European Architectural Barometer Q2 2022

Trends in Material Usage

July-2022

ARCHVISION a product by USP Marketing Consultancy

About European Architectural Barometer

THE GOAL

The objective of the European Architectural Barometer of Arch-Vision is to offer profound insight into the current economic situation and trends among architectural firms in the Netherlands, Germany, the UK, France, Spain, Italy, Belgium and Poland. The European Architectural Barometer provides knowledge about the future building volumes and the way in which these building volumes will be realised (trends).

THE RESEARCH TOPICS

Recurring topic: Economic developments of architectural companies in Europe (order book and turnover development)

Quarterly theme topics in 2022:
Q1: Sustainability and Circularity
Q2: Trends in Material Usage
Q3: Decision Making in the Construction Industry
Q4: Love Brands

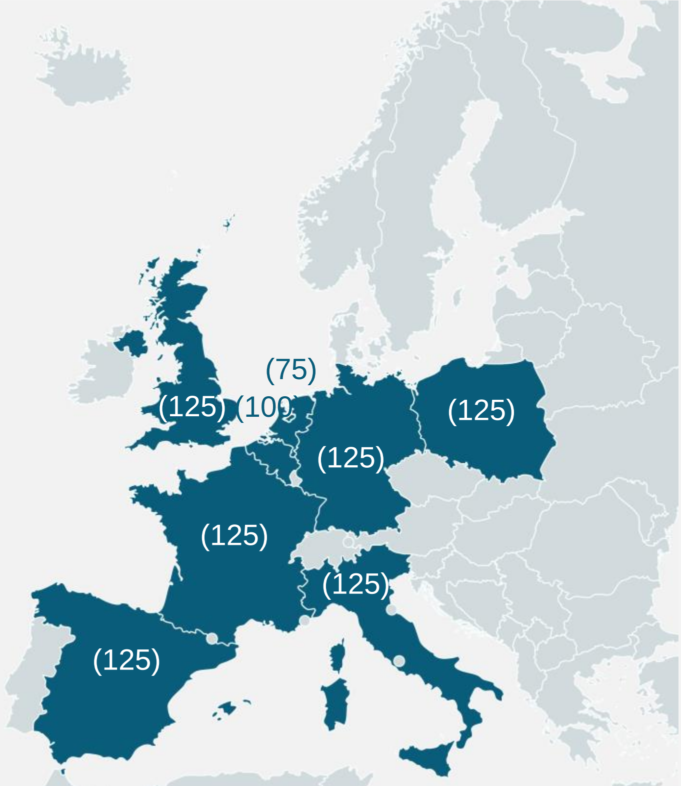
THE TIMELINE

Report Q4	Report Q1	Report Q2	Report Q3
January	April	July	November

COUNTRY SCOPE

(number of interviews conducted)

Background characteristics of the interviewed respondents can be found in the country-specific profiling, the architect chapter, and in the appendix as a European overview.



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Dummy data has been used on the following slides, this means no real data of this edition is shown.

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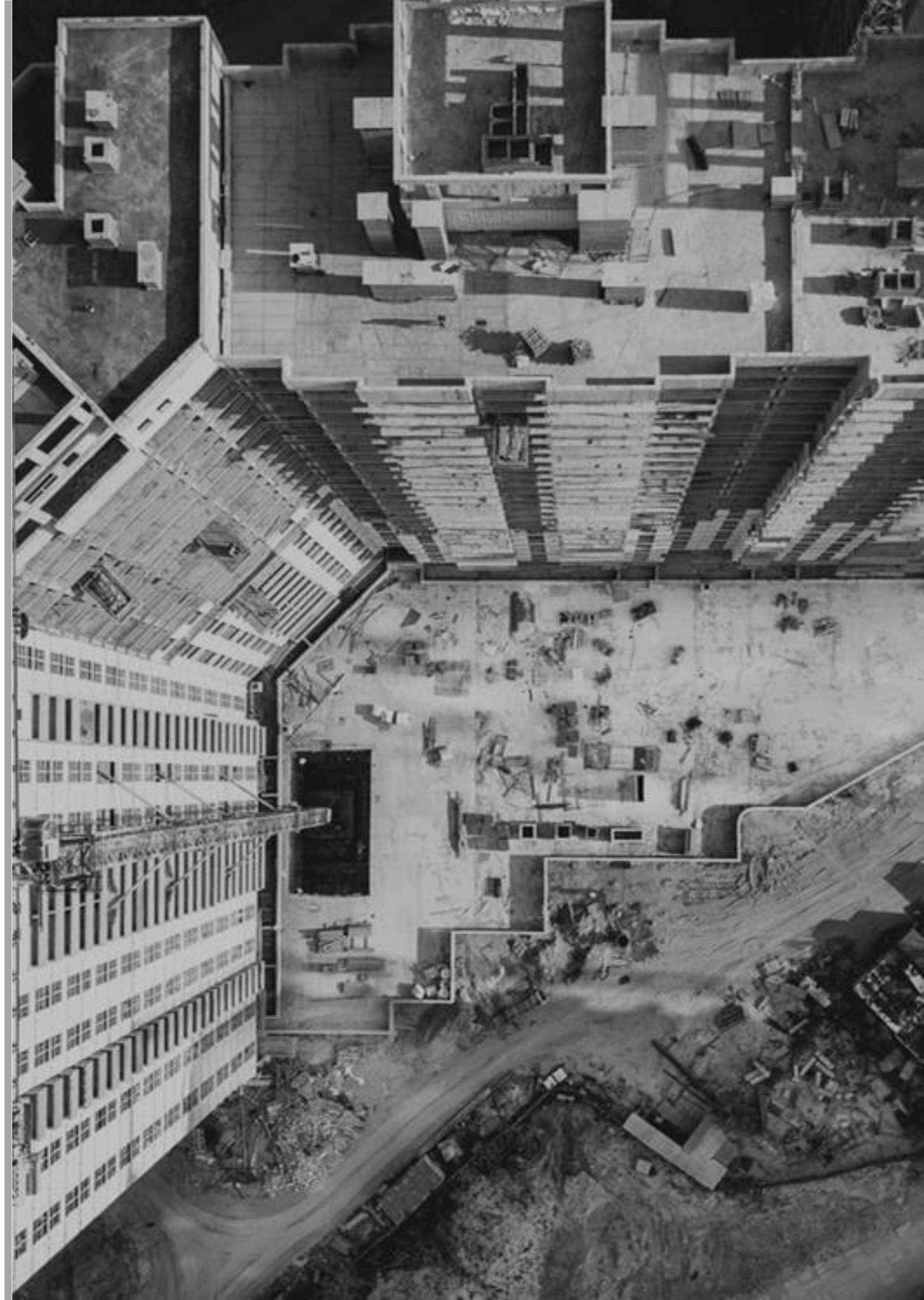

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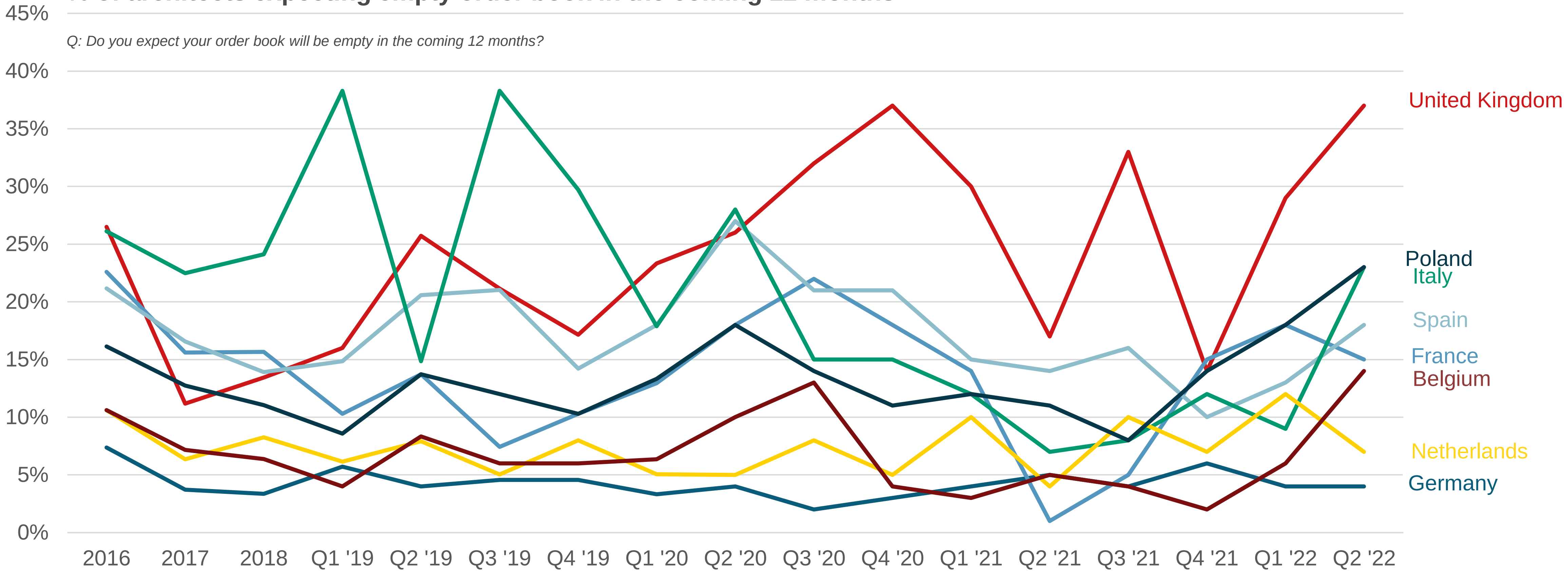
% of architects expecting empty order book in the coming 12 months

Q: Do you expect your order book will be empty in the coming 12 months?



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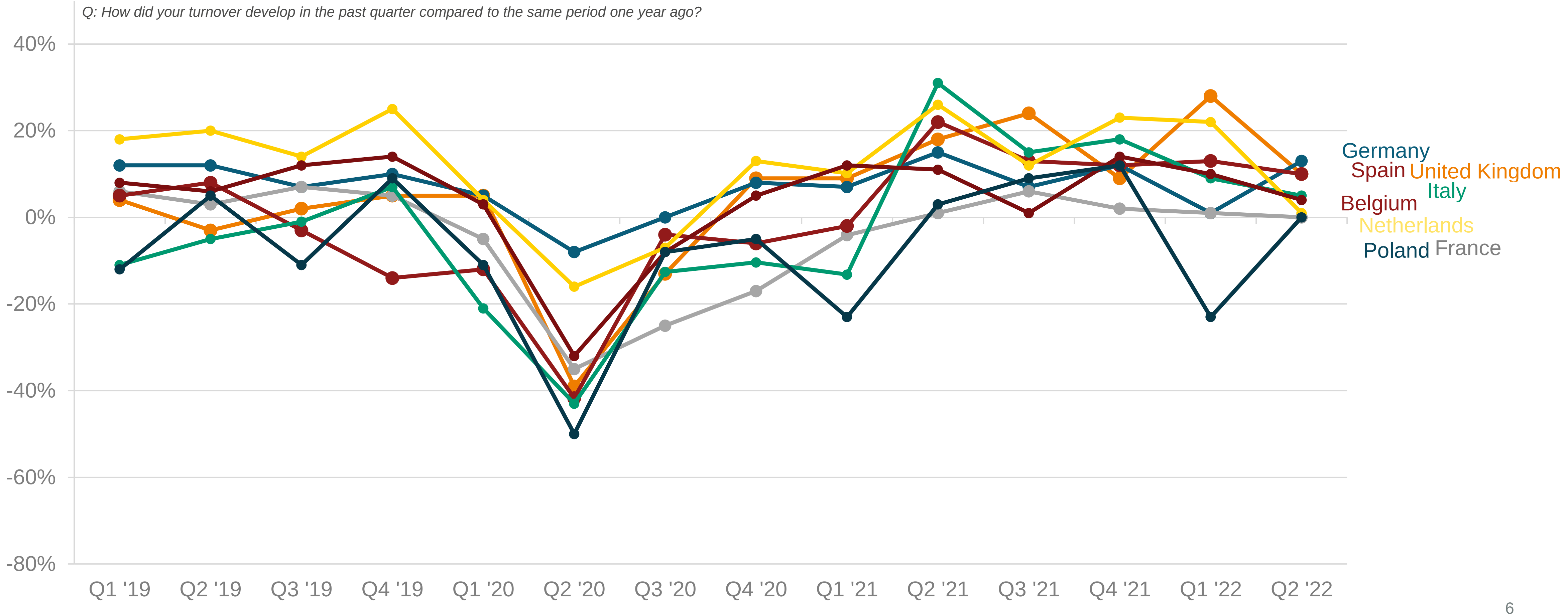
Architects’ experience regarding their turnover
(saldo of architects reporting increase minus architects reporting a decrease)



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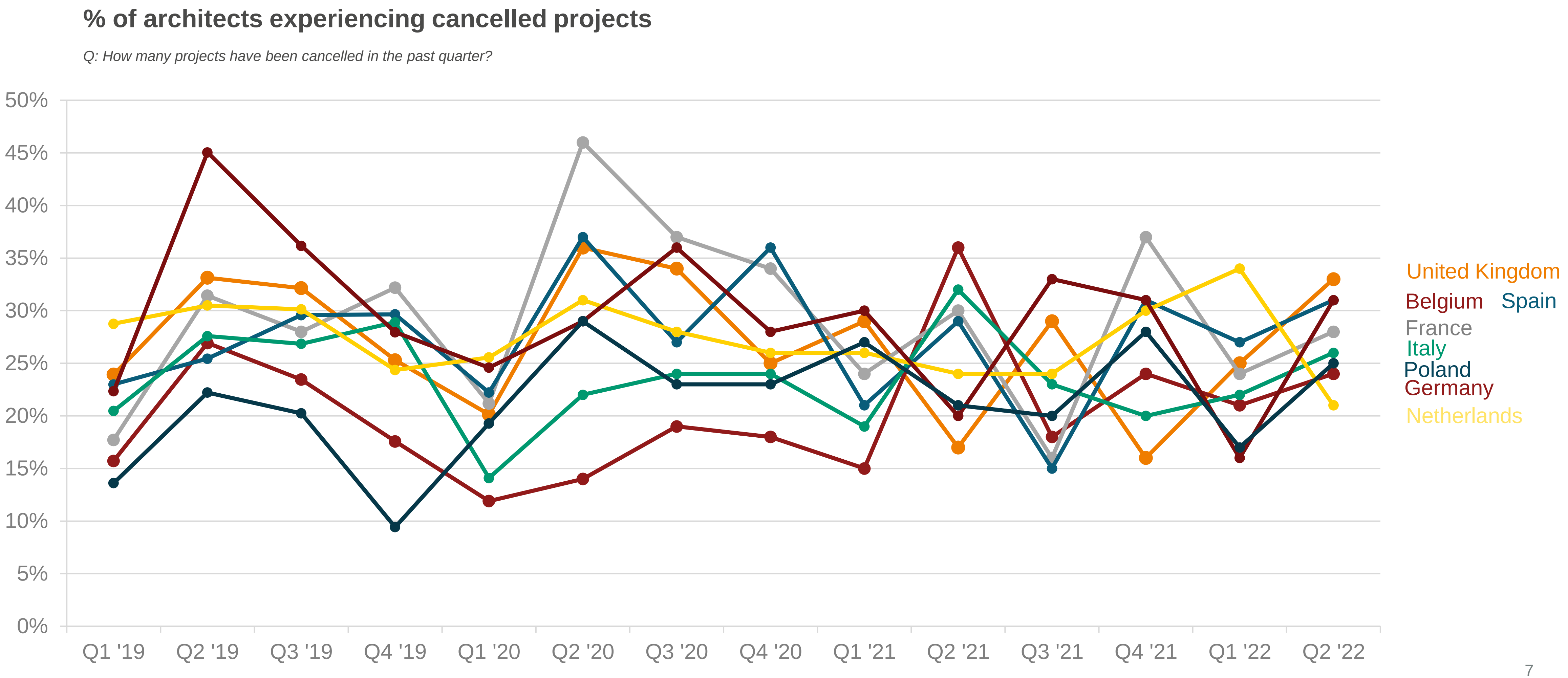
% of architects experiencing cancelled projects
Q: How many projects have been cancelled in the past quarter?
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Q1 '19
Q2 '19
Q3 '19
Q4 '19
Q1 '20
Q2 '20
Q3 '20
Q4 '20
Q1 '21
Q2 '21
Q3 '21
Q4 '21
Q1 '22
Q2 '22
United Kingdom
Belgium
Spain
France
Italy
Poland
Germany
Netherlands

Forecast 2022 European overview

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•*See the country slides for more detailed information on the developments per construction segment.*
•*Volumes are in billion euros at 2013 prices.*

Forecast 2023 European overview

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- *See the country slides for more detailed information on the developments per construction segment.*
- *Volumes are in billion euros at 2013 prices.*

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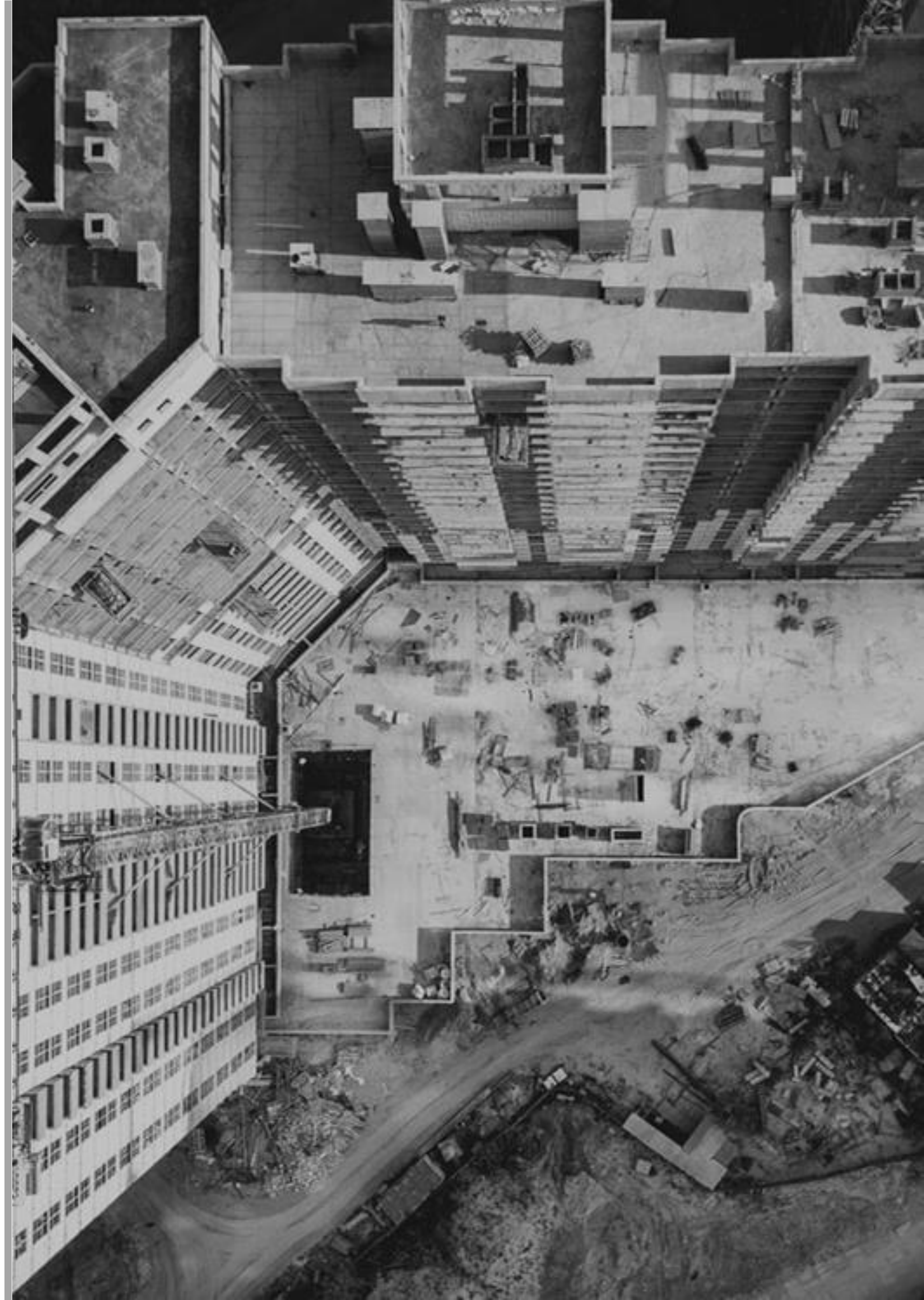

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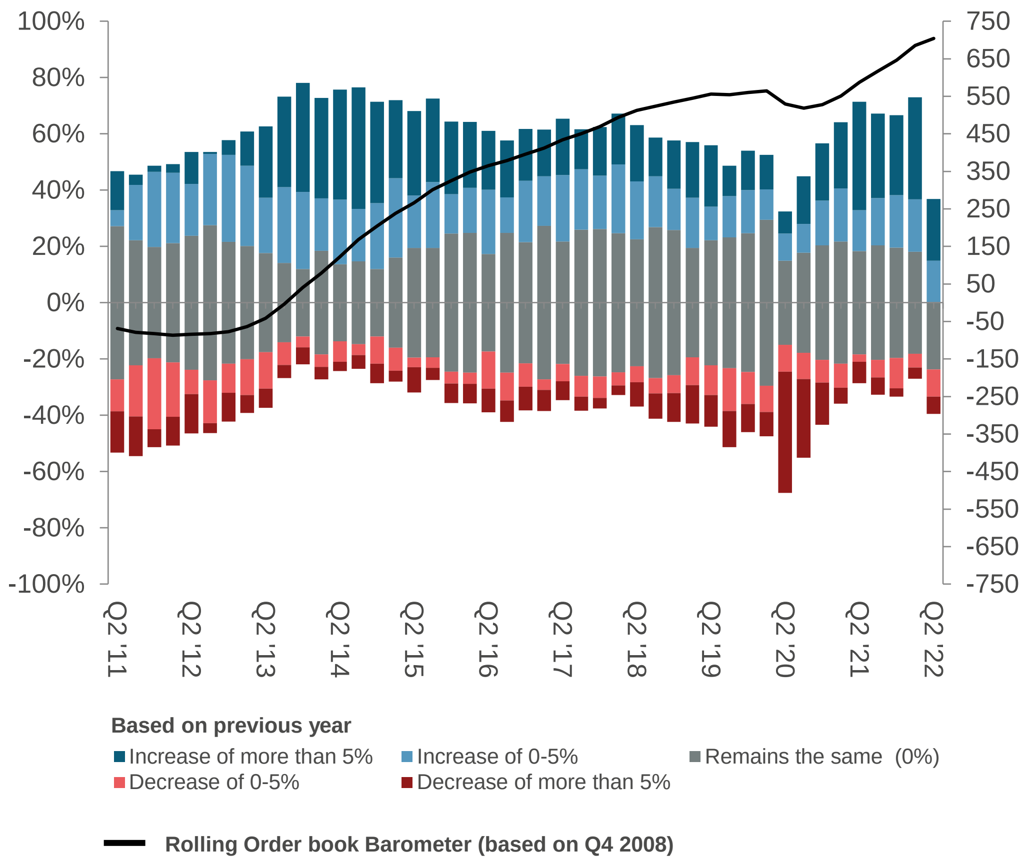
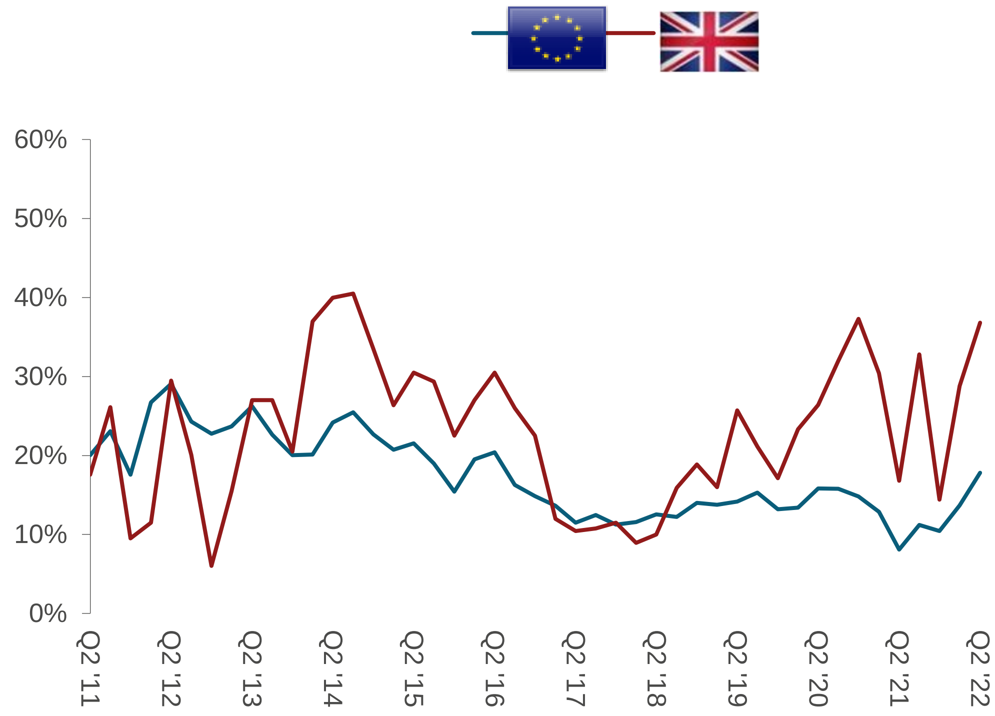
Development of order book



