

ENERGY EFFICIENCY ALONG THE CUSTOMER JOURNEY

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Energy saving potential in supermarkets

Results of a representative population survey on perceptions and attitudes

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An analysis by the market market research institute for GS1 Austria GmbH



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Chapter 1

Task & methodological structure



Task

The present study contains the results of a 3-stage study on the topic of energy savings in/at the supermarket.

In a qualitative phase, all possibilities where energy savings in and around the supermarket would be possible were initially looked for together with the consumer. These hypotheses were subsequently quantified in a representative population survey.

Specifically, what was of interest was the perception of where, specifically, energy could be saved and what would be the most effective option, differentiated according to -

- Outside
- Indoor
- For products/manufacturer



Target group

Qualitative surveys:

Accompanying interviews: regular shoppers in the supermarket

Focus groups: People who regularly go shopping in supermarkets and do the main shopping

Quantification:

Austrian population aged 15 and over, quota is based on age, gender, federal state and size of place of residence



Interview type

Qualitative interviews/discussions:

Personal interviews and discussions

Quantification :

Online interviews in MARKET's offline recruiting online panel



Evaluation basis

Qualitative interviews/discussions:

Accompanying interviews: 8 interviews with consumers, 2 interviews with branch managers

Focus groups: 1 discussion round with 8 consumers

quantification

Austrian population: n=1,000

maximum statistical fluctuation range +/- 3.16 percent



Interview period

July to September 2023



Representativity

The composition of the people surveyed corresponds to the Austrian population in terms of quota and non-quota characteristics.

This agreement within the limits of statistical accuracy is a necessary prerequisite for the results to be generalizable.

Methodical structure

QUALITATIVE SEARCH and MOTIV PHASE



ACCOMPANYING SHOPPER INTERVIEWS:

Wherever the customer takes advantage of savings opportunities - we accompanied him/her from the parking lot to the supermarket. The customers tell us their impressions of the options for saving energy.
(in 4 Billa markets, 2 Hofer markets and 2 Spar markets, July 2023, 2 interviews with branch managers)



FOCUS GROUP:

The savings potential in the area of energy was analyzed together in a discussion round. The options were kept very broad, so that aspects relating to travel and travel behavior, but also regionality, food transport and waste were also discussed.
(8 people aged 30 to 65, 3 men, 5 women, people responsible for purchasing, August 2023)

QUANTITATIVE EVIDENCE PHASE



QUANTITATIVE ANALYSIS IN THE POPULATION:

All aspects and hypotheses revealed in the qualitative surveys were subsequently verified or falsified on a broad basis, i.e. the assumptions made were checked.

Methodologically in the form of an Austria-wide representative population survey with n=1000 online interviews, September 2023

A grayscale photograph of a woman with long dark hair, wearing a light-colored cardigan and a patterned scarf, standing in a perfume store. She is looking down at a small bottle she is holding in her hands. In the background, there are shelves filled with various perfume bottles. The text 'CHAPTER 2' is overlaid on the left side of the image.

CHAPTER 2

First findings from the accompanying interviews

Energy saving: outdoor supermarket

Spontaneous associations, CONSUMERS as a whole



PARKING LOTS:

There is too much parking space.

Water cannot get into the ground

Greening

”

Far too few trees and other plants

More trees in the parking lot

Grow more plants, these could create shade

Green strip between the parking spaces

”

Too much light even in the underground car park

LED lighting illuminate fewer parking spaces

”

Roofing with photovoltaics,

Shading of the glass surfaces

possibly covered

”

PHOTOVOLTAICS AT HOME:

Photovoltaics would be possible
feasible because of the flat roof
would be very good

”

STORE WINDOW WINDOW LIGHTING:

less would be enough

it's OK

”

BUILDING INSULATION / GREEN ROOF :

not visible, not recognizable
unfortunately not available

”

OTHER:

E-CHARGING OPTIONS:

Unfortunately not available,
it doesn't exist yet

would be possible, would be good

”

LIGHTING IN THE PARKING LOT :

switch to LED
too bright
No lighting

less would be enough

”

AUTOMATIC ENTRANCE DOOR / AIRLOCK:

is available
it's OK

Summer and winter open and automatic door

”

Escalators move even when no one is standing on them

Stinky trash can right at the entrance - no way to separate

”

Question: Now to the supermarket, when we stand in front of it, can you think of how this supermarket could perhaps be even more energy efficient outside?

Energy saving: indoor supermarket

Spontaneous associations, CONSUMERS as a whole

i

LIGHTING FOR FRUIT / VEGETABLES / LIGHTING FIXTURES (LED):

too much lighting,
too bright

Reduce, turn off in
daylight

”

attractive lighting,
ok

all LED

”

little lit

”

LIGHTING IN SERVICE COUNTERS/SPOTS:

too much light,
too bright light
could be less

”

attractive lighting,
ok

all LED

”

necessary
lighting

”

LIGHTING GENERAL:

Very bright,
too bright light
too much lighting, could
be reduced

”

COOLING OF THE SERVICE COUNTERS:

too many
products – open
doors, products
towering over
them

can be less

”

Everything seems
new

very efficient

OK

”

doesn't exist

”

very cold in
this area

”

WARMING COUNTERS FOR LEBERKÄSE, HENDERL :

as new
efficient
it's OK

”

can be
smaller

”

There is no
longer

Ovens FOR BAKING BREAD:

Everything
seems new

very efficient

”

switch off in
between

use less often

Twice a day is
enough

”

Question: Now let's go to the supermarket: Let's take a look and think about where energy savings can be made. Tell me everything you can think of?

Energy saving: indoor supermarket

Spontaneous associations, CONSUMERS as a whole

i

FROZEN GOODS (WITH DOORS / WITHOUT DOORS):

Partly TK
without doors

”

with doors
mainly with doors

OK

”

PACKAGING MATERIAL (DISPOSABLE / REUSABLE BOTTLES):

too much packaging

Yoghurt jars are still
disposable

”

50:50

mainly disposable but
deposit system comes

degradable bags
available

”

RETURN MACHINE:

ok., comes
for plastic

”

CASH REGISTER SYSTEM / CONVEYOR BELTS

OK, only run
when
necessary

”

REFRIGERATION AREAS (WITH DOORS / WITHOUT DOORS):

1 chest with drawers, 3
without
without doors, too many
without doors

Be sure to install doors
open cooling areas, open
cooling systems are
unnecessary

”

switching
would be
good

”

ENERGY SAVING AT NIGHT / WHEN NOT IN USE:

don't turn it
off, reduce it

”

is carried
out where
possible

”

HOT WATER BOILER:

Can't be
assessed, I
haven't seen
any

”

Question: Now let's go to the supermarket: Let's take a look and think about where energy savings can be made. Tell me everything you can think of?

Energy saving: indoor supermarket

Spontaneous associations, CONSUMERS as a whole



TEMPERATURE IN THE SUPERMARKET IN WINTER / SUMMER / RADIATORS:

very cold
too cool (in
summer when it's
hot outside)
too cold, less
would be ok

”

pleasant coolness,
but not cold,

is good

”

is not heated

”

AIR CONDITIONER:

Set too cool,
less would be
ok

”

none
switched on,
doesn't exist

”

OK,
not too cold

”

COLOR DESIGN (DARK COLORS REQUIRE MORE LIGHTING / LIGHT COLORS REQUIRE LESS LIGHTING):

is brightly
furnished

”

is normal,
it's OK

”

OTHER:

Possibly use
fewer "Gösser"
"Red Bull" &
"Eis"
refrigerators

”

Refrigerators
are filled with
strange offers

”

Vegetable
dept. besides
cooling

”

is already on
the right track

”

Question: Now let's go to the supermarket: Let's take a look and think about where energy savings can be made. Tell me everything you can think of?

Other energy saving: indoor supermarket

Spontaneous associations, CONSUMERS as a whole



Waste separation!
Also enable waste separation on site

More shading on the window fronts
Front glass window with shading
The entire front area is made of glass

More economical exposure
it is very bright in daylight, yet the entire area is heavily lit
NO lighting in daylight

The order:
The bread ovens are next to the cooling system
The vegetable area is in the entrance area, where it is warmer, so spoilage is certainly faster than if it were next to the refrigerators
the hot counter is next to the refrigeration

If possible, switch off cash register systems and scales when not in use

Windows look old, possibly 3-layer

In my opinion, this supermarket is EXEMPLARY
temperature is OK,
Procurement ok.

Heat/cold should generally be considered using sensible synergies
A lot of cold is lost during cooling
Capture heat from cooling

Question: What else comes to mind? Where else could you save money in the supermarket?

Energy saving options from the manufacturer

Spontaneous associations, CONSUMERS as a whole

i

PACKING MATERIAL:

less packaging
less packaging material
less plastic packaging
much less possible
more, smaller packaging

not possible with
the current
supermarket
system

Plastic, no bottles

**NO REQUIREMENTS REGARDING
STORAGE** (e.g. that drinks must always be
refrigerated if this does not affect their shelf
life):

fewer goods in
the refrigerator,
you don't need
20 different
varieties

not possible with
the current
supermarket
system

TRANSPORT ROUTES

prefer regional products
For products that are
further away, perhaps pass
on transport costs so that
regional products become
more attractively priced

not possible with
the current
supermarket
system

Stop advertising products
from distant countries or
promote the nutritional
values of regional products
(e.g. why pomegranate
when we have fruits that
can do the same thing)

**RAW MATERIALS
DELIVERY** (keep them
local and do not
import them from
distant countries)

not possible with
the current
supermarket
system

OTHER:

Make price
adjustments for
extremely water-
consuming products

longer shelf life

Find a cycle for recycling
expired goods (like the
"Rettenwert" project at
HOFER)

Transparency (e.g. traffic
light system) for
sustainability, child labor,
regionality, production
costs etc. for immediate,
clear decision-making
support for end customers

Perhaps
adding more
products saves
cooling

Assortment -
restrictions

Question: Finally, think about the manufacturers of the products. So to the different brands, everywhere the manufacturers could make energy savings possible. Tell me everything you can think of?

A black and white photograph of a woman with long dark hair, wearing a light-colored cardigan and a patterned scarf, smiling as she examines a small bottle of perfume in a store. She is surrounded by shelves filled with various perfume bottles. The image is used as a background for the chapter title.

CHAPTER 3

Findings from the discussion group

Energy saving options: PARKING

PARKING SPOT :

- **THE LIGHTING IN PARKING SPACES SHOULD BE RECONSIDERED AND OPTIMIZED:** the lamps in the parking lot should also be checked to see whether they are energy efficient or energy guzzlers.
- **AS SOON AS THE STORE IS CLOSED** and the employees are outside, **TURN OFF THE LIGHTS IN THE PARKING LOT.** However, despite energy savings, parking lot lighting should not reduce safety.
- **LESS INTENSIVE SEALING OF THE SOIL:** by creating more green spaces and planting shade trees. Another option would be to install green facades that lower the ambient temperature and use photovoltaics on the roofs.

At Lidl they paved everything around with asphalt, even though they could easily have covered it with greenery, it doesn't have to be that way, it would be better for the climate

”

- There are far too few **BICYCLE PARKING SPACES , AND MANY PEOPLE AVOID INDIVIDUAL SUPERMARKETS BECAUSE THE BICYCLE CANNOT BE SAFELY PARKED AND CHAINED OR THERE IS NO SPACE AT ALL.** Expansion of cycle paths to make it easier to reach the market
- **UNDERGROUND PARKING OR COVERED GARAGES HAVE SEVERAL ADVANTAGES** , in winter you don't need to clear snow, if it rains you don't get wet, and in summer the car isn't a sauna when you get in.
- **THERE IS NO ONE IN THE SUPERMARKET'S OUTERMOST PARKING SPACES** and you have to walk a considerable distance to reach the store . This means that the parking spaces should be made smaller so that there is less soil compaction
- **REDUCE OUTDOOR ADVERTISING: AND** also the screens on which something is constantly playing.

Energy saving options: REAL ESTATE

REAL ESTATE :

→ **UNIFORM OPENING HOURS AND A COORDINATED SYSTEM** among supermarkets. Concerns about store opening hours at night – who shops that late?

- It is unnecessary for shops to be open until 9 p.m., it doesn't have to be that way, 7 p.m. is enough, even if you were open 7 days, you would save 7 hours of electricity.

→ **SUPERMARKET DESIGN SHOULD** be more environmentally friendly, including green areas and including greenery and PV systems on the roofs.

- **MORE GREENERY AND TREE PLANTING** to provide shade and cool the environment.
- **FACADE GREENERY** , which can help cool buildings

→ **FLOOR SEALING : NOT EVERY SUPERMARKET HAS TO BE A BUNGALOW** , there can be an apartment above it or simply **USE THE SPACE SENSIBLY** . In the countryside there are often small local suppliers in the town center, which are usually integrated into old buildings and where there are apartments above.

→ **ADJUSTING THE LIGHT BEAM DIRECTION AND LIGHTING TIMES** , using solar lamps outdoors that only light up during operating hours.

→ **REDUCING OUTDOOR LIGHTING, ESPECIALLY AFTER HOURS** , minimizing neon signs lit during the night.

→ **USE OF PHOTOVOLTAIC SYSTEMS** to generate your own electricity

→ **BUILDING INSULATION**

→ **BUILDING MATERIALS MUST LAST LONGER** and not be torn away after 10-15 years.

- The halls are all built the same and all use the same prefabricated material.

Energy saving options: SUPERMARKET

HEATING



HEATING :

- **TEMPERATURE ADJUSTMENT IN THE SUPERMARKET** to create a pleasant indoor climate . **IN THE SUMMER IT IS VERY COLD IN THE SUPERMARKET** (“ I usually wear something on top of it”), but **IN THE WINTER THERE IS EXCESSIVE HEATING IN THE STORE** (“but luckily that has become less so”).
- **REDUCING THE HEATING TEMPERATURE** to a comfortable level, you have to adjust the temperature, not burning hot, not super cold, just a pleasant room climate.
- **THE HUGE GLASS FRONT, IT GETS SO HOT AND HAS TO BE COOLED DOWN AGAIN.**



Energy saving options: SUPERMARKET

POWER CONSUMPTION



POWER CONSUMPTION :

- **OPTIMIZING THE LIGHTING IN THE SUPERMARKET**, criticism of excessive lighting in the supermarket, especially in the fruit and vegetable area
- **REPLACING LIGHTING WITH ENERGY EFFICIENT LAMPS**
- **LIGHT SOURCES ARE CREATED**, be it through windows or other design things, including daylight solutions with skylights
- **REDUCTION OF LIGHTING AFTER BUSINESS HOURS** and switching off advertising.
- **REDUCE ELECTRONIC BILLBOARDS** and billboards in supermarkets .
- **EQUIP EVERYTHING THAT RUNS IN THE BACKGROUND WITH MOTION DETECTORS**
 - **TURN OFF THE LIGHTS WHEN YOU LEAVE THE ROOM**
- **DIGITAL PRICE TAGS ARE** a **WASTE OF ENERGY** if they run all day.
- It would be beneficial **TO PROVIDE TRAINING TO EMPLOYEES** to teach them how to save energy, particularly in relation to heating ovens, ovens and refrigerators. It seems that they may not exercise the same level of care at work as they do at home.

