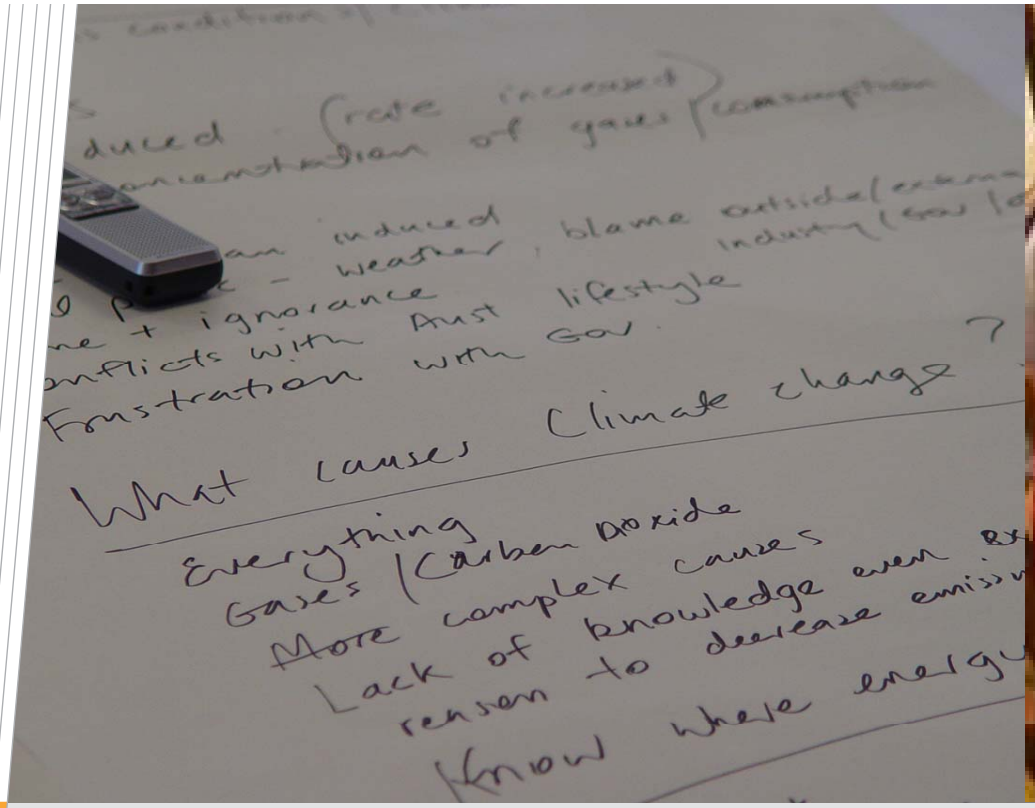

www.csiro.au

Energymark - A vehicle for enabling behaviour change

Changing public perceptions and behaviours using a longitudinal kitchen table approach

Energy Transformed Flagship / Climate Adaptation Flagship

Yasmin van Kasteren and Anne-Maree Dowd
Science into Society Group

UNDERSTANDING RURAL LANDHOLDER RESPONSES TO CLIMATE CHANGE
Monday 18th November, 2009

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Outline

- How does Energymark work?
  - The science
  - The method
- What outcomes has Energymark achieved ?
- How the approach can be adapted to deliver different outcomes?
- Adaptation mark??

The Science Behind Energymark

• is based on the concept that behavioural change requires both **knowledge interventions** (to change attitudes) and **policy interventions** (to incentivise action)

• **Energymark addresses the knowledge intervention stage** in order to influence attitudes, intended and actual behaviours (Figure 1)

