

# Mixed Methods Research into DER Ownership and Engagement

Uplight

*Behaviour, Energy, Climate Change Conference*

Nov 13, 2023

**110 Million**  
Homes &  
Businesses

**Two-thirds**  
of U.S. Energy  
Customers

**212,000**  
marketing  
emails

**51 Million**  
paper & emailed  
Home Energy  
Reports

**Uplight has 268 million+  
customer touchpoints annually**

# Uplight's Primary Research Series

To help utilities better serve their energy customers, we need to know where they are at today. Through science-based research, Uplight aims to uncover customer attitudes, motivations and thought processes around energy usage



## Voice of the Customer

Annual quantitative survey with 1,000 utility end customers to examine trends



## Qualitative Research

Deep dives on topics inc. EVs, low-income customers, SMB rates, and DER owners.



## Special Topics

Bespoke research on topics like ecosystem players, perception gaps in programs, etc.

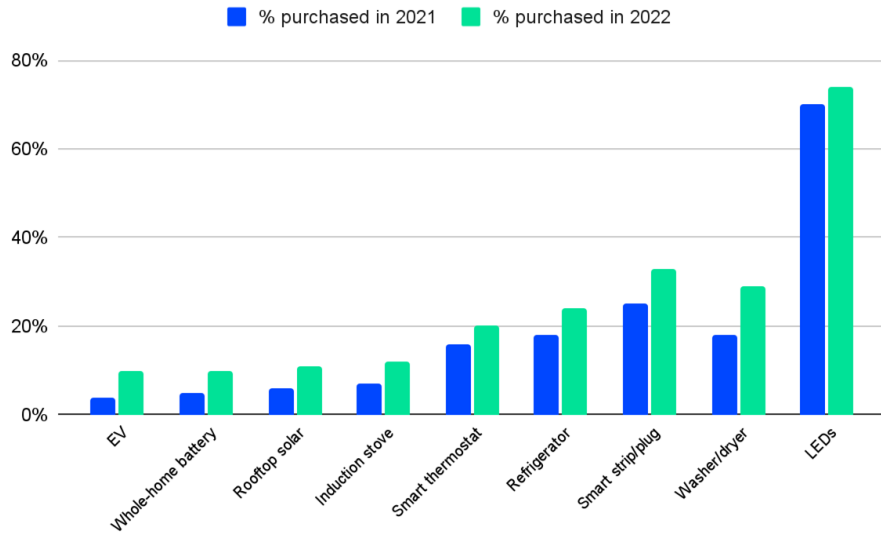
We've been surveying national utility customers since 2020...

In fall 2022, conducted nationally representative survey (n=991)

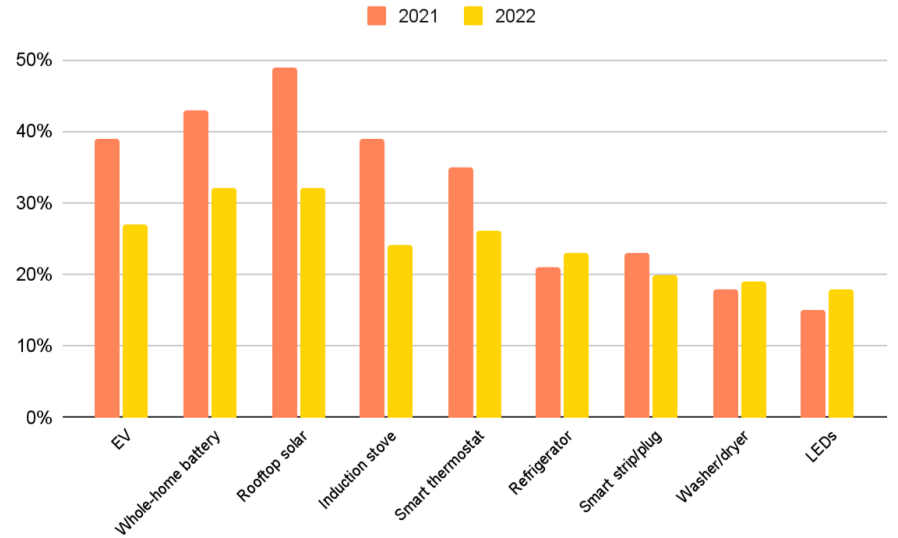
Here are a few interesting things we've noticed about enrolling for load flexibility.

