

WMCA Future Housebuilding Strategy

Technical Standard Cost Appraisal

18 August 2023



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Brief & Methodology

- Cast initially undertook a review of the potential cost impact of the emerging Future Homes Technical Standard for mid-terrace and flat typologies. We have since added a detached house typology and re-baselined the apartment cost estimates to a lower cost typology.
- Our baseline of each typology is based on a 'typical' approach. The modelling then considers the potential evolution of the construction costs based on proposed standards for 2023, 2025 and 2030 including considering the likely methodology that would be adopted to meet the standard (based on current-day costs).
- We also consider the changes that would be required to achieve the forthcoming Future Homes Standard 2025, which central Government has recently consulted on. We have sought to distinguish between the costs that would be incurred in achieving the WMCA standards and those that developers will need to prepare for regardless of the WMCA strategy.
- The approach to meeting the WMCA standard is based on a hypothetical scenario and includes assumptions around changing to a timber panelised approach for the detached and mid terrace properties, potential foundation savings for light structure, and an allowance for changes to mechanical, electrical and plumbing (MEP) solutions.
- The cost impact has been based on assumptions around the likely cost from experience, however, is not measured from a detailed design assessment of a specific scheme.
- A series of assumptions around the likely cost impact of the technical standards are considered. There are clearly a variety of different approaches that could be adopted; therefore, a cost range has been included to accommodate the variation between different schemes in terms of site, context, scale etc.
- The cost assessment is presented on a £/sqft basis. For the flat typology this has been derived from taking a typical 8 storey flat block as a baseline to assist in establishing the impact on the % cost impact of the proposed standard.



Assumptions & Exclusions

Assumptions - Flats	Assumptions – Mid Terrace House
<p>Baseline</p> <ul style="list-style-type: none"> ➤ The baseline schemes include concrete frame construction methodology 	<p>Baseline</p> <ul style="list-style-type: none"> ➤ The baseline schemes assumes brick and block construction methodology
<p>2023 Target</p> <ul style="list-style-type: none"> ➤ Utilisation of low carbon concretes with traditional building techniques ➤ Efficient structural grid systems with basement construction avoided ➤ Lightweight façade materials with composite windows ➤ All electric building service strategy adopting high efficiency heat pump technology. MVHR's considered in the baseline therefore not an additional cost 	<p>2023 Target</p> <ul style="list-style-type: none"> ➤ Utilisation of low carbon concrete with traditional building techniques ➤ Efficient structural grid systems with basement construction avoided ➤ Lightweight façade materials with composite windows ➤ All electric building service strategy adopting high efficiency heat pump technology and use of MVHR's
<p>2025 Target</p> <ul style="list-style-type: none"> ➤ Utilisation of low carbon concretes combined with a lightweight facade ➤ Triple glazing to be adopted as a standard, but with a composite window ➤ MVHR assumed in baseline therefore no additional cost to flat typology ➤ Additional costs associated with MEPH systems including on site renewables 	<p>2025 Target</p> <ul style="list-style-type: none"> ➤ Triple glazing to be adopted as a standard with a composite window ➤ Utilisation of low carbon concretes combined with a lightweight façade - Incorporates MVHR ➤ Allowance for enhancement to the MEPH system including on site renewables
<p>2030 Target</p> <ul style="list-style-type: none"> ➤ Triple glazing to be adopted as a standard ➤ 100% annual energy requirements to be achieved through on-site generation ➤ Assumes construction methodology (ribbed slabs or similar) will offset additional cost through saving on construction loads 	<p>2030 Target</p> <ul style="list-style-type: none"> ➤ Assumes a timber panelised approach or similar offering a lean construction methodology therefore providing foundation savings against a traditional approach ➤ Triple glazing to be adopted as a standard ➤ Allowance for 100% annual energy requirements to be achieved through on-site generation ➤ Incorporates MVHR



Key Cost Drivers – Flats

Baseline	2023 Target	2025 Target	2030 Target
SUBSTRUCTURE			
- Standard building foundations	- Standard building foundations - Use of low-carbon concrete	- Lean foundations with efficient structural grids - Use of low-carbon concrete	- Lean foundations with efficient structural grids - Use of ultra low-carbon concretes
SUPERSTRUCTURE / FRAME			
- Standard concrete frame construction methodology	- Efficient building grid system (<8m spans)	- Utilisation of low-carbon concretes, high-recycled content and/or structural steel	- Lean design grid system (<5-6m grids) - Ribbed slab (in lieu of flat slab)
ENVELOPE			
- Aluminium double-glazed windows	- Composite double-glazed windows - Avoid heavy-weight cladding (pre-cast of aluminium unitised systems)	- Composite triple-glazed windows - Lightweight façade materials (avoid brick/pre-cast)	- Composite triple-glazed windows as standard - Low-carbon rainscreen cladding systems (timber/reclaimed materials)
SERVICES			
- MVHR - ASHP as a standard	- MVHR - ASHP as a standard - Automated lighting control	- MVHR - ASHP as a standard - Automated lighting control - On-site renewables - Primary energy appliances – Only highly efficient appliances and equipment	- MVHR - ASHP as a standard - Automated lighting control - 100% annual energy requirements to be achieved through on-site generation - Primary energy appliances – Only highly efficient appliances and equipment

Legend Items in **red text**: requirements specific to WMCA standard

Items in **black text**: requirements that are likely to be required by the Government Future Homes regulation regardless of WMCA standard



Key Cost Drivers – Mid Terraced House

Baseline	2023 Target	2025 Target	2030 Target
SUBSTRUCTURE			
- Brick and block construction methodology	- Standard building foundations - Use of low-carbon concrete	- Standard building foundations - Use of low-carbon concrete	- Standard building foundations - Use of ultra low-carbon concrete - Lean construction methodology leading to foundation savings (in lieu of traditional approach)
SUPERSTRUCTURE / FRAME			
- Brick and block construction methodology		- Lightweight facade - Utilisation of low-carbon concretes	- Lean construction methodology - Timber panelised approach
ENVELOPE			
- Aluminium double-glazed windows - Brick and block construction methodology	- Composite double-glazed windows - Avoid heavy-weight cladding (pre-cast of aluminium unitised systems)	- Composite triple-glazed windows - Lightweight façade materials (avoid brick/pre-cast)	- Composite triple-glazed windows as standard - Low-carbon rainscreen cladding systems (timber/reclaimed materials)
SERVICES			
- MVHR and high-efficiency heat pump technology	- MVHR and high-efficiency heat pump technology - All electric service strategy - Automated lighting control	- MVHR and high-efficiency heat pump technology - All electric service strategy - Automated lighting control - Primary energy appliances – Only highly efficient appliances and equipment	- MVHR and high-efficiency heat pump technology - All electric service strategy - Automated lighting control - Primary energy appliances – Only highly efficient appliances and equipment