Expecting empty order book in 12 months



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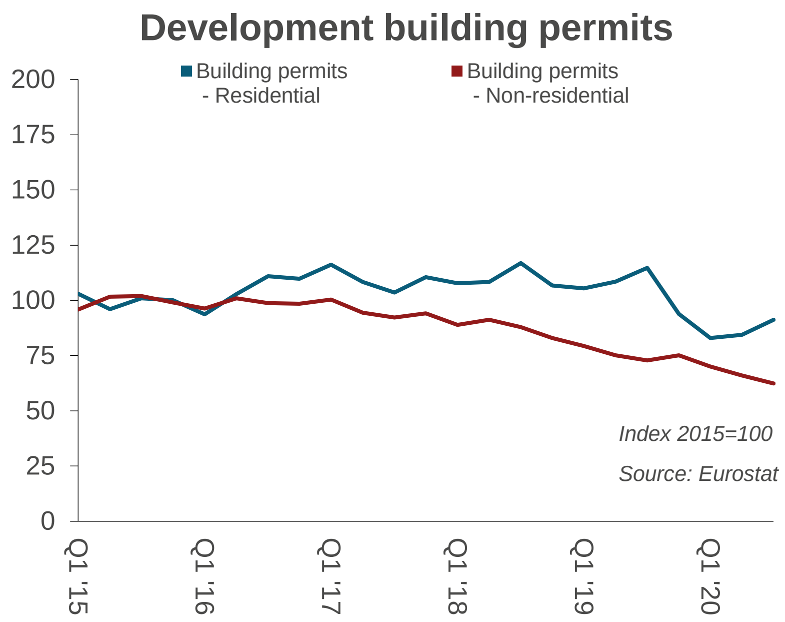


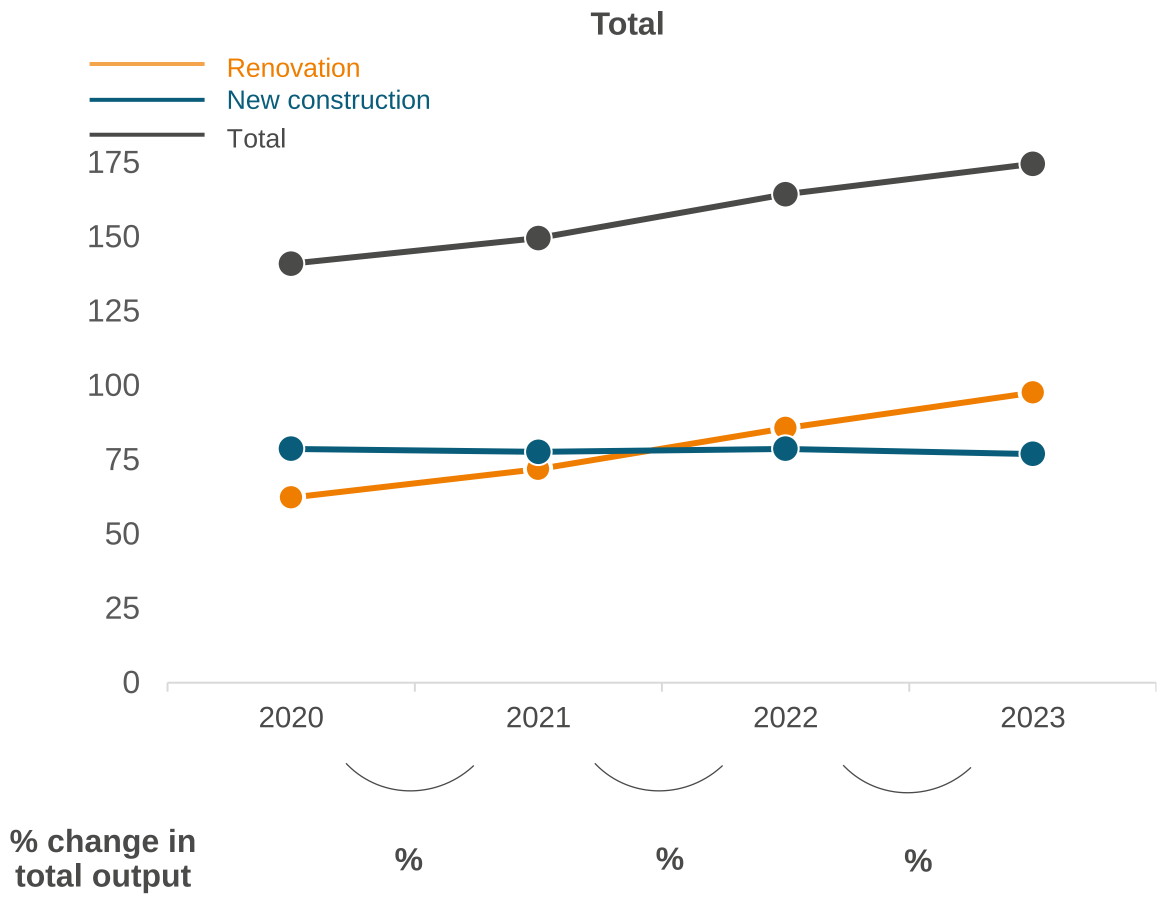
Economic and construction related indicators	Value Q2 2021	Value Q1 2022	Value Q2 2022	Q-2-Q development
GDP (quarterly growth rate) (%)*	5.5	5.5	n/a	Negative
Consumer confidence indicator**	n/a	n/a	n/a	
Industrial confidence indicator**	n/a	n/a	n/a	
Construction confidence indicator**	n/a	n/a	n/a	
Production value buildings (index 2015=100)**	n/a	n/a	n/a	
Architects with postponed projects (%)***	35	35	35	Negative
Architects with cancelled projects (%)***	35	35	35	Negative
Building permits residential (index 2015=100)**	n/a	n/a	n/a	
Building permits non-residential (index 2015=100)**	n/a	n/a	n/a	

*Source: * Country statistical office; ** Eurostat, *** Arch-Vision*

*Since the end of 2020 UK data has not been published anymore. The data previously provided to Eurostat was an amalgamation of several administrative data sources used as a proxy. The series was discontinued in 2020 when most of the data sources used to produce the estimate were discontinued due to the COVID-19 pandemic and resources were diverted elsewhere.

Forecast of building volumes in billion euros

(% change year over year)



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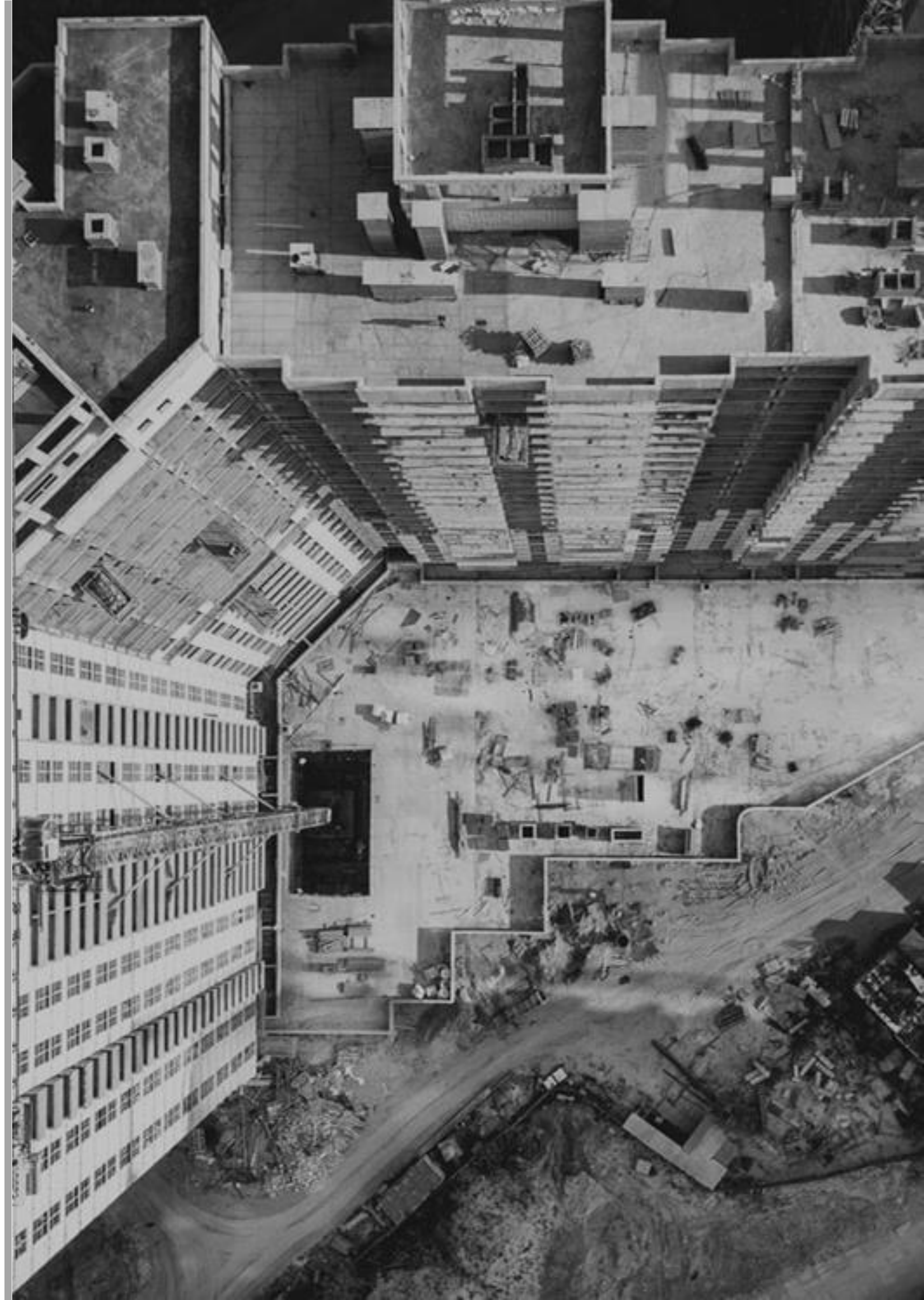

Trends in Material Usage

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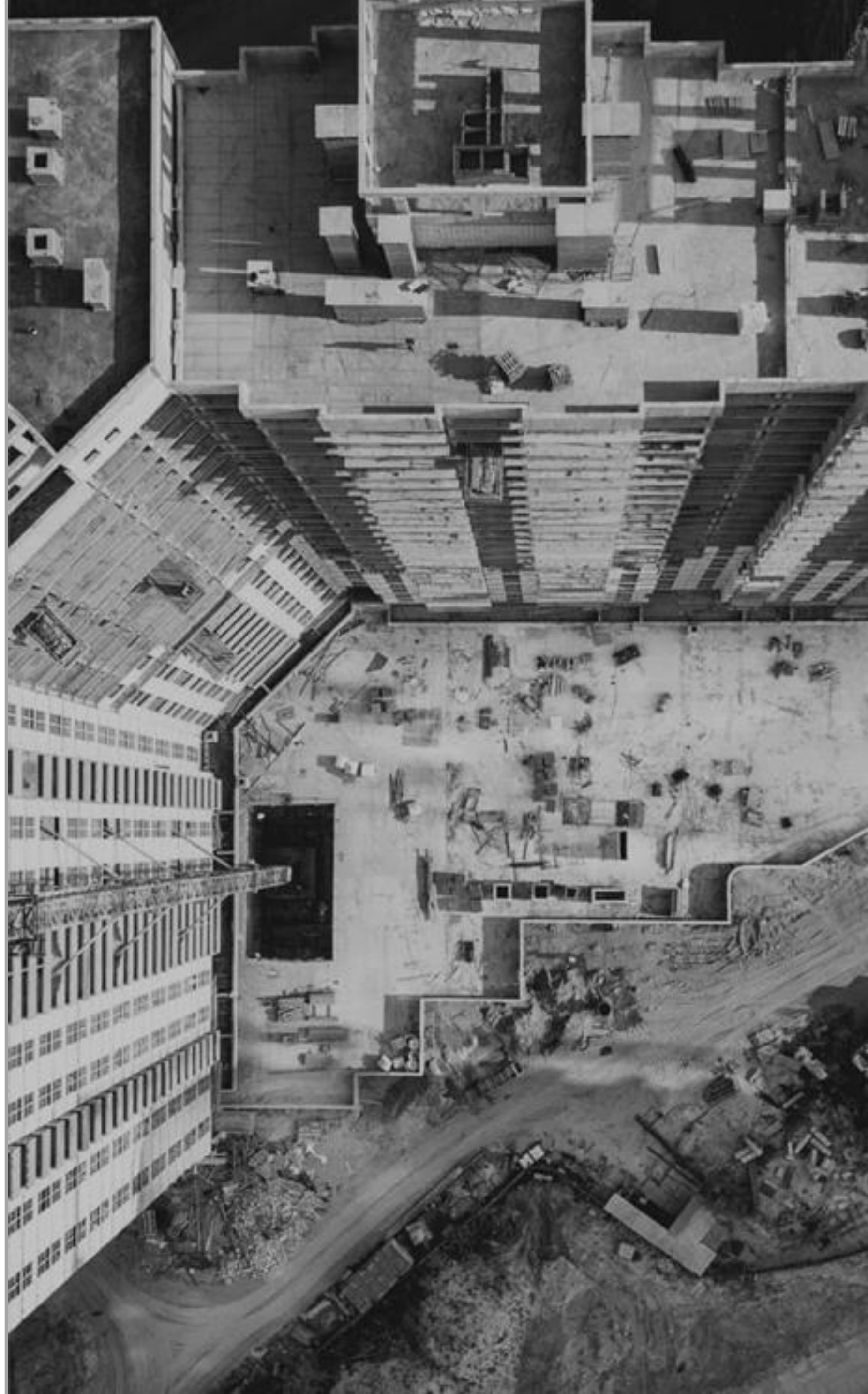

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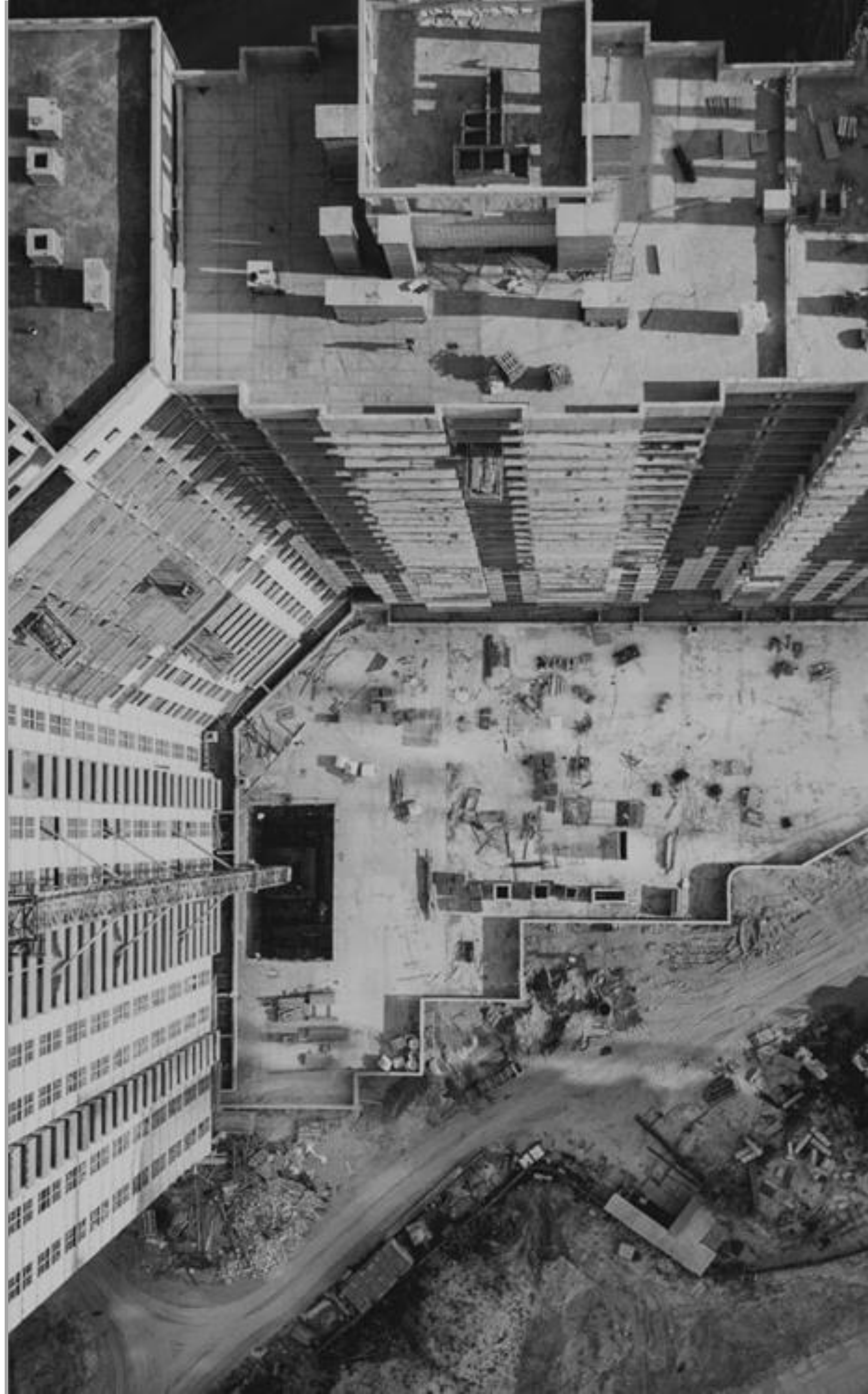

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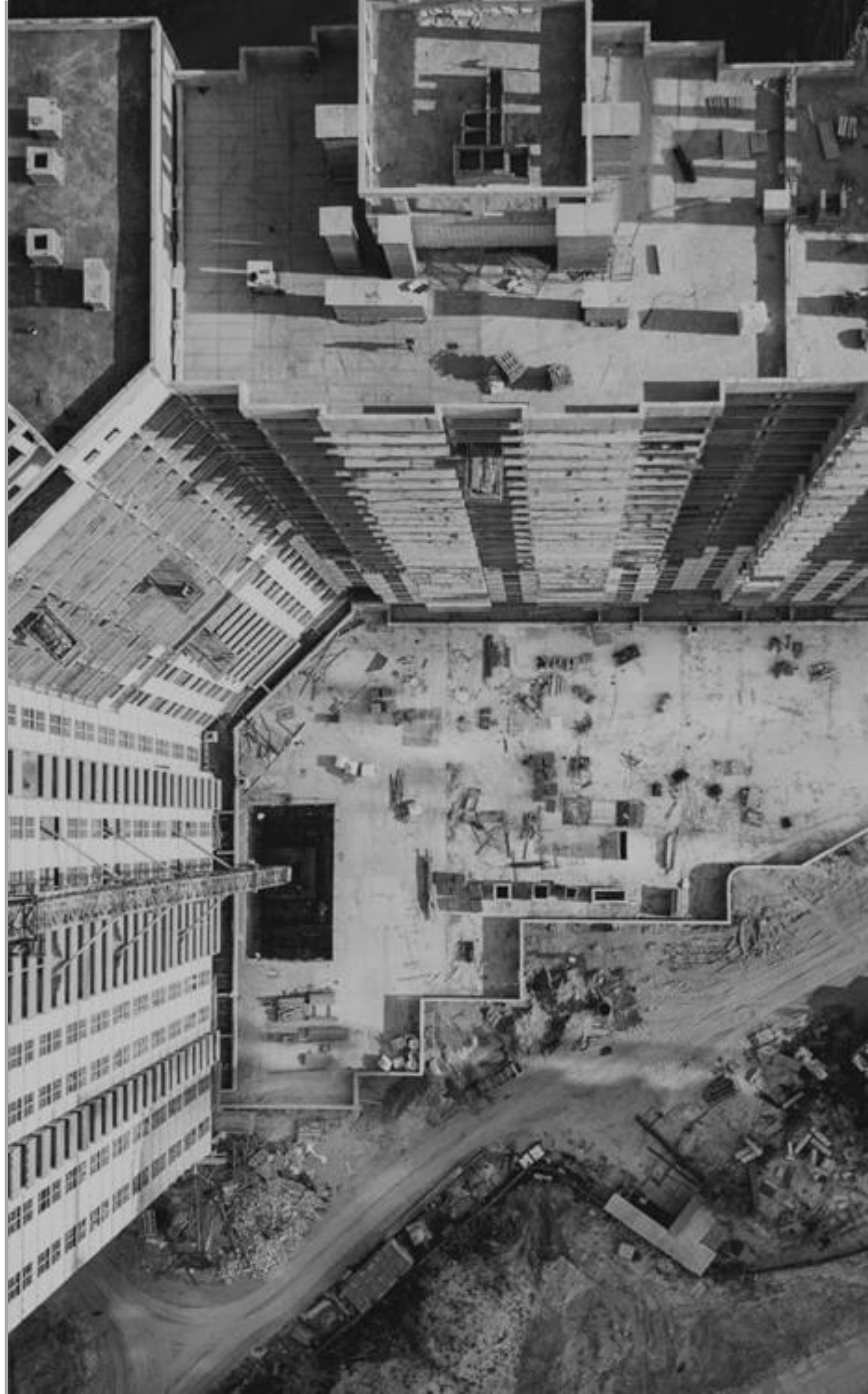

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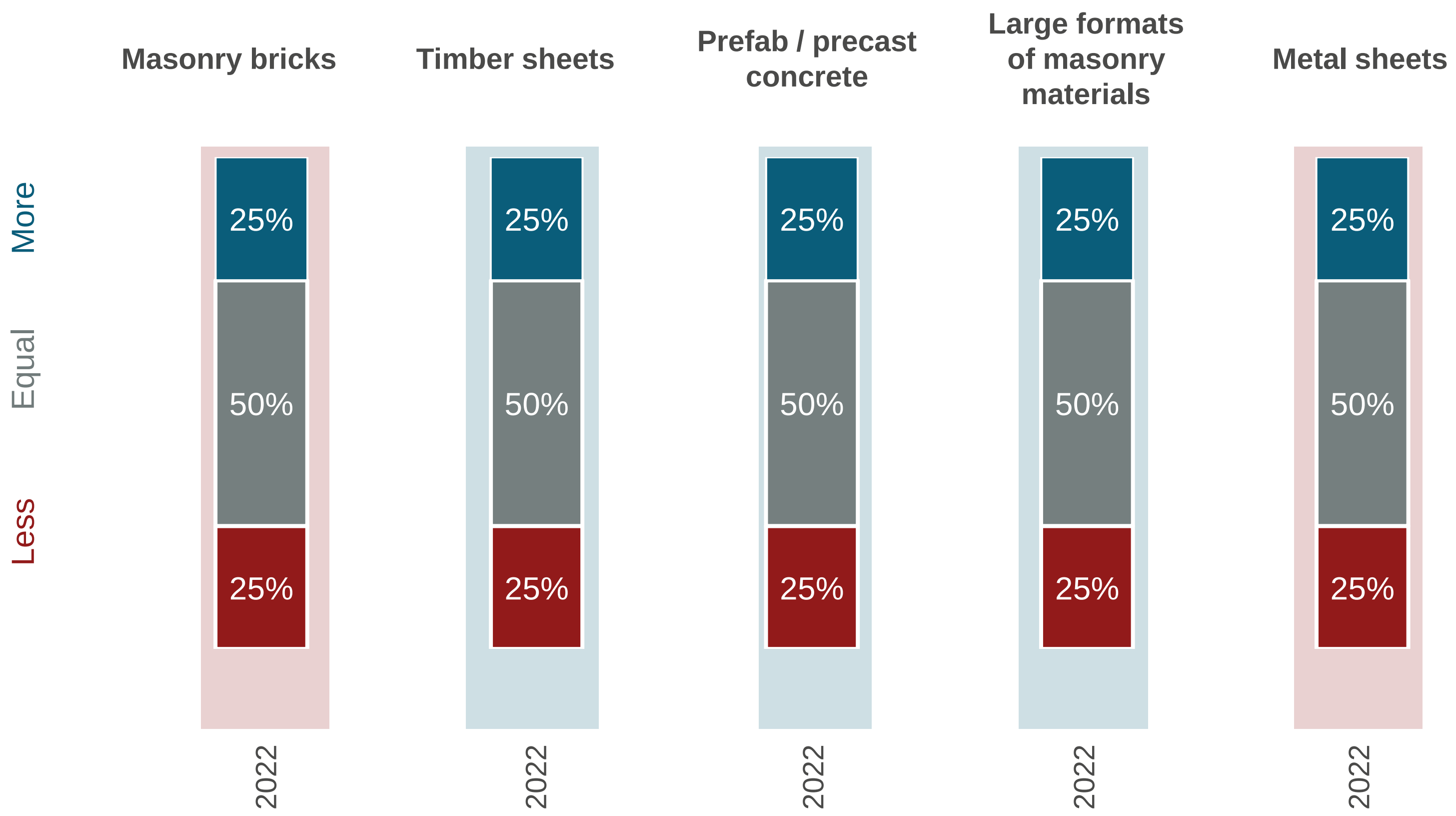
Do you expect to use the following ***building envelope*** *materials more, equally, or less in projects over the next five years?*



* Data not available.