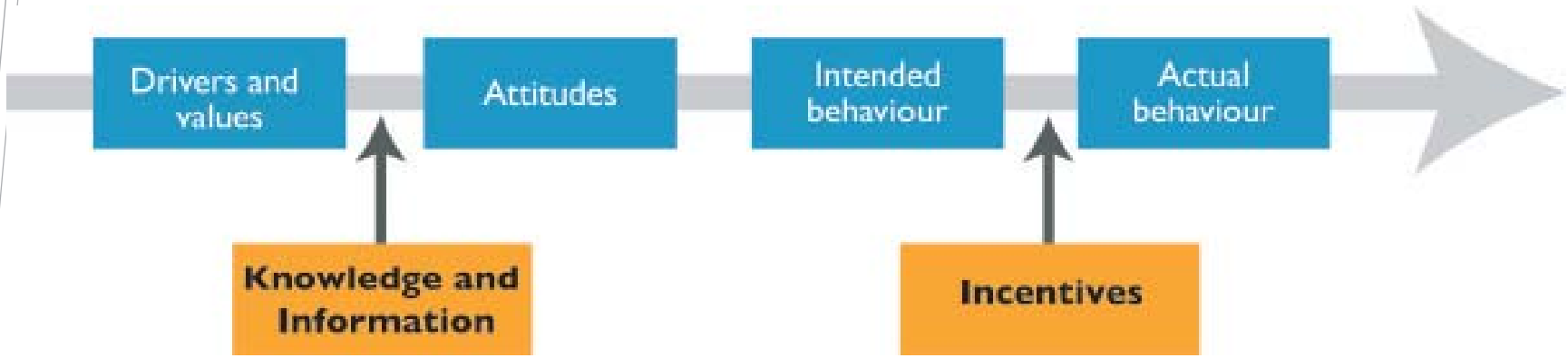


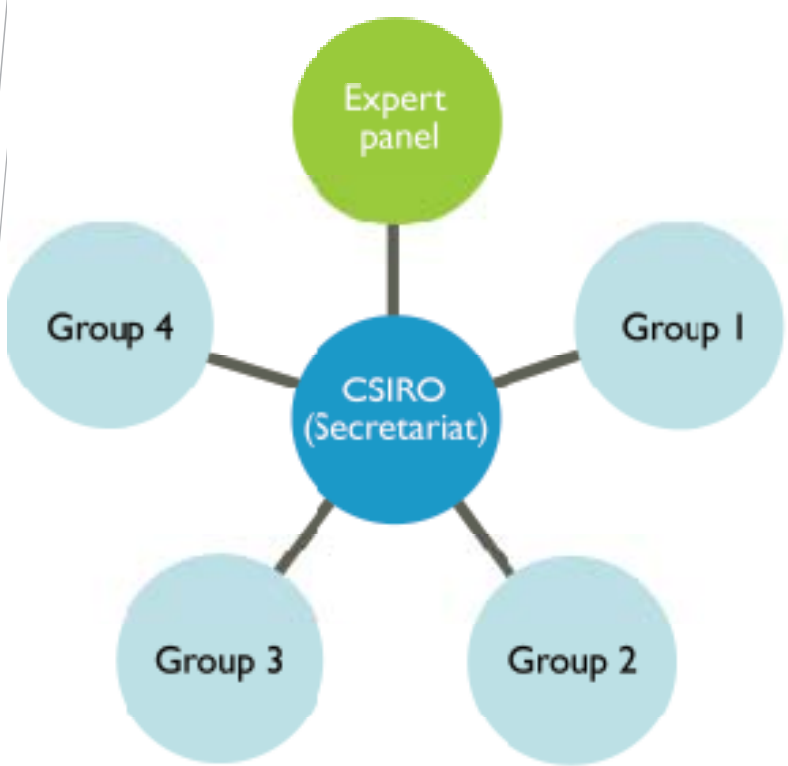
Figure 1: Behavioural change model

Theoretical Framework

- Social identity theory (Tajfel and Turner, 1986)
- Small group dynamics (Campion, 1986)
- Social network theory (Wasserman and Fraust, 1994)
- Cognitive dissonance theory (Oskamp, 2000)
- Theory of planned behaviour (Ajzen, 1989)
- Theory of reasoned action (Ajzen and Fishbein, 1980)
- Theory of consumer uptake and societal acceptance (Niemeyer, 2004)
- Theory of communicative action (Habermas, 1979, 1984)

Energymark – How does it work?

