

# Take Charge

Foresighting Forum 2021

The Digital Series.



**What can we learn from the shocks of 2020  
to build a better energy future?**

# Take Charge

Foresighting Forum 2021

The Digital Series.



# Foresighting Forum 2021 Social Practice and Consumer Behaviour

Online Webinar

Thursday July 1, 10.30am - 12.00pm



**Lynne Gallagher**  
CEO Energy Consumers  
Australia



**Dr Helen Rogers**  
Director, Household  
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Emerging Technologies  
Research Lab, Monash  
University



# Get Involved

Where are the evidence gaps that exist in your role that limit your understanding of consumer behaviour and social practice?

Is there research out there that you know of that can help the energy industry?

**#TakeCharge21**



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Or email us [info@energyconsumersaustralia.com.au](mailto:info@energyconsumersaustralia.com.au)

# Measuring the impacts of COVID-19:

“How the Australian Bureau of Statistics became our secret weapon in the coronavirus pandemic” Peter Martin 2021

Australian Bureau of Statistics  
Informing Australia's important decisions



# Innovation in a time of crisis

- ▶ COVID-19 had major impact on the way people went about their lives
- ▶ From March 2020 the ABS introduced a range of new products to measure the impact of COVID-19 in a timely way
- ▶ There was a need to understand how changes impacted on people and business
- ▶ Worked closely with stakeholders to design

# Innovation in a time of crisis

- ▶ Empowered the organisation to innovate
  - 28 new statistical products, 83 releases as at 31 August 2020
  - Additional analysis of existing information
  - Accelerated exploration of new data sources – enormous goodwill across sectors
  - Collaboration on methodological and data collection challenges
  
- ▶ We paused some elements of our planned forward work program

# New statistical products

- ▶ **Two new rapid response surveys:**
  1. Household Impacts of COVID-19
  2. Survey Business Impacts of COVID-19 Survey
- ▶ **Weekly Payroll Jobs and Wages in Australia**, using ATO Single Touch Payroll data
- ▶ **Preliminary and provisional publications** – retail trade, international trade, overseas travel, mortality
- ▶ **Additional analysis in existing publications** – labour force, overseas arrivals and departures
- ▶ **Interactive maps** - distribution of age and health conditions, persons with a disability, unpaid carers, employment, and housing characteristics
- ▶ **Other outputs** – Businesses in Australia, additional BLADE and MADIP data for data integration projects



# Household Impacts of COVID-19 : context

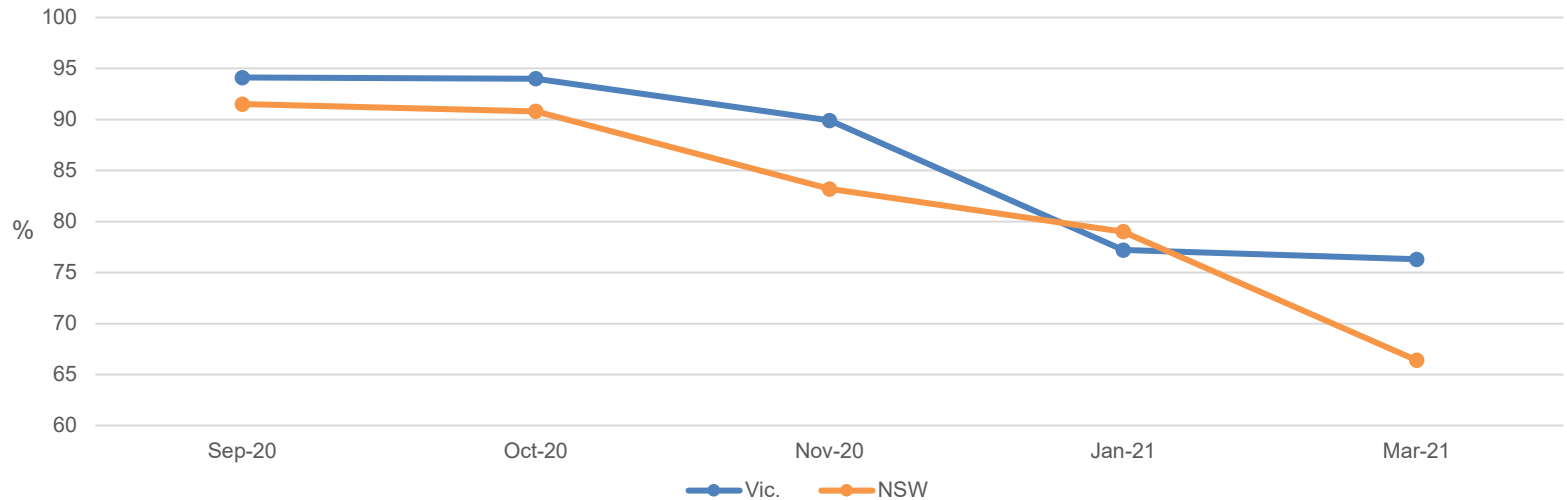
- ▶ First survey March 2020 (national estimates only).
- ▶ During initial lockdown most states and territories had the same restrictions.
- ▶ Restrictions began to ease from mid-May.
- ▶ Victoria had second wave mid-June and another lockdown from August.
- ▶ From September, new survey sample (enabled state and territory comparisons).
- ▶ Restrictions in Victoria began to ease from mid-October.
- ▶ In December, New South Wales identified a Northern Beach cluster and introduced strong restrictions in some areas.
- ▶ In February 2021, Victoria had another 5 day lockdown.