Energy saving options: SUPERMARKET

REFRIGERATOR / OVENS

COOLING / OVENS:

→ IMPROVING THE PLACEMENT OF COOLING AND HEAT SOURCES in the supermarket,

- sensible positioning of cooling and ovens or heat sources, what is annoying is, for example, when the cheese cooling is next to the hot counter.

→ TO SAVE SPACE

→ MORE EFFICIENT USE OF REFRIGERATORS AND OVENS, how to use waste heat, why are refrigerators and ovens next to each other and thus increase energy consumption - urgent solutions are needed here. Another aspect that causes concern is when frozen products are stored in the refrigerated display cases.

→ THE ABUNDANCE OF FROZEN GOODS , there are so many products from the same range, nobody needs 27 different pizzas

→ THE INTRODUCTION OF DIGITAL PRICE TAGS for flexible pricing is being questioned. Doesn't that simply use too much electricity?

→ ENERGY SAVINGS THROUGH ROLLER BLINDS OR STYROFOAM PANELS IN OPEN COOLING SYSTEMS. Hofer pulls down the roller blinds when cooling, Maximarkt places Styrofoam panels in open coolers.

→ NO DRINKS REFRIGERATORS WITH OPEN DOORS , that is a waste of energy, wherever possible refrigerators should also be equipped with doors.

→ MANY PEOPLE DON'T CLOSE THE DOORS COMPLETELY , equip all refrigerators with an alarm so that you can hear that a door is not locked.

→ THE BAKERY DOESN'T HAVE TO WAIT UNTIL THE LAST MINUTE TO BAKE FRESH PASTRIES AND BREAD , and the bakery should be located somewhere else, far away from refrigeration, in order to save energy. However, it is well known that part of the population depends on fresh bread in the evening:

“People who don’t get home from work until 6 p.m. often have little opportunity to buy fresh bread or pastries.”

Energy saving options: PRODUCTS

Shopping behavior



OTHER SHOPPING BEHAVIOR:

→ HOW ARE SELF-SERVICE BOXES AND CLICK & COLLECT SYSTEMS VIEWED.

- Self-service boxes and self-service checkouts in supermarkets are viewed positively. But it's a clear age issue, the older you are, the less you want to pay digitally or be without a contact person in the supermarket.
- Click & Collect systems for food are being discussed: this is certainly possible with bread, canned goods, etc., but refrigerated goods are rather difficult.

I always go to the self-service checkout because it's quicker.

”

self-service boxes are great and I use them myself.

”

→ ACCEPTANCE OF AUTOMATED SUPERMARKETS WITHOUT STAFF

- There are different views on the question of whether supermarket employees are necessary. This depends on the specific situation. Older generations may be overwhelmed when confronted with too much technology. The younger generation sees this as a good idea.
- Be careful with the functionality: the user interface is not sufficiently self-explanatory or does not work reliably. Therefore, usability and functionality should play a crucial role in an automated supermarket.

In my case personally - actually prefer a supermarket with employees because despite the presence of self-checkouts, employees are still present.

”

Energy saving options: PRODUCTS

Shopping behavior

OTHER SHOPPING BEHAVIOR:

→ **PRODUCT OVERABUNDANCE** : there are supermarkets that have become “junk shops, where you can get tools, toys, clothes, etc. ” The aim would be to focus purely on food, so half the supermarket's space can be reduced and a lot can be saved.

→ **CRITICISM OF THE USE OF DISCOUNT STAMPS AND OFFERS** that lead to unwanted bulk purchasing . However, everyone uses them because they can save something.

→ **CONCERNS ABOUT ENERGY EFFICIENCY REBATE STICKERS.**

- These 25% stickers have to be manufactured and printed first, which causes additional energy consumption. Instead of such stickers, the discounts could be billed automatically at the checkout, for example by automatically deducting a 25% discount on qualified products.

→ **PROMOTIONS LIKE 2+1 ARE NOT WELL THOUGHT OUT** , how are you supposed to store it somewhere at home, old people can never use it on their own and still have to pay full price?

→ **IT IS UNCLEAR WHICH OPTION** is actually more energy efficient: **USING AN APP** or the **PRINTED LEAFLET** delivered by the postman.

- “Personally, I have decided to unsubscribe from advertising and therefore only use the app”
- “ In my case, I rarely receive print advertising anyway, while I occasionally see digital advertising on my smartphone. Which option is better for me often depends on the current promotions or the discount brands available.”

APP OR NOT, WITH ALL THE INNOVATIONS YOU FORGET ABOUT THE OLDER GENERATION WHO CAN'T HANDLE THESE DIGITAL POSSIBILITIES.

Energy saving options: PRODUCTS

Packaging and saving



PACKAGING AND SAVING:

→ **GENERAL REDUCTION OF PACKAGING IN FOOD AND PRODUCTS**, suggestions for reducing packaging material and promoting unpackaged products.

→ **MORE UNPACKAGED FOOD** and products in supermarkets.

→ **CRITICISM OF EXCESSIVE PACKAGING**, especially for products like cereal and chips, there's so much air in there and it's a mess

→ **IMPROVING WASTE SEPARATION AND WASTE DISPOSAL IN SUPERMARKETS**, many supermarkets do not have a waste separation system, the rubbish bins are often overfilled and it is often impossible to dispose of the rubbish.

→ **BRINGING YOUR OWN BAGS AND SHOPPING BAGS**, although your own Tupperware containers are often no longer permitted for hygiene reasons.

→ **PACKAGING FOR DRINKS, SWITCHING EVEN MORE TO GLASS**, but also plastic bottles with a deposit is also an idea.

→ **PACKAGING REDUCTION: JUST BECAUSE THE SAME PRODUCT IS PACKAGED DIFFERENTLY, YOU OFTEN HAVE TO PAY A LOT MORE**, uniform packaging and no excess packaging.

Find that supermarkets
We should offer even more unpackaged products, including fruit and vegetables, there really isn't a need for a lot of plastic and every cucumber should be shrink-wrapped in a plastic sleeve, I don't want to buy a shrink-wrapped cucumber in plastic

”

You just have to look at tomatoes, they are all packaged differently and the unpackaged ones are often more expensive than the ones wrapped in plastic

”

Energy saving options: PRODUCTS

Packaging and saving

PACKAGING AND SAVING:

- **ADVANTAGE OF THE TOO-GOOD-TO-GO APP :** The Too app Good To Go allows users to rescue groceries from various stores such as bakeries, restaurants, and grocery stores near them.
- **SPEED IS REQUIRED:** In order to save food via the app, you often have to be quick as the available offers are limited.
- **CONTENTS OF THE BAGS:** At bakeries, the contents of the "sacks" are usually pastries, while supermarket offerings from fruit to meat can be a surprise. This makes using the app varied.
- **WASTE OF ENERGY THROUGH FOOD DESTRUCTION:** The discussion also revolved around the waste of energy through the destruction of food, especially by large supermarket chains.
- **NEED TO REDUCE FOOD WASTE:** There is agreement that food waste is an important issue that needs to be worked on. It emphasizes that grocery stores don't have to be busy until late in the day and that it's important to use leftover food instead of throwing it away.
- **SUPPORT FOR NON-PROFIT ORGANIZATIONS:** large supermarkets should make leftover food available to non-profit organizations on a large scale instead of distributing it in small quantities via apps. This would make food rescue more efficient.
- **SMALL CONTRIBUTIONS ARE VALUABLE:** Although large supermarkets could do more, participants are happy to make a small contribution to saving food. One example was the offer of discounted mixed fruit and vegetable boxes in Lidl for €4.
- **OFFER THE EXPIRED THINGS AGAIN - 50% STICK ON THEM** and then they will definitely sell quickly.

Energy saving options: PRODUCTS

Transport routes



TRANSPORT ROUTES:

→ MORE TRANSPARENCY REGARDING ORIGIN

→ **MORE REGIONAL PRODUCTS IN SUPERMARKETS** , regional offerings should be offered more, should also be characterized by different, simpler, less packaging.

→ Many people take the last product from the back of the shelf because it has the **LONGEST EXPIRATION DATE** , but then employees had to throw so much away.

We also threw away so many beautiful flowers, as an employee you are not allowed to take any of them with you, the waste is huge!

”

I think “Waldviertel To Go” is great, I know exactly where it comes from and doesn't have to take long transport routes, and you're happy to pay more and appreciate the product more.

”

Energy saving options: ONLINE PURCHASING

Online shopping

i Ultimately, the discussion showed that people do not believe that shopping online is more energy efficient than shopping at a local supermarket.

ONLINE SHOPPING:

→ DEBATE ABOUT THE ENERGY EFFICIENCY OF ONLINE GROCERY SHOPPING COMPARED TO DRIVING TO THE SUPERMARKET

- Here we have to take into account the energy costs for operating online ordering platforms and delivery vehicles .
- When I do a big purchase for my family, I use my car because I can't carry the purchases myself. However, when I order online, I need a lot of time to choose the product. The supplier may not be in the immediate area and will have to make a special trip, as will the supermarket. I often travel faster on foot.
- When I need products from different markets, this often results in stop -and-go traffic and increased fuel consumption.
- As someone with an IT background, I am aware that ordering online requires the use of internet technologies, including routers, servers and so on, which in turn involves electricity consumption.



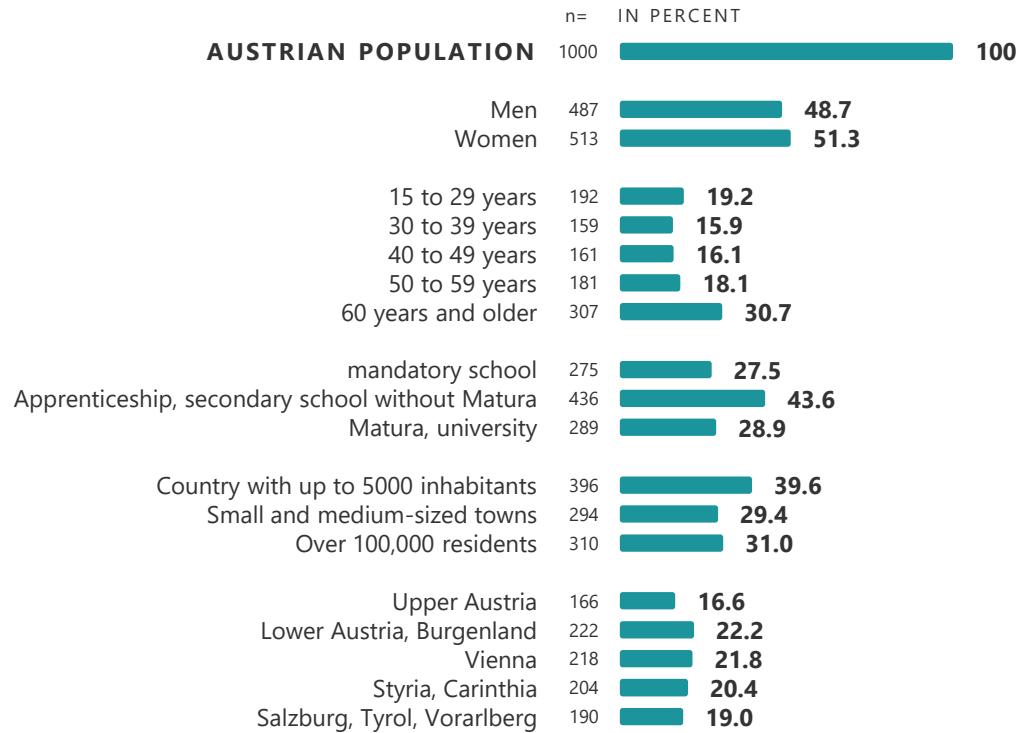
A grayscale photograph of a woman with long dark hair, wearing a light-colored cardigan and a patterned scarf, standing in a perfume store. She is looking down at a small bottle of perfume she is holding in her right hand, while her left hand is reaching towards a display of various perfume bottles on a shelf. The background is filled with shelves of numerous perfume bottles, creating a sense of a well-stocked store.

CHAPTER 4

The biggest savings opportunities quantification

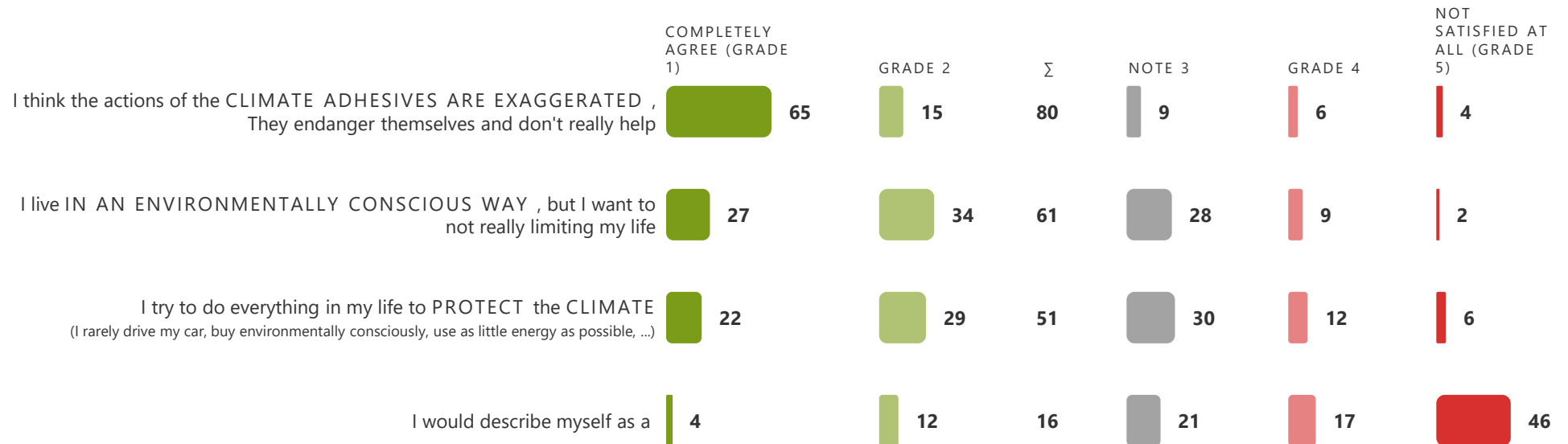
Structure of respondents

Structural composition of the target group



Opinions on climate protection and energy saving

i The majority find the climate clinging exaggerated, around 16 percent classify themselves as living “greens”.

