



Construction Cost Handbook

China & Hong Kong 2024

Arcadis Hong Kong Limited



Electronic Cost Handbook

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The following handbook of information relating to the construction industry has been compiled by:

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The information contained herein should be regarded as indicative and for general guidance only. Whilst every effort has been made to ensure accuracy, no responsibility can be accepted for errors and omissions, however caused.

If advice concerning individual projects is required, we would be happy to assist.

Unless otherwise stated, costs reflected in this handbook are Hong Kong costs at 4th Quarter 2023.

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ABOUT US

Arcadis is the leading global Design & Consultancy for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering and project management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets.

Arcadis has a long history of leading expertise in providing Cost Management capabilities that ensure our clients' projects are delivered with a competitive advantage, exceed project requirements and deliver sustainable outcomes. Our Cost Management heritage is particularly strong in Greater China having set-up our first office in Hong Kong back in 1949. We entered the Mainland China market in 1984, introducing modern Cost Management techniques to its newly evolving construction market. Our initial commissions were from Hong Kong and foreign developers investing in China, however since then our client base has grown to include state-owned enterprises and local developers.

We are committed to further extending our professional expertise to include new areas like whole-life costing, and supporting the growing number of clients in Asia who are looking for high quality Cost Management solutions as they embark on projects in other parts of the world. Furthermore, we have aligned our operating models to facilitate innovation, ease knowledge transfer and enable the sharing of best practices. We work to ensure clients have access to our best resources, delivering the most appropriate solutions, at a cost that meets their requirements.

OUR CORE VALUES

People First

We care for each other and create a safe and respectful working environment where our people can grow, perform, and succeed.



Integrity

We always work to the highest professional and ethical standards and establish trust by being open, honest and responsible.



Client Success

We are passionate about our clients' success and bring insights, agility, and innovation to co-create value.



Collaboration

We value the power of diversity and our global capabilities and deliver excellence by working as One Arcadis.



Sustainability

We base our actions for clients and communities on environmental responsibility and social and economic advancement.





1 CONSTRUCTION COST DATA

Construction Costs for Hong Kong

M&E Costs for Hong Kong

ACMV Costs for Various Designs and
Developments in Hong Kong

Fit-out Costs for Hong Kong

Unit Costs for Ancillary Facilities
for Hong Kong

Construction Costs for Selected
Asian Cities

M&E Costs for Selected Asian Cities

Major Rates for Selected Asian Cities

Construction Cost Specification

CONSTRUCTION COSTS FOR HONG KONG

BUILDING TYPE	HK\$/m ² CFA		TOTAL
	BUILDING	SERVICES	
DOMESTIC			
Apartments, high rise, public authority standard	10,050 - 11,730	2,150 - 2,570	12,200 - 14,300
Apartments, high rise, average standard	21,130 - 23,480	4,370 - 5,820	25,500 - 29,300
Apartments, high rise, high end	27,650 - 31,180	5,350 - 6,920	33,000 - 38,100
Terraced houses, average standard	30,450 - 34,650	4,750 - 5,750	35,200 - 40,400
Detached houses, high end	44,200up	6,800up	51,000up
OFFICE / COMMERCIAL			
Medium/high rise offices, average standard	19,000 - 21,050	6,500 - 7,750	25,500 - 28,800
High rise offices, prestige quality	23,400 - 26,250	6,900 - 8,350	30,300 - 34,600
Out-of-town shopping centre, average standard	18,750 - 22,150	6,350 - 7,250	25,100 - 29,400
Retail malls, high end	25,400 - 29,300	7,000 - 8,300	32,400 - 37,600

HOTELS			
Budget hotels - 3-star, mid market	24,100 - 24,800	8,000 - 9,300	32,100 - 34,100
Business hotels - 4/5-star	24,700 - 28,150	8,400 - 9,950	33,100 - 38,100
Luxury hotels - 5-star	30,000 - 32,950	8,500 - 10,050	38,500 - 43,000
INDUSTRIAL			
Owner operated factories, low rise, light weight industry	16,300 - 20,250	2,800 - 3,550	19,100 - 23,800
OTHERS			
Underground/basement car parks (<3 levels)	24,700 - 29,150	3,100 - 3,950	27,800 - 33,100
Multi storey car parks, above ground(<4 levels)	14,000 - 16,000	2,800 - 3,700	16,800 - 19,700
Schools (primary and secondary)	18,200 - 18,950	3,300 - 4,150	21,500 - 23,100
Students' residences	19,250 - 21,300	5,150 - 6,100	24,400 - 27,400
Sports clubs, multi purpose sports/leisure centres (dry sports) with a/c and including FF&E	25,550 - 28,050	6,450 - 7,950	32,000 - 36,000
General hospitals - public sector	30,750 - 32,900	9,250 - 11,100	40,000 - 44,000

The above costs are at **4th Quarter 2023** levels.

M&E COSTS FOR HONG KONG

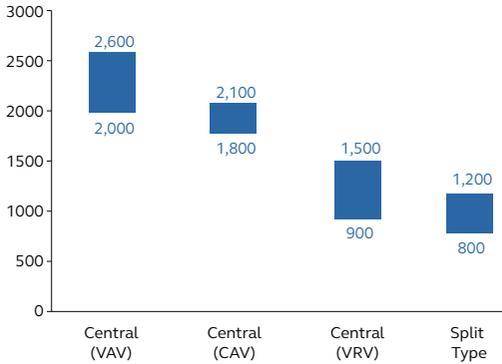
BUILDING TYPE	HK\$/m ² CFA					
	MECHANICAL SERVICES	ELECTRICAL SERVICES	FIRE SERVICES	LIFTS/ ESCALATORS	HYDRAULIC SERVICES	TOTAL SERVICES
DOMESTIC						
Apartments, high rise, public authority standard	N/A	730 - 850	170 - 220	300 - 350	950 - 1,150	2,150 - 2,570
Apartments, high rise, average standard	950 - 1,200	1,200 - 1,400	420 - 670	450 - 750	1,350 - 1,800	4,370 - 5,820
Apartments, high rise, high end	1,300 - 1,600	1,450 - 1,750	450 - 720	550 - 850	1,600 - 2,000	5,350 - 6,920
Terraced houses, average standard	1,400 - 1,700	1,500 - 1,800	100 - 200	N/A	1,750 - 2,050	4,750 - 5,750
Detached houses, high end	2,200 up	2,500 up	100 up	N/A	2,000 up	6,800 up
OFFICE / COMMERCIAL						
Medium/high rise offices, average standard	2,100 - 2,400	2,350 - 2,800	650 - 800	700 - 900	700 - 850	6,500 - 7,750
High rise offices, prestige quality	2,200 - 2,700	2,500 - 2,900	650 - 800	850 - 1,100	700 - 850	6,900 - 8,350
Out-of-town shopping centre, average standard	2,200 - 2,400	1,950 - 2,300	650 - 800	850 - 900	700 - 850	6,350 - 7,250
Retail malls, high end	2,300 - 2,650	2,400 - 2,850	650 - 900	900 - 1,100	750 - 800	7,000 - 8,300

HOTELS						
Budget hotels-3-star, mid market	2,450 - 2,800	2,350 - 2,600	700 - 900	600 - 700	1,900 - 2,300	8,000 - 9,300
Business hotels-4/5-star	2,600 - 2,900	2,500 - 2,800	700 - 900	600 - 850	2,000 - 2,500	8,400 - 9,950
Luxury hotels-5-star	2,600 - 2,900	2,600 - 2,900	700 - 900	600 - 850	2,000 - 2,500	8,500 - 10,050
INDUSTRIAL						
Owner operated factories, low rise, light weight industry	350 - 500	850 - 1,000	600 - 750	500 - 650	500 - 650	2,800 - 3,550
OTHERS						
Underground/basement car parks (<3 levels)	800 - 1,000	900 - 1,100	550 - 700	350 - 450	500 - 700	3,100 - 3,950
Multi storey car parks, above ground (<4 levels)	500 - 750	900 - 1,100	550 - 700	350 - 450	500 - 700	2,800 - 3,700
Schools (primary and secondary)	800 - 1,000	1,100 - 1,300	600 - 800	250 - 350	550 - 700	3,300 - 4,150
Students' residences	850 - 1,050	1,800 - 2,000	700 - 900	350 - 450	1,450 - 1,700	5,150 - 6,100
Sports clubs, multi purpose ports/leisure centres (dry sports) with a/c and including FF&E	2,500 - 3,000	2,100 - 2,700	800 - 950	350 - 450	700 - 850	6,450 - 7,950
General hospitals - public sector	3,200 - 4,000	3,000 - 3,400	850 - 1,000	500 - 700	1,700 - 2,000	9,250 - 11,100

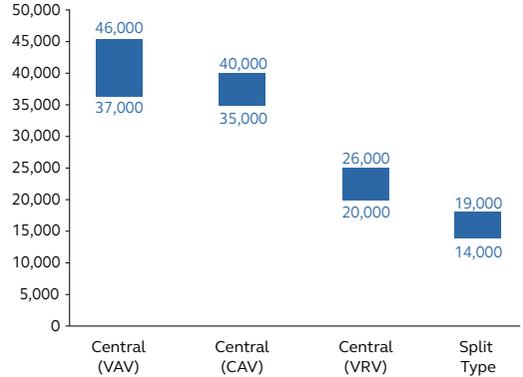
The above costs are at **4th Quarter 2023** levels.

ACMV COSTS FOR VARIOUS DESIGNS AND DEVELOPMENTS IN HONG KONG

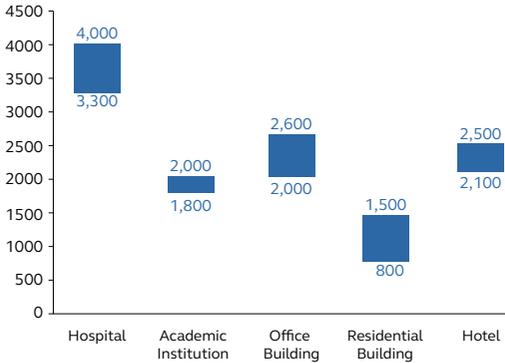
HK\$/m² of Construction Floor Area



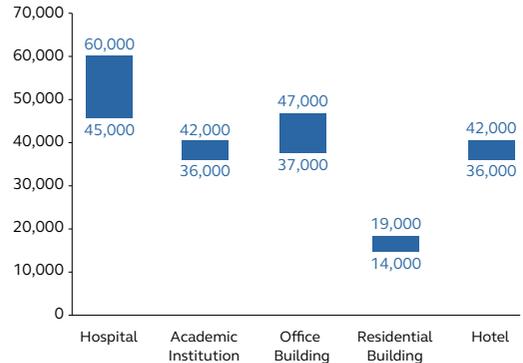
HK\$/Tonne of Refrigeration



HK\$/m² of Construction Floor Area



HK\$/Tonne of Refrigeration



FIT-OUT COSTS FOR HONG KONG

BUILDING TYPE	HK\$/m ²
HOTELS	
Public Areas (Front of House) :	
3-star Hotel	11,500 - 17,000
4-star Hotel	17,000 - 24,000
5-star Hotel	24,000 up
Guest Rooms :	
3-star Hotel	9,500 - 11,200
4-star Hotel	11,500 - 15,000
5-star Hotel	15,500 up
Notes :	
1. Includes furniture, floor, wall and ceiling finishes, drapery, sanitary fittings and light fittings.	
2. Excludes partitioning, M&E works, building shell, chandeliers, operational items and equipment (e.g. cutlery, crockery, linen, television, refrigerator etc.), opening expenses, stage equipment and computer systems.	
OFFICES	
General office	7,500 - 11,500
Executive office	12,500 - 15,500
Prestige office	15,500 up
Notes :	
1. Local/PRC furniture allowed for general offices.	
2. Includes furniture, partitioning, electrical work, minor alteration to air-conditioning, fire services and suspended ceiling to suit layout.	
3. Excludes telephones, data cabling, office equipment (e.g. computers, photocopiers, fax machines, UPS, etc).	

The above costs are at 4th Quarter 2023 levels.

BUILDING TYPE	HK\$/m ²
DEPARTMENT STORES	
General department store	9,500 - 14,500
Prestige department store	15,500 up
Notes :	
1. Includes electrical work, additional FCU and minor alteration of fire services to suit layout.	
2. Excludes facade modification, data cabling, operational items and equipment (e.g. computers, P.O.S., office equipment) and opening expenses.	
RESTAURANTS	
General dining restaurant	13,500 - 21,000
Fine dining restaurant	25,000 up
Notes :	
1. Includes furniture, floor, wall and ceiling finishes, electrical work, minor alteration to air-conditioning and fire services installation to suit layout.	
2. Excludes exhaust flue, operational items (e.g. cutlery, crockery, linen, utensils, etc.).	

The costs per square meter are based on fit-out area measured to the inner face of the perimeter wall.

UNIT COSTS FOR ANCILLARY FACILITIES
FOR HONG KONG

DESCRIPTION	UNIT	HK\$
SQUASH COURTS		
Single court with glass backwall including associated mechanical and electrical services but excluding any public facilities (enclosing structure not included).	per court	790,000
TENNIS COURTS		
Single court on grade with acrylic surfacing and complete with chain link fence.	per court	1,700,000
Single court on grade with artificial turf surfacing and complete with chain link fence.	per court	1,900,000
Extra for lighting.	per court	680,000
SWIMMING POOLS		
Half Olympic (25m x 10.50m) outdoor swimming pool built on-grade, fully tiled; complete with 5m wide deck and associated pool equipment and ozone system.	per pool	11,300,000
PLAYGROUND EQUIPMENT		
Outdoor playground equipment comprising various activities.	per set	350,000 to 840,000

The above costs are at 4th Quarter 2023 levels.

DESCRIPTION	UNIT	HK\$
SAUNAS		
Sauna room for 4-6 people complete with all accessories (enclosing structure not included).	per room	330,000
STEAM BATHS		
Steam bath for 4-6 people complete with all accessories (enclosing structure not included).	per room	330,000
GOLF COURSES		
(Based on average cost of an 18-hole golf course)	per hole	8,000,000 to 14,000,000
Excluding associated buildings and equipment.		
GREEN ROOF		
Proprietary lightweight green roof system; with automatic irrigation system (roofing and roof structure not included).	per m2	2,000 to 5,000
VERTICAL GREEN		
Vertical green system; wire frame type, with automatic irrigation system (background supporting wall not included).	per m2	5,000 to 10,000

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

BUILDING TYPE	US\$/m ² CFA			
	SHANGHAI	BEIJING	GUANGZHOU/ SHENZHEN	CHONGQING/ CHENGDU
DOMESTIC				
Apartments, high rise, average standard	685 - 755	603 - 662	573 - 658	568 - 658
Apartments, high rise, high end	1,546 - 1,685	1,461 - 1,663	931 - 1,062	917 - 1,124
Terraced houses, average standard	946 - 1,030	863 - 935	868 - 1,038	775 - 910
Detached houses, high end	1,663 - 1,765	1,658 - 1,730	1,666 - 1,952	986 - 1,120
OFFICE / COMMERCIAL				
Medium/high rise offices, average standard	878 - 1,160	860 - 1,158	817 - 933	891 - 1,024
High rise offices, prestige quality	1,128 - 1,543	1,397 - 1,902	1,195 - 1,502	1,123 - 1,493
Out-of-town shopping centre, average standard	N/A	N/A	N/A	N/A
Retail malls, high end	1,193 - 1,608	1,162 - 1,600	1,151 - 1,668	1,071 - 1,478
HOTELS				
Budget hotels - 3-star, mid market	961 - 1,171	951 - 1,171	1,044 - 1,184	972 - 1,188
Business hotels - 4/5-star	1,549 - 2,096	1,620 - 2,139	1,688 - 2,485	1,745 - 2,158
Luxury hotels - 5-star	2,094 - 2,503	2,062 - 2,655	2,272 - 2,582	2,148 - 2,554

INDUSTRIAL				
Industrial units, shell only (Conventional single storey framed units)	270 - 331	265 - 324	306 - 376	439 - 546
Owner operated factories, low rise, light weight industry	418 - 524	513 - 588	N/A	N/A
OTHERS				
Underground/basement car parks (<3 levels)	718 - 1,001	735 - 807	540 - 883	419 - 580
Multi storey car parks, above ground (<4 levels)	368 - 514	442 - 446	384 - 436	334 - 408
Schools (primary and secondary)	549 - 692	511 - 660	434 - 564	442 - 487
Students' residences	402 - 548	362 - 511	400 - 510	310 - 443
Sports clubs, multi purpose sports/leisure centres (dry sports)	926 - 1,137	876 - 883	742 - 841	698 - 765
General hospitals - public sector	1,414 - 1,823	1,151 - 1,442	1,124 - 1,448	1,116 - 1,382
Exchange Rate Used : US\$1 =	RMB 7.20	RMB 7.20	RMB 7.20	RMB 7.20

The above costs are at 4th Quarter 2023 levels, inclusive of preliminaries but exclusive of contingencies.