USP

Usage expectations building envelope: country overview

*Do you expect to use the following **building envelope** materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
Masonry bricks	15%	15%	15%	15%	15%	15%	15%	15%
Timber sheets	20%	20%	20%	20%	20%	20%	20%	20%
Prefab / precast concrete	-3%	-3%	-3%	-3%	-3%	-3%	-3%	-3%
Large formats of masonry materials	-8%	-8%	-8%	-8%	-8%	-8%	-8%	-8%
Metal sheets	-31%	-31%	-31%	-31%	-31%	-31%	-31%	-31%

% **more** minus % **less**

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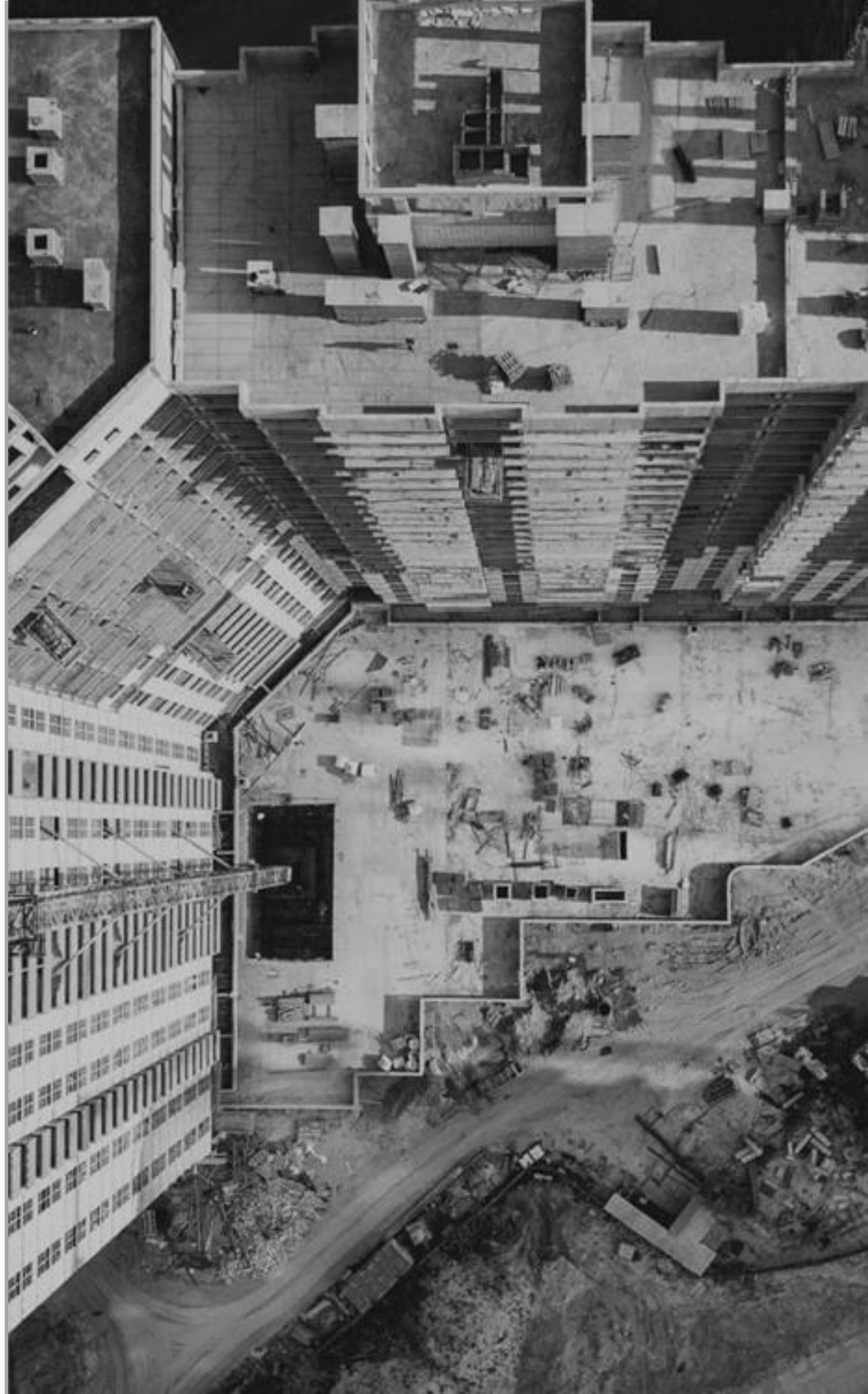

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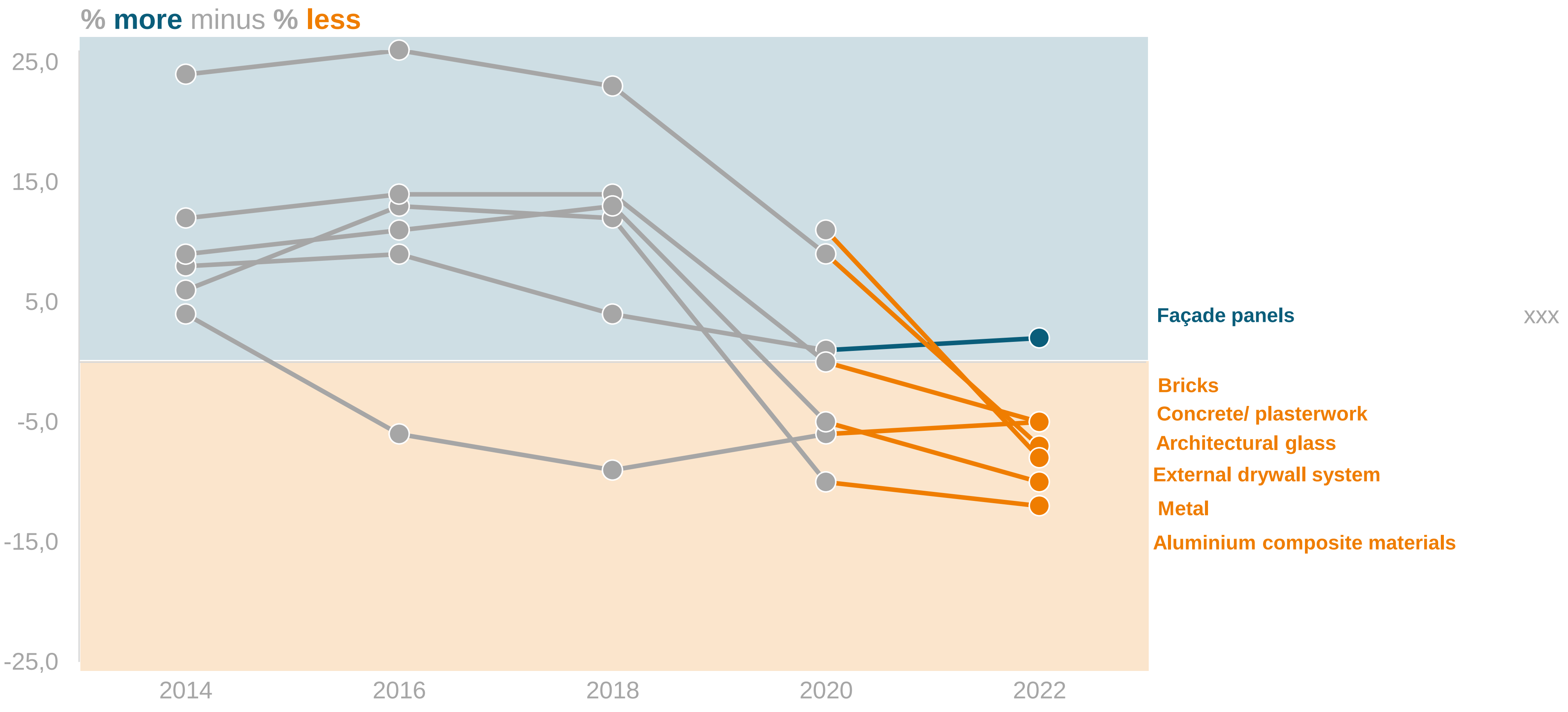
*Do you expect to use the following **façade** materials more, equally, or less in projects over the next five years?*



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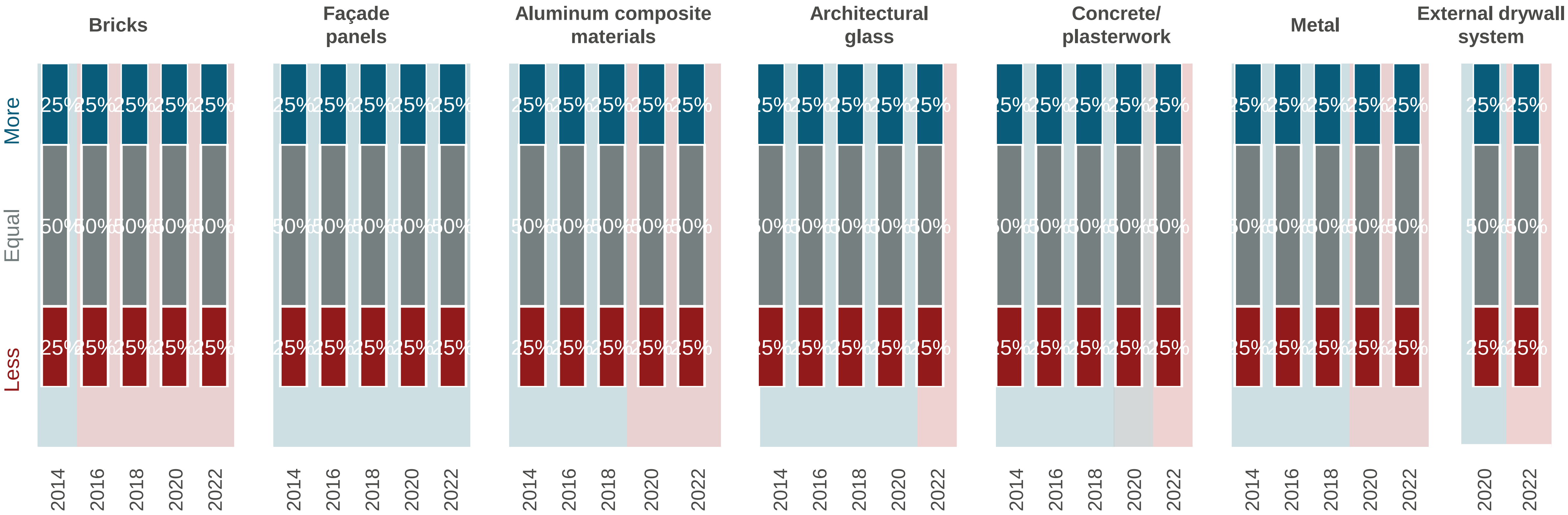
*Do you expect to use the following **façade** materials more, equally, or less in projects over the next five years?*



Usage expectations façade materials: country overview

*Do you expect to use the following **<u>façade</u>** materials more, equally, or less in projects over the next five years?*

								
	n=	n=	n=	n=	n=	n=	n=	n=
Bricks	18%	18%	18%	18%	18%	18%	18%	18%
2020	19%	19%	19%	19%	19%	19%	19%	19%
Façade panels	16%	16%	16%	16%	16%	16%	16%	16%
2020	19%	19%	19%	19%	19%	19%	19%	19%
Aluminium Composite materials	-23%	-23%	-23%	-23%	-23%	-23%	-23%	-23%
2020	19%	19%	19%	19%	19%	19%	19%	19%
Architectural glass	18%	18%	18%	18%	18%	18%	18%	18%
2020	19%	19%	19%	19%	19%	19%	19%	19%
Concrete / Plasterwork	-16%	-16%	-16%	-16%	-16%	-16%	-16%	-16%
2020	19%	19%	19%	19%	19%	19%	19%	19%
Metal	2%	2%	2%	2%	2%	2%	2%	2%
2020	19%	19%	19%	19%	19%	19%	19%	19%
External drywall system	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
2020	19%	19%	19%	19%	19%	19%	19%	19%
Stone wool cladding	-9%	-9%	-9%	-9%	-9%	-9%	-9%	-9%
n/a								
Wood facades	2%	2%	2%	2%	2%	2%	2%	2%

% **more** minus % **less**

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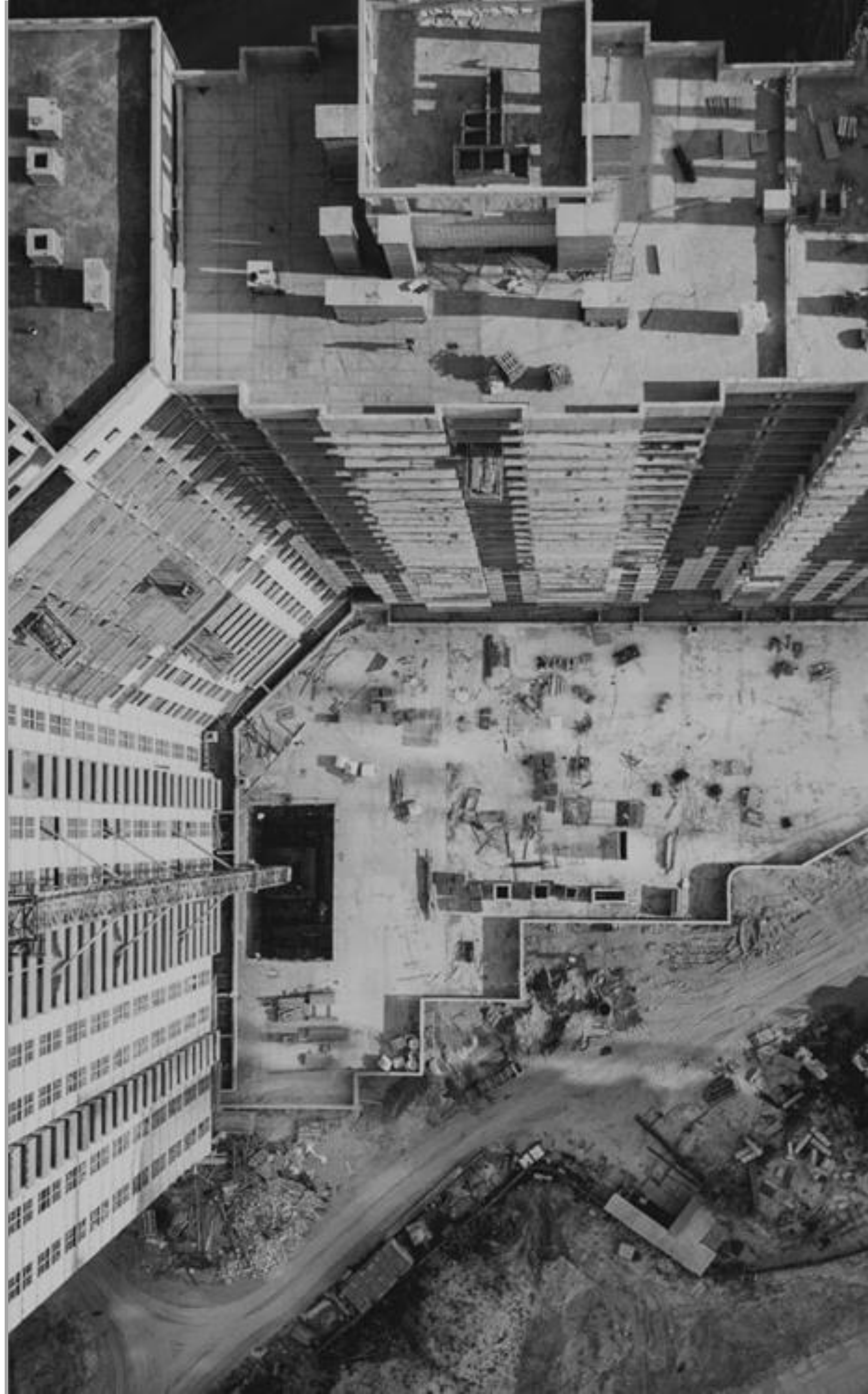

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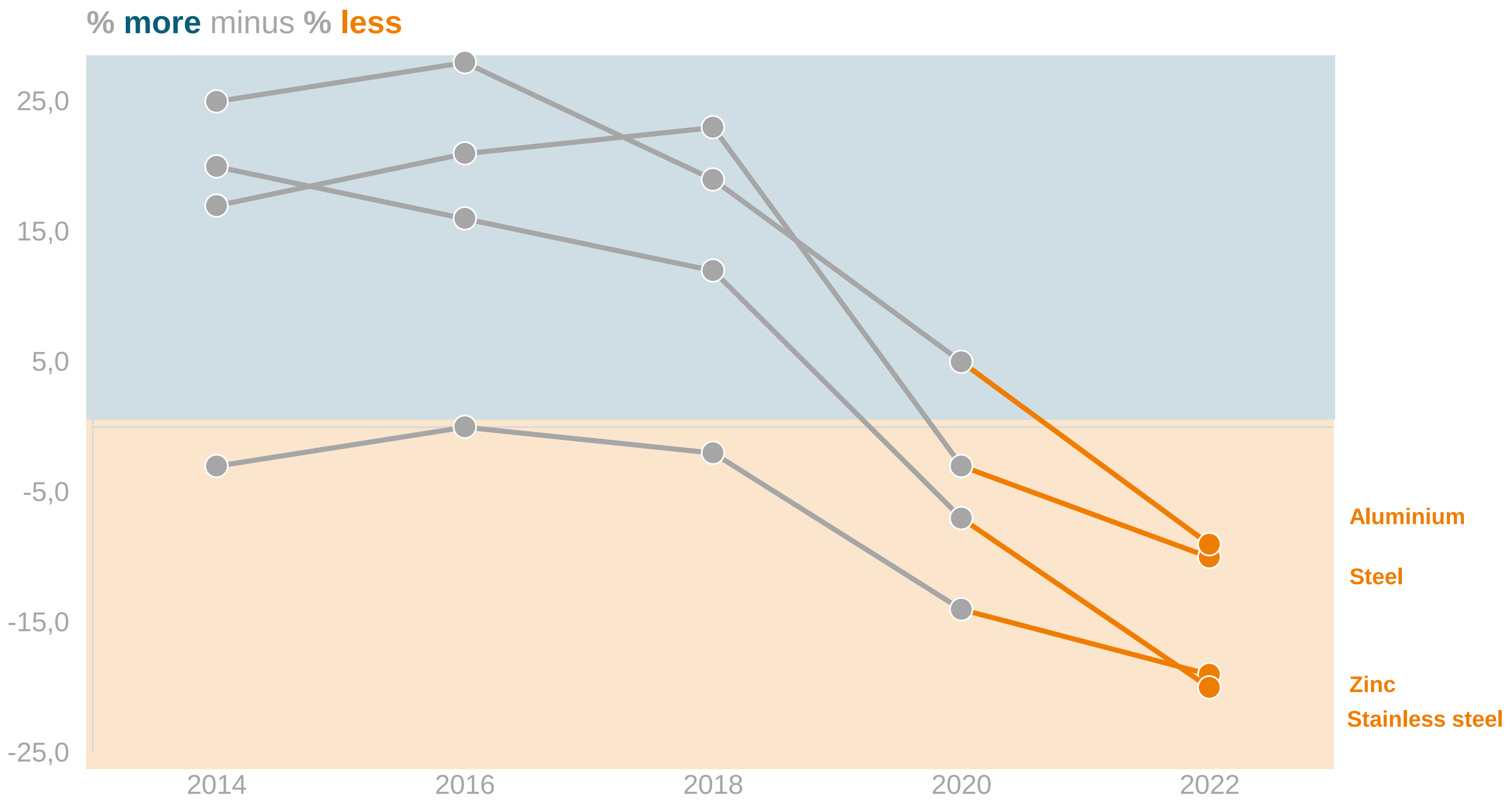
*Do you expect to use the following **metal** materials more, equally, or less in projects over the next five years?*



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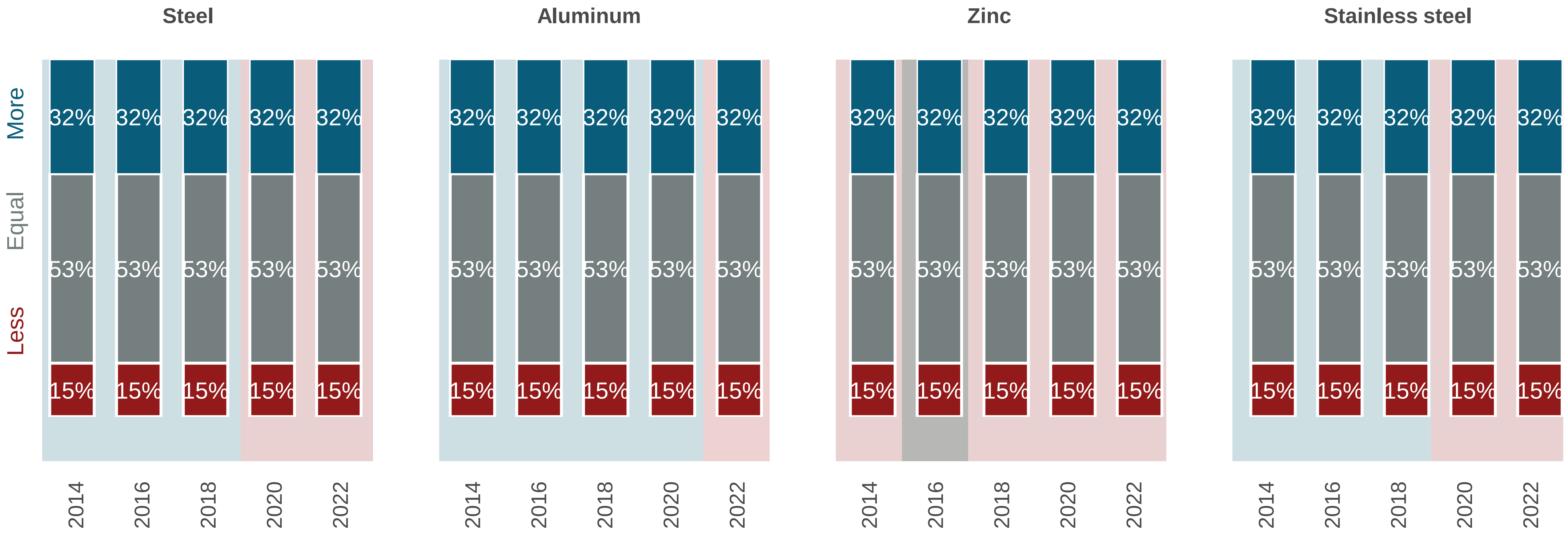
*Do you expect to use the following **metal** materials more, equally, or less in projects over the next five years?*



Usage expectations metal materials: country overview

*Do you expect to use the following **metal** materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
Steel 2020	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Aluminium 2020	2%	2%	2%	2%	2%	2%	2%	2%
	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Zinc 2020	5%	5%	5%	5%	5%	5%	5%	5%
	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Stainless steel 2020	5%	5%	5%	5%	5%	5%	5%	5%
	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%