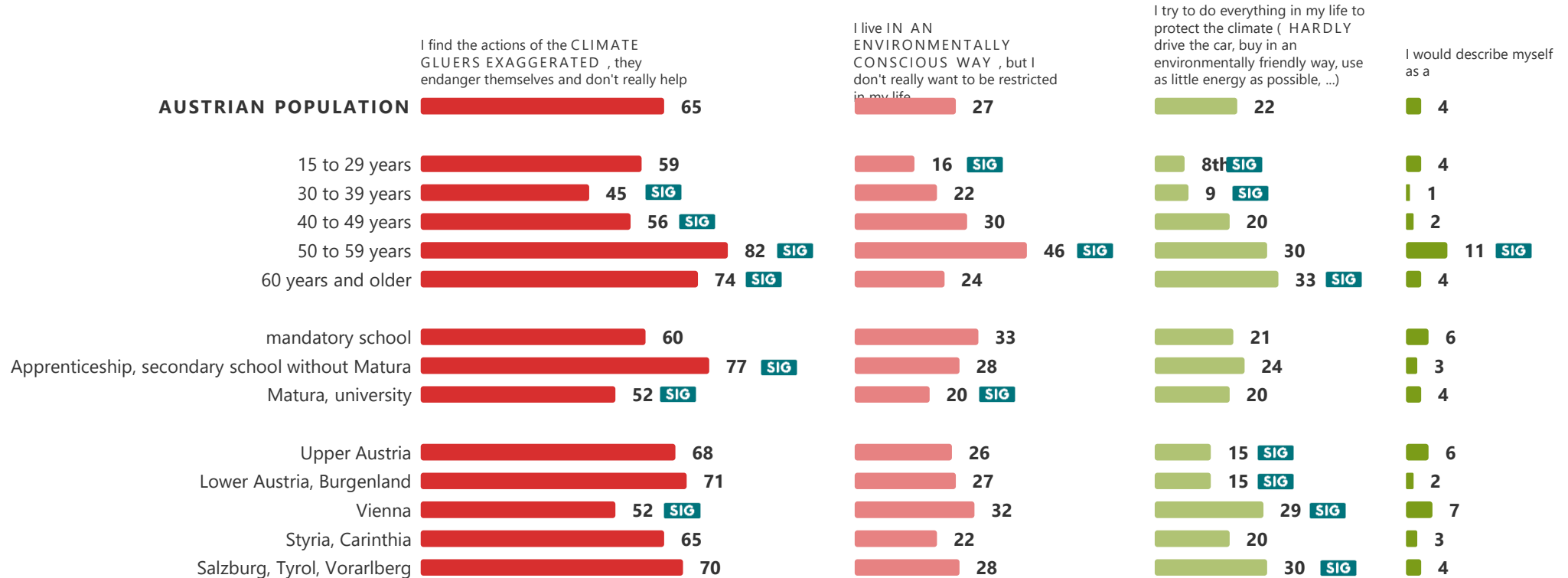


Question: Below you will find some opinions on the subject of climate protection and energy saving. Which ones do you agree with and how strongly?

Opinions on climate protection and energy saving

Grade 1 according to demographic aspects

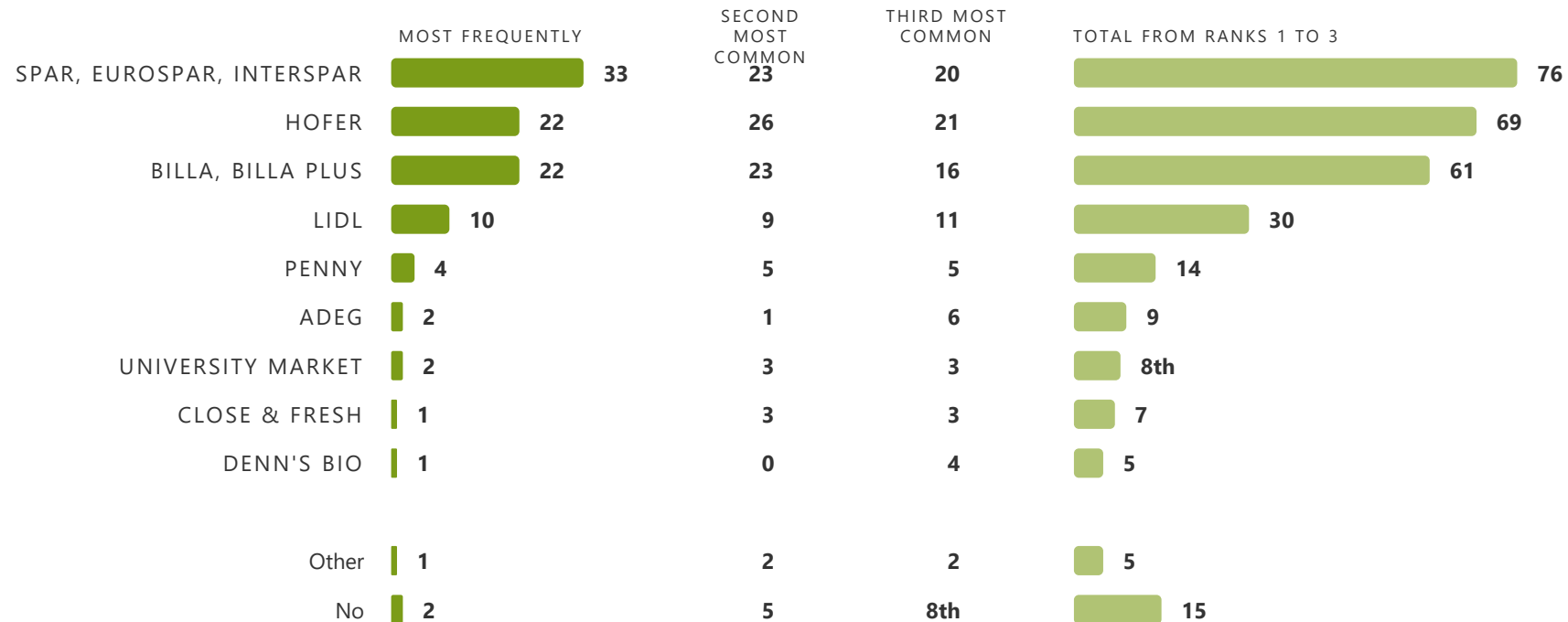
i The younger generation sees relatively less commitment to climate protection and environmental awareness.



Question: Below you will find some opinions on the subject of climate protection and energy saving. Which ones do you agree with and how strongly?

The preferred food chains

i Spar is the most popular grocery chain in Austria, followed by Hofe and followed by Billa!

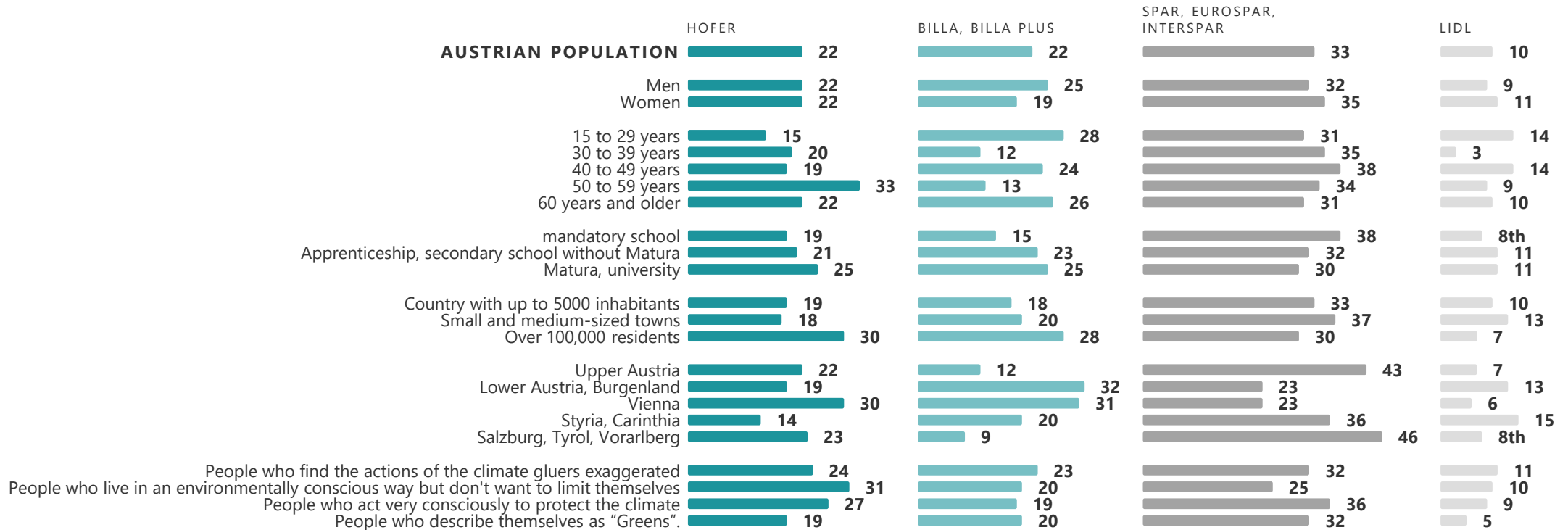


Question: Which grocery chains do you visit the most, second most, and third most?

The preferred food chains

Core preference (rank 1) by demographic aspects

i Men prefer to go to Billa, women prefer to Spar, and older people are slightly more likely to go to Hofer.



Question: Which grocery chains do you visit the most, second most, and third most?

A grayscale photograph of a business meeting. Two people are shaking hands over a table. On the table are several documents, one of which features a bar chart. A hand is also visible holding a tablet computer. The background is blurred, focusing attention on the handshake and the documents.

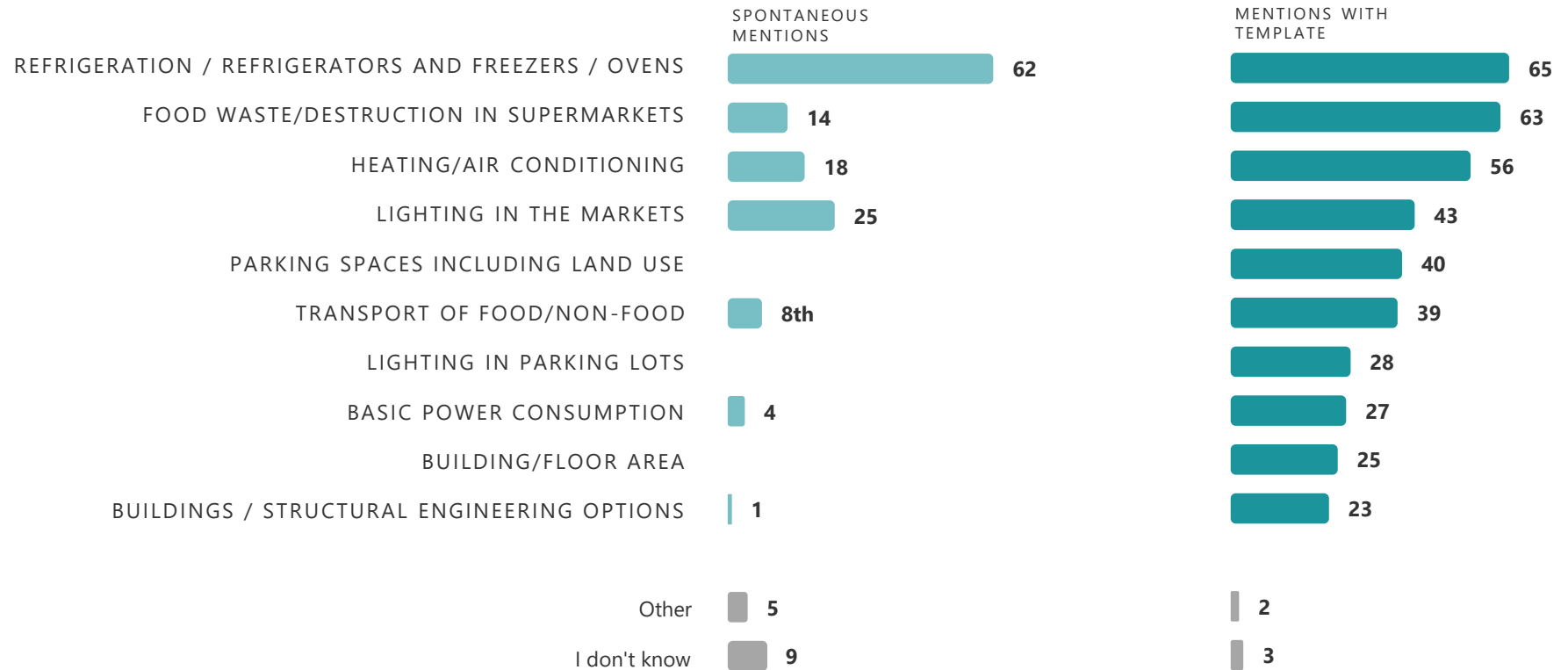
CHAPTER 5

The biggest savings opportunities

The largest energy consumers in a supermarket

Comparison / Spontaneous and Supported Awareness

i With support you think more about food waste and heating/air conditioning.