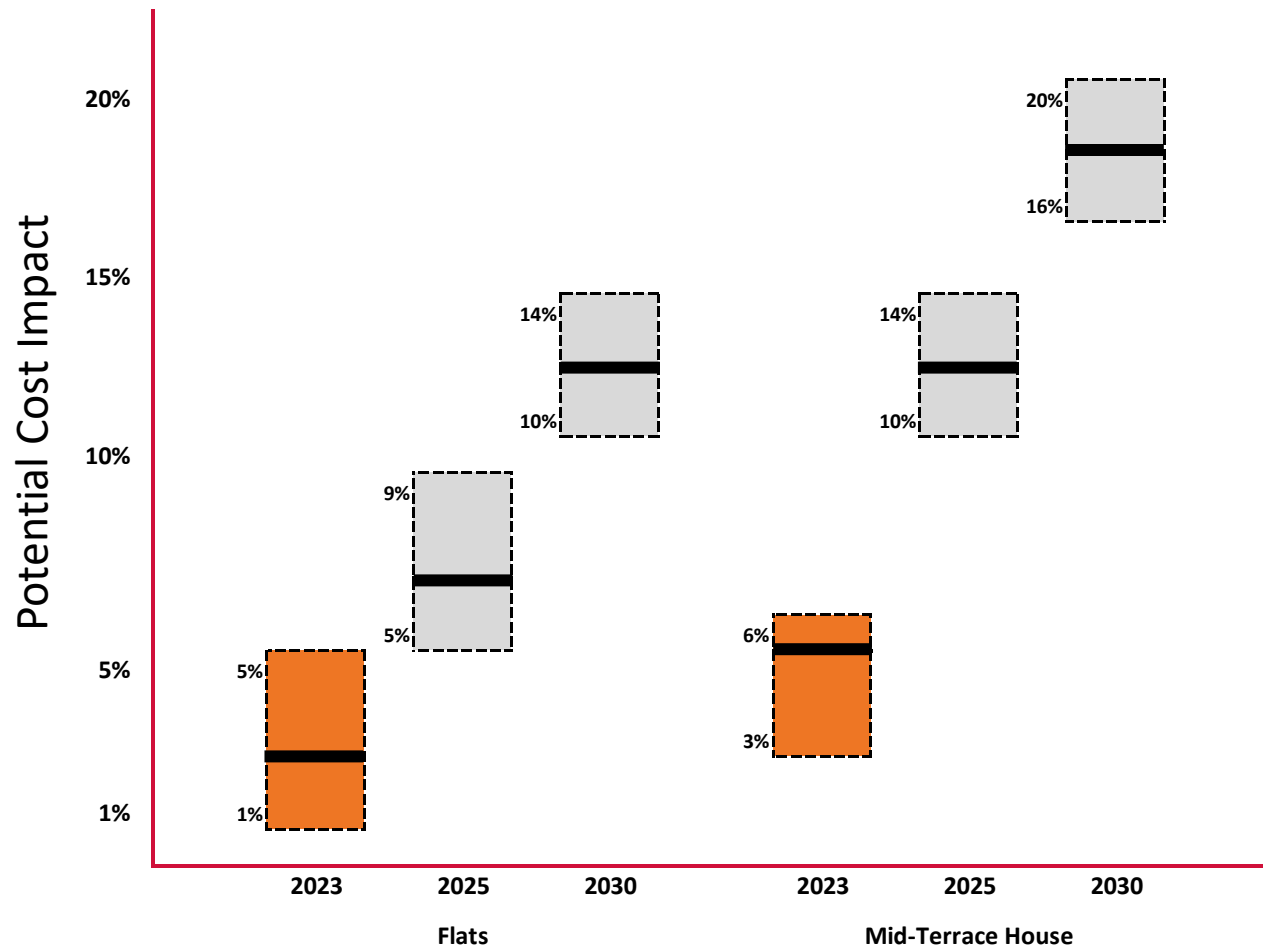
Legend

Items in **red text**: requirements specific to WMCA standard

Items in **black text**: requirements that are likely to be required by the Government Future Homes regulation regardless of WMCA standard



Emerging Findings



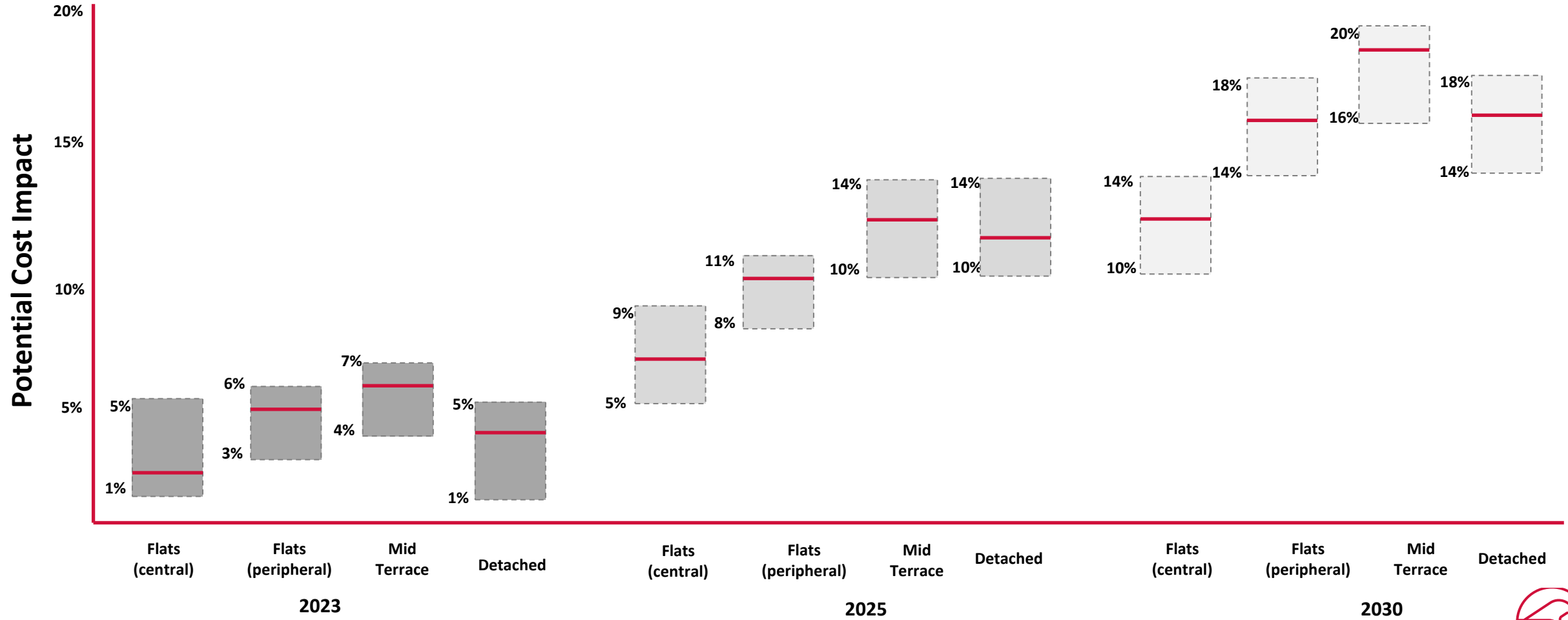
OBSERVATIONS

- The figures for 2023 are closest to current prices, involve the smallest change in construction technology.
- For every stage and for both typologies we show both the outcome of our hypothetical analysis and a wider estimated range. For instance, for 2023 in relation to flats, our cost estimating on the hypothetical development showed a 2% increase over the baseline. We show this with a line:
- In addition, we show an estimated range around that fixed point to reflect that the cost impact will vary based on local conditions. In the case of flats in 2023, we show that range as 1%-6%, based on professional judgment. These ranges are shown by the boxes marked by dotted lines.
- There are sensitivities in the way changes to technologies impact by typology where increased expenditure is either shared between multiple units (in flatted blocks) as opposed to single units (houses).
- This shows the importance of site-wide design & sustainability/ energy planning on lower rise developments – modelling of these costs will naturally improve based on actual site cost data.

