



FRACKING HAS PRODUCED AN OVERSUPPLY OF CHEAP ETHANE IN THE PAST FEW YEARS, GIVING THE PLASTICS INDUSTRY AN INEXPENSIVE AND ABUNDANT RAW MATERIAL FOR PRODUCING PLASTIC.

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PLASTIC PRODUCTION IS SKYROCKETING DUE TO AN OVERABUNDANCE OF CHEAP NATURAL GAS

Plastic production is increasing at a rapid rate, which means plastic can be expected to enter our oceans at a growing rate if companies do not change course.

PLASTIC IS MADE FROM ABUNDANT, INEXPENSIVE FRACKED NATURAL GAS

Plastics are typically made from petroleum or natural gas, the latter of which has increased in abundance due to the natural gas fracking boom over the past decade. Ethane, a component of natural gas, is converted in industrial facilities called ethane crackers into a petrochemical called ethylene, which is one of the building blocks of plastics.

Fracking — a process used to extract natural gas from shale rock — has produced an oversupply of cheap ethane in the past few years, giving the plastics industry an inexpensive and plentiful raw material for producing plastic.

PLASTIC PRODUCTION RATES IN THE U.S.

Investments in the plastics industry have followed this rise in cheap ethane, triggering growth so explosive that organizers of the first Global Plastics Summit in 2013 welcomed what they called the “coming renaissance” of North American plastics. Over 330 chemical industry projects have been completed, partially constructed or planned since 2010.

In Texas, petrochemical companies have started construction on plastics projects ranging from \$6 billion to \$20 billion in cost, with final approval given in June 2019 to build what will be one of the world’s largest facilities processing ethane.

To learn more, visit usa.oceana.org/plastics

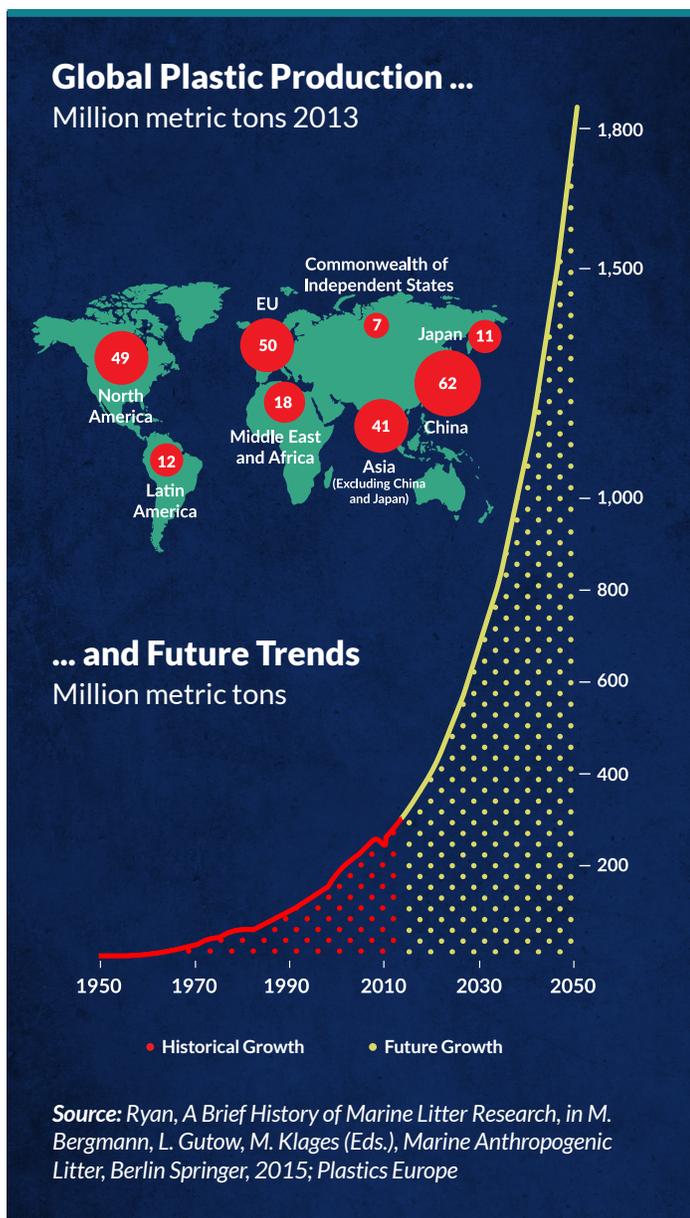
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The industry is now expanding nationally as well. Prior to 2017, only three ethane crackers in the U.S. were located outside of Texas or Louisiana; now, the plastics industry is investing heavily in infrastructure in North Dakota, West Virginia, Ohio and Pennsylvania.