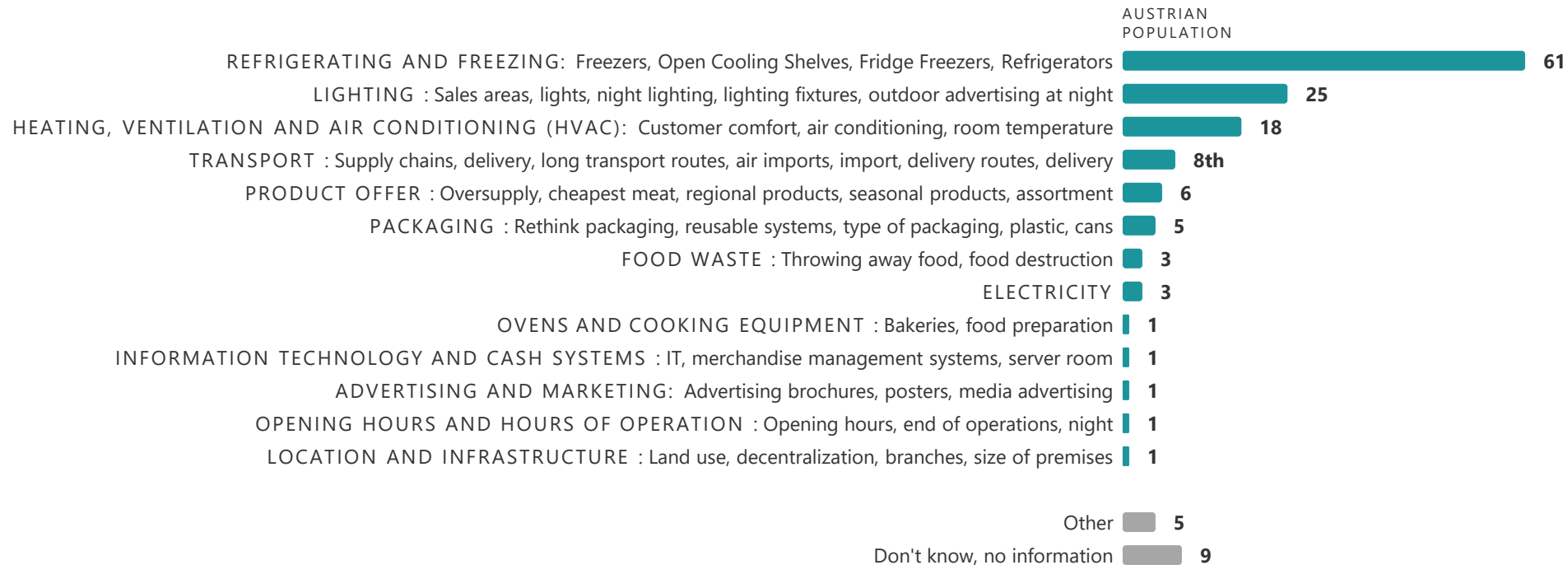


Question: What do you think are the biggest energy consumers in a supermarket? What uses the most energy in the supermarket? Below you will find various areas listed. Where would you say a particularly large amount of energy is used or where resources are not really used carefully?

The largest energy consumers in a supermarket

Spontaneous mentions

i Austrians clearly see refrigeration and deep-freezing as the biggest energy consumers in the supermarket, lighting is in second place, heating and air conditioning in third place.

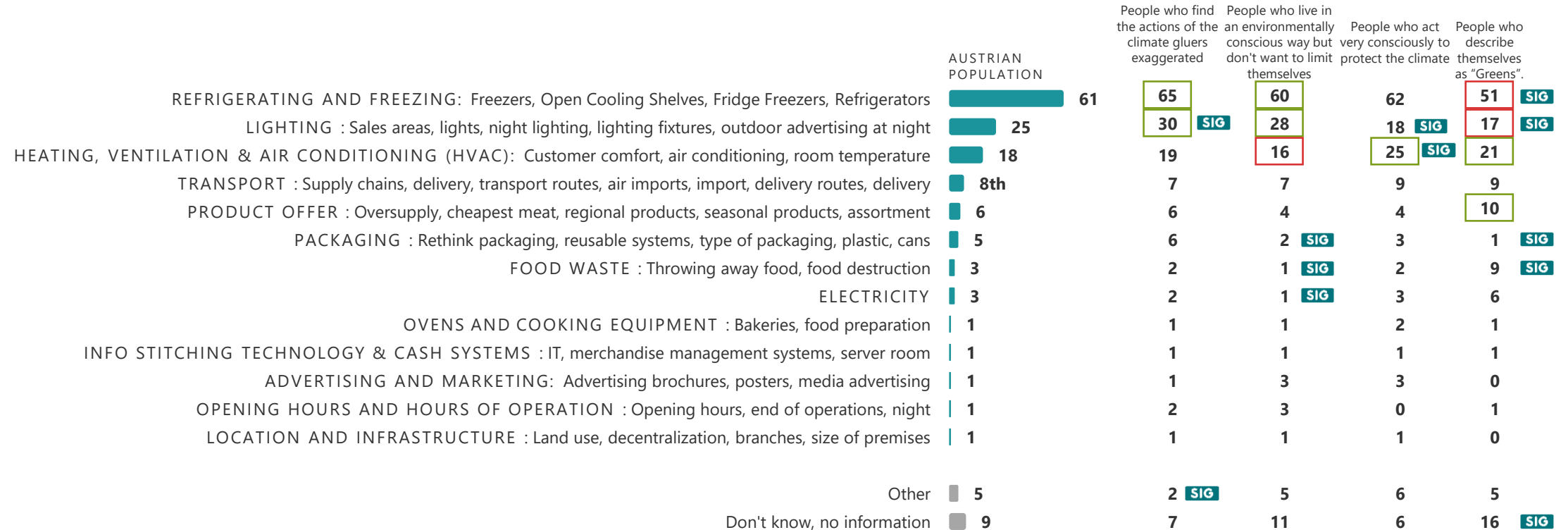


Question: What do you think are the biggest energy consumers in a supermarket? What uses the most energy in the supermarket?

The largest energy consumers in a supermarket

Spontaneous mentions based on personal access to the environment

i People who describe themselves as “green” think a little differently: they focus less on lighting and instead think more about product offerings and food waste.

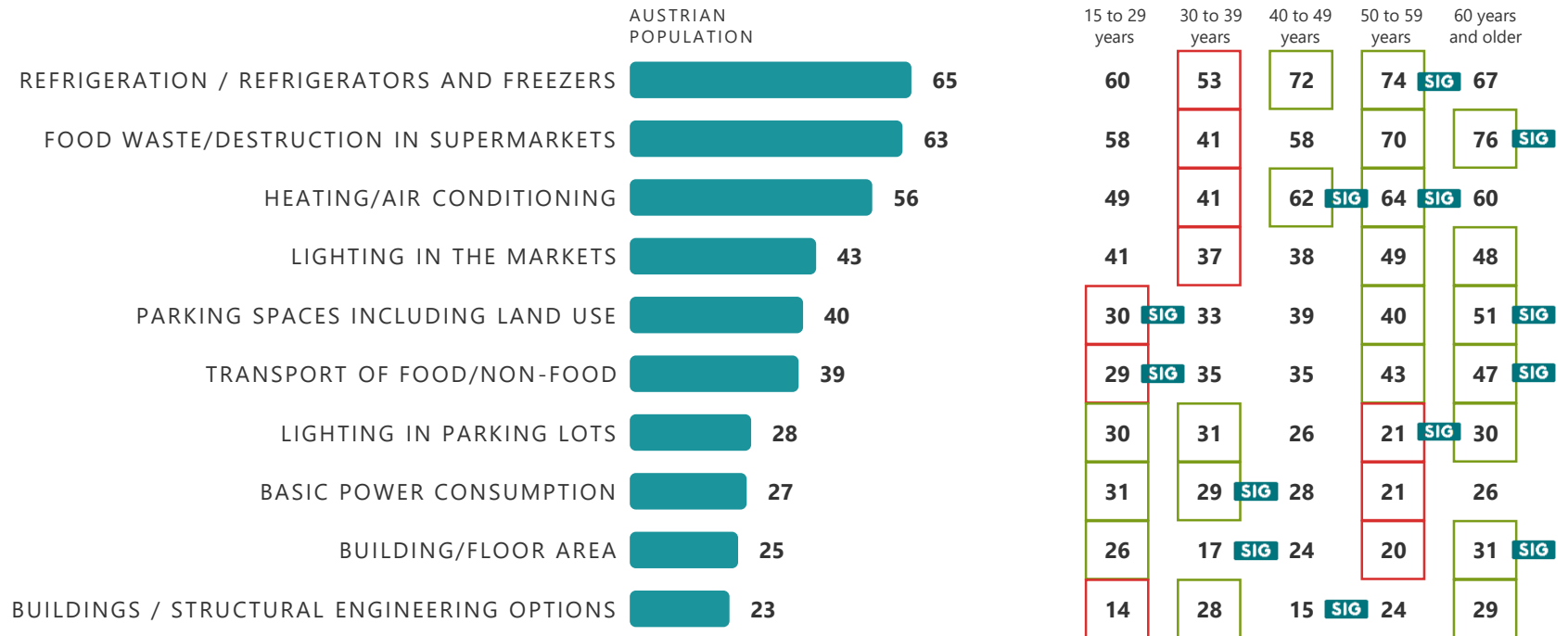


Question: What do you think are the biggest energy consumers in a supermarket? What uses the most energy in the supermarket?

The largest energy consumers – with support

Differentiated by age

i Even if you support the areas, cooling is seen as the highest energy consumer - **HOWEVER**: food waste comes right behind this first point, so is ranked significantly higher with support.

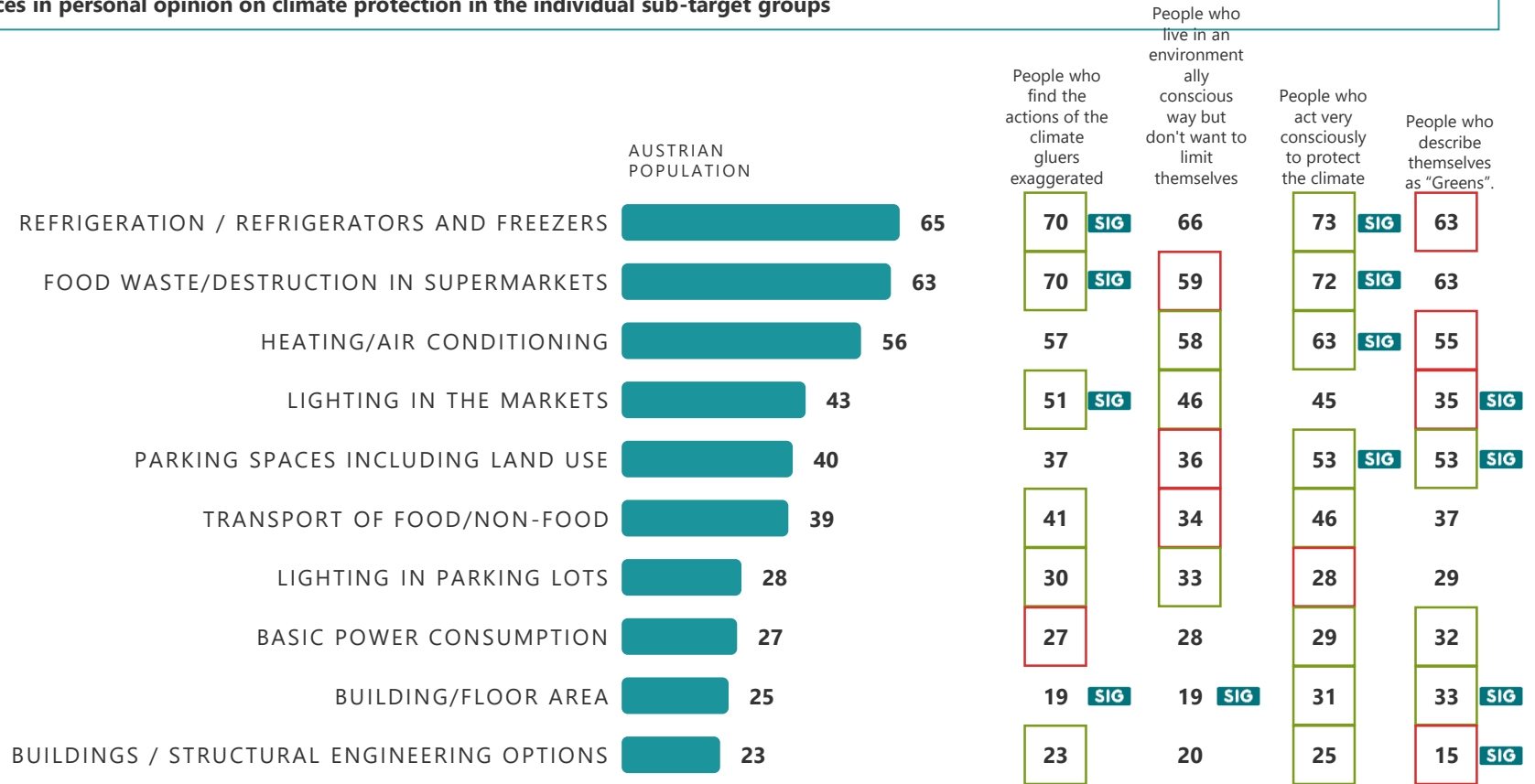


Question: Below you will find various areas listed. Where would you say a particularly large amount of energy is used or where resources are not really used carefully?

The largest energy consumers – with support

Differentiated according to opinions on climate protection

i There are little differences in personal opinion on climate protection in the individual sub-target groups



Question: Below you will find various areas listed. Where would you say a particularly large amount of energy is used or where resources are not really used carefully?

A grayscale photograph of a business meeting. Two people are shaking hands over a table. On the table, there are papers with charts and a tablet being held by one of the people. The background is blurred, showing other people in the room.

