

DIGITAL ENERGY FUTURES

Insights for vulnerable
households

Dr Rex Martin

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How will people live in the future?

...with climate change

...with digital and energy technologies

...what will that mean for energy forecasting
and future demand?

Project overview

Research:

- Analysis of industry visions and scenarios
- Ethnography with 72 households
- 10 design ethnographic workshops
- Annual survey to quantify trends

Outputs:

- 5 report
- 2 documentaries
- Online video archive
- Research papers, presentations etc.

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REVIEW OF INDUSTRY TRENDS, VISIONS AND SCENARIOS FOR THE HOME

JUNE 2020

Dr. Karl Dalgleish
Associate Professor Yolande Strongens
Professor Sarah Pink
Dr. Larissa Nicholls
Dr. Jaihan Dadswani



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SCENARIOS FOR FUTURE LIVING 2030/2050

FEBRUARY 2023

Professor Yolande Strongens
Dr. Emma Kavanagh
Dr. Karl Dalgleish
Dr. Hannah Kavanagh
Professor Sarah Pink
Dr. Larissa Nicholls
Dr. Rex Martin

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FUTURE HOME LIFE JULY 2021

Associate Professor Yolande Strongens
Dr. Karl Dalgleish
Dr. Larissa Nicholls
Professor Sarah Pink
Mr. Rex Martin



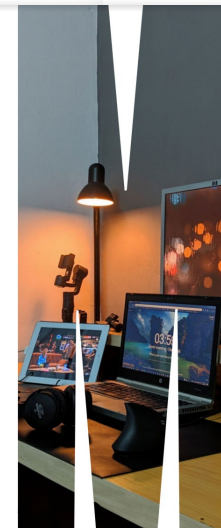
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DEMAND MANAGEMENT OPPORTUNITIES DEC 2021

Dr. Larissa Nicholls
Associate Professor Yolande Strongens
Dr. Karl Dalgleish
Professor Sarah Pink
Mr. Rex Martin

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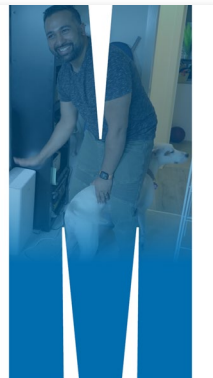
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FORESIGHTS FOR FUTURE LIVING DEC 2022

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Dr. Hannah Kavanagh
Dr. Karl Dalgleish
Professor Yolande Strongens
Mr. Rex Martin
Dr. Hannah Kavanagh
Dr. Larissa Nicholls

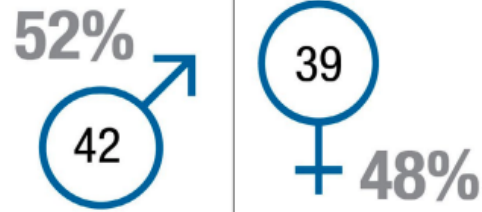
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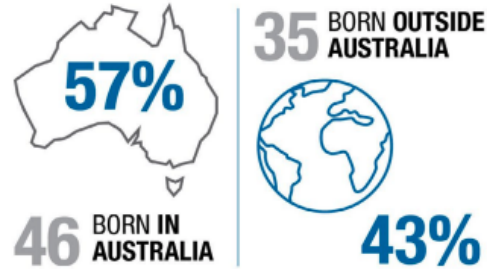


About the participants

GENDER



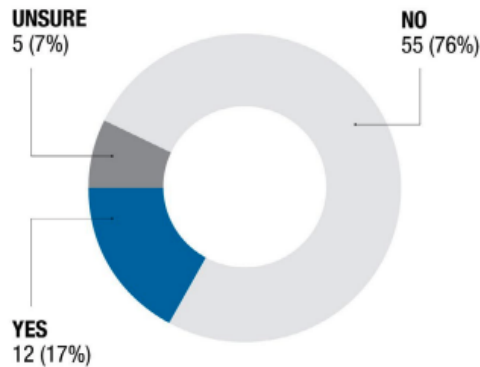
COUNTRY OF BIRTH



Country of birth

UK, Japan, India, Hong Kong, Argentina, Vietnam, China, Taiwan, Spain, Germany, Russia, South Africa, Ukraine, Italy, Pakistan, New Zealand, Mauritius, Chile, Netherlands.

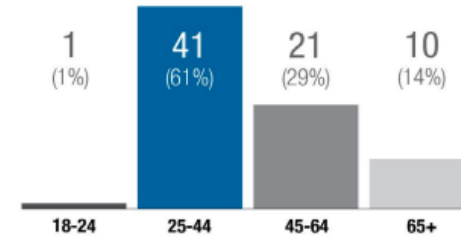
LOW INCOME/ENERGY HARDSHIP



Categorised as low-income/energy vulnerable if:

- Households with children and income less than 80K/year
- Households with concessions on bills (excluding older retired households with income over 40K/year)
- Reported difficulty paying energy bills, or involvement with retailer hardship programs
- In unstable, temporary employment (based on COVID)

AGE BREAKDOWN

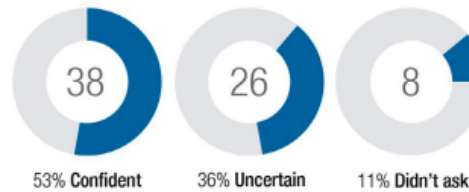


73 of 81 participants provided their age

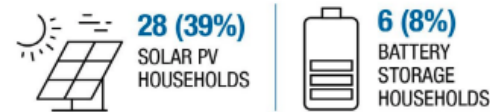
MAIN LANGUAGE SPOKEN AT HOME:



HOUSEHOLD TARIFF AWARENESS



HOUSEHOLDS WITH ENERGY TECHNOLOGIES

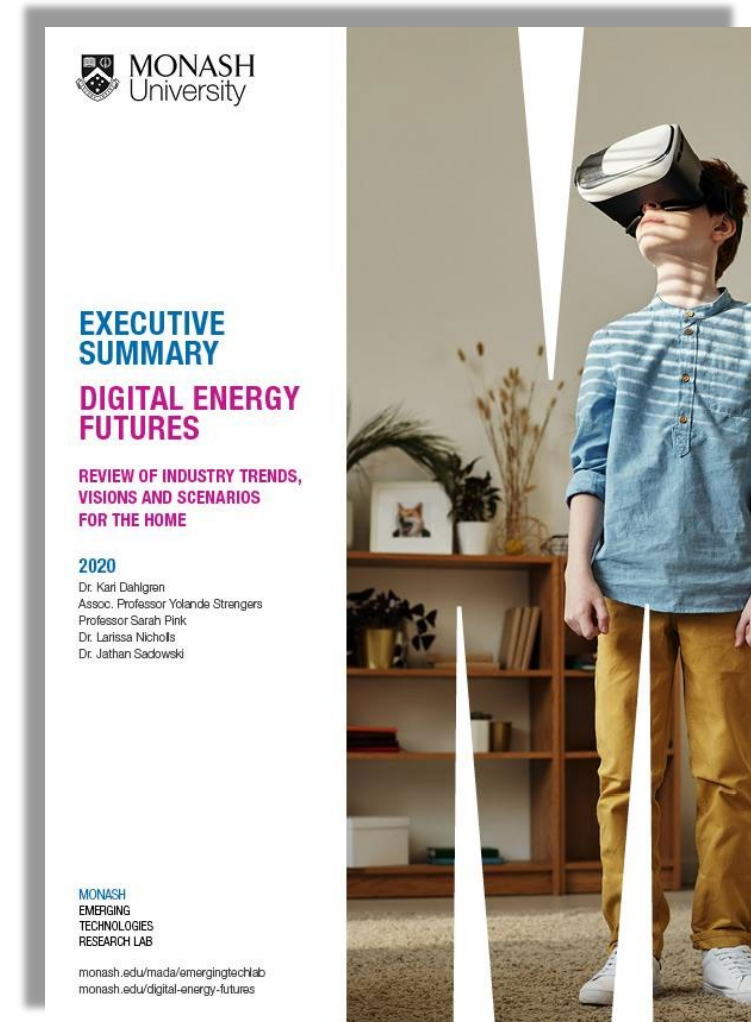


HOME OWNERSHIP



Sector visions of home life and smart tech

- Review of industry reports, visions and scenarios
- Tech sector visions:
 - Entertainment, pleasure and convenience
 - Reduced consumer engagement
- Energy sector visions:
 - Energy efficiency and flexibility
 - Greater consumer engagement



Sector visions of home life and smart tech

- “I bought an air purifier, which arrived right when the bushfires finished [laughs]. But anyway... I just think that air con wouldn't handle [the smoke], basically. So I thought maybe [the air purifier is] just for my health, I guess... It's just on auto mode, so it's pretty much always on. It's like a smart one.” Morgan, Sydney
- Different visions of home life and smart tech represent a challenge for disadvantaged households



Upfront and ongoing costs of smart home tech

- Smart tech often involves significant upfront and ongoing costs, which can be prohibitive for households
- “I’m quite happy with just the internet connection I get with my mobile and tablet... I’ve got solar panels... when I got the solar panels, they said ‘It’s all run by wifi, so you can always have a look at how much energy you use whenever you like’... I’ve never been able to get access to it.” – Mark



Automated smart home tech

- Automation currently based on ‘set and forget’ principles
- Only 6% want their smart devices to be fully automated, but 48% are happy for the device to be automated provided they can override automation if needed (ECBS 2022)
- ‘Set and notify’ a way of ensuring automation is responsive to people’s diverse and changing needs



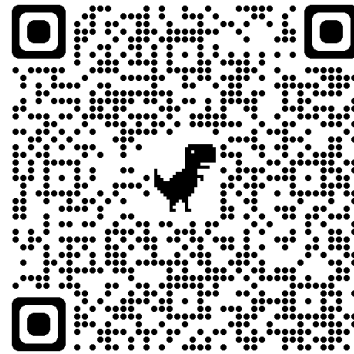
Questions?

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A partnership between:



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SCENARIOS FOR
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Digital Energy Futures

4-year Australian Research Council Linkage project

Monash University

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Partner organisations

Ausgrid: Dr Robert Simpson, Kailin O'Neill, Craig Tupper

AusNet Services: Dr Stephanie Judd, Lucy Holder, Rachael Quigley

Energy Consumers Australia: Lynne Gallagher

Everyday practice domains

Charging & Mobility

Cooking & Eating

Healthy Indoor Air & Thermal Comfort

Living & Play

Working & Studying at Home

Caring for the Home & Occupants

Saving, Shifting & Storing Energy