

# Shifting Energy Demands During COVID19

## Verbal Consent Script:

Hello my name is \_\_\_ and I am a researcher for the Energy Vulnerability Project. We're conducting a survey to understand how the COVID-19 pandemic is impacting energy use in households. Someone from our research team indicated that you would be interested in participating in the research. As part of our verbal consent process, I'd like to tell you more about the project so that you have information to determine if you'd like to participate.

This survey project is part of a federally-funded study. The data that we collect will be made available to our larger research community. Your participation in our survey is voluntary and anonymous; we will not collect any personal identifying information. You are welcome to skip any question you do not want to answer. Just let me know. I will ask you questions about your living conditions before and after COVID-19 began, your employment status, energy consumption, and bill payment. Our survey results will likely be reported in online publications and scholarly journals. The survey will take about fifteen to twenty minutes. Is that OK with you?

If you have questions, concerns, or complaints, or think the research has negatively affected you, you can talk to Professor Alison Kenner or you can contact Drexel University's IRB office. I will email you a copy of this script with Dr. Kenner's contact information now if you like. Do you have any questions for me before we start the survey?

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## 0. Admin

Name of Surveyor: \_\_\_\_\_

Survey #: \_\_\_\_\_

Date and time of survey: \_\_\_\_\_

Relation to surveyed:

- A friend, acquaintance, or co-worker
- Someone referred by a friend, family member, or other acquaintance
- Family member

- Someone referred by another research team member

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## I. Living Conditions

1. What is your current region of residence?

- North America (Canada, Mexico, United States)
- South America (Argentina, Brazil, Venezuela, etc.)
- The Caribbean (Aruba, Barbados, Cuba, Dominican Republic, Jamaica, etc.)
- Europe and North Africa (UK, The Netherlands, Spain; Algeria, Morocco, Tunisia, etc.)
- Central and South Africa (Angola, Cameroon, Central African Republic; Namibia, Botswana, South Africa, etc.)
- The Middle East (Egypt, Iran, Oman, Saudi Arabia, Turkey etc.)
- Asia (China, India, Mongolia, Japan, etc.)
- South East Asia (Cambodia, Malaysia, Philippines, Vietnam etc.)
- Oceania (Australia, Fiji, New Zealand, New Caledonia, Samoa, Tonga, etc.)
- The Pacific Islands (French Polynesia, Kiribati, Marshall Islands, etc.)

2. When did COVID-19 begin to impact your housing, employment, and school conditions? Please provide the estimated week below:

Living situation (i.e. where you sleep and who you live with):

- February
- March 1-8
- March 8-15
- March 16-22
- March 23-30
- March 31-April 5
- My housing has not been affected by COVID-19

Work conditions or employment:

- February
- March 1-8
- March 8-15
- March 16-22
- March 23-30
- March 31-April 5
- Neither my employment nor my work conditions have been affected by COVID-19

School conditions (i.e. of children you live with, or your personal education):

- February
- March 1-8
- March 8-15
- March 16-22
- March 23-30
- March 31-April 5
- I am not a student
- I do not live with children who attend school
- Changes in educational conditions have not impacted me or those that I live with

***\*Survey administrator note to respondent: "For most remaining questions that ask about your life before COVID-19, we are asking about conditions in the six months directly before the COVID-19 pandemic began in the United States."***

3. Before the COVID-19 pandemic started, where did you call home?

- I lived in a house or building that I own
- I rented an apartment
- I rented a house
- I rented a room
- I was homeless
- I lived with a family member or friend
- I lived in a mobile unit
- I lived in a dorm
- Other: \_\_\_\_\_

3a. Before the COVID-19 pandemic started, how many other people lived at home with you? \_\_\_\_\_

3b. How many of the people that you lived with were dependents? \_\_\_\_\_

4. Have you been able to continue living at home during COVID19 or have you needed to stay someplace else?

- Yes, I have been able to continue living in my pre-COVID-19 home.
- No, I have had to live elsewhere during COVID-19.
- I am a college student who had to leave on-campus housing.
- I have been going back and forth between places
- Other, please explain \_\_\_\_\_

4a. If no, explain how your living situation has changed:

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4b. If no, did your living situation change because of government-imposed social distancing measures?