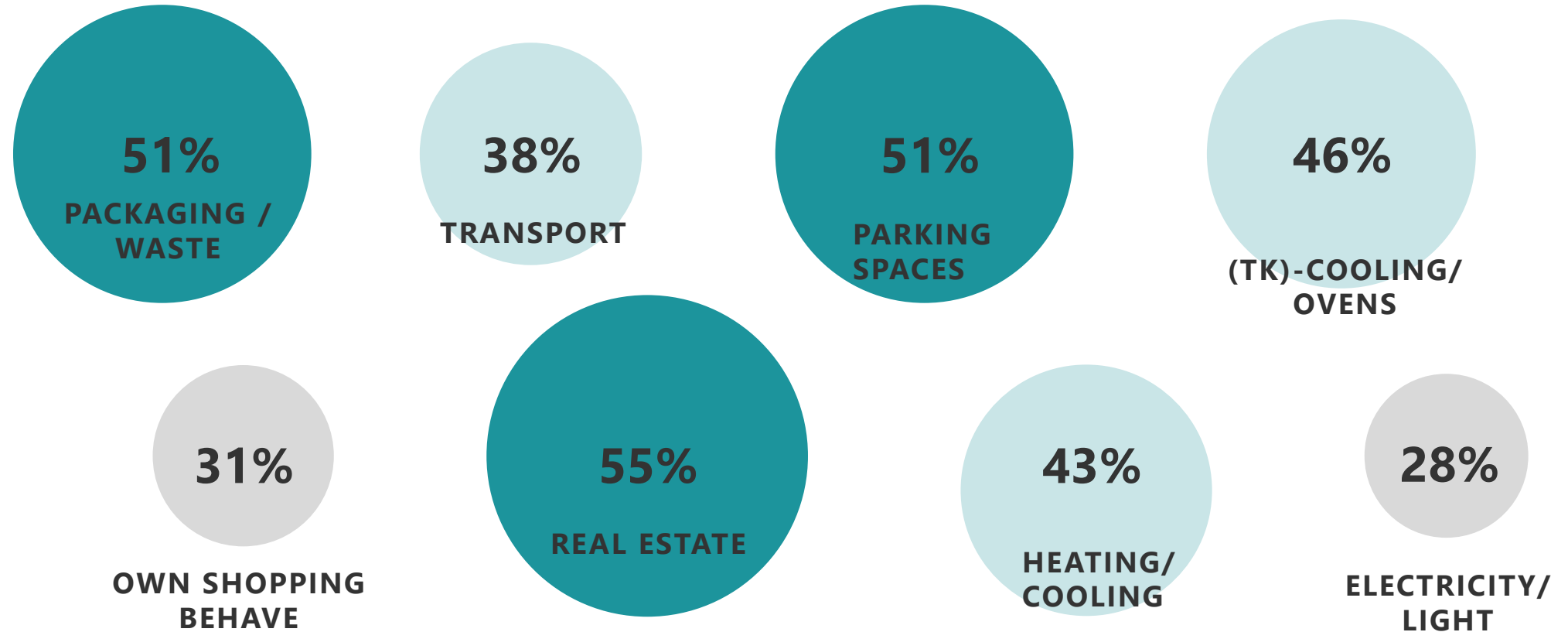
CHAPTER 6

Savings opportunities overview

The areas where you could save the most

Average value for the four strongest entries per group

i There are little differences in personal opinion on climate protection in the individual sub-target groups



Question: Below you will find various areas listed. Where would you say a particularly large amount of energy is used or where resources are not really used carefully?

The most urgent energy savings

Average value over the four strongest mentions per group / basis urgency

i There are little differences in personal opinion on climate protection in the individual sub-target groups

THE MOST URGENT ENERGY SAVINGS

36%

REAL ESTATE

32%

PARKING SPACES

29%

**HEATING/
COOLING**

27%

**(TK)-COOLING/
OVENS**

17%

**ELECTRICITY/
LIGHT**

WHERE YOU CAN CONTRIBUTE ACTIVELY

53%

**PACKAGING /
WASTE**

45%

**OWN SHOPPING
BEHAVE**

40%

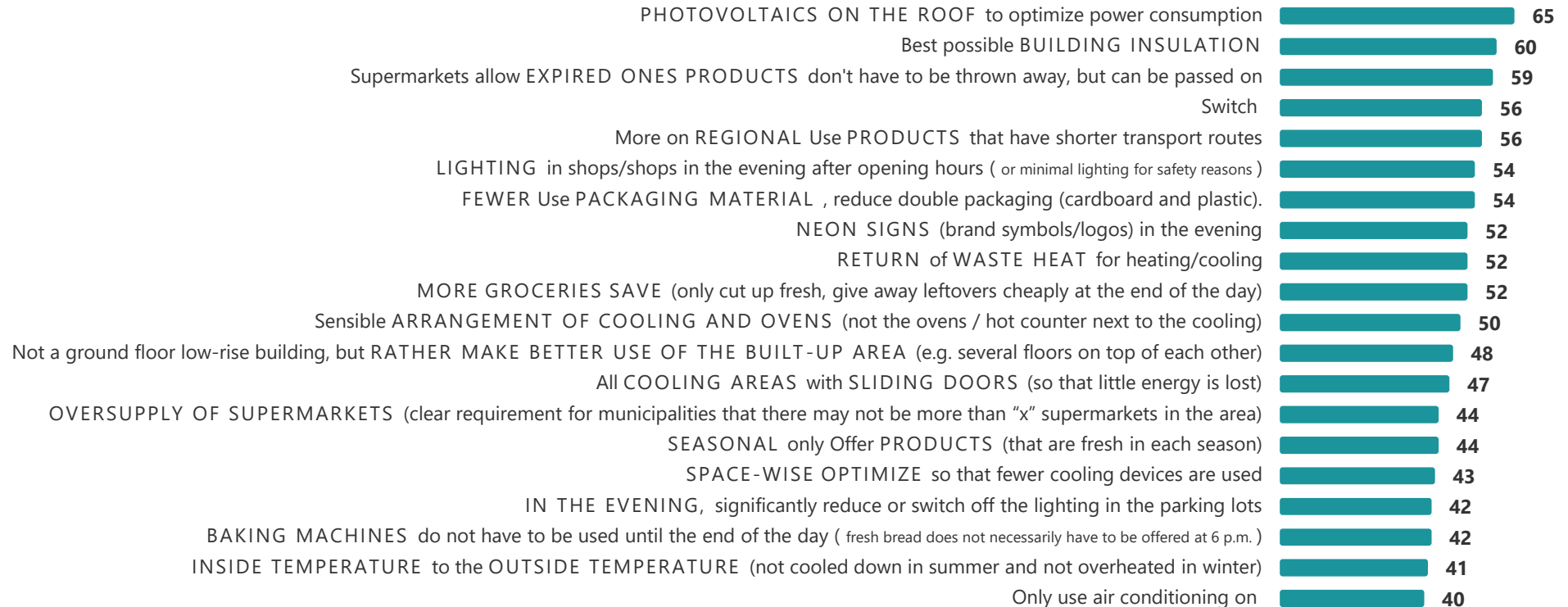
TRANSPORT

Question: Below you will find various areas listed. Where would you say a particularly large amount of energy is used or where resources are not really used carefully?

The top 20 savings potential

OVERVIEW

i Better real estate planning, avoiding food waste and photovoltaics and LED conversion and short transport routes as the most important points for saving energy.

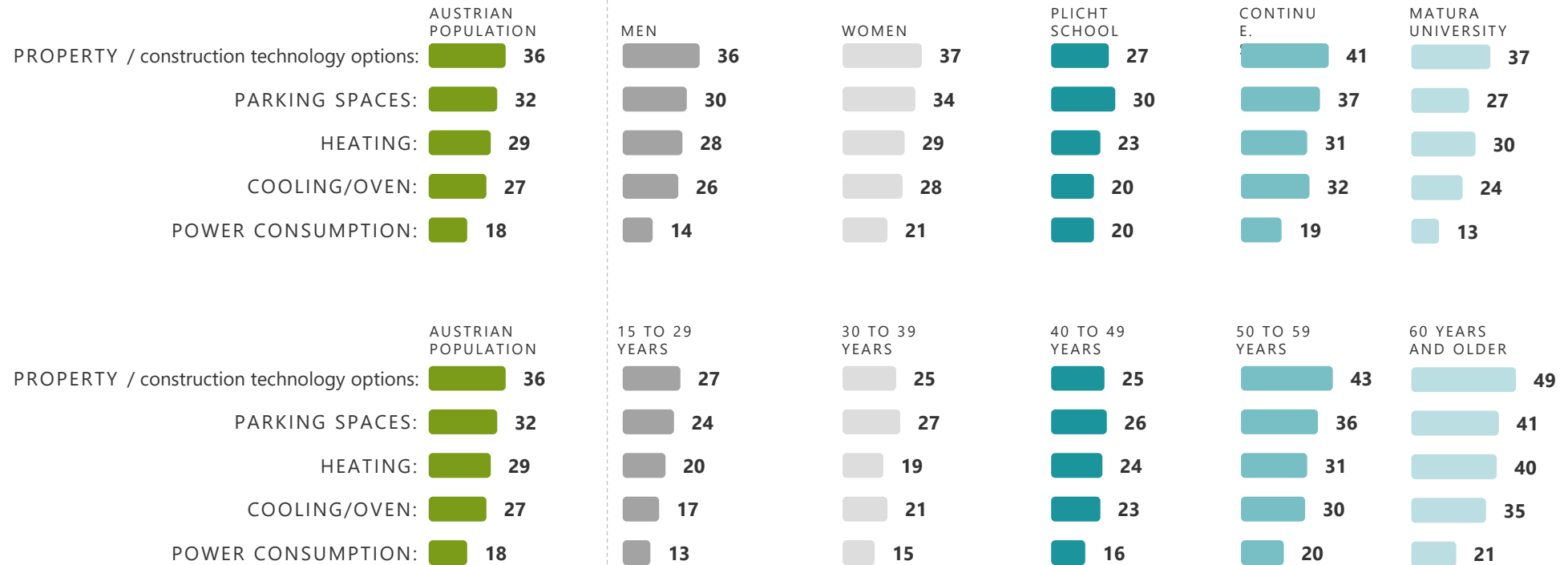


Question: The top 20 savings potential

The most important savings facts

Average value over the four strongest mentions according to socio-demographic characteristics

i Cumulative

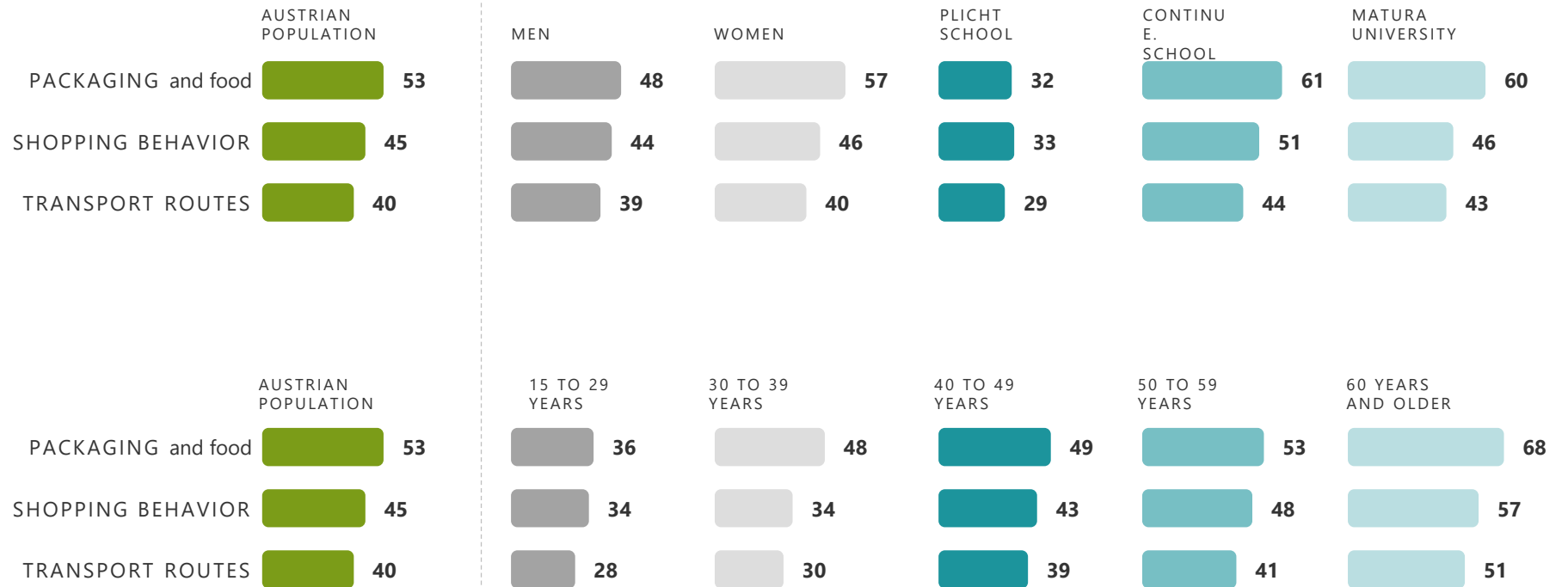


Question: And which of these points would be most important to you or most urgent in order to use less energy or have a positive impact on the climate? For which of these points would you yourself actively contribute to ensuring that the points in question are implemented, ie, for example, that you do not use long opening hours, that you would also be satisfied with a smaller range of goods, etc.?

Imaginable active contribution to energy saving

Average value over the four strongest mentions according to socio-demographic characteristics

i If you add up the values of the individual groups to an average value, the consumer sees the greatest savings opportunities in the areas of packaging and transport routes.



Question: And which of these points would be most important to you or most urgent in order to use less energy or have a positive impact on the climate? For which of these points would you yourself actively contribute to ensuring that the points in question are implemented, ie, for example, that you do not use long opening hours, that you would also be satisfied with a smaller range of goods, etc.?

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CHAPTER 7

Outdoor savings options

Energy saving options: PARKING

Where can you save energy in the parking lot?

i The biggest savings opportunities for external views are in the area of lighting (outside opening hours, solar lighting) or in reducing the number of neon signs

	VERY MUCH	TO SOME EXTENT	Σ	FEWER	NOT REALLY
LIGHTING in shops/shops in the evening after opening hours (or minimal lighting for safety reasons)	 54	 34	88	 10	 2
Switch	 56	 32	88	 10	 2
NEON SIGNS (brand symbols/logos) in the evening	 52	 33	85	 12	 3
In the evening, significantly REDUCE or switch off the	 42	 40	82	 14	 4
ROOFING of parking spaces or underground car parks UNDER the SHOPS so that less "land is used"	 26	 50	76	 15	 9
PARKING SPACES with an appropriate amount of GREENERY and only partially asphalt them to avoid soil compaction	 36	 40	76	 17	 7
MOTION DETECTORS for lighting in the parking area	 36	 39	75	 20	 6
Connect	 36	 37	73	 23	 4
PHOTOVOLTAICS for e-charging stations in parking lots	 42	 30	72	 22	 6
More WASTE SEPARATION SYSTEMS directly in front of the supermarket	 28	 40	68	 25	 7
More PARKING SPACES FOR CYCLISTS where you can easily lock your bike	 24	 34	58	 28	 14
ROOFING of bicycle parking spaces and parcel pick-up stations	 18	 30	48	 33	 19

Question: When planning a supermarket, you can take various energy savings into account and also ensure that you operate in a climate-friendly/climate-conscious manner. For which of the points listed below do you think that we can save a lot, a little, less, or not really energy or have a positive impact on our climate?