# Ownership of green technology is on the rise, but engagement is not.

## Green Technology Purchases



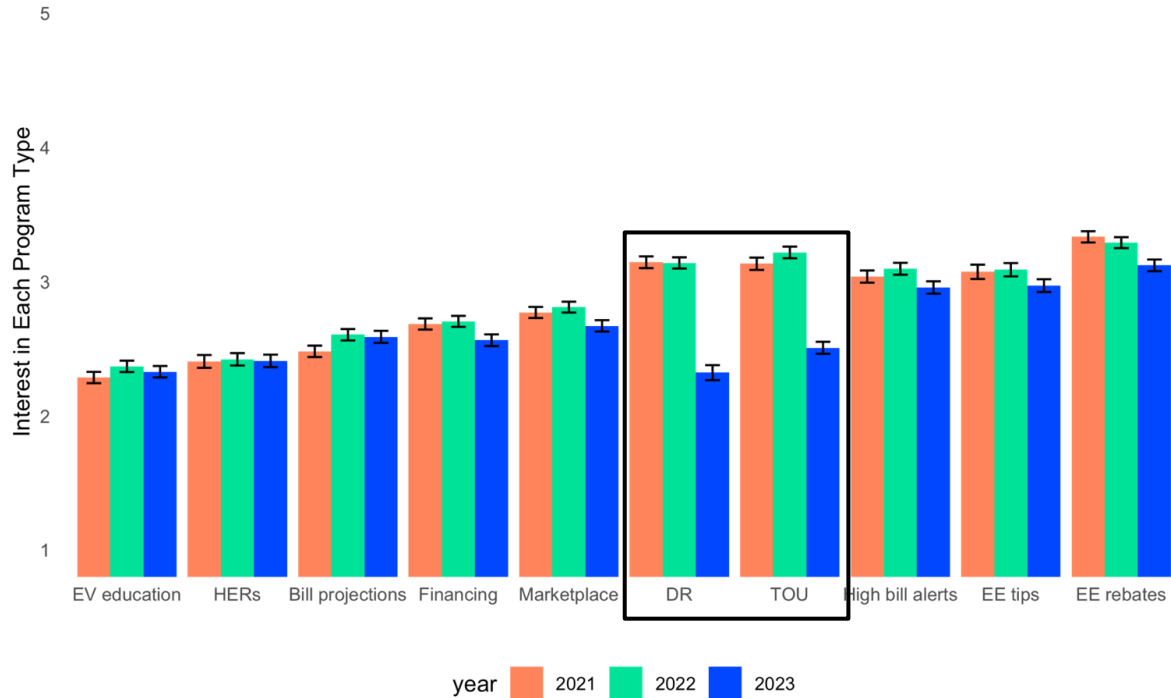
## Used Utility Website for Information



# Utilities still main program referral sources

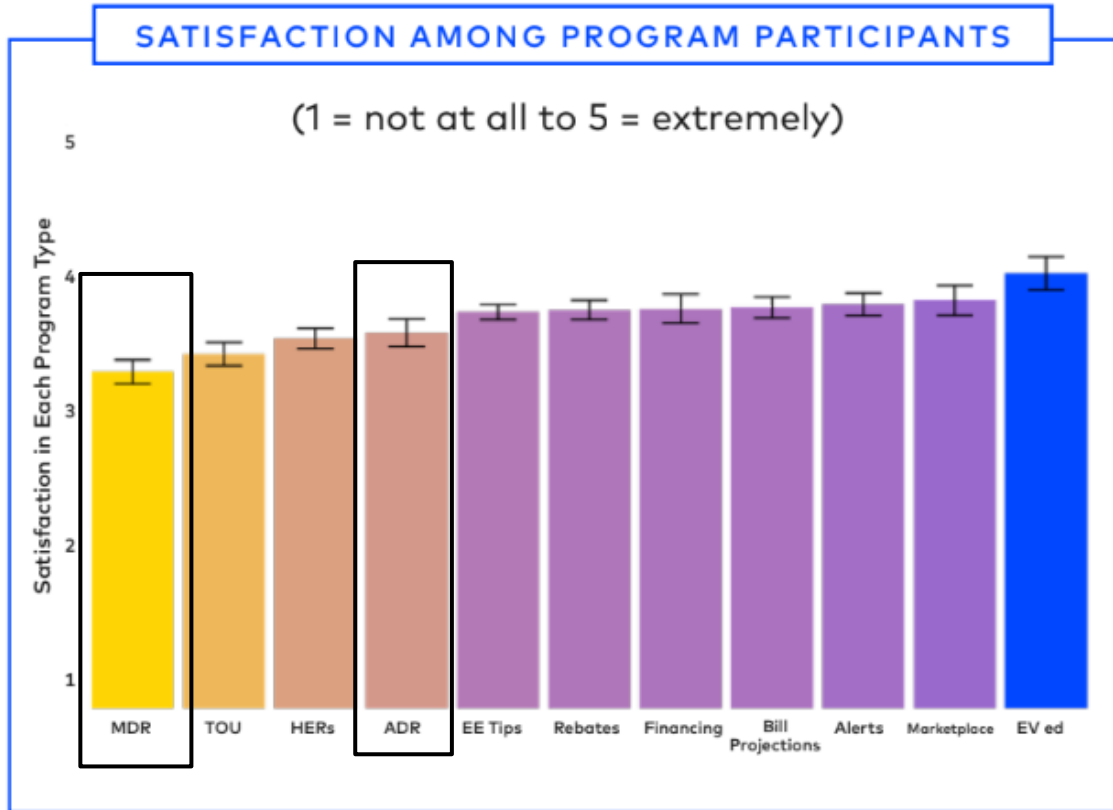
<b>Utility</b>	74.3%
<b>Friend or family member</b>	14.7%
<b>Own research</b>	9.4%
<b>Other</b>	1.3%

# Load flexibility programs had the lowest initial interest...



...but increased significantly after customers were given more information.

