ENERGISING COMMUNITIES: NOTTINGHAM'S ENERGY REVOLUTION-18TH OCTOBER 2018

ENGAGING EXISTING COMMUNITIES

Project SENSIBLE

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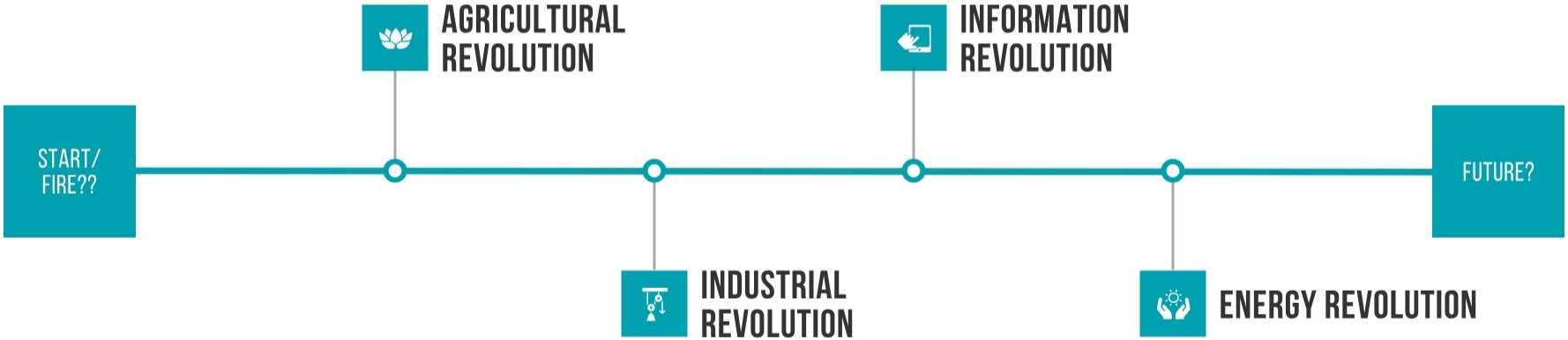
HUMAN DEVELOPMENT (R)EVOLUTION