Energy saving options: REAL ESTATE

Where can you save energy in real estate and in structural engineering options?

i There is a clear desire for photovoltaics on the roof, for the best possible insulation and for multi-story construction to avoid soil compaction.

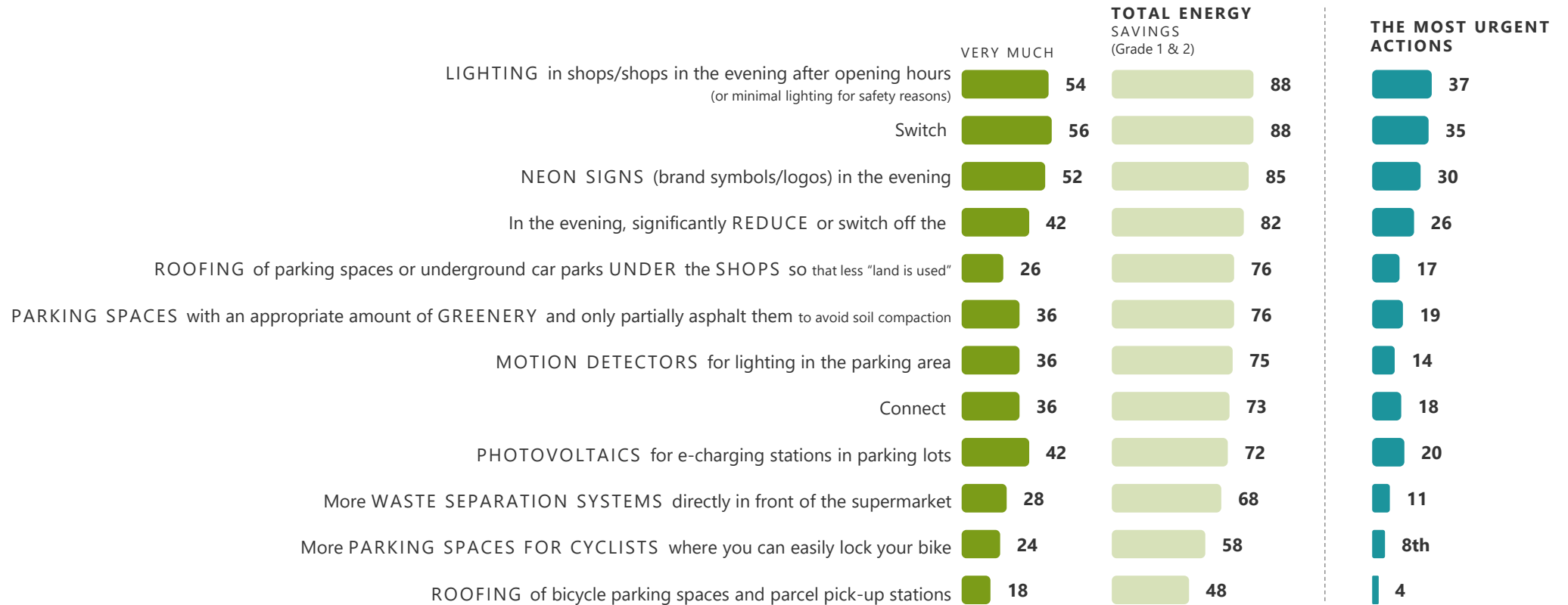
	VERY MUCH	TO SOME EXTENT	Σ	FEWER	NOT REALLY
PHOTOVOLTAICS on the roof to optimize power consumption	 65	 27	92	 7	 1
Best possible BUILDING INSULATION	 60	 32	92	 7	 1
NOT a GROUND-FLOOR LOW-RISE BUILDING , but rather better use of the built-up area (e.g. several floors, with apartments, other shops)	 48	 34	82	 16	 2
GREEN FACADE , used for insulation	 45	 35	80	 16	 4
Use	 39	 40	79	 18	 3
REDUCE OVERSUPPLY in supermarkets (Clear requirement for communities that there may not be more than "x" supermarkets in the area)	 44	 34	78	 15	 7
AREA RESTRICTIONS for supermarkets (that no more than "x" square meters may be built)	 42	 36	78	 16	 6
DO NOT USE SCREENS/ digital posters in supermarkets, where there are constant advertisements for promotions	 37	 37	74	 22	 4
MOTION SENSOR for lighting also in the employee rooms	 31	 40	71	 22	 7

Question: When planning a supermarket, you can take various energy savings into account and also ensure that you operate in a climate-friendly/climate-conscious manner. For which of the points listed below do you think that we can save a lot, a little, less, or not really energy or have a positive impact on our climate?

Energy saving options: PARKING

What has particularly positive effects? What is most urgent?

i For a good or almost a third, the lighting in the shops needs to be switched off after opening hours, switched to LED and the neon signs switched off.

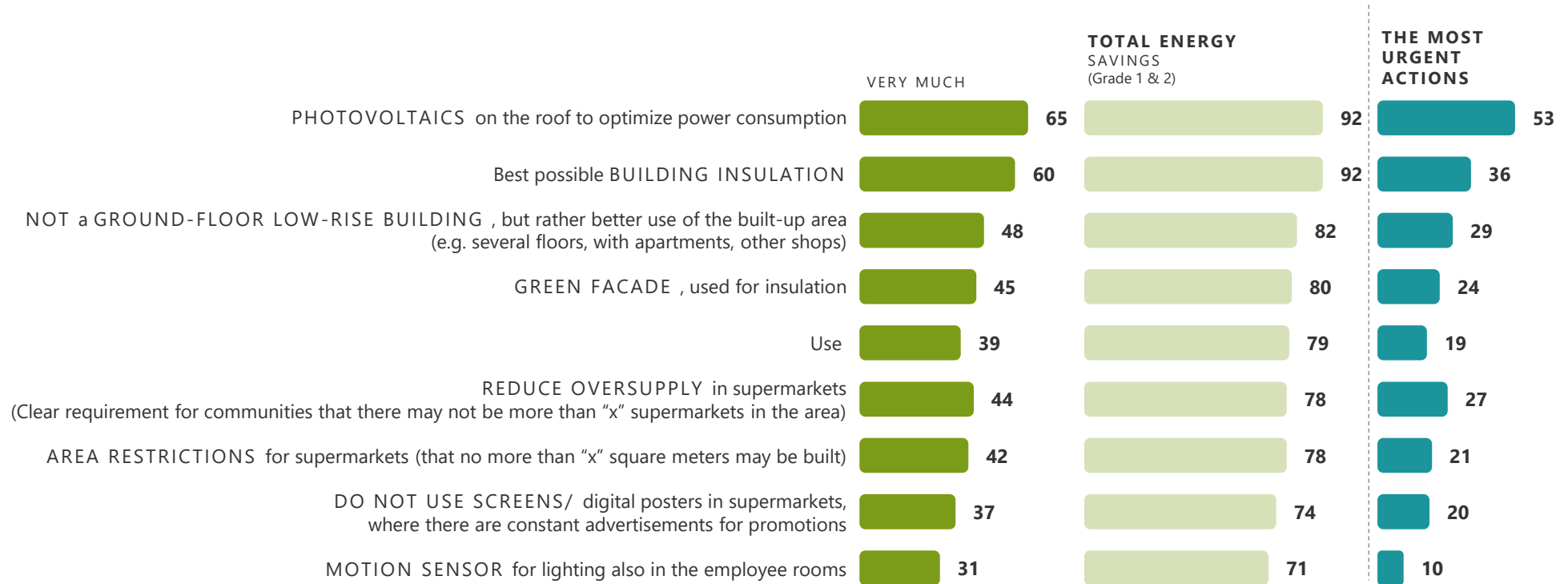


Frage: When planning a supermarket, you can take various energy savings into account and also ensure that you operate in a climate-friendly/climate-conscious manner. For which of the points listed below do you think that we can save a lot, a little, less, or not really energy or have a positive impact on our climate? And which of these points would be most important to you or most urgent in order to use less energy or have a positive impact on the climate?

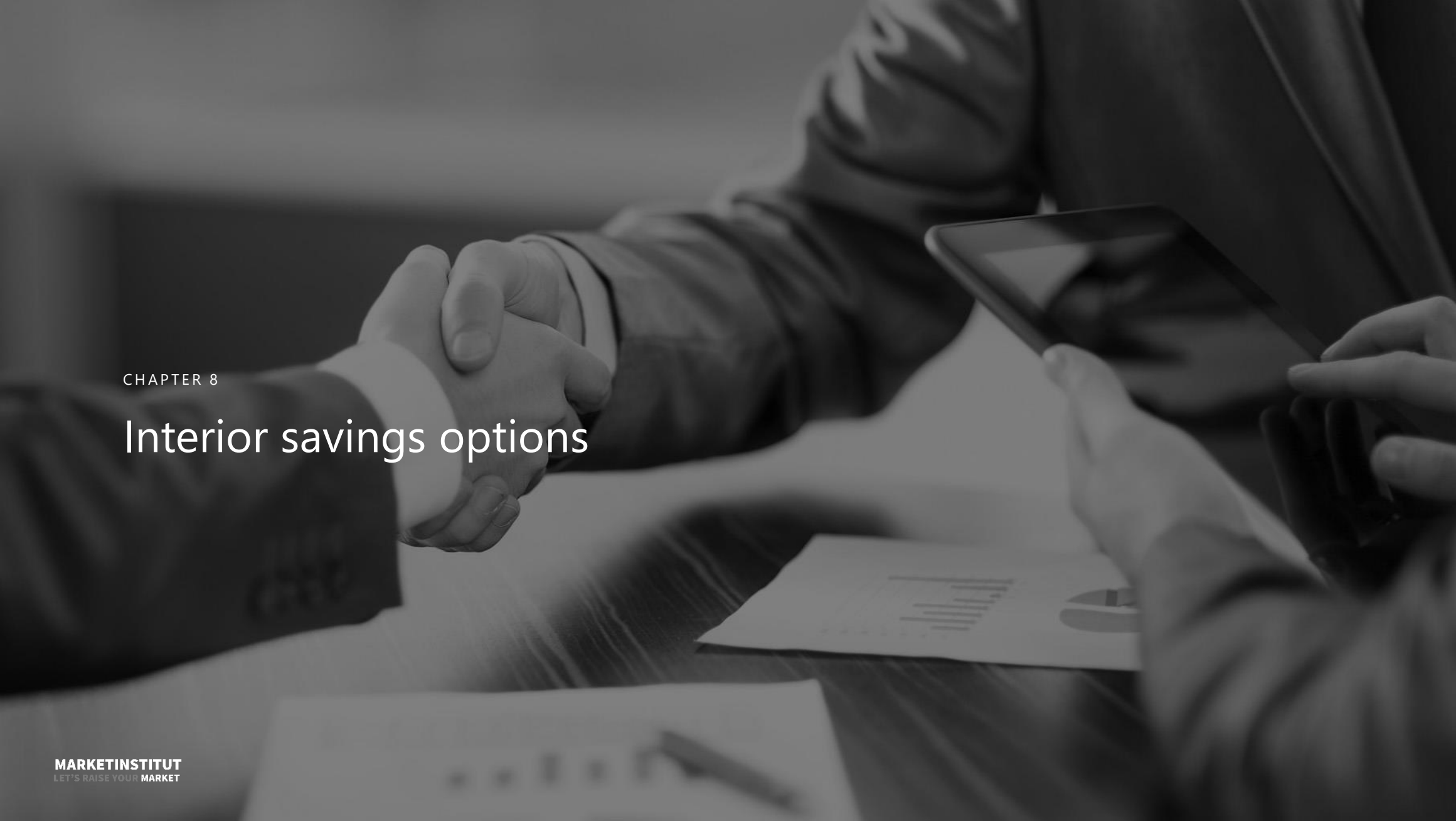
Energy saving options: REAL ESTATE

What has particularly positive effects? What is most urgent?

i The property relies entirely on photovoltaics on the roof, but also insulation, multi-story construction, and reducing the general oversupply of supermarkets.



Frage: When planning a supermarket, you can take various energy savings into account and also ensure that you operate in a climate-friendly/climate-conscious manner. For which of the points listed below do you think that we can save a lot, a little, less, or not really energy or have a positive impact on our climate? And which of these points would be most important to you or most urgent in order to use less energy or have a positive impact on the climate?

