



Hard-to-Reach Energy Users

To What Extent Has COVID-19 Impacted Hard-to-Reach Energy Audiences?

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COVID-19 and the HTR

- Many more energy users have now fallen into audience groups often regarded as HTR (e.g. low income, unemployed, vulnerable households, and small businesses)
Mastropietro, P., Rodilla, P. and C. Batlle (2020). Emergency measures to protect energy consumers during the COVID-19 pandemic: A global review and critical analysis. *Energy Research & Social Science* 68.
- Significant economic, health, and social consequences will likely persist
Kanda, W. and P. Kivimaa (2020). What opportunities could the COVID-19 outbreak offer for sustainability transitions research on electricity and mobility? *Energy Research & Social Science* 68: 101666.
- Multiple vulnerabilities, intersections, and challenges – also opportunities?



COVID-19 and the HTR Task

- COVID arrived during Y1 HTR Task – special topic (natural experiment) for the Task to address!
- Each collaborating country undertakes research on their HTR audiences of interest
- Comparison enables us to draw initial insights, integrated with literature review findings

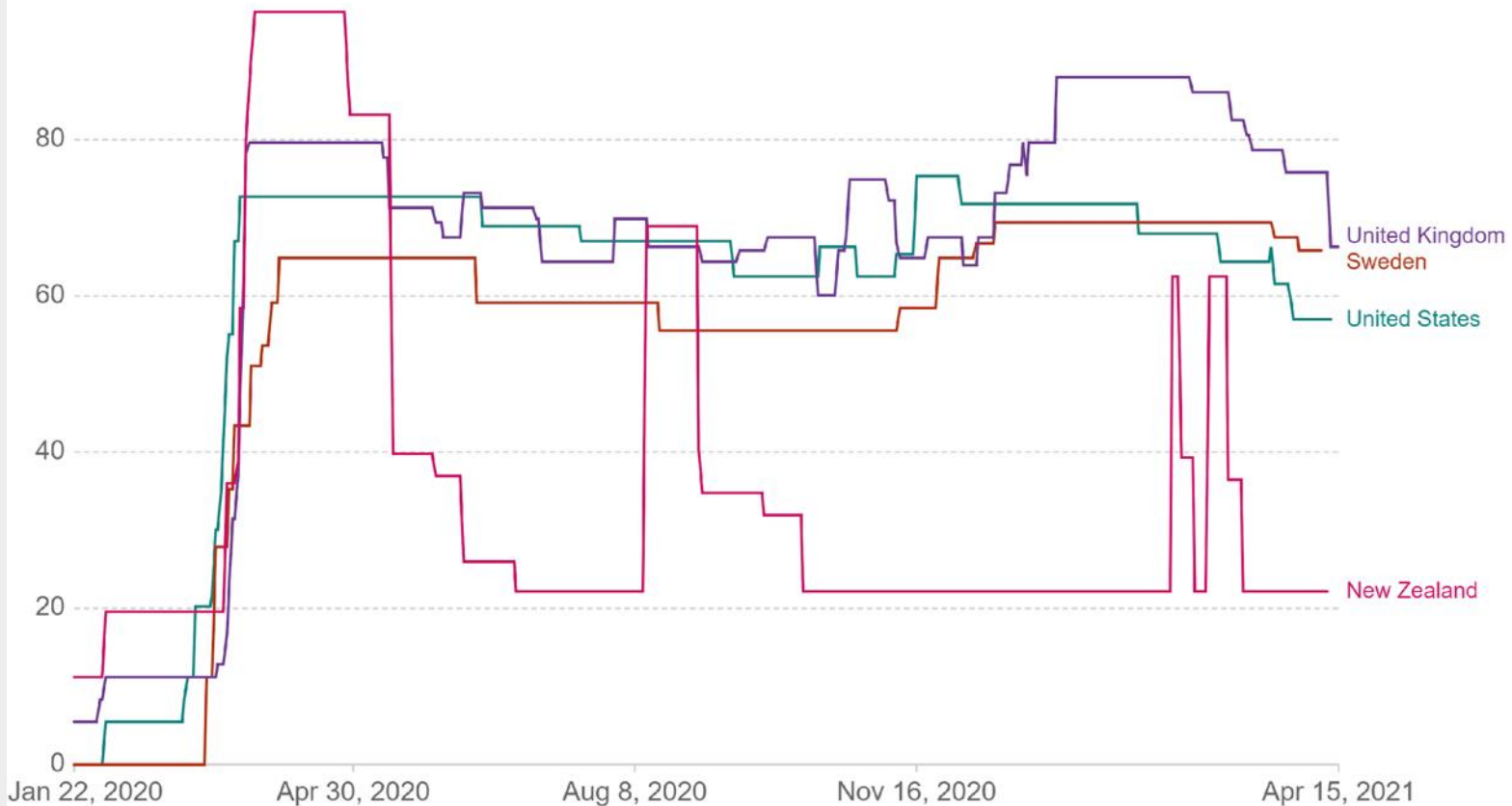


Stringency of restrictions across countries

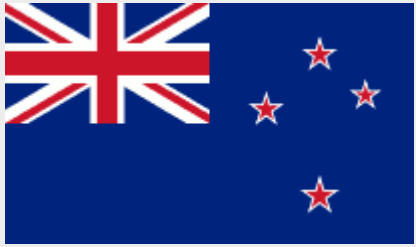
Our World in Data

COVID-19: Stringency Index

This is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.



Source: Hale, Angrist, Goldszmidt, Kira, Petherick, Phillips, Webster, Cameron-Blake, Hallas, Majumdar, and Tatlow (2021). "A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker)." Nature Human Behaviour. – Last updated 17 April, 14:00 (London time)
OurWorldInData.org/coronavirus • CC BY