"In short, we are reinventing fire..." Amory Lovins, 2010




ENERGY REVOLUTION

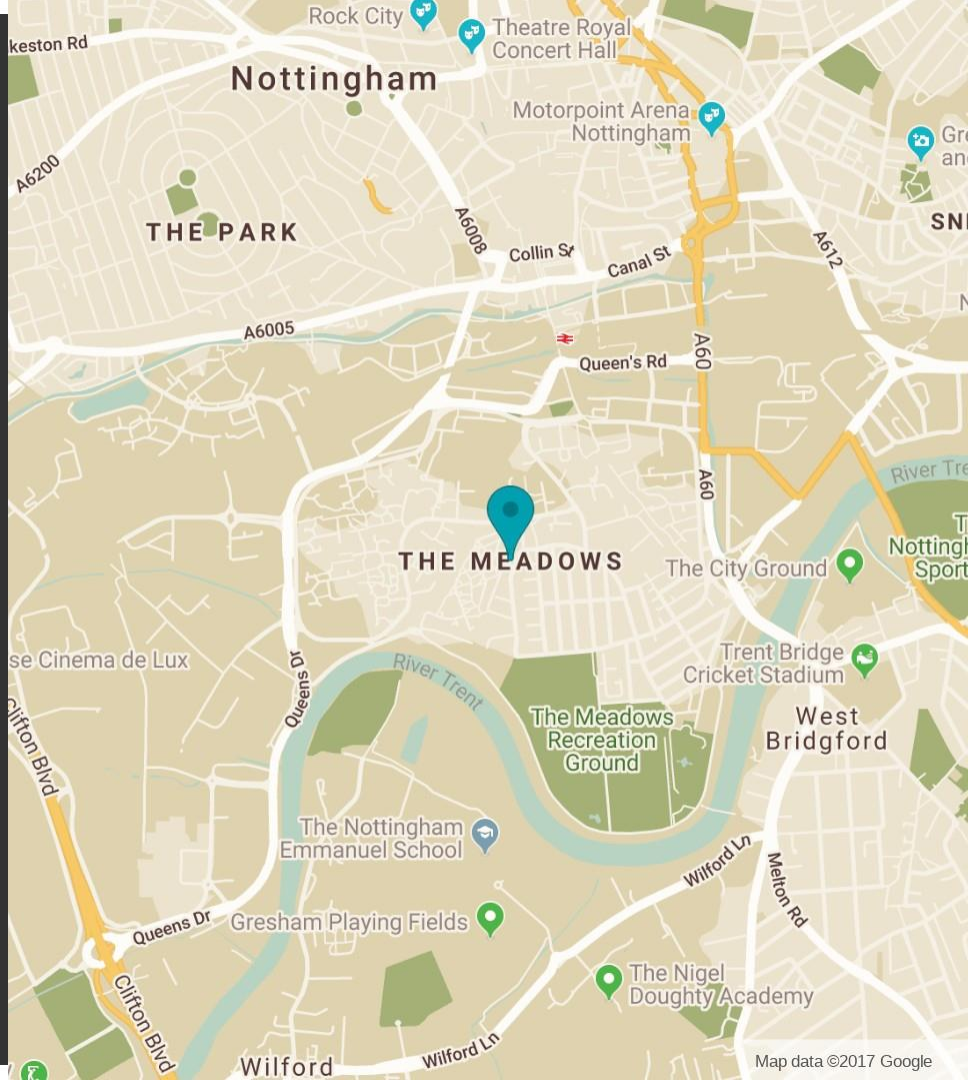
PEOPLE

TAKING CONTROL

of their energy future

EXISTING COMMUNITY

The Meadows, Nottingham



MEADOWS OZONE ENERGY SERVICES

MOZES

created in 2009 to produce and manage the local delivery of energy

ABOUT MOZES

"WE WANTED TO SET UP PROJECTS TO PRODUCE 'GREEN' ELECTRICITY LOCALLY, AND TO REDUCE THE AMOUNT OF FUEL THAT HOUSES IN THE MEADOWS NEED TO KEEP WARM AND HAVE HOT WATER..."

MOZES' ACHIEVEMENTS SO FAR

(SELECTED)

- HAS DRAWN FUNDING FROM LARGE ORGANISATIONS AND THE GOVERNMENT
- HAS FACILITATED HOUSING FABRIC IMPROVEMENTS
- HAS OFFERED FREE ENERGY ADVICE TO OVER 300 HOUSEHOLDS
- PROVIDED ZERO-INTEREST GREEN LOANS TO LOW-INCOME EARNER HOUSEHOLDS
- HOLDS REGULAR COMMUNITY INFORMATION SESSIONS AND ENERGY WORKSHOPS
- CONTRIBUTED TO SEVERAL RESEARCH PROJECTS & RECEIVED INTERESTED VISITORS FROM ALL OVER THE WORLD

MAIN OBJECTIVE

TO DEVELOP, DEMONSTRATE AND EVALUATE A STORAGE-ENABLED SUSTAINABLE ENERGY SUPPLY

for buildings and communities

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Storage-Enabled Sustainable Energy for Buildings and Communities

