviours / processes for energy use
5. Provides a roadmap for farmers to improve their on-farm energy productivity
6. Makes energy management easier for the farmers
7. Provides farmers access to the grants program, if they wish
8. Provides Government and industry groups a better understanding of energy needs by farm sector

AGRICULTURE ENERGY INVESTMENT PLAN - UPTAKE

1. Over 490 farm energy assessments have now been conducted
2. 40 applications for Tier 1 - up to \$50k
3. 5 for Tier 2 – \$50k to \$250k
4. 3 for Tier 3 - \$250k to \$1 million

Definition: Energy productivity is achieved by doubling the value created from commodities by halving the amount of energy use without increasing GDP

- * Facilitating conversations with network providers to improve energy flexibility
- key to resilience

CO-DESIGN – LEARNINGS

Purpose: Early engagement and planned intermittent sense-checking with stakeholders

1. Develop focused principles for outcomes
2. Provide the energy investment framework to stakeholders for **FREE**
3. Communicate findings on impacts for each sub-sector
4. Offer advice on non-cost and low-cost energy saving solutions, as well as scale appropriate clean generation and storage

CO-DESIGN LEARNINGS

1. Evolve and refine the approach as consistent responses for 'like for like' industries were identified e.g. dairy varied in scale and type of production system
2. Determine where value-add social licence benefits were identified for the farmer – built into assessment criteria
3. Introduce webinars and other communications opportunities for regions and sub-sectors to establish a community of practice



INCLUSIVE ENERGY/AGRICULTURE TRANSITION AND TRANSFORMATION

ROOFTOP NATIVE FOOD GARDEN, SYDNEY 'EDIBLE, MEDICINAL OR CULTURAL'



1. Engaging the urban
2. Ensuring culture is represented by authentic owners – only 3% indigenous owners
3. Diverse nature of food and purpose to engage well-being, nourishment and understanding other cultures through food

CASE STUDY – NETHERLANDS – SUSTAINABLE FARMING REVOLUTION



the planet must produce "more food in the next four decades than all farmers in history have harvested over the past 8,000 years."



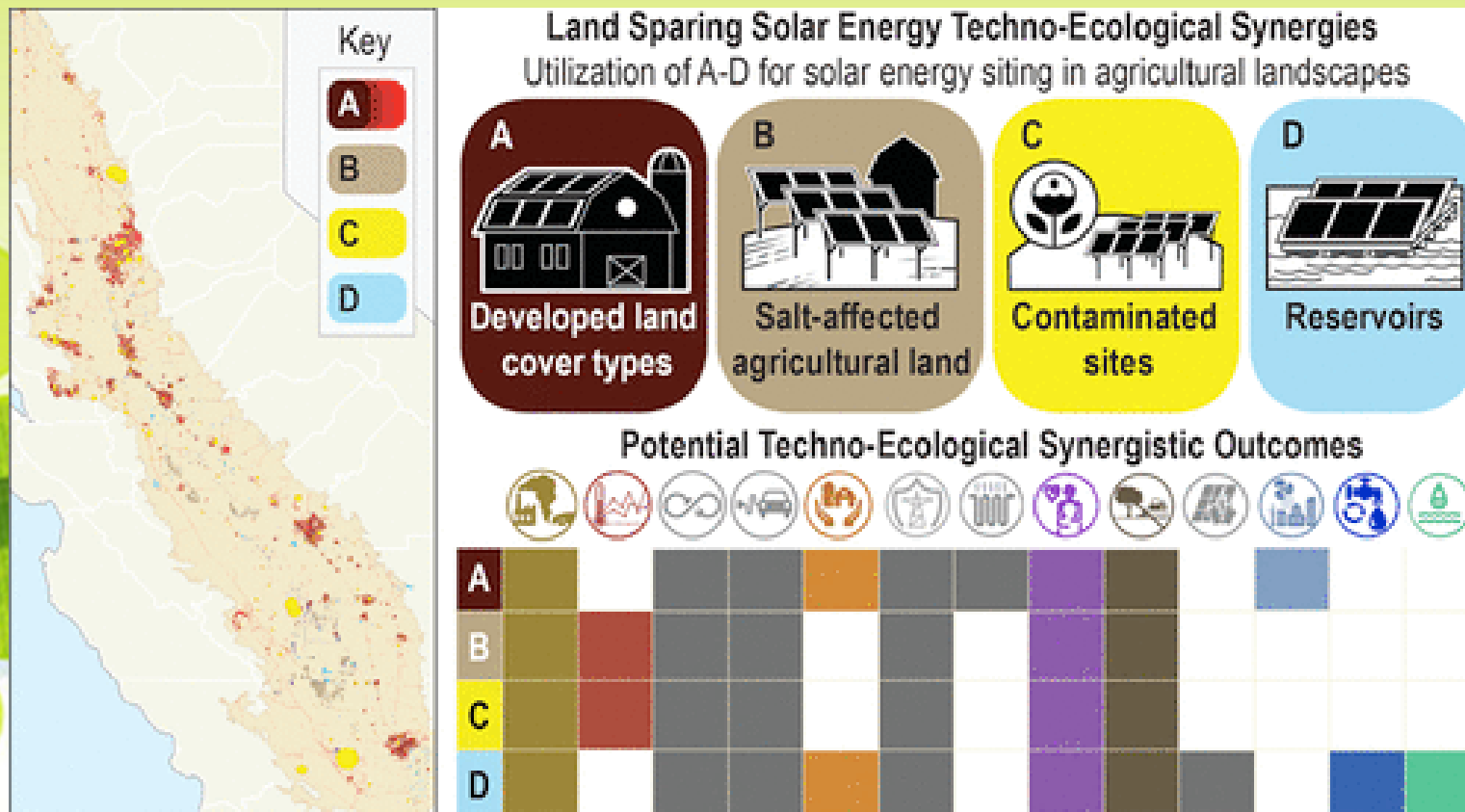
DUAL LAND USE - JAPAN, MUSHROOMS



<https://www.fastcompany.com/40469425/these-solar-farms-have-a-secret-hiding-under-them-mushrooms>

REVIEWING LAND USE OPPORTUNITIES, THE SITING OF RENEWABLE ENERGY PROJECTS TO IMPROVE SOCIAL LICENCE OUTCOMES

California identified four types of unconventional renewable energy siting options:



RESILIENCE OVER TIME IS BECOMING A PRIORITY OVER SHORT TERM PROFIT

"My best years over there [Victoria] were higher than here," he said.

"There were good years, but there weren't enough of those good years."

"Here the milk price hasn't been great the last few years, but I can see us consistently doing a 4-7% return on capital, which to me is much better than a boom and bust situation."

<https://www.abc.net.au/news/rural/2018-10-08/southern-migration-for-dairy-farmers/10348882>



Environment



A FEW RECENT HIGHLIGHTS



20%

Reduction in paper usage from 2015 baseline



\$55b

Committed to environmental financing by 2025 to help address climate change.



54%

Of waste diverted from landfill.



1st

Bank to issue a Climate Bonds Standard certified green bond.



Environmental approach

We're committed to understanding and managing the impacts and dependencies of our business on the environment.



Climate change

The impacts of climate change and climate-related policy are having a growing effect on our business, our customers and the communities in which we operate. That's why we're taking action.



Natural value

We're integrating natural capital considerations into our day-to-day decision making and risk assessment processes.



Resource scarcity

We're working towards minimising waste and reducing consumption.

Thank you & Questions?

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