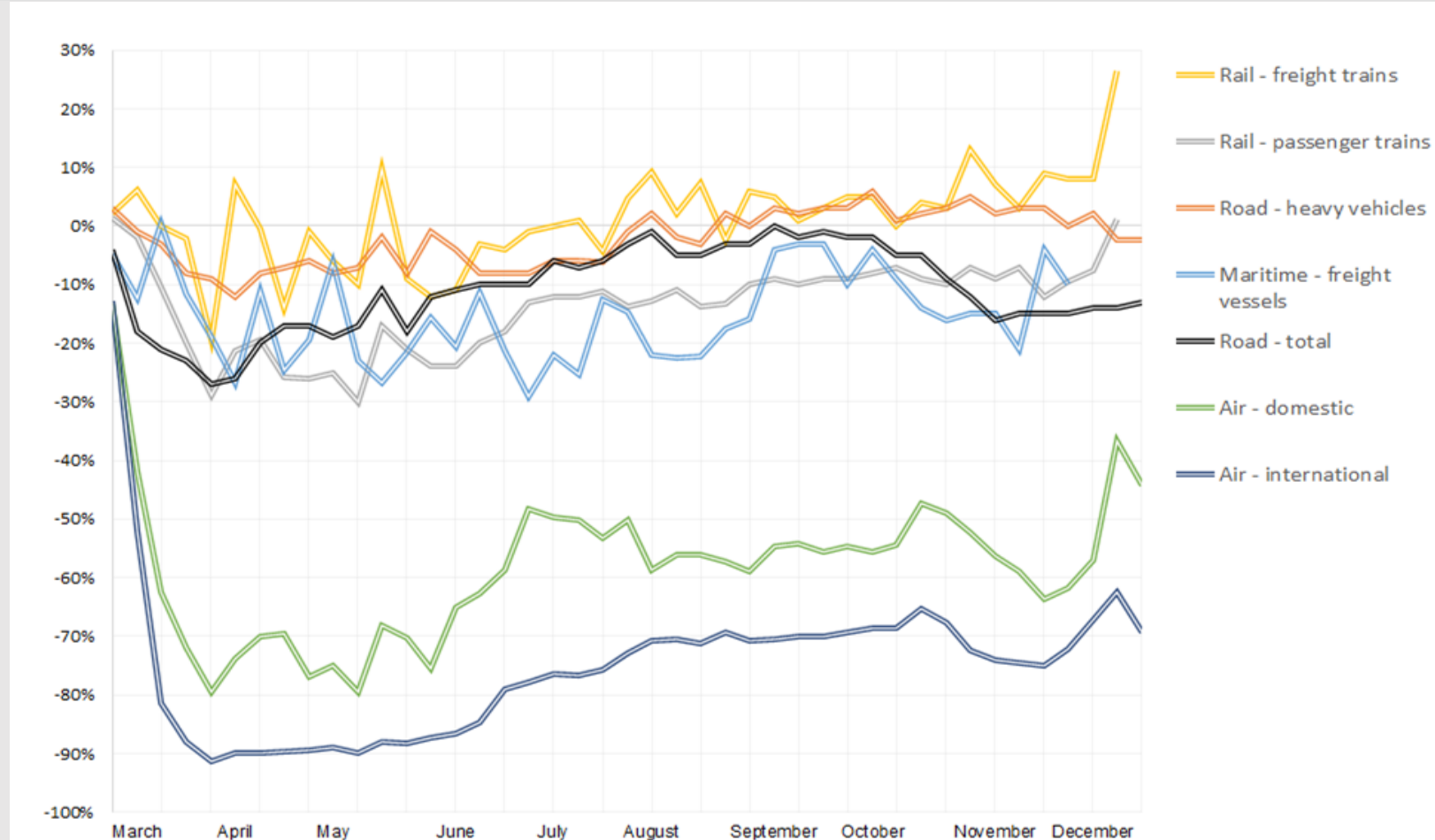




- Mobility and transport users were identified as a specific HTR audience in Sweden
Ashby, K., Smith, J., Rotmann, S., Mundaca, L. and A. Ambrose (2020). HTR Characterisation. Users TCP HTR Annex: Wellington.
- Official data from transport authorities + Survey of transport modal shifts (N=1,210).
Mundaca, L. (2021). On the role of social norms on sustainable transport and car sharing in Sweden. Working Paper. International Institute for Industrial Environmental Economics, Sweden



Sweden



Use of transport modes in Sweden for the March-December 2020 period. Numbers show relative changes by comparing weekly traffic volumes between 2020 and equivalent periods in 2019. Data source: Trafikanalys (2021).



- Working from Home actually works!
- Co-benefits of active travel
- Public transport vs private vehicles
- We need to decarbonise our transport
- Behavioural science interventions work in transport policy too!
- Local authorities are key drivers





UNITED STATES



- Main HTR audience for focus in US is low-income customers
- Survey of 1,000 electric utility customers (47% were classified as low-income < U.S.\$50,000p.a.)
- 8 focus groups (N=38) with a subset of survey respondents (split into high/low income and high/low engagement).

Forster, H.A., Rotmann, S., & Karlin, B. (2021). *Exploring energy engagement: results of a multi-method study of U.S. energy consumers*. ECEEE 2021.