WWW.PROJECTSENSIBLE.EU

FUNDED BY THE EUROPEAN COMMISSION GRANT NO. 645963

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CONSORTIUM

DEMONSTRATOR SITES

UK - PORTUGAL - GERMANY

PROJECT SENSIBLE

OVERVIEW - Demonstrator sites

NOTTINGHAM, UK

Enable an independent community

Increase self-consumption

Micorgrid PV management

ÉVORA, PORTUGAL

Optimise storage networks

Optimise distribution networks

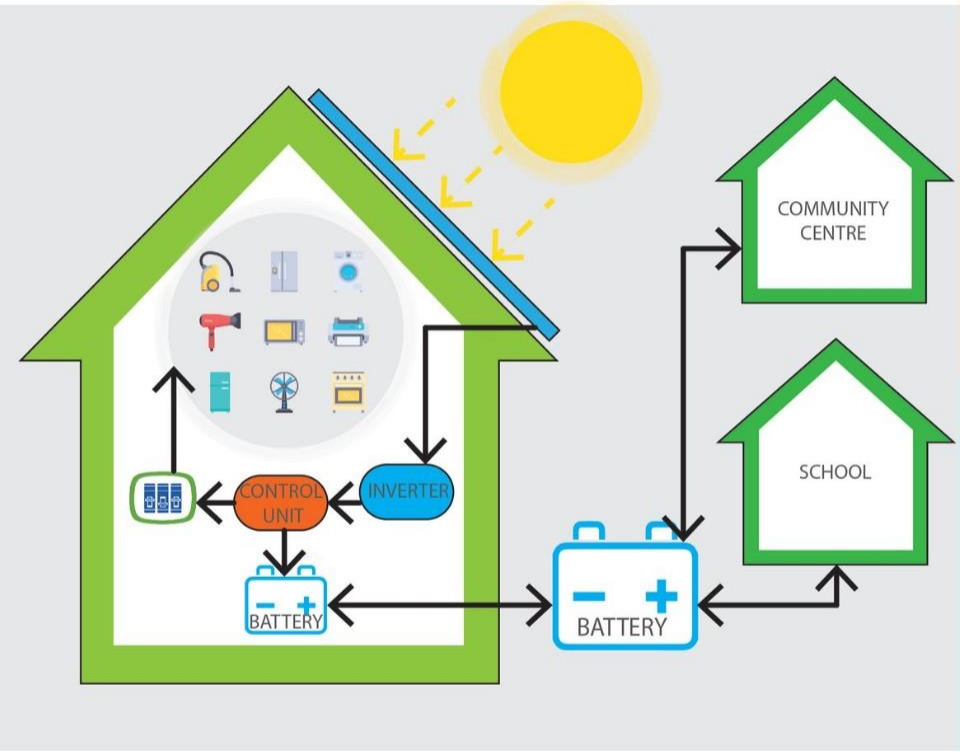
Operate low voltage networks

NUREMBERG, GERMANY

Manage energy in large buildings

Increase self-consumption

Optimise energy procurement



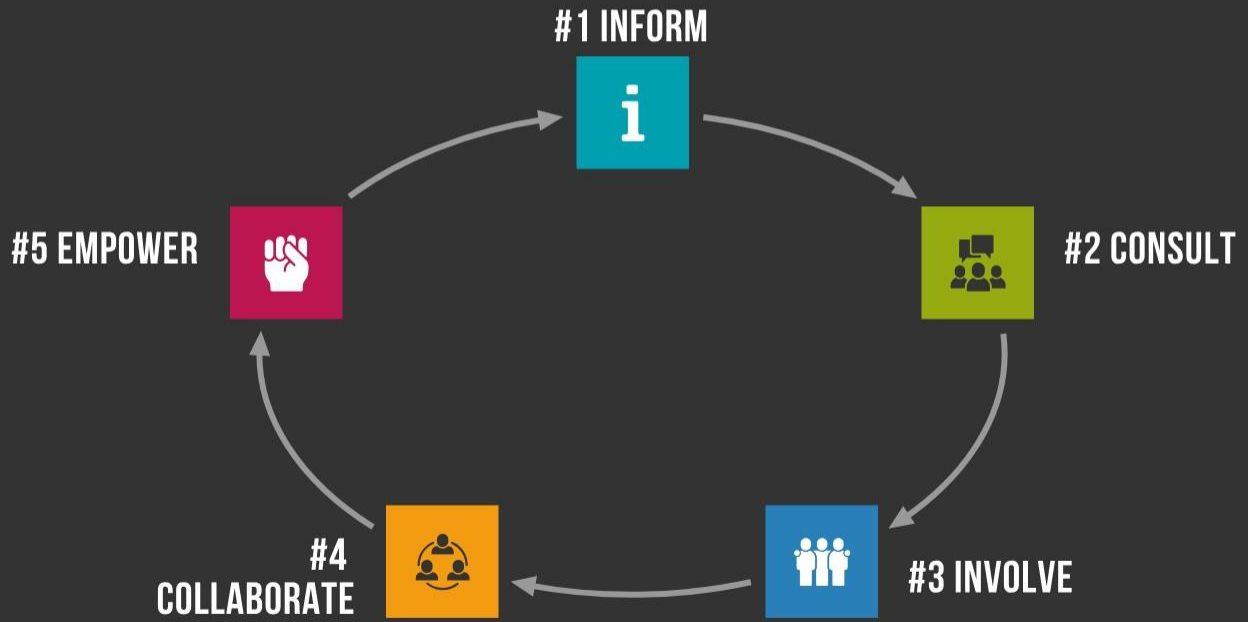
PROJECT SENSIBLE IN THE MEADOWS

STORING AND SHARING LOCALISED ENERGY GENERATION WITHIN A COMMUNITY, THEREBY INCREASING EFFICIENCY AND REDUCING COSTS FOR ALL

PUBLIC PARTICIPATION & ENGAGEMENT

COMMUNITY ENGAGEMENT PROCESS

Project SENSIBLE - Nottingham strategy



Community residents

Community school

New Pre-meter Community

INFORM

CONSULT

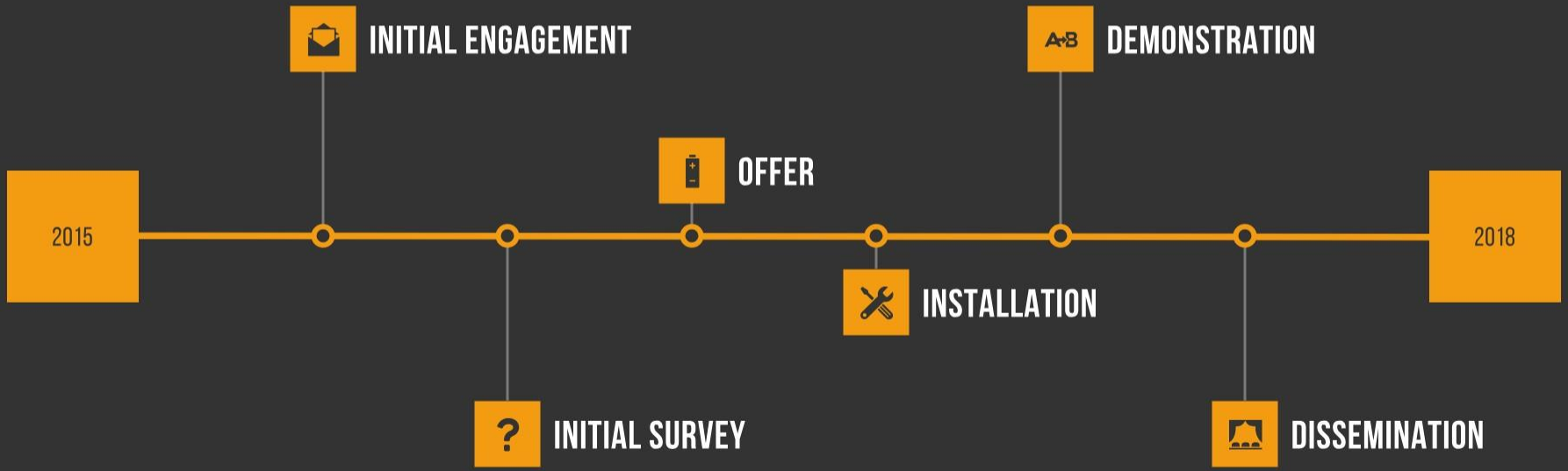
INVOLVE

COLLABORATE

EMPOWER

COMMUNITY RESIDENTS

VOLUNTEER HOUSEHOLDS PROCESS



SURVEY 1

PRE-INSTALLATION
Views on climate change
Views on community initiatives & energy storage
Energy generation, supply & use characterisation
Preferences regarding Project SENSIBLE
Property characterisation