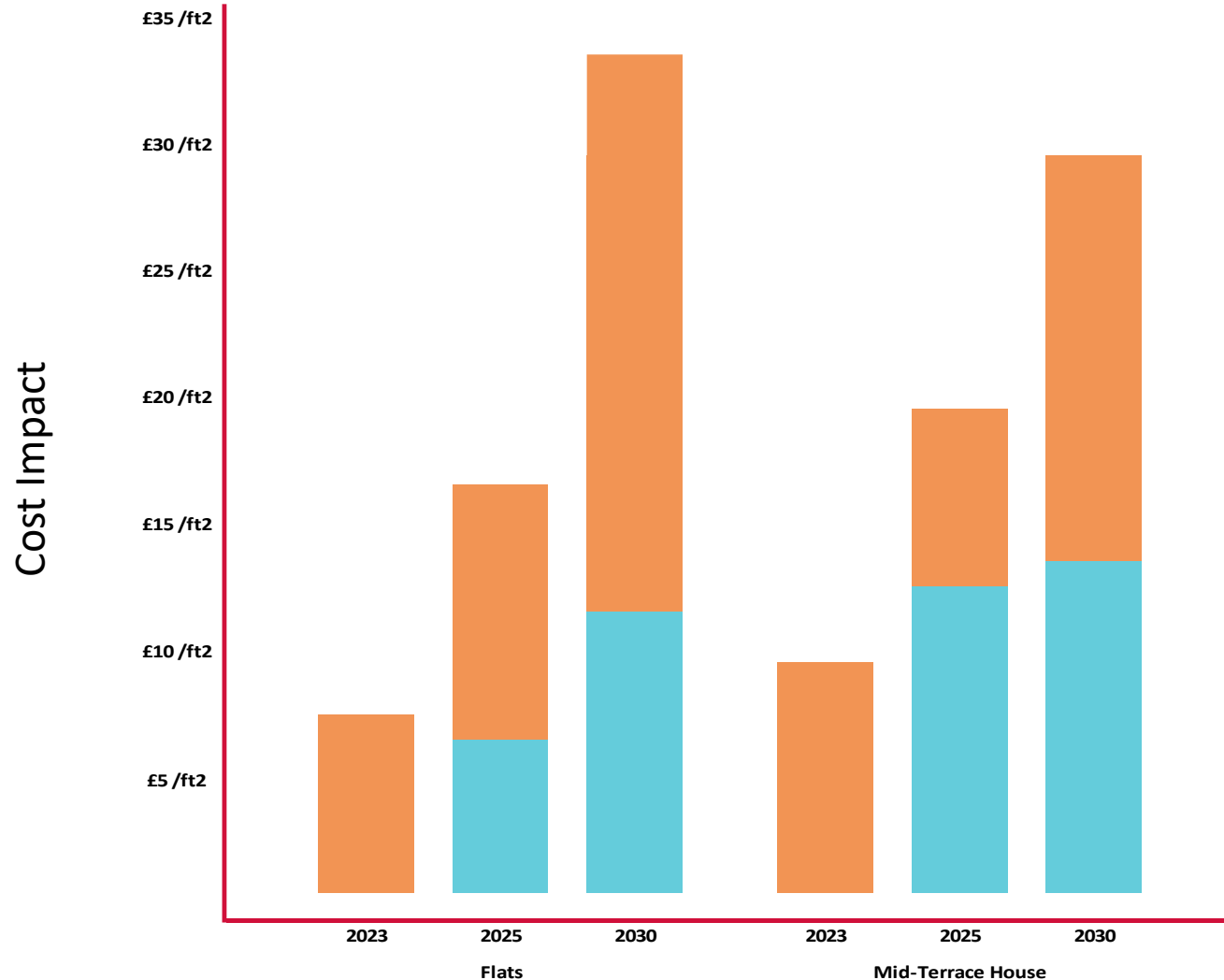
NOTE:

The draft technical standard also includes a “Statutory Plus” specification. This is intended to allow developers to move towards the new standards, where it is not possible or viable to implement the 2023 standard. In this situation developers should commission a whole life carbon assessment which will identify the sustainability performance of the development, showing areas where performance might be improved in future. Developers should also measure the PMV of their development and test options for improving it. Our assessment is that this will introduce an additional cost of approximately £10,000 per development.

All typologies compared



Emerging Findings – WMCA vs Future Homes



KEY

West Midlands Targets



Government Future Homes Standard



OBSERVATIONS

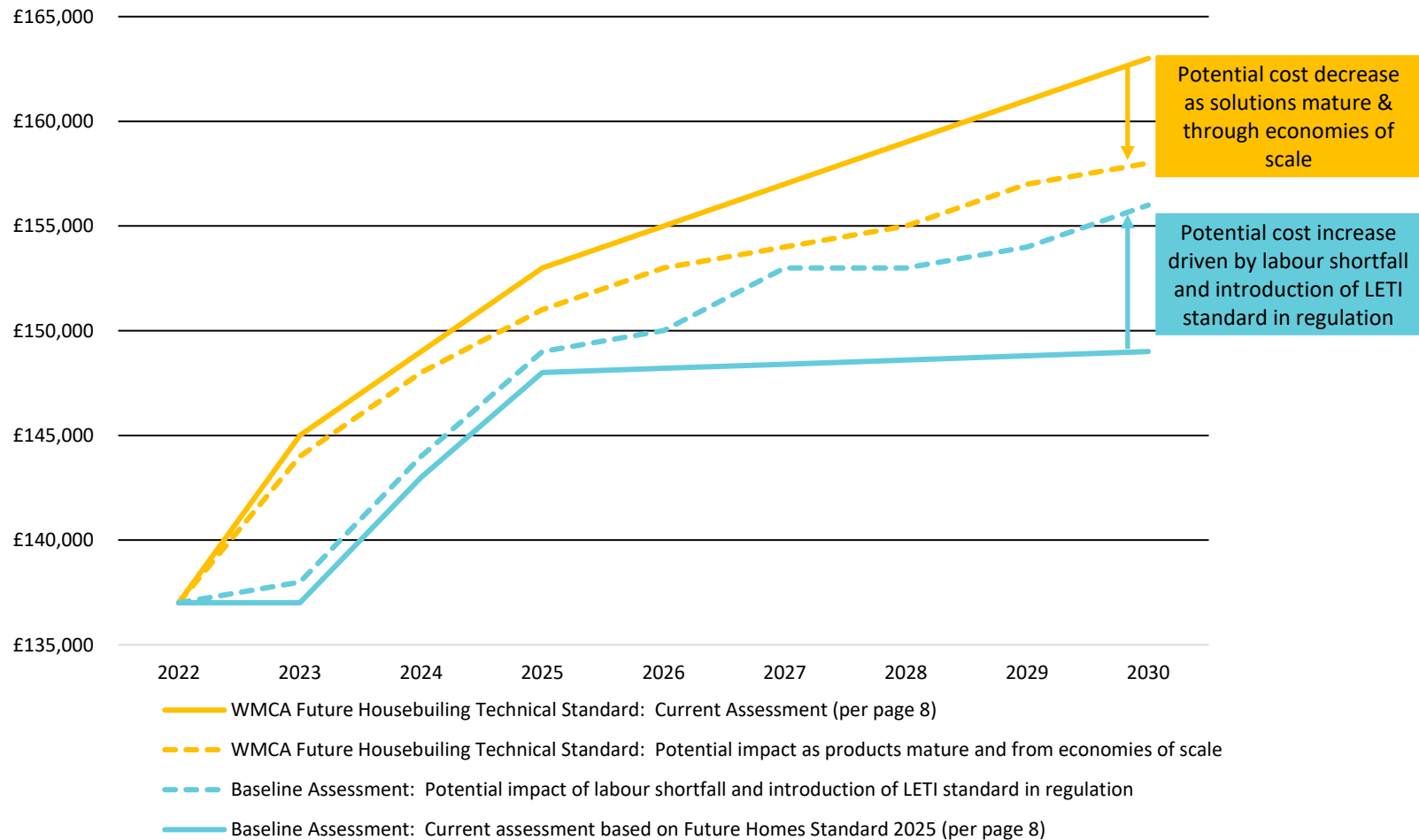
- Costs shown have been compared against the Government Future Homes Contender Specification CS3.
- Cost uplift shown are based on the uplift from the current day benchmark at each stage (2023, 2025 and 2030).
- The Government Future Homes Strategy picks out the elements of the overall cost increase that would have been required anyway as a result of the Government Future Homes Standard 2025.