# Load flexibility programs have lowest customer satisfaction



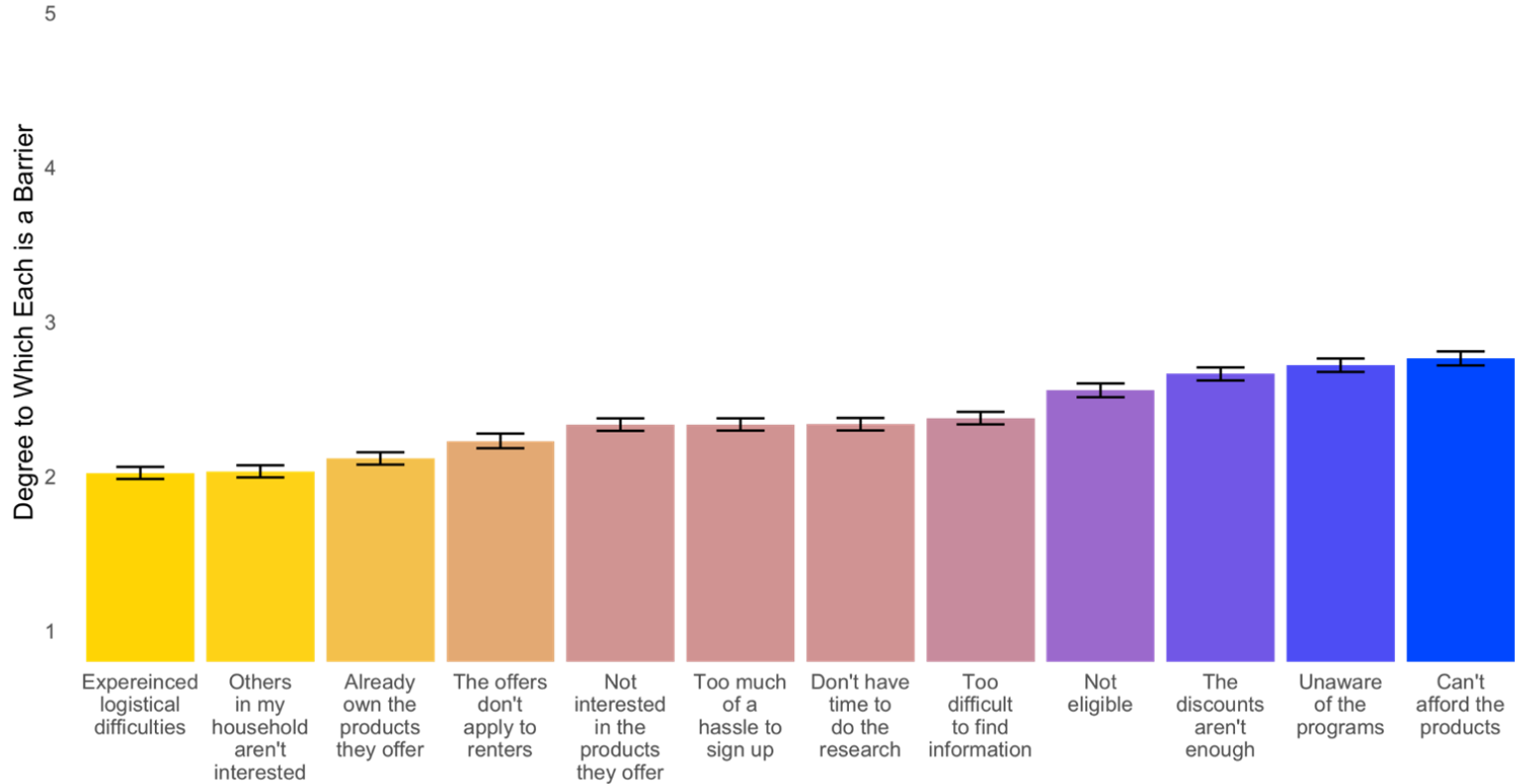
After enrollment, respondents felt slightly more positively toward manual demand response (MDR) vs automated demand response (ADR).



# Smart home products are a gateway to program participation.

Variable	Predicts Interest?	Predicts Participation?
<i>DER Technology Ownership</i>		
Owning high-investment technologies	✓	✓
Owning smart thermostats	✓	✓
<i>Utility Perceptions</i>		
Utility trust	✓	✓
<i>Demographics</i>		
Age	Younger higher	
Race (white vs. non-white)	Non-white higher	
Gender		
Political Party (Democrat vs. Republican)	Democrats higher	

# Cost, awareness, and hassle are barriers.



# Load Flexibility Focus Groups

We also conducted 5 focus groups with a total of 22 DER owners.

**9** on TOU rates

**9** in DR programs

**12**

**EV Owners**



**5**

**Solar Owners**



**6**

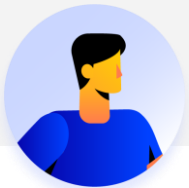
**Smart  
Thermostat  
Owners**



Motivations varied by product type.

But environmental sustainability was missing.

*I received a letter from my electric utility, offering it for free if I participated in their program.*



## Themes

### Smart Thermostat adopters

Convenience, cost savings.

### Solar adopters

*Early adopters* - self-sufficiency.

*Early majority*- peer influence.

### Electric Vehicle adopters

Cost, decreased maintenance, reliability, and even family tradition

## Quotes

*When going away I can adjust it on my phone.*

*Well, most of the neighbors got solar panels.*

*He said, "You're not gonna bring the car in until 7500 and then 15,000 miles".*

### Additional Themes:

Habit, tradition, culture, convenience, and professional experience

They reported many reasons for adopting DER products.