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	US\$/m ² CFA			
	HONG KONG	MACAU	SINGAPORE	KUALA LUMPUR #
DOMESTIC				
Apartments, high rise, average standard	3,270 - 3,750	2,480 - 3,033	1,890 - 2,185	310 - 610
Apartments, high rise, high end	4,230 - 4,880	3,463 - 5,291	3,150 - 4,335	700 - 1,460
Terraced houses, average standard	4,510 - 5,170	4,224 - 5,041	2,445 - 2,740	220 - 360
Detached houses, high end	6,530 up	5,153 - 6,704	3,110 - 4,150	745 - 1,015
OFFICE / COMMERCIAL				
Medium/high rise offices, average standard	3,270 - 3,690	2,854 - 3,685	2,445 - 2,780	590 - 775
High rise offices, prestige quality	3,880 - 4,430	3,685 - 4,031	2,780 - 3,000	920 - 1,320
Out-of-town shopping centre, average standard	3,210 - 3,760	2,687 - 4,031	2,630 - 2,925	430 - 645
Retail malls, high end	4,150 - 4,810	4,224 - 5,098	2,925 - 3,185	680 - 1,035
HOTELS				
Budget hotels - 3-star, mid market	4,110 - 4,370	3,755 - 4,253	3,110 - 3,405	990 - 1,455
Business hotels - 4/5-star	4,240 - 4,880	5,098 - 6,094	4,000 - 4,665	1,290 - 2,265
Luxury hotels - 5-star	4,930 - 5,510	6,904 - 7,203	4,000 - 4,665	1,895 - 2,540

INDUSTRIAL				
Industrial units, shell only (Conventional single storey framed units)	N/A	N/A	1,150 - 1,335	320 - 450
Owner operated factories, low rise, light weight industry	2,450 - 3,050	N/A	N/A	420 - 535
OTHERS				
Underground/basement car parks (<3 levels)	3,560 - 4,240	2,229 - 3,269	1,370 - 1,780	305 - 545
Multi storey car parks, above ground (<4 levels)	2,150 - 2,520	1,232 - 1,622	850 - 1,260	200 - 355
Schools (primary and secondary)	2,750 - 2,960	2,466 - 2,854	N/A	250 - 320
Students' residences	3,120 - 3,510	1,953 - 2,271	2,295 - 2,405	295 - 375
Sports clubs, multi purpose sports/leisure centres (dry sports)	4,100 - 4,610	N/A	2,815 - 3,000	590 - 750
General hospitals - public sector	5,120 - 5,630	N/A	3,965 - 4,150	815 - 1,185
Exchange Rate Used : US\$1 =	HK\$ 7.81	MOP 8.01	S\$ 1.35	RM 4.67

The above costs are at **4th Quarter 2023** levels, inclusive of preliminaries but exclusive of contingencies.

- ◆ Rates are net of GST and exclusive of cost arising from COVID-19 pandemic.
- ▲ Terraced houses exclude air-conditioning, kitchen cabinets and home appliances.
- ▶ 6-12 units per floor, 46m²-89m² per unit, exclude air-conditioning equipment, kitchen cabinets and home appliances.
- # Rates are net of GST.

Source of data: **Singapore** - Asia Infrastructure Solutions Singapore Pte. Ltd; **Kuala Lumpur** - JUBM Group.

CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	US\$/m ² CFA				
	MANILA ^Q	INDIA ^Q	BANGKOK [#]	HO CHI MINH [#]	JAKARTA [#]
DOMESTIC					
Apartments, high rise, average standard	983 - 1,315	693 - 841	698 - 866	573 - 710	880 - 997
Apartments, high rise, high end	1,305 - 2,352	1,118 - 1,410	1,117 - 1,536	900 - 1,213	1,211 - 1,367
Terraced houses, average standard	866 - 1,060	493 - 551	559 - 698	567 - 659	464 - 605
Detached houses, high end	1,682 - 2,864	624 - 701	698 - 977	823 - 925	1,267 - 1,417
OFFICE / COMMERCIAL					
Medium/high rise offices, average standard	884 - 1,173	517 - 574	698 - 838	745 - 852	867 - 962
High rise offices, prestige quality	1,280 - 1,660	600 - 761	977 - 1,257	859 - 1,157	1,364 - 1,509
Out-of-town shopping centre, average standard	755 - 939	527 - 585	670 - 894	628 - 768	747 - 828
Retail malls, high end	1,029 - 1,456	684 - 806	894 - 1,061	785 - 959	822 - 892
HOTELS					
Budget hotels - 3-star, mid market	1,123 - 1,388	1,002 - 1,080	1,173 - 1,257	1,185 - 1,433	1,514 - 1,787
Business hotels - 4/5-star	1,281 - 2,132	1,421 - 1,811	1,536 - 1,815	1,365 - 1,652	2,061 - 2,226
Luxury hotels - 5-star	1,780 - 3,378	1,952 - 2,281	1,955 - 2,234	1,766 - 2,096	2,183 - 2,399

BUILDING TYPE	US\$/m ² CFA				
	MANILA ^Q	INDIA ^Q	BANGKOK [#]	HO CHI MINH [#]	JAKARTA [#]
INDUSTRIAL					
Industrial units, shell only (Conventional single storey framed units)	502 - 646	456 - 563	503 - 670	306 - 381	414 - 450
Owner operated factories, low rise, light weight industry	674 - 847	426 - 563	N/A	347 - 453	447 - 494
OTHERS					
Underground/basement car parks (<3 levels)	585 - 761	339 - 395	614 - 838	630 - 743	621 - 764
Multi storey car parks, above ground (<4 levels)	463 - 722	280 - 332	335 - 503	406 - 440	401 - 526
Schools (primary and secondary)	659 - 910	353 - 413	559 - 838	560 - 685	N/A
Students' residences	738 - 935	366 - 451	419 - 559	534 - 678	N/A
Sports clubs, multi purpose sports/leisure centres (dry sports)	1,111 - 1,618	682 - 770	N/A	1,077 - 1,317	1,267 - 1,901
General hospitals - public sector	1,338 - 1,564	771 - 891	N/A	N/A	N/A
Exchange Rate Used : US\$1 =	PHP 55.57	INR 82.98	BAHT 35.81	VND 24,440	IDR 15,599

The above costs are at **4th Quarter 2023** levels, inclusive of preliminaries but exclusive of contingencies.

^Q Rates include 12% VAT.

^Q Rates are based on projects in Bangalore and are net of GST.

^Q Mumbai costs are generally 8% higher.

[#] Rates are net of VAT.

Source of data: **India** - Arkind LS Private Limited. **Bangkok** - Mentabuild Limited. **Ho Chi Minh** - DLS Consultant Company Limited. **Jakarta** - PT Lantera Sejahtera Indonesia.

M&E COSTS FOR SELECTED ASIAN CITIES

BUILDING TYPE	SHANGHAI	BEIJING	GUANGZHOU/ SHENZHEN	CHONGQING/ CHENGDU
	RMB/m ² CFA	RMB/m ² CFA	RMB/m ² CFA	RMB/m ² CFA
MECHANICAL SERVICES				
Offices	797 - 982	782 - 1,212	752 - 1,116	753 - 1,017
Industrial *	176 - 289	169 - 277	152 - 279	145 - 236
Hotels	1,007 - 1,276	960 - 1,211	1,038 - 1,323	973 - 1,331
Shopping Centres	780 - 917	798 - 979	700 - 892	890 - 1,014
Apartment	319 - 410	141 - 455	149 - 402	150 - 296
ELECTRICAL SERVICES				
Offices	625 - 684	494 - 893	514 - 771	503 - 713
Industrial **	314 - 430	335 - 473	313 - 450	279 - 377
Hotels	682 - 844	755 - 991	700 - 931	625 - 875
Shopping Centres	544 - 662	505 - 725	485 - 676	557 - 711
Apartment	264 - 375	266 - 417	279 - 490	240 - 354
HYDRAULIC SERVICES				
Offices	112 - 160	98 - 144	103 - 179	90 - 124
Industrial	90 - 126	96 - 141	87 - 121	93 - 127
Hotels	377 - 503	380 - 485	382 - 490	368 - 489

Shopping Centres	141 - 183	141 - 206	112 - 165	106 - 155
Apartment	172 - 225	172 - 231	147 - 275	103 - 181
FIRE SERVICES				
Offices	233 - 318	186 - 273	230 - 340	244 - 294
Industrial	162 - 261	152 - 227	140 - 267	136 - 235
Hotels	297 - 387	225 - 379	279 - 416	280 - 375
Shopping Centres	265 - 383	221 - 387	243 - 375	267 - 379
Apartment	58 - 105	71 - 136	77 - 291	62 - 114
LIFTS / ESCALATORS				
Offices	279 - 538	291 - 571	283 - 496	305 - 561
Industrial	135 - 382	143 - 396	146 - 427	153 - 355
Hotels	219 - 484	229 - 515	243 - 466	254 - 437
Shopping Centres	325 - 484	323 - 515	291 - 456	309 - 461
Apartment	165 - 285	173 - 286	126 - 437	142 - 246

The above costs are at 4th Quarter 2023 levels, exclusive of contingencies.

- * Generally without A/C.
- ** Excludes special power supply.

M&E COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	HONG KONG	MACAU	SINGAPORE	KUALA LUMPUR *
	HK\$/m ² CFA	MOP/m ² CFA	S\$/m ² CFA	RM/m ² CFA
MECHANICAL SERVICES				
Offices	2,100 - 2,700	N/A	215 - 332	400 - 570
Industrial *	350 - 500	N/A	41 - 153	110 - 210
Hotels	2,450 - 2,900	2,610 - 3,010	277 - 361	380 - 680
Shopping Centres	2,200 - 2,650	2,370 - 2,960	188 - 314	380 - 550
Apartment	950 - 1,600	910 - 1,210	117 - 220	150 - 230
ELECTRICAL SERVICES				
Offices	2,350 - 2,900	N/A	199 - 361	370 - 530
Industrial **	850 - 1,000	N/A	68 - 173	190 - 220
Hotels	2,350 - 2,900	2,610 - 3,110	355 - 471	380 - 610
Shopping Centres	1,950 - 2,850	2,610 - 2,960	205 - 393	370 - 520
Apartment	1,200 - 1,750	1,010 - 1,300	137 - 299	140 - 240
HYDRAULIC SERVICES				
Offices	700 - 850	N/A	34 - 72	60 - 80
Industrial	500 - 650	N/A	23 - 47	60 - 70
Hotels	1,900 - 2,500	1,800 - 2,210	155 - 218	220 - 310

Shopping Centres	700 - 850	600 - 800	58 - 105	50 - 55
Apartment	1,350 - 2,000	1,500 - 2,000	103 - 241	70 - 110
FIRE SERVICES				
Offices	650 - 800	N/A	38 - 88	80 - 100
Industrial	600 - 750	N/A	28 - 63	70 - 80
Hotels	700 - 900	920 - 1,130	34 - 70	80 - 110
Shopping Centres	650 - 900	610 - 820	46 - 69	70 - 90
Apartment	420 - 720	250 - 300	27 - 67	30 - 40
LIFTS / ESCALATORS				
Offices	700 - 1,100	N/A	82 - 212	170 - 400
Industrial	500 - 650	N/A	53 - 134	70 - 190
Hotels	600 - 850	610 - 820	65 - 106	140 - 330
Shopping Centres	850 - 1,100	460 - 720	74 - 116	120 - 130
Apartment	450 - 850	460 - 610	52 - 147	80 - 120

The above costs are at 4th Quarter 2023 levels, exclusive of contingencies.

* Generally without A/C.

** Excludes special power supply.

♣ Rates are nett of GST, excluding BAS and cost impact arising from COVID-19 pandemic.

* Rates are nett of GST.

Source of data: **Singapore** - Asia Infrastructure Solutions Singapore Pte. Ltd. **Kuala Lumpur** - JUBM Group.

M&E COSTS FOR SELECTED ASIAN CITIES (Cont'd)

BUILDING TYPE	MANILA ^a		INDIA ^b		BANGKOK [#]		HO CHI MINH [#]		JAKARTA [#]	
	PHP/m ² CFA		INR/m ² CFA		BAHT/m ² CFA		VND/m ² CFA		IDR/m ² CFA	
MECHANICAL SERVICES										
Offices	4,000 - 8,600		6,004 - 8,334		3,450 - 3,900		2,834,000 - 4,028,000		1,062,000 - 1,222,000	
Industrial *	800 - 1,600		2,819 - 5,319		1,550 - 1,700		N/A		481,000 - 768,000	
Hotels	3,500 - 13,050		6,955 - 8,340		3,800 - 5,200		N/A		1,095,000 - 1,421,000	
Shopping Centres	3,000 - 7,020		6,127 - 8,494		2,800 - 3,200		3,188,000 - 3,228,000		934,000 - 1,123,000	
Apartment	1,540 - 5,510		3,161 - 4,486		2,800 - 3,400		2,105,000 - 2,889,000		1,045,000 - 1,327,000	
ELECTRICAL SERVICES										
Offices	3,500 - 8,712		5,394 - 8,203		4,400 - 4,900		2,881,000 - 3,450,000		858,000 - 1,095,000	
Industrial **	2,000 - 3,500		3,175 - 5,830		1,950 - 2,200		N/A		608,000 - 757,000	
Hotels	4,900 - 10,200		5,982 - 9,026		4,600 - 5,800		N/A		884,000 - 1,217,000	
Shopping Centres	3,060 - 6,800		5,142 - 7,611		4,600 - 4,800		2,612,000 - 3,265,000		746,000 - 940,000	
Apartment	3,957 - 6,700		2,720 - 3,942		4,300 - 4,500		2,423,000 - 3,061,000		984,000 - 1,149,000	
HYDRAULIC SERVICES										
Offices	1,260 - 2,410		891 - 1,519		780 - 990		426,000 - 795,000		216,000 - 304,000	
Industrial	820 - 1,440		614 - 1,186		750 - 800		N/A		144,000 - 221,000	
Hotels	2,310 - 7,010		4,690 - 7,805		1,400 - 2,200		N/A		1,034,000 - 1,217,000	

Shopping Centres	1,250 - 1,640		1,336 - 2,671		790 - 990		350,000 - 630,000		205,000 - 315,000	
Apartment	2,310 - 4,690		2,116 - 3,237		1,200 - 1,520		850,000 - 985,000		1,045,000 - 1,237,000	
FIRE SERVICES										
Offices	1,190 - 2,070		1,410 - 2,032		780 - 890		819,000 - 1,349,000		741,000 - 923,000	
Industrial	1,080 - 3,000		645 - 980		730 - 790		N/A		155,000 - 221,000	
Hotels	1,320 - 2,630		1,639 - 2,315		780 - 930		N/A		343,000 - 426,000	
Shopping Centres	1,310 - 2,080		1,349 - 1,722		780 - 890		748,000 - 916,000		287,000 - 336,000	
Apartment	1,140 - 1,880		754 - 991		750 - 930		659,000 - 817,000		326,000 - 355,000	
LIFTS / ESCALATORS										
Offices	1,800 - 4,930		1,104 - 1,469		1,100 - 1,400		790,000 - 1,518,000		458,000 - 1,100,000	
Industrial	0 - 730		735 - 965		N/A		N/A		N/A	
Hotels	1,800 - 3,500		1,655 - 2,441		1,100 - 1,400		N/A		730,000 - 1,139,000	
Shopping Centres	1,600 - 2,300		1,936 - 2,512		500 - 700		1,622,000 - 2,278,000		336,000 - 907,000	
Apartment	850 - 4,760		995 - 1,316		600 - 800		889,000 - 1,300,000		741,000 - 923,000	

The above costs are at **4th Quarter 2023** levels, exclusive of contingencies.

* Generally without A/C.

** Excludes special power supply.

☐ Transformer, included in Electrical Services.

Rates are nett of VAT.

☐ Rates are based on projects in Bangalore and are nett of GST. Mumbai costs are generally 8% higher.

Source of data: **India** - Arkind LS Private Limited, **Bangkok** - Mentabuild Limited, **Ho Chi Minh** - DLS Consultant Company Limited, **Jakarta** - PT Lantera Sejahtera Indonesia.

MAJOR RATES FOR SELECTED ASIAN CITIES

DESCRIPTION	UNIT	SHANGHAI		BEIJING		GUANGZHOU/ SHENZHEN		CHONGQING/ CHENGDU	
		RMB	RMB	RMB	RMB	RMB	RMB	RMB	RMB
1. Excavating basement ≤ 2.00m deep	m ³	30	35	39	36	36			
2. Excavating for footings ≤ 1.50m deep	m ³	30	40	39	36	36			
3. Remove excavated materials off site	m ³	220	160	160	65	65			
4. Hardcore bed blinded with fine materials	m ³	210	220	195	180	180			
5. Mass concrete grade 15	m ³	650	626	590	500	500			
6. Reinforced concrete grade 30	m ³	730	736	660	530	530			
7. Mild steel rod reinforcement	kg	5.5	6	5.5	5.5	5.5			
8. High tensile rod reinforcement	kg	5.5	6.1	5.4	5.5	5.5			
9. Sawn formwork to soffits of suspended slabs	m ²	95	90	90	75	75			
10. Sawn formwork to columns and walls	m ²	90	85	70	75	75			
11. 112.5mm thick brick walls	m ²	105**	80	80	80	80			
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m ²	N/A	N/A	N/A	N/A	N/A			

13. Aluminium casement windows, single glazed	m ²	780	850*	700	760*	760*
14. Structural steelwork - beams, stanchions and the like	kg	11	14	13	10	10
15. Steelwork - angles, channels, flats and the like	kg	9.5	12.5	11	9	9
16. 25mm cement and sand (1:3) paving	m ²	35	34	35	34	34
17. 20mm cement and sand (1:4) plaster to walls	m ²	35	34	35	34	34
18. Ceramic tiles bedded to floor screed (measured separately)	m ²	160	155	160	150	150
19. 12mm fibrous plasterboard ceiling lining	m ²	160	162	170	150	150
20. Two coats of emulsion paint to plastered surfaces	m ²	42	34	35	35	35
Average expected preliminaries	%	6 - 12	5 - 12	6 - 12	5 - 12	5 - 12

The above costs are at **4th Quarter 2023** levels and are based on lump sum fixed price contract rates exclusive of preliminaries and contingencies.

