

# Environmental quality & real estate valuation

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ALDREN Final Conference

29th September 2020

Confidential



# Environmental quality & real estate valuation

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- Cushman & Wakefield : Company Presentation
- Environmental performance and current real estate market practices
- Environmental data & real estate valuation : C&W innovative approaches
- ALDREN case study

# Cushman & Wakefield : Company Presentation

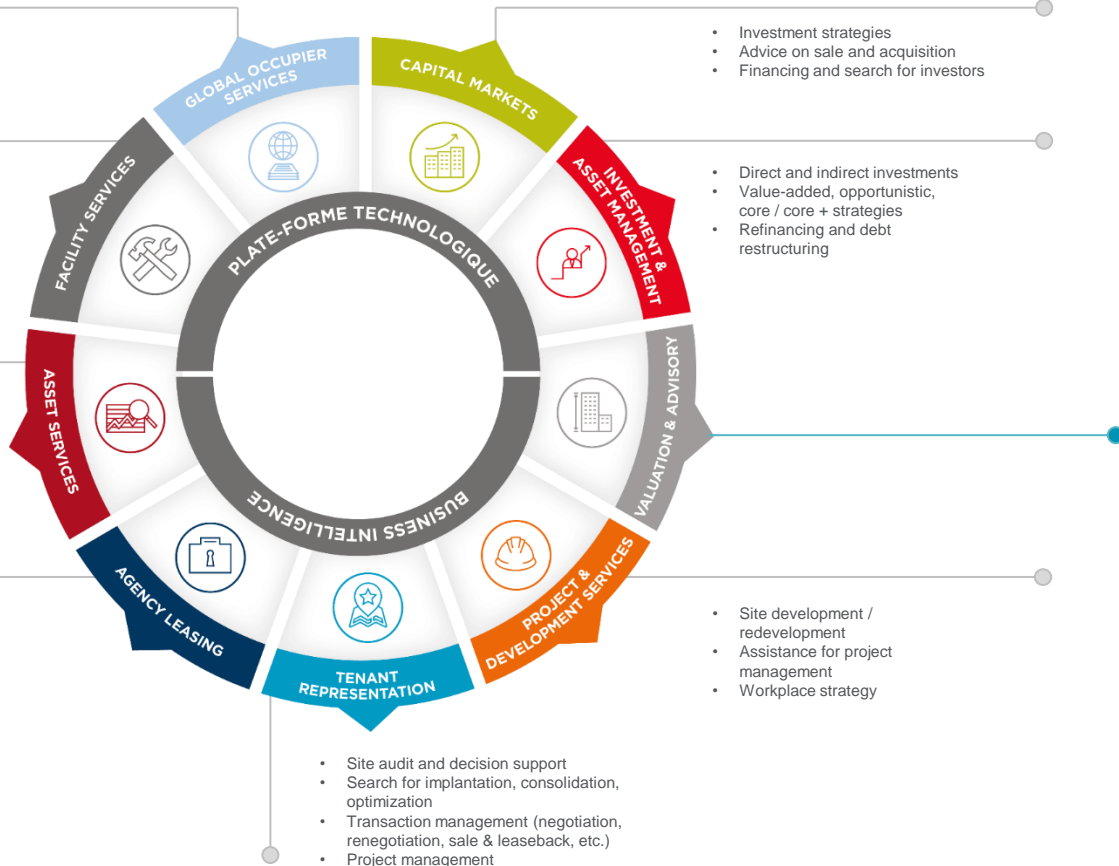
CUSHMAN & WAKEFIELD IS A LEADING GLOBAL REAL ESTATE SERVICES FIRM THAT HELPS CLIENTS TRANSFORM THE WAY PEOPLE WORK, SHOP AND LIVE.