Brings together small groups of people to discuss climate change, energy technologies and behaviour



The Expert Panel

- Defines a standardised topic sequence
- Approves information
- Safeguards process legitimacy

CSIRO (The Secretariat)

- Facilitates questionnaire completion
- Evaluates questionnaire responses
- Provides standardised, balanced information for a sequence of defined topics
- Supports the group convenor
- Evaluate convenor responses

The Group Convenor

- Coordinates discussion group
- Facilitates information flow
- Provides a written summary of each discussion

The group convenor role is crucial to the success of the project

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Why Energymark works Creating Social Change

1. The need to reach people in a **safe environment**; people are anti major Government publicity campaigns, pro kitchen table discussions/workshops

2. Perspectives of participants involved in **deliberative processes** shift as they develop more informed opinions. In many cases this leads to a more positive attitude towards new technologies

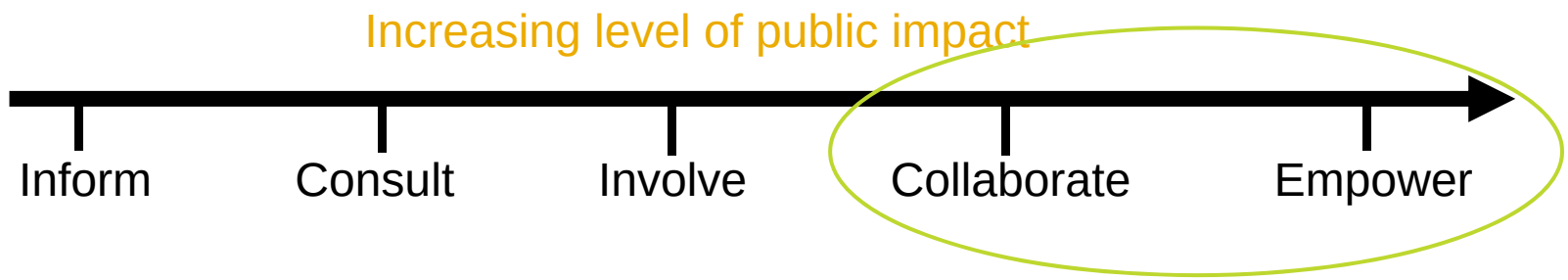
3. **Trust in the messenger** is as significant as the message in shaping public perceptions

4. People want **balanced, accurate information** which is independent and credible

5. A lack of knowledge exists in communities about energy technologies and their relationship to greenhouse gas emissions and there is a clear need and demand for **education at all levels**

6. **Engagement** is a way to develop leaders within the community to move the debate forward

Engagement



THE BIG PICTURE

***Session 1**:* Demystifying climate change

***Session 2**:* Energy and climate change

A PORTFOLIO OF SOLUTIONS

***Session 3**:* Energy technologies (part 1)

***Session 4**:* Energy technologies (part 2)

***Session 5**:* Energy technologies (part 3)

BRINGING IT HOME

***Session 6**:* Addressing energy and climate change in homes

***Session 7**:* Addressing energy and climate change in businesses and community

***Session 8**:* Addressing transportation

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Outcomes

THE HERALD Friday, October 16, 2009 21+

REDUCING THE FOOTPRINT

ENERGYMARK TRIAL RESULTS

Measure	July 08*	July 09*	Difference (%)
Energy	6000kg	3900kg	35%
Waste	3700kg	3100kg	16%
Spending	4700kg	3800kg	19%
Beef consumption	1750kg	1250kg	28.5%
Transport	5500kg	4000kg	27%
Total	**22,000kg**	**16,050kg**	**27%**

*Average annual consumption

Healthy decrease

By **MELISSA LYONS**

A GROUP of Newcastle residents have slashed their carbon footprint by 27 per cent in a trial Energymark program, prompting calls for the initiative to be introduced city-wide.

The 12-month CSIRO program was launched in July helped participants cut energy consumption by 35 per cent.

More use of public transport and drove emissions from transport down 27 per cent.

CSIRO's Peta Ashworth said the program's success was due to one message.