* Rates for double glazed window.

** Rate for 120mm thick concrete block walls

MAJOR RATES FOR SELECTED ASIAN CITIES (Cont'd)

DESCRIPTION	HONG KONG		MACAU		SINGAPORE		KUALA LUMPUR *	
	UNIT	HK\$	MOP	S\$	RM			
1. Excavating basement ≤ 2.00m deep	m ³	230	150	30	20 - 36			
2. Excavating for footings ≤ 1.50m deep	m ³	210	180	30	20 - 36			
3. Remove excavated materials off site	m ³	290 ^δ	150	30 - 37	22 - 39			
4. Hardcore bed blinded with fine materials	m ³	950	1,300	69.5	73 - 110			
5. Mass concrete grade 15	m ³	1,200	1,500	268 - 282**	270 - 340			
6. Reinforced concrete grade 30	m ³	1,300	1,400	184 - 191	310 - 360			
7. Mild steel rod reinforcement	kg	12.5	7.5	1.90 - 2.00	4.2 - 5.3			
8. High tensile rod reinforcement	kg	12.5	7.5	1.90 - 2.00	4.2 - 5.3			
9. Sawn formwork to soffits of suspended slabs	m ²	430	280	56	42 - 54			
10. Sawn formwork to columns and walls	m ²	430	280	56	42 - 54			
11. 112.5mm thick brick walls	m ²	440	450	45 - 50	52 - 63			
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m ²	1,200	N/A	56	85 - 120			

13. Aluminium casement windows, single glazed	m ²	4,400	4,000	380	400 - 680
14. Structural steelwork - beams, stanchions and the like	kg	35	30	6.6 - 7.4	7.6 - 15.0
15. Steelwork - angles, channels, flats and the like	kg	43	40	6.6 - 7.4	7.6 - 15.0
16. 25mm cement and sand (1:3) paving	m ²	170	120	29.5	21 - 27
17. 20mm cement and sand (1:4) plaster to walls	m ²	175	150	30.5	22 - 35
18. Ceramic tiles bedded to floor screed (measured separately)	m ²	430	450	86	73 - 120
19. 12mm fibrous plasterboard ceiling lining	m ²	580	650	38.8	42 - 55
20. Two coats of emulsion paint to plastered surfaces	m ²	150	200	5.0 - 5.5	3.6 - 5.6
Average expected preliminaries	%	10 - 15	10	14 - 18	6 - 15

The above costs are at **4th Quarter 2023** levels and are based on lump sum fixed price contract rates exclusive of preliminaries and contingencies.

♣ Rates are nett of GST and exclude cost impact arising from COVID-19 pandemic

★ Rate for lean concrete blinding.

♣♣ Rates including dumping charges.

★ Rates are nett of GST.

Source of data: **Singapore** - Asia Infrastructure Solutions Singapore Pte. Ltd. **Kuala Lumpur** - JUBM Group.

MAJOR RATES FOR SELECTED ASIAN CITIES (Cont'd)

DESCRIPTION	UNIT	MANILA		INDIA [Ⓐ]		BANGKOK #		HO CHI MINH #		JAKARTA #	
		PHP		INR		BAHT		VND		IDR	
1. Excavating basement ≤ 2.00m deep	m ³	300 - 450		273		125 - 160		72,400		70,000	
2. Excavating for footings ≤ 1.50m deep	m ³	538		259		150 - 190		72,400		100,000	
3. Remove excavated materials off site	m ³	350 - 700		N/A		125 - 160		84,700		50,000	
4. Hardcore bed blinded with fine materials	m ³	1,400 - 1,800		5,100 - 5,400		680 - 790		686,700		650,000	
5. Mass concrete grade 15	m ³	4,500		6,900		2,300 - 2,700		1,847,360		1,100,000	
6. Reinforced concrete grade 30	m ³	6,500 - 7,500		8,650		2,800 - 3,470		2,199,135		1,200,000	
7. Mild steel rod reinforcement	kg	54 - 56		75.68		28 - 31		21,380		13,800	
8. High tensile rod reinforcement	kg	54 - 56		70 - 73		28 - 31		21,380		14,000	
9. Sawn formwork to soffits of suspended slabs	m ²	950 - 1,200		722 - 765		450 - 500		240,000		250,000	
10. Sawn formwork to columns and walls	m ²	1,200		816 - 842		450 - 500		290,000		220,000	
11. 112.5mm thick brick walls	m ²	N/A		1,297 - 1,340		650 - 890		318,840		275,000	
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m ²	1,500		1,972 - 2,019		1,200		465,000 - 655,000		370,000	

13. Aluminium casement windows, single glazed	m ²	16,000 [Ⓐ]		6,654 - 7,050		7,600		6,630,750		1,750,000	
14. Structural steelwork- beams, stanchions and the like	kg	180		150		55 - 80		47,200		40,000	
15. Steelwork- angles, channels, flats and the like	kg	160		150		55 - 80		47,200		42,000	
16. 25mm cement and sand (1:3) paving	m ²	450 - 700		571 - 632		220 - 275		108,000		100,000	
17. 20mm cement and sand (1:4) plaster to walls	m ²	500 - 700		504 - 540		250 - 295		148,000		100,000	
18. Ceramic tiles bedded to floor screed (measured separately)	m ²	1,800 - 2,200		1,918 - 1,974		1,200		665,000		250,000	
19. 1.2mm fibrous plasterboard ceiling lining	m ²	1,400 - 1,700		1,570 - 1,741		850 - 950		255,700		220,000	
20. Two coats of emulsion paint to plastered surfaces	m ²	500 - 800		225 - 250		140 - 180		96,000		35,000	
Average expected preliminaries	%	12 - 18		9 - 13		12 - 18		8 - 12		8 - 10	

The above costs are at **4th Quarter 2023** levels and are based on lump sum fixed price contract rates exclusive of preliminaries and contingencies.

[Ⓐ] Rate for aluminium with anodized finish; 6mm thick.

[Ⓑ] Based on projects in Bangalore and are nett of GST. Mumbai costs are generally 8% higher.

Rates are nett of VAT.

Source of data: **India** - Arkind LS Private Limited. **Bangkok** - Mentabuild Limited. **Ho Chi Minh** - DLS Consultant Company Limited. **Jakarta** - PT Lantera Sejahtera Indonesia.

CONSTRUCTION COST SPECIFICATION

BUILDING TYPE	OUTLINE SPECIFICATION
DOMESTIC	
Apartments, high rise, average standard	Apartment units with fit-out, including air-conditioning, kitchen cabinets and home appliances, but <u>excluding</u> decorative light fittings and loose furniture
Apartments, high rise, high end	Apartment units with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but <u>excluding</u> decorative light fittings and loose furniture
Terraced houses, average standard	Houses with fit-out, including air-conditioning, kitchen cabinets and home appliances, but <u>excluding</u> decorative light fittings, loose furniture, garden and parking
Detached houses, high end	Houses with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but <u>excluding</u> decorative light fittings, loose furniture, garden and parking
OFFICE / COMMERCIAL	
Medium/high rise offices, average standard	RC structure, curtain wall/window wall, including public area fit-out, tenant area with screeded floor, painted wall and ceiling
High rise offices, prestige quality	RC structure, curtain wall, including public area fit-out, tenant area with raised floor, painted wall and false ceiling

Out-of-town shopping centre, average standard	Including public area fit-out and M&E, but <u>excluding</u> shop fit-out
Retail malls, high end	
HOTELS	
Budget hotels - 3-star, mid market	1) Including interior decoration, furniture (fixed and movable), and special light fittings (chandeliers, etc.) 2) Excluding Operating Supplies and Equipment (OS&E).
Business hotels - 4/5-star	
Luxury hotels - 5-star	
INDUSTRIAL	
Industrial units, shell only (Conventional single storey framed units)	RC structure with steel roof and M&E to main distribution, but <u>excluding</u> a/c, and tenant fit-out
Owner operated factories, low rise, light weight industry	RC structure, including ancillary office with simple fit-out and M&E, but <u>excluding</u> a/c

BUILDING TYPE	OUTLINE SPECIFICATION
OTHERS	
Underground/basement car parks (<3 levels)	RC structure
Multi storey car parks, above ground (<4 levels)	RC structure, natural ventilation, no facade enclosure
Schools (primary and secondary)	Government standard and provisions
Students' residences	University standard
Sports clubs, multi purpose sports/leisure centres (dry sports)	Dry sports (no swimming pool) and are for 'leisure centre' type schemes including main sports hall, ancillary sports facilities, changing and showers, restaurant / cafe, bar, etc. Costs include a/c, Furniture, Fittings and Equipment (FF&E)
General hospitals - public sector	Excluding medical and operating equipment

Notes:

1. The costs for the respective categories given above are averages based on fixed price competitive tenders. It must be understood that the actual cost of a building will depend upon the design and many other factors and may vary from the figures shown.
2. The costs per square metre are based on Construction Floor Areas (CFA) measured to the outside face of the external walls / external perimeter including lift shafts, stairwells, balconies, plant rooms, water tanks and the like.
3. The costs include foundation and substructure.
4. All buildings are assumed to have no basements (except otherwise stated) and are built on flat ground, with normal soil and site conditions. The costs exclude site formation works, external works, land cost, professional fees, finance and legal expenses.
5. The standard for each category of building varies from region to region and do not necessary follow that of each other.
6. Fluctuation in exchange rates may lead to changes in construction costs expressed in U.S. dollars.

2 GENERAL CONSTRUCTION DATA

2024 Outlook
(China, Hong Kong and Macau)

Building Cost Trends in Hong Kong

Material Prices in Hong Kong

Labour Index in Hong Kong

Labour Wages in Hong Kong

Estimating Rules of Thumb & Design Norms

Construction Activity in Hong Kong

Construction Value in Hong Kong

Hong Kong General Construction Insurance

Specified Forms for Buildings Ordinance or
Regulations for Hong Kong

Summary of Building Regulations for
Hong Kong

Percentage Site Coverage and Plot Ratios for
Hong Kong

China: Green Buildings, Climate Change and
Regulatory Developments

Procurement Strategies and
Form of Contracts

Construction Workdone Forecast



2024 OUTLOOK

MAINLAND CHINA

Data from the National Bureau of Statistics showed that in Q4 2023, China's GDP expanded by 5.2%, which is 2.2% higher than the GDP growth of 3% in 2022. This growth was primarily driven by the economic boost following the reopening of the economy after the COVID-19 pandemic. Furthermore, the annual contribution of final consumption expenditure to economic growth reached 82.5%, representing a significant improvement of 43.1% points year on year.

By the end of 2023, real estate investment and the sales of commercial buildings had declined by 9.6% and 6.5% Year-on-year, respectively. According to the National Bureau of Statistics, the completed housing construction area decreased by 7.2% and the new commencement area decreased by 20.4%. However, the construction output in 2023 experienced a growth of 5.8%, primarily driven by infrastructure construction in transportation and industrial projects.

In the July 2023 meeting of the Political Bureau of the CPC Central Committee, it was pointed out that the relationship between supply and demand in China's real estate market has undergone significant changes. A series of easing policies have been implemented, and the restrictive policies that were in place during the overheating period of real estate have been lifted. It is expected that the real estate market will gradually recover in 2024, although there are currently no significant signs of that.

As the Chinese economy is going through transformation, new drivers are emerging to shape China's growth path. Among these, green transition, urban renewal, and industrial upgrading will be the key drivers of China's growth in the future. Additionally, China's decarbonization road map, which aims to peak carbon dioxide emissions before 2030 and achieve carbon neutrality before 2060, has created many new opportunities for green industries.

The construction wages have remained stable. Year on year, the prices of basic construction products have fluctuated, with steel (-)4.0%, rebar (-)3.5%, concrete (-)4.6%, cement (-)10.4%, Copper (+)5.2% and Aluminium (+)6.8%. Additionally, tender prices recorded an average decrease of 3% of in 2023.

The growth of construction wages is anticipated to remain stable in the coming year due to a stable consumer price index. In addition, material prices have fallen to lower levels as the real estate market has gradually recovered. We anticipate that the cost of major construction materials will rebound, resulting in a slight increase in construction costs of approximately 2% annually in 2024 and 2025.

HONG KONG

After a year of continued decline in 2022, the Gross Domestic Product (GDP) increased for three consecutive quarters and reached its peak in Q3 2023, representing a year-on-year rise of 4.1%. The Consumer Price Index (CPI) has generally been on an upward trend, reaching a year-on-year rise of 2.6% in November 2023.

Construction activity in the private and public sectors

The level of construction activity in Hong Kong showed signs of recovery in 2023. The overall gross value of works performed, including those performed in the private and public sectors, as well as works performed at locations other than sites, all experienced an increase. Specifically, for the 12 months ending in Q3 2023, these values rose by 9.6%, 25.4%, 3.4% and 4.3% respectively.

For the 12 months ending in October 2023, the construction floor areas with consent to commence and notification of commencement for private works had increased by 59% and 49% year-on-year, respectively. However, the areas completed for private works decreased by 14% during the same period.

When comparing the more recent data of the past 6 months with the preceding months, the areas with consent to commence and notification of commencement for private works decreased by 23% and 10%, respectively. However, the areas completed for private works increased by 21% during the same period. It was observed that the reductions in areas with consent to commence and notification of commencement are more pronounced in domestic development, decreasing by 56% and 12% respectively. Considering the current property market situation, the outlook for the level of construction activity in the private sector in 2024 is not optimistic.

The Hong Kong Legislative Council had approved a total of HK\$97.0 billion from the Capital Works Reserve Fund for proposed public works for fiscal year 2022/23. The approved fund is 24% lower than the funding approved in the preceding year. In the fiscal year 2023/24, the approved funding has remained at a low level, reaching HK\$99.3 billion as of February 2024. With the completion of most of the projects supported by higher approved funding in the previous years (ranging from 107 billion to 167 billion during fiscal year 2019/20 to 2021/22) and without sufficient funding injection into the capital works, it is anticipated the level of construction output in public sector may diminish in the coming years.

2024 OUTLOOK

Housing and land supply

Pursuant to the Chief Executive's 2023 Policy Address, the government will continue to alleviate the housing problem and shorten the waiting time for public rental housing. The projected supply target for public housing demand in the next 10 years is 308,000 units. The Government has identified sufficient land for developing approximately 410,000 public housing units, which exceeds the supply target by 100,000 units. Furthermore, in December 2023, the government published the Hong Kong Major Transport Infrastructure Development Blueprint, which includes the addition of two railways and one major road (i.e. Northern Link Eastern Extension, Northeast New Territories Line and Northern Metropolis Highway – New Territories North New Town Section) to the transportation proposal for the Northern Metropolis. It is anticipated that these infrastructure projects will further improve the territory-wide network and drive development.

According to the Long Term Housing Strategy (LTHS), the projected supply target for private housing in the next decade is projected to be 132,000 units. The Government aims to make sufficient land available in the next five years to provide approximately 80,000 units through land sale and railway property developments. It is expected that the supply of first-hand private residential units for the next three to four years will be around 107,000 units.

However, a decline of 22% in the residential property price index, as reported by the Centa-City Leading Index, indicates a significant drop in property prices in Hong Kong between August 2021 and December 2023. Such a decline can have various implications for the housing market and the development of private properties in the city.

Cost of material and labour

As of Q4 2023, according to Arcadis' Tender Price Index (TPI), there was a year-on-year increase of 4% in tender prices. After a prolonged growth in the previous few years, the price of steel had declined from its peak in Q1 2022. This decline amounted to 28% compared to the peak and 13% compared to the prices a year ago, based on data from August to October 2023.

On the other hand, the prices of diesel fuel, sand, tile and uPVC pipe had gradually gone up by 2% to 7% year-on-year during the same period. In contrast, the prices of plywood formwork and concrete had slightly decreased by 2% to 3%. The price of portland cement remained relatively stable during the mentioned period.

Based on data from August to October 2023 provided by the Census and Statistics Department, apart from bricklayers, carpenters, and plasterers, the wage of other trades generally experienced an increase of 0.3% to 4.8% year-on-year. In October 2023, the Hong Kong Construction Industry Employees General Union announced upward adjustments ranging from 3.1% to 7.1% for the wages of 15 major work trades for the 2023/2024 period. Furthermore, the unemployment rate in the construction sector had fallen from 4.9% in Q4 2022 to 3.7% in Q4 2023, indicating a continuing labour shortage.

To meet future labour demand in the construction industry, 6,349 quotas of imported construction workers were approved under the Labor Importation Schemes in 2023, with the premise of safeguarding the employment priority of local workers. It is believed that the new labour force will alleviate the shortage problem and, in turn, stabilize labour costs.

Looking forward

Looking ahead to the short term in 2024, Arcadis is cautiously optimistic about the level of construction activity in the public sector, which will still be supported by projects with funding approved in the previous few years. Meanwhile, the performance of the private sector will depend on the pace of recovery of the property market. It is anticipated that the upward trend of the material and labour costs will continue in the coming year due to the war in Ukraine, global inflation and the shortage of local construction labour, despite the importation of labour. With all of these factors in mind, construction costs are estimated to increase by 2% annually in 2024 and 2025.

