

Dynamic Construction Location Factors Update

PEP Review 2025-12

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Glossary

\$/h	Dollars per hour
DCCI	Downstream Capital Cost Index (S&P Global)
EPC	Engineering, procurement and construction
EPM	Engineering and product management
h	Hour
ISBL	Inside battery limits
OSBL	Outside battery limits
P&ID	Piping & instrumentation design
PCI	PEP Cost Index
PetChem	Petrochemical
PEP	Process Economics Program
PFD	Process flow diagram
UCCI	Upstream Capital Cost Index (S&P Global)
USGC	US Gulf Coast

Abstract

In our discussions with clients around the world, a topic of continued interest and priority is the variation between construction cost levels in different locations (location factor). To help our customers understand the fundamentals of location factors, we continue to conduct primary market research and develop location factor models and methodology that reflect S&P Global macroeconomics, and the country-specific costs needed to develop relative location factors for the construction of petrochemical, chemical and refinery plants. The results and methodology were first published in our PEP Report RP204C *Location Factor* (December 2016). In the 2019 PEP Review 2019-12, *Dynamic Construction Location Factors* and accompanying Excel model, we included geographical coverage of 12 locations and enhanced functionality for clients to:

- Estimate a 10-year forward view of location factors.
- Set and/or view scenario conditions (e.g., “test” alternate labor and equipment used in the engineering, procurement and construction business models/approaches).
- Input the user’s own time series of macroeconomics and cost data.

In this 2025 PEP Review RW2025-12, we have expanded and updated to include geographical coverage of 35 locations:

Australia	Italy	Saudi Arabia
Austria	Japan	Singapore
Brazil	Kuwait	Slovakia
Canada	Malaysia	Slovenia
Mainland China	Mexico	South Africa
Czech Republic	Norway	South Korea
France	Oman	Taiwan
Germany	Peru	Thailand
Hungary	Philippines	Ukraine
India	Poland	United Kingdom
Indonesia	Qatar	United States
Iran	Russia	

Any geography can be set to 1.0 as the basis country. Note that the base case shows location factor subcomponents relative to the US Gulf Coast (USGC). We have also extended the forward view to 2050.

Location factors are **relative** to the USGC, i.e., the USGC is always 1.0. For the changes in absolute construction cost from quarter to quarter, the Process Economics Program (PEP) has its own chemical plant construction cost index, the PEP Cost Index (PCI). This update includes an update of the PCI. In addition, comparisons with actual reported project capital expenditure are provided to validate PEP’s assessments.

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