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RESIDENTIAL
RETAIL
TECHNOLOGY

# Cushman & Wakefield : Company Presentation



## Valuation & Advisory



**Jean-Philippe CARMARANS**  
Head of EMEA Valuation



**80** Valuers



**+336 Mds €**  
Valuations in 2019



**20 000**  
Valuations in 2019



**N°1** in France

# Environmental performance and market practices

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- Climate risks are currently little or not integrated into real estate transactions.
- The difficulty of integrating these risks lies in the lack of data enabling them to be quantified (little technical analysis and energy balances, etc.)
- However, large listed real estate companies are starting to integrate environmental data to better prepare their future strategies. This trend may well strengthen in the future.

# Environmental data & real estate valuation

## C&W innovative approaches



### Risk analysis



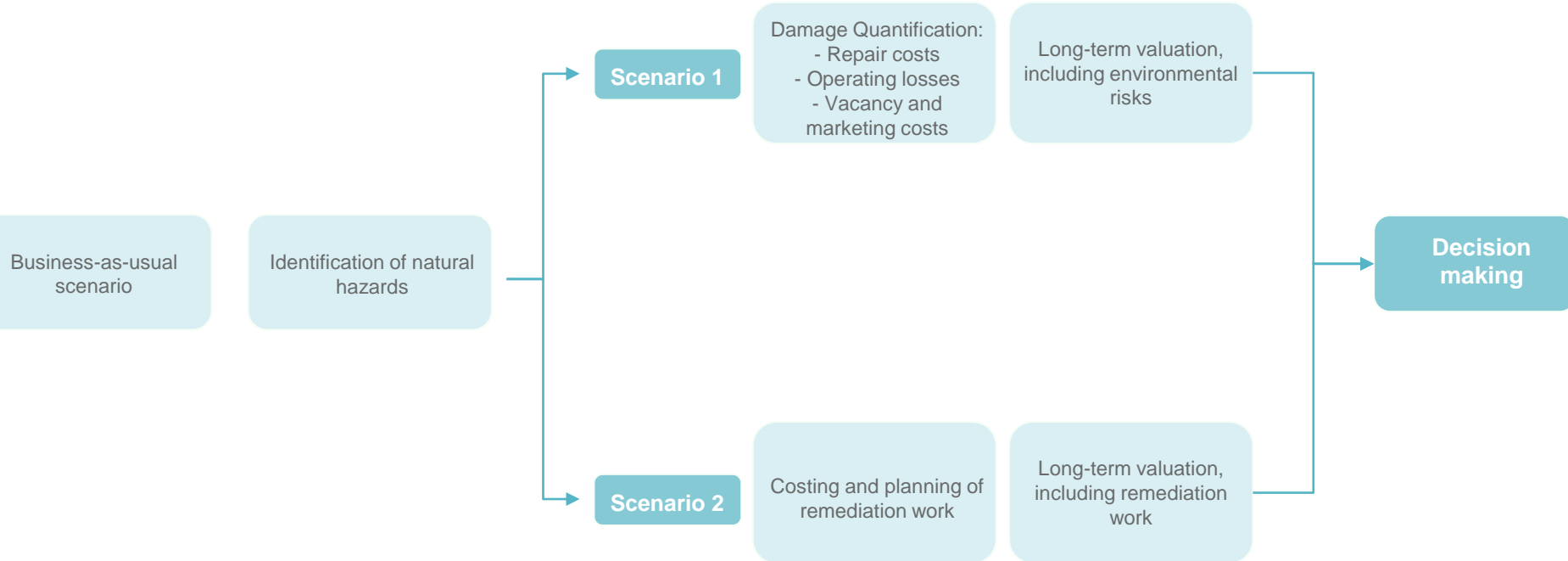
	1-2 yrs.	3-6 yrs.	5-7 yrs.	11-14 yrs.	15-18 yrs.	19-21 yrs.	22-25 yrs.
Floods							
Extreme rainfall							
Heatwaves							
Physical impact	- Repair	- Repair	- Repair	- Short vacancy period - Repair	- Short vacancy period - Repair	- Long vacancy period - Repair	- Long vacancy period - Repair
Financial impact	€	€	€€	€€	€€€	€€€	€€€€

