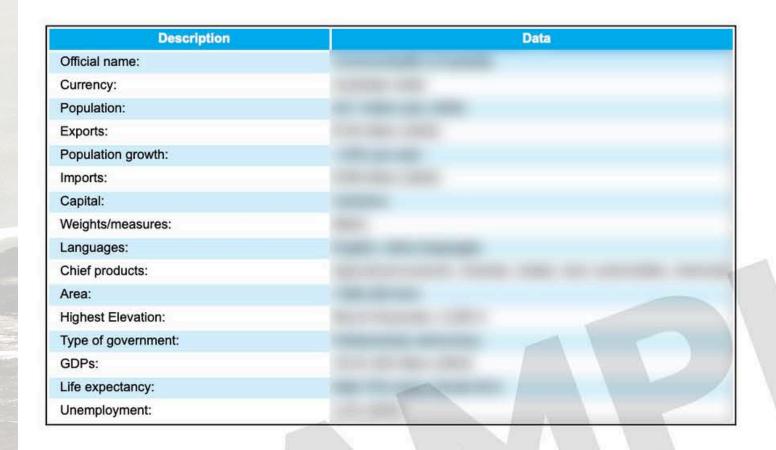
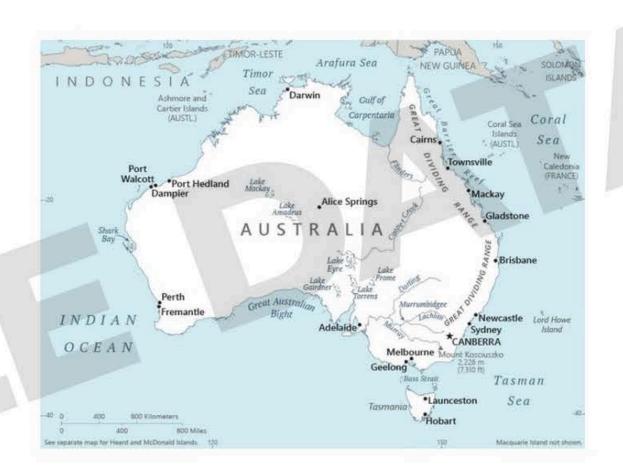




2.8 Australia

AUSTRALIA





AUSTRALIA: GENERAL BACKGROUND

LOCATION

Australia is located southeast of Asia. It is positioned in the eastern sector of the Indian Ocean and the western part of the Pacific Ocean. Australia's nearest neighbors are Papua New Guinea, Indonesia, and New Zealand.

LAND

Australia is the sixth largest country on earth. It is divided into six states and two territories. The states are

Kosciusko, which is Australia's highest elevation (7308 feet, 2,228 m). The Central Lowlands, with an average elevation of about 500 feet, is where Lake Eyre lies, 40 feet below sea level. Australia is approximately five times the size of the state of Alaska.

POPULATION

Australia's estimated total population in 2025 is 26,700,000. Of this number approximately 95% is Caucasian and 4% Asian and Aboriginal; other ethnic groups represent 1%. Australia's population density is 2.56 people per km2.

I ADDEED CITIES

Australian Architectural & Engineering Data

TYPICAL PERCENTAGE FEES ON NEW BUILDINGS / FACILITIES

Engineering Task	Uncomplicated Building / Facility	Complicated / Sophisticated Building / Facility
Architectural fee	1000	
Structural engineering. Fee		
Mechanical/electrical fee		
Quantity surveyor/cost consultant		
Other specialist consultants		
Total architectural/engineering fees expressed as 7.70% 16.50% a percentage of final cost of building/facility		
Structural engineering fee		
Mechanical/electrical fee		
Quantity surveyor/cost consultant		
Other specialist consultants		
Total architectural/engineering fees expressed as a percentage of final cost of building/facility		

Any extensive site work or off-site work is not included in the above percentage values. The values can increase substantially on revamp projects or if the project is a first of its kind employing new technology.