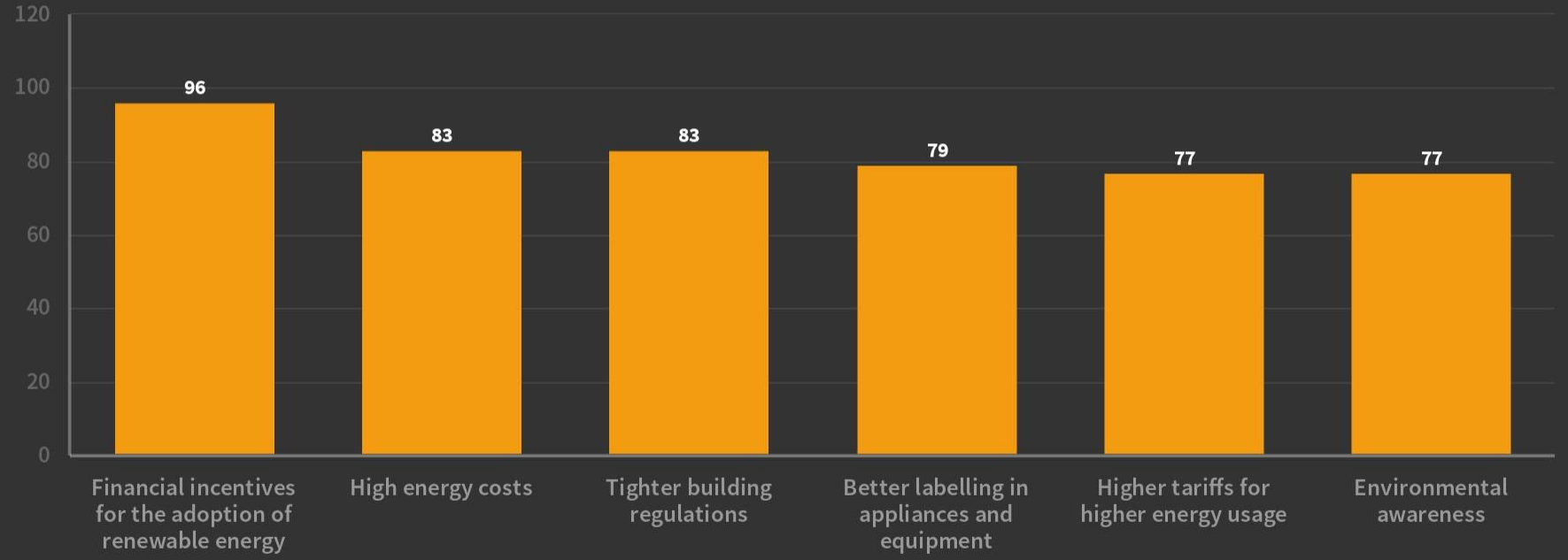
QUESTIONNAIRE RESPONSE RATE

81% 

VIEWS ON CLIMATE CHANGE AND ENERGY EFFICIENCY

1. 95% FELT THAT THE ISSUE OF CLIMATE CHANGE WAS IMPORTANT TO THEM PERSONALLY
2. 94% BELIEVE THAT THE ACTIONS OF INDIVIDUAL HOUSEHOLDS INFLUENCE THE RATE OF CLIMATE CHANGE
3. 82% INDICATED THAT PEOPLE SHOULD BE MADE TO REDUCE THEIR ENERGY CONSUMPTION TO DIMINISH CLIMATE CHANGE
4. 68% BELIEVED THEIR PROPERTIES WERE ENERGY EFFICIENT
5. 65% MONITOR THE USE OF ENERGY IN THEIR PROPERTY

POTENTIAL DRIVERS FOR REDUCED ENERGY CONSUMPTION



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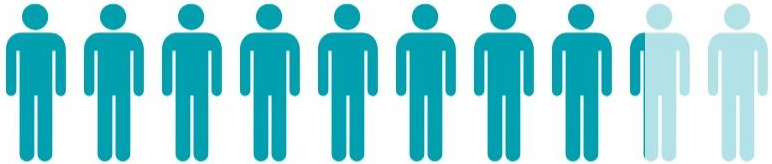
COST OF IMPLEMENTING ENERGY EFFICIENCY MEASURES

82%



indicated that they would be willing to invest in low cost measures (under £500) to make their properties more energy efficient

50%

would consider investments costing more than £500

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COST OF ENERGY

satisfied with the price the pay for energy

had been concerned about their inability to pay energy bills in the past and wanted to adopt energy efficiency strategies to protect themselves in the future