"It made people realise that

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Current Findings

Quantitative Results: Questionnaires

Participants' **mindsets** are increasingly climate friendly as they progress through Energymark. Significant, positive shifts were found on measures of, or relating to, the following:

- Environmental beliefs
- Changes in knowledge (self-rated) of climate change mitigation
- Changes in attitudes toward climate change topics
- Changes in behavioural intentions

Further **information** searches

- The results indicate that on average participants' had sought further information from their colleagues and the internet

Environmental beliefs

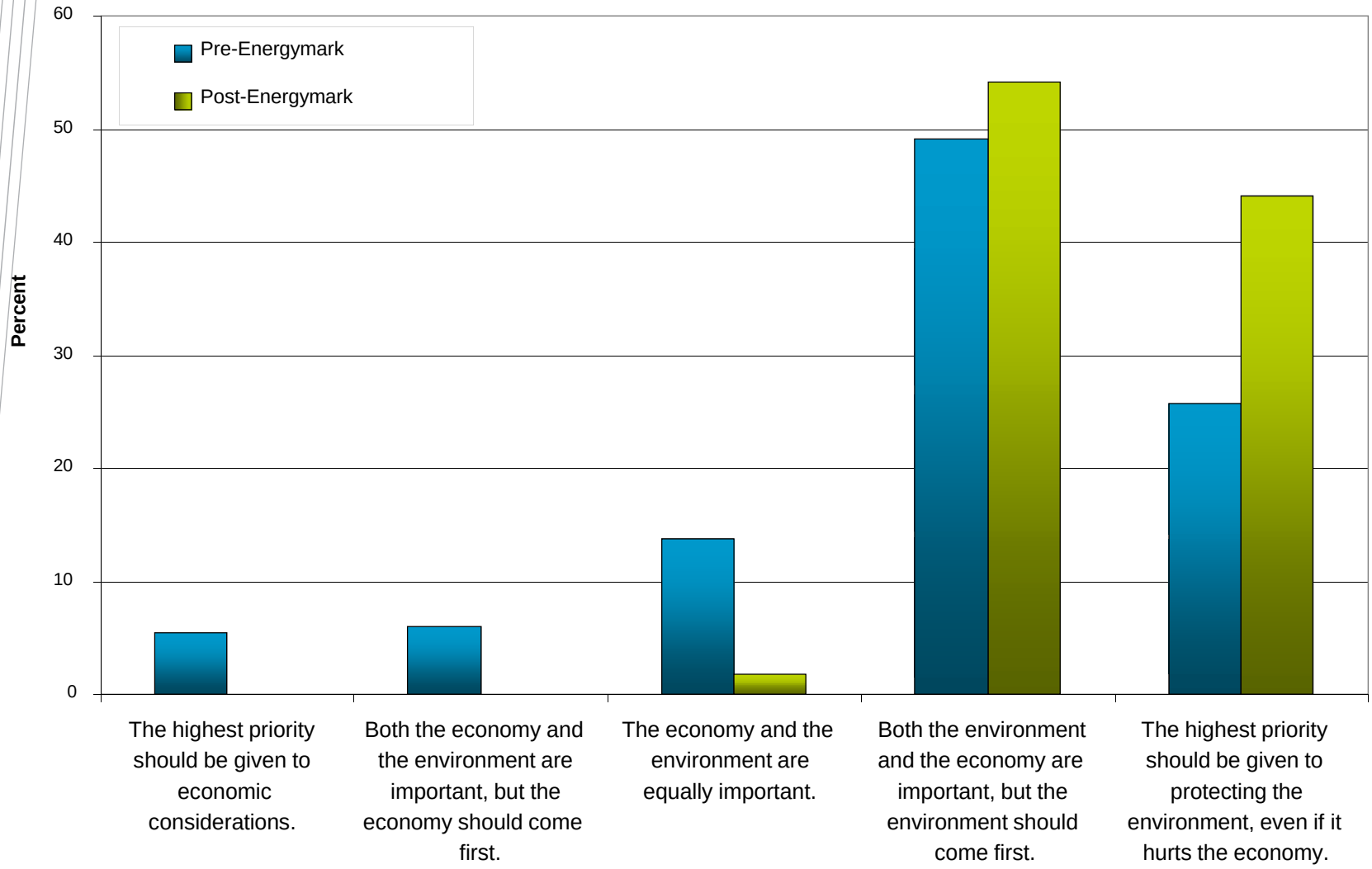

Figure 4. Participants' ratings of the environment and economy

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Changes in knowledge on climate change topics

