Climate Change Behavioural Insights

Final Report
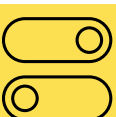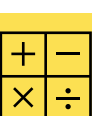
Prepared for: Kent County Council

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Kent County Council

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Introduction - What we did

Purpose of this project

Background

Kent County Council, along with many other local authorities, has declared a Climate Emergency and is working with its partners to develop a strategy and action plan to achieve carbon reduction targets. This includes measures to encourage and enable changes in behaviour across the community, with policy and interventions based on robust evidence and behavioural insight. Hampshire County Council's Insight and Engagement Unit was tasked with delivering initial research to inform the approach to behaviour change as part of a three-council collaboration with Hertfordshire County Council also joining the project.

The research was designed to support local authorities to work with their partners to reduce carbon consumption through changed behaviours by addressing two key questions:

1. Where do the most significant opportunities lie to reduce carbon consumption through citizen behaviour change?

The research identified the key opportunities for, and barriers to, achieving desired behaviour changes among citizens by exploring people's **capacity**, **opportunity** and **motivation** to change behaviour - and by assessing how much change might be possible, where, with whom (including demographic and Mosaic profiles) and when. An assessment of the carbon impact of desired behaviour changes, together with potential health benefits, was also undertaken.

2. How can behaviours be most effectively influenced to reduce carbon?

The research assessed the evidence of the most effective ways of communicating and ultimately achieving behaviour change.

Citizen actions that were considered in this project

In total we focused on 23 actions related to climate change and resilience:

Sustainable Energy and Water Use

- Use water saving devices
- Avoid unnecessary water usage
- Install insulation
- Choose energy efficient appliances when purchasing or replacing
- Install renewable energy devices in your home
- Change to a green energy tariff

Sustainable Travel

- Reduce car/taxi use by using active forms of transport
- Reduce car/taxi use by using public transport
- Buy/lease an electric car
- Avoid short haul flights by taking the train instead
- Avoid long haul flights by choosing not to travel internationally
- Avoid flights by working from home/conference/video calls
- Avoid local travel by working from home/conference/video calls

Sustainable Diet

- Reduce meat consumption
- Reduce dairy consumption
- Buy local produce to reduce food miles
- Reduce food waste
- Make ethical food choices (e.g. buy Fairtrade, don't buy palm oil etc.)

Sustainable Purchasing and Consumption

- Use reusable alternatives wherever possible
- Correctly recycle materials
- Reduce use of plastics

Resilience to Climate Change

- Modify my home to be more resilient to heat and drought
- Modify my house to be more resilient to storms and flooding

What we did - methodology

Desk Research	Carbon Calculator	Qualitative focus groups	Online survey
REVIEW of existing national and local evidence on: • behavioural factors (capacity, opportunity, and motivation) relating to the specific areas of focus • effective practice in behavioural interventions to reduce carbon. This related to general approaches and specific areas of focus	**ASSESMENT** of the carbon impact of a range of specific behavioural changes Conducted by the University of Southampton	**UNDERSTANDING** of how best to target behaviour change, barriers and motivations in a qualitative setting	**QUANTIFY** who is willing to take different climate actions, quantify barriers and motivations and understand who it is best to target to change behaviour Analysis conducted by Insight and Engagement Unit at Hampshire County Council. Statistical analysis conducted by the University of Southampton
CONDUCTED in March 2020	**CREATED in April 2020**	**CONDUCTED in February and March 2020**	**CONDUCTED in April 2020**
What does this tell us? What behaviour change evidence already exists	**What does this tell us?** How much carbon (CO_2 equivalent) can each climate change action save	**What does this tell us?** What is the best way to communicate to people about climate behaviours	**What does this tell us?** How many people are willing to take each climate action

Carbon calculator – methodology for carbon reduction numbers

The impact of actions on reducing carbon (the carbon calculation) was conducted by Aleksandra Nazeraj, PhD Candidate at the Department of Economics, University of Southampton and overseen by Yaryna Basystyuk, Senior Policy & Communications Officer at Public Policy|Southampton. Calculation units are $kgCO_2$ equivalent for individual actions.

Findings came from reputable sources, namely:
- DEFRA/BEIS
- Academic journals
- Energy Saving Trust

UNIVERSITY OF
Southampton

We applied the research to find out the carbon savings from conducting 18 specific actions (out of the 23 actions*)

We applied reasonable assumptions based on current behavioural data from reputable sources, namely:

- Government national statistical surveys
- Industry body estimates
- Sales data and prevalence of behaviours

Example of output:

$kgCO_2$ emissions per km of using a petrol, diesel car, plug in and battery electric car.

Example of output:

Buy/lease an electric car

Research was carried out into current use of petrol vs diesel and plug-in vs battery electric. Research was carried out to find out the average annual distance travelled per person per year by car.

The difference in $kgCO_2e$ emissions per year for petrol/diesel cars and plug-in/battery electric cars was calculated.