2024 OUTLOOK

MACAU OUTLOOK FOR 2024

Since the lifting of COVID-19 restrictions, the Macao gambling industry has been booming again. The Accumulated Gross Revenue of Games of Fortune increased by 324.9% year-on-year to MOP 164.5 billion as of November 2023. In Q3 2023, the Gross Domestic Product (GDP) reached MOP 91.5 billion, representing a real growth of 116.1% year-on-year. The GDP had reached 77.4% of the pre-epidemic level. Meanwhile, the average Composite Consumer Price Index (CPI) slightly grew by 0.87% year-on-year for the first ten months of 2023.

The new 10-year gaming contract was signed between the Government and the six existing concessionaires in December 2022, leading to increased investment by the concessionaires. As a result, construction investment increased by 28.5% in the first half of 2023, according to the Macao Economic Bulletin. The opportunity in the private sector is optimistic due to the increase in construction investment by the six existing concessionaires.

Pursuant to the Policy Address for the Fiscal Year 2024 of the Macao SAR, the Government has pledged to increase the investment in the public construction industry, including public housing and public facilities. There is great development potential in Macao New Urban Zone and public utilities. The currently scheduled construction works include the connection bridge between Macao Peninsula and New Urban Zone A, public housing in Zone A, the viaduct of Macao Light Rail Transit, Taipa Grande Tunnel, etc. Construction activity is stable and optimistic in the public sector.

According to the data from DSCE (Macao Statistics and Census Service), the overall price of construction materials dropped by 0.5% year-on-year in Q3 2023. The main reason is the continued decrease in steel prices, which dropped by 8.8% year-on-year. The wage index of construction workers dropped by 2.3% year-on-year in Q3 2023, mainly due to the decrease in wages of electricians, bricklayers, and plasterers.

Looking forward to 2024, the economy of Macao is anticipated to maintain an uptrend and return to pre-epidemic levels. The investment atmosphere is positive, but the global inflation, monetary policy, conflicts in the Middle East, and the Russo-Ukrainian conflict are potential headwinds.

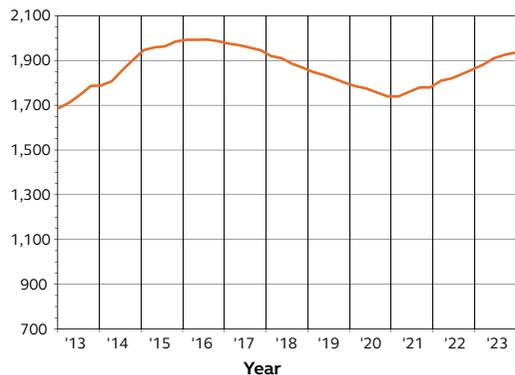
As the impact of COVID-19 diminishes and construction market demand increases, it is expected that the prices of construction materials and wages of construction workers will gradually increase in the coming year. It is anticipated that the construction costs will increase by 1.5% in 2024 and 2.0% in 2025, respectively.

CONSTRUCTION COST TREND PREDICTION

REGION	2023	2024	2025
China	(-)3%	(+)2%	(+)2%
Hong Kong	(+)4%	(+)2%	(+)2%
Macao	(+)2%	(+)1.5%	(+)2%

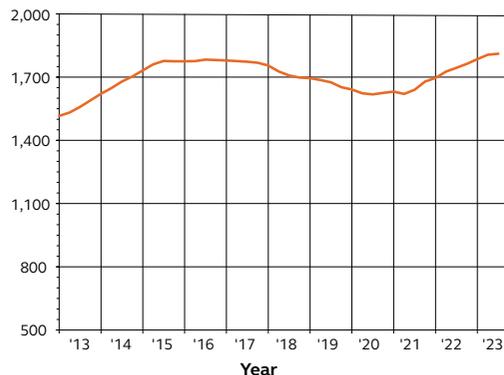
BUILDING COST TRENDS IN HONG KONG

Arcadis Tender Price Index



YEAR	INDEX (Base = 100, at Year 1970)			
	Q1	Q2	Q3	Q4
2011	1,385	1,425	1,452	1,491
2012	1,511	1,552	1,595	1,632
2013	1,688	1,713	1,747	1,786
2014	1,789	1,808	1,857	1,903
2015	1,946	1,958	1,963	1,984
2016	1,992	1,992	1,993	1,986
2017	1,975	1,968	1,957	1,946
2018	1,920	1,910	1,885	1,868
2019	1,848	1,835	1,818	1,800
2020	1,785	1,775	1,757	1,740
2021	1,740	1,760	1,780	1,780
2022	1,810	1,820	1,840	1,860
2023	1,882	1,910	1,925	1,935

ArchSD Building Works Tender Price Index

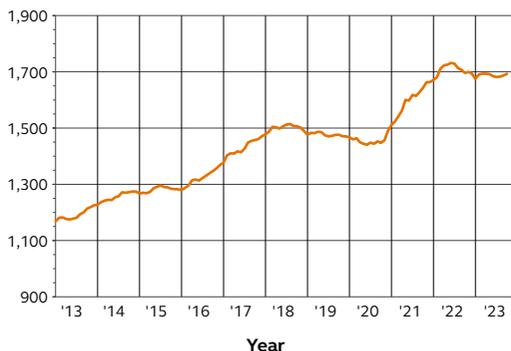


YEAR	INDEX (Base = 100, at Year 1970)			
	Q1	Q2	Q3	Q4
2011	1,273	1,320	1,369	1,408
2012	1,414	1,438	1,467	1,496
2013	1,516	1,532	1,559	1,590
2014	1,621	1,648	1,679	1,703
2015	1,732	1,761	1,777	1,775
2016	1,775	1,776	1,783	1,781
2017	1,779	1,776	1,773	1,768
2018	1,755	1,727	1,708	1,698
2019	1,695	1,686	1,675	1,652
2020	1,641	1,623	1,618	1,625
2021	1,631	1,620	1,640	1,679
2022	1,696	1,726	1,744	1,763
2023	1,785	1,806	1,811	

Source : Architectural Services Department, Hong Kong, SAR
Refer to www.archsd.gov.hk for further information.

BUILDING COST TRENDS IN HONG KONG

Highways Department Construction Cost Index

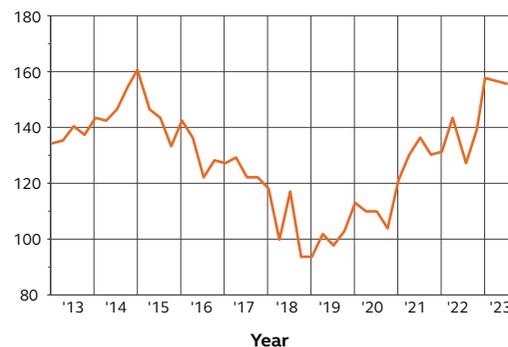


YEAR	HyD CONST. COST INDEX (Nov. 1975 Value = 100)
2011	1,075
2012	1,127
2013	1,191
2014	1,256
2015	1,282
2016	1,323
2017	1,429
2018	1,501
2019	1,477
2020	1,455
2021	1,597
2022	1,707
2023*	1,687

* 1/23 to 10/23 only

Source : Civil Engineering and Development Department, Hong Kong, SAR
Refer to www.cedd.gov.hk/eng/publications/standards-spec-handbooks-cost/index.html for further information.

CEDD Civil Engineering Works Tender Price Index



YEAR	CEDD CIVIL ENGINEERING WORKS TENDER PRICE INDEX (2010 Q1 = 100)			
	Q1	Q2	Q3	Q4
2011	129	129	111	104
2012	132	133	131	148
2013	134	135	140	137
2014	143	142	146	154
2015	161	146	143	133
2016	142	136	122	128
2017	127	129	122	122
2018	118	100	117	94
2019	94	102	98	103
2020	113	110	110	104
2021	121	130	136	130
2022	131	143	127	139
2023	157	156	155*	

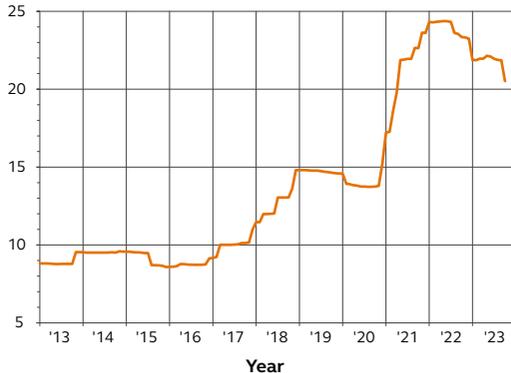
* Provisional

Source : Civil Engineering and Development Department, Hong Kong, SAR
Refer to www.cedd.gov.hk/eng/publications/standards-spec-handbooks-cost/index.html for further information.

MATERIAL PRICES IN HONG KONG

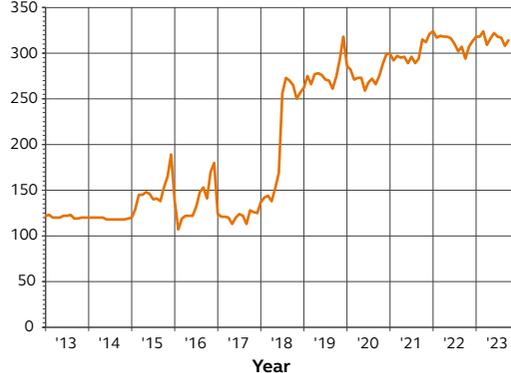
GALVANIZED MILD STEEL PLATE

HKD('000)/tonne



SAND

HKD/tonne



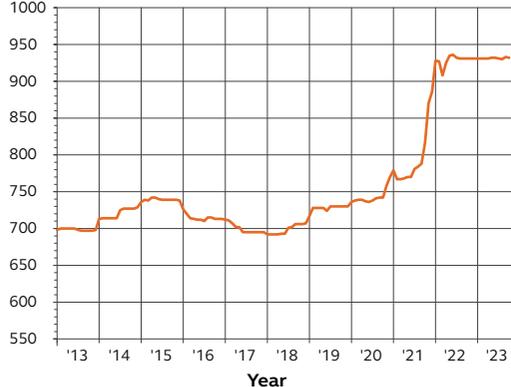
REBAR

HKD('000)/tonne



ORDINARY PORTLAND CEMENT

HKD/tonne



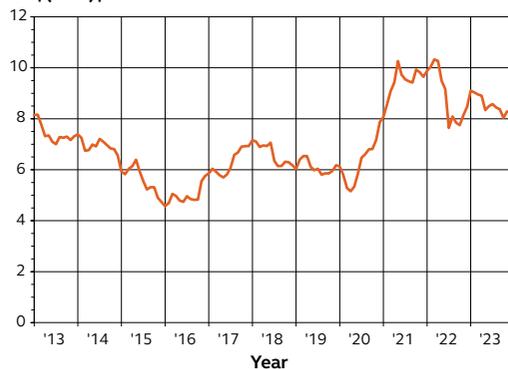
Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

MATERIAL PRICES IN HONG KONG

COPPER GRADE A

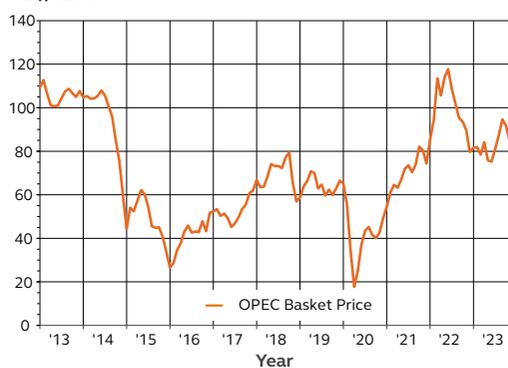
US\$('000)/tonne



Source: International Monetary Fund
Refer to www.imf.org for further information.

CRUDE OIL

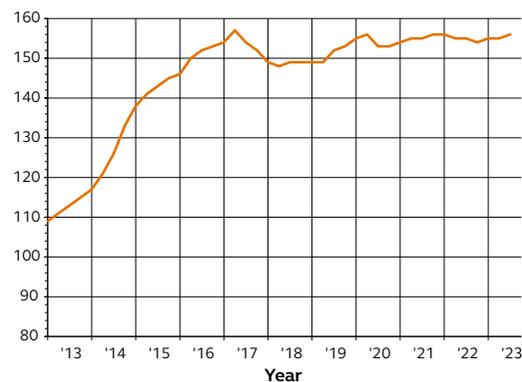
US\$/barrel



Source: Organization of the Petroleum Exporting Countries (OPEC)
Refer to www.opec.org for further information.

LABOUR INDEX IN HONG KONG

Index

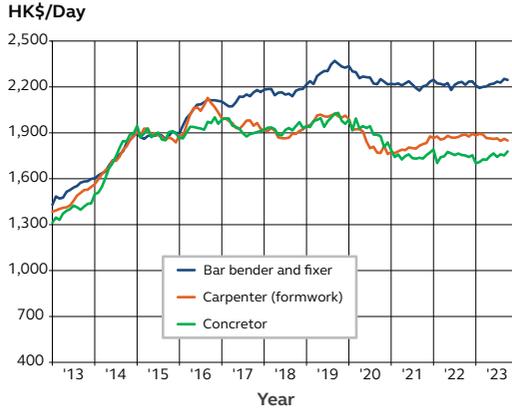


YEAR	INDEX (Base = 100, at April 2003)			
	Q1	Q2	Q3	Q4
2011	90	90	91	94
2012	95	95	96	102
2013	109	111	113	115
2014	117	121	126	133
2015	138	141	143	145
2016	146	150	152	153
2017	154	157	154	152
2018	149	148	149	149
2019	149	149	152	153
2020	155	156	153	150
2021	154	155	155	156
2022	156	155	155	154
2023	155	155	156	

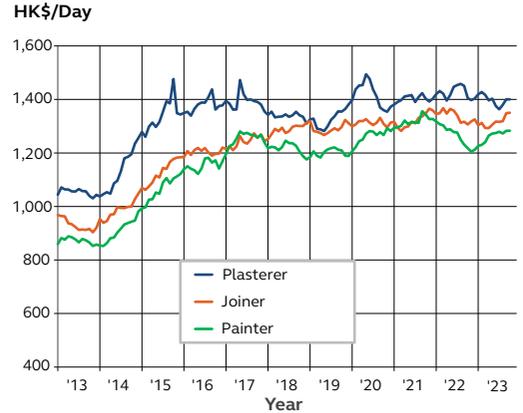
Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

LABOUR WAGES IN HONG KONG

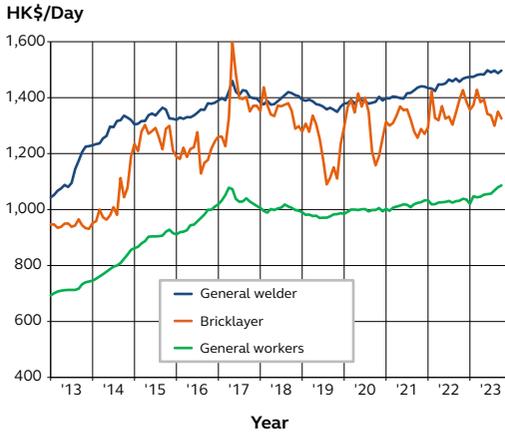
STRUCTURAL



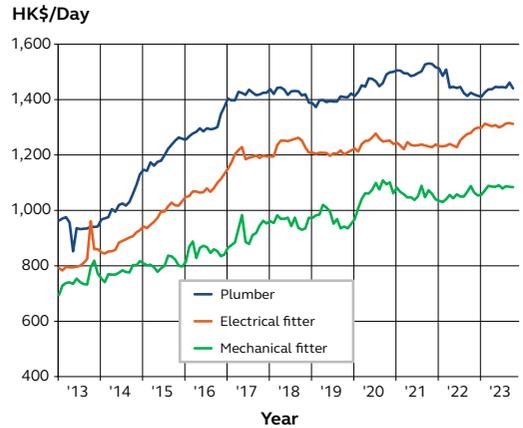
ARCHITECTURAL - DECORATIVE WORKS



ARCHITECTURAL - BASIC WORKS



M&E



Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

ESTIMATING RULES OF THUMB AND DESIGN NORMS

HONG KONG

CFA To GFA Ratio

Building Type	CFA : GFA
Residential	1.15 to 1.25 : 1
Office / Commercial	1.15 to 1.25 : 1
Hotel	1.30 to 1.45 : 1

The above ratios do not include any associated car parking area.

Functional Area Distribution in 5-Star Hotels

Functional Area	% of Total Hotel CFA
Front of House	15 - 20%
Guestroom Floors	50 - 60%
Back of House	25 - 30%

Dimensions of Typical Grade A Office Space

Component	Dimension
Distance from curtain wall to core wall	9 - 13 m
Population	9 m ² usable floor area/person
Average waiting interval for lifts	30 - 40 seconds

Density of Basic Materials for Structure

Material	Density
Concrete	2,400 kg/m ³
Cement	1,450 kg/m ³
Sand	1,600 kg/m ³
Aggregate	1,600 kg/m ³
Steel	7,843 kg/m ³

Average Loads Volume

Lorry (24 ton)	10.0 m ³
Concrete truck (24 ton)	5.5 m ³
Barge	200 - 1,450 m ³

HONG KONG (Cont'd)

Average Piling Ratio - Bored Piles

Building Type	m ² CFA / m ² cross section area of piles
Residential	200 - 330
Office / Commercial	200 - 300
Hotel	200 - 330

Average Piling Ratio - Driven H-Piles

Building Type	m ² CFA / No. of piles
Residential	60 - 120
Office / Commercial	60 - 110
Hotel	60 - 120

Average Piling Ratio - Pre-Bored H-Piles

Building Type	m ² CFA / No. of piles
Residential	70 - 150
Office / Commercial	70 - 140
Hotel	70 - 150

All pile ratios are for high-rise buildings with normal soil conditions.