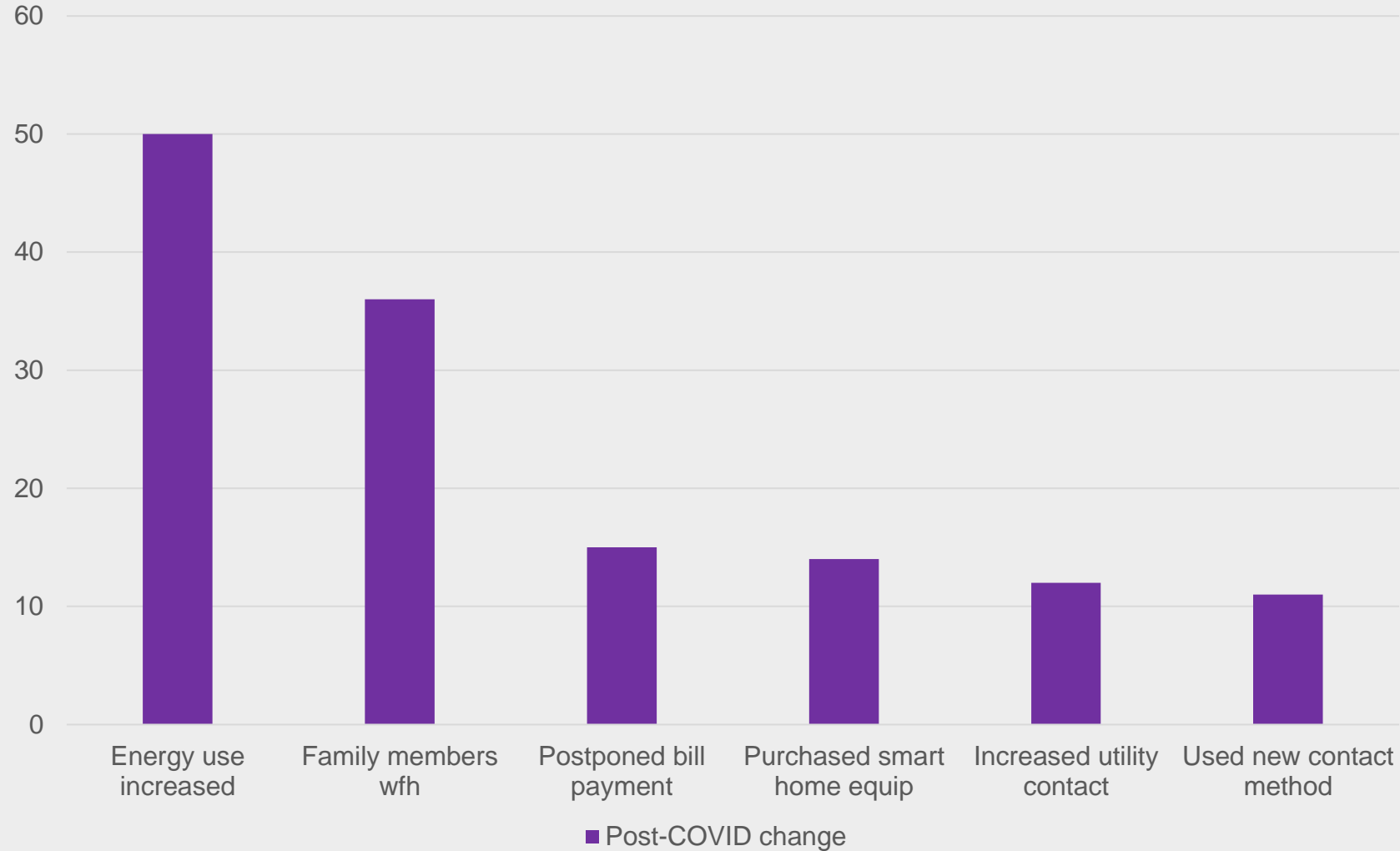




United States



Survey responses – most common changes





United States



- Bill postponement due to COVID-19 - 15% (N=143)
 - Of these: female 57% , white 71%. Education: 57% had less than a bachelor's degree. Low-income 61%. Homeowners (57%), Single family home 63% (vs 28% in apartments)
- Focus groups: 63% of respondents gave positive assessments of COVID-19 support offered by utilities particularly to vulnerable customers (some high-income respondents mentioned “unnecessary COVID-19 email overload” from their utilities).

Forster, H.A., Rotmann, S., & Karlin, B. (2021). *Exploring energy engagement: results of a multi-method study of U.S. energy consumers*. ECEEE 2021.





- Review of COVID-19 policy measures was undertaken (Ambrose et al, 2021).
Ambrose, A., Baker, W., Chambers, J. & Sherriff, G. (2021). Covid-19 & Hard-to-Reach Households. Manuscript in preparation.
- A qualitative 2017 study on the lived experiences of fuel-poor households (based on interviews, N=50) was updated by re-interviewing some of the same households (N=5) in April 2020.
Ambrose, A., McCarthy, L. and Pinder, J. (2017). Energy (in)efficiency: what tenants expect and endure in private rented housing. Sheffield: CRESR, Sheffield Hallam University.