% **more** minus % **less**

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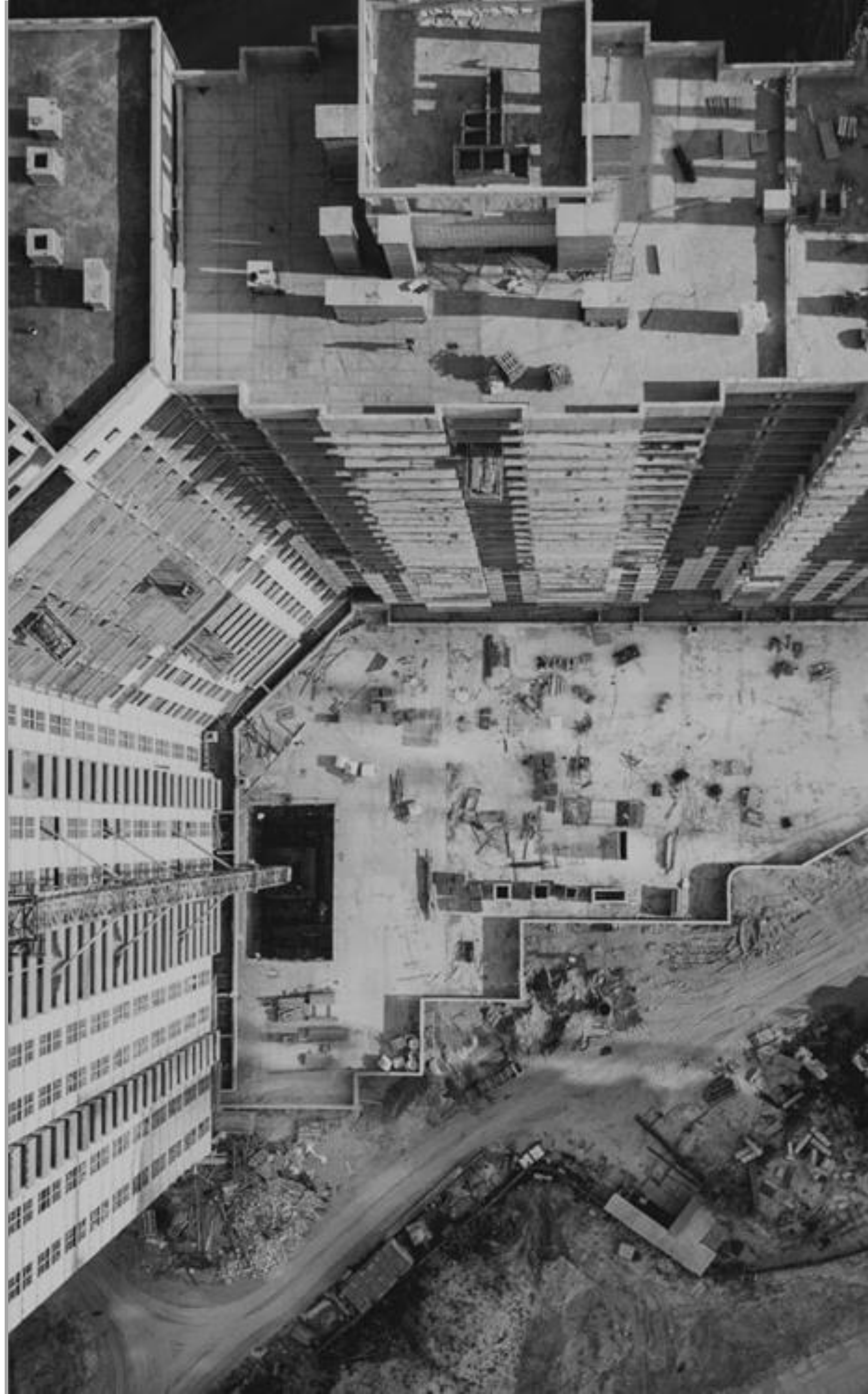

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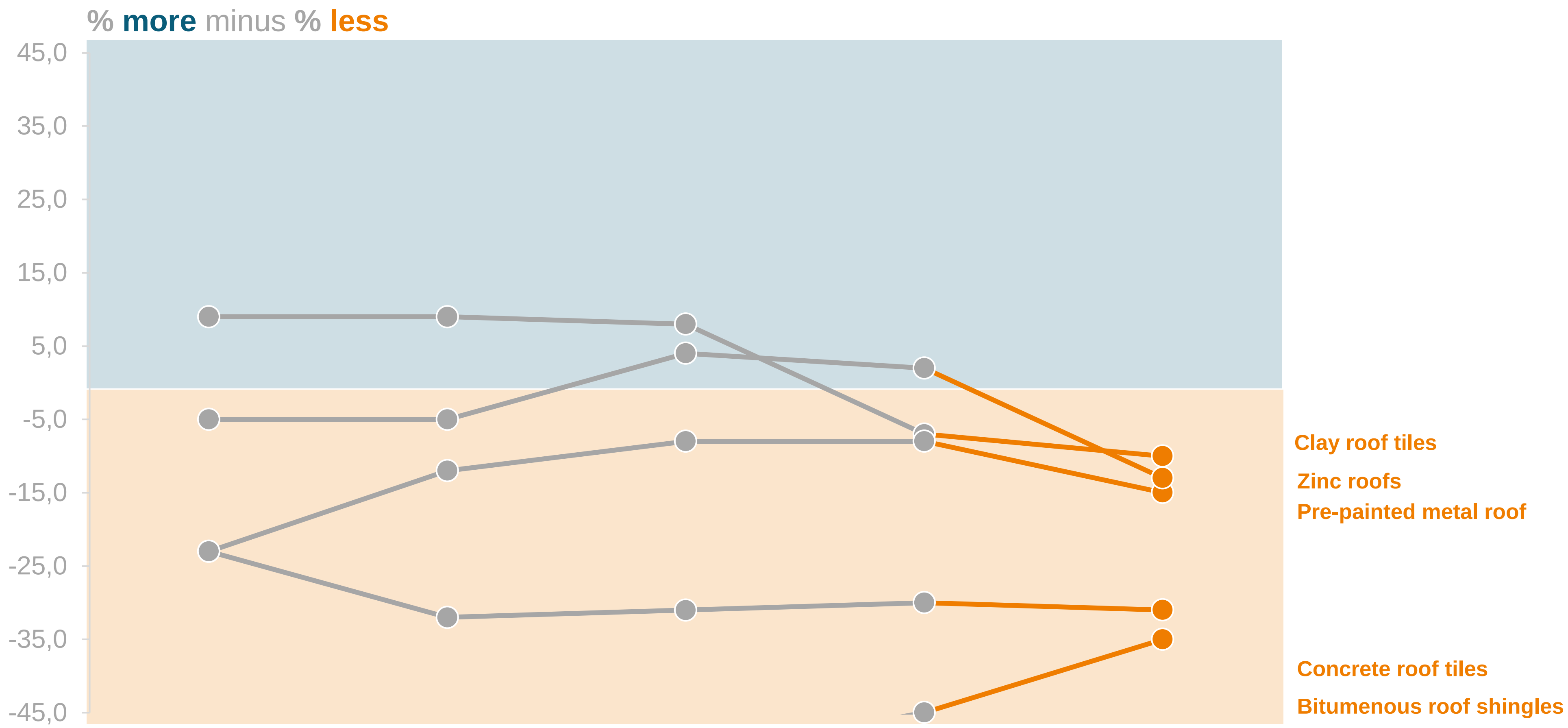
*Do you expect to use the following **pitched roof** materials more, equally, or less in projects over the next five years?*



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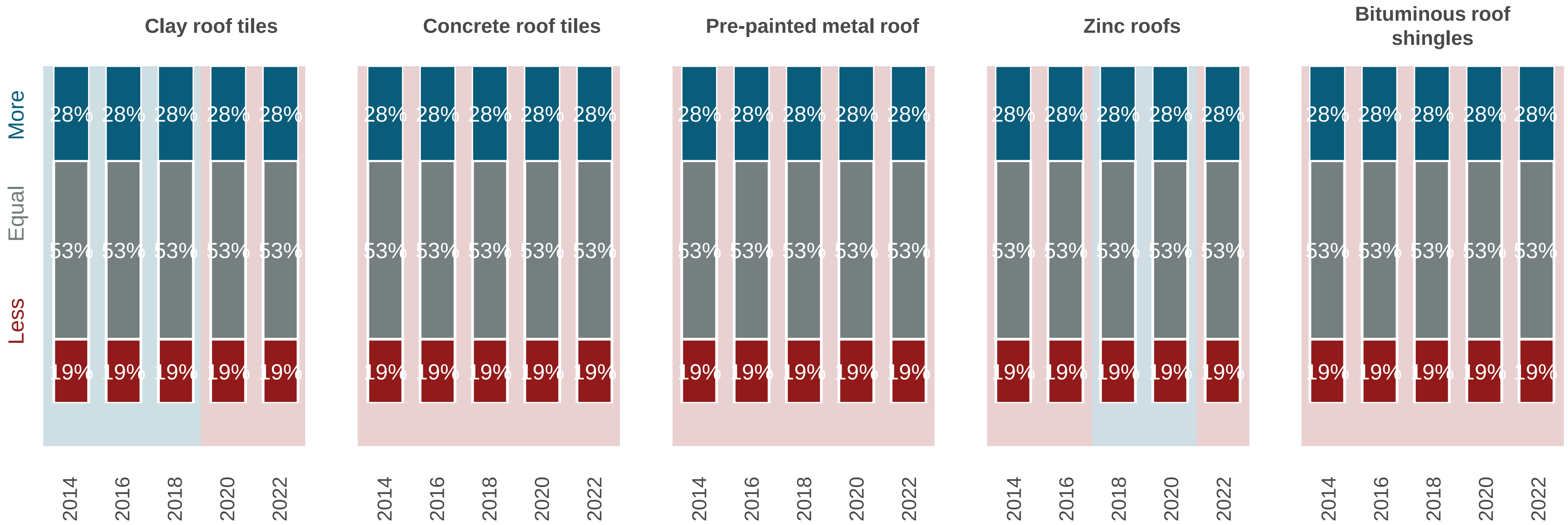
*Do you expect to use the following **pitched roof** materials more, equally, or less in projects over the next five years?*



Usage expectations pitched roof materials: country overview

*Do you expect to use the following **pitched roof** materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
Clay roof tiles 2020	10%	10%	10%	10%	10%	10%	10%	10%
	0%	0%	0%	0%	0%	0%	0%	0%
Concrete roof tiles 2020	10%	10%	10%	10%	10%	10%	10%	10%
	0%	0%	0%	0%	0%	0%	0%	0%
Pre-painted metal roof 2020	10%	10%	10%	10%	10%	10%	10%	10%
	0%	0%	0%	0%	0%	0%	0%	0%
Zinc roofs 2020	10%	10%	10%	10%	10%	10%	10%	10%
	0%	0%	0%	0%	0%	0%	0%	0%
Bitumenous roof shingles 2020	10%	10%	10%	10%	10%	10%	10%	10%
	0%	0%	0%	0%	0%	0%	0%	0%

% **more** minus % **less**

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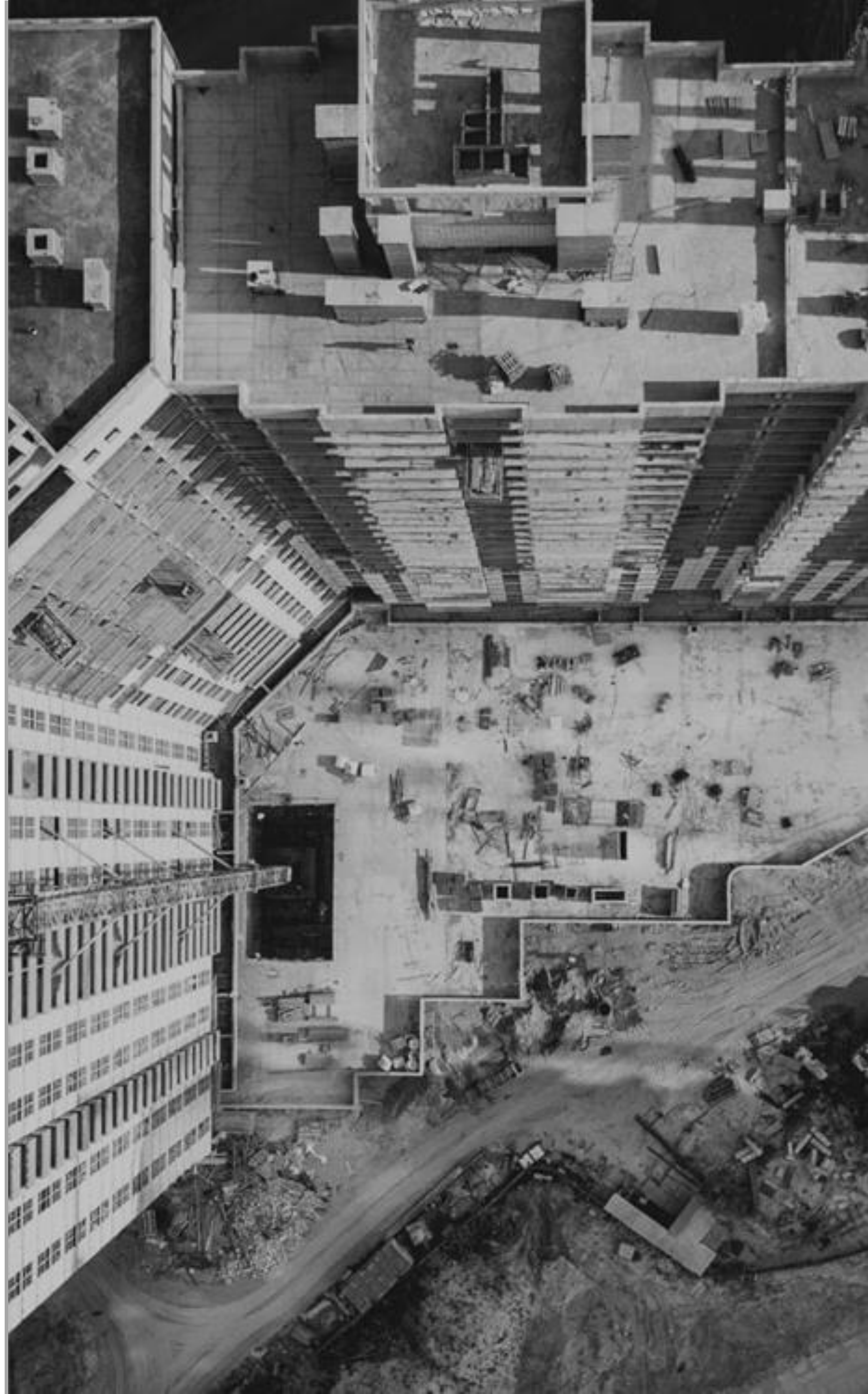

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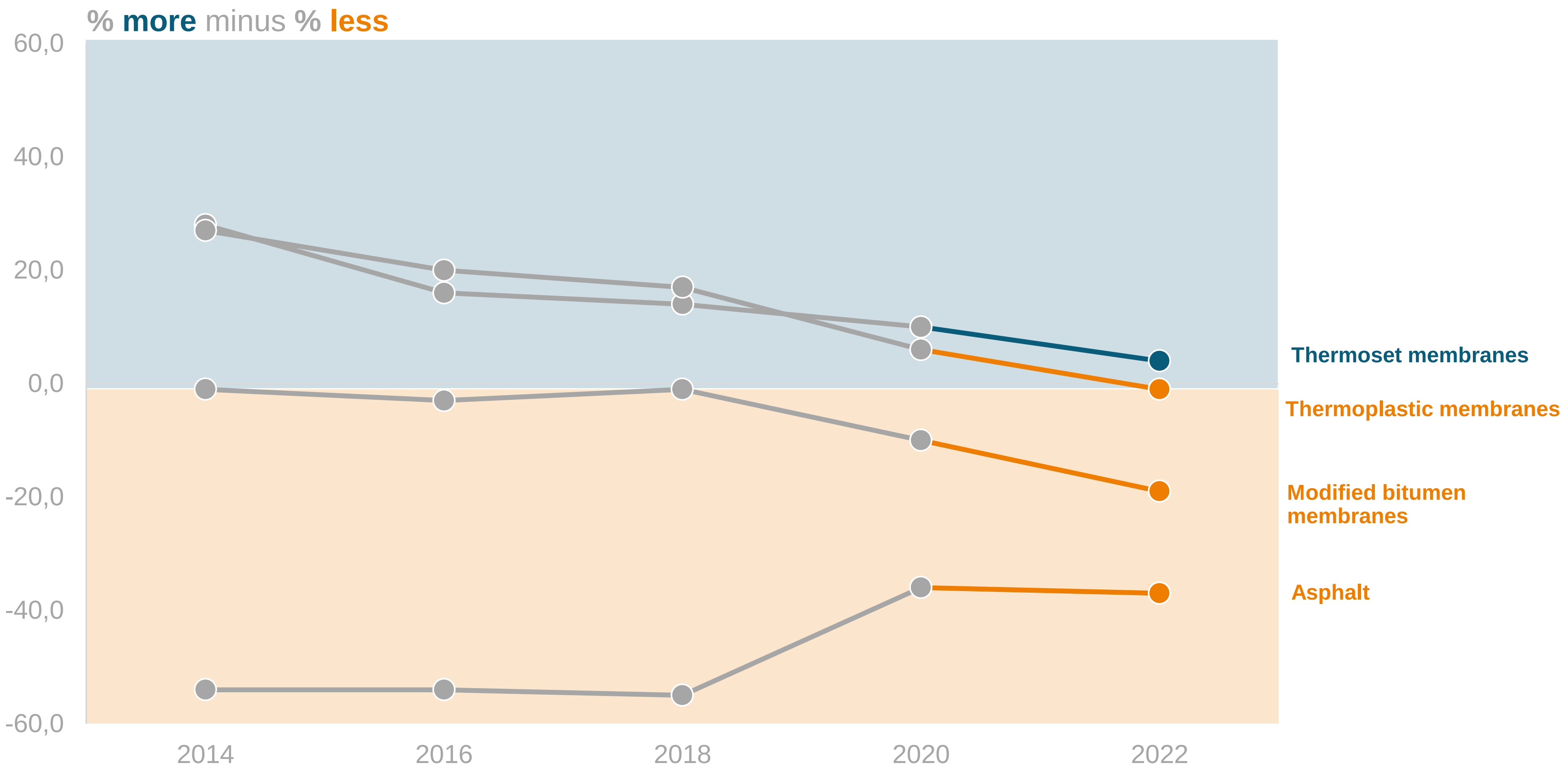
*Do you expect to use the following **flat roofs** materials more, equally, or less in projects over the next five years?*



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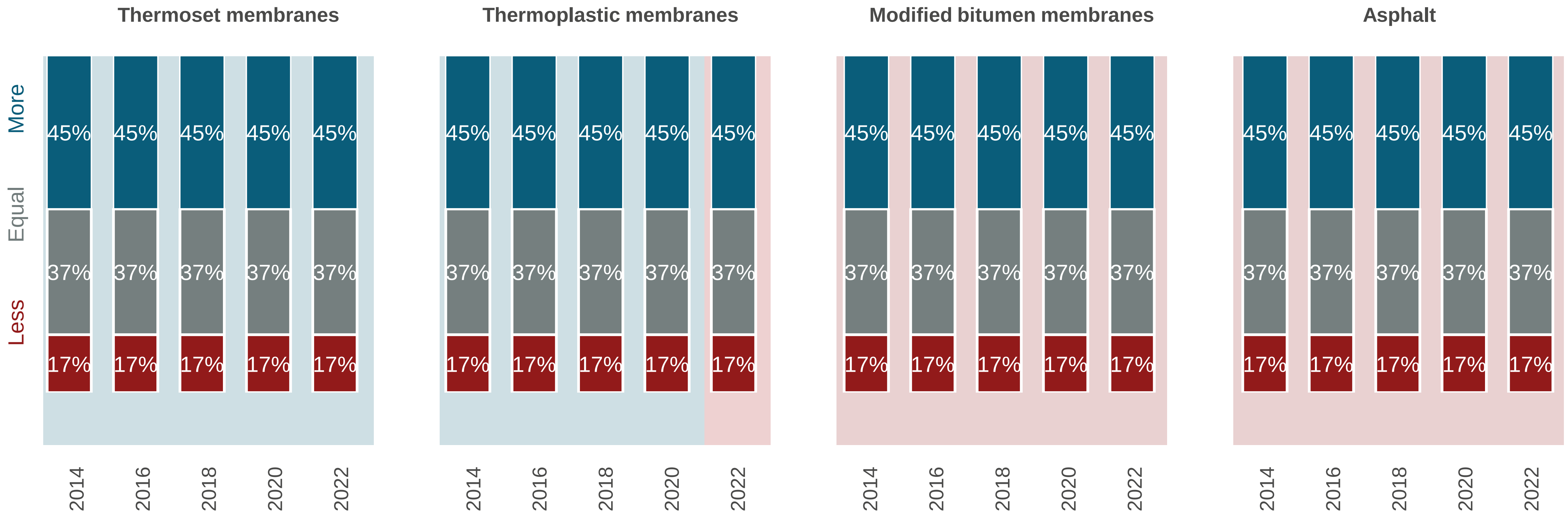
*Do you expect to use the following **flat roofs** materials more, equally, or less in projects over the next five years?*



Usage expectations flat roof materials: country overview

Do you expect to use the following __flat roofs__ materials more, equally, or less in projects over the next five years?

	n=	n=	n=	n=	n=	n=	n=	n=
Thermoset membranes 2020	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%
Thermoplastic membranes 2020	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%
Modified bitumen membranes 2020	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%
Asphalt 2020	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%	10% 18%

% more minus **% less**

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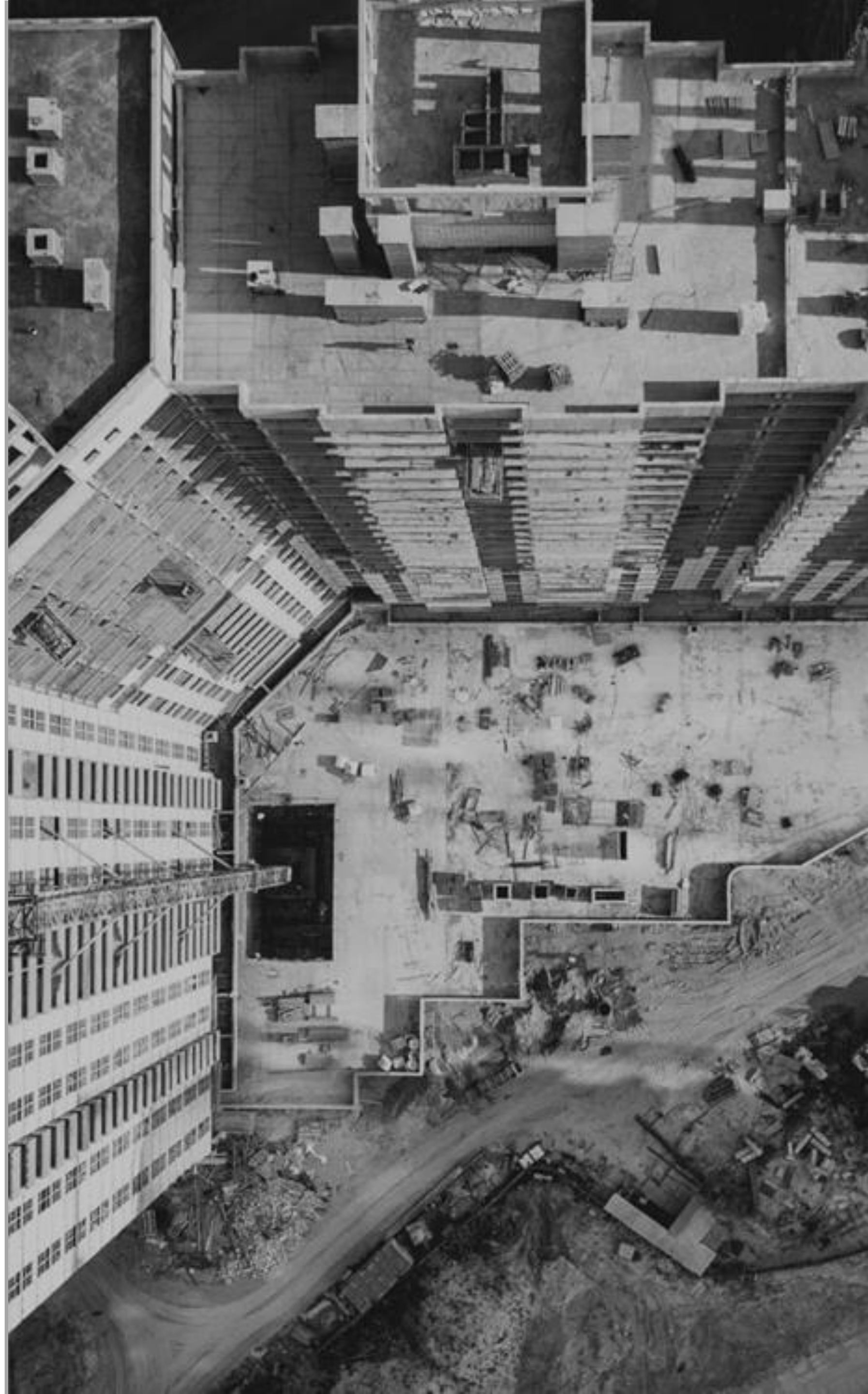