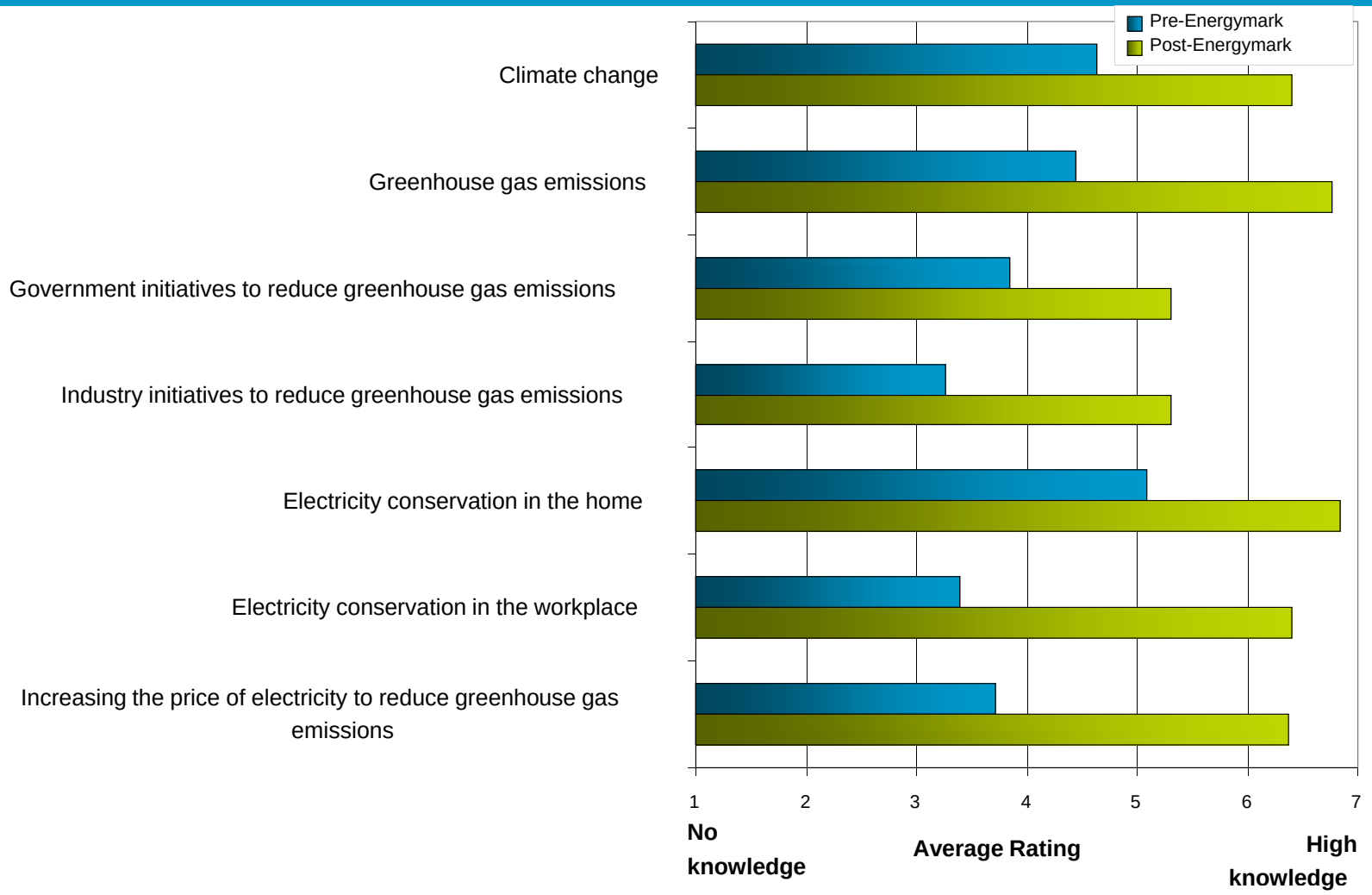

Figure 7. Positive change in average self-rated knowledge of climate change topics

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Changes in behavioural intentions