# Precautions - Keeping a physical distance from other people



	Sep-20	Oct-20	Nov-20	Jan-21	Mar-21
Vic.	Stay at home restrictions	Stay at home restrictions	Restrictions easing	Most restrictions eased	Most restrictions eased
NSW	Restrictions easing	Restrictions easing	Most restrictions eased	Restrictions easing	Most restrictions eased



# Activities – Attending social gatherings of more than 10 people



	Sep-20	Oct-20	Dec-20	Feb-21	Apr-21
Vic.	Stay at home restrictions	Stay at home restrictions	Most restrictions eased	5 day Stay at home restrictions	Most restrictions eased
NSW	Restrictions easing	Restrictions easing	Stay at home restrictions	Most restrictions eased	Most restrictions eased



# Activities – Use of public transport



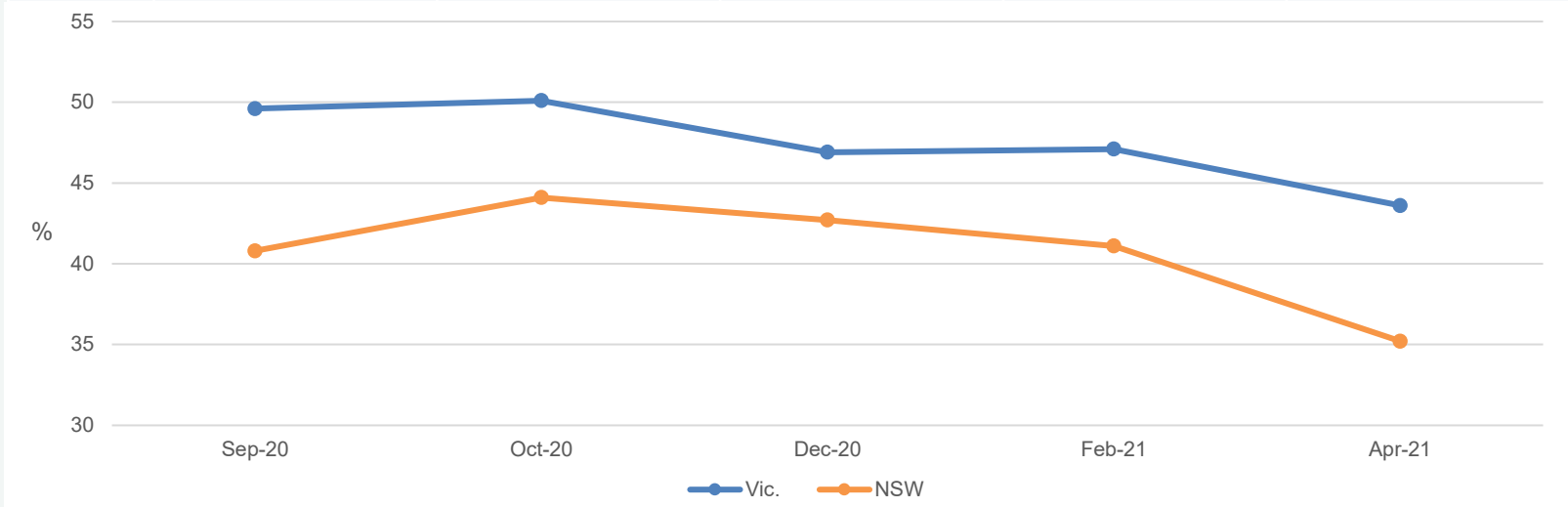
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Vic.	Stay at home restrictions	Stay at home restrictions	Most restrictions eased	5 day Stay at home restrictions	Most restrictions eased
NSW	Restrictions easing	Restrictions easing	Stay at home restrictions	Most restrictions eased	Most restrictions eased