Link to full findings: Carbon emission from individual actions

Link to full findings: CO2e impact of actions

What we discovered – Executive Summary

Overall summary

Climate Change
Behavioural Action Plan

1. Install renewable energy
Opportunity Size
(millions of kg CO2 annually)
1386

Ease of Behaviour change	Level of influence
Low	Medium

2. Change to a green energy tariff
Opportunity Size
(millions of kg CO2 annually)
1069

Ease of Behaviour change	Level of influence
High	Medium

3. Buy/lease an electric car
Opportunity Size
(millions of kg CO2 annually)
522

Ease of Behaviour change	Level of influence
Low	Medium

4. Avoid flights by working from home
Opportunity Size
(millions of kg CO2 annually)
306

Ease of Behaviour change	Level of influence
Low	Medium

5. Install insulation
Opportunity Size
(millions of kg CO2 annually)
263

Ease of Behaviour change	Level of influence
Low	Medium

6. Avoid flights by taking the train
Opportunity Size
(millions of kg CO2 annually)
124

Ease of Behaviour change	Level of influence
Low	Medium

7. Reduce food waste
Opportunity Size
(millions of kg CO2 annually)
111

Ease of Behaviour change	Level of influence
Medium	Medium

8. Avoid international flights
Opportunity Size
(millions of kg CO2 annually)
83

Ease of Behaviour change	Level of influence
Low	Medium

9. Reduce meat consumption
Opportunity Size
(millions of kg CO2 annually)
69

Ease of Behaviour change	Level of influence
High	Medium

10. Use water saving devices
Opportunity Size
(millions of kg CO2 annually)
66

Ease of Behaviour change	Level of influence
Medium	Medium

11. Reduce dairy consumption
Opportunity Size
(millions of kg CO2 annually)
63

Ease of Behaviour change	Level of influence
High	Medium

12. Avoid local travel by working from home
Opportunity Size
(millions of kg CO2 annually)
58

Ease of Behaviour change	Level of influence
High	High

13. Public Transport
Opportunity Size
(millions of kg CO2 annually)
37

Ease of Behaviour change	Level of influence
High	High

14. Choose energy efficient appliances
Opportunity Size
(millions of kg CO2 annually)
26

Ease of Behaviour change	Level of influence
High	Medium

15. Buy locally produced food
Opportunity Size
(millions of kg CO2 annually)
14

Ease of Behaviour change	Level of influence
Medium	Medium

16. Active Transport
Opportunity Size
(millions of kg CO2 annually)
13

Ease of Behaviour change	Level of influence
High	High

17. Use less water
Opportunity Size
(millions of kg CO2 annually)
4

Ease of Behaviour change	Level of influence
High	Medium

18. Correctly recycle materials
Opportunity Size
(millions of kg CO2 annually)
2

Ease of Behaviour change	Level of influence
Medium	Medium

19. Make ethical food choices

Ease of Behaviour change	Level of influence
Medium	Medium

20. Reduce use of plastics

Ease of Behaviour change	Level of influence
High	Medium

21. Modify my home
to be more resilient to heat and drought

Ease of Behaviour change	Level of influence
Low	Medium

22. Modify my house
to be more resilient to storms and flooding

Ease of Behaviour change	Level of influence
Low	Medium

23. Use reusable alternatives

Ease of Behaviour change	Level of influence
High	Medium

Executive summary – headline findings 1/2

Home energy and travel dominate the opportunities for citizen action to save carbon

Installing renewable energy devices (solar, heat pumps) is both the biggest opportunity for citizen carbon saving and the single most impactful individual action to take

Willingness to take carbon reducing activities clusters in three broad areas – home, travel and food, and resources. Willingness to take one action in these areas often means willingness to take another

Leading with an environmental message is rarely the best way to communicate climate change actions but it should be used as a secondary tactic. Money and ease are stronger primary messages

COVID-19 has provided a potentially short window to help address issues related to travel (particularly working from home) and food (particularly food waste)

People are willing to change and know it is the right thing to do, but they must overcome a number of internal and external barriers. Approaches to addressing climate change must work past these barriers

Barriers that limit individual action are lack of:

- Physical or psychological capacity e.g. financial, time or knowledge constraints
- Motivation e.g. unhelpful habits or conflicting motivations
- Opportunity in individual environments e.g. possibility to do action or conflicting social norms
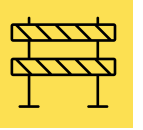
The following approaches can help overcome these barriers:

- An additive approach e.g. 'every little helps' could work for climate change;
- Encourage reflection through point of action communications;
- Show consistent, visible leadership;
- Make doing the right thing more visible – it's not easy to see the people who didn't use carbon;
- Make it clear how much each action contributes;
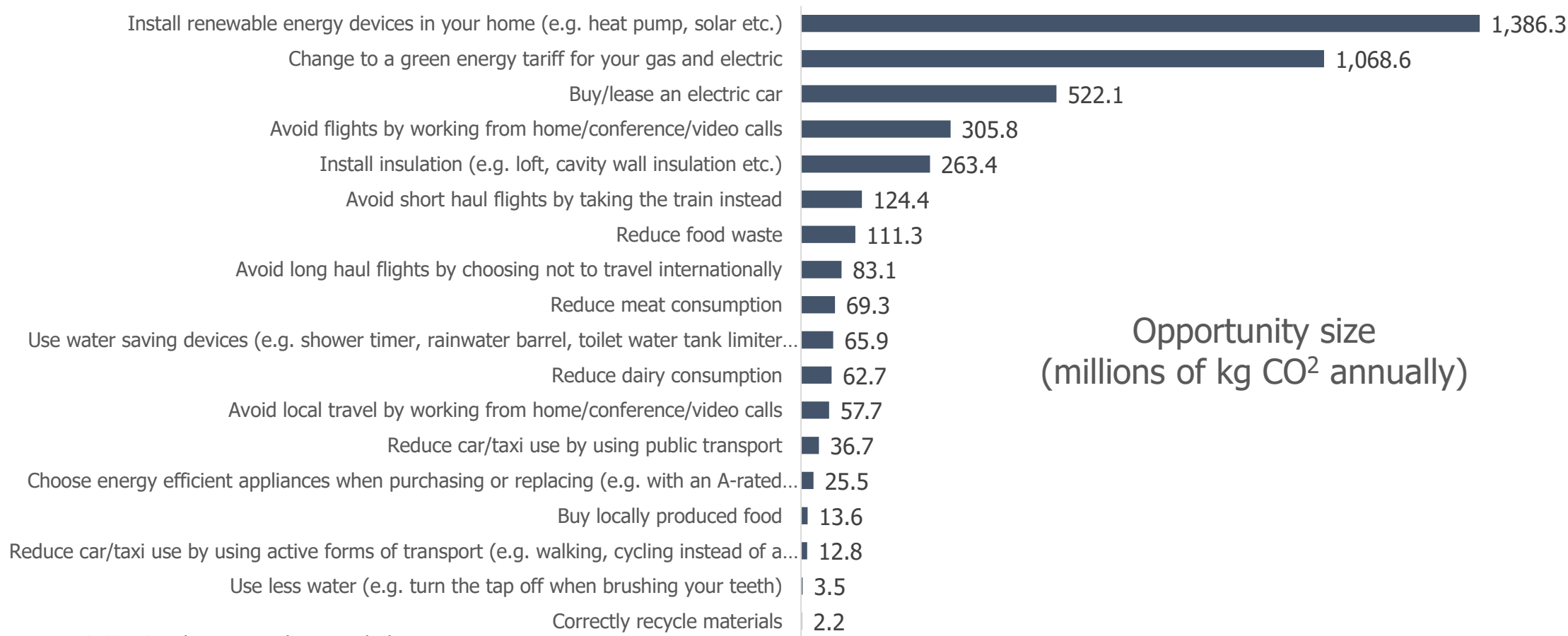- Create clear shared goals – people will change a lot if they agree.

Information is needed to overcome lack of knowledge of carbon impacts for some actions, notably dairy and meat consumption

Summary of findings – Headline insights

Installing renewable energy devices is the largest CO_2 saving opportunity

Below is a representation of the carbon opportunity size (% of the Kent population willing to take an action multiplied by the amount of carbon saved for doing the action) in millions of kg of CO_2 equivalent annually