# Environmental data & real estate valuation

## C&W innovative approaches



### A comparative approach



# Environmental data & real estate valuation

## C&W innovative approaches



Typology: Office building

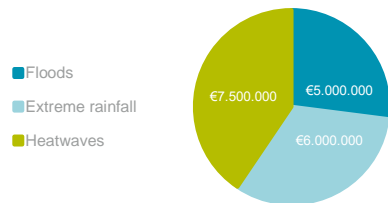
Location: Paris

Construction year: 2007

Area: 12,000 sqm

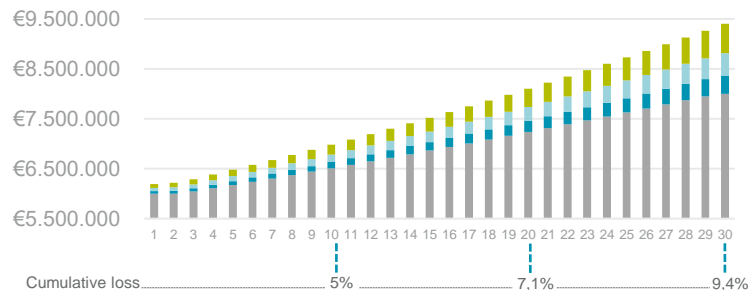
Market value: 140 M €; 11 667 € / sqm

Total losses

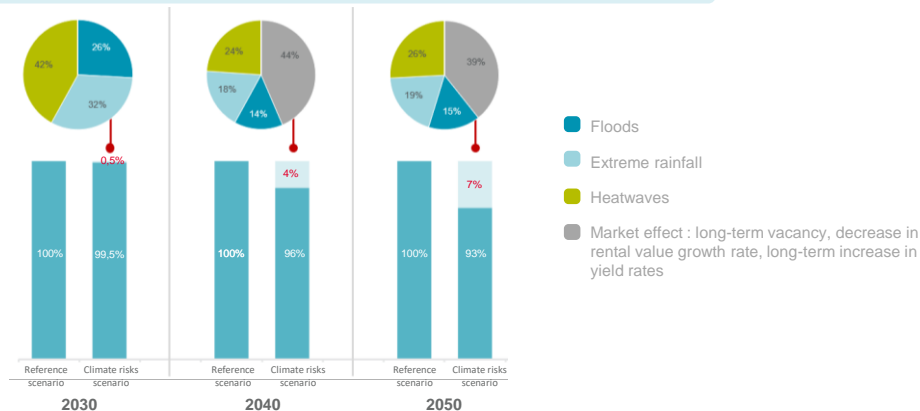


■ Floods  
■ Extreme rainfall  
■ Heatwaves

Long-term cumulative income losses (considering a probability of natural hazards of 1% to 5% between 2020 and 2050)