These projects have supported skyrocketing rates of production. In the first 10 months of 2018, the U.S. produced an average of 1.7 million barrels of ethane per day, an increase of 74% from the 2012 average.

PLASTIC PRODUCTION RATES GLOBALLY

Global production of plastics has outpaced all other bulk materials — including steel, aluminum or cement — and has nearly doubled since the start of the millennium. It's expected to increase at least fourfold between 2014 and 2050, undermining efforts to reduce consumption and reverse the plastics crisis.



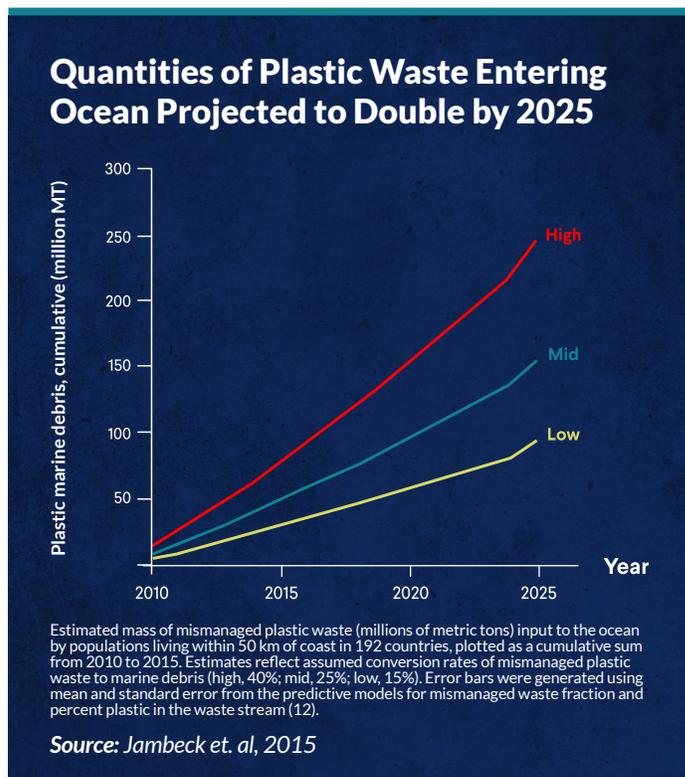
In Europe, new plastic-production plants that rely heavily on American natural gas are being built. Infrastructure buildout in the Middle East has slowed but is ongoing. And China is heavily investing in traditional forms of ethylene and propylene production. If it continues on its current trajectory, China could use 90% more crude oil to produce petrochemicals in 2030 than it did in 2015.

PLASTICS ENTERING THE OCEAN

As plastic production increases, so will the amount of plastic entering the ocean. The graph below estimates the cumulative amount of plastic waste predicted to be entering the oceans from 2010 to 2025, assuming no waste management infrastructure improvements. Without immediate changes to the way we use plastics, the amount of plastic debris annually entering the marine environment will roughly double from 2015 to 2025.

RECYCLING IS NOT ENOUGH

While recycling is often presented as the solution to the plastics crisis, it will not be able to keep up with increased production. To date, only about 9% of all the plastic waste ever generated has been recycled, while 79% has ended up in landfills, on the ground or in the ocean.



The plastics crisis continues to grow, with increasing amounts of plastic waste entering our oceans and limited recycling capacity to keep pace with it. To stop plastic from entering our oceans, we must reduce the amount of plastic being produced at the source. We must demand that companies reduce the amount of single-use plastic they are putting into the supply chain and find alternative ways to package and deliver their products.