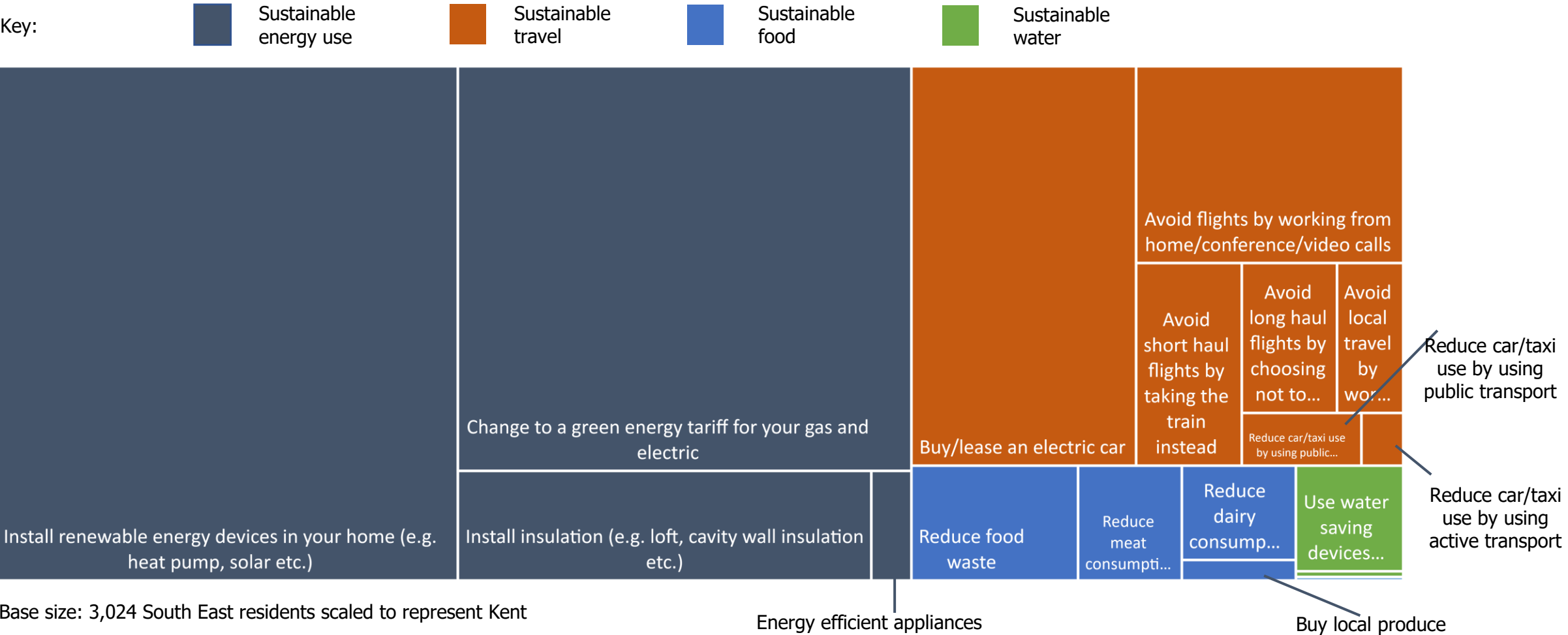| Action	Opportunity size (millions of kg CO_2 annually)
Install renewable energy devices in your home (e.g. heat pump, solar etc.)	1,386.3
Change to a green energy tariff for your gas and electric	1,068.6
Buy/lease an electric car	522.1
Avoid flights by working from home/conference/video calls	305.8
Install insulation (e.g. loft, cavity wall insulation etc.)	263.4
Avoid short haul flights by taking the train instead	124.4
Reduce food waste	111.3
Avoid long haul flights by choosing not to travel internationally	83.1
Reduce meat consumption	69.3
Use water saving devices (e.g. shower timer, rainwater barrel, toilet water tank limiter…	65.9
Reduce dairy consumption	62.7
Avoid local travel by working from home/conference/video calls	57.7
Reduce car/taxi use by using public transport	36.7
Choose energy efficient appliances when purchasing or replacing (e.g. with an A-rated…	25.5
Buy locally produced food	13.6
Reduce car/taxi use by using active forms of transport (e.g. walking, cycling instead of a…	12.8
Use less water (e.g. turn the tap off when brushing your teeth)	3.5
Correctly recycle materials	2.2

Base size: 3,024 South East residents scaled
to represent Kent

Key takeout – Home energy (renewable energy devices and green energy tariffs) is the largest opportunities to save carbon

People are most willing to save on carbon through in-home energy saving measures and changing travel behaviour

Below is a representation of the carbon opportunity size of each action and area of actions (% of the Kent population willing to take an action multiplied by the amount of carbon saved for doing the action). Each panel represents the opportunity size of the action

Key:
- Sustainable energy use
- Sustainable travel
- Sustainable food
- Sustainable water

Install renewable energy devices in your home (e.g. heat pump, solar etc.)

Change to a green energy tariff for your gas and electric

Install insulation (e.g. loft, cavity wall insulation etc.)

Energy efficient appliances

Buy/lease an electric car

Avoid flights by working from home/conference/video calls

Avoid short haul flights by taking the train instead

Avoid long haul flights by choosing not to...

Avoid local travel by wor...

Reduce car/taxi use by using public...

Reduce car/taxi use by using public transport

Reduce car/taxi use by using active transport

Reduce food waste

Reduce meat consumpti...

Reduce dairy consump...

Use water saving devices...