- Yes
- No, my housing situation changed prior to social distancing measures.
- N/A

5. Has the number of people living with you changed since COVID19 began?

- No, I am living with the same number of people.
- Yes, I am living with more people.
- Yes, I am living with fewer people.
- Yes, It is an evolving situation

5a. If yes, explain:

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## II. Work and School Conditions

6. What was your occupation before COVID-19?

7. Has the COVID19 pandemic impacted your employment hours and/or pay?

- Yes, I have been laid off or furloughed.
- Yes, my number of work hours has been cut.
- Yes, my number of work hours has increased.
- No, I am still employed under the same conditions.
- It is an evolving situation.
- Other, please explain\_\_\_\_\_

7a. If employed, are you working remotely from home?

- Yes, I have been able to transition my work to a remote set up.
- Yes, but there are a limited number of things I can do remotely.
- Yes, but I am splitting my time between home and the office.
- No, I am an essential employee and I am still going into work.

Other, please explain \_\_\_\_\_

7b. If yes to 7a, how many hours are you working remotely per week?

\_\_\_\_\_

8. Are other people in your household working remotely?

- Yes, they are able to transition their work to a remote set up
- Yes, but they were just laid off.
- No, their job cannot be done remotely.
- They are working remotely but intermittently
- I don't know
- Other, please explain \_\_\_\_\_

8a. If yes, how many hours per week (estimated) is your household working?

\_\_\_\_\_

9. Are there children or college students in your household learning remotely through their schools?

- Yes, their school activities have been transitioned online.
- No, we do not have the capacity to do school work at home.
- No, I do not live with any children.
- Intermittently
- Other, please explain \_\_\_\_\_

9a. If yes, how many hours per week? \_\_\_\_\_

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### III. Existing Home Infrastructure

12. Do you feel like you understand how energy systems work? (i.e. your heating system, plumbing, utilities, how to conserve energy, etc.)

12a. Do you have questions about how energy systems and utilities work?

10. What kind of heating system does your home use?

- Forced air heat (central heat/furnace)
- Forced air with cooling compressor
- Space heaters

- Radiators (boiler)
- Electric heater (typically baseboard)
- I don't know.
- Other, please explain: \_\_\_\_\_

11. What is the power source for your home heating system?

- Gas
- Electric
- Oil
- I don't know
- Other, please explain: \_\_\_\_\_

12. Have you ever lost heat in your home?

- Yes, my heater broke
- Yes, my utilities were shut off
- Yes, there was a power outage due to weather
- Yes, other: \_\_\_\_\_
- No
- Other, please explain \_\_\_\_\_

12a. If yes, what do you do when you lose heat?

\_\_\_\_\_

12b. If you have never lost heat in your home, what might you do if you did?

- Call my landlord.
- Call an HVAC company.
- Call my utility company.
- See if I could figure it out myself
- Ask someone I know who works with heaters to fix it.
- I don't know.
- Other: \_\_\_\_\_

12c. What would you do if there was a government-issued stay at home order in your state/town when you lost heat?

- Call my landlord.
- Call an HVAC company.
- Call my utility company.
- See if I could figure it out myself.

- Ask someone I know works with heaters to fix it.
- I don't know.
- Wait until the order is lifted to act on it.
- Other: \_\_\_\_\_

13. How do you cool your home during the summer months?

- Forced air cooling (central air)
- Window unit(s)
- Fans
- I go outside.
- I do not cool my home during the summer months
- Other, please explain:

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- I do not cool my home during the summer months

14. What would you do if, during a heatwave, you lost power?

- I would turn on my back-up generator.
- I would go to the home of a friend or family member who did have power.
- I would wait until power was restored.
- I would try to reduce the amount of sunlight entering my common spaces in peak hours.
- I would try to air out the house as much as possible.
- I don't know.
- Other, please explain:

14a. What would you do if there was a government-issued stay at home order in your state/town when you lost power?

- I would turn on my back-up generator.
- I would go to the home of a friend or family member who did have power.
- I would wait until power was restored.
- I would try to reduce the amount of sunlight entering my common spaces in peak hours.
- I would try to air out the house as much as possible.
- I would try to get a hold of a power generator.
- I don't know.
- Other, please explain:

15. Before COVID-19, had you experienced any of the following energy service disruptions:

- Electricity was down
- Heater broke
- Ran out of oil
- Slow internet
- Air conditioning not working
- Gas suspended
- Water not available
- Other
- No

15a. What did you do to address these disruptions?

