# Does Environment and Health Awareness Matter for Household Heating? Empirical Evidence from Central Asia

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# Data

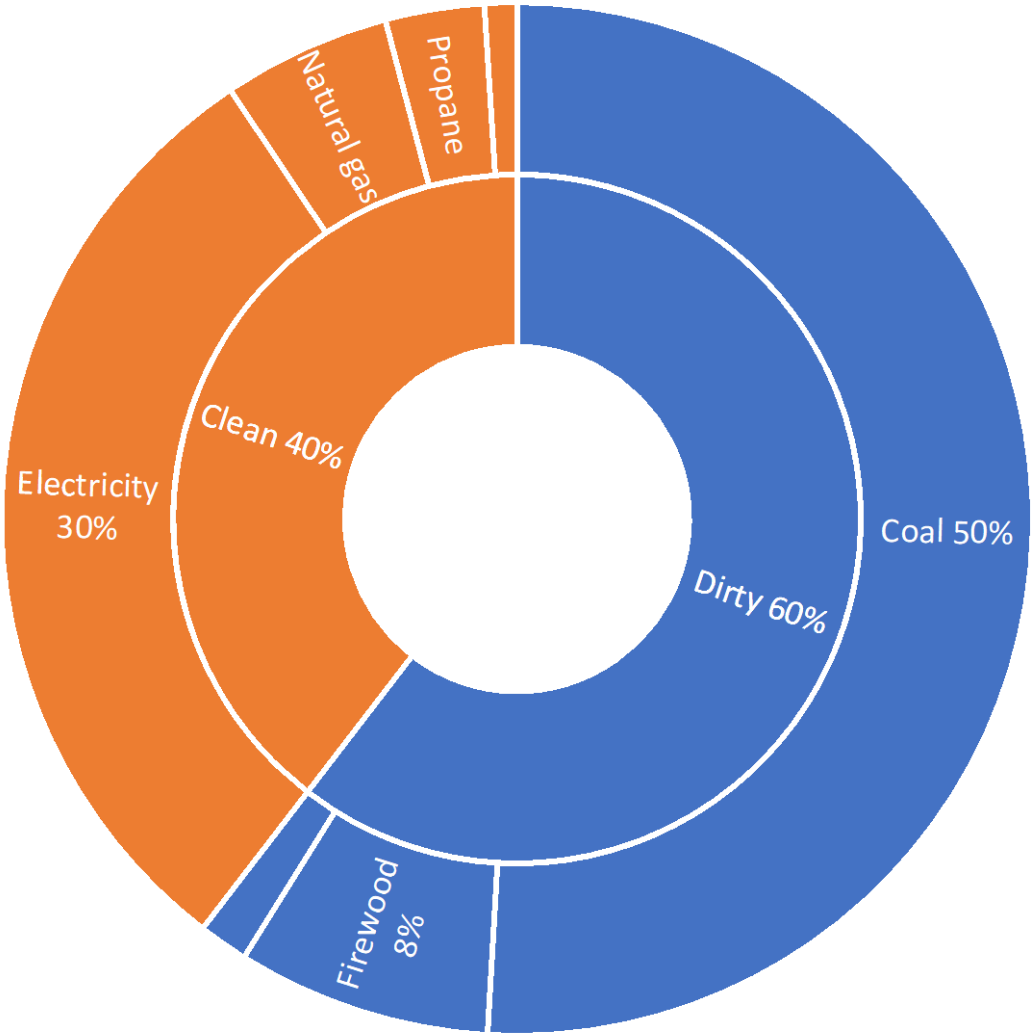
- In-person interview in Fergana valley during July-August 2023
- Fergana valley: located in three countries of Central Asia, i.e., eastern Uzbekistan, southern Kyrgyz Republic and northern Tajikistan
- Sample: Randomly selected 500+ HHs from each country