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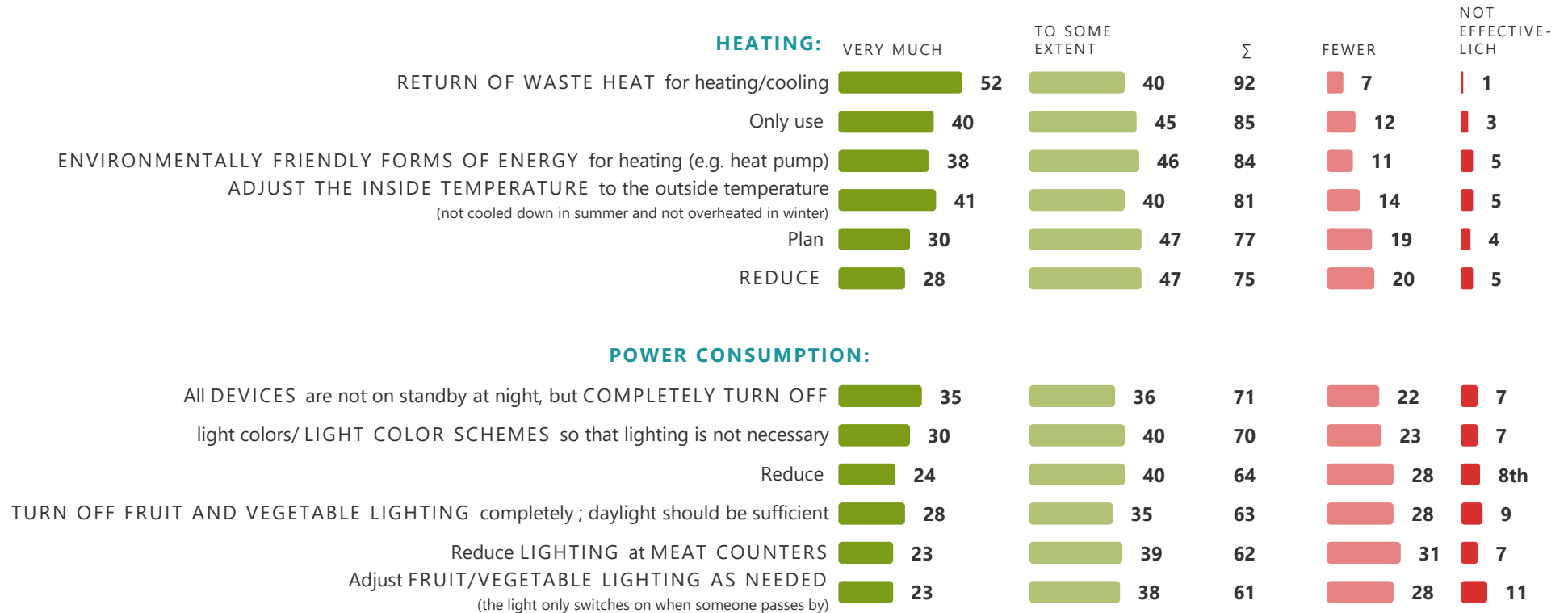
CHAPTER 8

Interior savings options

Energy saving options: SUPERMARKET

Where can you save energy in the supermarket?

i The “greatest” potential for savings is found indoors; waste heat should be recycled, environmentally friendly forms of energy should be used, but the temperature should also be adjusted to the respective outside temperature.



Question: And if we now go into the supermarket, for which of the points listed below do you think that you can save a lot, a little, less, not really energy or have a positive impact on our climate?

Energy saving options: SUPERMARKET

Where can you save energy in the supermarket?

i Cooling and ovens should also be arranged sensibly, all cooling areas should be equipped with sliding doors and one would expect an optimization in terms of space.

COOLING/OVEN:

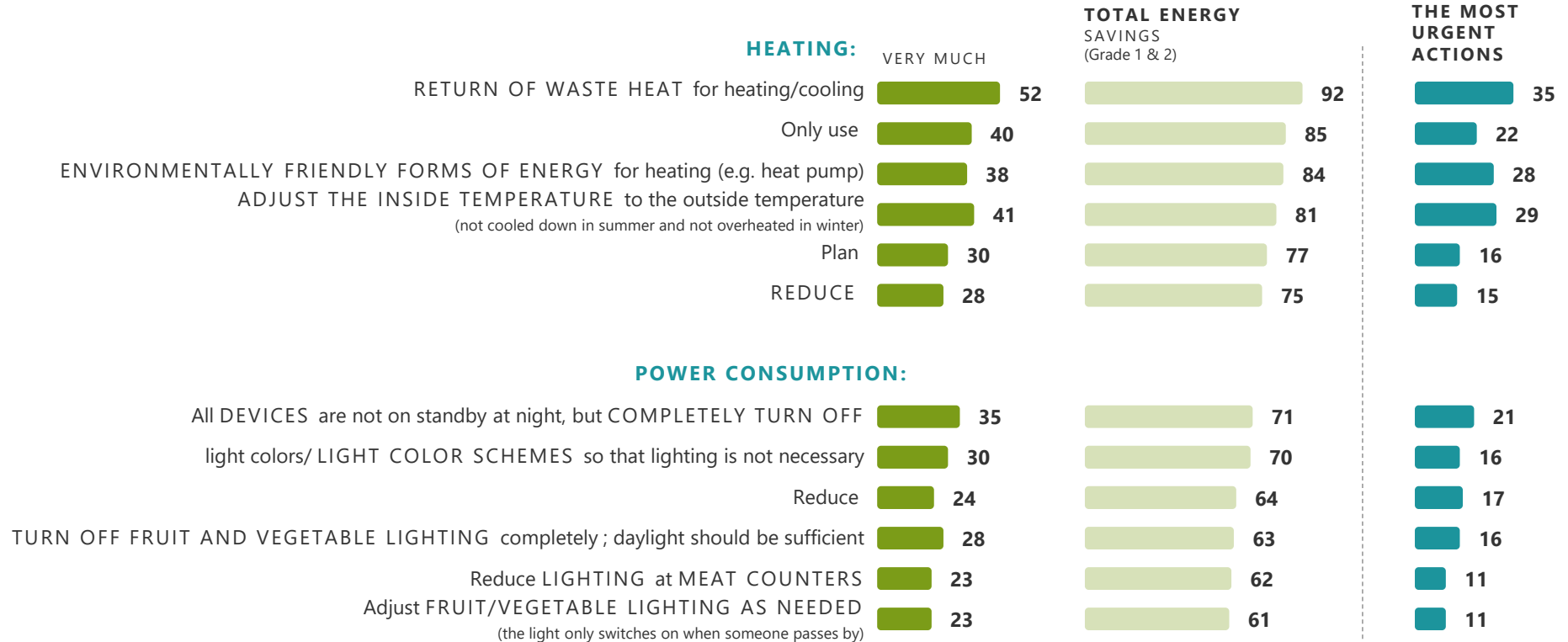
	VERY MUCH	TO SOME EXTENT	Σ	FEWER	NOT EFFECTIVE-LICH
SENSIBLE ARRANGEMENT of cooling and ovens (not the ovens / hot counter next to the cooling)	50	40	90	8th	2
All refrigerator areas with SLIDING DOORS (so that little energy is lost)	47	41	88	10	2
OPTIMIZE SPACE so that fewer cooling devices are used	43	41	84	12	4
BAKING MACHINES do not have to be used until the end of the day	42	37	79	15	6
Make	36	42	78	18	4
all REFRIGERATORS WITH AN ALARM so that you can hear that a door is not locked	34	41	75	20	5
Protect	33	40	73	20	7
TURN THE REFRIGERATOR COMPARTMENTS UPWARDS	25	42	67	26	7
Reduce	27	40	67	25	8th
DO NOT USE CHEST FREEZERS , only standing freezer areas	26	34	60	30	10

Question: And if we now go into the supermarket, for which of the points listed below do you think that you can save a lot, a little, less, not really energy or have a positive impact on our climate?

Energy saving options: SUPERMARKET

What has particularly positive effects? What is most urgent?

i The most important savings features are the return of waste heat, the adjustment of the interior temperature and the environmentally friendly forms of energy for heating or electricity consumption.

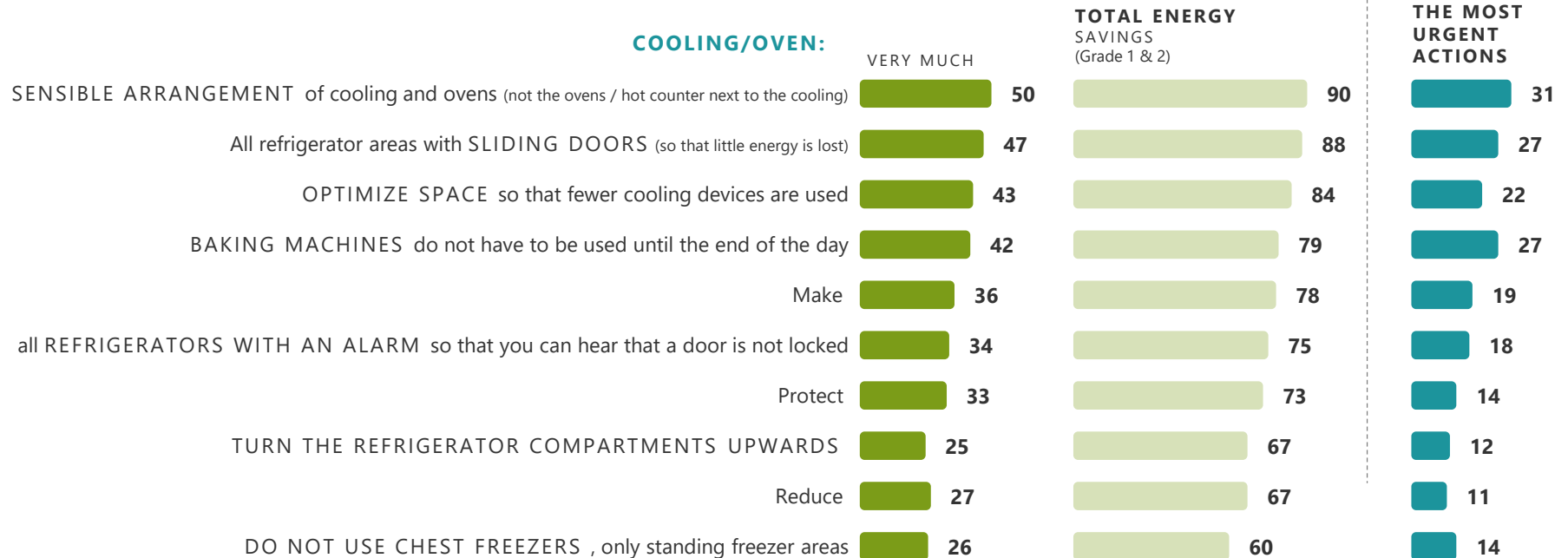


Frage: And if we now go into the supermarket, for which of the points listed below do you think that you can save a lot, a little, less, not really energy or have a positive impact on our climate? And which of these points would be most important to you or most urgent in order to use less energy or have a positive impact on the climate?

Energy saving options: SUPERMARKET

What has particularly positive effects? What is most urgent?

i The area of cooling and ovens is seen in a similar way, much more important than lighting.



Frage: And if we now go into the supermarket, for which of the points listed below do you think that you can save a lot, a little, less, not really energy or have a positive impact on our climate? And which of these points would be most important to you or most urgent in order to use less energy or have a positive impact on the climate?

A grayscale background image showing a business meeting. Two people are shaking hands over a table. On the table, there are papers with charts and a tablet being held by one of the people. The scene is dimly lit, focusing on the handshake and the documents.

CHAPTER 9

Savings opportunities on products

Energy saving options: PRODUCTS

Where can you save energy on products?

i There is great potential for savings when it comes to packaging but also transport routes; online shopping or self-scanning checkouts are not included.

		DIFFERENT SHOPPING BEHAVIOR		VERY MUCH	TO SOME EXTENT	Σ	FEWER	NOT EFFECTIVE-LICH	
THE OVERSUPPLY OF GOODS	from one product area (you don't need xx different pizzas or similar)		32		45	77		16	7
WRITE A SHOPPING LIST	to shop more efficiently and not take anything "not necessary" with you		36		35	71		21	8th
	more small SELF-SERVICE STORES with regional goods		22		48	70		22	8th
REDUCE OPENING TIMES / coordinate with each other (it is enough if a market is open in the evening)			28		37	65		25	10
LESS OR NO PRINTING	of brochures and offer folders, that's enough online too		28		37	65		24	11
	More ONLINE SHOPPING to reduce travel distances		9		30	39		36	25
	MORE SELF-SCANNING CHECKOUTS to save staff		12		22	34		32	34
PACKAGING AND SAVING									
	Allow		59		28	87		10	3
	More FOOD SAVE (only cut up fresh, give away leftovers cheaply at the end of the day)		52		35	87		9	4
FEWER Use PACKAGING MATERIAL , reduce double packaging (cardboard and plastic).			54		30	84		12	4
	Only RECYCLABLES Insert MATERIAL		36		45	81		14	5
	more UNPACKAGED items where you can choose the quantity you need yourself		40		40	80		14	6
	A LOT OF THINGS on DEPOSIT so that material can be reused immediately		43		37	80		15	5
TRANSPORT ROUTES									
	more on REGIONAL PRODUCTS that have shorter transport routes		56		30	86		11	3
	SEASONAL only Offer PRODUCTS (that are fresh in each season)		44		39	83		12	5
	LOW-ENERGY trucks for deliveries (e.g. electric trucks)		29		38	67		22	11
	Loosen THE SHELF LIFE		25		41	66		23	11
	LESS STRICT REQUIREMENTS regarding cooling and storage		16		35	51		32	17

Question: Now let's briefly talk about everything that has to do with the products and the goods. What measures do you see with the goods in order to achieve positive effects on the climate or to save (energy)?

Energy saving options: PRODUCTS

has particularly positive effects? In which areas would you actively contribute?

i The last bar is interesting. Especially in the area of packaging and food savings you would actively contribute, even if there is an oversupply you can imagine doing without.



Frage:

Now let's briefly talk about everything that has to do with the products and the goods. What measures do you see with the goods in order to achieve positive effects on the climate or to save (energy)? For which of these points would you yourself actively contribute to ensuring that the points in question are implemented, ie, for example, that you do not use long opening hours, that you would also be satisfied with a smaller range of goods, etc.?