Building Structure - Concrete Ratio

Concrete/floor area	0.4 m ³ /m ² to 0.5 m ³ /m ²
Formwork/floor area	2.2 m ² /m ² to 3.0 m ² /m ²
Reinforcement	160 kg/m ³ to 250 kg/m ³

Average External Wall/Floor Ratio

Residential Apartments	1.2 m ² /m ²
Office, Hotel	0.4 m ² /m ²
Industrial	0.4 m ² /m ²

ESTIMATING RULES OF THUMB AND DESIGN NORMS

HONG KONG (Cont'd)

Average Internal Wall/Floor Ratio

Residential Apartments	1.0 m ² /m ²
Office	0.5 m ² /m ²
Hotel	1.5 m ² /m ²

The above ratios are indicative and for reference purposes only. They do not account for buildings with special shapes, configurations or particularly small foot prints.

Average Lighting Level

Building Type	Lux
Residential	300
Office	500
Retail	400
Hotel	300
School	300-500

Average Power Density

Building Type	VA/m ² CFA
Residential	80 - 100
Office	70
Retail	300-400
Hotel - Accommodation	30
Hotel - F&B Area	550
School	50

Average Cooling Load

Building Type	m ² Cooling Area/RT
Residential	18 - 23
Office	14 - 18
Retail	12-14
Hotel	23
School	23

HONG KONG (Cont'd)

Dimensions of Parking Spaces

Type of Vehicle	Length	Width	Minimum Headroom
Private Cars and Taxis	5 m	2.5 m	2.4 m
Light Goods Vehicles	7 m	3.5 m	3.6 m
Medium/Heavy Goods Vehicle	11 m	3.5 m	4.7 m
Container Vehicles	16 m	3.5 m	4.7 m
Coaches and Buses	12 m	3.5 m	3.8 m
Light buses	8 m	3 m	3.3 m

Minimum headroom means the clearance between the floor and the lower most projection from the ceiling including any lighting units, ventilation ducts, conduits or similar.

Indicative Dimensions for Sports Grounds

	Length	Width
Tennis Court	40 m	20 m
Squash Court	10 m	6.4 m
Basketball Court	34 m	20 m
Volleyball Court	36 m	20 m
Badminton Court	20 m	10 m
Ice Rink	61 m	26 m
Soccer Pitch	120 m	90 m

The above dimensions are for a single court with appropriate clearance. No spectator seating or support area has been allowed.

(Cont'd)

ESTIMATING RULES OF THUMB AND
DESIGN NORMS

CHINA AND HONG KONG

Minimum Imposed Loads (Uniformly distributed load; kPa)
for Building Design

Building Type	China [®]	Hong Kong*
DOMESTIC		
Apartments	2.0	2.0
OFFICE / COMMERCIAL		
Office	2.0	3.0
Shopping Arcade	3.5	5.0
HOTELS		
Hotel	2.0	2.0
INDUSTRIAL		
Industrial, light duty	4.0	5.0
OTHERS		
Carpark, private cars	2.5	3.0
School	2.5	3.0
Theatre, Sports Hall, etc.	4.0	5.0
Hospital	2.0	2.5

Source :

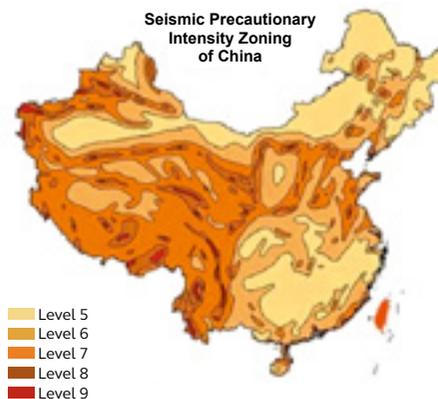
® Load Code for the Design of Building Structures, GB 50009-2012, Ministry of Housing and Urban-Rural Development, PRC

* Code of Practice for Dead and Imposed Loads 2011 (2021 Edition), Buildings Department, HKSAR

CHINA

Seismic Precautionary Intensity Zoning

As stipulated in PRC National Standard GB 50011-2010 (Code for Seismic Design of Buildings) 2016, geographic regions which are classified as Level 6 or above in Seismic Precautionary Intensity Classification should incorporate seismic measures in the design of the structure and foundations.

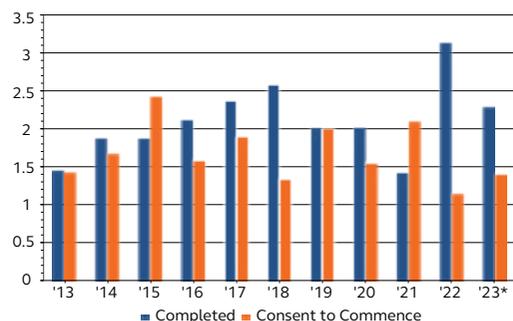


Geographic Regions	Intensity Level	Geographic Regions	Intensity Level
Beijing	7 - 8	Hong Kong	7
Changsha	6	Macau	7
Chengdu	7 - 8	Qingdao	6 - 7
Chongqing	6 - 7	Shanghai	7
Dalian	6 - 8	Shenyang	7
Foshan	7	Shenzhen	6 - 7
Guangzhou	6 - 7	Suzhou	6 - 7
Haikou	8	Tianjin	7 - 8
Hangzhou	6 - 7	Wuhan	6 - 7
Hengqin	7	Xi'an	8

Source : China Earthquake Data Center (data.earthquake.cn)

CONSTRUCTION ACTIVITY IN HONG KONG

Gross Floor Area (Million m²)



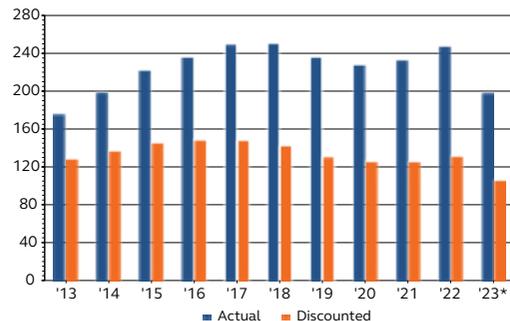
YEAR	COMPLETED m ²	CONSENT TO COMMENCE m ² #
2011	1,650,000	1,232,000
2012	2,507,000	2,343,000
2013	1,472,000	1,437,000
2014	1,908,000	1,679,000
2015	1,897,000	2,445,000
2016	2,134,000	1,597,000
2017	2,379,000	1,900,000
2018	2,600,000	1,358,000
2019	2,028,000	2,020,000
2020	2,048,000	1,572,000
2021	1,445,000	2,104,000
2022	3,162,000	1,156,000
2023*	2,302,000	1,415,000

* 1/23 to 11/23 only
First Submission only

Source: Census and Statistics Department, Hong Kong, SAR
Buildings Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk and www.bd.gov.hk
for further information.

CONSTRUCTION VALUE IN HONG KONG

Gross Value of Construction Work Performed (HK\$ Millions)



YEAR	VALUE IN NOMINAL TERMS HK\$ MILLIONS	VALUE IN CONSTANT (2000) MARKET PRICE HK\$ MILLIONS
2011	128,535	108,263
2012	161,449	126,414
2013	176,575	129,868
2014	199,737	138,285
2015	223,947	146,978
2016	236,491	149,973
2017	249,919	148,943
2018	252,176	143,136
2019	236,437	131,111
2020	229,869	127,146
2021	233,721	126,606
2022	249,108	132,589
2023*	199,034	107,041

* Up to Q3 figures and are provisional only

Source: Census and Statistics Department, Hong Kong, SAR
Refer to www.censtatd.gov.hk for further information.

HONG KONG GENERAL CONSTRUCTION INSURANCE

This section provides general information regarding construction insurance arrangements in Hong Kong.

It is common place for Hong Kong construction contracts to contain provisions as to insurances such as Employees Compensation Insurance, Third Party Liability Insurance, Works Insurance and, on occasion, Professional Liability Indemnity Insurance. For employers, the insurance placement ensures that the contractual indemnities are backed by a financial institution that can afford to pay. For contractors, it provides a certain degree of protection to ensure that he has the means to pay in the event of mishaps.

The insurances may be effected by the contractor (Contractor Controlled Insurance Programme or CCIP) or be taken out by the employer (Employer Controlled Insurance Programme or ECIP). CCIP tends to be the most common insurance arrangement in Hong Kong, since the contractor is in control of all site operations and in a better position to manage its own site safety / risk. As a poor safety record will count against the contractor in premiums negotiation in the procurement of insurance, CCIP provides an incentive for better safety / risk management. On the other hand, ECIP placement leaves the control of the insurance programme in the hands of the employer, thereby offering the advantage of providing comprehensive insurance coverage on a project-wide basis and hence minimizing overlaps and gaps in insurance coverage.

Employees Compensation

Section 40(1) of the Employees Compensation Ordinance states that no employer shall employ any employee unless there is a policy of Employees Compensation Insurance in place. The maximum penalty for failing to comply with this provision is two years in jail and a maximum fine of HK\$100,000.

Under the Ordinance, the principal contractor shall take out insurance for his employees and all of the employees of subcontractors with a limit of indemnity of HK\$200 million per event (or HK\$100 million if the number of employees is less than 200).

Since an injured worker could attempt to sue the employer, the employer will want to ensure the contractor has taken out insurance in joint names with the employer.

Contractors' All Risks Insurance

A Contractors' All Risks policy generally comprises (i) Third Party Insurance which covers injury to persons (except the Contractor's own workmen) or damage to property (other than the Works), due to the carrying out of the Works which may or may not be caused by a default of the contractor. The policy is normally subject to a maximum reimbursement per incident but unlimited in the number of incidents, (ii) Contract Works Insurance which covers damage caused to the Works itself by risks not excluded from the policy and (iii) Plant & Equipment Insurance which covers the contractor's plant and equipment used in the Works. Plant & Equipment Insurance is not normally required under the contract conditions and is voluntarily purchased by the contractor.

Professional Indemnity Insurance

For construction contracts involving contractor's design, it is not uncommon for the employer to require the contractor and his design consultants and independent checking engineers to obtain insurance to cover their liability for design. For Government Contracts, the Professional Indemnity Insurance shall cover the contractor's liability for design generally for the construction period and a further 6 years.

SPECIFIED FORMS FOR BUILDINGS ORDINANCE OR REGULATIONS FOR HONG KONG

FORM NO.	PURPOSE	RELEVANT SECTION OF REGULATION
BA1	Application for inclusion in the authorized persons' register / structural engineers' register / geotechnical engineers' register / inspector's register.	BOs 3(6)
BA1A	Application for retention of name in the authorized persons' register / structural engineers' register / geotechnical engineers' register / inspectors' register.	BOs 3(9B)
BA1B	Application for restoration of name in the authorized persons' register / structural engineers' register / geotechnical engineers' register / inspectors' register.	BOs 3(12)
BA2	Application for registration as a general building contractor / specialist contractor.	BOs 8B
BA2A	Application for renewal of registration as a registered general building contractor / registered specialist contractor.	BOs 8C(2)
BA2B	Application for restoration of name to the register of general building contractors / specialist contractors.	BOs 8D(2)
BA2C	Application for approval of technical director / other officer / person appointed to act for the purposes of the Buildings Ordinance for a registered general building contractor / registered specialist contractor.	BOs 8B
BA4	Notice of appointment of authorized person and/or registered structural engineer and/or registered geotechnical engineer.	BOs 4, B(A)R 23
BA5	Application for approval of plans of building works and/or street works and certificate of preparation of plans.	BOs 14(1)(a), B(A)R 29 & 18A

BA6	Stability certificate of authorized person and/or registered structural engineer.	B(A)R 18
BA7	Notice of urgent works required as a result of accident or emergency.	BOs 19, B(A)R 28
BA8	Application for consent to the commencement and carrying out of building works or street works.	BOs 14(1)(b), B(A)R 31
BA8A	Application for concurrent consent to the commencement of building works.	BOs 14(1)(b), B(A)R 31
BA9	Application for renewal of consent to the carrying out of building works or street works.	BOs 20
BA10	Notice of appointment of registered contractor, notice of commencement of building works or street works and undertaking by registered contractor.	B(A)R 20, BOs 9
BA11	Notice from a registered contractor on ceasing to be appointed in respect of building works or street works and certificate in respect of that part of the building works or street works carried out by the registered contractor.	B(A)R 24
BA12	Certificate on completion of building works resulting in a new temporary building, a new building or part of a new building and application for temporary occupation permit in respect of such building or part.	B(A)R 25, BOs 21
BA13	Certificate on completion of building works resulting in a new building and application for permit to occupy such building.	B(A)R 25, BOs 21
BA14	Certificate on completion of building works not resulting in a new building or of street works.	B(A)R 25 & 26
BA14A	Certificate on completion of demolition works.	B(A)R 25
BA14B	Certificate on completion of demolition works (streamlined procedure).	B(A)R 25
BA14C	Certificate on completion of building works not resulting in a new building (streamlined procedure)	B(A)R 25

Source : Buildings Department, Hong Kong, SAR. Refer to www.bd.gov.hk for further information.

SPECIFIED FORMS FOR BUILDINGS ORDINANCE OR REGULATIONS FOR HONG KONG

FORM NO.	PURPOSE	RELEVANT SECTION OF REGULATION
BA15	Notice of intended material change in the use of a building.	BOs 25, B(A)R 47
BA16	Application for modification of and/or exemption from the provisions of the Buildings Ordinance and/or Regulations made thereunder.	BOs 42
BA17	Application for permit to erect a temporary building.	B(P)R 51
BA18	Application for permit to erect a contractor's shed.	B(P)R 53
BA19	Application for permit to erect hoardings, covered walkways or gantries.	B(P)R 64
BA20	Notice of technically competent person or persons appointed to supervise demolition works.	B(D)WR 8
BA21	Notice of nomination by authorized person or registered structural engineer or registered geotechnical engineer to temporary act in his stead.	BOs 4(2), B(A)R 23(2)
BA22	Application for authorization to carry out and/or maintain ground water drainage works.	BOs 28B(1)
BA23	Application for grant/renewal of licence for an oil storage installation.	B(OS)R 6(1) & 7(3)
BA24	Notification of change of business address / Contact information.	B(A)R 45

BA25	Application for registration as a registered minor works contractor (company).	B(MW)R 10(1)(b)
BA25A	Application for renewal of registration of registered minor works contractor (company).	B(MW)R 14(1)
BA25B	Application for restoration of name to the register of minor works contractors (company).	B(MW)R 18(1)
BA25C	Application for registration of additional class and /or type of minor works for registered minor works contractor (company).	B(MW)R 21(2)
BA25D	Application for approval of nomination of additional authorized signatory/technical director of registered minor works contractor (company).	B(MW)R 24(1)
BA25E	Application for review of decision of the Building Authority or recommendation of the Minor Works Contractors Registration Committee in respect of registration of minor works contractor (company).	B(MW)R 26
BA26	Application for registration as a registered minor works contractor (individual).	B(MW)R 10(1)(a)
BA26A	Application for renewal of registration of registered minor works contractor (individual).	B(MW)R 14(1)
BA26B	Application for restoration of name to the register of minor works contractor (individual).	B(MW)R 18(1)
BA26C	Application for registration of additional items of Class III minor works for a registered minor works contractor (individual).	B(MW)R 21(1)
BA26D	Application for review of decision of the Building Authority or recommendation of the Minor Works Contractors Registration Committee in respect of registration of minor works contractor (individual).	B(MW)R 26

Source : Buildings Department, Hong Kong, SAR. Refer to www.bd.gov.hk for further information.

SUMMARY OF BUILDING REGULATIONS FOR
HONG KONG

DESCRIPTION	NUMBER OF REGULATIONS
Administration	49
Appeal	13
Construction	46
Demolition Works	14
Energy Efficiency	5
Minor Works	96
Minor Works (Fees)	20
Inspection and Repair	35
Oil Storage Installations	15
Planning	74
Private Street and Access Roads	28
Refuse Storage and Material Recovery Chambers and Refuse Chutes	30
Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines	97
Ventilating Systems	8

Source: Buildings Ordinance, Hong Kong, SAR
Refer to www.legislation.gov.hk for further information.

PERCENTAGE SITE COVERAGE AND PLOT
RATIOS FOR HONG KONG**DEFINITION**

Class A Site : Not being a class B or class C site, that abuts on one specified street not less than 4.5 m wide or on more than one such street.

Class B Site : A corner site that abuts on 2 specified streets neither of which is less than 4.5 m wide.

Class C Site : A corner site that abuts on 3 specified streets none of which is less than 4.5 m wide.