NOTE:

The draft technical standard also includes a “Statutory Plus” specification. This is intended to allow developers to move towards the new standards, where it is not possible or viable to implement the 2023 standard. In this situation developers should commission a whole life carbon assessment which will identify the sustainability performance of the development, showing areas where performance might be improved in future. Developers should also measure the PMV of their development and test options for improving it. Our assessment is that this will introduce an additional cost of approximately £10,000 per development.

Emerging Findings – Likely future market scenarios (houses)

Projected cost movement for houses incorporating WMCA Standard and Baseline models

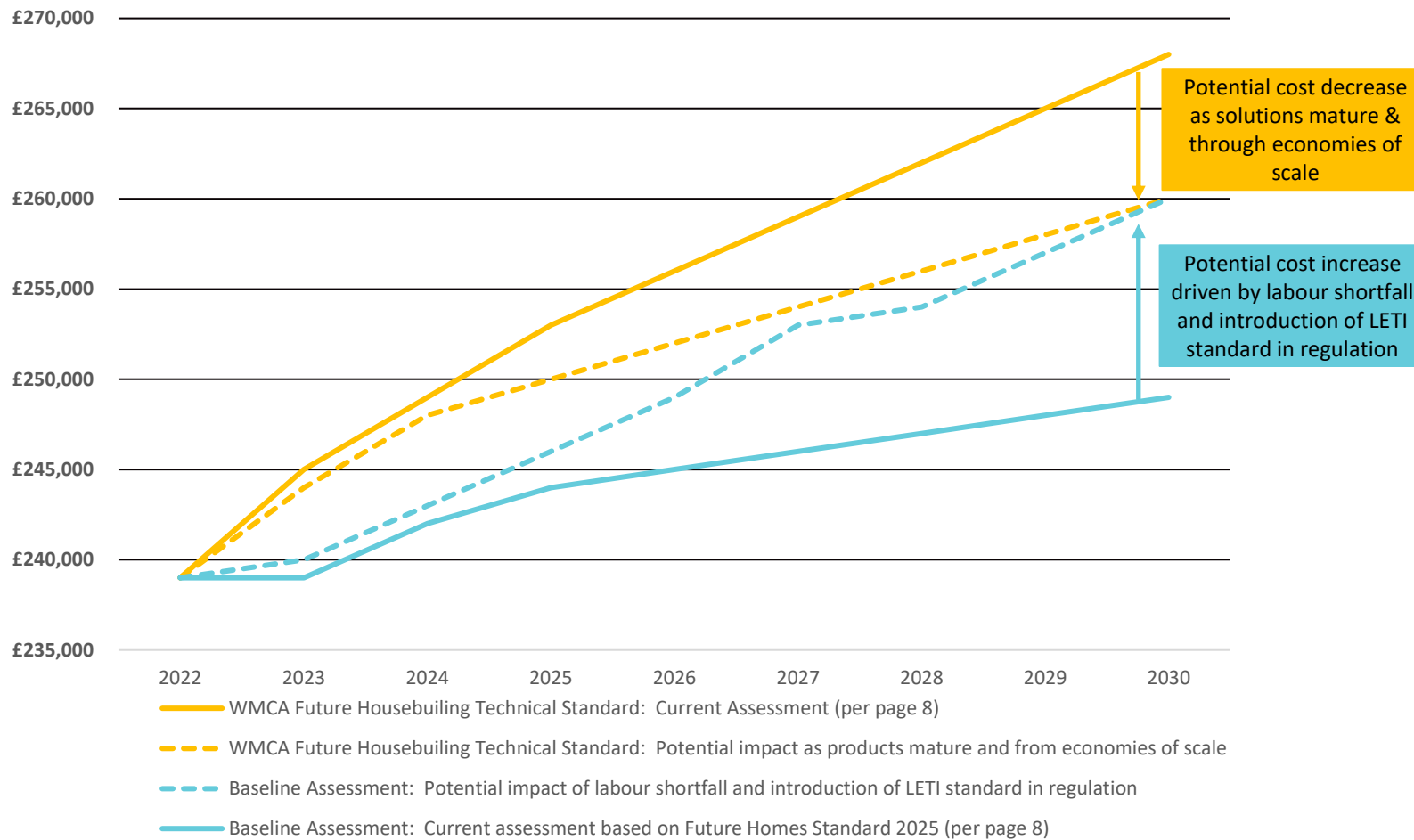


OBSERVATIONS

- In this analysis we model two scenarios against the base assessment we have shown on pages 7 & 8.
- The chart shows the base case as a per unit cost, which we have based on West Midlands benchmarks (£137,000 for a terraced house in 2022).
- First we show the progressive cost increase we have estimated on pages 7 & 8 over time. The thick orange line shows the cost estimated for the WMCA standard and the thick blue line shows the cost estimated for the baseline i.e. Futures Homes 2025. Both are based on today's prices and market conditions.
- The chart then shows realistic potential scenarios of how market conditions may change over time.
- The dotted yellow line shows the potential impact of a maturing supply chain, more efficient production and economies of scale which would be driven into the market by the WMCA standard. The scenario assumes a 3% annual efficiency against today's prices.
- The dotted blue line shows the potential cost impact of (1) known and systemic shortfalls in total construction labour availability and of key professional trades as well as (2) the cost impact that would follow the Government regulating embodied carbon in 2027. Here we assume a 3% annual cost increase driven by labour shortfalls for and the introduction of a standard similar to LETI into legislation.
- In these scenarios the total cost impact of the WMCA standard in 2030 falls from £14,000 based on today's prices to £2,000 per unit (see over for further commentary).

Emerging Findings – Potential future scenarios (apartments)

Projected cost movement for apartments incorporating WMCA Standard and Baseline models



OBSERVATIONS

- This analysis mirrors that on the previous page, this time showing the scenarios for an apartment rather than a house.
- Here our base case is £239,000 per apartment based on 2022 prices, and the thick and dotted lines show the same scenarios as the previous page.
- In these scenarios the total cost impact of the WMCA standard falls from £17,000 to zero.

CONCLUSIONS

- While pages 7&8 show the estimated impact of the WMCA in today's prices, the aim of the analysis we have shown on pages 9&10 is to demonstrate the impact of known and likely market changes.
- Construction labour shortfalls are very likely to increase the baseline cost of construction whereas the WMCA approach which incentivises a shift to different construction approaches, using MMC, a different workforce model and less site labour reliance will be less affected by this trend.
- Meanwhile it is reasonable to assume that with sufficient lead time the supply chain will adjust and become more efficient. By moving ahead of regulation, WMCA will stimulate the market to evolve sooner.
- Finally, it is highly likely that regulation will continue to get stronger and will mirror the approach WMCA is taking now by introducing embodied carbon reduction targets.
- In these realistic future scenarios the cost implication of the WMCA standard reduces to between £0 and £2,000 per new home. WMCA would also signal change sooner to the supply chain, giving regional suppliers an early mover advantage in preparing for future national change.