The following are "all in" hourly job rates, or selling rates, for various construction professionals. The rates are for the Sydney area in 2025. The hourly rates include employer paid fringe benefits such as vacation pay, health and welfare costs, pension, workers compensation, establishment charges and utilities, plus all overhead costs and profit. The rates shown are for individuals with a minimum of 10 years experience. These rates include all administration costs, office facilities and establishment charges. They do not include any premiums for overtime or weekend work, temporary living expenses, or travel costs. This data is based on A \$1.50 / US\$ July 25, 2024.

SKILL	\$ LOW	\$ HIGH
Senior Project Manager (20 years experience)		
Chemical Engineer (15 years experience)		
Civil Engineer (ditto)		
E&I Engineer (ditto)		
Estimator / Q.S. (ditto)		
rchitect		
Planner (5 years experience)		
Purchasing Agent (15 years experience)		
Document Control		

ENGINEERING PRODUCTIVITY

The following figures show a range of productivity values for: (1) Washington, DC (2) Houston Texas, and (3) Sydney, Australia. The productivity factors are compared against a U.S. basis of 1.00 – Washington DC, engineering labor working on producing the necessary design deliverables for a midsize petrochemical / manufacturing facility (say \$10 – \$50 million).

Location	Productivity Value
Washington, DC	
Houston, TX	
Sydney, Australia	

2.72 Nigeria

2.73 Norway

2.74 Oman

2.75 Pakistan

2.76 Panama

2.77 Peru

2.78 Philippines

2.79 Poland

2.80 Portugal

2.81 Qatar

2.82 Romania

2.83 Russia

2.84 Saudi Arabia

2.85 Serbia

2.86 Singapore

2.87 South Africa

2.88 South Korea

2.89 Spain

2.90 Sri Lanka

2.91 Sweden

2.92 Switzerland

2.93 Taiwan

2.94 Tajikistan 2.95 Tanzania

2.96 Thailand

2.97 Trinidad

2.98 Tunisia

2.99 Turkey

2.100 United Arab Emirates

2.101 Uganda

2.102 United Kingdom

2.103 Ukraine

2.104 Uruguay

2.105 United States

2.106 Uzbekistan

2.107 Venezuela

2.108 Vietnam

3.1 Miscellaneous Asia 2025 Cost D...

3.2 International Office Rental Rates

4.1 Miscellaneous International Con...

4.2 Information / Data Gathering

4.3 Staffing Overseas Construction...

4.4 International Estimating and bid...

4.5 Tariffs / VAT / Import Duties / Tr...

4.6 International Contracts

4.7 Metric Considerations

4.8 USA Information Sources

3.2 International Office Rental Rates

2025 INTERNATIONAL OFFICE RENTAL RATES IN US \$ SQUARE FOOT PER YEAR

Rental rates for office facilities are in general quoted in square feet or square meters multiplied by the local currency cost per month or per year, the table below has calibrated all of the data collected and assembled the data into US \$ Square Foot per Year:

The principal function of an office environment is to sustain its occupants in performing their function / job at minimum cost at the same meeting the needs of the employees. The various types of office layouts, include, Open Office Areas, Cubicles, Individual Offices, Management Suites, Small and Large Conference Rooms, Video Center Rooms, Lunchrooms, Corridors, Reception Areas, Support Spaces, Toilets, Libraries, File Rooms, Mail Rooms and other specific areas.

The Building Owners and Managers Association (BOMA) categorizes

office space into three basic types: Class A, Class B, and Class C. Class A office buildings are the most high-status buildings competing for the "blue chip" office users with rents above average for the specific area. Class B offices have adequate systems and finishes that are fair to good for the specific area and can be considered one or two step down from a Class A office. The values indicated below are for an average of Class A and B offices.

The year 2025 will be a difficult one for the global construction industry. Supply chain problems, sky-high inflation, material shortages, the ongoing war between Russia and Ukraine, the resurgence of Covid in some countries, and the possibility of a global recession are the major challenges to be faced in 2025.