# Activities – Working from home\*



	Sep-20	Oct-20	Dec-20	Feb-21	Apr-21
Vic.	Stay at home restrictions	Stay at home restrictions	Most restrictions eased	5 day Stay at home restrictions	Most restrictions eased
NSW	Restrictions easing	Restrictions easing	Stay at home restrictions	Most restrictions eased	Most restrictions eased



\* Proportion of people with a job at the time of interview.

# How Aussies reacted in a year of COVID-19

## We took COVID-19 precautions

IN APRIL

Kept distance from people



Avoided public spaces

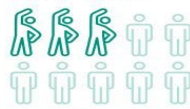


Cancelled personal gatherings



## We focused on our health

3 in 10 Aussies made physical health a priority



## We moved out of the city

11,200 of us moved to regional areas in the September quarter—the largest net loss in 20 years.

## We felt the pinch

IN APRIL 1 in 3 people's household finances worsened



## We panic bought

Especially canned food, pasta, rice and toilet paper



## We loved our pets

35% spent more time with pets



## We worked from home more

compared to before COVID-19



## We felt lonely and overwhelmed

IN EARLY MAY 22% of us were suffering loneliness

IN APRIL 1 in 4 of us felt like everything was an effort



## We had more screen time

44% of us spent more time on phones, computers and watching TV



## Looking ahead...

Most of us will get the vaccine



3 in 4 Aussies said we would get a COVID-19 vaccine

We want some things to continue



1 in 3 want to spend more time with family and friends



1 in 4 want...



- Less environmental impact
- To spend less/save more
- Slower pace of life

- ▶ **Using electricity data to understand COVID-19 impacts Household Impacts of COVID-19 Survey**
  - Analysis of electricity pattern usage in inner Melbourne
  - March/April 2020 saw a significant increase in the proportion of days inner Melbourne residents were using electricity consistently throughout the day
  - Given the timing and comparison to 2019 results, likely changes in usage attributable to COVID-19.
  - Also saw a fall in the business electricity consumption in the Melbourne CBD

# Summary

- ▶ **COVID had a big impact on our lives in Australia**
- ▶ **ABS developed new products to inform on changes in a timely way**
- ▶ **Some changes were short lived (panic buying)**
- ▶ **Some things fluctuated ( e.g. loneliness, anxiety, health management)**
- ▶ **Some things long term (e.g. working from home, moving out of city, public transport use?)**
- **Shock to the system can rapidly change behaviour and these changes can be short lived or permanent.**

# Future Home Life

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**Learning from the shocks of 2020 to build  
a better energy future**

Associate Professor Yolande Strengers  
Dr Kari Dahlgren

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# Digital Energy Futures



- Three-year Australian Research Council Linkage project
  - In partnership with Ausgrid, AusNet Services and ECA