Buy local produce

Base size: 3,024 South East residents scaled to represent Kent

Key takeout – The largest carbon opportunities lie in home energy and travel – these areas will be key to any climate change strategy
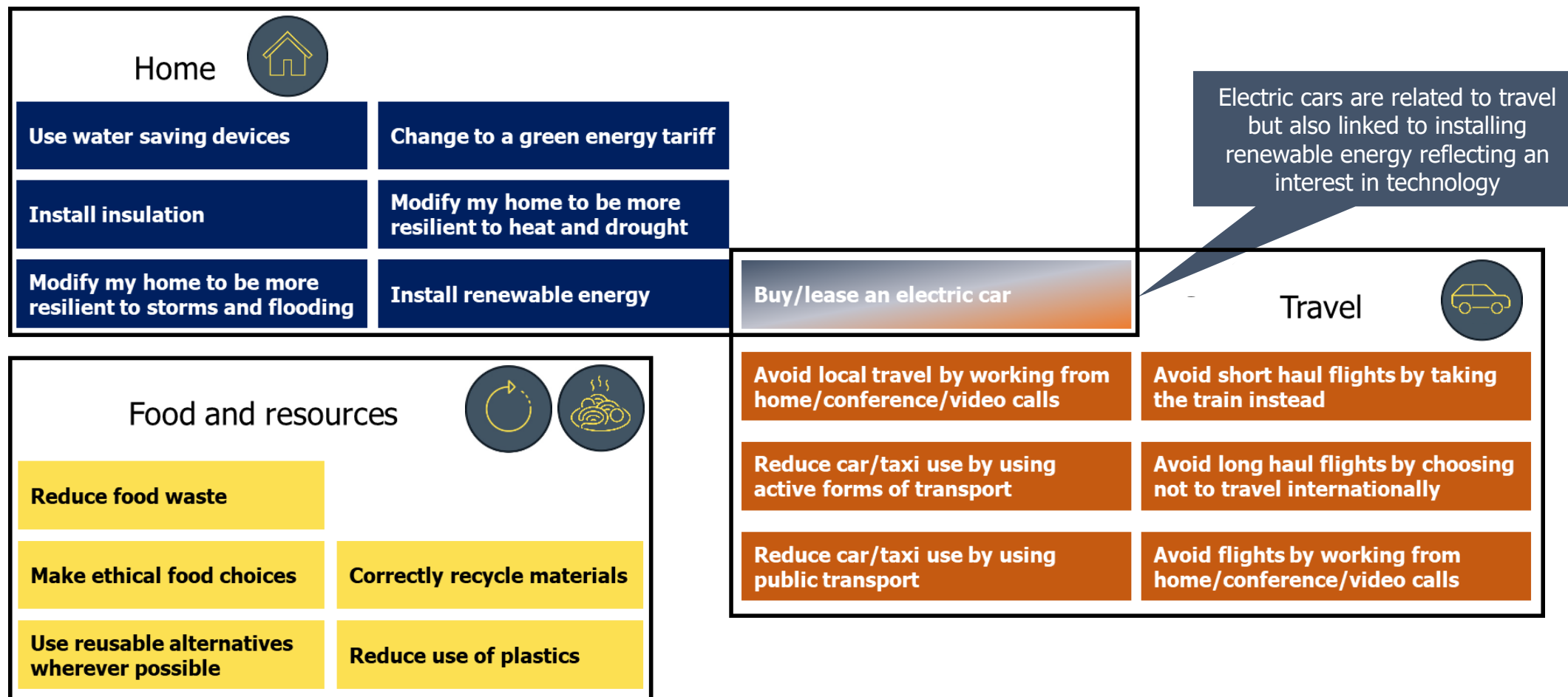
Not all actions are carbon equal

Action	Number of people needed to take the action for the same carbon reduction
Install renewable energy devices in your home (e.g. heat pump, solar etc.)	1
Change to a green energy tariff for your gas and electric	1
Avoid flights by working from home/conference/video calls	2
Install insulation (e.g. loft, cavity wall insulation etc.)	3
Buy/lease an electric car	5
Avoid short haul flights by taking the train instead	9
Avoid long haul flights by choosing not to travel internationally	10
Reduce food waste	12
Reduce meat consumption	16
Reduce dairy consumption	17
Avoid local travel by working from home/conference/video calls	27
Use water saving devices (e.g. shower timer, rainwater barrel, toilet water tank limiter (hippo, brick)	31
Choose energy efficient appliances when purchasing or replacing (e.g. with an A-rated energy label)	34
Reduce car/taxi use by using public transport	68
Reduce car/taxi use by using active forms of transport (e.g. walking, cycling instead of a vehicle)	96
Buy locally produced food	122
Correctly recycle materials	174
Use less water (e.g. turn the tap off when brushing your teeth)	229

Key takeout – Changing behaviours should be measured against relative carbon impact e.g. if an initiative gets 229 times more people to use less water than a similar initiative gets people to install renewable energy- then that is the same value

Climate action willingness links together in clusters

There are three larger clusters of actions (Home, Food and Travel) where being willing to take one makes a person more likely to be willing to do another

Home

Use water saving devices	Change to a green energy tariff
Install insulation	Modify my home to be more resilient to heat and drought
Modify my home to be more resilient to storms and flooding	Install renewable energy

Buy/lease an electric car

Electric cars are related to travel but also linked to installing renewable energy reflecting an interest in technology

Travel

Avoid local travel by working from home/conference/video calls	Avoid short haul flights by taking the train instead
Reduce car/taxi use by using active forms of transport	Avoid long haul flights by choosing not to travel internationally
Reduce car/taxi use by using public transport	Avoid flights by working from home/conference/video calls