Potential long-term losses in market value



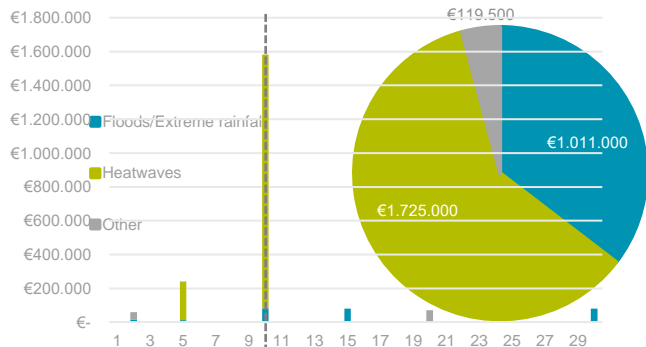


# Environmental data & real estate valuation

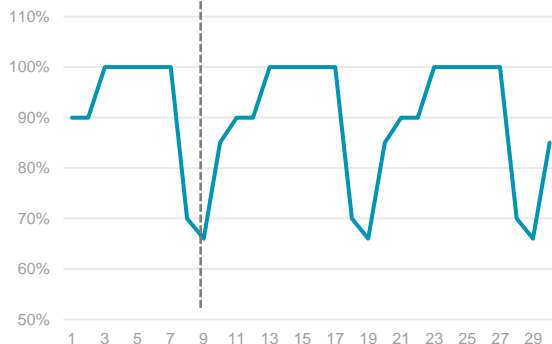
## C&W innovative approaches



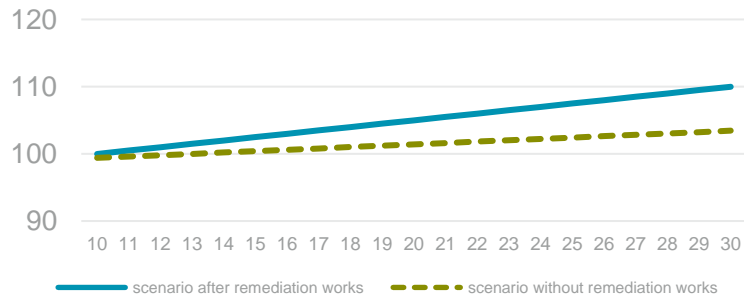
Annual amounts invested in remediation works



Occupancy rate



Evolution of the long-term market value (base index 100)

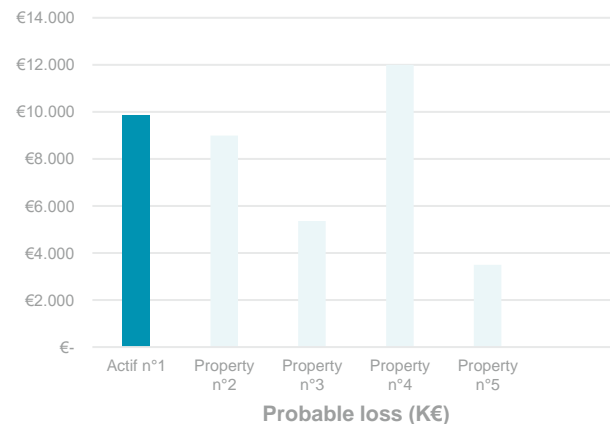
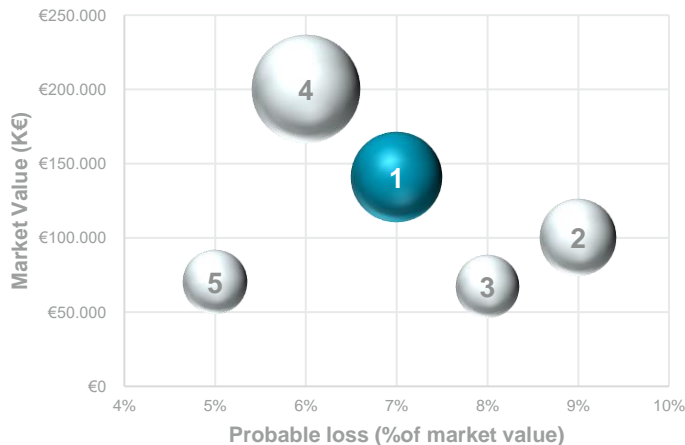


# Environmental data & real estate valuation

## C&W innovative approaches



### Portfolio analysis



### Key figures

Losses in case of major events 18 500 K€

Probable long-term loss (considering a probability of 1% to 5% between 2020 and 2050) 7%

Cost of remediation work 2 855 K€

Cost of remediation work / probable losses 15%

1



2



3



4



5



# ALDREN case study



Typology: Hotel

Location: Alicante – Spain

Construction year: 1990

Last renovation : 2000

Capacity : 90 bedrooms

Market value: 23 M €

## 1st Renovation Package - Investment cost: € 90 460

PRIORITY	REF	RENOVATION ACTION	TIMEFRAME	ENERGY SAVINGS
1a	H0	Remove terrace HVAC installations (underfloor heating & Air-conditioning)	2021 - 2022	9%
1a	H.1 / DHW1	Natural gas supply replacing LPG	2021 - 2022	
1a	H.2	Natural gas boiler provides only DHW. Shut down heating circuit	2021 - 2022	
1a	L.1	LED lighting system replacement	2021 - 2022	
1a	V1_C1_H1	AHU dining room (variable speed Fan & CO2 sensors)	2021 - 2022	
1a	V1_C1_H1	AHU cafeteria and lobby (variable speed Fan)	2021 - 2022	
1a	E6	Windows replacement to triple glazing in the GF	2021 - 2022	
1a	E8	Integration of a double-door entrance (TBC)	2021 - 2022	
1a	E9	Blinds and solar protections *	2021 - 2022	
1a	E10	Envelope air tightness treatment on replaced windows*	2021 - 2022	