*Table 1 Sample distribution*

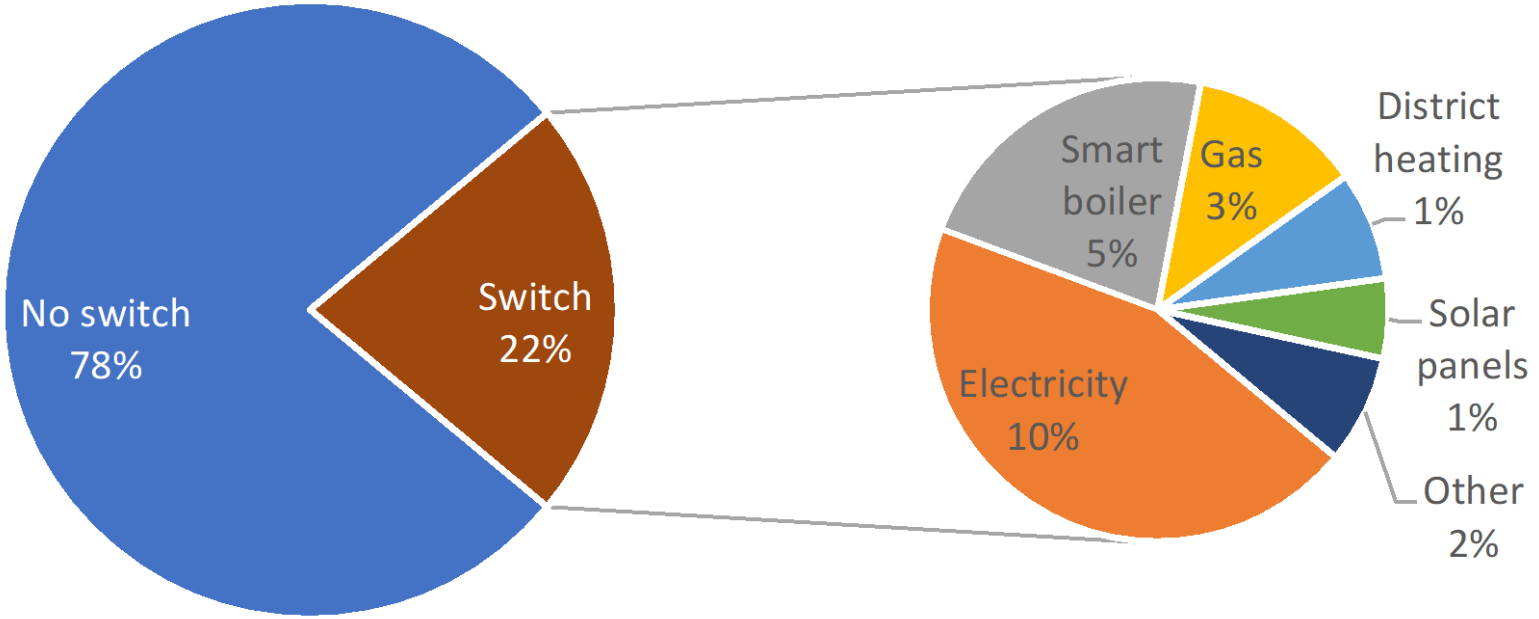
| Country | Total Sample Households | SEC1 (poorest) | SEC2 | SEC3 | SEC4 (richest) | Rural |
|---|---|---|---|---|---|---|
| Kyrgyz Rep. | 522 | 0% | 2% | 21% | 44% | 75% |
| Tajikistan | 500 | 4% | 4% | 11% | 32% | 73% |
| Uzbekistan | 500 | 9% | 17% | 29% | 0% | 42% |
| Total | 1,522 | 13% | 24% | 61% | 76% | 63% |