Food and resources

Reduce food waste	
Make ethical food choices	Correctly recycle materials
Use reusable alternatives wherever possible	Reduce use of plastics

Base size: 3,024 South East residents

Key takeout – Targeting people who have taken one action, or are willing to take it, may be a good way to target them for another related action

Each climate action has a closely related action

Many people who are willing to take one action are likely to be willing to take another, similar action. Duplicate combinations are not shown

Action	Willingness to do action(1=completely related 0 = not at all related)	Action it is most associated with
Avoid flights by working from home/conference/video calls	0.48	Avoid local travel by working from home/conference/video calls
Modify my home to be more resilient to storms and flooding	0.46	Modify my home to be more resilient to heat and drought
Modify my home to be more resilient to heat and drought	0.45	Install renewable energy devices in your home
Modify my home to be more resilient to storms and flooding	0.42	Install insulation
Install insulation	0.37	Use water saving devices
Reduce car/taxi use by using active forms of transport	0.36	Reduce car/taxi use by using public transport
Install renewable energy devices in your home	0.33	Buy/lease an electric car
Reduce use of plastics	0.32	Use reusable alternatives wherever possible
Use reusable alternatives wherever possible	0.32	Reduce use of plastics
Install insulation	0.31	Change to a green energy tariff for your gas and electric
Reduce use of plastics	0.31	Reduce food waste
Reduce meat consumption	0.29	Reduce dairy consumption
Reduce food waste	0.28	Correctly recycle materials
Make ethical food choices	0.28	Buy locally produced food
Buy locally produced food	0.28	Make ethical food choices
Reduce food waste	0.27	Use less water
Avoid short haul flights by taking the train instead	0.26	Avoid long haul flights by choosing not to travel internationally
Reduce use of plastics	0.21	Choose energy efficient appliances when purchasing or replacing

Base size: 3,024 South East residents

Key takeout – Identifying people willing to take certain climate change actions means you can reasonably assume they would be willing to take related ones e.g. buyers of electric cars would be interested in installing home renewable energy

Finance, and making actions easier, were the dominant ways to gain attention

From our focus groups (26 participants), those who were willing to undertake an action were asked to quickly (and with little time for reflection) place each action into a bucket with labels reflecting the best way to communicate this issue to them e.g. by addressing the health benefits, money or the environment

Best approach/es to communicating action

Action			
Green Energy tariff	Finance		
Renewable energy	Finance		
Water saving devices	Finance	Make it easier	
Buy/lease an electric car	Finance	Make it easier	
Ethical food choices	Finance	Make it easier	Health
Adapting home for hot weather	Finance		
Energy efficient appliances	Finance	Environment	Make it easier
Eat local	Make it easier	Environment	Finance
Avoid flying by taking the train	Finance		
Taking public transport	Make it easier		
Reduce meat and dairy	Health		

Source: Focus Groups

COVID-19 is making 1 in 3 people think and act differently on climate change

The open-ended question was as follows:

Thinking generally about the answers you provided in this survey. In which, if any, ways would you say the current public health situation (i.e. the outbreak of Covid-19 (Coronavirus)) causes you to think differently about any of the answers you provided?

- ■ COVID-19 has not made me think differently about my actions
- ■ COVID-19 has encouraged me to undertake more environmentally friendly behaviours
- ■ COVID-19 has encouraged me to undertake more environmentally unfriendly behaviours

67%	25%	9%

Base size: 3024

As we are interested in understanding what behaviours are particularly relevant and salient at this time, we will be looking into more detail at **34% who have reported that Coronavirus has changed their behaviour**

Base size: 3,024 South East residents

People were most likely to think differently about travel behaviour due to COVID-19

People had mentioned many positives involving travel and diet whereas resources and their willingness and ability to modify their home were more mixed.
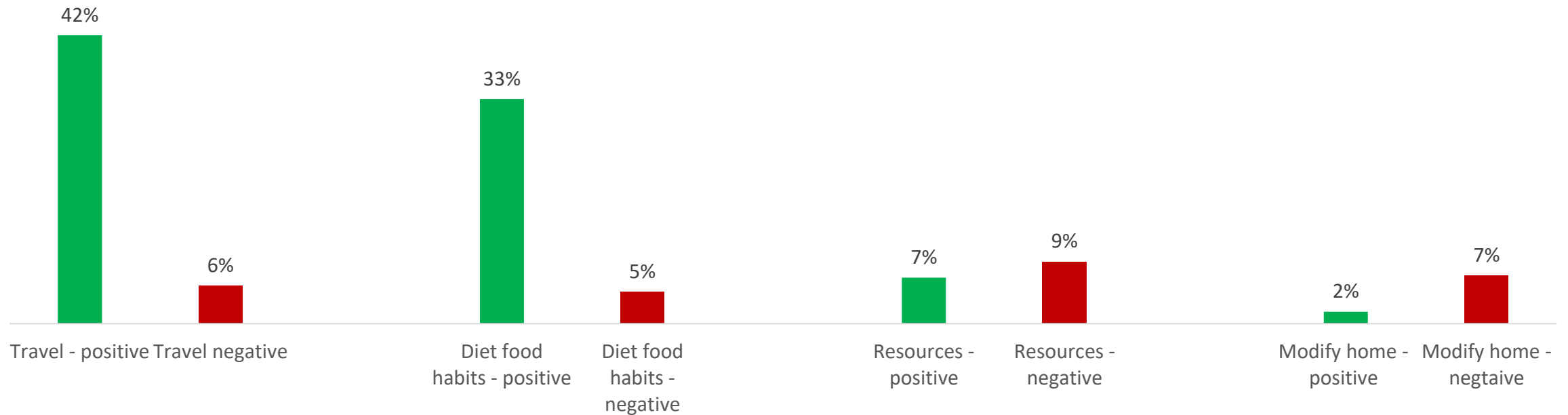
Base size: 985 South East residents