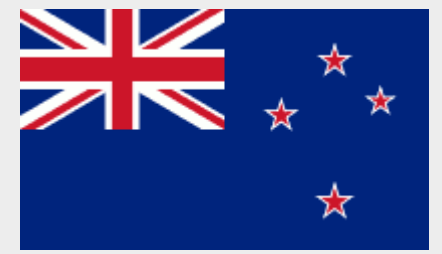
United Kingdom



- Mo: *“The main things that I miss are being in work - it was always warm in there. I sat by a gas fire in the winter and that was bliss really. I miss being able to go to the library and read the paper in a warm place before maybe going to a café and nursing a tea for a bit. It was a social thing but also about saving electricity - a pound on a mug of tea was much cheaper than a couple of hours in the flat and nicer, too. I miss that and riding the buses.”*
- Sasha: *“Now he's not at school, I have to feed him all his meals here. He never stops eating and he does complain that the house is cold. So I have to keep him distracted or he asks for food all the time. He would prefer to sit and watch tele but if he does that then I need to put the heating on....we walk a lot but in quiet places because I don't want him exposed. I get him to run fast when we get near the house so he's warm when we get inside. The sun starts off on the back of the house and by mid-morning, his room is pretty warm on a sunny day, so we play in there until it moves round and then we play in my bedroom later in the day. We're both so much more relaxed when we're warm and the sun is shining and we argue less then.”*



NEW ZEALAND



- Data on energy impacts of COVID-19 on New Zealand households were collected through three online surveys and interviews:
 - Online panel survey N=1452
 - In-depth energy survey N=75 of 299 were identified as HTR
 - Phone interviews with a subset of in-depth energy survey respondents – 7/17 interviewed were HTR).
 - Online survey (N=750) targeted students enrolled in tertiary education during 2020.

O'Sullivan, K.C., Viggers, H., and Howden-Chapman, P. (forthcoming) *Home energy use during and after COVID-19 restrictions: evidence from New Zealand*.

Harris Clark., I., and O'Sullivan, K.C. (forthcoming). *Energy poverty among tertiary students in New Zealand*.





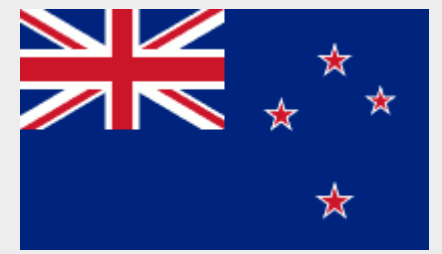
New Zealand



- Disconnection more prevalent in low-income households (< \$30,000 p.a.)
- Among those who lost their job because of COVID-19, 14% said they always had the “heat or eat” dilemma.

Women make up more than 90% of people who have lost their jobs during COVID-19 restrictions in New Zealand.

New Zealand



- P5: *“I tried very hard, like I was very aware of it and tried very hard not to have the heater going like I’d just have it on for five minutes and then turn it off, and then turn it back on and that just, you know I didn’t definitely didn’t feel like at work, you know when I’m in my office at work you just turn the heater on, and left it on but yeah there was just no way that I did that at home... [Energy use returned to normal post-lockdown] a little bit though I again I’m probably more aware of it [energy use], because the working from home like I’ve had to become self-employed, so I’m you know don’t have that steady paycheck, so I’m a lot more aware of things like that but yeah definitely, and now we’re back out of lockdown so I do go swimming again, so I do sometimes have those days [showering at the pool]. Like it’s probably not quite as bad as it was.”*

O’Sullivan, K.C., Viggers, H., and Howden-Chapman, P. (Forthcoming) Home energy use during and after COVID-19 restrictions: evidence from New Zealand.

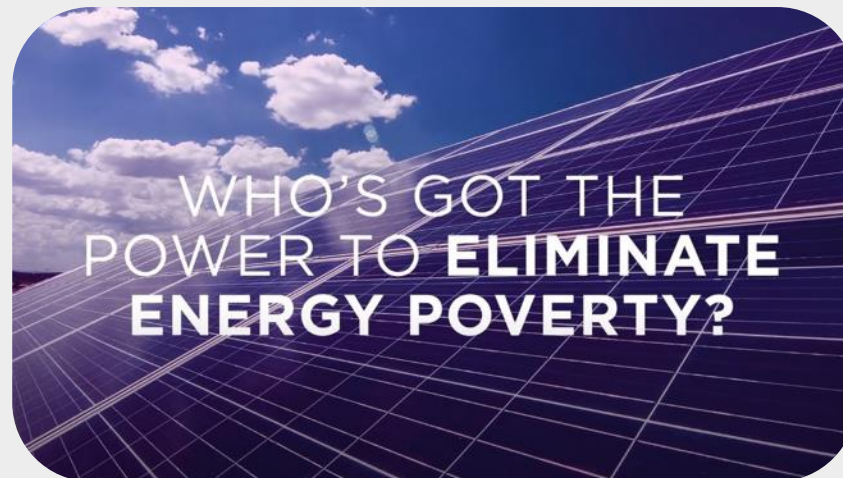
from New Zealand.