2025 INTERNATIONAL OFFICE RENTAL RATES

US \$ SQUARE FOOT PER YEAR

Region	US \$ Square Foot Per Year Average Cost	US \$ Square Foot Per Year Cost (Range – Low)	US \$ Square Foot Per Year Cost (Range – High)	Additional Average Costs Per Year (Utilities 9.3% & Cleaning Services 8.2%) Total 17.5% In US \$
Asia, Australia & New Zealand				
Australia Adelaide.				
Australia Brisbane.				
Australia Melbourne.				
Australia Perth.				
Australia Sydney.				
Cambodia Phnom Penh.				
China – Beijing Downtown Prime Location.				
China – Beijing 5 miles from city center.				
China Chengdu.				
China Guangzhou.				
China Shanghai.				
China Xiamen.				
Hong Kong (Prime Location).				

1.1 Introduction to Global Construct...

- 1.2 Benchmarks: Oil & Gas
- 1.3 Benchmarks: Pharma
- 1.4 Benchmarks: Manufacturing, F...
- 1.5 Benchmarks: Highways, Roads...
- 1.6 Benchmarks: General Construc...
- 1.7 Benchmark: Power Plants
- 1.8 Benchmarks: Chemical Manufa.
- 1.9 Benchmark: Mines & Quarries
- 1.10 Benchmark: Miscellaneous

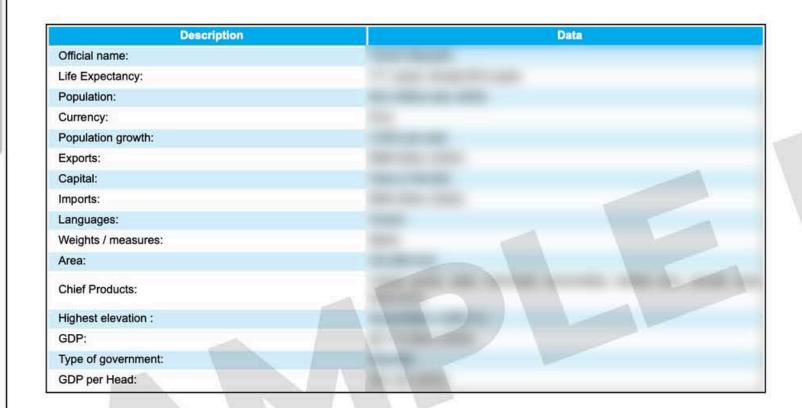
2.1 General Notes on Country Data

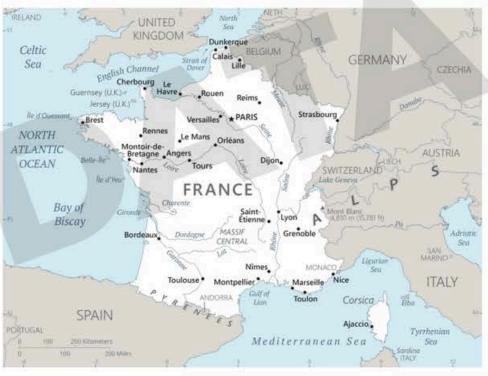
- 2.2 Afghanistan
- 2.3 Albania
- 2.4 Algeria
- 2.5 Angola 2.6 Argentina
- 2.7 Armenia
- 2.8 Australia
- 2.9 Austria
- 2.10 Azerbaijan
- 2.11 Bahrain 2.12 Bangladesh
- 2.13 Belarus
- 2.14 Belgium
- 2.15 Belize
- 2.16 Benin
- 2.17 Bolivia
- 2.18 Bosnia 2.19 Brazil
- 2.20 Bulgaria
- 2.21 Burkina Faso
- 2.22 Cambodia
- 2.23 Canada
- 2.24 Chad
- 2.25 Chile
- 2.26 China 2.27 Colombia
- 2.28 Costa Rica
- 2.29 Croatia
- 2.30 Cyprus
- 2.31 Czech Republic
- 2.32 Denmark
- 2.33 Ecuador
- 2.34 Egypt
- 2.35 El Salvador
- 2.36 Ethiopia
- 2.37 Equatorial Guinea



2.40 France

FRANCE





GENERAL BACKGROUND

LOCATION

France is located in Western Europe between the Atlantic Ocean and the Mediterranean Sea. France's neighbors are Spain in the southwest, Monaco in the southeast, Italy, Switzerland and Germany in the east, and Luxembourg and Belgium in the north.