16. Have you experienced energy service disruptions since COVID-19 began?

- Electricity was down
- Heater broke
- Ran out of oil
- Slow internet
- Air conditioning not working
- Gas suspended
- Water not available
- Other
- No

16a. What have you done to address these disruptions?

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17. Has anyone in your household ever experienced health issues related to temperature in the home (heat exhaustion, respiratory illness, etc.)?

- Yes
- No

17a. If yes, please explain.

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18. Does anyone in your household use a medical device that is powered by electricity?

- Yes, the device is exclusively powered by being connected to an outlet
- Yes, the device is able to run on its own for extended periods of time
- Yes, but the device is not needed on a daily basis

- No, no one in the house needs an electrically-powered device
- No, other: \_\_\_\_\_

19. Has your home ever been weatherized through the state weatherization program (WAP)?

- Yes, it has been weatherized through WAP.
- No, my home is not weatherized.
- No, but I have weatherized my own home.
- I don't know what weatherization is.
- I don't know what WAP is.
- I don't know what weatherization is.
- Other, please explain:

20. On a scale of 1-5, how energy efficient do you think your home is?

- 1, my home is very energy inefficient.
- 2, my home is not energy efficient.
- 3, my home is OK.
- 4, my home is fairly energy efficient.
- 5, my home is very energy efficient

20a. What makes your home energy efficient?

- I have LED light bulbs.
- I have solar panels.
- My house is well insulated.
- I use water saving technologies.
- I have double paned windows.
- I use Energy Star appliances.
- My electrical wiring is up to date.
- My stove does not emit any excess gas
- My behaviors make my home energy efficient.
- I don't know
- Other, please explain: \_\_\_\_\_

20b. What makes your home energy inefficient?

- I don't use energy saving light bulbs
- My home does not use any renewable energy sources
- My home is not well insulated
- I don't practice conservation
- My windows are drafty

- I have older model appliances
- My electrical wiring has not been updated
- My stove emits gas when I use it
- My behaviors make my home energy inefficient
- I don't know
- Other, please explain:

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### III. Technology Use and Energy Consumption

21. If you and members of your COVID-19 household are working/schooling remotely, what kind of technology is required for work and school?

- Computers, laptops, or tablets
- Computer accessories such as microphones, headsets, etc.
- Email
- A landline
- Cloud hosting
- Broadband internet
- Virtual meeting applications
- Unlimited data
- Other, please explain:
- Not Applicable

22. Did you have these technologies before COVID-19 or did you have to purchase or borrow them in the last 4-8 weeks?

- No, some of these technologies needed to be purchased.
- No, we have borrowed some of these technologies.
- No, we have not been able to acquire the necessary technologies.
- Yes, we had everything we needed.
- Other, please explain:

22a. If you had to purchase technologies to work or school remotely, were these technologies in short supply or marked up?

- Yes
- No

23. Did members of your household share devices or infrastructure before COVID-19?

- Yes, we took turns using broadband internet.

- Yes, we scheduled and shared use of computers, laptops, or tablets.
- Yes, we scheduled use of or shared office space.
- No, everyone had their own equipment, infrastructure, and space.
- It varied from day to day
- Other, please explain:

23a. If you and members of your COVID-19 household are working or schooling remotely, do you have to share and/or take turns using various devices or infrastructure?

- Yes, we take turns using broadband internet.
- Yes, we are scheduling/sharing computers, laptops, or tablets.
- Yes, we are scheduling use of or sharing office space.
- No, everyone has their own equipment, infrastructure, and space.
- It varies from day to day
- Other, please explain:

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#### IV. Bill Payment and Assistance Literacy

24. Does someone in your household pay any of the following utility bills? Check all that apply:

- Electric
- Gas
- Water
- Internet
- No, all household utilities are included in rent.
- I don't know
- Other, please explain: \_\_\_\_\_

24a. Has household responsibility for utility bills changed since COVID-19 began?

- Yes, it has changed because of COVID-19.
- Yes, it has changed because of something unrelated to COVID-19.
- No, nothing has changed.
- Other:
- Explain:

24b. Is your household enrolled in auto-pay for any of your utility bills?