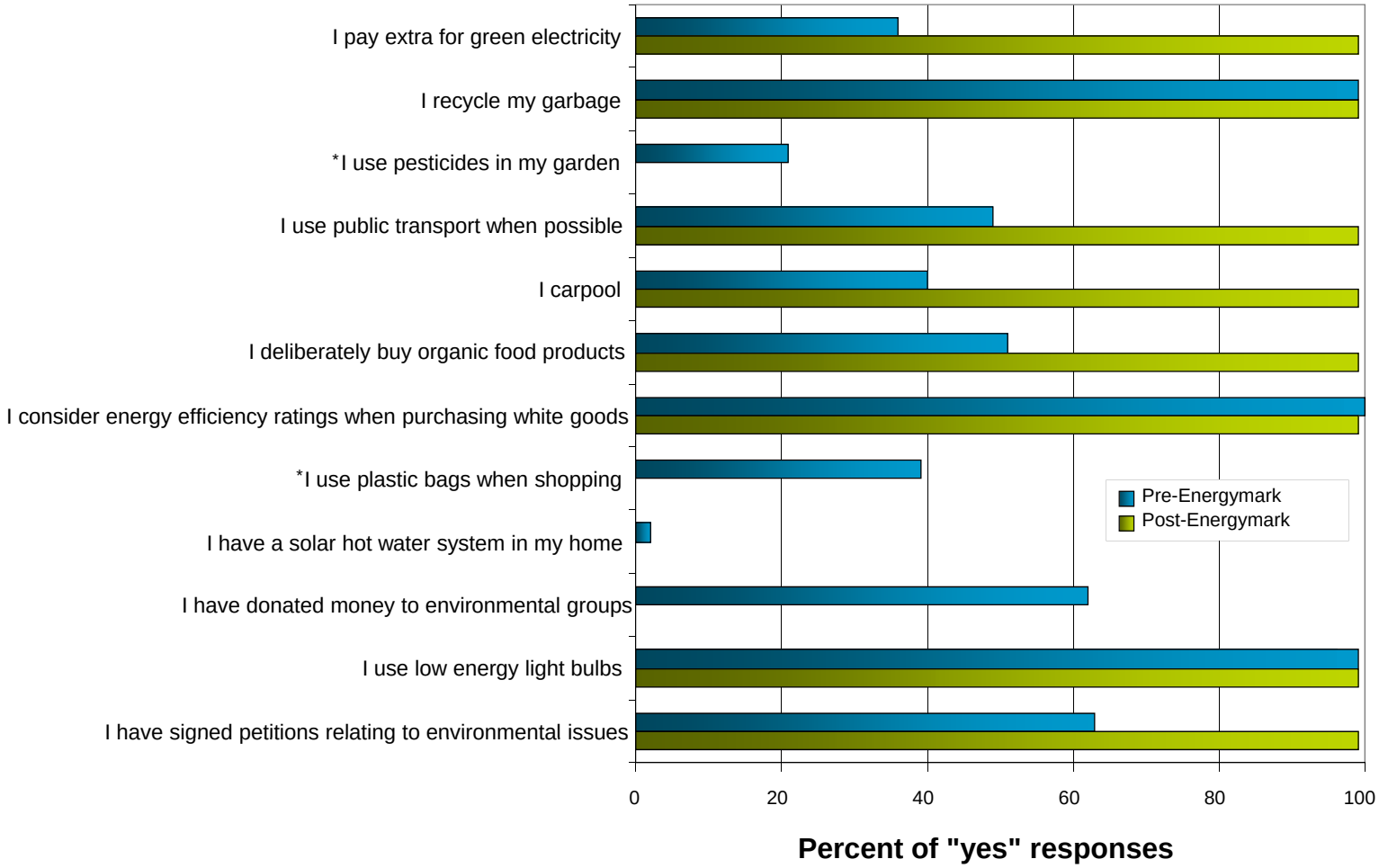

Figure 9. Change in environment and climate friendly behaviours

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Changes in actual behavioural

The carbon footprint measured transport, beef consumption, waste, spending and residential energy

Measures	Time One Data Individual level	Time Two Data Individual level	% Difference
Energy	6 000kg	3 900kg	35%
Waste	3 700kg	3 100kg	16%
Spending	4 700kg	3 800kg	19%
Beef Consumption	1 750kg	1 250kg	28.5%
Transport	5 500kg	4 000kg	27%
TOTAL	**22 000kg**	**16 050**	**27%**