Further Work Required & Next Steps

Our analysis combines a detailed cost benchmarking based on a hypothetical building, with a subjective view on the potential cost movement on key solutions over time. As such we welcome any feedback, comments & suggestions on key factors such as:

- We make a general assumption, given the increased adoption of battery storage technology, that over time this will lead to reduced costs of production, as we have seen recently with solar panel technology
- Similarly, we have included an allowance for natural insulation, and it is likely that the supply/demand requirements should improve the availability and decrease cost
- We assume an increasing element of MMC solutions to meet the requirements over time. These are costed to current prices but again would expect to see efficiencies emerge as output scales.
- The costing analysis operates on a per unit basis, however the scale of development may impact this considerably both through economies of scale/supply chain accessibility which will improve for larger compared to smaller, and also as the cost of fixed plant, MEP etc will be diluted across more properties on larger developments.

Our analysis is intended to provide a guide to aid policy development. The WMCA strategy includes provision for data capture as projects are funded and progress, and this will enable live and real cost data to be captured as the strategy is implemented to evolve these initial forecasts.



Appendix - Summary Cost Table

SCOPE - Flats	Elemental Description	Baseline - West Midlands Flat (8 Storey Block)	2023			2025			2030		
			Excl.			Excl.			Excl.		
	Facilitating Works	Excl.	Excl.			Excl.			Excl.		
	Substructure Works	£8 ft2	£8 ft2	£ ft2	0%	£10 ft2	£2 ft2	1%	£10 ft2	£2 ft2	1%
	Superstructure Works	£95 ft2	£96 ft2	£1 ft2	0%	£102 ft2	£7 ft2	2%	£109 ft2	£14 ft2	5%
	Internal Finishes	£41 ft2	£41 ft2	£ ft2	0%	£42 ft2	£1 ft2	0%	£42 ft2	£1 ft2	0%
	Fixtures and Finishes	£18 ft2	£18 ft2	£ ft2	0%	£18 ft2	£ ft2	0%	£18 ft2	£ ft2	0%
	Services	£55 ft2	£59 ft2	£4 ft2	2%	£60 ft2	£5 ft2	2%	£61 ft2	£6 ft2	2%
	External Works	£4 ft2	£4 ft2	£ ft2	0%	£5 ft2	£1 ft2	0%	£12 ft2	£8 ft2	3%
	On Costs	£53 ft2	£55 ft2	£2 ft2	1%	£55 ft2	£2 ft2	1%	£56 ft2	£3 ft2	1%
	TOTAL	£274 ft2	£281 ft2	£7 ft2		£291 ft2	£17 ft2		£307 ft2	£33 ft2	
				2%			6%			12%	
	% Uplift		1% to 5%			5% to 9%			10% to 14%		

SCOPE - Mid-Terrace House	Elemental Description	Baseline - West Midlands Mid Terrace House	2023			2025			2030		
			Excl.			Excl.			Excl.		
	Facilitating Works	Excl.	Excl.			Excl.			Excl.		
	Substructure Works	£12 ft2	£13 ft2	£1 ft2	1%	£11 ft2	£-1 ft2	-1%	£11 ft2	£-1 ft2	-1%
	Superstructure Works	£59 ft2	£59 ft2	£ ft2	0%	£63 ft2	£3 ft2	2%	£67 ft2	£7 ft2	5%
	Internal Finishes	£18 ft2	£18 ft2	£ ft2	0%	£19 ft2	£1 ft2	0%	£19 ft2	£1 ft2	1%
	Fixtures and Finishes	£13 ft2	£13 ft2	£ ft2	0%	£13 ft2	£ ft2	0%	£13 ft2	£ ft2	0%
	Services	£17 ft2	£24 ft2	£7 ft2	5%	£26 ft2	£9 ft2	6%	£26 ft2	£9 ft2	6%
	External Works	£ ft2	£ ft2	£ ft2	0%	£3 ft2	£3 ft2	2%	£8 ft2	£8 ft2	5%
	On Costs	£30 ft2	£31 ft2	£1 ft2	1%	£33 ft2	£3 ft2	2%	£34 ft2	£4 ft2	3%
	TOTAL	£149 ft2	£158 ft2	£9 ft2		£166 ft2	£18 ft2		£177 ft2	£28 ft2	
				6%			12%			19%	
	% Uplift		4% to 7%			10% to 14%			16% to 20%		

Note: the percentage increases for each element may not add up to the total percentage increase due to rounding.

- The flat typology presents a lower % uplift in all three scenarios. This is driven out of the superstructure including façade changes to meet the Technical Standard representing a proportionally smaller cost element of the overall construction cost i.e. the wall to floor ratio is less therefore the cost impact of superstructure enhancement is lower.
- The baseline flat cost also assumes mechanical ventilation and heat recovery (MHVR) is 'standard'
- Battery storage where accommodated as a site wide proposal (2025 standard) assumes efficiency of scale in a flat scenario however in a mid terrace approach it is assumed the connection strategy would not offer the same efficiency



Appendix - Summary Cost Table – WMCA vs Future Homes

Elemental Description	2023			2025			2030					
	Excl.	Total	FHS	WMCA	Excl.	Total	FHS	WMCA	Excl.	Total	FHS	WMCA
Facilitating Works	Excl.				Excl.				Excl.			
Substructure Works	£8 ft2	£ ft2	£ ft2	£ ft2	£10 ft2	£2 ft2	£ ft2	£2 ft2	£10 ft2	£2 ft2	£ ft2	£2 ft2
Superstructure Works	£96 ft2	£1 ft2	£ ft2	£1 ft2	£102 ft2	£7 ft2	£4 ft2	£2 ft2	£109 ft2	£14 ft2	£7 ft2	£6 ft2
Internal Finishes	£41 ft2	£ ft2	£ ft2	£ ft2	£42 ft2	£1 ft2	£1 ft2	£ ft2	£42 ft2	£1 ft2	£1 ft2	£ ft2
Fixtures and Finishes	£18 ft2	£ ft2	£ ft2	£ ft2	£18 ft2	£ ft2	£ ft2	£ ft2	£18 ft2	£ ft2	£ ft2	£ ft2
Services	£59 ft2	£4 ft2	£ ft2	£4 ft2	£60 ft2	£5 ft2	£1 ft2	£5 ft2	£61 ft2	£6 ft2	£1 ft2	£5 ft2
External Works	£4 ft2	£ ft2	£ ft2	£ ft2	£5 ft2	£1 ft2	£1 ft2	£ ft2	£12 ft2	£8 ft2	£3 ft2	£6 ft2
On Costs	£55 ft2	£2 ft2	£ ft2	£2 ft2	£55 ft2	£2 ft2	£ ft2	£2 ft2	£56 ft2	£3 ft2	£ ft2	£3 ft2
TOTAL	£281 ft2	£7 ft2	£ ft2	£7 ft2	£291 ft2	£17 ft2	£6 ft2	£10 ft2	£307 ft2	£33 ft2	£11 ft2	£22 ft2
% Uplift	1% to 5%	2%			5% to 9%	6%			10% to 14%	12%		

- Costs shown above have been compared against the Future Homes Contender Specification CS3.
- Cost uplift shown above is based on the uplift from the current day benchmark at each stage (2023, 2025 and 2030).
- No cost uplift to Future Homes Standard (FHS) in 2023 as this only comes into effect in 2025.
- No uplift to on-costs have been apportioned to Future Homes as it is believed that the Future Homes regulation does not ask for any additional reporting/testing etc than what is currently being requested at benchmark.