OPEN SPACE ABOUT DOMESTIC BUILDINGS		
Item	Class of site	Open space required
1.	Class A site	Not less than one-half of the roofed-over area of the building
2.	Class B site	Not less than one-third of the roofed-over area of the building
3.	Class C site	Not less than one-quarter of the roofed-over area of the building

Source: Buildings Ordinance, Hong Kong, SAR
Refer to www.legislation.gov.hk for further information.

PERCENTAGE SITE COVERAGE AND PLOT RATIOS FOR HONG KONG

Height of Building in metres	DOMESTIC BUILDINGS					
	Percentage site coverage			Plot Ratio		
	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
Not over 15 m	66.6	75	80	3.3	3.75	4.0
15 m to 18 m	60	67	72	3.6	4.0	4.3
18 m to 21 m	56	62	67	3.9	4.3	4.7
21 m to 24 m	52	58	63	4.2	4.6	5.0
24 m to 27 m	49	55	59	4.4	4.9	5.3
27 m to 30 m	46	52	55	4.6	5.2	5.5
30 m to 36 m	42	47.5	50	5.0	5.7	6.0
36 m to 43 m	39	44	47	5.4	6.1	6.5
43 m to 49 m	37	41	44	5.9	6.5	7.0
49 m to 55 m	35	39	42	6.3	7.0	7.5
55 m to 61 m	34	38	41	6.8	7.6	8.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0

Source: Buildings Ordinance, Hong Kong, SAR
Refer to www.legislation.gov.hk for further information.

NON-DOMESTIC BUILDINGS					
Percentage site coverage			Plot Ratio		
Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
100	100	100	5	5	5
97.5	97.5	97.5	5.8	5.8	5.8
95	95	95	6.7	6.7	6.7
92	92	92	7.4	7.4	7.4
89	90	90	8.0	8.1	8.1
85	87	88	8.5	8.7	8.8
80	82.5	85	9.5	9.9	10.2
75	77.5	80	10.5	10.8	11.2
69	72.5	75	11.0	11.6	12.0
64	67.5	70	11.5	12.1	12.6
60	62.5	65	12.2	12.5	13.0
60	62.5	65	15	15	15

CHINA: GREEN BUILDINGS, CLIMATE CHANGE AND REGULATORY DEVELOPMENTS

Overview

China promulgated its first national green building evaluation standard in 2014. In promoting green buildings, China and all other countries share the same underlying sustainability goals, namely, environmental protection, reduction of wastes, well-being of building users, conservation of energy, adapting and mitigating climate change impacts. Now that climate change is a forefront issue for all governments and businesses worldwide, decarbonisation and adapting to renewable energies are becoming the measurements, drivers and direction of the development of green buildings in China.

For a number of years China has been the world's largest emitter of carbon dioxide and other greenhouse gases. Hence it was a very significant moment for the global climate change movement that President Xi Jinping of China announced at the 75th Session of the UN General Assembly in September 2020 that China will target to peak its carbon emissions by 2030 and to attain carbon neutrality by 2060. In fact, historically, China has always been highly proactive and supportive of international developments in climate change and decarbonisation. When the three most important international conventions for climate change were agreed and promulgated by the United Nations, namely, the 1992 UN International Intergovernmental Panel on Climate Change, the 1997 Kyoto Protocol and the 2015 Paris Agreement, China formally acceded to them within one year of their promulgation.

Since China's public announcement of its 2030/2060 decarbonisation commitments, China has issued a series of national policy documents to implement and fulfil its commitments, such as:

- the Outline of the 14th Five-Year Plan and the Long-Range Objectives Through the Year 2035 (中华人民共和国国民经济和社会发展第十四个五年规划和2035年远景目标纲要) (March 2021)
- the Opinions on Full Implementation of Decarbonisation (关于完整准确全面贯彻新发展理念做好碳达峰碳中和工作的意见) (September 2021)
- the Action Plan for Peaking Carbon Emissions before 2030 (2030年前碳达峰行动方案) (October 2021)
- the National Climate Change Adaptation Strategy 2035 (国家适应气候变化战略 2035) (May 2022)
- the Guidelines for Establishing Carbon Peaking and Carbon Neutrality Standards (碳达峰碳中和标准体系建设指南) (May 2023)

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In connection with these macro decarbonisation policy documents, a number of national policy documents have been issued to actively implement decarbonisation in the building and construction sectors, such as:

- the 2020 Green Building Promotion Action Plan (2020年绿色建筑创建行动方案) (July 2020)
- the Opinions on Driving Green Developments in Urban and Rural Areas (关于推动城乡建设绿色发展的意见) (October 2021)

In February 2023, the Supreme People's Court issued the Opinions on Complete, Accurate and Comprehensive Implementation of the New Development Concept and Providing Judicial Services for Active and Steady Promotion of Carbon Peaking and Carbon Neutrality (最高人民法院关于完整准确全面贯彻新发展理念 为积极稳妥推进碳达峰碳中和提供司法服务的意见), to provide guidance to local courts on adjudication of cases relating to carbon emission, green building and green finance.

Green Building Certifications and Green Building Regulations

Energy conservation and efficiency performance is naturally the initial focus of China's green building regime. China has established its national legal framework in this area through 1997 Energy Conservation Law (节约能源法) and the 2008 Civilian Buildings Energy Conservation Regulations (民用建筑节能条例). All civil buildings are required to meet the relevant mandatory energy conservation standards and specifications for building materials, equipment and techniques, failing which local construction authorities shall not grant relevant approvals at the building design, planning, work commencement or completion stage.

Specifically, in June 2023, the Measures for the Energy Conservation Review of Fixed Asset Investment Projects (固定资产投资投资项目节能审查办法) came into effect and requires developers of fixed asset investment projects to obtain the energy conservation review opinions issued by the energy conservation review authority at specific stages. Any project that is not reviewed for energy conservation in accordance with the Measures or fails to pass the energy conservation review shall not be commenced by the developer and shall not be put into production or use if the project is built.

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CHINA: GREEN BUILDINGS, CLIMATE CHANGE AND REGULATORY DEVELOPMENTS

Residential and commercial buildings are major source of carbon emissions due to the huge amount of electricity (and fossil fuel for heat generation in the colder regions of China) consumed for living and economic activities which take place in buildings. To address such operational carbon emission of buildings, China promulgated its first Green Building Action Plan in 2013, and then promulgated its first national Green Building Evaluation Standard scheme in 2014. The latest Green Building Evaluation Standard (绿色建筑评价标准) (GB-T50378-2019) was updated in 2019. It provides technical standards for different types of civil buildings. A building can obtain green building rating of Basic-Grade, One-Star, Two-Star to Three-Star (being the highest rating). Similar to other international rating systems, China green building rating is granted in two stages: initially, a tentative rating at the design stage, and then a formal rating after completion of construction.

Currently only limited types of buildings are mandatorily required to achieve a certain green building rating. Pursuant to the 2020 Green Building Promotion Action Plan (绿色建筑创建行动方案) and other policy documents, China targets that 70% and then 100% of all new buildings in China shall attain a green building rating by end of 2022 and 2025 respectively.

Concurrent with various mandatory requirements to attain green building ratings, local authorities have also been granting financial incentives for green buildings, such as exemption of gross floor area used to construct green building facilities in calculating project plot ratio as well as cash subsidies for projects which can attain higher green building ratings.

All regions in China now have green building regulations of varying degree of sophistication, e.g. the Guangdong Provincial Green Building Regulations (广东省绿色建筑条例) (January 2021). In 2023, there were at least three new building regulations issued by provincial-level authorities in China.

The most progressive green building regulations in China, namely, the Shenzhen Green Building Regulations (深圳经济特区绿色建筑条例), has entered into effect on 1 July 2022. It stipulates a comprehensive green building regulatory local regime which is more progressive/stringent than all other national and local green building regulations. Its salient features include:

- Categorizing green building as a strategic new industry sector and mandating the Shenzhen real estate and construction authorities to establish a green building development plan.

- Apart from commercial and residential buildings, industrial buildings are now also regulated.

- Setting higher green building certification standard for all new buildings – specifically, all new buildings must attain not lower than One-Star standard and all new state-funded new buildings must attain not lower than Two-Star standard.

- Setting higher standards for carbon emission, energy and water consumption, indoor air quality and noise abatement for all new buildings, and mandating energy audit and retrofitting if the applications standards are not complied with.

- Requiring utility companies and building owners/users to provide data on their consumption of energy, water and other resources to the local green building authority.

- Setting specific carbon emission targets for major/iconic buildings, and (in the near future) including certain major players in the building sector into the carbon emission quota management system.

- Apart from regulating building developers, building users, managers and professionals are now also imposed with green building related legal obligations with respect to building construction, use and demolition.

- Granting plot-ratio concessions for construction areas necessitated by green building facilities and technologies.

- Permitting higher mortgage loan amounts from housing provident fund for purchase of residential properties with green building standard higher than One-Star.

In response to the ever-rising climate change awareness internationally and in China, some major landlords and tenants of commercial real estate have started to adopt green lease. However, there is yet any government regulatory requirements or incentives for adoption of green lease in leasing of real estate.

Green Construction Materials

From the perspective of the whole life cycle of a building, the carbon emission "embedded" in construction phase of a building is often much more than the carbon emission during the operational phase of a building. In November 2022 the Action Plan on Peaking Carbon Dioxide Emissions in the Building Materials Industry (建材行业碳达峰实施方案) was issued to address the embedded carbon emission of construction materials.

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CHINA: GREEN BUILDINGS, CLIMATE CHANGE AND REGULATORY DEVELOPMENTS

The Action Plan stipulates measures to enhance the regulatory framework for certification and use of green building materials, promotes green building technology development, and supports the use of renewable energy in production of construction materials.

In this connection, the Circular on Extending the Implementation Scope of Policies on Government's Procurement of Green Building Material to Improve Building Quality (关于扩大政府采购支持绿色建材促进建筑品质提升政策实施范围的通知) (October 2022), the Circular on Issuing the Implementation Guide to the Projects under the Policy for Supporting Green Building Materials through Government Procurement and Promoting Construction Quality Improvement (关于印发政府采购支持绿色建材促进建筑品质提升政策项目实施指南的通知) (March 2023), the Catalogue of Industries for Encouraging Foreign Investment (2022 Version) (鼓励外商投资产业目录 (2022年版)), and the Outline for Building a Quality Powerhouse (质量强国建设纲要) (February, 2023) were issued to provide incentives for investment in and use of green construction materials.

Furthermore, in August 2023, the Work Plan for Stable Growth of the Building Construction Materials Industry (建材行业稳增长工作方案) was issued. This plan outlines various steps to promote green construction materials, including conducting activities to introduce green construction materials in rural areas, expanding the promotion and application of green construction materials in urban areas and enhancing the certification system for green construction materials.

Carbon Emissions of Buildings

Following China's accession for the Kyoto Protocol in 1998, in 2011 China has set up seven local carbon emissions trading exchanges in Beijing, Tianjin, Shanghai, Chongqing, Guangdong, Hubei and Shenzhen. Certain building and hotel projects have been selected to participate in the local carbon emissions trading exchanges in Beijing, Shanghai and Shenzhen on a trial basis.

In 2019, the Building Carbon Emissions Computation Standard (GB/T 51366-2019) (建筑碳排放计算标准) was promulgated. The General Rules for Building Energy Conservation and Use of Renewable Energies (建筑节能与可再生能源利用通用规范) (GB 55015-2021) was further issued in September 2021. These General Rules are highly significant in several respects:

- the energy efficiency and carbon emission standards for all building types will be raised quite significantly and mandatorily with effect from 1 April 2022

- national and local authorities will start to set up online platforms to collect, analyse and report carbon emissions data of buildings.

Based on the experience of these local exchanges, China issued the Management Measures for Trading of Carbon Emission Rights (Trial Implementation) (碳排放权交易管理办法(试行)) in 2020 to set up the China National Carbon Emissions Trading Scheme (ETS) in Shanghai. Trading on the National ETS Exchange started in July 2021 while trading on the local exchanges continues. At this stage only the major electricity power generation companies are mandated to participate to trade the carbon emissions quotas at the National ETS Exchange. Other sectors with heavy carbon emissions (such as steel, cement and chemicals) will also be mandated to participate in the National ETS Exchange. If the 2021 General Rules for Building Energy Conservation and the 2021 Notice for Full Implementation of Decarbonisation mentioned above are successful in setting up online platforms for the carbon emissions data for the building sector, it will highly facilitate more building projects to trade their carbon emissions in local ETS exchanges, and perhaps also in the National ETS Exchange further down the road.

Green Finance for Buildings

China is well aware of the important role of finance in achieving its climate change transition goals. In 2016, the People's Bank of China and various other national ministries issued the Guiding Opinions on Creating the Green Finance Framework (关于构建绿色金融体系的指导意见) to set up a supportive policy framework for promoting green finance in China. Since then many national and local regulations and policy documents have been issued in support of green finance in China, e.g. the 2021 Huzhou Green Finance Promotion Regulations (湖州市绿色金融促进条例), the 2021 Shenzhen Green Finance Regulations (深圳经济特区绿色金融条例), and the 2023 Notice on Accelerating the Coordinated Development of the Green Building Industry and Green Finance (关于加快推动绿色建筑产业与绿色金融协同发展的通知). China is the world's second-largest country in terms of quantity of green bond and green finance, with USD 155 billion issued in 2022 and a total of USD 3.5 trillion outstanding as of the end of the first quarter of 2023.

In all these national and local regulations, green building is always included as one of the specific sectors to receive green finance support. A principal way for a building project to prove that it can meet the green financing criteria set by regulations and lenders is that it has obtained the required national or local green building rating.

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2 General Construction Data

PROCUREMENT STRATEGIES AND FORM OF CONTRACTS

General

A host of contract procurement approaches have emerged in the past decade. Each procurement approach has characteristics, benefits and restrictions peculiar to it. There is no single approach that fits all situations. The key to a successful procurement arrangement lies in marrying the right procurement approach with the particular contract in question. This calls for a systematic identification of client's requirements and evaluation of the decision criteria relating to the procurement strategy.

Common criteria for procurement selection

Speed – Fast-tracking projects generally favor arrangements that offer opportunities to overlap the design and construction processes e.g. design & build contracting and management contracting.

Cost certainty – Reliability of budgets is one of the prime concerns of most clients. Traditional lump sum bills of quantities and design & build contracting offer the highest degree of price certainty.

Complexity – Projects which are technologically advanced or highly serviced generally favor the use of traditional contracting where the design will be well developed prior to the tendering stage. Procurement arrangements such as construction management and management contracting that allow early involvement of management contractor are also considered suitable for complex projects.

Responsibility – For projects using traditional contracting, the contractor is employed to build what the client's design team has documented. Therefore, any dispute as to quality of works has to be resolved into a design or workmanship issue in the very first place. By contrast, design & build contracts offer the clearest division of responsibility where the design & build contractor will be the sole point of responsibility.

Common standard form of contract in Hong Kong

In 2005, the Hong Kong Institute of Architects, the Hong Kong Institute of Construction Managers and the Hong Kong Institute of Surveyors jointly published a new standard form of building contract which is designed particularly for private projects where bills of quantities are provided.

In 2006, the three institutes published another standard form of building contract tailored for private projects without bills of quantities.

For public works, the conditions of contracts are often based on one of the following standard forms:

The Government of the HKSAR, General Conditions of Contract for Building Works 1999 Edition

The Government of the HKSAR, General Conditions of Contract for Civil Engineering Works 1999 Edition

The Government of the HKSAR, General Conditions of Contract for Electrical and Mechanical Engineering Works 1999 Edition

The Government of the HKSAR, General Conditions of Design and Build Contracts 1999 Edition

New Engineering Contract (NEC)

NEC is the abbreviation for "New Engineering Contract" which is a suite of contracts published by the Institute of Civil Engineers in the United Kingdom. The Hong Kong Government used to have its own standard forms of contract but now the NEC forms have become increasingly popular in the public sector of Hong Kong. The Development Bureau continually advocated "collaborative partnership" in delivering public works projects in Hong Kong by way of introducing the "New Engineering Contract" (NEC) form aiming to elevate management efficiency and cost effectiveness.

As of November 2022, there have been over 400 public works contracts adopting NEC form with a total value of over \$250 billion.

NEC form have also been adopt by non-public clients such as Airport Authority HK, CLP, MTR, etc.

PROCUREMENT STRATEGIES AND FORM OF CONTRACTS

New Engineering Contract (NEC) (Cont'd)

The NEC form continues to have a significant impact by its extensive usage in different works categories (including building works, civil engineering works etc.) by the Hong Kong Government. The NEC contract suites covers not only construction and engineering contracts between employers and contractors but also professional service contracts for employers to engage consultants or other suppliers under NEC contracts.

The Engineering & Construction Contract (ECC) of the NEC family of contracts contains standard options that cover lump sum contracts, target cost contracts, cost reimbursable contracts and management contracts. The ECC contract claims to be radically different to traditional construction contracts in that it facilitates good management and encourages collaborative working. For instance, both the Project Manager and the Contractor are obliged to give early warnings and to hold early warning meetings to mitigate the effects of change in contract scope. Great emphasis is also given to the programme which has to be accepted by the Project Manager and to be kept updated by the Contractor. The Project Manager is to maintain a Risk Register to record risks that have arisen during the contract and the decisions of how to deal with them.

In 2017, the NEC4 contract suite was published built upon updates to NEC3 contract suite. The NEC3 contracts are updated by taking account on the constructive feedback from users and industry experts with amendments for improvement in flexibility, clarity and ease of contract administration. The Hong Kong Government has started using NEC4 since 2018.