FINDINGS: COVID-19 and the HTR

1. **WHO** researches HTR energy users - “Behaviour Changers” that collect data, fund, design, implement & evaluate pilots and programmes targeting the HTR differ between countries:
 - U.S. utilities and third party EE implementers.
 - Sweden and NZ, dedicated government agencies and academia (lesser onus on utilities).
 - UK, dedicated government agencies and utility regulators (Ofgem) work with charities (Citizens Advice) and academics (Fuel Poverty Research Network) to provide cross-sector collaboration.



FINDINGS: COVID-19 and the HTR

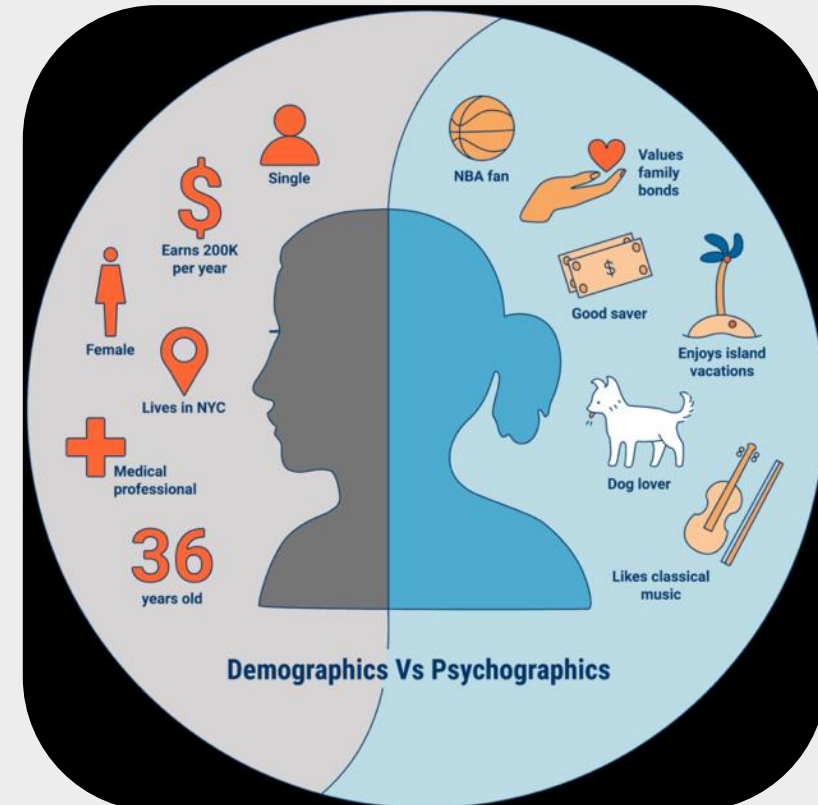
2. WHICH HTR energy users are regarded as high-priority:

- In the UK, U.S. and NZ, “vulnerable” households (usually defined by low income).
- In NZ, more targeting for energy hardship: low-income households, poor quality housing, elderly, non-European immigrants, prepayment meter consumers, and tertiary students.
- In Sweden (lowest rate of energy poverty), the priorities are geared towards higher-income consumers and transport-related activities and emissions.



COVID-19 and the HTR

3. **HOW** to collect data on HTR energy users: a mixture of high-level government statistics, in-depth reviews of policies and publications, and quantitative and qualitative insights (demographic and psychographic), such as surveys, interviews and focus groups of targeted audiences are recommended.



Policy implications: COVID-19 and the HTR

- COVID-19 highlighting avenues to make HTR energy users more ‘reachable’ to policymakers, utilities, researchers and local authorities. Also underscores significant elements for the design and implementation of future initiatives.
- HTR energy users have become more aware about their energy use, patterns and demand of energy services (e.g. mobility, heating), overall. COVID-19 = massive ‘awareness raising campaign’ – prolonged in most countries.
- Programmes or interventions to address HTR energy users should be wellbeing-centered.





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