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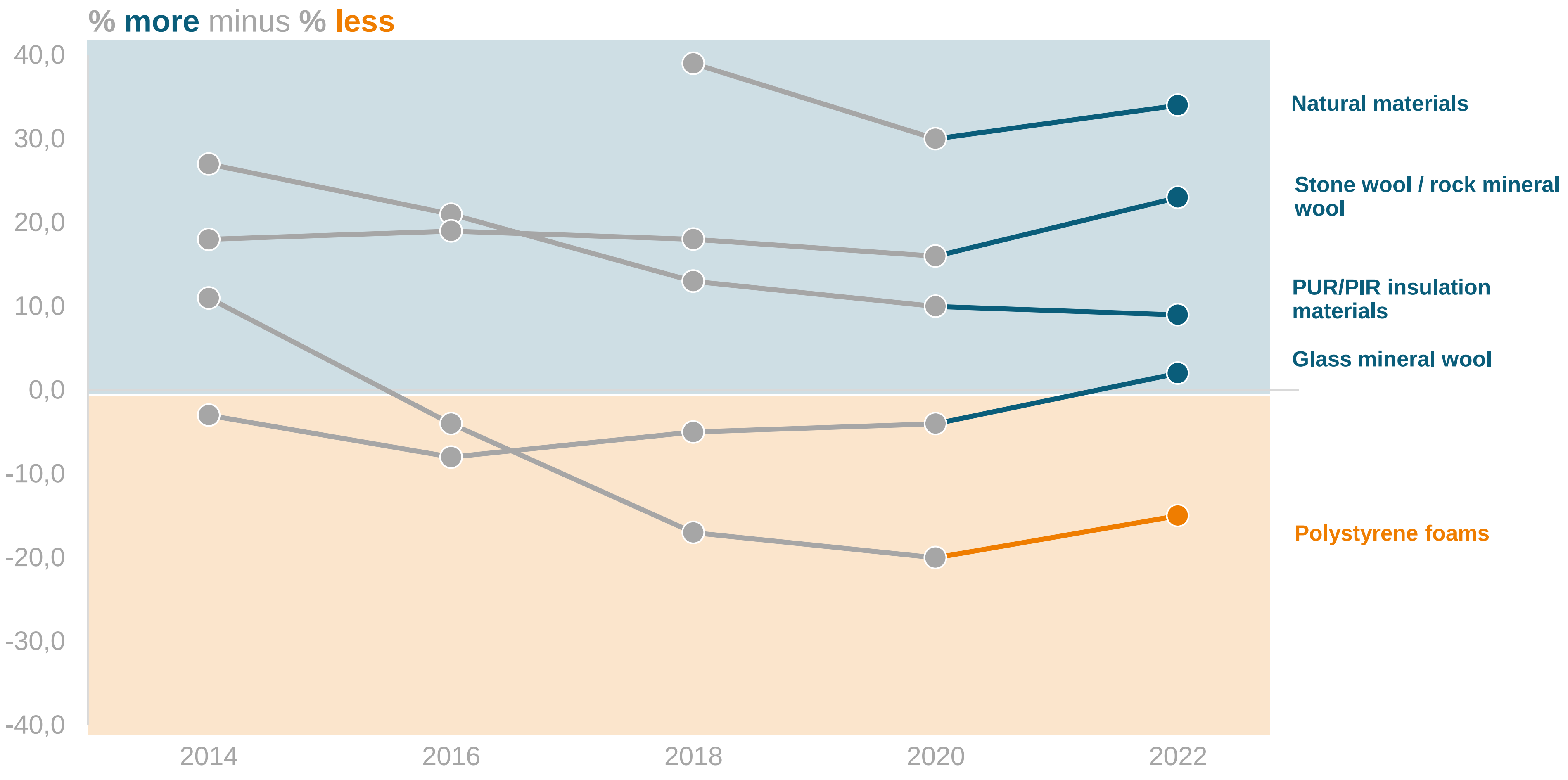
*Do you expect to use the following **insulation** materials more, equally, or less in projects over the next five years?*



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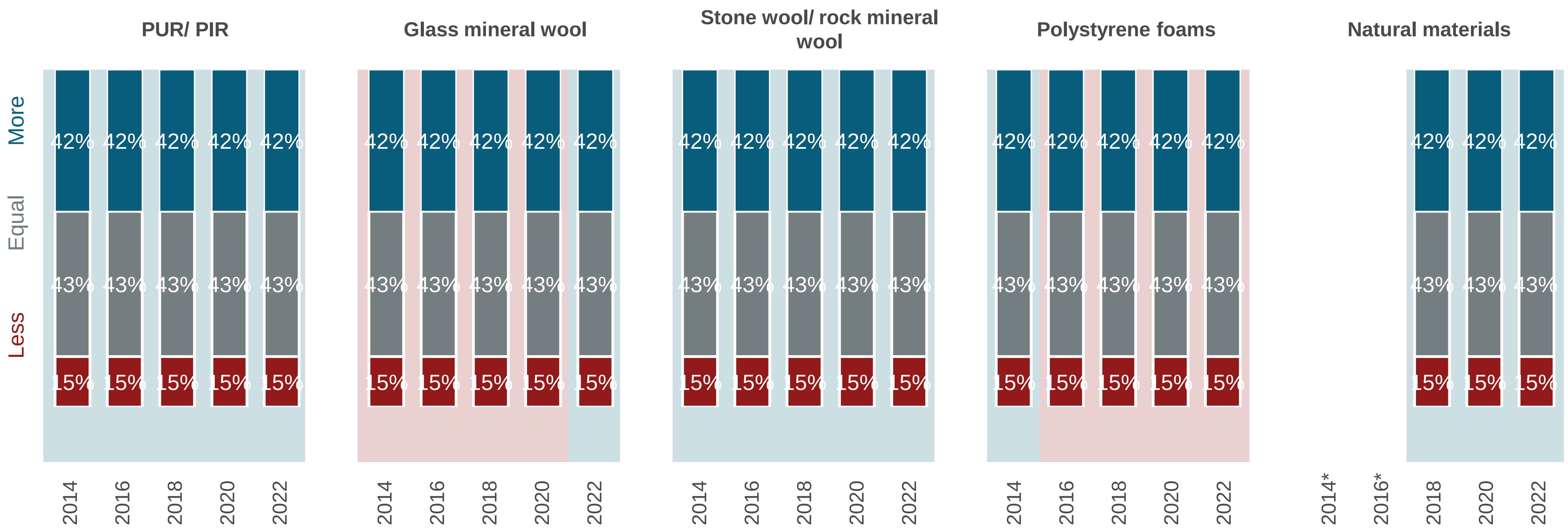
*Do you expect to use the following **insulation** materials more, equally, or less in projects over the next five years?*



* Data not available.

Usage expectations insulation materials: country overview

*Do you expect to use the following **insulation** materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
PUR/PIR insulation materials 2020	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%
Glass mineral wool 2020	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%
Stone wool / rock mineral wool 2020	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%
Polystyrene foams 2020	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%
Natural materials 2020	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%	5% -14%

% **more** minus % **less**

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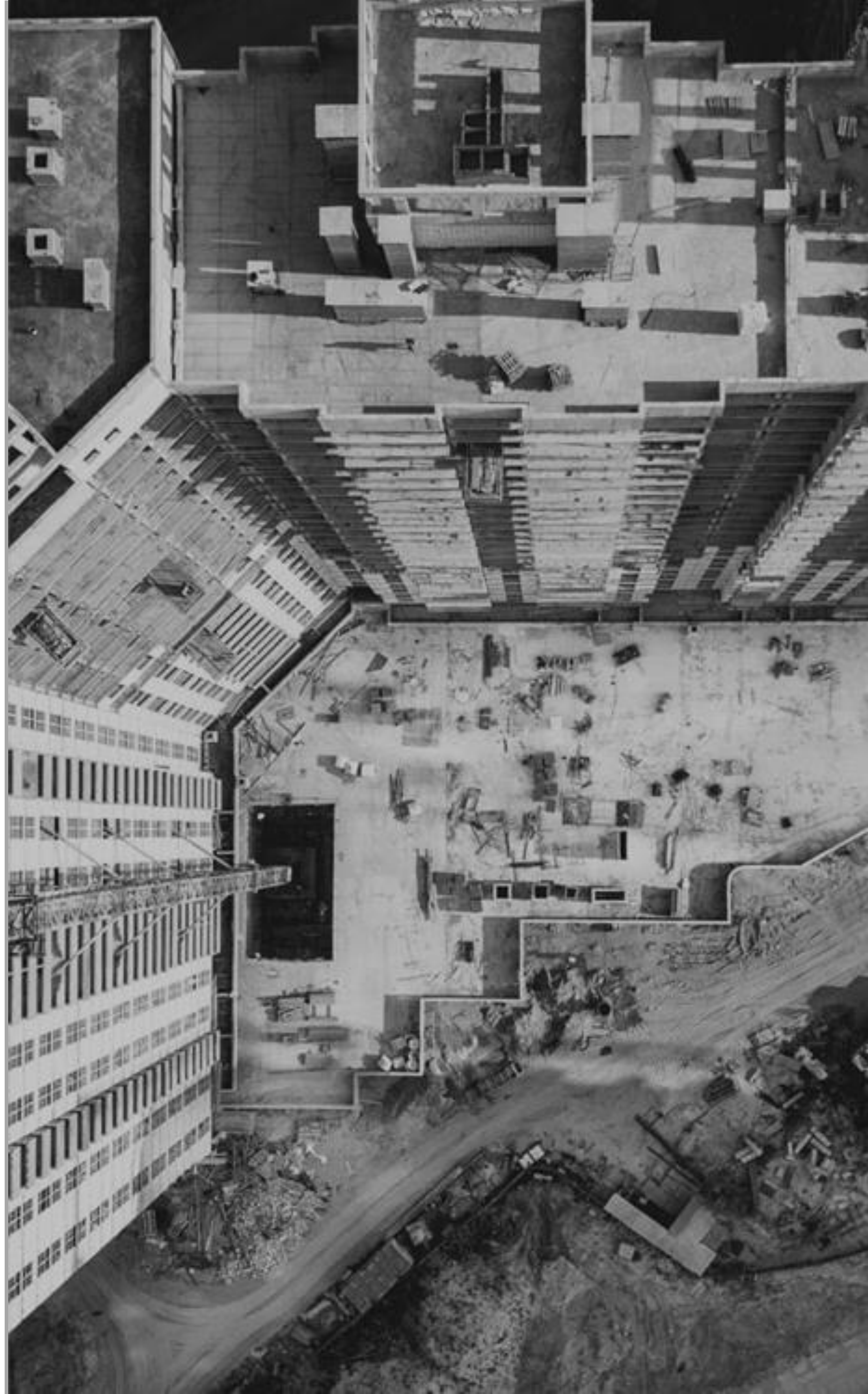

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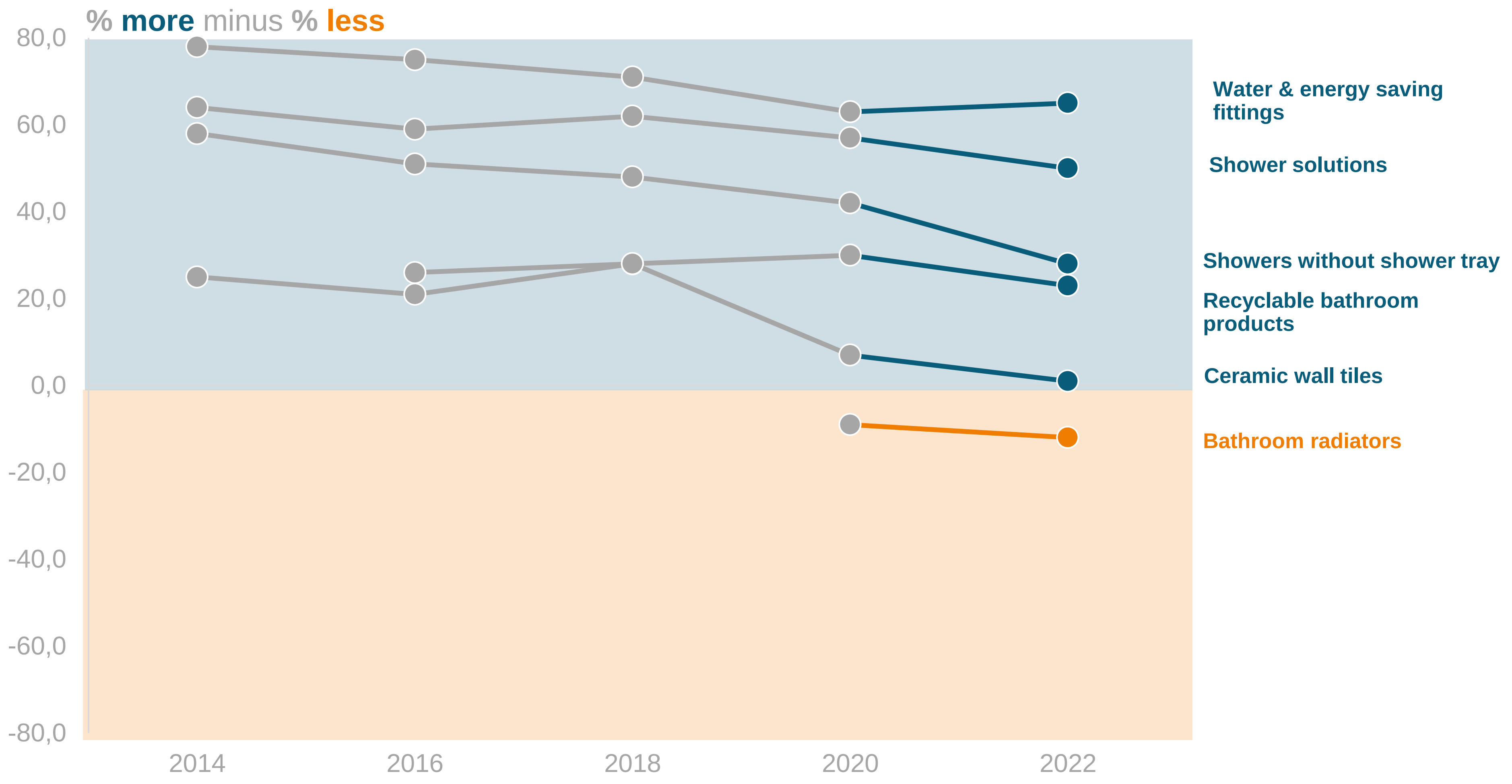
Do you expect to use the following ***bathroom*** *materials more, equally, or less in projects over the next five years?*



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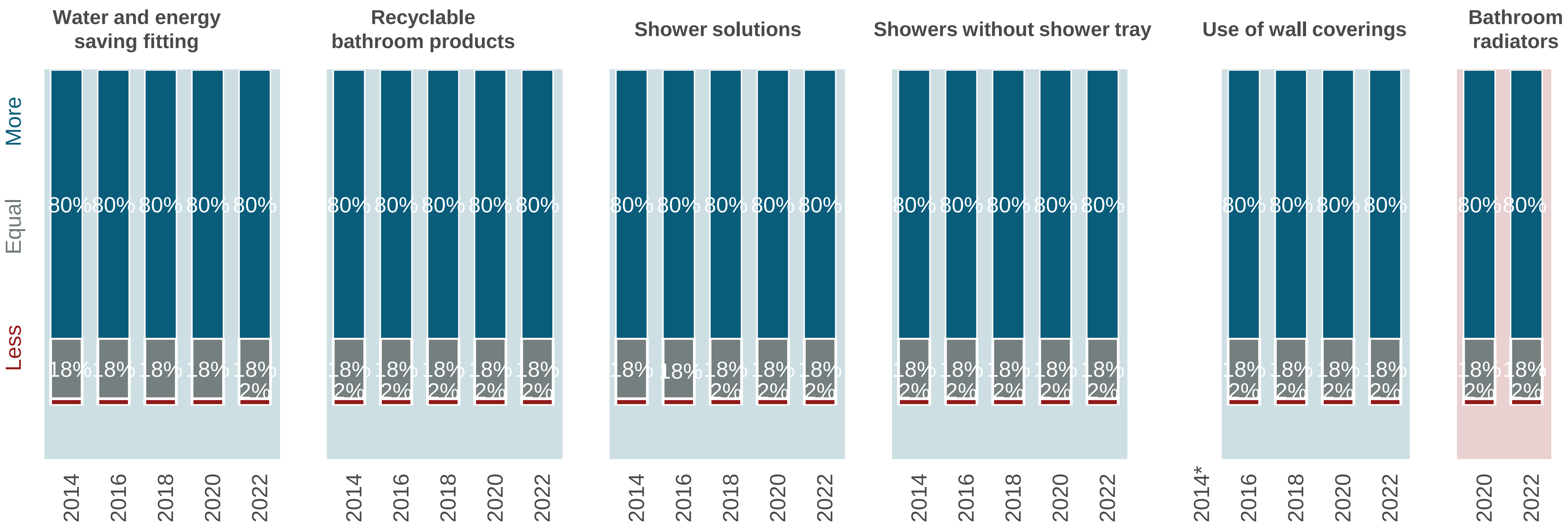
*Do you expect to use the following **bathroom** materials more, equally, or less in projects over the next five years?*



* Data not available.

Usage expectations bathroom materials: country overview

*Do you expect to use the following **bathroom** materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
Water & energy saving fittings	79%	79%	79%	79%	79%	79%	79%	79%
2020	65%	65%	65%	65%	65%	65%	65%	65%
Bathroom radiators	79%	79%	79%	79%	79%	79%	79%	79%
2020	65%	65%	65%	65%	65%	65%	65%	65%
Recyclable bathroom products	79%	79%	79%	79%	79%	79%	79%	79%
2020	65%	65%	65%	65%	65%	65%	65%	65%
Shower solutions	79%	79%	79%	79%	79%	79%	79%	79%
2020	65%	65%	65%	65%	65%	65%	65%	65%
Showers without shower tray	79%	79%	79%	79%	79%	79%	79%	79%
2020	65%	65%	65%	65%	65%	65%	65%	65%
Ceramic wall tiles	79%	79%	79%	79%	79%	79%	79%	79%
2020	65%	65%	65%	65%	65%	65%	65%	65%
Ceramic floor tiles	79%	79%	79%	79%	79%	79%	79%	79%

% **more** minus % **less**

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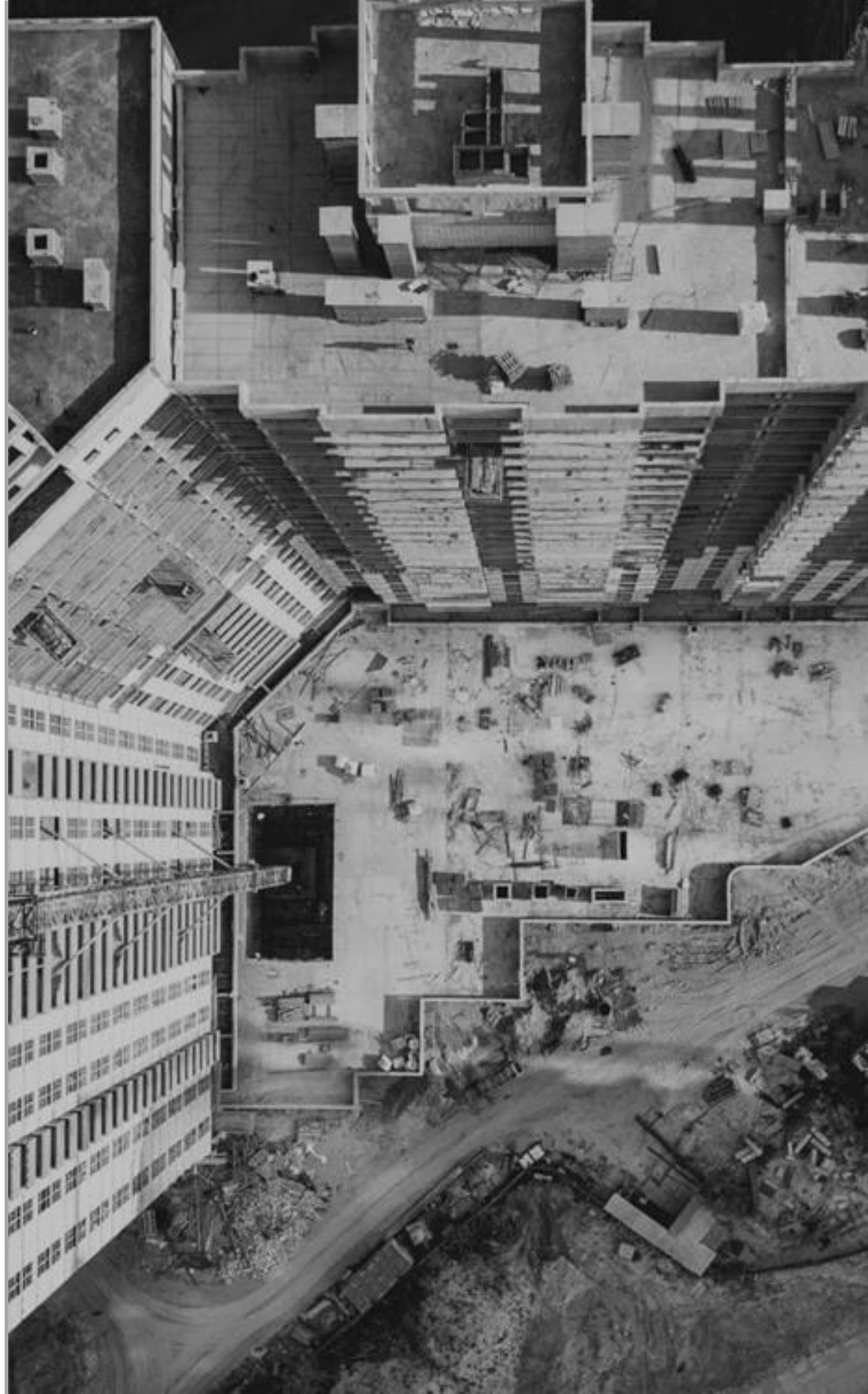

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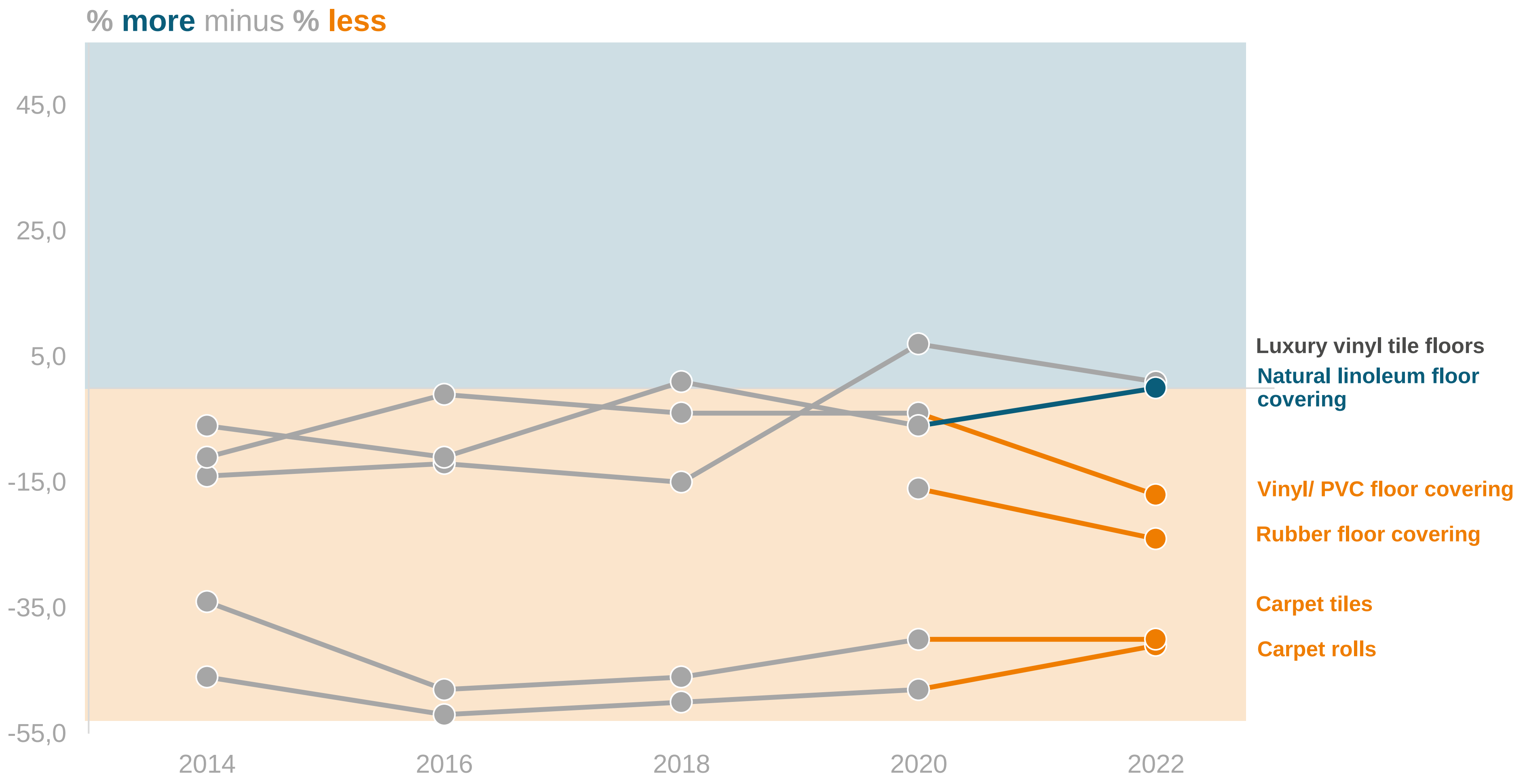
Do you expect to use the following ***flooring*** *materials more, equally, or less in projects over the next five years?*