## **Monash University Research Team**

Associate Professor Yolande Strengers; Professor Sarah Pink; Dr Larissa Nicholls; Dr Kari Dahlgren;  
Mr Rex Martin



## How will people live in the future?

...with digital and energy technologies

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

## EVERYDAY PRACTICE DOMAINS



### CHARGING & MOBILITY

electric vehicles; car and ridesharing; automated vehicles; public transport; battery charging; device charging stations battery operated gardening equipment

### COOKING & EATING

multiplication of cooking devices and small appliances; food storage; refrigerators and freezers; smart kettles, coffeemakers and other appliances; meal delivery services



### HEALTHY INDOOR AIR & THERMAL COMFORT

digital and connected heating, ventilation and air conditioning systems; changing expectations of heating and cooling; air purification, dehumidifiers, and diffusers.

### LIVING & PLAY

multiplying or converging devices; livestreaming; home cinemas; video games; virtual and augmented reality; voice assistants and smart home technologies.



### WORKING & STUDYING AT HOME

home-based work and study, home-based businesses and digital collaboration, flexible employment and schedules



### CARING FOR THE HOME & ITS OCCUPANTS

home-based childcare and care of older people; changing trends in assisted living; care for pets; care for home and security systems



### SAVING, SHIFTING, & STORING ENERGY

solar photovoltaics, smart meters, smart plugs and smart appliances, battery storage and automation, energy trading and sharing

— — —

# Review of Industry Trends, Visions and Scenarios for the Home

What might the future home look like if mainstream predictions from the digital technology and energy sectors were to come true?

## DIGITAL ENERGY FUTURES

REVIEW OF INDUSTRY TRENDS,  
VISIONS AND SCENARIOS  
FOR THE HOME

JUNE 2020

Dr. Kari Dahlgren  
Assoc. Professor Yolande Strengers  
Professor Sarah Pink  
Dr. Larissa Nicholls  
Dr. Jathan Sadowski

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## Future Home Life

How do people think their own futures are unfolding, and how are their lives changing with digital and energy technologies?

- 72 households
- 45 trends



# Shocks and changing home life

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- **Bushfires** and smoke
- **Storms** involving flooding and power outages
- **Heatwaves** and very hot days
- **Financial** - sudden unemployment, rapidly rising house prices, recessions
- **COVID-19** pandemic
- **Technologies** - rapid rise of solar PV, AI, automation
- **Economic** - platform and gig economies



# Expecting the home to do more

- Workplace, School, University, Cinema/Gaming space, Construction site, Gym, Hotel, Restaurant...
- Multiple people's (and intergenerational) needs

→ Expansion of 'living space'

→ Bedrooms, attics, garages, sheds, pool cabanas, granny flats, outdoor kitchens, outdoor living rooms, AirBnB...

→ More spaces used, more of the time

→ More heating, more cooling, more devices





— — — “He would be *up in the shed* during the morning and the afternoon; just come down for snacks and lunch and whatever... *got the oil heaters up there* ... But hey-ho, you’ve got to do something. *You can’t sit in the house all the time* ... in the summer, on the hot days, it’s too hot to go up [to the shed]... I think a *reverse cycle* probably... [the idea] keeps popping its little head up more and more often.”

— Marj, 50, regional NSW

# Three disruptions to energy industry visions

Dr Kari Dahlgren



# Air

**Industry visions** of household comfort involve heating and cooling, but we found new emphasis on **healthy and clean air**

- **Humidifiers and dehumidifiers**
  - Health reasons
  - Mold concerns (particularly in rentals)
- **Air purification**
  - 1 in 10 households already
  - Multiple reasons for adoptions





## Air

**Industry visions** assume new smart tech will better manage energy, but air purification shows:

- **‘Smart’ features** not matched to energy pricing signals but air quality measurements
- Potentially a **new ‘necessity’**
- **Multiplication** of devices
- **Filters** installed within existing AC systems could **change usage patterns** and replace evaporative cooling