Note: SEC – socio-economic/ income class

# 58% use coal and wood for heating causing not only outdoor but also indoor pollution



# Willingness to switch from dirty to clean fuels
# 22% plan to switch to clean heating (5 years) mainly to electricity



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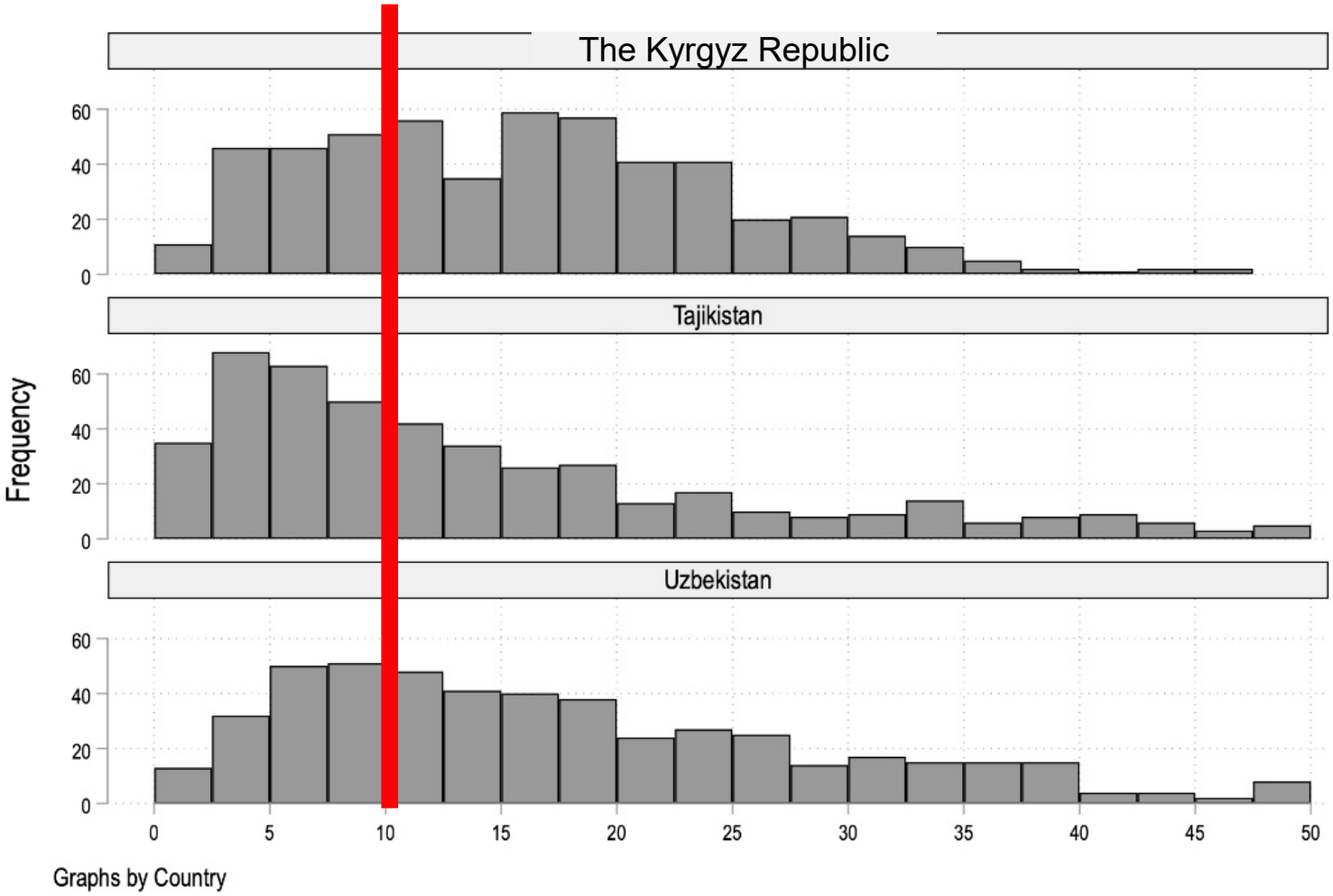
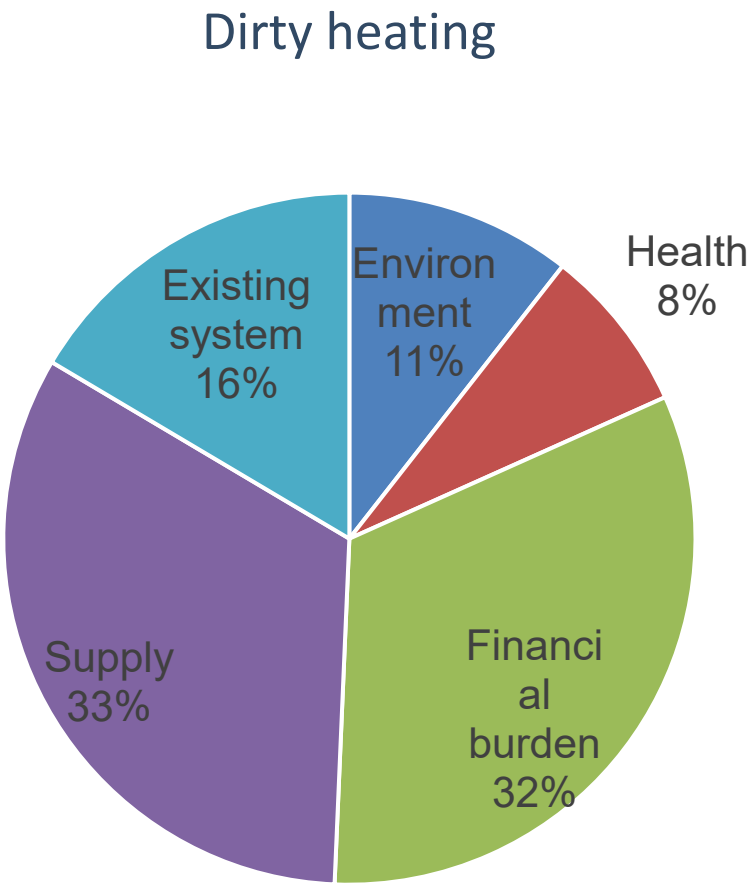
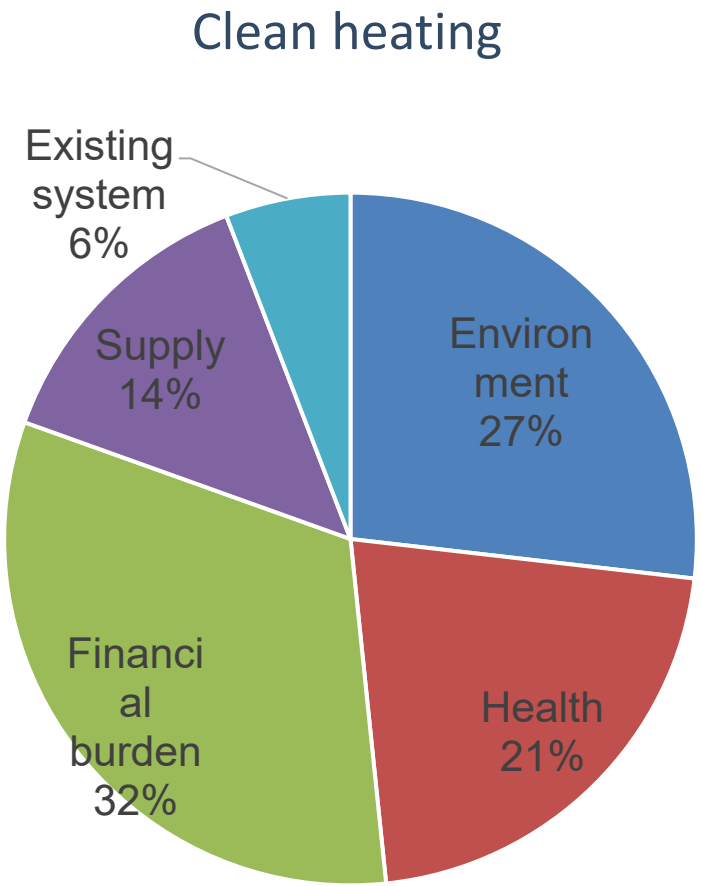
# Distribution of energy expenditure share over total expenditure, %