Time One Data		Time Two Data		% Difference
Average **Household** kWh usage reported	Average **Individual** kWh usage reported	Average **Household** kWh usage reported	Average **Individual** kWh usage reported	
14, 420kWh	**5, 768 kWh**	**9, 029 kWh**	**3, 612 kWh**	**37.39%**

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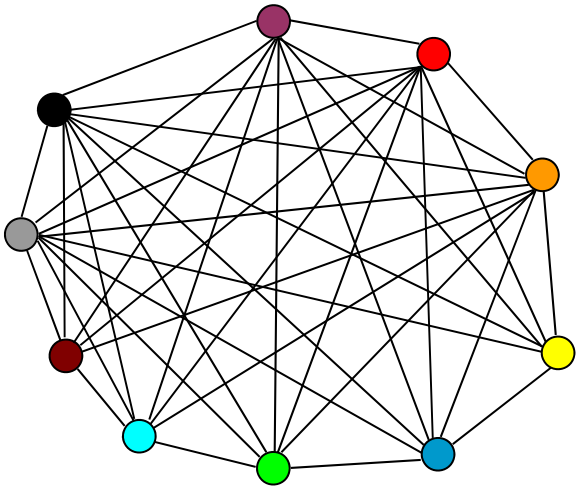
Social Networks

Session 1

(T1)

Quantitative Results: Social Network Analysis

Where does the information go?



At the beginning of the process each node is actively communicating with all the actors in the network

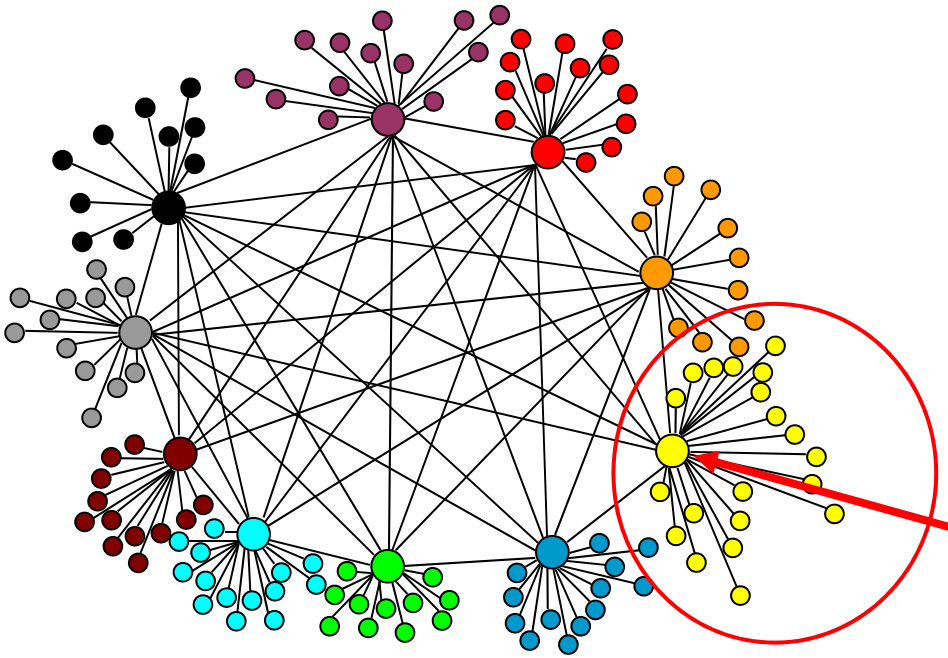
Density = 1

Social Networks

Session 4

(T2)

Quantitative Results: Social Network Analysis



This node has already communicated with 20 actors by the middle of the Energymark process

Useful tool in the quantifying of impact and identifying potential group convenors

By the 4th session, each node has communicated/discussed about Energymark to an ***average of 13 additional actors*** external to their Energymark network