VIEWS ON COMMUNITY ENERGY INITIATIVES & ENERGY STORAGE

1. 97% BELIEVE THAT SHARED ENERGY INITIATIVES CAN HELP IMPROVE ENERGY EFFICIENCY
2. 90% BELIEVE THAT SHARED ENERGY INITIATIVES CAN HELP IMPROVE INFRASTRUCTURE RESILIENCE
3. 91% BELIEVE THAT SHARED ENERGY INITIATIVES CAN HELP IMPROVE SOCIAL COHESION
4. 97% BELIEVE THAT SHARED ENERGY INITIATIVES CAN HELP REDUCE ENERGY COSTS FOR INDIVIDUAL HOUSEHOLDS

VIEWS ON COMMUNITY ENERGY INITIATIVES

90%

WOULD LIKE TO SEE THEIR COMMUNITY MANAGE THEIR OWN ENERGY

92%

ARE WILLING TO SHARE EXCESS ELECTRICITY WITH THEIR COMMUNITY

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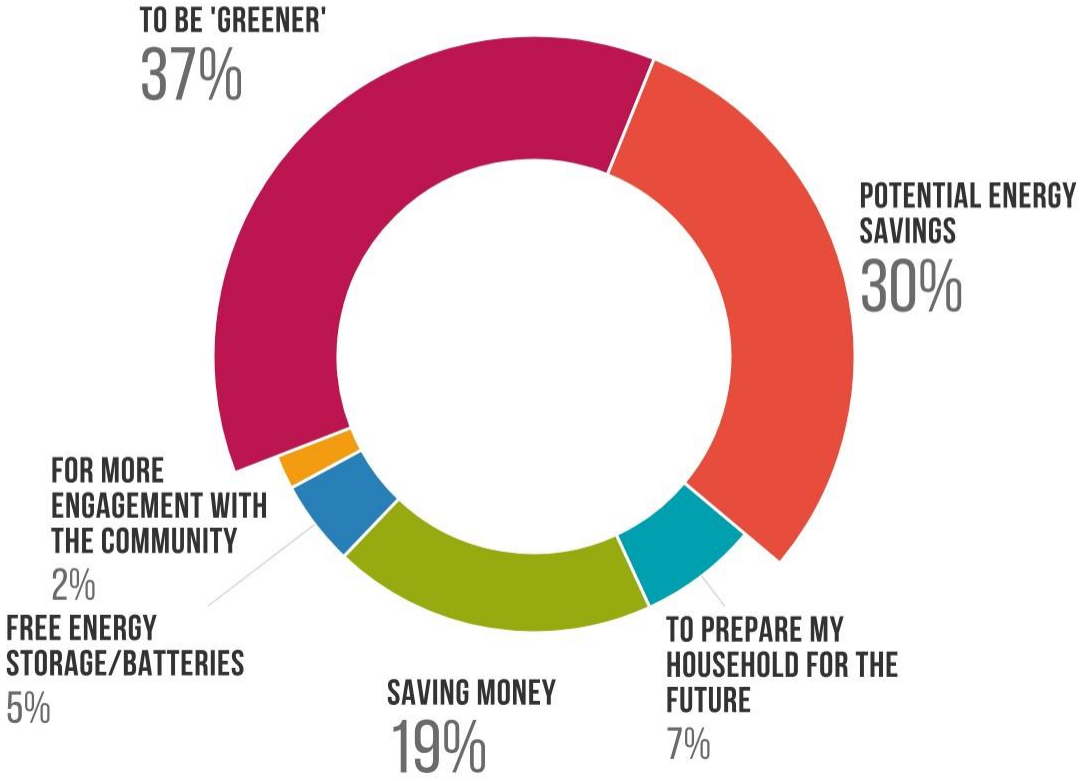
Design Enabled Sustainable Energy for Buildings and Communities

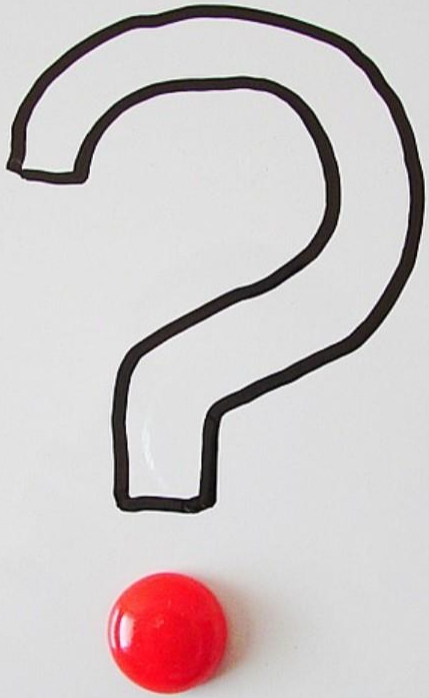
VIEWS ON ENERGY STORAGE

BELIEVED THAT CENTRALISED ENERGY STORAGE WITHIN COMMUNITIES CAN IMPROVE ENERGY EFFICIENCY

BELIEVED THAT CENTRALISED ENERGY STORAGE WITHIN HOUSEHOLDS CAN IMPROVE ENERGY EFFICIENCY

PARTICIPANT REASONS FOR JOINING PROJECT SENSIBLE





SURVEY 2

POST-INSTALLATION
Views on energy storage equipment
Views on involvement in Project SENSIBLE
General comments for the project team