Key takeout – Behaviour has changed in a number of areas, particularly travel and diet – this presents a potential opportunity to encourage or reinforce behaviours that are positive for climate action

Willingness to change exists but must overcome practical and psychological barriers

People are willing to change and know it is the right thing to do

But they must overcome a number of internal and external barriers

Limits to taking actions	Other motivations overriding climate change	National and local government support	Lack of knowledge / wrong information

Approaches to addressing climate change through citizen action must understand and work past these barriers

Overcoming barriers is about framing the challenge in the right way 1/2

An additive approach e.g. 'every little helps' could work for climate change	Encourage reflection through point of action communications	Show consistent, visible leadership
Addresses which barriers? • People using one good act to justify a bad one • People don't know the carbon impacts of their actions • They should be nudging me to make the right choice • Focus on achievable steps	**Addresses which barriers?** • Environmental issues are not clear cut and citizens don't know what to do • Some people are interested in the issues and have tried to research but are still not clear • Consequences of consumption are hard to see at point of use • They should be nudging me to make the right choice	**Addresses which barriers?** • Someone else can change • Governments should be investing
Where has this principle been used?	**Where has this principle been used?**	**Where has this principle been used?**

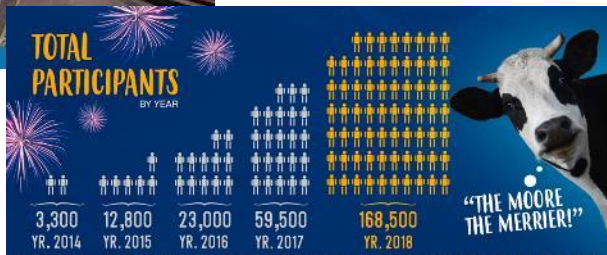| **Make 'doing the right thing' more visible – its not easy to see the people who didn't drive/fly**	**Make it clear how much each action contributes**	**Create clear shared goals – people will change a lot if they agree**
Addresses which barriers? • People justify a self-serving conclusion • They should be nudging me to make the right choice • Focus not on what we are losing by using low carbon alternatives but what we gain • Focus on achievable steps	**Addresses which barriers?** • People justify a self-serving conclusion • Consequences of consumption are hard to see at point of use • They should be nudging me to make the right choice • Environmental issues are not clear cut and citizens don't know what to do	**Addresses which barriers?** • Environmental issues are not clear cut and citizens don't know what to do • An ability to discuss, agree goals and commit to change could lead to more behaviour change
Where has this principle been used?	**Where has this principle been used?**	**Where has this principle been used?**

Flight shame/Train pride campaign in Sweden

Showing how many people participate

Points system showing how one action contributes to a target or limit

Juries – people aim to seriously assess evidence and come to a conclusion with high stakes for the people involved

Information is needed to overcome lack of knowledge of carbon impacts

Looking at all actions we could see differences of those saying they would not do the action and then giving the reasons they do not believe it would make a difference – we listed these to show which actions are most in need of information to change these views.

Action	% people unwilling & saying they do not believe action will make a difference
Reduce dairy consumption	19%
Reduce meat consumption	16%
Avoid flights by working from home/conference/video calls	9%
Buy/lease an electric car	9%
Avoid long haul flights by choosing not to travel internationally	7%
Avoid local travel by working from home/conference/video calls	6%
Avoid short haul flights by taking the train instead	6%
Change to a green energy tariff for your gas and electric	6%
Make ethical food choices (e.g. buy Fairtrade, don't buy palm oil etc.)	5%
Reduce car/taxi use by using public transport	5%
Use water saving devices	5%
Install renewable energy devices in your home	3%
Reduce car/taxi use by using active forms of transport	3%
Buy locally produced food	2%
Install insulation	2%
Reduce use of plastics	2%
Use less water	2%
Choose energy efficient appliances when purchasing or replacing	1%
Correctly recycle materials	1%
Reduce food waste	1%
Use reusable alternatives wherever possible	1%