## 2nd Renovation Package - Investment cost: € 285 910

PRIORITY	REF	RENOVATION ACTION	TIMEFRAME	ENERGY SAVINGS
1b	H5	HVAC control / operation protocol	2022 - 2023	19%
1b	V2	Ventilation control in the Restaurant	2025 - 2026	
1b	L.2	Lighting control / domotics	2023 - 2025	
1b	L.1	LED lighting system replacement	2022 - 2023	
1b	E.5	Double glazing windows low emissive coating on every floor	2028 - 2030	
1b	DHW4	DHW : Emission-taps systems replacement*	2023 - 2024	
1b	DHW3	DHW : Thermal insulation of distribution network*	2026 - 2030	

## 3rd Renovation Package - Investment cost: € 57 700

PRIORITY	REF	RENOVATION ACTION	TIMEFRAME	ENERGY SAVINGS
2	E6	Upgrade single glazing windows to double glazing on floor lobbies	2030 - 2032	36%
2	E.5	Apply to upgraded single glazing windows low emissive coating at every floor	2030 - 2032	
2	E10	Openings air tightness upgrade (Sika band or similar)	2030 - 2032	
2	APL2	Improve Elevator Motors and operation	2032 - 2033	
2	REN.2	Replace the Solar Thermal installation with PV's	2031 - 2032	

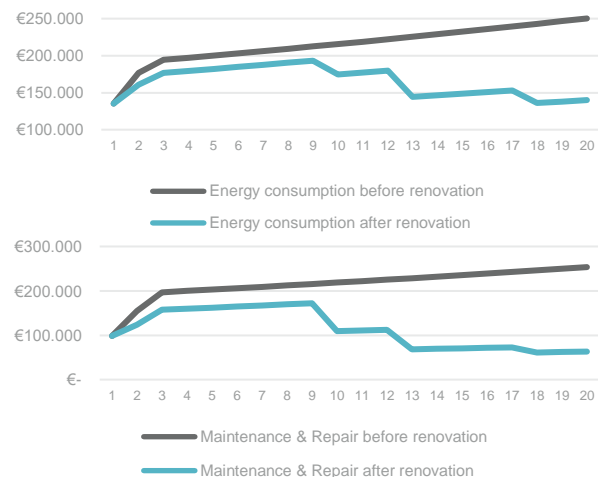
## 4th Renovation Package - Investment cost: € 795 080

PRIORITY	REF	RENOVATION ACTION	TIMEFRAME	ENERGY SAVINGS
3	APL 1	appliances replacement: Kitchen	2032 - 2033	44%
3	E.1/E.2/E.3	Envelope external thermal insulation (ETICS) / PUR	2036 - 2038	
3	V1_H1_C1	AHU rooms (variable speed Fan & CO2 sensors)	2034 - 2035	
3	V2_C5_H5	AHU rooms CONTROLS	2035 - 2036	
3	DHW.1	DHW: Replace Natural gas boiler with Air/water Heat Pump	2037 - 2038	
3	REN.1	PV's installation on terrace's roof	2033 - 2034	

## Renovation works (€)



## Energy consumption and maintenance costs before and after renovation

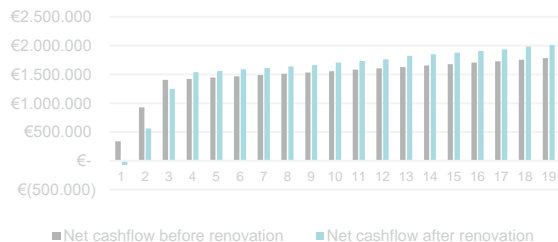


# ALDREN case study

Renovation works (€) – scenario n°1



Net cashflow before and after renovation (€)