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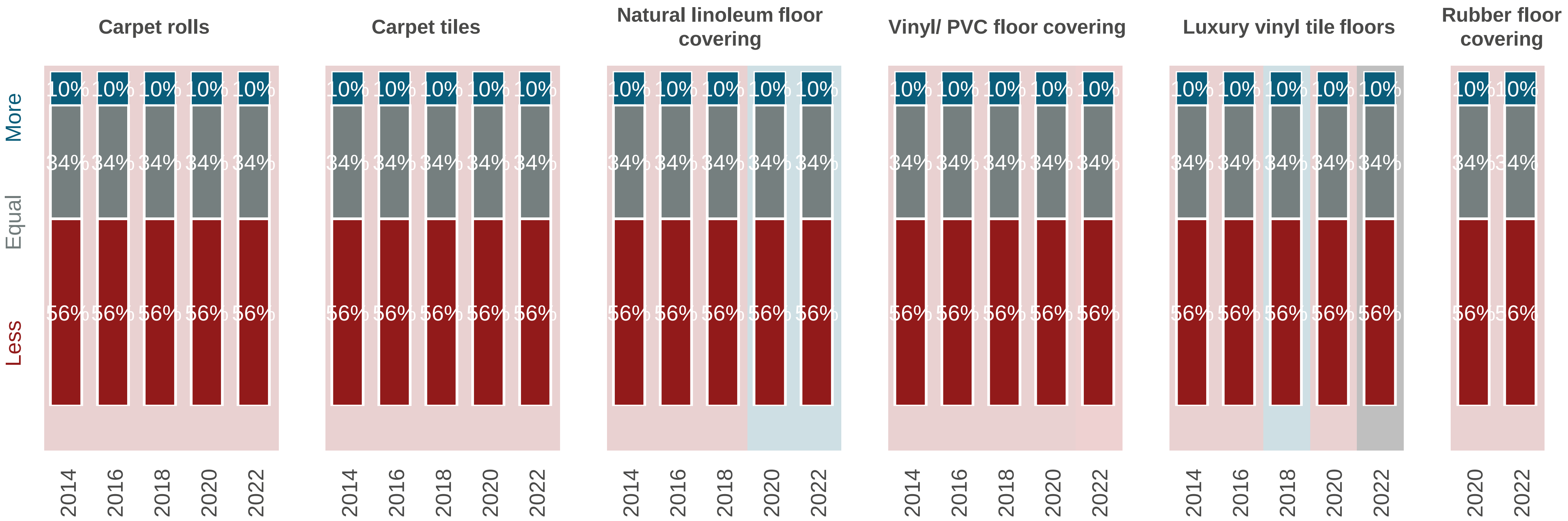
*Do you expect to use the following **flooring** materials more, equally, or less in projects over the next five years?*



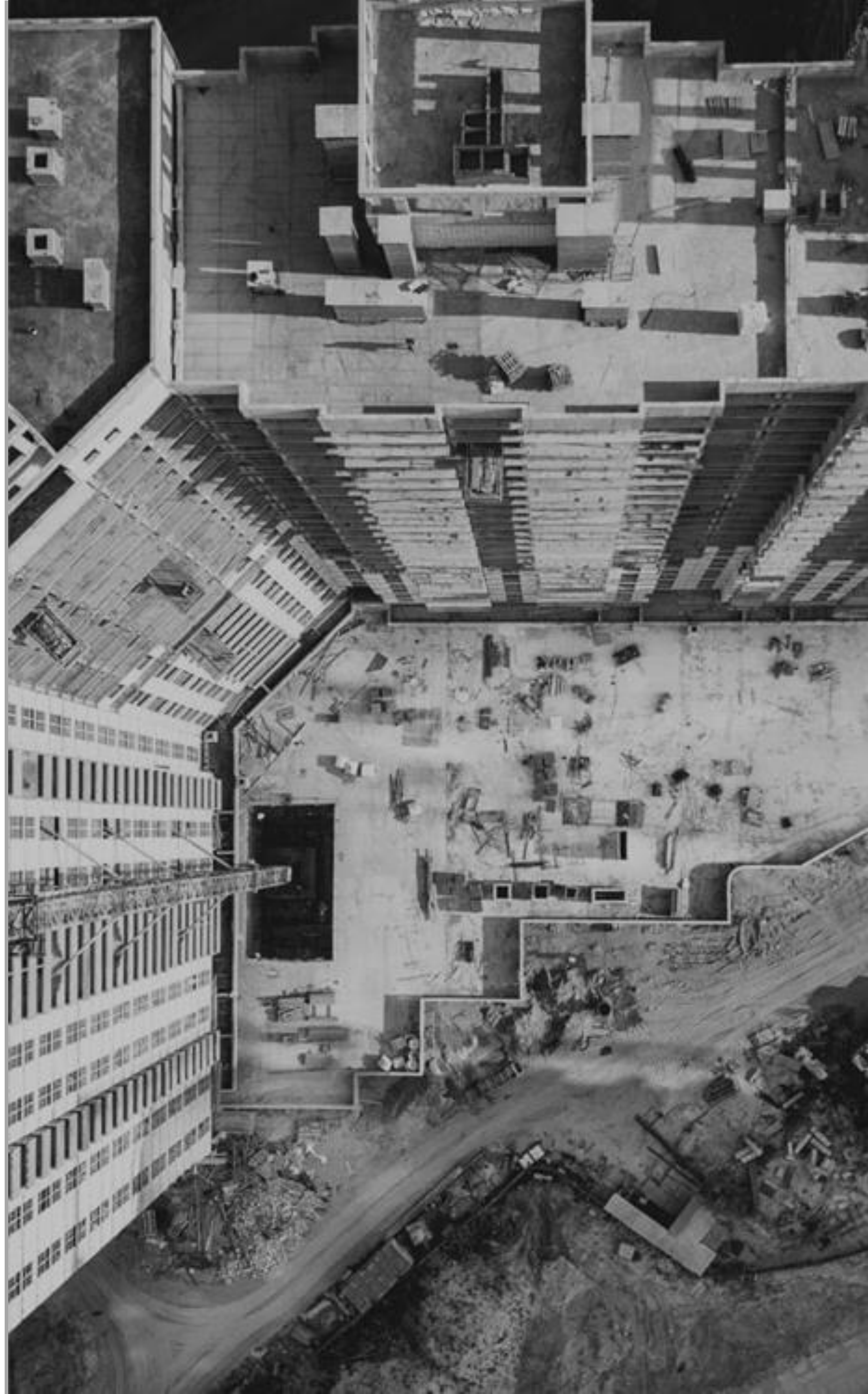
Usage expectations flooring materials: country overview

*Do you expect to use the following **flooring** materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
Carpet rolls	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
2020	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%
Carpet tiles	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
2020	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%
Natural linoleum floor covering	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
2020	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%
Vinyl / PVC floor covering	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
2020	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%
Luxury Vinyl Tile floors (LVT)	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
2020	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%
Rubber floor covering	-19%	-19%	-19%	-19%	-19%	-19%	-19%	-19%
2020	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%

% **more** minus % **less**

Index



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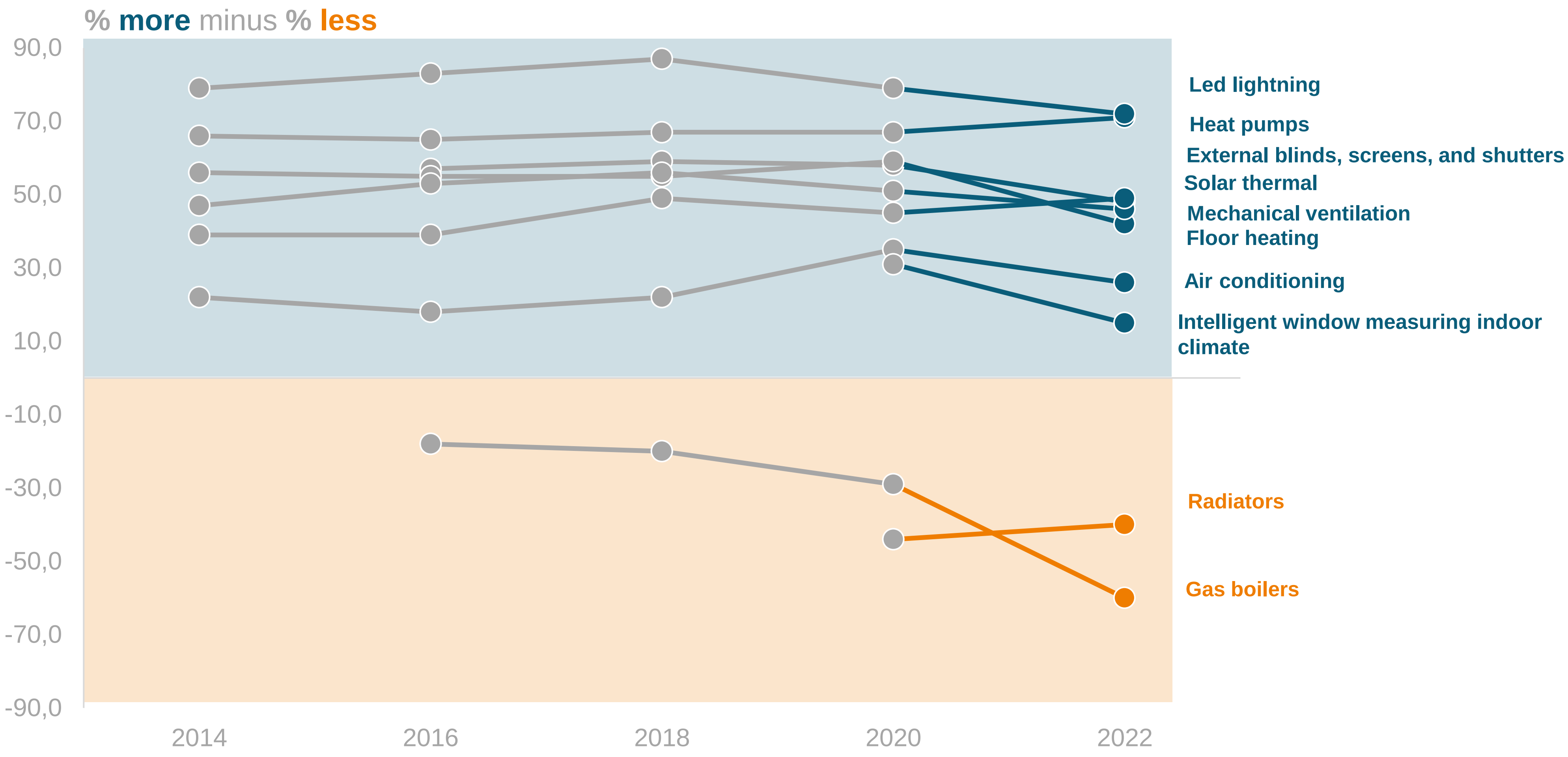
*Do you expect to use the following **installation and climate control** materials more, equally, or less in projects over the next five years?*



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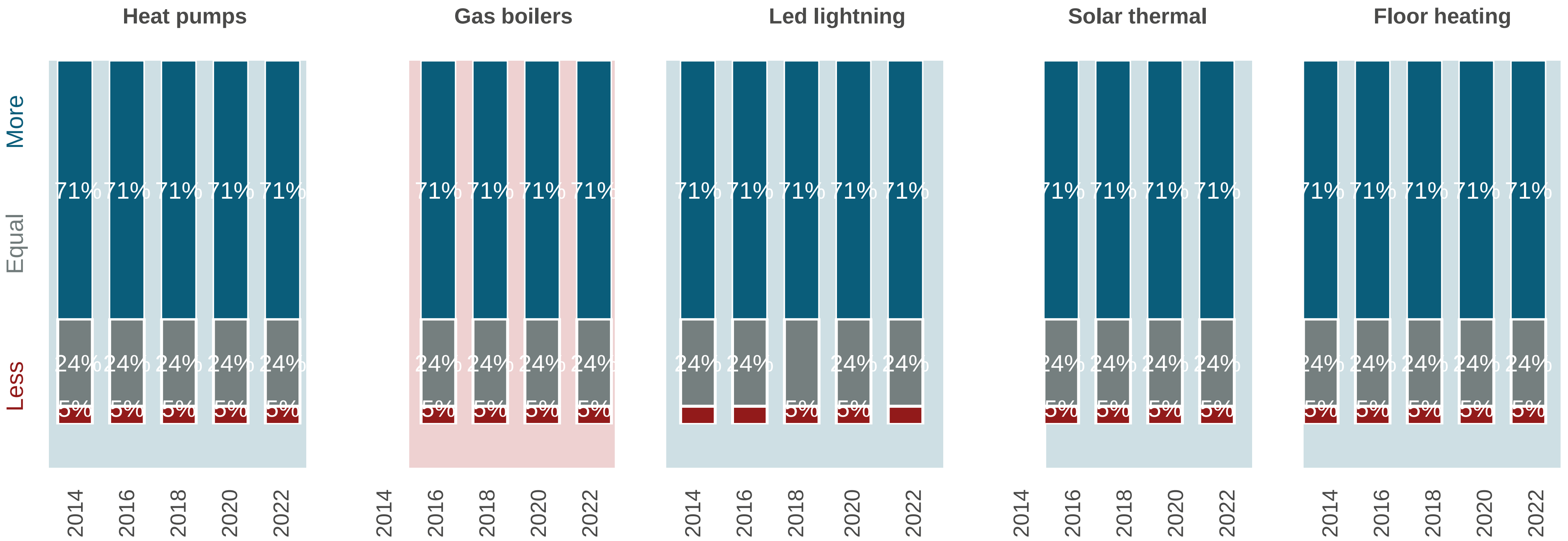
*Do you expect to use the following **installation and climate control** materials more, equally, or less in projects over the next five years?*



* Data not available.

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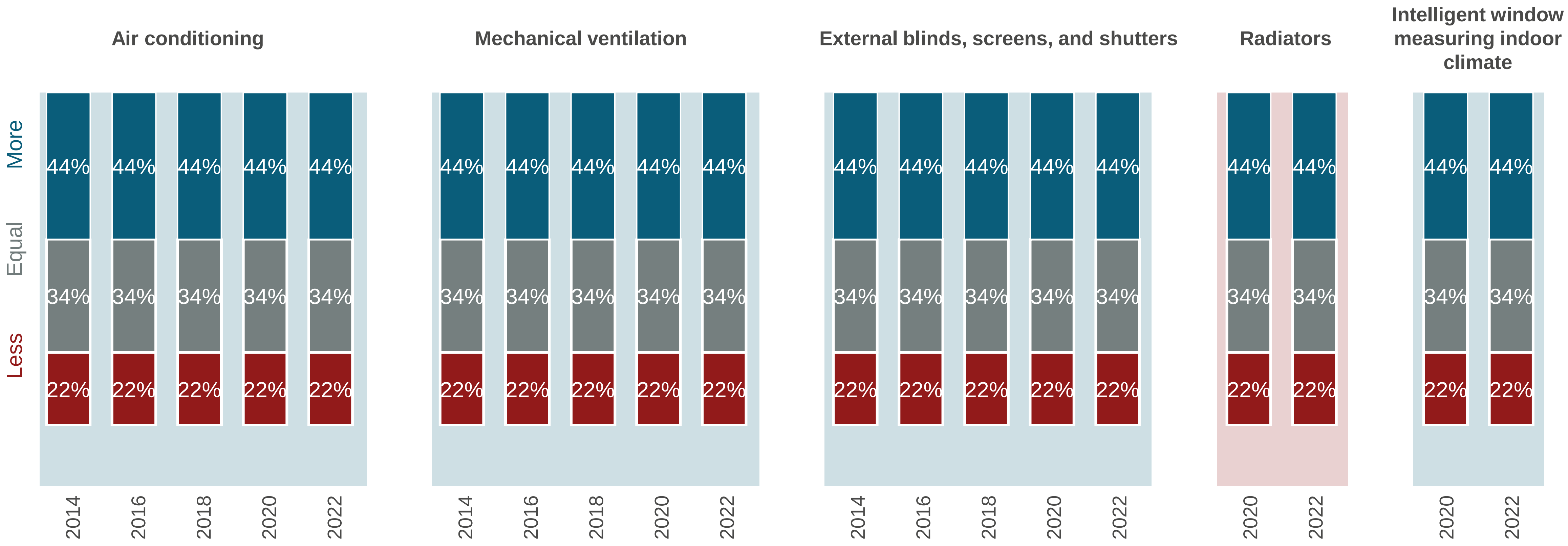
*Do you expect to use the following **installation and climate control** materials more, equally, or less in projects over the next five years?*



Usage expectations installation and climate control materials: country overview

*Do you expect to use the following **installation and climate control** materials more, equally, or less in projects over the next five years?*

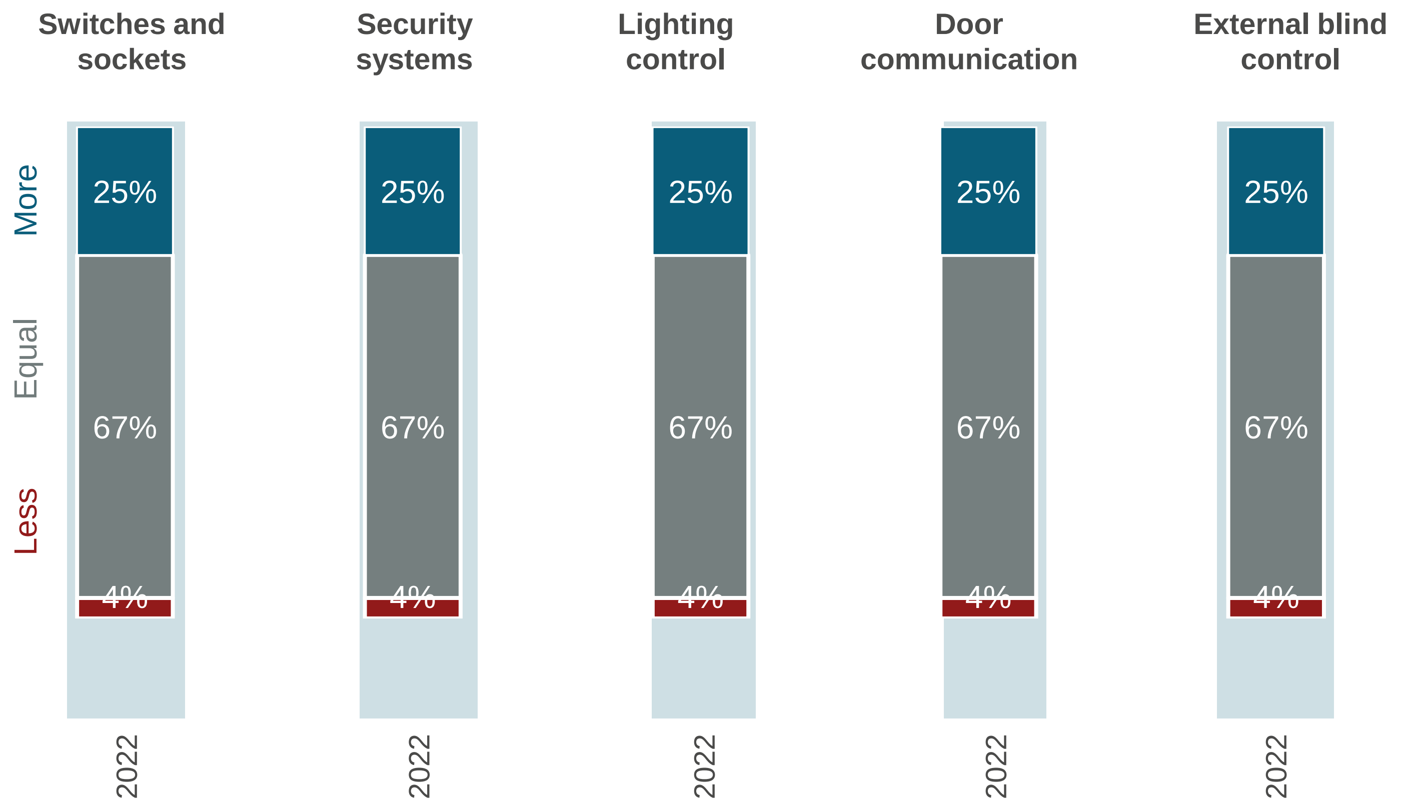
	n=	n=	n=	n=	n=	n=	n=	n=
Heat Pumps	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Gas boilers	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
LED Lighting	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Solar thermal	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Floor heating	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Air conditioning	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Mechanical ventilation	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
External Blinds	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Radiators	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%
Intelligent windows measuring indoor climate	86%	86%	86%	86%	86%	86%	86%	86%
2020	75%	75%	75%	75%	75%	75%	75%	75%

% **more** minus % **less**

USP

XXX

*Do you expect to use the following **installation and control** materials more, equally, or less in projects over the next five years?*

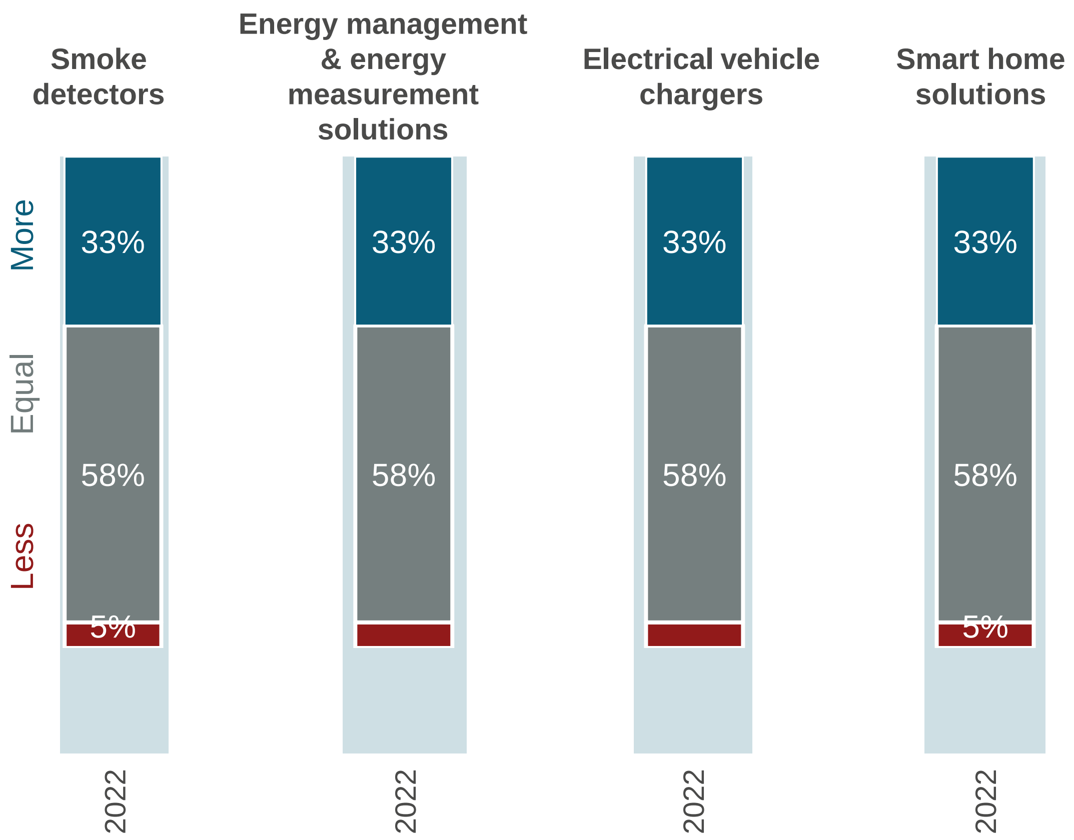


* Data not available.

USP

XXX

*Do you expect to use the following **installation and control** materials more, equally, or less in projects over the next five years?*



* Data not available.