Flats



Appendix - Summary Cost Table – WMCA vs Future Homes

MID-TERRACE HOUSE	Elemental Description	2023			2025			2030					
		Excl.	Total	FHS	WMCA	Excl.	Total	FHS	WMCA	Excl.	Total	FHS	WMCA
	Facilitating Works	Excl.				Excl.				Excl.			
	Substructure Works	£13 ft2	£1 ft2	£ ft2	£1 ft2	£11 ft2	-£1 ft2	£ ft2	-£1 ft2	£11 ft2	-£1 ft2	£ ft2	-£1 ft2
	Superstructure Works	£59 ft2	£ ft2	£ ft2	£ ft2	£63 ft2	£3 ft2	£3 ft2	£ ft2	£67 ft2	£7 ft2	£6 ft2	£2 ft2
	Internal Finishes	£18 ft2	£ ft2	£ ft2	£ ft2	£19 ft2	£1 ft2	£1 ft2	£ ft2	£19 ft2	£1 ft2	£1 ft2	£ ft2
	Fixtures and Finishes	£13 ft2	£ ft2	£ ft2	£ ft2	£13 ft2	£ ft2	£ ft2	£ ft2	£13 ft2	£ ft2	£ ft2	£ ft2
	Services	£24 ft2	£7 ft2	£ ft2	£7 ft2	£26 ft2	£9 ft2	£4 ft2	£5 ft2	£26 ft2	£9 ft2	£4 ft2	£5 ft2
	External Works	£ ft2	£ ft2	£ ft2	£ ft2	£3 ft2	£3 ft2	£3 ft2	£3 ft2	£8 ft2	£8 ft2	£3 ft2	£6 ft2
	On Costs	£31 ft2	£1 ft2	£ ft2	£1 ft2	£33 ft2	£3 ft2	£ ft2	£3 ft2	£34 ft2	£4 ft2	£ ft2	£4 ft2
	TOTAL	£158 ft2	£9 ft2	£ ft2	£9 ft2	£166 ft2	£18 ft2	£11 ft2	£7 ft2	£177 ft2	£28 ft2	£13 ft2	£15 ft2
	% Uplift	4% to 7%	6%			10% to 14%	12%			16% to 20%	19%		

- Costs shown above have been compared against the Future Homes Contender Specification CS3.
- Cost uplift shown above is based on the uplift from the current day benchmark at each stage (2023, 2025 and 2030).
- No cost uplift to Future Homes Standard (FHS) in 2023 as this only comes into effect in 2025.
- No uplift to on-costs have been apportioned to Future Homes as it is believed that the Future Homes regulation does not ask for any additional reporting/testing etc than what is currently being requested at benchmark.

Mid-Terrace Houses



Appendix – Detached House – Summary Cost Tables

SCOPE - Detached House	Elemental Description	Baseline	2023		2025			2030			
	Facilitating Works	Excl.	Excl.		Excl.			Excl.			
	Substructure Works	£11 ft2	£12 ft2	£1 ft2	1%	£12 ft2	£1 ft2	1%	£12 ft2	£1 ft2	1%
	Superstructure Works	£63 ft2	£63 ft2	£ ft2	0%	£66 ft2	£3 ft2	2%	£67 ft2	£4 ft2	3%
	Internal Finishes	£14 ft2	£14 ft2	£ ft2	0%	£15 ft2	£1 ft2	0%	£15 ft2	£1 ft2	1%
	Fixtures and Finishes	£8 ft2	£8 ft2	£ ft2	0%	£8 ft2	£ ft2	0%	£8 ft2	£ ft2	0%
	Services	£16 ft2	£20 ft2	£4 ft2	3%	£22 ft2	£6 ft2	4%	£22 ft2	£6 ft2	4%
	External Works	£1 ft2	£1 ft2	£ ft2	0%	£4 ft2	£3 ft2	2%	£9 ft2	£8 ft2	6%
	On Costs	£28 ft2	£29 ft2	£1 ft2	1%	£31 ft2	£3 ft2	2%	£32 ft2	£4 ft2	3%
	TOTAL	£141 ft2	£147 ft2	£6 ft2		£157 ft2	£16 ft2		£165 ft2	£24 ft2	
				4%			11%			17%	
	% Uplift			1% to 5%			10% to 14%			14% to 18%	

DETACHED HOUSE	Elemental Description	2023			2025			2030		
		Total	FHS	WMCA	Total	FHS	WMCA	Total	FHS	WMCA
	Facilitating Works	Excl.			Excl.			Excl.		
	Substructure Works	£12 ft2	£1 ft2	£ ft2	£12 ft2	£1 ft2	£ ft2	£12 ft2	£1 ft2	£ ft2
	Superstructure Works	£63 ft2	£ ft2	£ ft2	£66 ft2	£3 ft2	£2 ft2	£67 ft2	£4 ft2	£2 ft2
	Internal Finishes	£14 ft2	£ ft2	£ ft2	£15 ft2	£1 ft2	£ ft2	£15 ft2	£1 ft2	£ ft2
	Fixtures and Finishes	£8 ft2	£ ft2	£ ft2	£8 ft2	£ ft2	£ ft2	£8 ft2	£ ft2	£ ft2
	Services	£20 ft2	£4 ft2	£ ft2	£22 ft2	£6 ft2	£ ft2	£22 ft2	£6 ft2	£ ft2
	External Works	£1 ft2	£ ft2	£ ft2	£4 ft2	£3 ft2	£3 ft2	£9 ft2	£8 ft2	£ ft2
	On Costs	£29 ft2	£1 ft2	£ ft2	£31 ft2	£3 ft2	£ ft2	£32 ft2	£4 ft2	£ ft2
	TOTAL	£147 ft2	£6 ft2	£ ft2	£157 ft2	£16 ft2	£5 ft2	£165 ft2	£24 ft2	£2 ft2
			4%			11%			17%	
	% Uplift	1% to 5%			10% to 14%			14% to 18%		