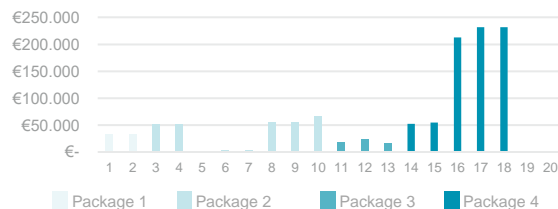
## Key figures

Market value after renovation 24 300 000

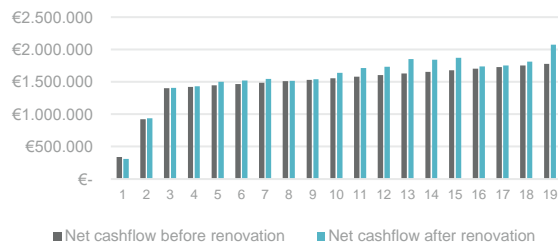
Market value change + 6,6%

Return on investment (renovation costs/gains) 126%

Renovation works (€) - ALDREN



Net cashflow before and after renovation (€)



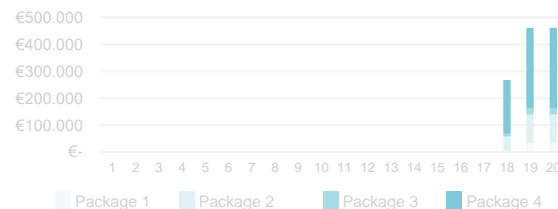
## Key figures

Market value after renovation 24 900 000

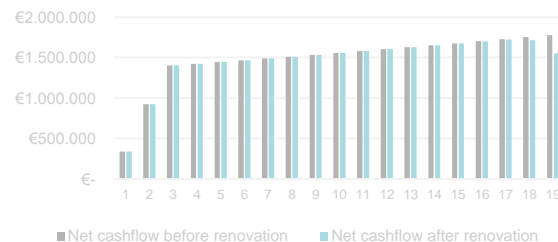
Market value change + 8,25%

Return on investment (renovation costs/gains) 156%

Renovation works (€) – scenario n°2



Net cashflow before and after renovation (€)



## Key figures

Market value after renovation 23 800 000

Market value change + 3,5%

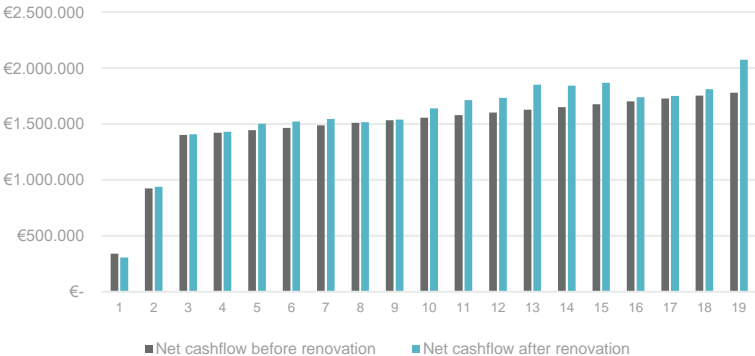
Return on investment (renovation costs/gains) 67%

# ALDREN case study



Typology: Hotel  
Location: Alicante – Spain  
Construction year: 1990  
Last renovation : 2000  
Capacity : 90 bedrooms  
Market value: 23 M €

Net cashflow before and after renovation (€)



Key figures

Market value after renovation	24 900 000
Market value change	+ 8,25%
Return on investment (renovation costs/gains)	156%

Sensitivity Analysis

Capitalization Yield	EBITDA Variance		
	0,00%	2,50%	5,00%
5,50%	<u>23 000 000</u>	23 400 000	23 900 000
5,25%	23 900 000	24 500 000	25 100 000
5,00%	25 200 000	25 800 000	<u>26 500 000</u>

Market value after renovation	26 500 000
Market value change	+ 15,20%
Return on investment (renovation costs/gains)	293%

# Environmental quality & real estate valuation

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Questions?