Usage expectations installation and control materials: country overview

Do you expect to use the following ***installation and control*** *materials more, equally, or less in projects over the next five years?*

	n=	n=	n=	n=	n=	n=	n=	n=
Switches and sockets	18%	18%	18%	18%	18%	18%	18%	18%
Security systems	18%	18%	18%	18%	18%	18%	18%	18%
Lighting control	18%	18%	18%	18%	18%	18%	18%	18%
Door communication	18%	18%	18%	18%	18%	18%	18%	18%
External blind control	18%	18%	18%	18%	18%	18%	18%	18%
Smoke detectors	18%	18%	18%	18%	18%	18%	18%	18%
Energy management & energy measurement solutions	18%	18%	18%	18%	18%	18%	18%	18%
Electrical vehicle chargers	18%	18%	18%	18%	18%	18%	18%	18%
Smart home solutions	18%	18%	18%	18%	18%	18%	18%	18%

% **more** minus % **less**

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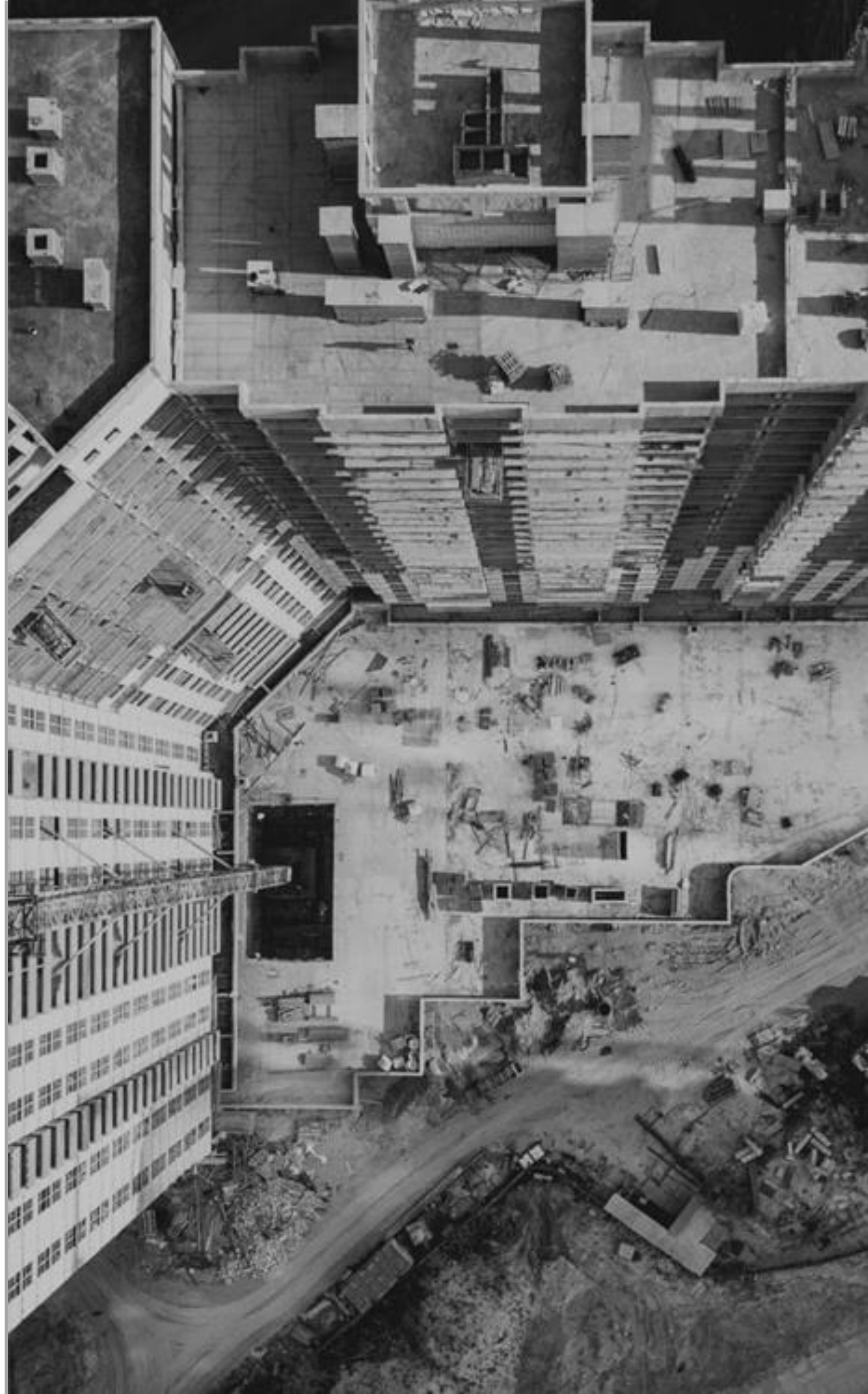

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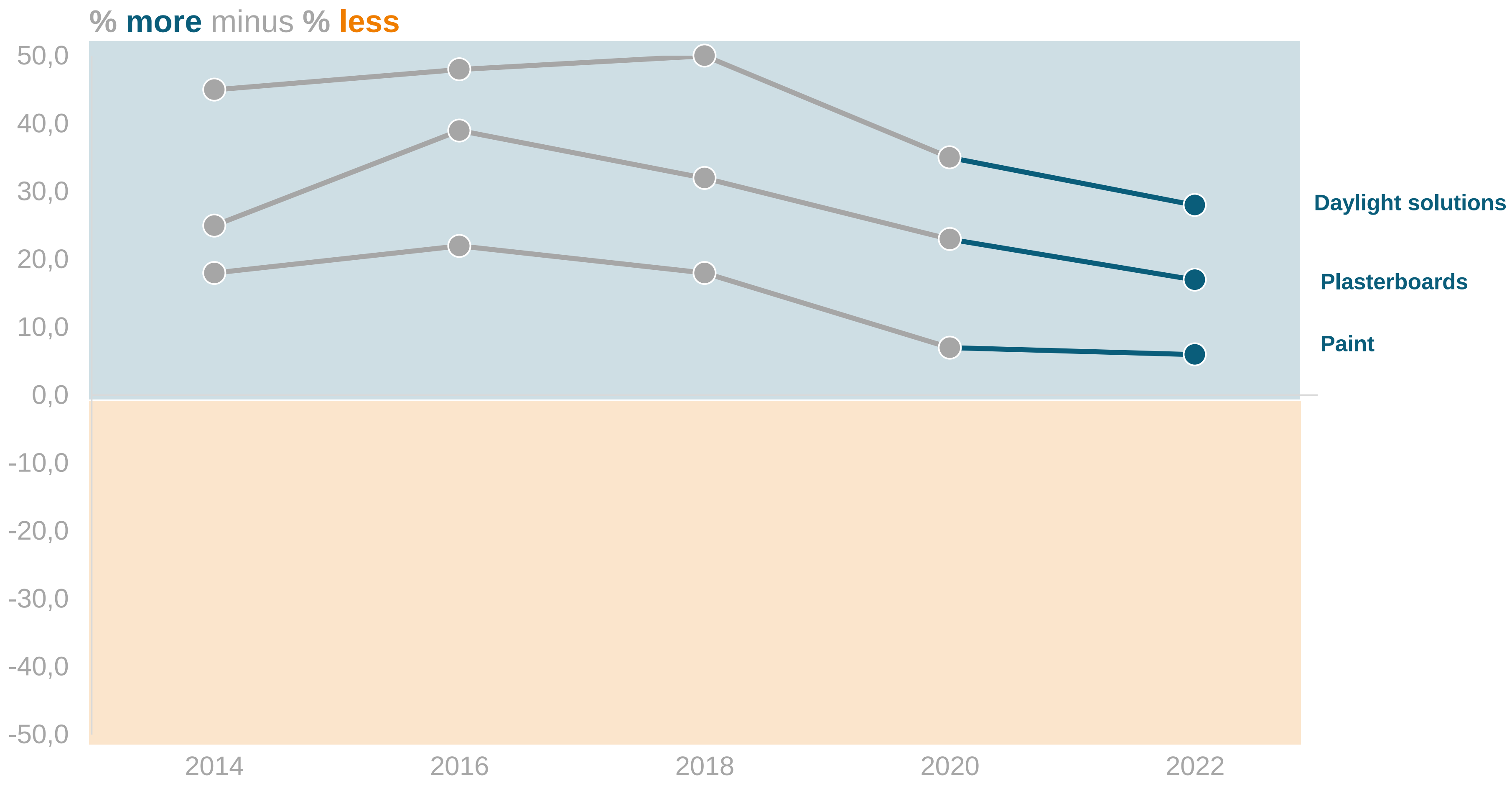
*Do you expect to use the following **finishing materials and products** materials more, equally, or less in projects over the next five years?*



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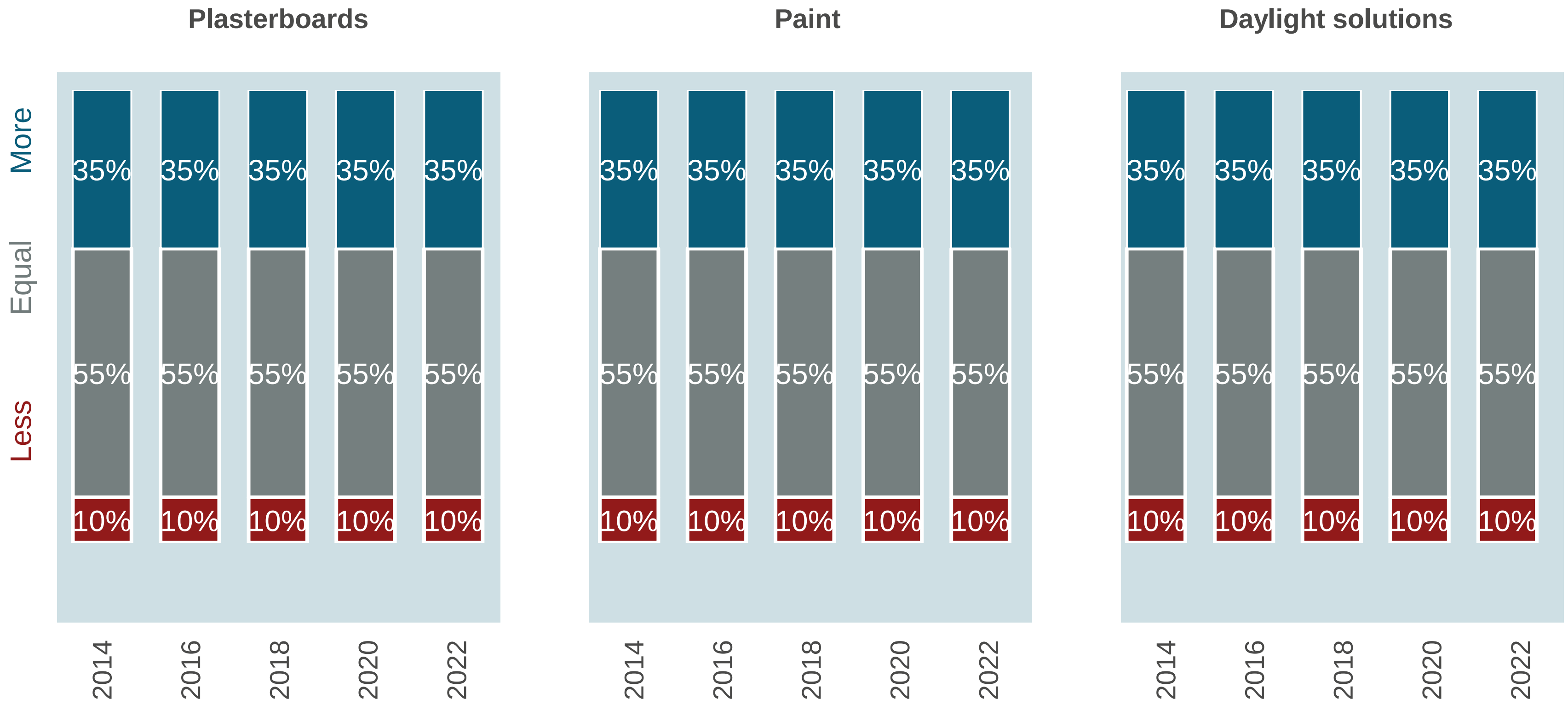
*Do you expect to use the following **finishing materials and products** more, equally, or less in projects over the next five years?*



Usage expectations finishing materials and products: country overview

USP

*Do you expect to use the following **finishing materials and products** materials more, equally, or less in projects over the next five years?*

								
	n=	n=	n=	n=	n=	n=	n=	n=
Plasterboards	3%	3%	3%	3%	3%	3%	3%	3%
2020	6%	6%	6%	6%	6%	6%	6%	6%
Paint	3%	3%	3%	3%	3%	3%	3%	3%
2020	6%	6%	6%	6%	6%	6%	6%	6%
Daylight solutions	3%	3%	3%	3%	3%	3%	3%	3%
2020	6%	6%	6%	6%	6%	6%	6%	6%

% **more** minus % **less**

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Sample and methodology of the research

Most architectural firms have less than two FTE. Nevertheless, the focus of the European Architectural Barometer is on the larger firms. Therefore, the research is only conducted among architectural firms with two FTE and more. As the study is focused on architects active in construction, architects that are solely active in interior or landscaping are excluded from the research.

The table below shows the number of successful interviews in each country. The difference between the gross sample of respondents that were reached (all reached numbers) and the net sample of respondents that were reached, was caused by those architects who could not be contacted or had an incorrect phone number, and those who did not meet the selection criteria (mostly due to the fact that the architectural firms had less than two FTE). The difference between the net sample of respondents reached and the response are the number of architects who refused to participate.

Response								
Gross sample (all attempts to approach respondents)	1000	1000	1000	1000	1000	1000	1000	1000
Net sample (all approached respondents)	1000	1000	1000	1000	1000	1000	1000	1000
Completed interviews	1000	1000	1000	1000	1000	1000	1000	1000
Response percentage (interviews/ net sample)	1000	1000	1000	1000	1000	1000	1000	1000

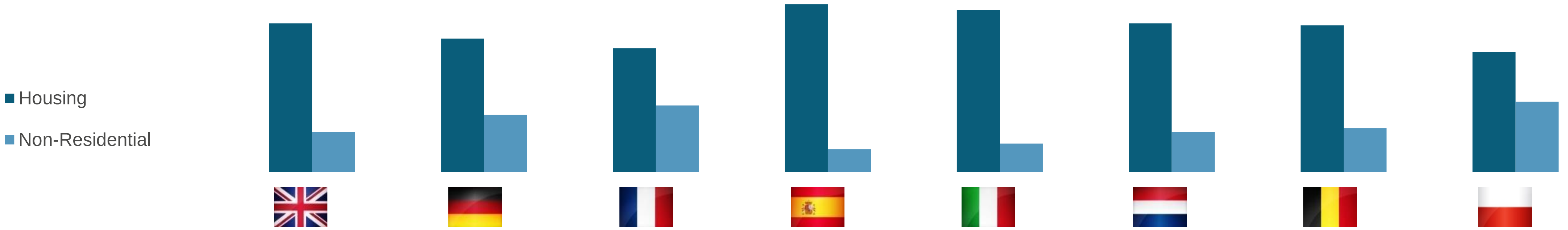
Background of the architects

The table below shows the average number of employees of the architectural firms within the current quarter of this research, divided by country. The architectural firms with one employee were excluded from this research. The second table shows the segments in which architects within this research are mostly active.

Number of FTE

Average	**9,0**	**9,0**	**9,0**	**9,0**	**9,0**	**9,0**	**9,0**	**9,0**
2 – 4 FTE	52%	52%	52%	52%	52%	52%	52%	52%
5 – 9 FTE	30%	30%	30%	30%	30%	30%	30%	30%
10 – 19 FTE	11	11	11%	[illegible]	[illegible]	11	11	11
20 – 39 FTE	2%		2%	2%	2%		2%	2%
> 40 FTE	6	%	6%	6%	6%	%	6%	%

Segment mostly active



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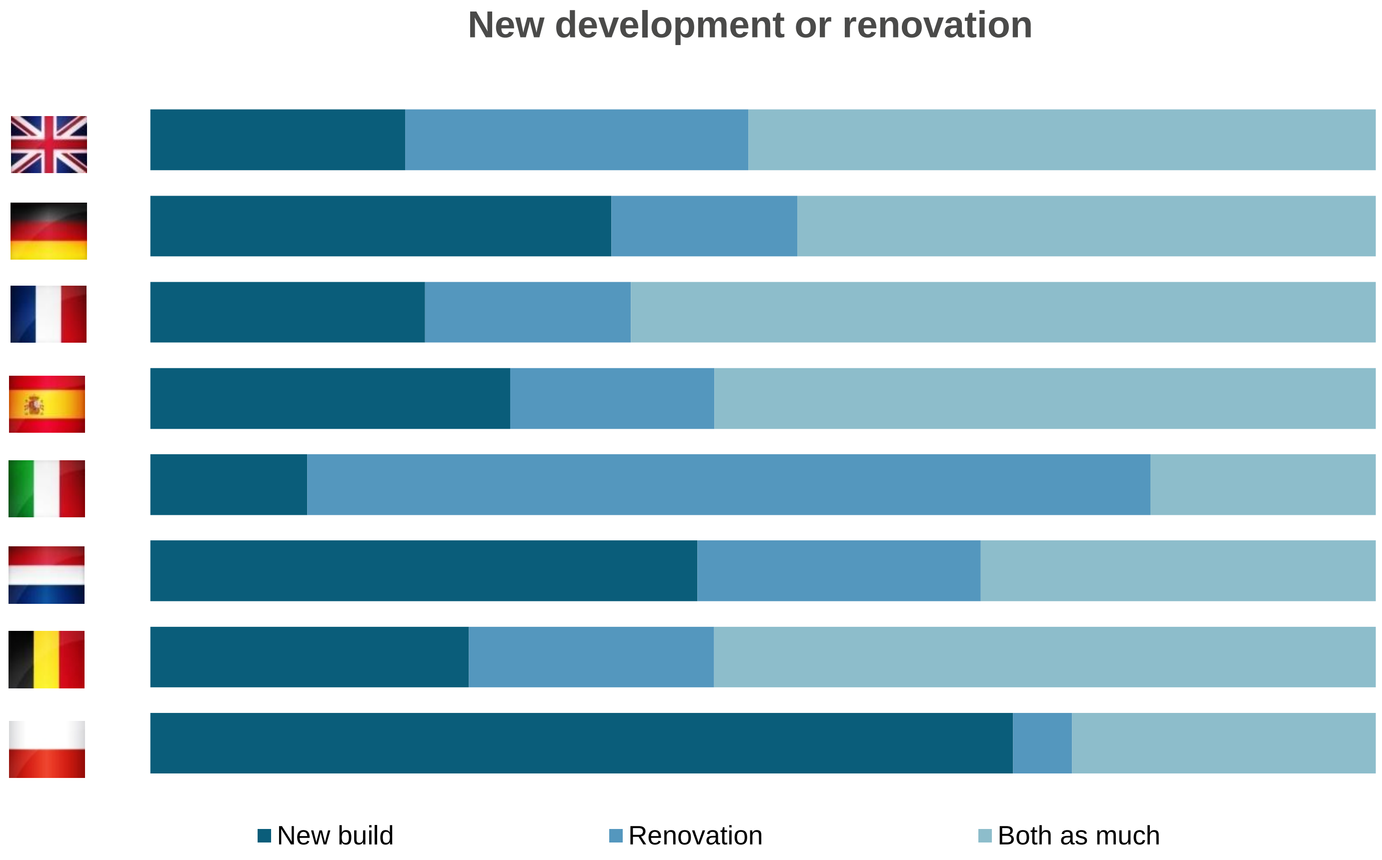
Background of the architects

The figure below shows the split in activities in new build and renovation. Italy has the smallest new build market with merely 12% claiming to be mainly active in new build. You can clearly see that most architects are active in the renovation segment. Almost half of the Polish architects do more new build, which is more than their colleagues from other European countries.



About Arch-Vision

European Architectural Barometer

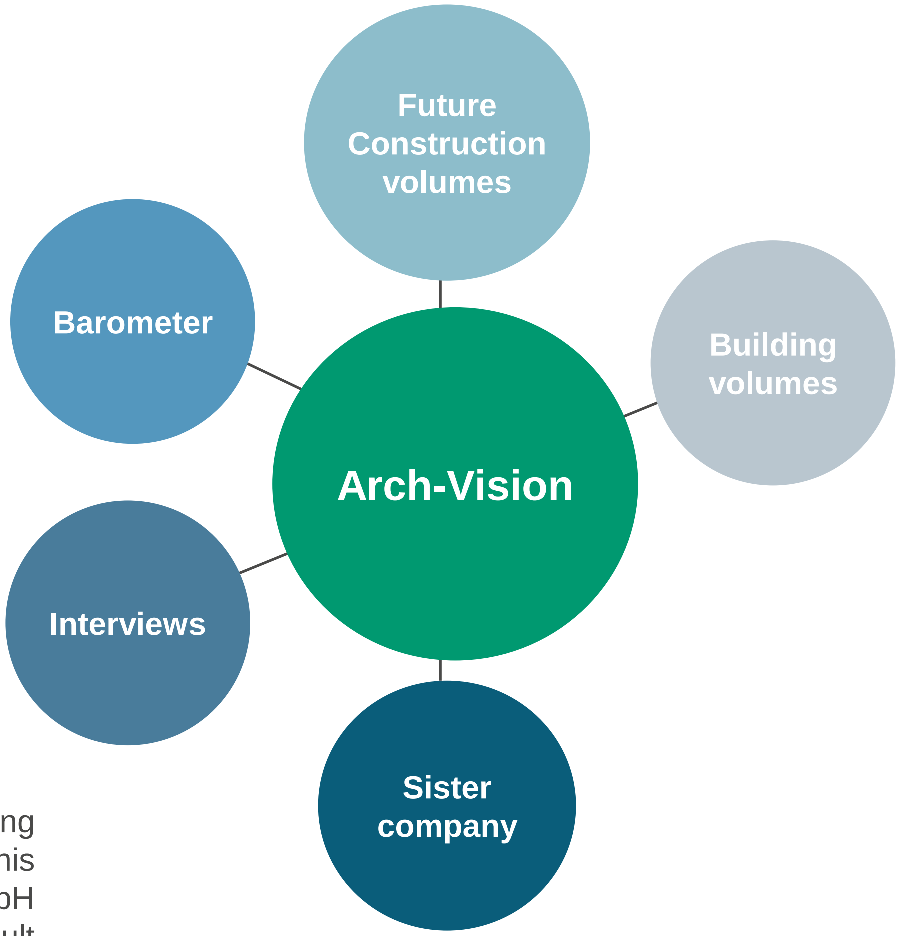
Architects have already been monitored by several institutes in quite diverging ways in the different countries. Arch-Vision launched this European Architectural Barometer for a more cohesive view. The European Architectural Barometer is extremely useful for organisations with a focus on Europe that also want to compare the activities of architects in different countries.

Interviews

All interviews are conducted by native speakers. From the third measurement onwards, two hundred interviews per country have been completed per measurement. The first two measurements were based on one hundred interviews per country. Later, for the Netherlands and Belgium, the measurements returned to one hundred interviews.

Sister company

Arch-Vision is a sister company of USP Marketing Consultancy (www.usp-mc.eu), BouwKennis (www.bouwkennis.nl), BauInfoConsult GmbH (www.bauinfoconsult.de) and BuildInfoConsult (www.buildinfoconsult.com). These are major agencies each providing full-service research support and specialised in the construction and real estate markets.



Future construction volumes

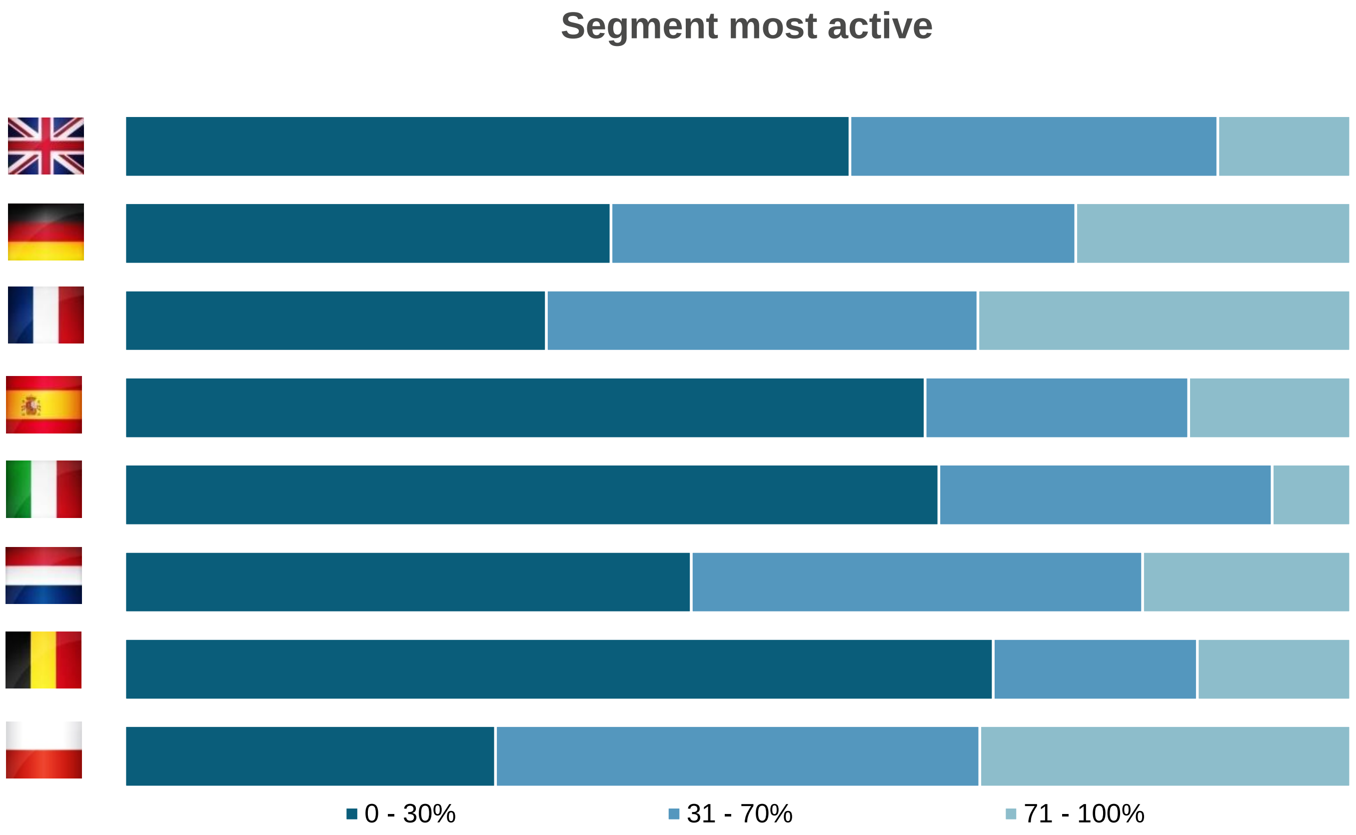
For decision makers charged with considerations of company resources, staffing and marketing strategy, a clear insight into future construction volumes is essential. However, economic indicators seldom provide an adequate picture of these volumes.