QUESTIONNAIRE RESPONSE RATE

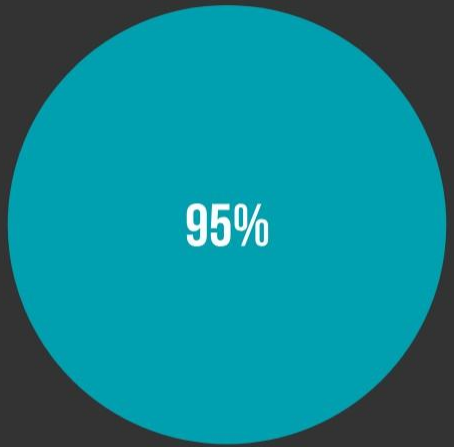
REASONS FOR INSTALLING THE ENERGY STORAGE EQUIPMENT

Ranked from most to least important

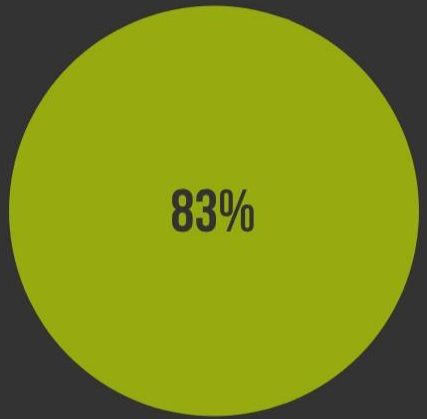
1. **TO BE 'GREENER'**
2. **FOR POTENTIAL ENERGY SAVINGS**
3. **TO SAVE MONEY**
4. **OTHER FACTORS**

'To prepare my household for the future', 'for more engagement with the community', 'a natural step of progression and to make a personal statement on the way forward' - as they considered themselves very environmentally conscious'.

VIEWS ON ENERGY STORAGE TECHNOLOGIES



WERE OF THE OPINION THAT ENERGY STORAGE WILL REVOLUTIONISE ENERGY USE IN HOMES AND COMMUNITIES IN THE FUTURE



FELT THAT THE GOVERNMENT IS NOT DOING ENOUGH TO HELP PEOPLE ADOPT ENERGY STORAGE IN THEIR HOMES AND COMMUNITIES

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83% WOULD RECOMMEND OTHER MEMBERS OF THEIR COMMUNITY TO INSTALL ENERGY STORAGE EQUIPMENT IN THEIR HOMES

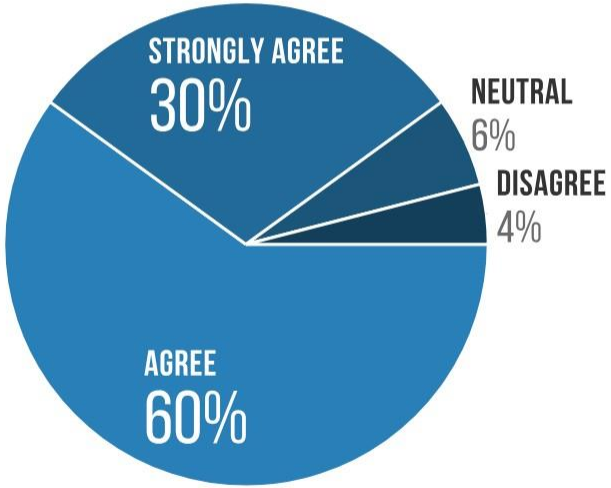
ENERGY STORAGE FOR COMMUNITIES

All the respondents shared the view that energy storage for communities as opposed to energy storage for individual homes can help improve energy efficiency. Their reasons for this response included:

1. SUPPORTS THE SHIFT TOWARDS RENEWABLE ENERGY SOURCES
2. ECONOMIES OF SCALE (AS RELATES TO THE COST OF A TYPICAL BATTERY)
3. POTENTIAL TO SHARE ENERGY AT CHEAPER PRICES

HOW DOES MY ENERGY STORAGE WORK?