Base size: 3,024 South East residents

Key takeout – There is a significant proportion of people who may act differently if they become convinced of the carbon impact of meat and dairy and even electric cars. At the least this should not be a defense not to take action

Younger, higher social grade people are the biggest opportunity targets

Profiling those who are willing to save the most carbon

Total kgCO$_2$e respondents are willing to save
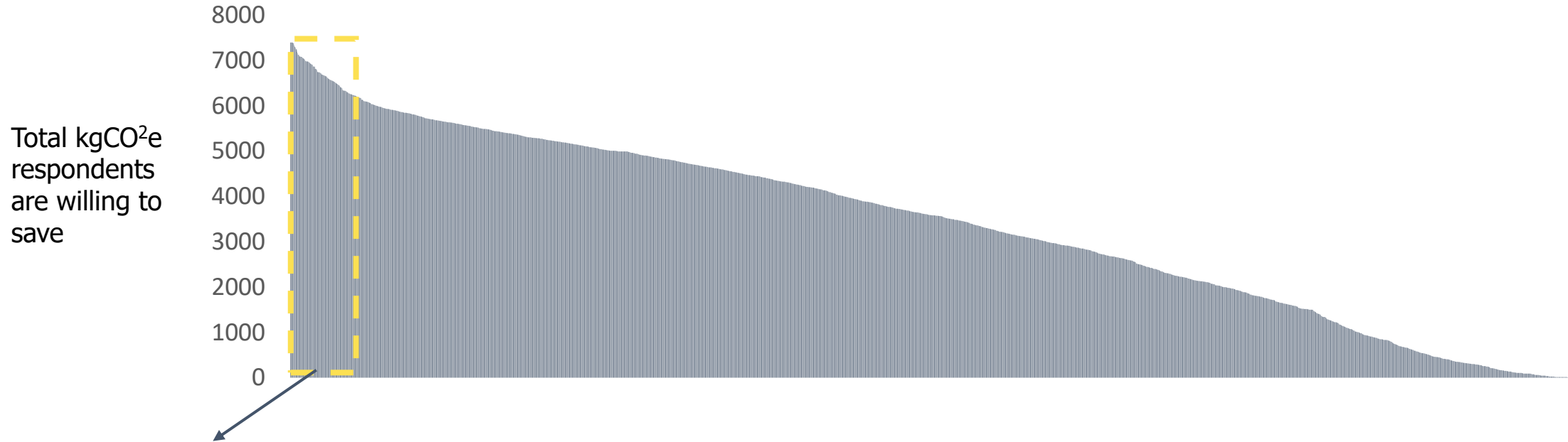
Top 200 respondents by willingness to save carbon are more likely to be male, 25-44, ABC1 social grade* (using standard demographic groups based on occupation) and in Mosaic group G - Domestic Success

Base size: 3,024 South East residents
*Social grade explanation: http://www.nrs.co.uk/nrs-print/lifestyle-and-classification-data/social-grade/

Key takeout – Successful large-scale carbon reduction must take in those who are willing to do the most

Recommendations 1/2

Many different actions could result from the findings of this research. We have submitted the below as a shortlist of actions that are supported by the evidence in this report.

Short term - COVID-19 has opened up two distinct areas of opportunity – increased working from home and improved food waste behaviours – existing budgets and even new investment for these priorities should be prioritised in setting new, better behaviours before lockdown fully ends and habits revert to old ways, or to a new normal that is not as positive as it could be.

An overarching 'points' system that encourages people to take a step up the ladder of carbon saving could encourage people to understand and stretch themselves when saving carbon. This approach may work best with the willing but underinformed.

Creating communal agreement on climate goals will make people more receptive to communications – this would be hard to establish but could make people and communities easier to mobilise. COVID-19 has demonstrated that people will take extraordinary actions if they believe it is necessary.

Largest opportunity – any climate change strategy that does not address home energy (insulation/Green energy tariff or renewable energy devices) will not capture the biggest opportunity. The size of opportunity justifies harder work, or more budget, to find the best possible route to get people to reduce their home energy use.

Recommendations 1/2

Many different actions could result from the findings of this research. We have submitted the below as a shortlist of actions that are supported by the evidence in this report.

In the longer term, soften resistance on actions that save larger amounts of carbon but are not perceived to do so by consistent information messaging. This applies most strongly to reducing meat and dairy consumption, business meeting flights and (to a lesser extent as the car industry is likely to assist) electric cars.

Finance is a key way in to gain interest but environment is a motivator. One possible strategy would be to encourage/nudge/subsidise home insulation in return for a promise to use the savings to take out green tariffs. The customer pays no money but makes a double CO^2 saving – lower energy use and greener supply.

This report contains targeting information including demographic groups more likely to be willing to take an action, as well as actions that are closely linked. We recommend deploying this information and testing it to make sure that budgets are maximised by connecting with those willing to act.