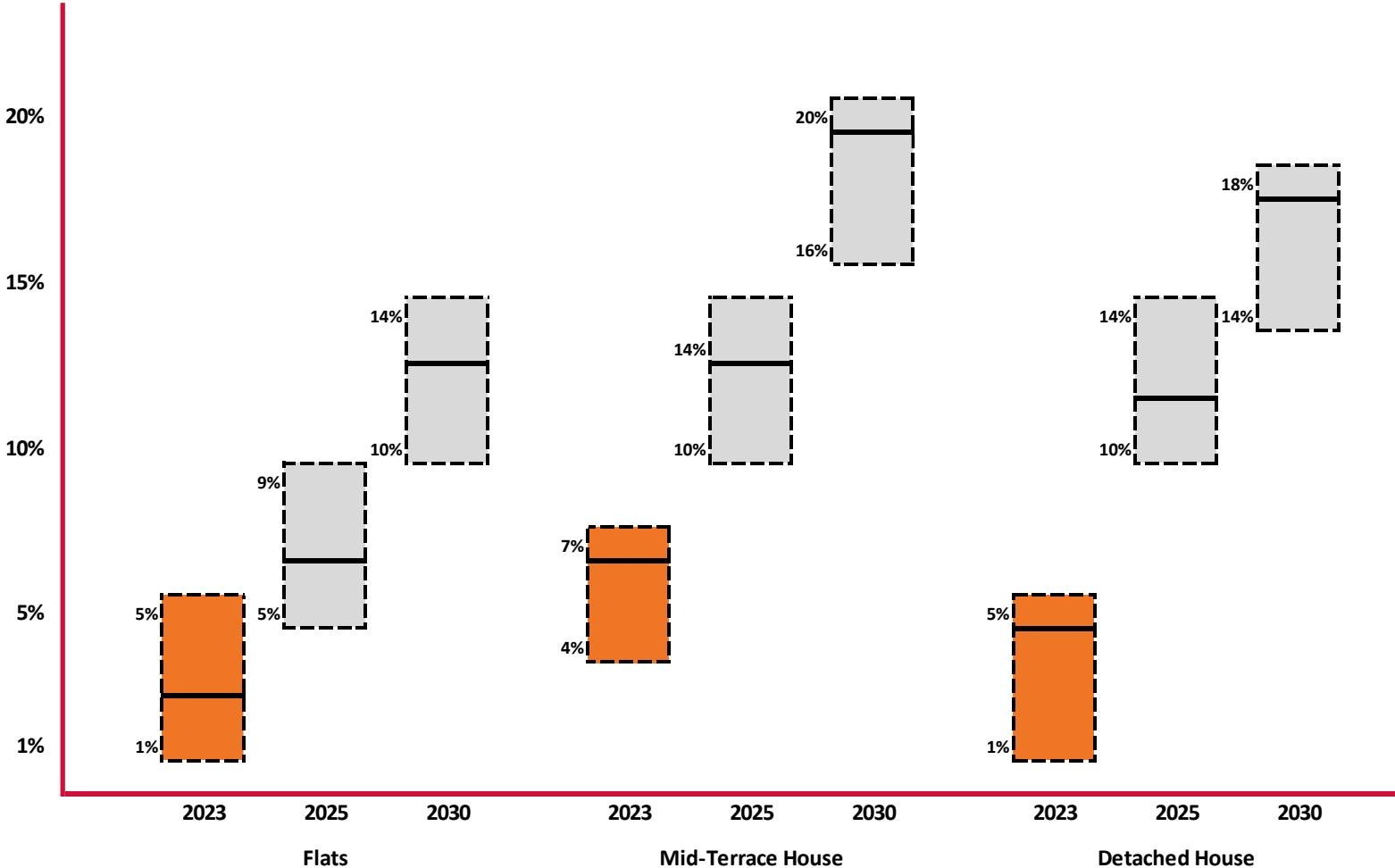
Detached House

Following dialogue with the H&L Delivery Board we have developed an additional analysis, using a detached typology which we show here. This is in addition to the semi-detached typology that was previously calculated.



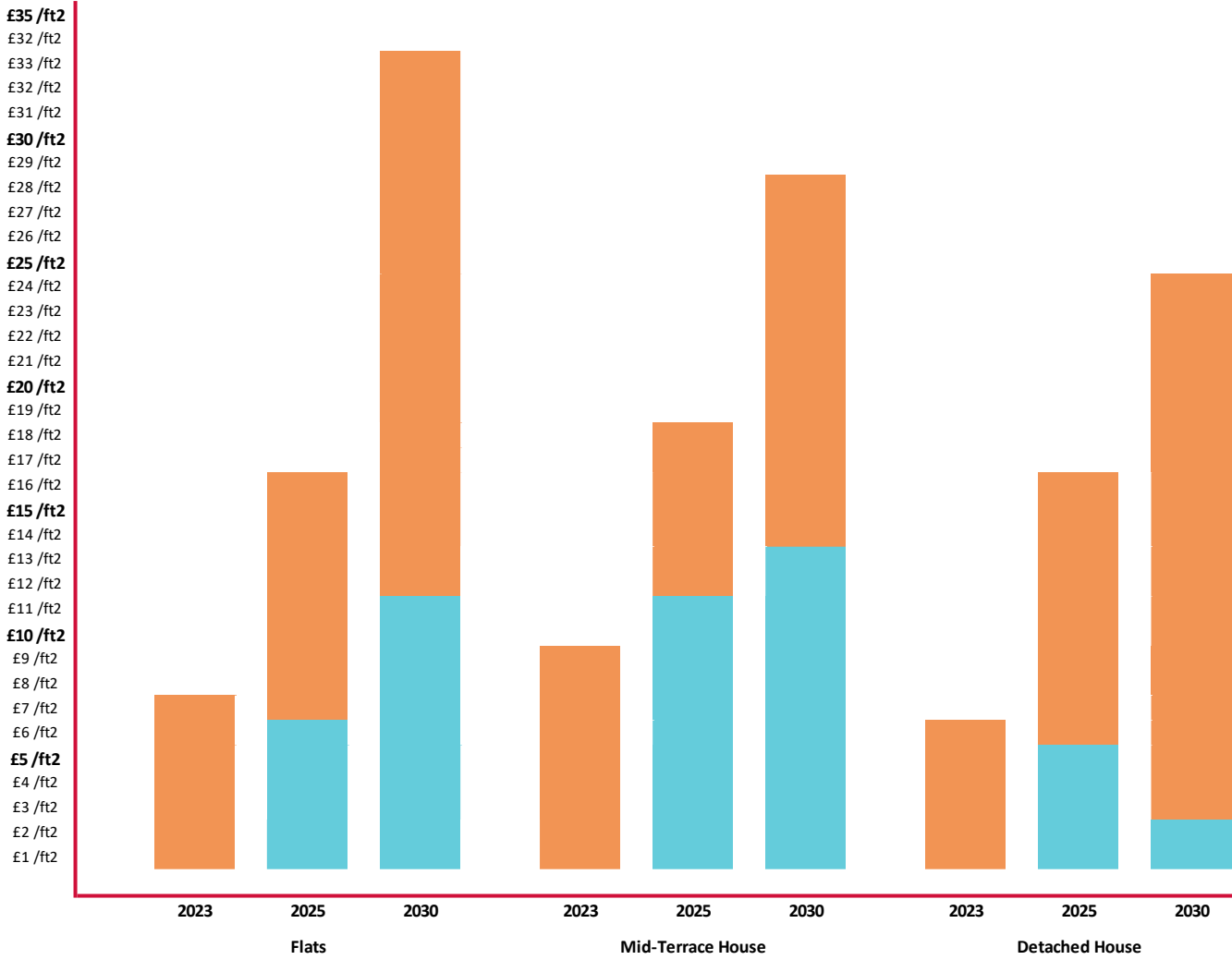
Appendix – Detached House – WMCA vs Future Homes