In 2023, a NEC ECC Hong Kong Edition was launched, which introduce measures that meet specific requirements of Hong Kong governance procedures and legislation.

The three key objectives in drafting the NEC ECC Hong Kong Edition are to

- (1) *enhance NEC's relevancy in Hong Kong*
- (2) *provide consistency in document preparation across Hong Kong public/private works contracts*
- (3) *inspire increased confidence in the use of NEC in Hong Kong so others benefit from better project delivery.*

Arcadis was the NEC Advisor for Fuk Man Road Nullah Improvement Works – the very first NEC pilot project in Hong Kong. Our work with the project team for that pilot project reveals that it is not only the form of the NEC that brings about the advantages of flexibility and promotion of good project management. The success lies in a change in mindset and attitudes and the establishment of mutual trust among project stakeholder.

Procurement Strategy Table

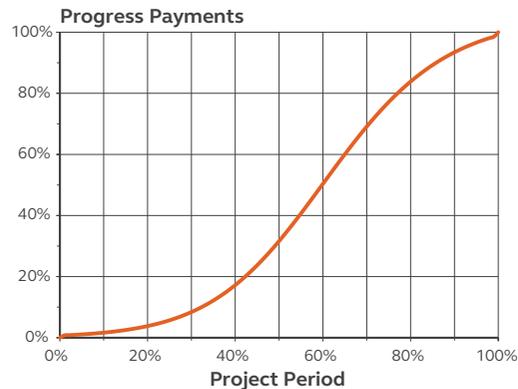
PROJECT CRITERIA		RELATIVE DEGREE OF APPROPRIATENESS				
		Objectives	Traditional	Management Contracting	Construction Management	Design and Construct
Timing	Early Completion	Low	High	High	High	High
Cost	Pre construction price certainty	High	Low	Low	High	High
Quality	Design prestige	High	High	High	Low	Low
Variations	Avoid prohibitive cost of change	High	Moderate	Moderate	Low	Low
Complexity	Technically advance or highly complex building	Moderate	High	High	High	Low
Responsibility	Single contractual link	Low	Low	Low	High	High
Professional Responsibility	Need for design team to report to sponsor	High	High	High	High	Low
Risk Avoidance	Desire to transfer complete risk	Low	Low	Low	High	High
Damage Recovery	Facility to recover costs direct from contractor	Moderate	Low	Low	Low	High
Buildability	Contractor input to economic construction	Low	High	High	High	High

CONSTRUCTION WORKDONE FORECAST

The following graph and table are an indication of the rate of expenditure for construction projects.

The rate of expenditure is an average rate and will vary from project to project when specific project circumstances are taken into account.

Construction Workdone Forecast



CONTRACT PERIOD	CUMULATIVE WORKDONE	CONTRACT PERIOD	CUMULATIVE WORKDONE
5%	1%	55%	41%
10%	2%	60%	50%
15%	3%	65%	60%
20%	4%	70%	69%
25%	6%	75%	77%
30%	8%	80%	84%
35%	12%	85%	89%
40%	17%	90%	93%
45%	24%	95%	97%
50%	32%	100%	100%



3 PROPERTY

Property Commentary 2023

Property Indicators

Gross Floor Area (GFA) Calculations
in Hong Kong

Gross Floor Area (GFA) Calculations in PRC

Construction Floor Area (CFA) Definition

PROPERTY COMMENTARY 2023

Economy

The Hong Kong economy improved visibly in 2023 as compared to 2022. Led by the strong recovery of inbound tourism and domestic demand, Hong Kong's GDP resumed growth, expanding by 4.1% year-on-year (YoY) in the third quarter of 2023 after an increase of 2.9% in Q1 and 1.5% in Q2 from a weak base as border controls and other pandemic-related restrictions eased.

However, prevailing global economic conditions and high interest rates environment continued to weigh on Hong Kong's exports. Hong Kong's exports of goods remained weak in 2023. In Q3, total exports of goods declined 8.6% YoY amid shrinking demand from mainland China, the United States and Europe due to high inventory levels. The government has thereby revised the real GDP growth forecast down to 3.2% in November given the difficult economic outlook.

Hong Kong's unemployment rate stood low at 2.9% from September to November, edged down 0.8 percentage points compared to the same period last year, thanks to the recovery in tourism and private consumption post epidemic, but labour force continues to shrink with ageing population and outflow of working population. As such, the government has launched various labour schemes to attract mainland and overseas workers from all classes to the city this year.

Inflation remained moderate with the overall consumer price index rising at 1.6% YoY in Q3, compared with 1.7% YoY increase in the preceding quarter.

Private consumption expenditure increased by 6.3% YoY in Q3 through the government's various consumption driven initiatives.

Inbound tourism and retail sales rebounded sharply since reopening of borders but were still below pre-pandemic levels. In October, visitor arrivals reached 3,458,778 in total, a 4,195% YoY increase; value of retail sales also recorded a 5.6% YoY increments with HK\$33,770 million in total. Currency exchange rates, airline capacity and change in tourists' spending behavior hindered the revival sentiment of Hong Kong's tourism industry.

The property market continued to beset with multiple headwinds in 2023, including elevated interest rates, developers' unsold inventories, poor performance in the Hong Kong stock market and economic slowdown. Market activities remained quiet with subdued volumes recorded in both the sales and leasing market as stakeholders possess a 'wait-and-see approach'.

Looking ahead, inbound tourism and domestic demand are expected to remain the major drivers of economic growth in 2024. Visitor arrivals should recover further as aviation handling capacity continue to catch up. Nonetheless, Hong Kong's economy will likely grow more slowly than previously expected amid strong headwinds, including a placid IPO and poorly performed property market.

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(Cont'd)

PROPERTY COMMENTARY 2023

Residential

The Hong Kong residential market in 2023 experienced a downturn with significant decline in both property prices and transaction volumes. There was a rebound in market activity shortly after the border reopened in February, however, as the economic recovery was slower than expected, coupled with multiple headwinds including interest rates hikes, plenty of unsold inventories and poor performance of the local stock market, the market sentiment and property prices were weakened by mid of the year. The government statistics showed the overall residential home prices dropped 5.6% year-to-date and 6.6% YoY in November 2023, reaching a 6-year low. Transaction volumes also remained low with a total of 43,002 residential transactions recorded in 2023, representing a 4.5% YoY drop.

The primary market continued to be the spotlight over the year, as developers offered deep discounts and flexible mortgage schemes to clear unsold inventories. Some developers were willing to provide longer completion times to buyers and higher commissions to agents to increase their competitiveness in the challenging market.

In October, the Chief Executive announced the relaxation of property “cooling measures” in the 2023 Policy Address, including the easing of stamp duty and the implementation of ‘Pay later, exempt first’ scheme for non-local talents. But the effects remained subtle with prices and volumes continued drifting down without any other demand stimulus. Under the bleak economic conditions and uncertain timeline of future interest rate hikes or cuts, we believe that the relaxation of the cooling measures will be unlikely to reverse the downward trend in home prices.

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Frank

On the contrary, the leasing market saw an uptrend in 2023, supported by the inflow of overseas professionals and talent under the government’s advocacy. Thanks to the Top Talent Pass Scheme launched by the government in December 2022. From January to November 2023, 60,497 applications were received for the scheme and 47,681 applications were approved. Statistics from the University Grants Committee showed the number of mainland students enrolled for UGC-funded programs in 2022/23 rose by 9.5% YoY. The rental market showed resilience and demonstrated a robust momentum driven by an influx of mainland students and expatriates. Overall rents were up 6.4% year-to-date and 5.9% YoY in November 2023.

Looking into 2024, the high interest-rate environment will continue to weigh on home prices, leading to a higher number of foreclosed properties. Volume is expected to rise steadily in light of government’s relaxation of “cooling measures” and more incoming Chinese mainland talent. We expect the residential property prices in Hong Kong to be in “L” trend, trending downwards in the first half and remaining flat in the second half – mass residential home prices to decline up to 5% in 1H 2024, and luxury residential property prices to remain stable given the scarce supply and the return of Chinese mainland buyers. In terms of transaction volume, it is expected that the total volume of first-hand and second-hand transactions will rebound slightly to 48,000-53,000, of which first-hand transactions account for 30%.

On the other hand, we expect the leasing momentum to remain robust, as driven by demand from overseas talents. We expect the mass residential rents to go up by 5% to 8% in 2024, while that of luxury residential will go up by 3% to 5%.

Provided by :  Knight
Frank

PROPERTY COMMENTARY 2023

Office

Amid the mounting uncertainty in the business environment and a weak global economy, leasing momentum remained soft in most of the time in 2023. Office rents continued to be under pressure in the light of shrinking leasing demand and a soaring vacancy rate. Rents on Hong Kong Island and Kowloon in December 2023 recorded a drop of 6.9% and 0.8% YoY, respectively, according to Knight Frank Research.

The trend of flight-to-quality persisted in 2023 as tenants continued to look for office upgrades at affordable rents in prime locations. On the one hand, some less cost-sensitive occupiers took advantage of the tenant-favoured environment and lower rent level to consolidate and upgrade their office spaces in prime locations. On the other hand, decentralization and downsizing trend continues given the occupiers prioritize cost and operational optimization.

Given the significant amount of new supply, particularly in the CBD in 2024 with approximately 1.2 million sq ft of new floorspace, we expect the vacancy in Central to further elevate to an unprecedented high level. This will exert pressure on landlords to lower rental expectations and offer flexible leasing packages to retain and attract tenants.

The high interest-rate environment and global uncertainties will continue to weigh on demand for office space. We expect the leasing demand to remain soft in 2024 in the absence of any positive catalysts, and the overall rent on Hong Kong Island will fall by up to 3% for the whole year.

Office (Cont'd)

Meanwhile, the Kowloon office market has shown signs of gradual improvement in 2023, yet the increasing demand is currently only able to support a bottoming out and has not yet led to a rebound. Looking ahead to 2024, the Kowloon office market anticipates a gradual improvement in its sentiment, with overall rent expected to see a slight increase of 0% to 2%.

Retail

Buoyed by the revival in tourist arrivals and the improved labour market, Hong Kong's retail market remained stable in 2023. According to the latest official statistics, total retail value reached HK\$370 billion in the first eleven months of 2023, increased 17.1% compared to the same period last year. However, the increase in sales was due mainly to the low base effect in the same period last year. There are concerns that upward trend may not be sustained owing to factors like fewer-than expected visitor arrivals and the intensified trend of Hong Kong residents traveling to the Chinese mainland.

Likewise, despite the steady performance of food and beverage sector in Q3, new challenges and underlying threats remain ahead. In Q1-Q3 2023, value of restaurant receipts totalled HK\$82.1 billion, increased by 33.9% YoY. However, outbound travel of Hong Kong residents, especially to the Chinese mainland, has risen drastically since the reopening of the borders. This has sent concerning signals to both the catering and retail industries.

PROPERTY COMMENTARY 2023

Retail (Cont'd)

The retail market has changed structurally along the changing spending habits of Chinese visitors. With fewer Chinese mainland tourists coming to Hong Kong primarily for shopping but for in-depth tourist experience, sales value of luxury goods totalled HK\$54.6 billion for January to November 2023, rose by 55.4% from the same period last year, but was 29% lower than the pre-pandemic level in 2018.

Following the outbreak of the pandemic, retail business witnessed a notable decrease in sales turnover, leading to a decline in rental values. Consequently, the asset value of retail shops experienced a significant drop, with many of them undergoing corrections of 70 to 80% compared to their peak levels. Retailers are gradually filling up vacant shops at a much lower level of rents, especially in core districts.

Looking ahead to 2024, we expect the prevailing trend of local residents heading north to Shenzhen for shopping to outnumber the number of mainland tourists coming to Hong Kong, which will remain a huge challenge for Hong Kong's retail market. The imbalance will continue to strain the business of Hong Kong retailers. The retail sector has to seek a new identity and edge amid keen competition from shopping malls in Chinese mainland. Overall, we expect retail rents to remain flat and stable in 2024, with only a mild drop in the shop vacancy rate.

Industrial

Overall, the leasing momentum of the industrial property market has slowed down in 2023 amid global economic headwinds and challenging external trade conditions. However, given solid market fundamentals and low vacancy rates, rental performance of the industrial market was resilient. Throughout the year, the logistics sector was relatively more active in terms of leasing activity. With the support from the logistics sector, both general industrial buildings and modern logistics spaces continued to record rental growth. Average monthly rents for general industrial buildings rose by 6.6% YoY to HK\$12.9 per sq ft in Q4 2023; while average monthly rents for modern logistics reached HK\$17.8 per sq ft with a 8.5% YoY increase.

Leasing activity in 2023 was mainly supported by sizeable transactions from the logistics sector. For examples, a tenant leased a 78,344 sq ft of space at Goodman Interlink in Tsing Yi for HK\$17.0 per sq ft per month. Furthermore, another tenant rented a 59,555 sq ft space at Maple tree Logistics Hub in Tsing Yi at around HK\$16.5 per sq ft per month.

PROPERTY COMMENTARY 2023

Industrial (Cont'd)

Due to the rising demand for art among affluent collectors, museums, and galleries, the logistics and facilities for the art market have been expanding steadily in Hong Kong. Starting from 2023, demand for professional art logistics services and fine arts storage have increased significantly. These tenants typically opt for modern logistics buildings, with large floor plate, ramp access and higher security level.

In addition, leasing demand raised from electric vehicles continue to expand. In particular, the ground floor workshops in locations such as Kwai Chung, Tsuen Wan and Sha Tin are in great demand for car repairing purpose.

The market saw massive new supply of industrial space in 2023, Cainiao Smart Gateway in Hong Kong International Airport, Chek Lap Kok received its occupation permit in September, which added 4.1 million sq ft of space to the market.

Provided by:



Industrial (Cont'd)

Looking ahead, we expect Hong Kong's merchandise exports to remain weak in the coming year due to the continuing geopolitical tensions. We expect weak external demand for goods will continue to weigh on Hong Kong's export performance in the near term. Overall, we expect the market to be tenant-favourable, and industrial rents to come under pressure in 2024 owing to massive supply. We expect the overall rent level to drop by 1% to 3%, while vacancy rates to increase.

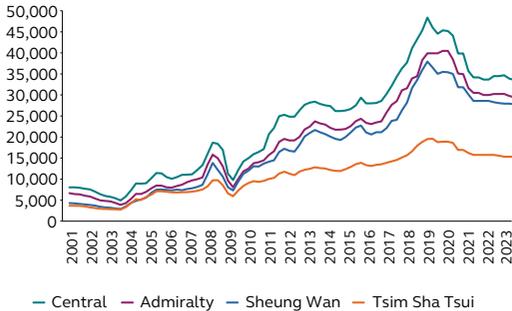
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PROPERTY INDICATORS

HONG KONG GRADE-A OFFICE PRICE

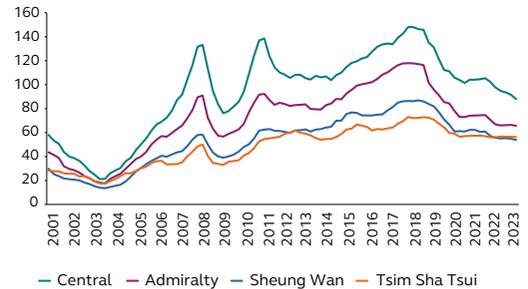
HK\$ per sq ft



Source: Knight Frank Research

HONG KONG GRADE-A OFFICE RENTAL VALUES

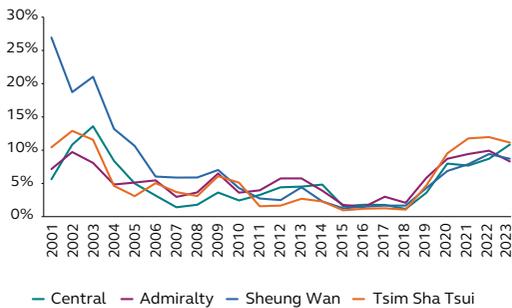
HK\$ per sq ft per month
(net effective)



Source: Knight Frank Research

HONG KONG GRADE-A OFFICE VACANCY RATES

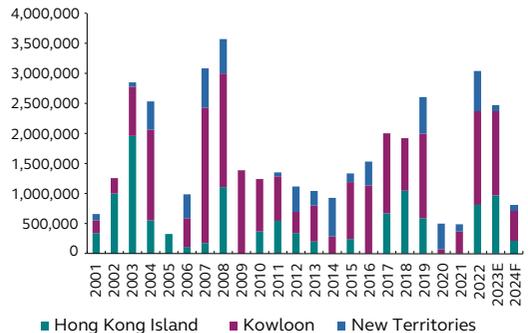
Vacancy Rate



Source: Knight Frank Research

HONG KONG GRADE-A OFFICE SUPPLY

Internal Floor Area (sq ft)



■ Hong Kong Island ■ Kowloon ■ New Territories

GROSS FLOOR AREA (GFA) CALCULATIONS IN HONG KONG

FEATURE	BUILDING (PLANNING) REGULATION	REMARKS
General floor area	Accountable	Area within outer surface of external walls.
Basement	Accountable	
Balcony / utility platform *	Accountable	Non-accountable if: 1. for residential buildings and with not less than 40% of the perimeter faces into open air; 2. max 50% area can be exempted; 3. the maximum area to be exempted for such platform including portion of such platform per residential unit is 0.75m ² ; 4. the size of any utility platform, including part of which to be exempted from GFA and SC calculations, is not less than 1.5m ² in area; 5. The summation of areas to be exempted for such balconies including portion of such balconies per residential unit is 1m ² or 2.5% of the Usable Floor Space of the unit whichever is the greater subject to a maximum of 3m ² ; 6. The size of any balcony, including part of which to be exempted from GFA and SC calculations, is not less than 2m ² .
Curtain wall / cladding	Non-accountable	Non-accountable if: 1. The curtain wall system itself does not form part of the structural system of the parent building; 2. The system does not result in any additional floor area at a floor level; 3. The projection of the system from the outer face of the structural elements does not exceed 200mm for a domestic building and 250mm for non-domestic building; 4. The external reflectance of the glass used in the system does not exceed 20%.
External wall finishes (including bay windows) *	Non-accountable	Non-structural precast facades may, subject to conditions, be excluded from GFA calculation.
Plant rooms	Non-accountable	Subject to justification with reasonable plant layouts.
Staircases and lift shafts	Accountable	Except staircases and lift shafts solely serving non-accountable areas.
Covered public carparking space [#]	Accountable	Underground public car space can be exempted. OR Aboveground - required to be provided under lease for and as part of the GA. OR Aboveground - required to be provided under lease for subsidised sale/rental flats as accepted by the Government, to be provided by HKHS or URA.