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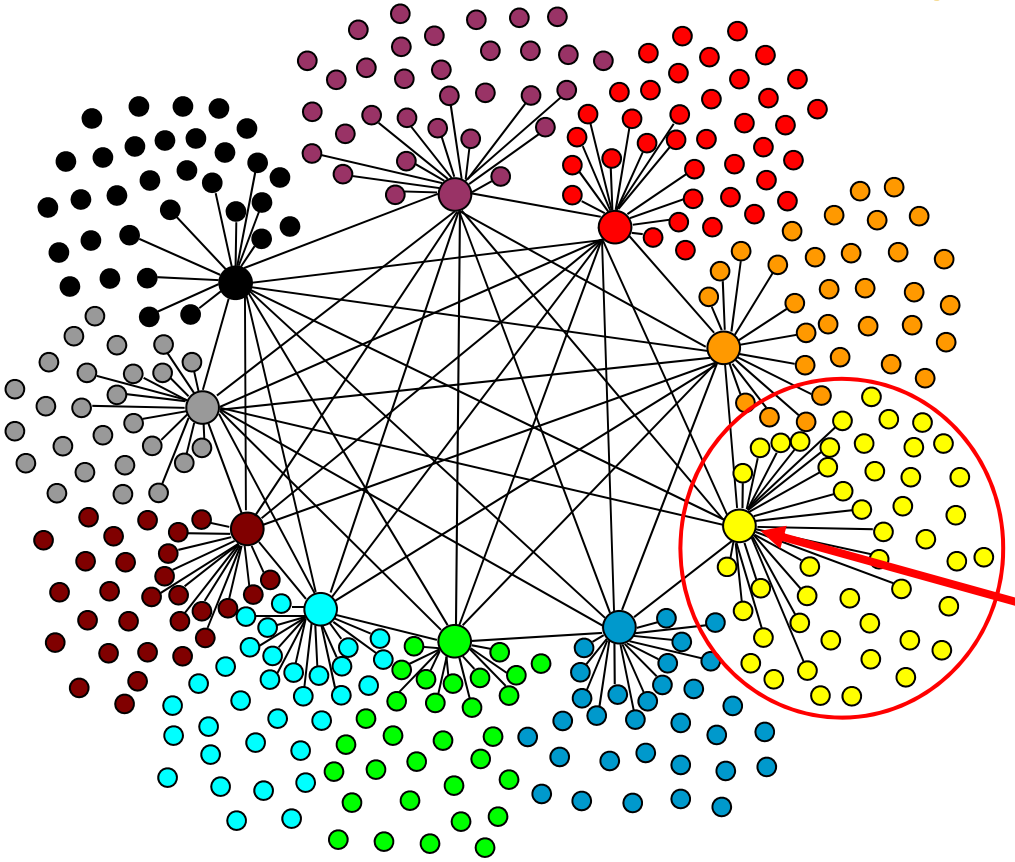
Social Networks

Session 8

(T3)

Quantitative Results: Social Network Analysis



This node has communicated with 45 actors by the end of the Energymark process

By the 8th session, each node has communicated/discussed about Energymark to an ***average of 34 additional actors*** external to their Energymark network

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Future Directions

Energymark

AdaptationMark??

Convenor Workshop + Kitchen Table Format

AdaptationMark – Convenor Workshop

Group Convenors Training Workshop

- What is climate adaptation?
- Climate risks, vulnerability and opportunities
- Climate change trends and projections (provide national, state, and regional projections and scenarios)
- Weather patterns and seasonal climate forecasting systems
- Adaptation options for Coastal and Rural communities
- Tools and support for adaptation (policy, technology, decision making processes and information)
- Agricultural and natural resource management strategies
- Implementing and evaluating an adaptation strategy

AdaptationMark Sessions

Session 1 - What is climate mitigation and adaptation?

Adaptation-mitigation interactions

Adaptation benefits, limits and adoption

Session 2 - Sustainable communities

Community adaptive capacity and governance

Session 3 – Pathways to adaptation

Future vulnerabilities, climates, adaptations and drivers

Session 4 – Managing natural ecosystems

Developing adaptations for threatening processes

AdaptationMark Sessions

Session 5 - Adaptation technologies and practices

Session 6 - Transformation options

Session 7 - Agricultural and natural resource management strategies

Session 8 - Implementing and evaluating an adaptation strategy

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For interest in this project or possible collaboration, please contact:

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Energymark website: www.csiro.au/science/EnergymarkTrial

www.csiro.au

Thank you

Contact Us
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Email: Enquiries@csiro.au **Web:** www.csiro.au

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