LAND

France is the largest European country. It comprises 95 metropolitan departments. The island of Corsica is located 150 kilometers to the southeast in the Mediterranean Sea. A wide plain covers over half the

the state of Colorado.

POPULATION

France's total population in 2023 was estimated to be 66,200,000. Slightly less than 75% of the population lives in urban areas. France's population density is 114 persons per square kilometer.

LARGEST CITIES

The largest cities in France, with their populations as of 2025, are:

Paris: 2,700,000

CONSTRUCTION MATERIAL COSTS

The values indicated below are a sampling of construction material costs applicable to a midsize commercial or industrial project. The data are from a number of projects in the Paris metropolitan area. The values include delivery to site. They exclude TVA or VAT tax and do not include any overhead or profit add-ons to the installing contractor. The values shown are approximate and should be utilized on

that basis. Premiums of 10-20% should be added to the prices indicated for small quantities. Similar discounts can be had for sizable quantities. Costs are valid for year 2025.

French bulk materials on average are 2% - 4% more expensive than their US equivalent. Engineered bulk items such as motor controlled valves, instrumentation devices etc.; tend to be 4% - 6% more expensive in France than in the USA as of January 2025.

CONSTRUCTION MATERIAL COSTS

MID-SIZED COMMERCIAL OR INDUSTRIAL CONSTRUCTION PROJECT

#	Bulk Material	Qty	SI Unit	Local Country Unit Cost in US \$	Total In US \$	USA Unit Cost in US \$ SI Unit	Total In US \$
1	Blocks (Concrete 8" x 16" x 4")						
2	Bricks (Common) 1,000						
3	Bricks (Facing) 1,000						
4	Cement in bags						
5	Conduit 2" / 50 mm rigid galv steel						
6	Instruments 4 # 2" / 4" CV (8 #), 12 # (F/P/T) Devices						
7	Copper pipe 0.50" / 12 mm L						
8	R M Concrete 3500 PSI / 25 MPa						
9	Sand / Stone 1.5" diameter / Imported fill / Hardcore (Average)						
10	Stainless steel 304 pipe 1" / 25 mm						
11	Steel pipe A-53 1" / 25 mm diameter						
12	Steel Reinforcement (not installed)						
13	Structural Steel (Fabricated not installed)						
14	Valves (Ball) 4" diameter 150 #						
	Total						
	N	ote : Metric Ton = 2,205 lb	* Long Ton = 2,240 lb (L)	* Short Ton = 2,000 lb (S) * Metric Tonne = 1,0	000 kg /2,205 lb		

APPROXIMATE COSTS OF BUILDINGS / FACILITIES

The cost values shown below include all material, labor, construction equipment, overhead, and profit. The values exclude land purchase; value added tax, parking areas, extensive landscaping, design fees, owner-provided equipment, furniture, and fixtures. The values were obtained by dividing the cost of the completed facility by the gross square meters of the buildings and facilities. They are approximate and should only be used for budget or conceptual estimates. The high values should be used for projects located in downtown areas of major cities and for projects that utilize high-quality specifications, materials, and installation methods. The values have been adjusted to reflect 2025 pricing levels and are based on

FRENCH SF / M2 FACILITY UNIT COSTS IN US \$'S

SF / Low	SF/ High	M2/Low	M2 / High
	SF / Low	SF / Low SF / High	SF/Low SF/High M2/Low

CONSTRUCTION LABOR HOURLY RATES

Union Labor Costs: The charge / bill out rates on the following page is in the right-hand column "A", these rates have been calibrated to Washington D.C. for other locations use the city location factors previously indicated.

Note: these values should be calibrated with the previous location factors to determine the charge out rate for each specific location. Typical uplift 70 – 100% (used 95% - "A").