*“[I bought] **two air purifiers**, a smaller one for here and a bigger one for the lounge room. Obviously, for the **bushfires**... they both have **auto mode, so we just leave them on** ... when it first comes on in the morning out of night mode, it’ll fire up and do a heavy job at cleaning ... [it] glows red and then comes back down to a nice soothing mood, and **everyone feels safer** ... ”*

–Peter, 50, regional NSW

## Care

**Industry visions** pay insufficient attention to how shocks can **change seemingly stable practices**.

Proliferation of digital devices for care (demographics and shocks of COVID-19)

- Adults
  - Home-based healthcare and ageing
  - Multiple devices and continual operation (including critical medical devices)
- Pets
  - Increasing numbers
  - Heating, cooling, and other devices
- COVID-19 hygiene concerns
  - Hot water needs (showering, laundry)



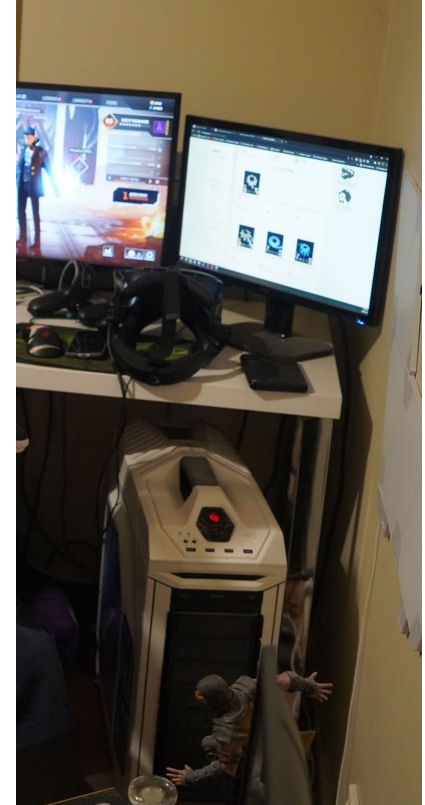
*“[After work] I’m not allowed to touch or talk to the kids [until I shower] ... my wife, she’s very good with the way she set up the rules... **because of COVID**... when the kids are coming [home]... **have a shower**, all the thing has to go in the **washing [machine]**... more **washing up [dishes too]**. We usually ...**wash clothes** like once a week... now it’s about **seven or eight**.”*

–Farooq, 54, outer Melbourne

# Play

**Industry visions** assume that the energy demand of entertainment and digital devices is **small** but there are often **auxiliary devices**

- Multiplication of devices:
  - Often used in separate spaces, with heating and cooling needs
  - Auxiliary devices with unconsidered energy use







*“cause I get bored when I’m ...on the **rowing machine** or the **spin bike** [in my home gym in the garage], we’ve got a little **AppleTV** set up there with a mini **speaker** and a **monitor**.”*

*–Pedro, 45, inner Sydney*

# Diverse and uncertain futures

- Energy hardship and poverty
- Income, employment and housing disparities
- Movement and transition
- Differing access to emerging energy technologies (solar, batteries, EVs)
- Limited affordability and desirability of smart and automated tech

Whose futures aren't being heard?



## Where to next?



- **Emerging trends and principles for Future Home Life** - released next week!
- **Tracking the trends** - ECA Consumer Behaviour Survey
- **Sharing the stories** - Documentary films of households
- **Developing scenarios** - Grounded in everyday life
- **Planning for the future** - Forecasting methodology
- **Demand management innovation**- Load shifting and engagement opportunities



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A partnership between:



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# Question & Answer

Drop your questions to our panelists in the Q&A tab on Zoom

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## **System Resilience**

**Webinar two,  
12 August 2021**

## **System Design**

**Webinar three,  
7 September 2021**



## Let us know

*Share your thoughts on the evidence gaps or relevant research and data that would help to bring about a fairer, cleaner and more cost-effective energy future.*

*Email us at [info@energyconsumersaustralia.com.au](mailto:info@energyconsumersaustralia.com.au) or join in the conversation on LinkedIn, Twitter or Facebook.*

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