## Moments that Matter



## Non-Financial Benefits



# We identified several common barriers...



## Lack of utility trust

Customers distrusted utility's motivations and some had adversarial relationships.



## Misperceptions

Customers perceived that peak reduction wasn't a priority for their utility and/or wasn't offered.



## Desire for Control

Customers don't want to give up control to a third party.



## Comfort

Concerned about pets, children, & other occupants being comfortable.



## Privacy

Risk of hacking and general distrust of smart devices.

... and three key opportunities.



### **Proactive and targeted communication**

to combat lack of awareness and utility distrust



### **Bundle programs with DERs**

to create a seamless recruitment and enrollment experience

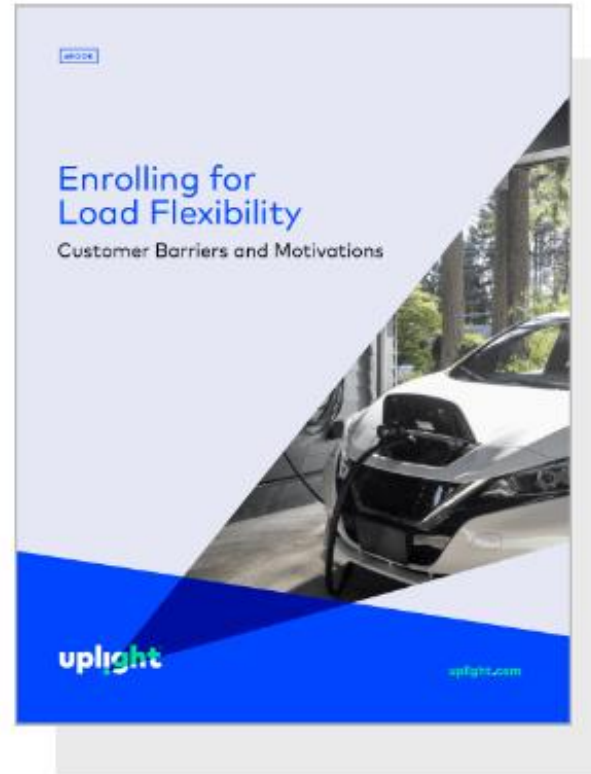
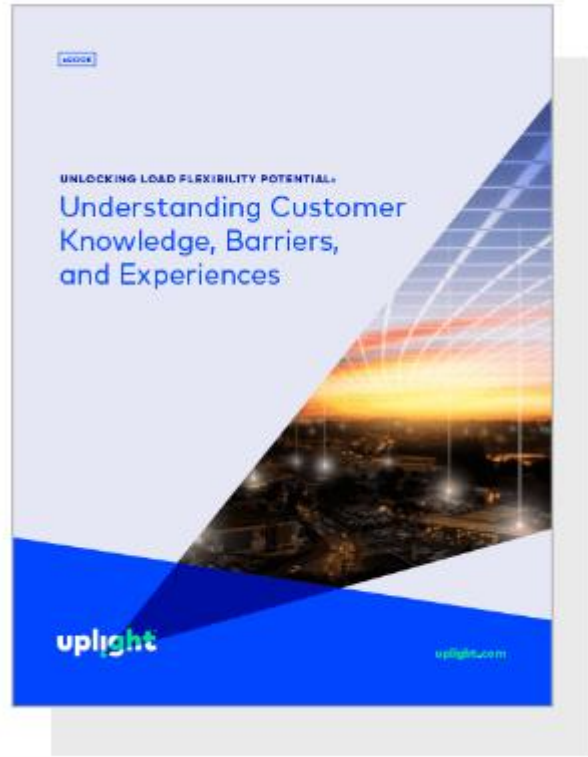


### **Highlight impacts on cost and carbon**

to engage customers get the most out of programs



Lots more insights, check out:



# Research Highlights

<https://uplight.com/library>

**1 Voice of the Customer Survey**

**2 Load Flexibility Focus Groups**

**3 EV Owner Interviews**

**4 Ecosystem Research**

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