- Total Fringe Benefits (Vacation, holidays, sick pay, and employer paid FICA / Unemployment rates, BRI) is average 15 - 30% of base wage.
- Supervision is average 5 10% of base wage.
- Workers Compensation Insurance is average 15 20% of base wage.
- Overhead and Home Office Support 15 20%.
- Profit is average 10 15% of base wage.
- Excludes small tools, typically 2 6% of total all in rate.
- Excludes construction equipment / fueling and maintenance.
- Excludes general conditions / Division 1 / Preliminaries (trailers and scaffold etc.) / Excludes consumables (gases, rags and grease)

TRADE (UNION)	BASE WAGE	"A" ALL-IN RATE
Bricklayer		
Carpenter		
Electrician		
Laborer, General		
Operating Engineer, General		
Painter, General		
Plumber / Pipe fitter		
Roofer		
Sheet Metal Worker, General		
Structural Iron Worker		
Average Rate		

Open Shop / Non - Union Costs: The charge / bill out rates is in the right-hand column "A", these rates have been calibrated to Washington D.C. for other locations use the city location factors previously indicated. Typical uplift 70-100% (used 95% - "A").

- Total Fringe Benefits (Vacation, holidays, sick pay, and employer paid FICA / Unemployment rates, BRI) is average 15-30% of base wage.
- Supervision is average 5-10% of base wage.
- Workers Compensation Insurance is average 15 20% of base wage.
- Overhead and Home Office Support 15-20%.
- Profit is average 10 15% of base wage.
- Excludes small tools, typically 2-6% of total all in rate.
- Excludes construction equipment and fueling / maintenance.
- Excludes general conditions / Division 1 / Preliminaries (trailers and scaffold etc,)
- Excludes consumables (gases, rags and grease)

TRADE (OPEN-SHOP)	BASE WAGE	"A" ALL-IN RATE
Bricklayer		
Carpenter		
Electrician		
Laborer, General		
Operating Engineer, General		
Painter, General		
Plumber / Pipe fitter		
Roofer		
Sheet Metal Worker, General		
Structural Iron Worker		
Average Rate		

CONSTRUCTION MATERIAL COSTS

Mid-sized commercial or industrial construction project

#	Bulk Material	Qty	SI Unit	Local Country Unit Cost In US \$	Total In US \$	USA Unit Cost In US \$ SI Unit	Total In US \$
1	Blocks (Concrete 8" x 16" x 4")						1000
2	Bricks (Common) 1,000						
3	Bricks (Facing) 1,000						
4	Cement in bags						
5	Conduit 2" / 50 mm rigid galv steel						
6	Instruments 4 # 2" / 4" CV (8 #), 12 # (F/P/T) Devices						
7	Copper pipe 0.50" / 12 mm L						
8	R M Concrete 3500 PSI / 25 MPa						
9	Sand / Stone 1.5" diameter / Imported fill / Hardcore (Average)						
10	Stainless steel 304 pipe 1" / 25 mm						
11	Steel pipe A-53 1" / 25 mm diameter						
12	Steel Reinforcement (not installed)						
13	Structural Steel (Fabricated not installed)						
14	Valves (Ball) 4" diameter 150 #						
	Total						

APPROXIMATE COSTS OF BUILDINGS/FACILITIES

The following values (on the next page) include all material, labor, plant general conditions, preliminaries, overhead and profit. Excluded are owner costs such as furniture, equipment, land purchase, design fees, owner in-house engineering, landscaping, parking areas, and major items outside the building or facility's

footprint. The values reflect a weighted average of projects in and around the Riyadh area and have been adjusted to reflect 2025 pricing levels. These are order of magnitude numbers and should be used for early or conceptual budgeting purposes or for comparing and checking proposals submitted by contractors.