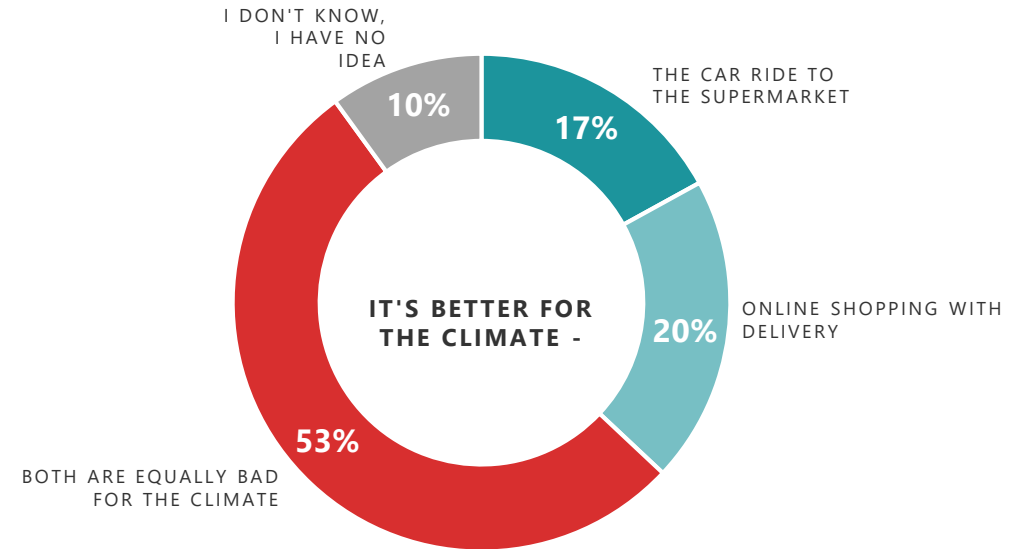
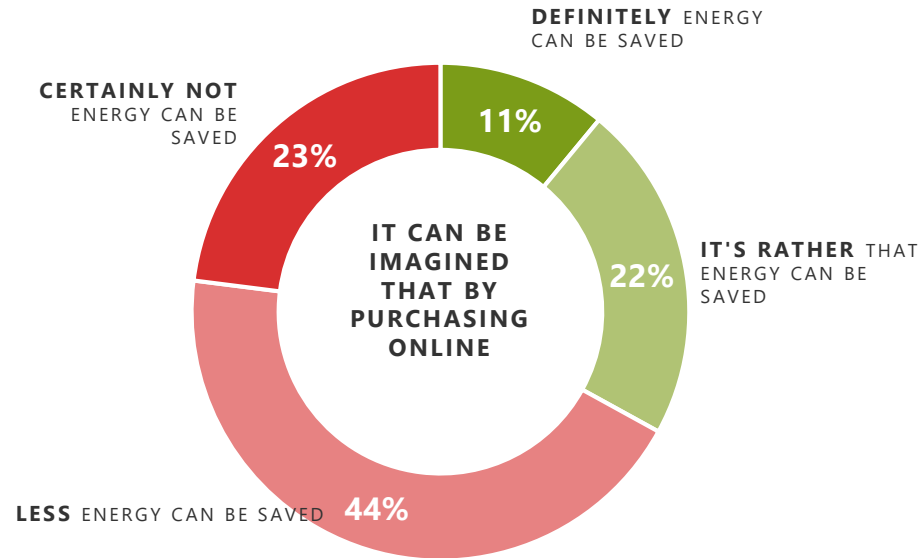
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CHAPTER 10

Savings opportunities through online shopping

Energy savings through online shopping

i Online shopping is not seen as an opportunity to save energy.

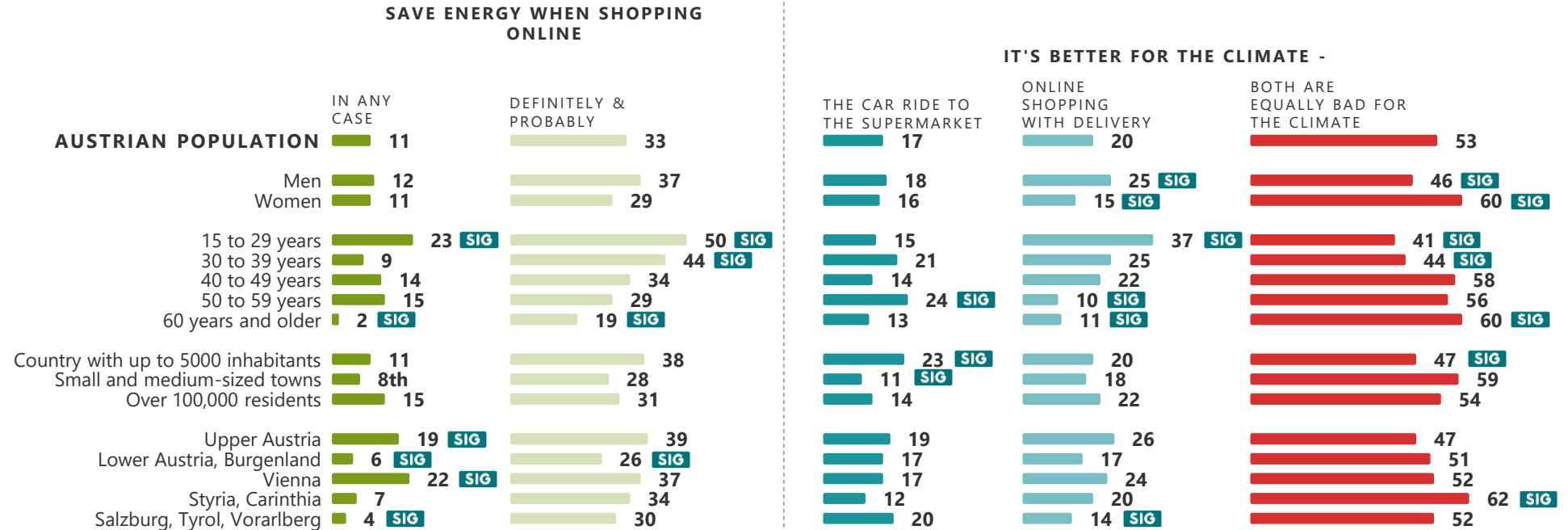


Question: Do you think that online shopping would be better in terms of energy savings, i.e. that online shopping, if delivered in a bundle, consumes less CO2 and is more climate-neutral? Which do you think is fundamentally better for the climate, driving to the supermarket or shopping online with delivery?

Energy savings through online shopping

According to socio-demographic aspects

i The best way to get young people excited about online shopping is to see it as an opportunity to save energy.



Question: Do you think that online shopping would be better in terms of energy savings, i.e. that online shopping, if delivered in a bundle, consumes less CO2 and is more climate-neutral?
Which do you think is fundamentally better for the climate, driving to the supermarket or shopping online with delivery?

CHAPTER 11

Management Summary

Management summary

The heaviest energy consumers

- Almost every Austrian recognizes **savings in energy consumption** in a supermarket. Only 9 percent cannot imagine where savings could be made.
- the **biggest energy wasters** in the area of refrigeration and freezers and ovens. On the second level, one spontaneously thinks about electricity consumption, especially the lighting in the markets, with a clear reference also to outdoor lighting in the form of advertising or neon signs.
- If the topic is supported with guidelines, **food waste becomes even more important** : two thirds of Austrians clearly see the need to work more efficiently in this area.
- If you stay **outside the supermarket** , the topic of land consumption is clearly the number 1 topic. You would like to see less soil sealing, on the one hand through different construction methods for parking spaces (not asphalted, greening, ...), and on the other hand due to the size of the area itself. If you are already building, the space should also be used better in height. And – asked rationally – the consumer recognizes that the number of supermarkets is significantly too high.



Management summary

Parking lot and buildings

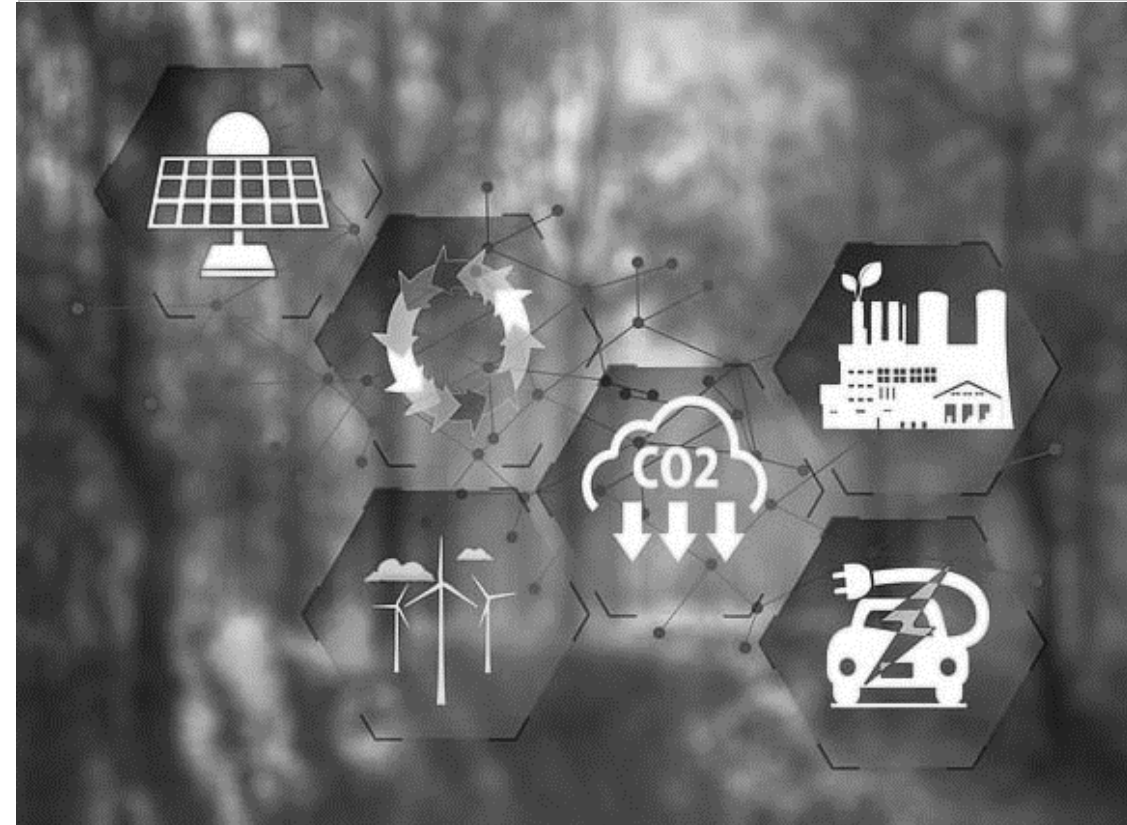
- **Lighting outside of business hours:** After regular opening hours, neither the supermarket itself nor the parking lot needs to be lit. If it is really necessary, then this should be regulated with motion detectors. It is also important to turn off the neon signs (which point to the supermarket) in the evening, according to the motto: you don't have to find there anyway.
- When it comes to lighting - no matter where it is - you should a) switch to LED and b) if possible, use your own electricity, i.e. generate your own electricity using photovoltaics and use it sensibly.
- **Soil compaction/sealing:** the supermarkets also receive clear reprimands because they use far too much soil or use the soil in a less sensible way. This starts with the parking spaces that are "paved over", here you want grassy/green parking spaces, also with more trees, and parking spaces where you can see grass. The best thing would be an underground car park below the building, as well as additional floors in order to make optimal use of the space that is used. In any case, one is critical of the number of markets, which currently appears to be far too dense.
- **Building structure :** When it comes to the building itself, consumers want to put photovoltaics on the roof and use the electricity they generate as best as possible. This also includes a fundamentally environmentally friendly form of energy that can be used for heating - keyword heat pump.



Management summary

Parking lot and buildings

- The supermarket halls are also often perceived as not being of a high enough quality - according to the motto - they only need to last 10-15 years anyway. It is recommended that the retail chains think in the longer term and want the best possible building insulation, and therefore fewer window fronts, and ideally a green facade, which would also add a lot of visual appeal, as well as skylights (if single-story) for better light and thus the possibility in the To reduce lighting in the interior area.



Management summary

Inside the supermarket

- also some options **inside the supermarket** to make trading more energy efficient. What is particularly striking is the issue of waste heat. Due to the many cooling devices, but also ovens, one thinks of a large potential for waste heat that should be used for cooling or heating. You also have to adapt the temperature to the individual seasons; you don't want to freeze in the summer and sweat in the winter. Both situations need to be adapted and saved.
- A very important point that always annoys consumers is **the operation of the refrigerator or freezer**. One expects sliding doors in the refrigerator area, which are also equipped with an alarm so that they can actually be closed. Even in the freezer area, the doors should always be closed and freezers should no longer be used at all. Additional savings options should be considered at night (e.g. blinds in front of the sliding doors or covers on the freezer chests). A note also comes in the direction of space optimization - you often have the feeling that there are too many cooling devices and that they could be reduced. Also in view of the fact that in many markets there is an oversupply of products.



Management summary

Inside the supermarket

- Another factor that many consumers are annoyed about is that they often **don't - from their perspective sensible arrangement of cooling and ovens**, which are far too often perceived as being too close to each other. You simply find this to be nonsensical, as it requires even more cooling or heat and cold condense and this becomes noticeable on the glass. You could also save time when operating the baking machines - by pointing out that the bread at the bakery isn't baked until 5 p.m., but in the morning - and when it's out, it's out.
- Apart from the specific scope of action that the supermarket determines, one also perceives opportunities in the retailer or in one's own shopping behavior as to how resources could be saved or used better. This includes writing a shopping list to avoid buying "too much" of goods. You can also see starting points for saving energy in an **oversupply of products, long opening hours in the evening and too many printed advertising brochures**.
- However, people are skeptical about **online shopping or self-scanning systems**. Here, people don't really believe that they can actually save energy.



Management summary

Products and manufacturers

- When **shopping online**, it is assumed that delivery to the customer causes at least as much CO₂ emissions as your own trip to the supermarket. Online shopping certainly divides society a little. Half of the young segments are convinced that online shopping can help reduce CO₂ emissions; among those over 60, the proportion is reduced to just under a fifth. When it comes to self-scanning checkouts, you think about the staff who might lose their jobs as a result, but you don't really see the potential for saving energy.
- Significantly more is found in the area **of packaging** and **food waste**. Less packaging should be used, double packaging should be avoided (or offered unpackaged) and only recyclable material should be used. The waves are high when it comes to food waste. Supermarkets should be offered the opportunity to pass on expired food or to basically save food, be it by passing on fresh produce at the end of the day or by acting more mindfully, for example, when slicing sausage). What you can clearly see at this point is the often high level of ignorance among the population. This points out that you don't really need a cucumber wrapped in foil and would rather buy it unpackaged. The aspect of longer shelf life is not addressed.



Management summary

Products and manufacturers

- In addition, it is important to place even more emphasis on **regionality** , **to only offer seasonal food at the right time and to keep transport routes as short as possible**. It is precisely in these matters that the population states, at least verbally, that they could imagine making an active contribution to climate protection in these areas and supporting the food chains in this regard through their own purchasing behavior. Less strict requirements regarding cooling and storage are not seen as really practical.
- What can be determined across all areas **are slight differences** in perception depending on socio-demographic characteristics. Interestingly, younger groups of people (up to 39 years of age) see fewer savings options, while older target groups are significantly more aware of energy savings. There is also an educational correlation; people with a simple education recognize slightly fewer opportunities than people with a higher level of education.
- **One thing is certain: the consumer sees a wide range of savings options that probably cannot always or only partially be implemented. There is also always a certain level of ignorance - especially in the area of packaging - which leads to false assumptions, but at the same time this means that broad information is necessary, for example on packaging, food waste and the like.**



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