- Yes
- No
- I don't know.
- Other, please explain:

24c. Will you stay enrolled during COVID-19?

25. Have you received any of the following utility bills since the start of COVID-19?

Check all that apply:

- Electric
- Gas
- Water
- Internet
- I don't know
- Other, please explain:

26. Is the bill amount different from what you would typically expect during this time of year? On the survey use checkbox grid

|                 | Water | Gas | Electric | Internet |
|-----------------|-------|-----|----------|----------|
| Increased       |       |     |          |          |
| Decreased       |       |     |          |          |
| Stayed the same |       |     |          |          |
| I don't know    |       |     |          |          |

27. Has a change in your employment status or those in your COVID-19 household impacted your ability to pay utility bills?

- There has not been a change in employment status
- Yes
- No
- Not yet, but it will in the coming months

27a. If yes, what kind of utility bills, including internet bills, are you struggling to pay?

- Water
- Electric
- Gas
- Internet
- Phone
- All of the above
- None of the above

28. Have you ever turned off your heating or air conditioning in order to save money on utility bills?

- Yes, in the past.
- Yes, due to COVID19.
- No.
- No, but this is something I am considering because of COVID-19.
- I don't control the temperature of my home
- Please Explain: \_\_\_\_\_

29. Have you ever had to choose between paying your utility bills and paying other bills such as rent, groceries, phone bill, etc.?

- Yes, in the past
- Yes due to COVID-19
- No, I have never had to make such a decision.
- No, but I am worried that I might have to due to COVID-19 impacts.
- Please Explain:

30. Are you a recipient of the government stimulus check?

- Yes
- No
- I don't know

30a. If yes, has the stimulus check allowed you to cover most of your monthly expenses without worry?

- Yes, explain:
- No, explain:
- I don't know, explain:

31. Have you ever received a utility shut-off notice for any of the following services?

- Water

- Gas
- Electric
- No, I have never received a shut-off notice.
- Other, please explain:

31a. If yes, how many times have you received a shut-off notice in the past 12 months?

\_\_\_\_\_

31b. If no, what would you do if you received a shut-off notice and did not have the money to prevent the shut-off? \_\_\_\_\_

32. On a scale of one to five, how aware of household energy use were you before COVID-19?

- 5 - very aware, I look at my bill every month and practice conservation.
- 4 - aware enough to understand my monthly bill and how to handle disruptions
- 3 - somewhat aware, I look at my bill every month
- 2 - not that aware, I don't look at my bill
- 1 - I am completely unaware of my household energy use

33. Are you or others in your COVID-19 household aware of changes in daily energy consumption since the pandemic began?

- Yes
- No
- I don't know
- Other, please explain:

34. Is your COVID-19 household consuming more energy than normal for this time of year?

- Yes, we are using more energy
- No, we are using less energy
- No, our consumption is the same.
- Maybe
- I don't know
- Other, please explain: \_\_\_\_\_

34a. If yes, what are the sources of increased consumption? Check all that apply.

- More lights are on
- We are keeping the heat on a higher temperature
- We are using air conditioning for longer periods of time.

- We are using more appliances to prepare food during the day
  - We are using more appliances to work/study from home
  - More TV watching
  - More video game play
  - The use of other entertainment technologies
  - Members of the household are sleeping less
  - Medical devices are being used
  - We are using more water
  - We are using more electric-powered devices to work/study from home
  - Other, please explain:
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35. Before COVID-19, did you or other members of your household use any of the following strategies to reduce your energy use (including heat, electricity, water, etc.):

- Try to use as much sunlight as possible to save on electric
- Trying not to use a dryer to save on electric
- Lowering water heater to save on gas
- Wearing more clothes / using more blankets to save on heating
- Taking shorter showers to save on water
- Recycling old appliances and purchasing new energy-efficient ones
- Switching to LED light bulbs
- Unplugging devices that are not being used
- None of the above
- All of the above
- Other \_\_\_\_\_

36. Is your COVID-19 housing using any of the following strategies to reduce your energy use during this time?

- Try to use as much sunlight as possible to save on electric
- Trying not to use a dryer to save on electric
- Lowering water heater to save on gas
- Wearing more clothes / using more blankets to save on heating
- Taking shorter showers to save on water
- None of the above
- All of the above
- Other \_\_\_\_\_

37. Has COVID-19 changed other weekly/monthly expenses or created new expenses?  
Please list:

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38. Are you or the owner of the building where you live deferring maintenance on the building due to COVID-19?