BUILDINGS / FACILITIES COSTS

Saudi Arabian SF / M2 Facility Unit Costs in US \$'s

#	Type Of Facility	SF / Low	SF/ High	M2 / Low	M2 / High
1	Airport Terminal 2 – 3 Floors 400,000 - 700,000 SF				
2	Apartments (Class B/C) 3 – 6 floors not public housing				
3	Apartment public housing 3 – 6 floors				
4	Food Production / Dairy Facility 70,000 SF				
5	Hotel 3-6 floors 100,000 SF-2 - 3 star - suburban location*				
6	Manufacturing / Facility / Factory 2 Floors 75,000 SF				

LOCATION FACTOR

The factors shown below are used to quantify cost difference for specific construction methods in different locations. Use of the factors involves either (1) estimating the proposed facility on a U.S. basis of (2) knowing the cost of particular U.S. facility (often a Gulf-Coast project is the model). The U.S. estimate is expressed as a base index of 1.00. Location factors typically reflect disparities in construction materials, utilization of construction equipment, importation of materials and capital equipment design costs, exchange rates, freight costs, taxes, and import duties. Items usually excluded from the location factor are land purchase and inflation. The following location factors are applicable for Harbin, China.

Chemical/ process/ manufacturing facility (utilizing imported materials and equipment): 0.92

Buildings/ facilities/ civil projects (utilizing local materials / local specifications): 0.88

Thus, if a recently built chemical plant in the U.S. cost \$15,000,000, the same plant built in China would cost \$15,000,000 x 0.92 (Average from above) = \$13,800,000. This particular location factor is used because the Chinese chemical plant will need to have a large portion (this value is decreasing in the last two years) of the major equipment or engineered equipment imported into China from Western Europe,

the U.S., or Japan. The other location factor can be used as follows. A Chinese designed building, say a simple factory, priced out on a U.S. basis totals US\$5,000,000. This value would be multiplied by 0.88 resulting in an estimate of \$US \$4,400,000.

If the above project is for a "first of its kind" building / facility (first construction effort will initially experience a steep learning curve as it navigates through governmental / local issues) add 0.03 – 0.05 points to above location factors. If company has built or has operating facilities already in country, use above indicated location factors:

Note: Recent feedback from US / European operating companies currently building major chemical / manufacturing facilities in China is that they are experiencing a location factor of 0.92 – 0.95 V's US Gulf Coast of 1.00, these are for major CAPEX projects costing over US\$100 million, that are "welcomed / encouraged" projects i.e. the Chinese Government are sponsoring (showing preferential treatment) the operating companies with assistance, (no VAT, assistance with reducing "red" tape / permitting issues and possible grants), the CAPEX project is considered high tech, or a large capital investment or a significant future employer of Chinese nationals).

LOCATION	CHEMICAL MANUFACTURING FACILITY (L.F.)	HOTEL / SCHOOL OFFICE FACILITY (L.F.)
Beijing		
Shanghai		
Chengdu		

LABOR PRODUCTIVITY

The following figures show a range of productivity values: (1) good (2) average, and (3) poor. The productivity factors are measured against a U.S. value of 1.00, based upon open-shop (i.e., nonunion) labor working at a midsize petrochemical facility on the Texas Gulf Coast.

PRODUCTIVITY RANGE

Good: 1.15 Average: 1.30 Poor: 1.55

- Equipment setting / millwright work 1.20 1.35 V's 1.00 US Gulf Coast
- Piping work 1.20 1.40 V's 1.00 US Gulf Coast
- Electrical / Instrumentation work 1.25 1.50 V's 1.00 US Gulf Coast
- Insulation work 1.15 1.40 V's 1.00 US Gulf Coast
- Paint / coatings work 1.10 1.25 V's 1.00 US Gulf Coast

Construction equipment utilization in China is still low compared to other developed nations (however this situation is improving). With the unit cost of labor being so low it is many times more cost-effective not to use cranes, excavating equipment, and the like. Also, power hand tools such as drills and cutting devices are used on a very limited basis, and worker education and construction skills are usually limited. Factors that can contribute to good productivity include good access to the work area, an experienced workforce,

daniata aunanialan, na avassalus uusathan sanditiana anasifisatiana that are not avantu sannalisated