Covered private carparking space [#]	Non-accountable	Applicable only for spaces serving users of the building required under local standard and built below ground. Only 50% area can be exempted if above ground. Area above ground can only be 100% exempted under circumstances that site constraints is making underground car parks technically infeasible, or posing no adverse environmental or visual impact.
Lobby *	Accountable	Concession may be granted for lift lobbies subject to conditions.
Refuge floor	Non-accountable	
Loading and unloading bay	Non-accountable	Applicable if required under local standard/lease and built on ground floor or below ground. Only 50% area can be exempted if above ground.
Refuse storage chambers; refuse storage; refuse chutes; refuse hopper rooms	Non-accountable	
Covered area on roof-tops	Accountable	Non-accountable for plant rooms and staircases serving non-accountable area only.
Recreational facilities *	Accountable	Non-accountable subject to conditions.
Spaces for watchmen and management staff *	Accountable	Non-accountable subject to conditions.
Modular Integrated Construction	Accountable	Concession maybe granted to 10% of the MFC floor area upon submission of an application.

* Total concessions of these areas are subject to a cap of 10% of the total GFA and prerequisites with sustainability designs.

@ Non-mandatory or non-essential plant room, such as A/C plant room, AHU room, are subject to a cap of 10% of the total GFA and prerequisites with sustainability designs.

Provided that the car parking spaces are EV charging-enabling.

Disclaimer: GFA calculations are subject to various legislation and practice notes. All cases of accountable or non-accountable GFA are subject to individual conditions. The above presents a brief summary only and users are advised to seek professional advice from authorized persons. Arcaadis herewith disclaims any liability that may arise from unsolicited use of the information given above.

GROSS FLOOR AREA (GFA) CALCULATIONS IN PRC

FEATURE	NATIONAL STANDARD - STANDARD MEASUREMENT FOR CONSTRUCTION AREA OF BUILDING (GB/T 50353-2013)	REMARKS FOR BEIJING, SHANGHAI AND GUANGZHOU
General floor area	Accountable	Area within outer surface of external insulation. Shanghai : External insulation is exempted from calculation of plot ratio.
Basement	Accountable	1. Beijing: Non-accountable 2. Shanghai: Non-accountable. 3. Guangzhou : Accountable for GFA except where the floor space is solely for plant rooms or carpark.
Balcony / utility platform	Accountable	
Curtain wall / cladding	Accountable	Except decorative type of curtain wall.
External wall finishes (including bay/windows)	Non-accountable	
Plant rooms	Accountable	
Staircases and lift shafts	Accountable	
Covered public carparking space	Accountable	
Covered private carparking space	Accountable	
Lobby	Accountable	

Canopy	Accountable	Non-accountable subject to width of the canopy not exceeding 2.1m.
Refuge floor	Accountable	1. Shanghai : Non-accountable. 2. Guangzhou : Only refuge areas on refuge floor are non-accountable.
Space below elevated ground floor	Accountable	Non-accountable for GFA if for the usage of walkway, green, public amenities or similar public function.
Covered walkways	Accountable	
Loading and unloading bay	Accountable	Non-accountable if not roofed over.
Refuse storage chambers, refuse storage, refuse chutes, refuse hopper rooms	Accountable	Non-accountable if not roofed over.
Floor space inside sloping roof	Accountable	Non-accountable if clear height does not exceed 1.2m.
Covered area on roof-tops	Accountable	1. Shanghai : Non-accountable if the area of the construction on roof-top does not exceed 1/8 of the area of the typical floor. 2. Guangzhou: Staircase, lift lobby and water tank room on roof-tops are exempted from GFA
Recreational facilities	Accountable	
Spaces for watchmen and management staff	Accountable	
External staircases	Accountable	Non-accountable if not roofed over.

Disclaimer : GFA calculations are subject to various legislation and practice notes. All cases of accountable or non-accountable GFA are subject to individual conditions. The above presents a brief summary only and users are advised to seek professional advice from authorized persons. Arcads herewith disclaims any liability that may arise from unsolicited use of the information given above.

CONSTRUCTION FLOOR AREA (CFA) DEFINITION

The construction floor area measured from drawings is defined as covered floor areas fulfilling the functional requirements of the building measured to the outside face of the external walls or external perimeter.

It includes floor areas occupied by:

- partitions
- columns
- stairwells
- lift shafts
- plant rooms
- water tanks
- balconies
- utilities platforms
- vertical ducts
- service floors higher than 2.2m and the like

But excludes floor areas occupied by:

- bay windows
- planters projecting from the building, and
- the areas covered by canopies, roof eaves and awnings

Sloping surfaces such as staircases, escalators and carpark ramps are to be measured flat on plan.

The measurement of construction floor area is as defined by Arcadis.



4 OTHER INFORMATION

Utility Costs for Selected Asian Cities

Directory of Offices

Health & Safety Management System

Quality Management System

Environmental Management System

UTILITY COSTS FOR SELECTED ASIAN CITIES

CITY	EXCHANGE RATE	ELECTRICITY	
		DOMESTIC	COMMERCIAL/ INDUSTRIAL
	US\$1=	US\$/kWh	US\$/kWh
Hong Kong	HK\$ 7.81	0.11	0.13
Macau	MOP8.01	0.18	0.18
Shanghai	RMB 7.20	0.136 (peak) / 0.043 (normal)	4.725 Basic Tariff / 0.082 (Summer) / 0.077 (Non-Summer)
Beijing	RMB 7.20	0.060-0.098	0.169-0.171 (peak) / 0.105-0.107(normal)
Guangzhou	RMB 7.20	0.082-0.123	0.041-0.255
Chongqing	RMB 7.20	0.073-0.114	0.09-0.208

The above costs are at 4th Quarter 2023 levels.

Basis of Charges in Hong Kong, China

- Electricity** (Based on tariff scheme of CLP Holdings Limited)
Domestic (bi-monthly consumption) :
0-400kWh =US\$ 0.11/kWh; 400-1,000kWh=US\$ 0.13/kWh;
1,000-1,800kWh= US\$ 0.15/kWh; 1,800-2,600kWh=US\$ 0.19/kWh;
2,600-3,400kWh= US\$ 0.22/kWh; 3,400-4,200kWh=US\$ 0.23/kWh;
Above 4,200kWh = US\$ 0.23/kWh

Water - Domestic :

0-12m³ =Free of charge; 12-43m³ =US\$ 0.53/m³;
43-62m³ =US\$ 0.83/m³; Above 62m³ =US\$ 1.16/m³

Basis of Charges in Macau, China

- Electricity**
Electricity tariffs are a composition of demand charges, consumption charges, fuel clause adjustment and government tax.
- Water - Domestic :**
Consumption charge = US\$ 0.56/m³ for 28m³ or below; US\$0.64/m³ for 29m³ to 60m³; US\$0.75/m³ for 61m³ to 79m³ and US\$0.90/m³ for 80m³ or above.
Other charges (Depending on meter size 15mm-200mm) :
Meter rental = US\$0.34-57.64/month
- Water - Commercial/Industrial :**
Charges for ordinary users (e.g. Business, government buildings, schools, associations, hospitals and others) only. Special users (e.g. gaming industries, hotels, saunas, golf courses, construction, public infrastructure and other temporary consumption) are excluded.

Basis of Charges in Chongqing, China

- Unleaded Fuel** = Unleaded fuel rate is for unleaded 95#

WATER		FUEL		
DOMESTIC	COMMERCIAL/ INDUSTRIAL	DIESEL	LEADED	UNLEADED
US\$/m ³	US\$/m ³	US\$/litre	US\$/litre	US\$/litre
0.83	0.59	2.62	N/A	3.10
0.56-0.90	0.75	2.10	N/A	1.86
0.479-0.810	0.69	1.04	N/A	1.16
0.617-1.112	1.112-1.172	1.05	N/A	1.17
0.275-0.55	0.48	1.08	N/A	1.13
0.271-0.813	0.55	1.05	N/A	2.17

Basis of Charges in Shanghai, China

- Electricity - Domestic** (Charge on yearly consumption) :
0-3,120kWh =US\$ 0.108/kWh (peak) / US\$ 0.043/kWh (normal);
3,120-4,800kWh =US\$ 0.119/kWh (peak) / US\$ 0.060/kWh (normal);
Above 4,800kWh =US\$ 0.136/kWh (peak) / US\$0.086/kWh (normal)
- Electricity - Commercial/Industrial** (Charge on yearly consumption):
In dual tariff system; and in rate of 10 kVA
- Unleaded Fuel** = Unleaded fuel rate is for Unleaded 95#

Basis of Charges in Beijing, China

- Electricity - Domestic** (below 1kV) :
1-240kWh = US\$0.060/kWh; 241-400 kWh = US\$0.084/kWh;
Above 400kWh = US\$0.098/kWh
- Electricity - Commercial/Industrial** (1-10kV) :
Central Districts: US\$0.171/kWh(peak); US\$0.107/kWh(normal)
Other Districts= US\$0.169/kWh(peak); US\$0.105/kWh(normal)
- Water - Domestic**; (Charge on yearly consumption) :
1-180m³ = US\$0.617/m³; 181-260m³ = US\$1.094/m³
Above 261m³ = US\$1.112/m³
- Water - Commercial/Industrial** :
Central Districts: US\$1.172/m³; Other Districts= US\$1.112/m³

Basis of Charges in Guangzhou, China

- Unleaded Fuel** = Unleaded fuel rate is for Unleaded gasoline 92# 95# = US\$ 1.23/litre

(Cont'd)

UTILITY COSTS FOR SELECTED
ASIAN CITIES

CITY	EXCHANGE RATE	ELECTRICITY	
		DOMESTIC	COMMERCIAL/ INDUSTRIAL
	US\$1=	US\$/kWh	US\$/kWh
Singapore	S\$ 1.33	0.22	0.22
Kuala Lumpur	RM 4.67	0.047-0.122	0.081-0.109
Bangkok	BAHT 35.81	0.065-0.123	0.087-0.089
Manila	PHP 55.57	0.209-0.238	0.220
Ho Chi Minh	VND 24,440	0.125	0.107/0.068
Bangalore	INR 82.10	0.095-0.132	0.126-0.182
New Delhi	INR 82.10	up to 0.135	0.22
Jakarta	IDR 15,599	0.087-0.119	0.064-0.093

The above costs are at **4th Quarter 2023** levels.

Basis of Charges in Singapore (All rates are nett of GST)

- Electricity tariff is based on low tension power supply.
- Domestic water tariff effective from 1 July 2018.
Rate includes water conservation tax, water-borne fee, sanitary appliance fee and is an average for the 1st 40m³
- Domestic water tariff effective from 1 July 2018. Rate includes water conservation tax, water borne fee, sanitary appliance fee and is an average for the usage after the 1st 40m³
- Non-domestic water tariff effective from 1 July 2018.
Rate includes water conservation tax, water-borne fee, and sanitary appliance fee
- Diesel fuel = as at 27 October 2021.
- Unleaded Fuel = 98 Unleaded petrol as at 27 October 2021.

Basis of Charges in Kuala Lumpur, Malaysia

- Fuel = Rates for 14-20 December 2023. Unleaded petrol Ron 95.
- Water (Domestic): Rates for residential with individual meter.
- Electricity (Commercial/Industrial): Low voltage

Basis of Charges in Bangkok, Thailand

- Unleaded Fuel = Gasohol 95
- For normal tariff with consumption not exceeding 150 kWh per month

WATER		FUEL		
DOMESTIC	COMMERCIAL/ INDUSTRIAL	DIESEL	LEADED	UNLEADED
US\$/m ³	US\$/m ³	US\$/litre	US\$/litre	US\$/litre
2.21/2.96	2.21	1.96	N/A	2.61
0.122-0.428	0.561-0.612	0.460	N/A	0.439
0.237-0.404	0.265-0.441	0.844	N/A	1.3407
0.443-0.455	2.29	1.123	N/A	1.248
0.274	0.872/0.495	0.83	N/A	0.94
0.76-0.96	1.85	1.080	N/A	1.301
0.09-0.74	0.62-2.8	1.090	N/A	1.300
0.067-0.478	0.438-2.500	1.039	N/A	0.856

Basis of Charges in Ho Chi Minh, Vietnam (All rates are VAT inclusive)

Basis of Charges in Manila, Philippines

- Electricity**
 - Domestic : 52kWh - 669kWh
 - Commercial/Industrial : 9,902kWh
- Water**
 - Domestic : 15m³-19m³
 - Commercial/Industrial : 3m³

Basis of Charges in Jakarta, Indonesia

- Domestic group in Indonesia covers residence, religious building, non-profit organization building and government hospital
- Commercial group in Indonesia covers luxury residence, apartment, offices, hotel, commercial building and factories.

Source of data: **Singapore** - Asia Infrastructure Solutions Singapore Pte. Ltd. **Kuala Lumpur** - JUBM Group. **Bangkok** - Mentabuild Limited. **Ho Chi Minh** - DLS Consultant Company Limited. **Bangalore / New Delhi** - Arkind LS Private Limited. **Jakarta** - PT Lantera Sejahtera Indonesia.

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HEALTH & SAFETY MANAGEMENT SYSTEM

Based on the recognized international standards of ISO 45001, We have implemented a Health and Safety Management System which is part of our Integrated Management System. Following the success of our Health & Safety accreditation in Hong Kong in 2012, we had rolled out the system across China and Macau, where an



H&S coordinator is assigned in each of our Arcadis offices to assist in planning, implementing, monitoring and reporting health and safety issues.

Positive decision making and the right behavioural outcomes underpin our approach to Health & Safety, an ethos which is promoted and reinforced across all levels of our organisation as a priority. Being enveloped in a supportive culture, our staff is encouraged to not only actively identify the H&S related internal and external factors and conditions that could affect, or be affected by, us, but also feel empowered to talk about their mental health and well-being by reaching out to the Arcadis employee assistance programme (EAP).

Committed to making our business a safe, healthy and sustainable place to work, Arcadis strives to excel ourselves to achieve zero incidents in everything we do ensuring the health, safety and well-being of our staff and stakeholders. We also continue to ensure processes, procedures and systems of work are maintained to achieve the highest standards, and continual improvement, in our health and safety performance.

QUALITY MANAGEMENT SYSTEM

The Quality Management System was launched in our Hong Kong office in 1993, and have completed our conversion to the ISO 9001:2015 Standard in 2018. The System and the accreditation of ISO 9001 has also been extended to Macau as well as our eighteen China offices.

Arcadis has set annual objectives to ensure client's expectations to be

met or exceeded. Performance against these objectives is reviewed while carrying out audits quarterly. The quality management documents are also reviewed regularly and shall be updated as necessary to achieve the ongoing effectiveness of the system. To strive for operation with greater efficiency, we now focus on digitalizing the workflows and processes associated with the documents and quality activities.

Nowadays an effective Quality Management System is one of the core elements in any kind of business. Arcadis makes every effort to provide not merely quantity surveying services but also the highest quality services to meet our clients' requirements.



ENVIRONMENTAL MANAGEMENT SYSTEM

As a socially responsible company, we care about our environment and are committed to conducting all our activities in an environmental friendly manner. With our management system certified to ISO 14001:2015, we have an ambition of reducing our operations' carbon footprint in alignment with limiting global warming to 1.5°C and even achieve net zero by 2035.

In 2020, we set up an Asia Core Sustainability Team to help drive and implement the Asia Sustainability Strategy in each of our markets in Asia. This year a series of Sustainability Knowledge Café sessions, sharing environmental topics such as waste management and climate change, have already been held by inviting all interested staff to join via Teams Meeting. To show our concern over environment, our environmental data is now treated at the same level of importance as our financial data and a year-end external audit for such data will be carried out.

For Arcadis, environmental protection and resource conservation are our high-priority corporate goals. To do our best towards saving the environment, we continue to devise more environment friendly standards and practices to make the most of every opportunity we get.



About Arcadis

Arcadis is the leading global design & consultancy organization for natural and built assets. We maximize impact for our clients and the communities they serve by providing effective solutions through sustainable outcomes, focus and scale, and digitalization. We are 36,000 people, active in more than 70 countries that generate €4.2 billion in gross revenues.

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