## Majority of population (66%) are energy poor



# Nealy half choose clean heating due to environmental and health impact
# 1/3 choose dirty heating due to reliable supply



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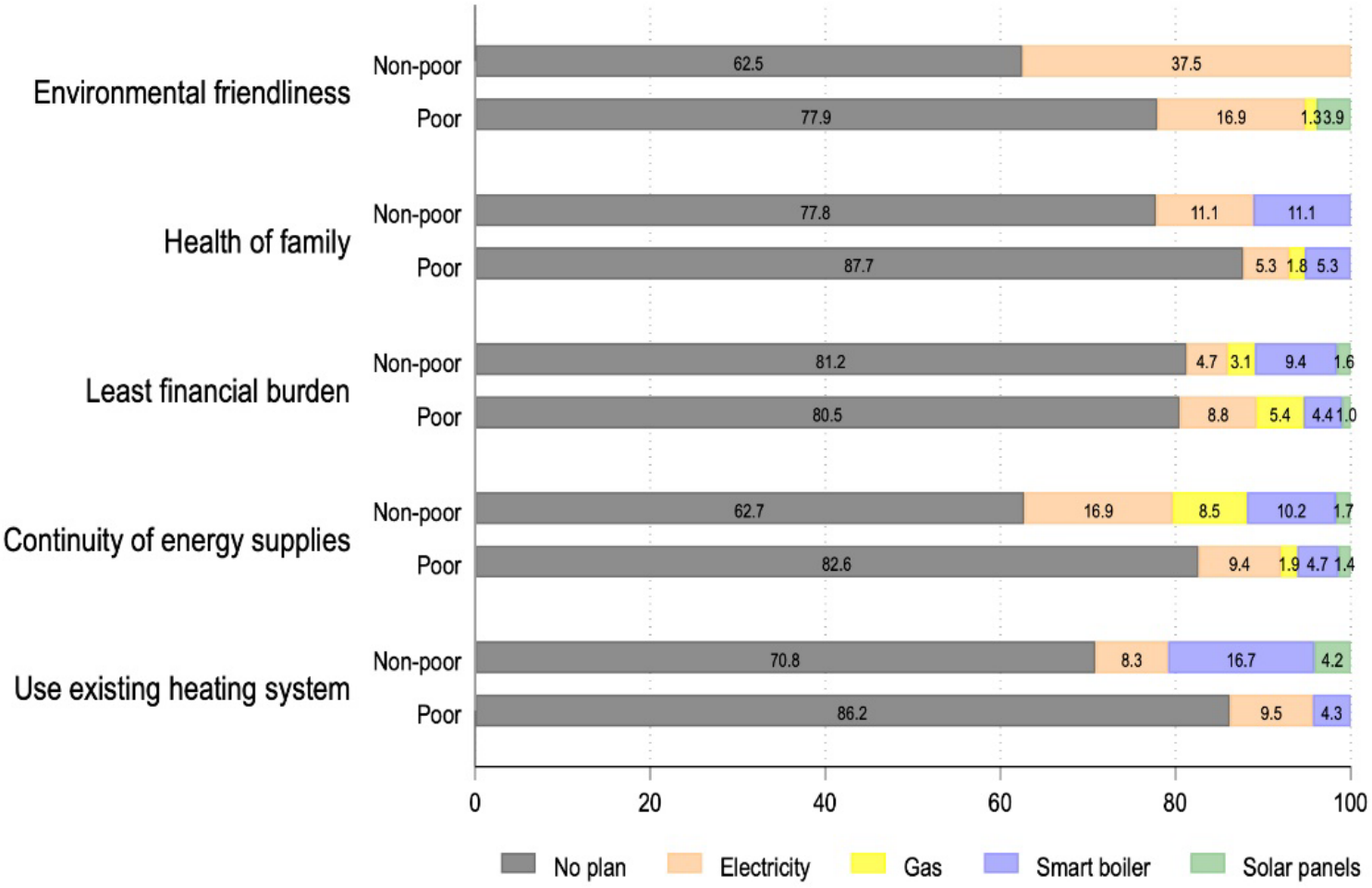
# Awareness and plan to switch from dirty to clean heating
# Both energy poor and non-poor have plans to switch to clean heating (5 years)

