



With the US shale gas party having upstream producers celebrating their feedstock advantage, non-US players can join in by partnering downstream. Look for more of these deals coming up.

Some chemical companies may feel like they are on the outside looking into the US shale gas party where upstream producers are popping the champagne corks and toasting cheap feedstocks for years to come. But there is a major opportunity for non-US firms to take advantage of cheap shale gas feedstocks – through downstream partnerships.

This is likely to be the next big trend in global petrochemicals. It is likely there will be more of these US foreign link-ups downstream, and potentially upstream in the US as well.

There are already plans to build seven new worldscale crackers in the US. That combined with expansions of existing facilities could add over 10m tonnes/year or 37% to existing US ethylene capacity, providing plenty of feedstock to make intermediates and polymers.

Japan-based Idemitsu and Mitsui have already signed an ethylene offtake agreement with US-based Dow Chemical as Dow builds its 1.5m tonne/year cracker in Freeport, Texas by 2017.

Idemitsu and Mitsui will build a linear alpha olefins (LAO) plant and take ethylene from Dow's new cracker. Dow will in turn buy some of the LAO for use in its performance plastics business.

Dow itself will build polyethylene (PE), ethylene propylene diene monomer (EPDM) and elastomers plants downstream.

And MEGlobal, a 50:50 joint venture between Dow and Kuwait's Petrochemical Industries Company (PIC), is looking to build a new integrated ethylene oxide/ethylene glycol (EO/EG) facility in the US, ICIS learned at the International Petrochemical Conference (IPC) hosted by the American Fuel & Petrochemical Manufacturers (AFPM) in San Antonio, Texas.

"Following Dow's announcement about building a new ethane cracker in Freeport, Texas, MEGlobal is seeking board approval to build an EO/EG facility," said Frank Hanraets, executive vice president, commercial and supply chain at MEGlobal on the sidelines of the IPC.

Dow is quickly filling out its downstream plans. But most other companies building new crackers have yet to fully define theirs. Herein lies the opportunity for foreign and domestic players to partner up to build downstream facilities.

The list of companies building crackers and expanding existing plants in the US are predominantly US based or those with major operations in the US.

But scanning the list of companies that have said they are considering the construction of crackers in the US, you can see that most reside outside the US. They include South Korea's Hanwha Chemical, Thailand's Indorama Ventures and PTT Chemical, Saudi Arabia's SABIC and Brazil's Braskem.



North America ethylene expansions based on shale gas

Company	Project	Capacity	Location	Start-up
Sasol	New cracker	1.5m tonnes	Lake Charles, Louisiana	2017
Occidental Chemical/Mexichem	New cracker	544,000 tonnes	Ingleside, Texas	Feb 2017
ExxonMobil Chemical	New cracker	1.5m tonnes	Baytown, Texas	2016
Chevron Phillips Chemical	New cracker	1.5m tonnes	Cedar Bayou, Texas	mid-late 2017
Dow Chemical	New cracker	1.5m tonnes	Freeport, Texas	2017
Shell	New cracker	World-scale	Monaca, Pennsylvania	2019-2020*
Formosa Plastics	New cracker	800,000 tonnes	Point Comfort, Texas	2016
Westlake Chemical	Expansion	108,863 tonnes	Lake Charles, Louisiana	Q1 2013
Williams	Expansion	272,158 tonnes	Geismar, Louisiana	Q4 2013
INEOS	Debottleneck	115,000 tonnes	Chocolate Bayou, Texas	end 2013
Westlake Chemical	Expansion	113,399 tonnes	Lake Charles, Louisiana	2014
Westlake Chemical	Expansion	82,000 tonnes	Calvert City, Kentucky	Q2 2014
LyondellBasell	Expansion	363,000 tonnes	La Porte, Texas	mid-2014
LyondellBasell	Expansion	113,000 tonnes	Channelview, Texas	2015
LyondellBasell	Expansion	363,000 tonnes	Corpus Christi, Texas	Late 2015
BASF	Expansion	NA	Port Arthur, Texas	2014

	Project	Capacity	Location	Start-up
Hanwha Chemical	New cracker	World-scale	US	NA
Axiall	New cracker	World-scale	US	NA
Indorama Ventures	New cracker	1.3m tonnes	US	NA
SABIC	New cracker	World-scale	US	NA
Braskem	New cracker	World-scale	US	NA
Aither Chemicals, Renewable	New cracker	272,000 tonnes	US Northeast	2016
PTT Global Chemical	New cracker	World-scale	US	NA
NOVA Chemicals	Expansion	NA	Corunna, Ontario, Canada	NA

* ICIS estimate

Source: Companies, ICIS

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