Building volumes

The construction industry operates in a delayed cyclical market, which means that buildings designed today will not be ready until at least two years from now. The economic activities of architectural firms provide a strong indication of the direction in which the construction sector will develop in terms of both building volumes and the way in which building volumes will be realised.

Results per segment

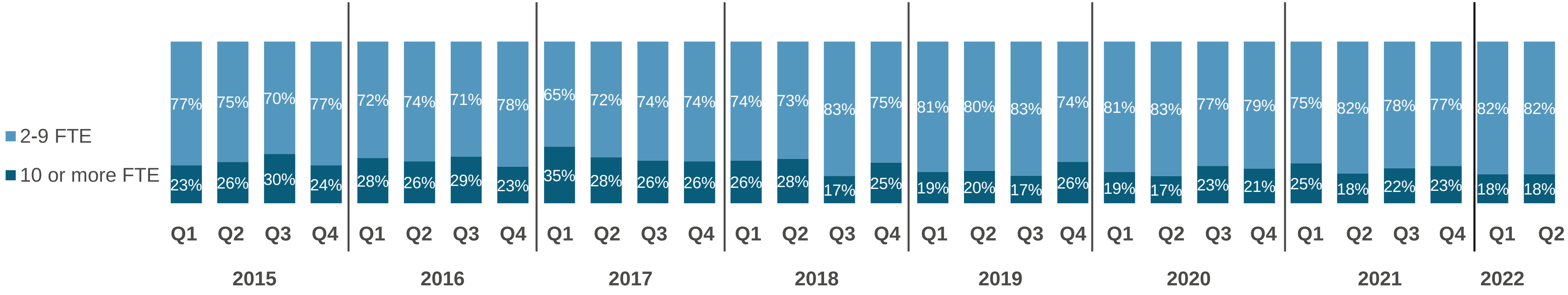
For three key questions from the current measurement of the European Architectural Barometer, the results are divided by architects that realise most of their sales in the residential segment (0% – 30% non-residential), by architects that realise sales in both segments (31% - 70% non-residential), and by architects that realise most of their sales in the non-residential segment (71% - 100% non-residential).

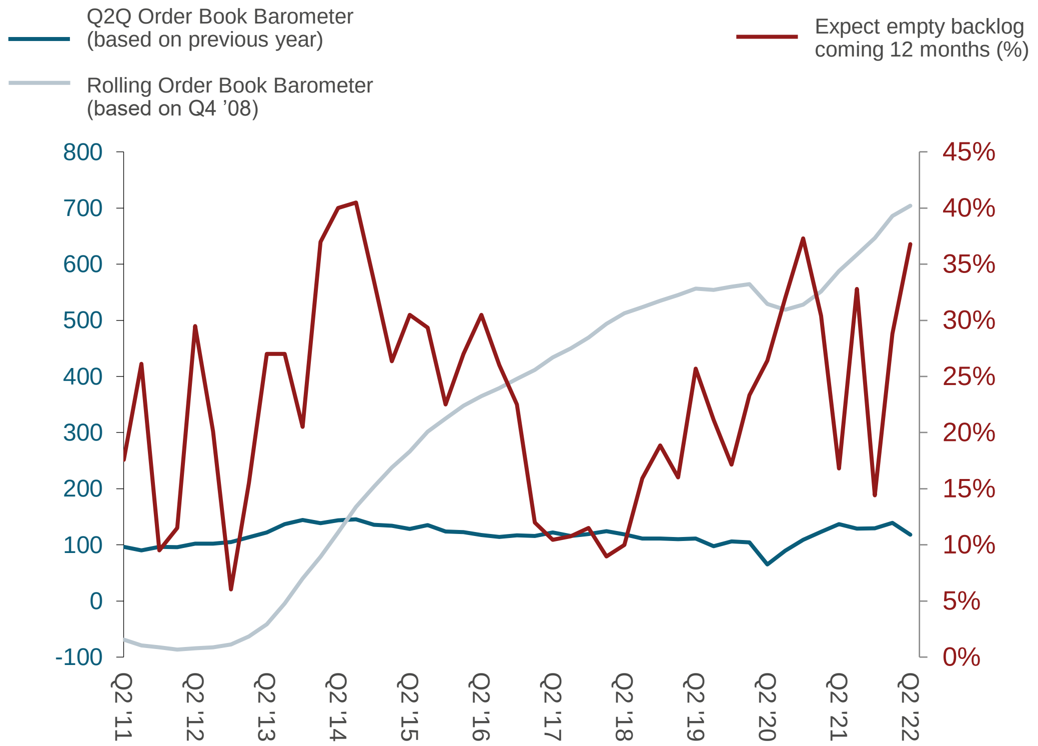


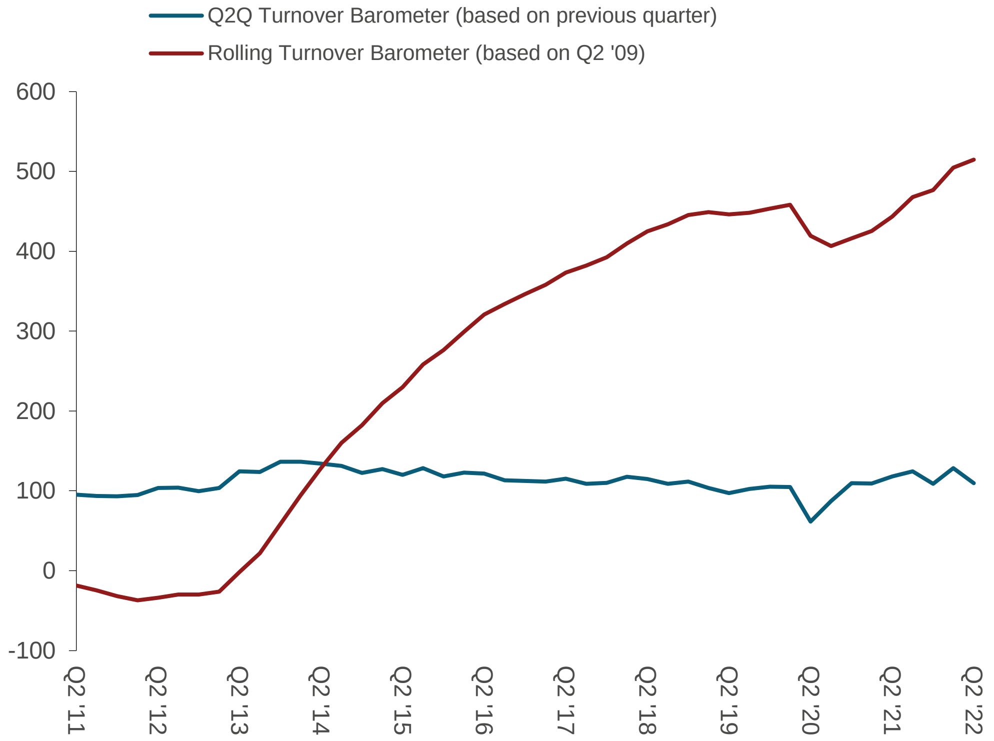
The tables on the following pages show the abovementioned split with regard to the following questions:

- **How did the turnover develop in this quarter compared to the previous quarter?**
- **How did your order book develop in this quarter compared to the same quarter last year?**
- **Do you expect that your order book might be empty these coming 12 months?**

Short-term outlook among British architects







Development turnover and order book

Development turnover (based on previous quarter)																								
% sales in non-residential	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**
Strongly increased (>5%)	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Slightly increased (0-5%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Stayed the same (0%)	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
Slightly decreased (0-5%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Strongly decreased (>5%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Barometer turnover	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**

Development order book (based on previous year)																								
% sales in non-residential	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**
Strongly increased (>5%)	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Slightly increased (0-5%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Stayed the same (0%)	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
Slightly decreased (0-5%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Strongly decreased (>5%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Barometer order book	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**

Expectation empty order book in the next 12 months

Expectation empty order book in the next 12 months

																								
% sales in non-residential	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**	**0 - 30**	**31 - 70**	**71 - 100**
Yes	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
No	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
Do not know	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%

Methodology calculation of the Q2Q Saldo and Barometer

USP

The European Architectural Barometer for the order book development and turnover development is calculated in the following way:

1. Respondents with a strong increase (>5%) are multiplied by 100
2. Respondents with a slight increase are multiplied by 50
3. Respondents that remained the same are multiplied by 0
4. Respondents with a slight decrease are multiplied by –50
5. Respondents with a strong decrease (>5%) are multiplied by –100
6. The sum of these values divided by 100, results in the Q2Q saldo.
7. Adding 100 to this saldo results in the Barometer figures, where 0 is the strongest possible decrease, 100 is stabilisation and 200 is the strongest possible increase.

The Barometer values calculated this way are presented in the report as Quarter to Quarter Turnover and Order book Barometer.

Example of calculation Q2Q Barometer value:

Development Turnover Spain	Q2 ’15		Calculated Values
Increased by more than 5%	25%	x 100	2500
Slightly increased (0-5%)	28%	x 50	1400
Stayed the same (0%)	36%	x 0	0
Slightly decreased (0-5%)	3%	x -50	-150
Decreased by more than 5%	8%	x -100	-800

Q2Q Saldo = (2500 + 1400 – 150 – 800) / 100 = 30

Q2Q Barometer value = 100 + 30 = **130**

Methodology calculation of the Q2Q Saldo and Barometer

To calculate the developments in the turnover and the order book with regard to the first measurement in 2009, Arch-Vision has developed the so-called Rolling Barometer. The Rolling Barometer is calculated as the cumulative sum of the Q2Q saldos of every quarter. The Rolling Barometer can drop or rise by 100 points per quarter at maximum.

Example: The Rolling Order Book Barometer is -66 after twelve quarters. In the worst case (all architects reporting a decrease of over 5% every quarter) the Rolling Barometer would be -1200. In the best case it would be 1200. Therefore a score of -66 in Q4 2011 means a slightly worse situation than in Q4 2008.

Barometer order book

	Q1'09	Q2'09	Q3'09	Q4'09	Q1'10	Q2'10	Q3'10	Q4 '10	Q1 '11	Q2 '11	Q3 '11	Q4 '11
Q2Q Barometer values	71	75	100	85	100	110	94	94	111	102	94	99
Saldo Q2Q Values	-29	-25	0	-15	0	10	-6	-6	11	2	-6	-1
		+ (-25)	+ (0)	+ (-15)	+ etc.							
Rolling Barometer Values	-29	-54	-54	-69	-69	-59	-65	-71	-60	-59	-65	**-66**

Future building volumes: building a model for prediction

Building volumes

Architects are at the front of the construction sector. They are the first to perceive positive and negative changes. The current developments of architectural firms have a strong predictive impact on the total market. Arch-Vision publishes its predictions for the building volumes based on the developments experienced by architects.

The model

Arch-Vision uses a model based on eleven market indicators and Arch-Vision's own results. The model combines information about the economy, like construction requests and confidence figures, with data about the developments within architects' experience, such as changes in the turnover and the number of active architects. Only information that proved to have a strong correlative value on the building volume is used. Subsequently, every kind of data is weighed based on the predictive value.

High predictive value

To ensure the correctness of the predictive value, the model has been – with retroactive effects – compared to the actual growth and shrinkage of the construction volume since 2003 for the Dutch* market and since Q3 2009 for the remaining countries. The model turns out to possess a very high predictive value. Nevertheless, the forecast has to be interpreted with caution, as it remains a calculation. As with all predictions, the margin of error can be larger, comparable to the weather forecast: sometimes the Arch-Vision model can be inaccurate.

Calculation predictive value

The predictive value is calculated based on the consistency of the market indicators with construction volumes, for the renovation, maintenance and the new build markets. The correlation is determined by a regression analysis, i.e. a statistical technique for analysing data in which there is a (possible) specific connection, known as regression.

** Since 2003, the developments of architects in the Netherlands have been monitored by Arch-Visions' sister organisation BouwKennis. Therefore, it is possible for the Netherlands to calculate the connection between the architects and the building volume based on 10 years of data.*

Future building volumes: Calculation

The Dutch market has been taken as a basis. The correlation between market volume regarding new build, maintenance and renovation on the one hand, and possible explanatory factors on the other hand, serves as a starting point.

The correlation with building volumes is tested for a total of eleven market indicators together with two outcomes of the European Architectural Barometer. The correlation of the following four indicators appeared to be strongest:

- Building permits – m^2 of useful floor area in non-residential buildings
- Building permits, number of dwellings
- Development of Turnover Barometer (European Architectural Barometer figures)
- Number of FTE working at architectural companies (European Architectural Barometer figures)

The predicting value of these indicators is between 54% and 91%. Because a longer history of data was not available for most countries, the development of these four indicators in the last four quarters and the four quarters before served as a guidance for this measurement. The used range of five indicators is not static and can be adjusted for future calculations. With the database becoming more complete, more reliable correlations can adjust the mix of indicators. A longer range of regression measurements shall replace the comparison of the last four quarters with the four quarters before.

The forecast is based on the market knowledge of USP Marketing Consultancy together with the market figures available, such as building permits and the developments among architects who are mainly active in renovation or new build as well as mainly active in residential or non-residential. Due to the limited number of quarters, a forecast based on a statistical model is not possible for now. The model that was used has a lower prediction value for this period. However, USP Marketing Consultancy aims at clarifying the general direction of the construction market development by publishing these data and the predictions will be updated in the coming reports.

Questionnaire – Standard

These questions are asked every measurement

1. How many employees (in FTE) does your company currently have, including yourself? [if less than 2 FTE, end of research]
2. What is your position?
3. As an architectural firm, are you mostly active in the segment housing, non-residential building, interior, or landscaping? [If interior or landscaping, end of research]
4. How many employees in FTE did your company have at the end of 2021?
5. How many employees in FTE did your company have at the end of 2020?
6. How many employees in FTE did your company have at the end of 2019?
7. If your turnover should relate to housing and non-housing, what percentage of your revenue do you get from housing-related jobs?
8. Are you mostly active in new build or renovation?
9. How did the turnover develop this quarter compared to the previous quarter? Decreased by more than 5%; slightly decreased (0-5%); stayed the same (0%); slightly increased (0-5%); strongly increased (more than 5%)
10. How did your order book develop in this quarter compared to the same quarter previous year? Decreased by more than 5%; slightly decreased (0-5%); stayed the same (0%); slightly increased (0-5%); strongly increased (more than 5%)
11. How many projects have been postponed in this quarter?
12. How many projects were not started and cancelled in this quarter?
13. Do you expect that your order book might be empty these coming 12 months?

Questionnaire – Theme questions

1. For the following materials, I would like to know whether you expect to use these more, equally, or less in projects in the next five years.
    1. Building envelope/ structure
        - Masonry bricks
        - Timber sheets
        - Prefab / precast concrete
        - Large formats of masonry materials, e.g. AAC panels, large formats of CSU / Clay bricks
        - Metal sheets
    2. For façades
        - Bricks
        - Façade panels (Fibre cement/ HPL panels)
        - Aluminium composite materials (ACM)
        - Architectural glass
        - Concrete/ plasterwork
        - Metal
        - Stone wool cladding
        - Wood facades
        - External drywall system
    3. For metals
        - Steel
        - Aluminium
        - Zinc
        - Stainless steel
    4. For pitch roofs
        - Clay roof tiles
        - Concrete roof tiles
        - Pre-painted metal roof
        - Zinc roofs
        - Bituminous roof shingles

Questionnaire – Theme questions

5. For flat roofs
    - Thermoset membranes (EPDM or so-called rubber roofing)
    - Thermoplastic membranes (TPO, PVC)
    - Modified bitumen membranes
    - Asphalt
6. For insulation
    - PUR/ PIR insulation materials
    - Glass mineral wool
    - Stone wool/ rock mineral wool
    - Polystyrene foams (EPS/ XPS)
    - Natural materials (such as cellulose, wood fibre, sheep’s wool, hemp)
7. In bathrooms
    - Water & energy saving fittings (taps, mixers, showers, etc.)
    - Bathroom radiators
    - Recyclable bathroom products
    - Ceramic wall tiles
    - Ceramic floor tiles
    - Shower solutions (instead of bathtubs)
    - Showers without shower tray
    - Use of wall coverings

Questionnaire – Theme questions

8. For flooring
    - Carpet rolls (textile floors)
    - Carpet tiles (textile floors)
    - Natural linoleum floor covering
    - Vinyl/ PVC floor covering
    - Luxury vinyl tile floors (LVT)
    - Rubber floor covering
9. For installation and climate control
    - Heat Pumps
    - Gas boilers
    - LED Lighting
    - Solar thermal
    - Floor heating
    - Air conditioning
    - Mechanical ventilation
    - External Blinds, screens and shutters
    - Intelligent windows measuring indoor climate
    - Radiators

9. For installation and control
    - Switches and sockets
    - Security systems
    - Lighting control
    - Door communication
    - External blind control
    - Smoke detectors
    - Energy management & energy measurement solutions
    - Electrical vehicle chargers
    - Smart home solutions

10. Finishing materials and products
    - Plasterboards
    - Paint
    - Daylight solutions (roof windows, skylights, rooflights etc.)

About USP

USP Marketing Consultancy

Head office
Subsidiaries

Rotterdam
Düsseldorf **Zagreb**

Total
70
Research Analysts
Project managers
Consultants

Market specialist
installation, construction, home improvement and real estate

Dedicated and multi-client research

Active in the market for 28 years

250+ dedicated market research projects annually

Revenue distribution

80%
turnover coming from **international projects**

85%
turnover coming from **dedicated market research**, 15% from multi client

70%
turnover coming from **B2B**, 30% B2C

Research in
32
countries in 2020

68
focus groups

1,278
in-depth interviews

62,758
B2B CATI interviews

52,850
B2C online interviews

What we do

Examples

Segmentation

Customer journey

Branding

Concept/ product research

Customer satisfaction

Trends

Distribution research

Market exploration

Pricing

Market size

Dedicated market research

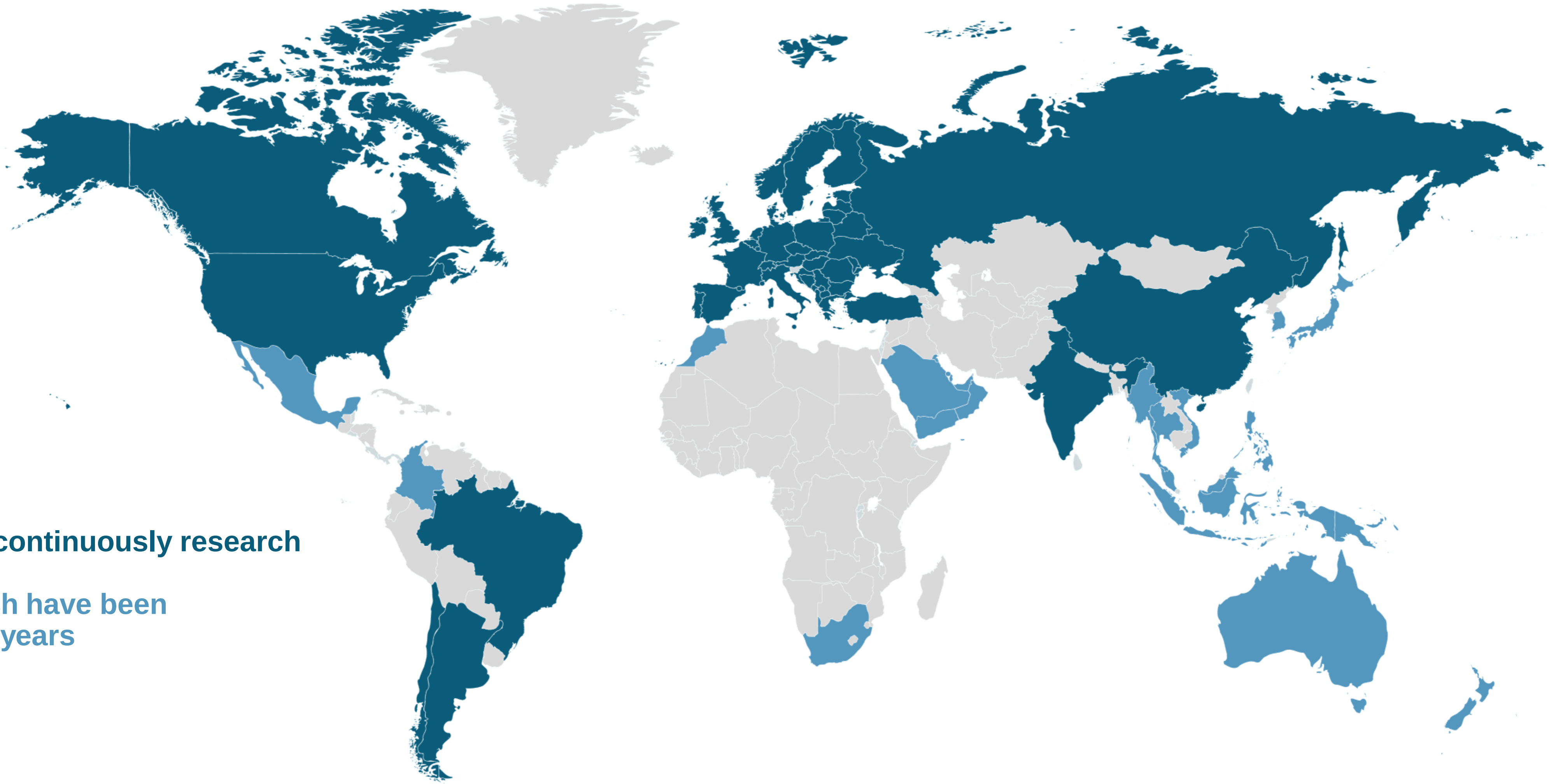
- Tailor made
- Driven by your information needs
- Advice & consultancy based on facts and over 25 years of experience in the industry
- Worldwide coverage
- B2B, B2C, qualitative and quantitive research or a combination of both
- Within our market specialism, all types of researches can be conducted
- Targeting the right audience, with the right questions at the right time.

Our multi-client research monitors

USP

	European **Architectural** Barometer	European **Contractor** Monitor	European **Mechanical Installation** Monitor	European **Electrical Installation** Monitor	European **Painter Insight** Monitor	European **Home Improvement** Monitor
Target group	Architects	Building contractors	HVAC installers	Electrical installers	Professional painters	Consumers
Methodology						
Annual sample size	3,400 interviews	2,050 interviews	2,600 interviews	3,000 interviews	2,300 interviews	26,400 interviews
Country scope	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy	• Germany • United Kingdom • France • Netherlands • Belgium • Poland	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy • Denmark • Sweden	• Germany • United Kingdom • France • Netherlands • Belgium • Poland • Spain • Italy • Denmark • Sweden • Austria
Way of reporting	Quarterly	Bi-annually	Quarterly	Quarterly	Annually	Quarterly
2022 Theme topics	• Q1: Sustainability and Circularity • Q2: Trends in Material Usage • Q3: Decision Making in the Construction Industry • Q4: Love Brands	• H1: Prefab • H2: Digitalisation and BIM	• Q1: BIM • Q2: Prefab or direct buying from manufacturers • Q3: Smart buildings and products • Q4: Media orientation	• Q1: Sustainability • Q2: Smart buidings • Q3: Services in the installation market • Q4: Branding	• Trend tracking • Orientation and media usage • Brand performance scans	• Purchase channels • TBD

We are active globally



Countries which we continuously research

Other countries which have been researched in past 2 years

Principals of USP

Construction				DIY		Installation	
ASSA ABLOY	AkzoNobel	Wienerberger	HILTI	OBI	adeo	ABB	BOSCH
ArcelorMittal	DAW	3M	SAINT-GOBAIN	ALLEGION	maxeda DIY Group	GRUNDFOS	hager
etex inspiring ways of living	FESTOOL	Villeroy & Boch 1748	DSM	3V3	Ideal Standard	Schneider Electric	LG Life's Good
icopal	Interface	WD-40	Dulux	BRIGGS & STRATTON	KOHLER	MITSUBISHI ELECTRIC	Panasonic
KNAUF	Owens Corning	UNILIN for smart living	PPG	fischer innovative solutions	KÄRCHER	VIESMANN	Vaillant
ROCKWOOL	sto Building with conscience.	VELUX	stiho	WAGNER	GROHE	Signify	ShurTech Brands
Tarkett	TRESPA	tesa	DÖRKEN	Intergamma	Yale	sonepar	TTI

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