I fully understand how my energy storage works



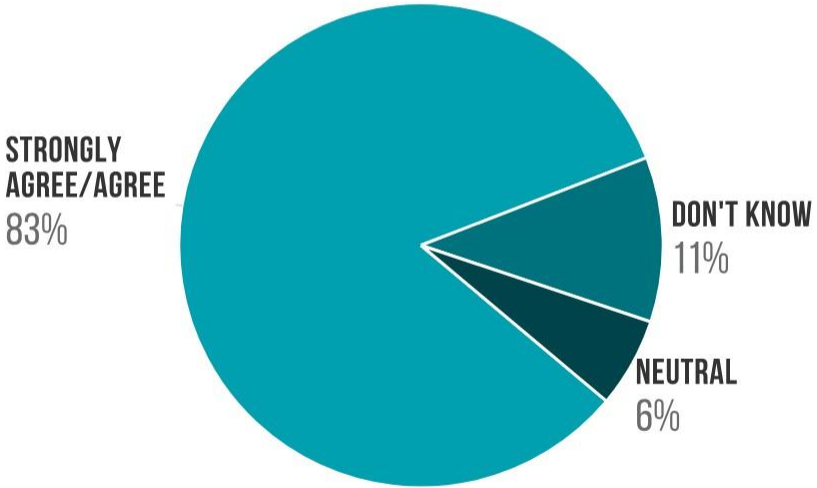
EXPERIENCED BENEFITS OF ENERGY STORAGE

Ranked from most to least beneficial

1. LOWER CARBON FOOTPRINT
2. LOWER ENERGY BILLS
3. INCREASED SELF CONSUMPTION + IMPROVED ENERGY SECURITY
4. IMPROVED ENERGY EFFICIENCY

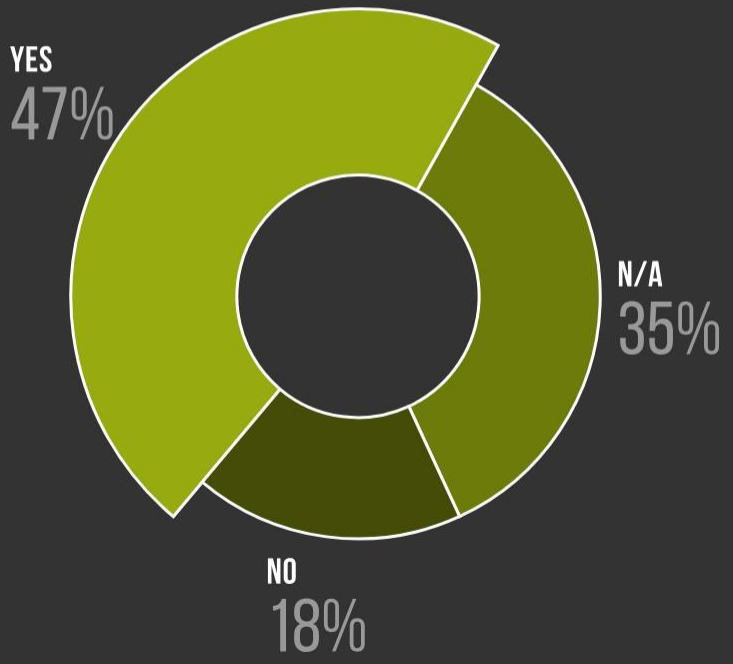
COST OF ENERGY BILLS

Has energy storage been useful in helping me cut down on my energy bills?



ENERGY EFFICIENCY

Has having energy storage equipment installed in your home made you more energy efficient?



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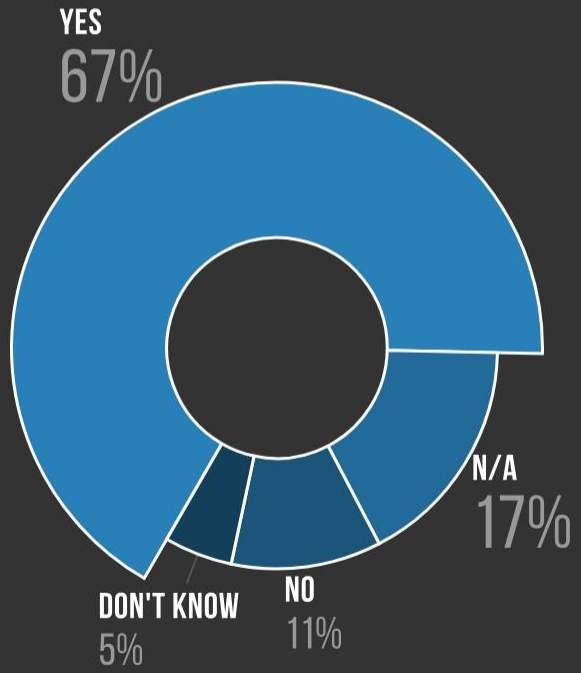
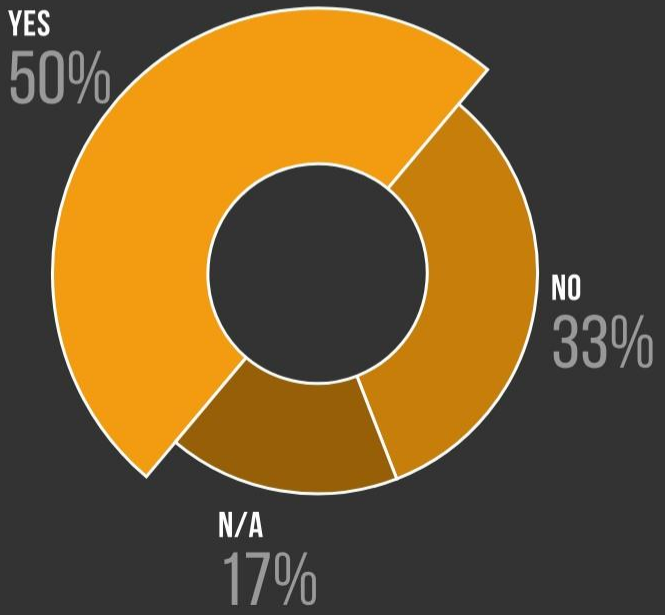
SELF CONSUMPTION

Do you use more or less solar energy than you did prior to the installation of energy storage equipment in your home?



