

## Peak start-up

This year will be the biggest on record for ethylene cracker openings in the US.

COMPANY	LOCATION	ETHYLENE CAPACITY (1,000 METRIC TONS/YEAR)	DERIVATIVES	REMARKS
<b>Dow</b>	Freeport, Texas	1,500	PE, elastomers, PDH	Started operating in the third quarter of 2017.
<b>Occidental Chemical and Orbia</b>	Ingleside, Texas	550	Vinyls	Was the first major project of the shale era to come to completion.
<b>Total 2017</b>		<b>2,050</b>		
<b>Chevron Phillips Chemical</b>	Baytown and Old Ocean, Texas	1,500	PE	Was the first of the wave of project announcements in 2011.
<b>ExxonMobil</b>	Baytown and Mont Belvieu, Texas	1,500	PE	Feeds new PE plants in Mont Belvieu, Texas, dedicated to the export market.
<b>Total 2018</b>		<b>3,000</b>		
<b>Formosa Plastics</b>	Point Comfort, Texas	800	PE, PDH, PP	Cracker and three new PE plants were running by the end of 2020.
<b>Sasol</b>	Lake Charles, Louisiana	1,500	PE, EO, EG, alcohols	Sasol sold 50% of the cracker and its new PE plants to Lyondell-Basell Industries in 2020.
<b>Westlake Chemical and Lotte Chemical</b>	Lake Charles, Louisiana	1,000	EG	Started up on time.
<b>Total 2019</b>		<b>3,300</b>		
<b>Dow</b>	Freeport, Texas	500	EG	Brought its existing plant's capacity to 2 million metric tons per year, making it the largest ethylene cracker in the world.
<b>Shintech</b>	Plaquemine, Louisiana	500	Vinyls	Meant to back integrate half the firm's existing vinyl production.
<b>Total 2020</b>		<b>1,000</b>		
<b>Indorama Ventures</b>	Lake Charles, Louisiana	440	EG	Was set to open in 2020 but was delayed until November 2021 because of a lightning strike.
<b>Total 2021</b>		<b>440</b>		
<b>ExxonMobil and Sabic</b>	San Patricio County, Texas	1,800	PE, EG	Companies announced start-up in January 2022, just over 2 years after construction began.
<b>Shell Chemical</b>	Monaca, Pennsylvania	1,500	PE	Company affirmed in February that start up is this year.
<b>Total and Borealis</b>	Port Arthur and Pasadena, Texas	1,000	PE	PE unit is scheduled to start-up in the third quarter of this year.
<b>Total 2022</b>		<b>4,300</b>		
<b>POTENTIAL FUTURE PROJECTS</b>				
<b>Chevron Phillips Chemical and QatarEnergy</b>	US Gulf Coast	2,000	PE	Companies expect a final investment decision by the end of this summer.
<b>FG LA</b>	St. James Parish, Louisiana	n.d.	PE, EG, PP	The US Army Corps of Engineers ordered a thorough review of the project in 2021.
<b>Motiva Enterprises (a subsidiary of Saudi Aramco)</b>	US Gulf Coast	n.d.	Aromatics, PE	Said to have been shelved, according to news reports.
<b>PTTGC</b>	Belmont, Ohio	1,500	n.d.	Company is preparing new air permits.

**Sources:** Company documents, C&EN research. **Note:** EG means ethylene glycol, EO means ethylene oxide, PDH means propane dehydrogenation, PE means polyethylene, PP means polypropylene, and n.d. means not determined.