Detached House



Appendix – Detached House – WMCA vs Future Homes

Detached House



Appendix – Revised Flats – Summary Cost Tables

SCOPE - Flats Revised	Elemental Description	Baseline - West Bromwich Flat (4 Storey Block)	2023			2025			2030		
			Excl.	£ ft2	0%	Excl.	£ ft2	1%	Excl.	£ ft2	1%
	Facilitating Works	Excl.	Excl.			Excl.			Excl.		
	Substructure Works	£16 ft2	£16 ft2	£ ft2	0%	£18 ft2	£2 ft2	1%	£18 ft2	£2 ft2	1%
	Superstructure Works	£62 ft2	£63 ft2	£1 ft2	0%	£67 ft2	£5 ft2	3%	£71 ft2	£9 ft2	6%
	Internal Finishes	£24 ft2	£24 ft2	£ ft2	0%	£25 ft2	£1 ft2	0%	£25 ft2	£1 ft2	1%
	Fixtures and Finishes	£12 ft2	£12 ft2	£ ft2	0%	£12 ft2	£ ft2	0%	£12 ft2	£ ft2	0%
	Services	£39 ft2	£45 ft2	£6 ft2	4%	£46 ft2	£7 ft2	5%	£47 ft2	£8 ft2	5%
	External Works	£4 ft2	£4 ft2	£ ft2	0%	£6 ft2	£2 ft2	1%	£11 ft2	£7 ft2	5%
	On Costs	£36 ft2	£38 ft2	£2 ft2	1%	£39 ft2	£3 ft2	2%	£40 ft2	£4 ft2	2%
	TOTAL	£194 ft2	£202 ft2	£8 ft2		£213 ft2	£19 ft2		£224 ft2	£30 ft2	
				4%			10%			16%	
	% Uplift		3% to 6%			8% to 11%			14% to 18%		

FLATS REVISED	Elemental Description	2023			2025			2030					
		Excl.	Total	FHS	WMCA	Excl.	Total	FHS	WMCA	Excl.	Total	FHS	WMCA
	Facilitating Works	Excl.				Excl.				Excl.			
	Substructure Works	£16 ft2	£ ft2	£ ft2	£ ft2	£18 ft2	£2 ft2	£ ft2	£2 ft2	£18 ft2	£2 ft2	£ ft2	£2 ft2
	Superstructure Works	£63 ft2	£1 ft2	£ ft2	£1 ft2	£67 ft2	£5 ft2	£3 ft2	£2 ft2	£71 ft2	£9 ft2	£4 ft2	£5 ft2
	Internal Finishes	£24 ft2	£ ft2	£ ft2	£ ft2	£25 ft2	£1 ft2	£1 ft2	£ ft2	£25 ft2	£1 ft2	£1 ft2	£ ft2
	Fixtures and Finishes	£12 ft2	£ ft2	£ ft2	£ ft2	£12 ft2	£ ft2	£ ft2	£ ft2	£12 ft2	£ ft2	£ ft2	£ ft2
	Services	£45 ft2	£6 ft2	£ ft2	£6 ft2	£46 ft2	£7 ft2	£1 ft2	£7 ft2	£47 ft2	£8 ft2	£1 ft2	£7 ft2
	External Works	£4 ft2	£ ft2	£ ft2	£ ft2	£6 ft2	£2 ft2	£2 ft2	£ ft2	£11 ft2	£7 ft2	£ ft2	£7 ft2
	On Costs	£38 ft2	£2 ft2	£ ft2	£2 ft2	£39 ft2	£3 ft2	£ ft2	£3 ft2	£40 ft2	£4 ft2	£ ft2	£4 ft2
	TOTAL	£202 ft2	£8 ft2	£ ft2	£8 ft2	£213 ft2	£19 ft2	£6 ft2	£14 ft2	£224 ft2	£30 ft2	£5 ft2	£25 ft2
			4%				10%				16%		
	% Uplift	3% to 6%				8% to 11%				14 to 18%			

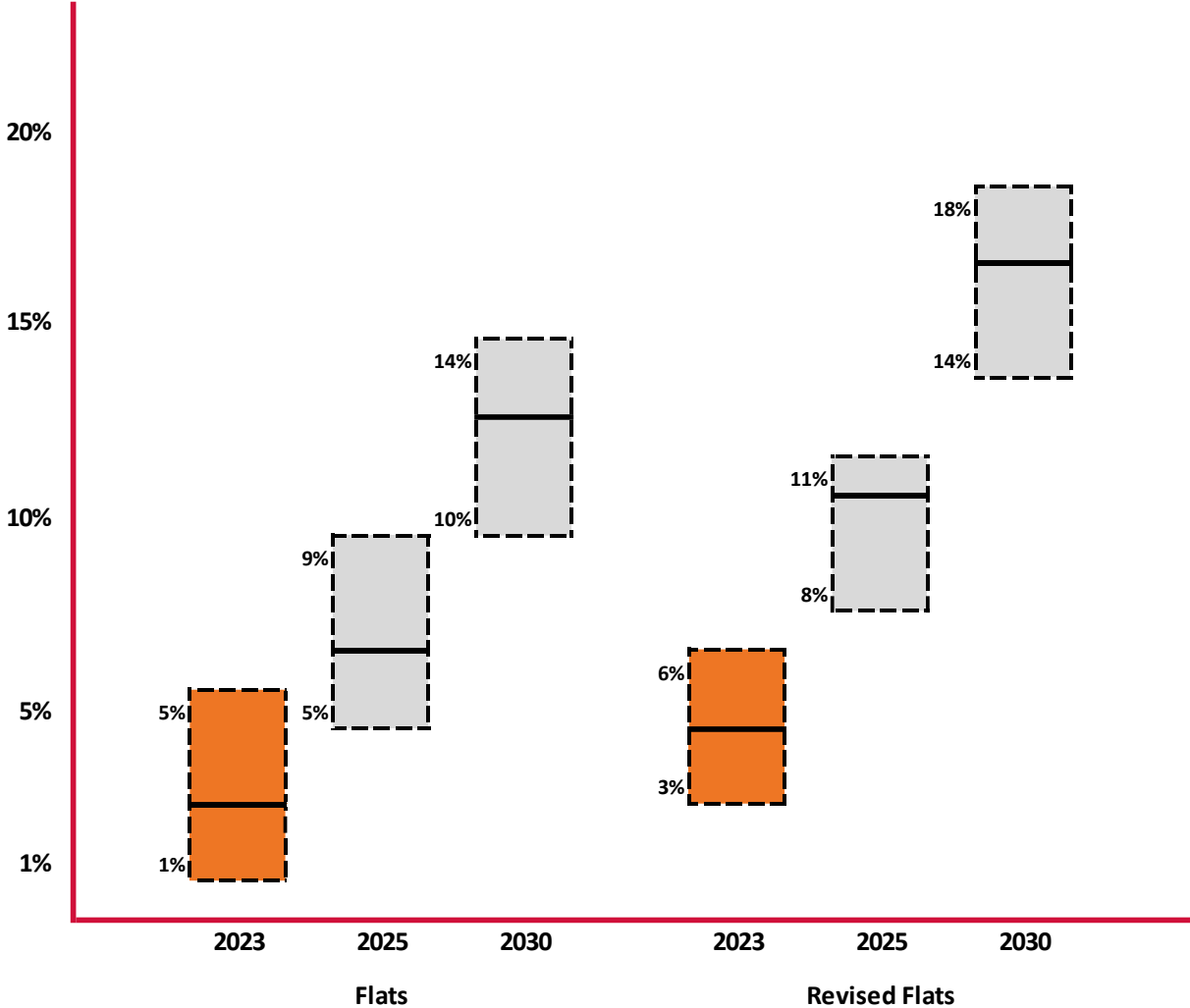
Revised Flats

Following dialogue with the H&L Delivery Board we have developed a secondary analysis of flats (referred to as “periphery” in the main body of this paper). This analysis uses a smaller and less valuable apartment block as its base, with assumed figures used based on a –theoretical development.



Appendix – Revised Flats – WMCA vs Future Homes

Revised Flats



Appendix – Revised Flats – WMCA vs Future Homes

Revised Flats