- Yes, due to financial constraints.
- Yes, due to a stay at home order.
- Yes, due to fears of COVID-19.
- No, no maintenance was scheduled.
- No, maintenance work is going ahead as planned.
- I don't know.
- Other, please explain: \_

39. Have you ever enrolled in any energy assistance programs to help with utility bill payment?

- Yes, I have, before COVID-19.
- Yes, I have since COVID-19 began.
- No, I have not.
- I was unaware there were such programs.
- I don't know

40. Are you aware of energy assistance programs that could help with utility bill payment during COVID-19? Check all that apply:

- Yes, my utility companies have sent emails or letters about programs.
- Yes, I have seen them post about it on social media.
- No
- I don't know.
- Other:

40a. If yes, what does this assistance look like? Explain.

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41. Are you aware of any of the following programs? Check the box if you are aware of the program.

- LIHEAP? (Low Income Home Energy Assistance Program)
- CAP? (Customer Assistance Program)
- WAP? (Weatherization Assistance Program)

- Earned Income Tax Credit (EITC)
- Supplemental Security Income (SSI)
- None of the above
- All of the above

42. If you have received no assistance on utility bills, how are you coping with increased expenses, if any? \_\_\_\_\_

43. Are there other energy related questions or concerns that you had before this survey or that you now have because of this survey about energy use in your home?

- Yes, I was concerned about energy consumption and bill payment before the survey
- Yes, I now have concerns that I did not have before the survey
- No, I have no questions or concerns.
- Maybe, I need to think about it or get more information.
- Other, Please explain:  
\_\_\_\_\_

44. Do you think you have a right to energy?

- Yes
- No
- I don't know

44a. What do you think your *energy rights* are?

- I have a right to electricity.
- I have a right to broadband.
- I have a right to air conditioning.
- I have a right to clean water for bathing, cooking, and drinking.
- I have a right to heat.
- I have a right to choose my energy provider.
- I have a right to choose the source of my energy supply.
- I have a right to phone service.
- I have a right to financial assistance for any of these services
- I have a right to an itemized (breakdown of my) utility bill
- I have a right to updated appliances, if I am a renter, so that my bills are affordable.
- I have a right to appliances and HVAC units that keep my living space healthy.

45. Is there an energy co-op in your area? \*According to definitions in Energy Democracy (Fairchild & Weinrub, 2017), energy co-ops are organizations where buying power in the energy market is self-organized by individuals and smaller businesses combining their purchasing powers. I.e. energy co-ops are community-owned.\*

- Yes, there is an energy co-op in my area; I am a member.
- Yes, there is an energy co-op in my area; I am not a member.
- No, there is not an energy co-op in my area.
- I don't know; this is the first time I am hearing about energy co-ops.
- I know what energy coops are; I don't know of any in my area.

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## V. Demographics

46. Select which best apply(ies) to you:

- Female
- Male
- Genderqueer
- Agender
- Gender questioning
- Cisgender
- Transgender
- An identity not listed above
- Prefer not to say \_\_\_\_\_

47. What is your age?

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85-94
- 95-104
- 105+

48. Please select the category(ies) that best describe(s) you? Check all that apply.

- Native American or Alaska Native
- Asian
- Black or African American
- Middle Easterner or North African
- Native Hawaiian or Other Pacific Islander
- White
- Hispanic, Latino, or Spanish origin
- Any identity not listed above \_\_\_\_\_

49. What is the highest level of education you have completed?

- No Schooling Completed
- Elementary
- Some High School
- Completed High School
- Some College
- Completed College
- Some Graduate School
- Completed Graduate School

50. What is your occupation? \_\_\_\_\_

51. What is your annual income? \_\_\_\_\_

52. What zip code do you currently live in? \_\_\_\_\_

53. Are you willing to do a follow-up open-ended interview?

54. Would you like to stay informed about the project results?

***(If yes to either, survey administer log email address on separate spreadsheet)***