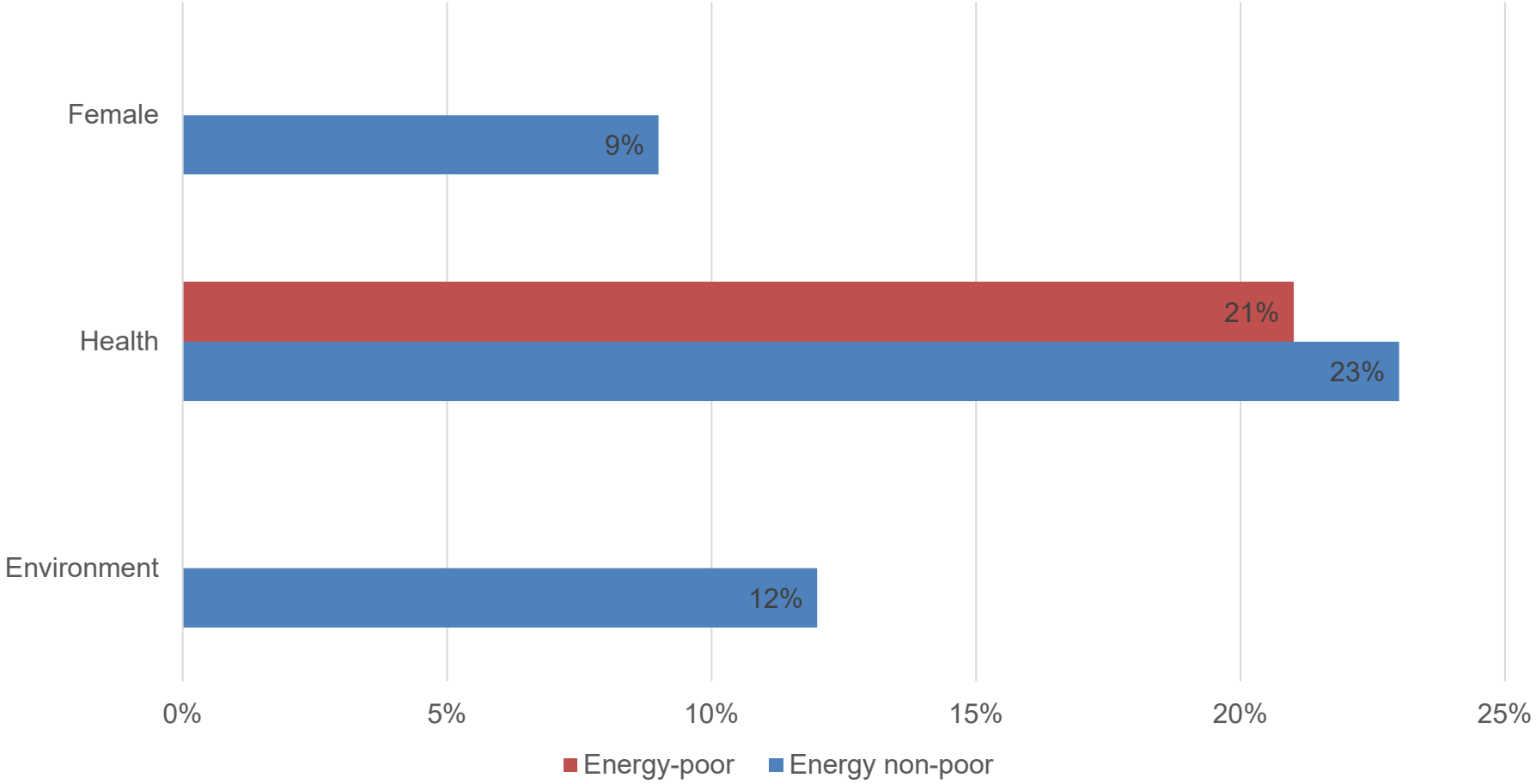


**Results:** Odds (%) of factors affecting clean heating

Energy poverty is significant determinant for dirty heating

Energy poor group has 19% greater chance of using dirty heating.

Most factors affect energy non-poor, only health impact affects energy poor



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**Thank You!**

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# Conclusion and Policy Recommendations

- Awareness about health impact has a significant impact on heating fuel choice across all groups

→ raising health impact awareness is more effective than about environment

- Households who care about environmental harm are less likely to choose dirty fuel for heating but only among those who are energy non-poor (34% of the sample)
- Energy poor, although could be aware of environmental impacts, have limited ability to switch from dirty to clean heating
- Energy poor (66% of the sample) are more likely to use dirty heating, thus energy poor households are more prone to 'fuel stacking'

→ more support to energy-poor is needed for switching to clean heating, environmental awareness is not sufficient

Future study: Infrastructure might be not sufficient for increased demand on clean heating?

# Previous studies

https://doi.org/10.1016/j.jenvman.2021.112539

https://doi.org/10.1080/14486563.2021.1989328

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