ENERGY LOAD SHIFTING

Have you changed how you use solar energy in your home
(E.g. using more of the stored energy during the night time)?



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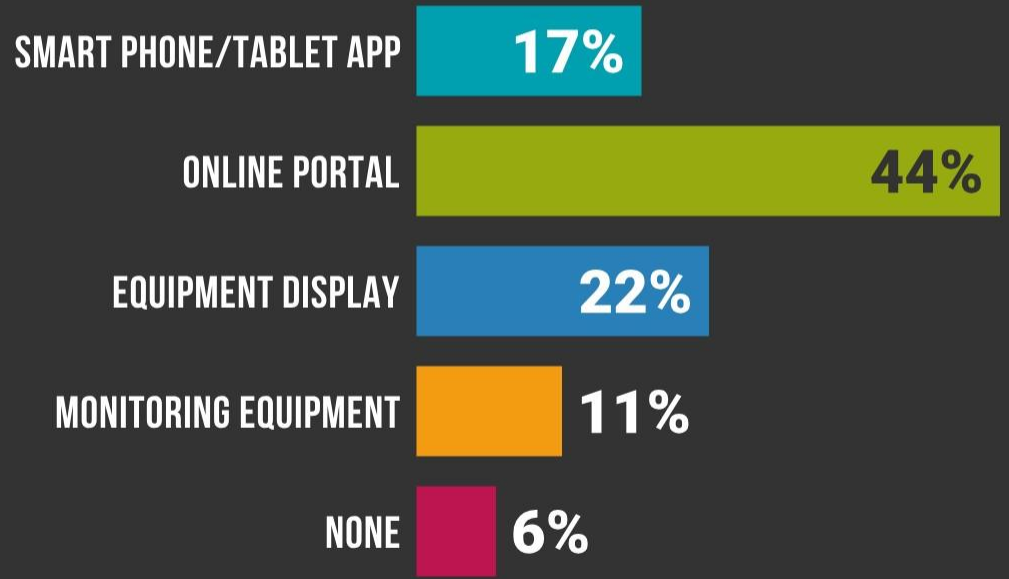
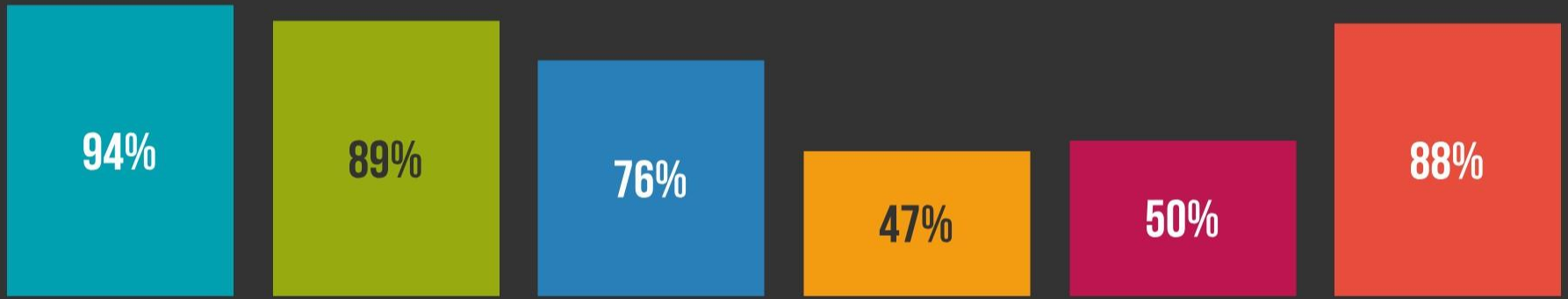
USER ENGAGEMENT

How do you interact with your energy storage equipment?



FEEDBACK ON PROJECT INVOLVEMENT

Participants have their say...



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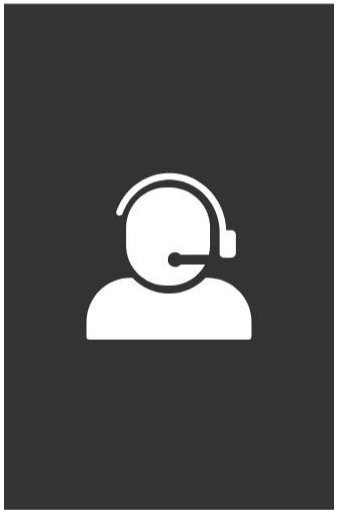
WHAT NEXT?

...for MOZES

HOME ECO-TEAM INITIATIVES



ENERGY ADVISOR

HANDY GUIDES E.G. ENERGY EFFICIENCY

COMMUNITY WORKSHOPS

RETROFIT IMPROVEMENTS

MEANINGFUL ENGAGEMENT

MORE INFO...

FACEBOOK.COM/PROJECTSENSIBLE

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