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## What's Really Going On With Plastic Prices?

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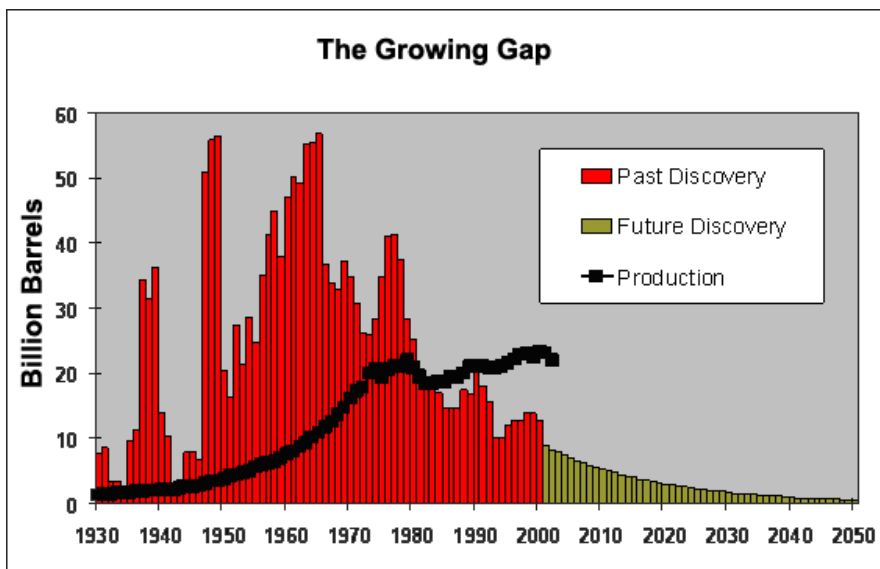
By [Mike Kmetz](#)

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Resin sellers and buyers have been on a wild ride over the past couple years. Hoards of plastic price increases have pervaded the plastics industry making the job of producing plastic parts all the more challenging. Will the situation improve over time? Can molders expect some degree of predictability with regard to the price they pay for resin? There is compelling evidence suggesting that the situation may, in fact, worsen over time leading to a much different buyer/seller landscape in the industry.

Any meaningful discussion relating to the price of resin really must start with a look at what is happening in the oil industry. Although you'll hear from some that plastic prices have become 'decoupled' from crude, at the end of the day there simply must always be a correlation. The reality is that the oil market is an exceedingly complex organism and to attempt to predict resin prices based on the price of crude would not be meaningful. This is principally because oil is selling at a price that is based upon market factors instead of a reflection of production costs. As the price of crude continues to increase, the price of plastics that are produced from oil feedstocks must increase as well. The same holds true for those resins that utilize feedstocks from natural gas. Simply put, if the price of flour goes up, the baker has to raise the price of the cake if he wants to keep his margin.

If one takes a very high-level look at the global oil situation, some conclusions are immediately apparent. From the day that the Drake well was drilled in quiet Pennsylvania farm country in 1859, the world has been depleting its finite endowment of oil. There is no more being produced, period. As with any commodity that is in demand and becomes scarce, it is inevitable that its worth will increase. The situation is not that the world is running out of oil. There are still vast amounts of oil, in various forms, that remain throughout the world. Although huge sources of oil such as tar sands and oil shale exist, it is conventional oil that is economically viable to produce in the quantities needed today. The true question, and the one that is very difficult to answer, is; When will the global demand for oil exceed the ability to produce it? Many believe that this will happen sooner than later and when it occurs, our lives get much more interesting. The impact on many industries, including plastics, is likely to be profound.



As a first step to better understand the situation of global oil supply and demand, the chart above shows some very telling trends. ExxonMobil produced this graph several years ago to demonstrate the relationship between conventional oil discovery, both past and predicted future, and actual production. Discovery began in earnest around 1930 and since oil must be discovered before it can be extracted, production lags by some number of years. Note that the discovery of oil appears to have peaked in the mid '60s and shows a decline since. This decline is occurring despite the oil industry spending billions looking for additional sources. Note the trend for future discovery. One can argue with the timing but it is doubtful that a series of major discoveries will occur to sustain the world's ravaging oil appetite. It is also interesting to note that in the early 1980's the world began extracting more oil than it could find. So, production continues to increase because of demand while discovery decreases.

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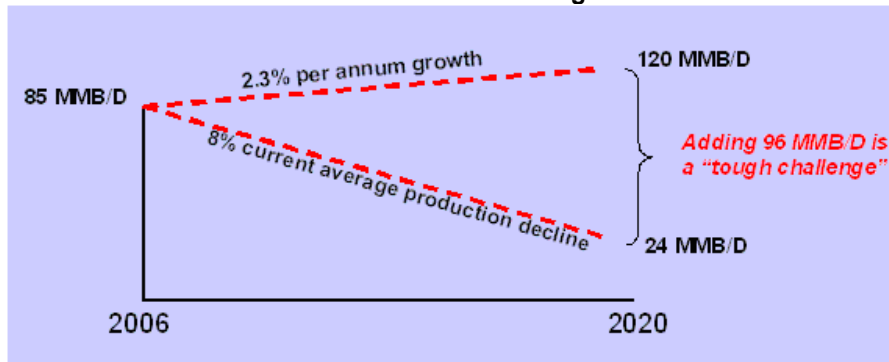
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## The World Oil Challenge



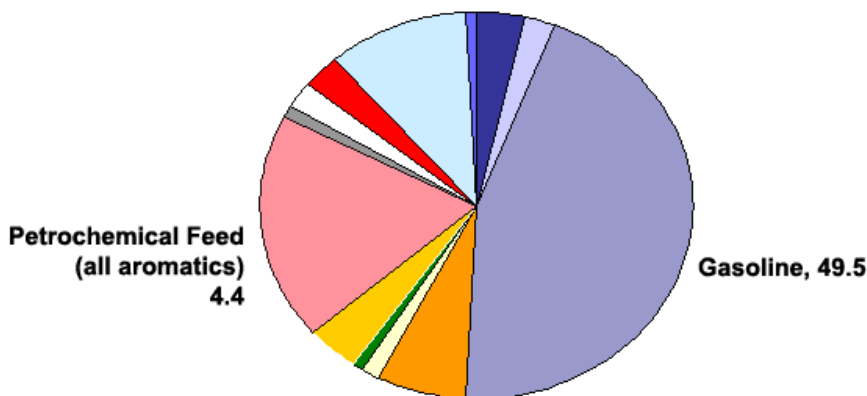
The world oil challenge is summarized in the chart above. It truly is mind boggling to think that today the world consumes 85 million barrels of oil a day (there are 42 gallons of oil in a barrel). It is also apparent that the world has a growing oil 'thirst' that wants about 2% more each year. Extended to 2020 this would amount to a consumption level of 120 million barrels of oil per day.

Now, on to the production side of the equation. Note that today the world tends to consume all that is produced, leaving very little surplus. Many experts can demonstrate that the world's ability to produce oil is in a steady state of decline at about 8% per year. This rate of decline is obviously a very controversial issue, however it is clear that many major oil fields throughout the world have already 'peaked'. The notion of 'Peak Oil' is a fiercely debated issue. The situation is that once a field or region's production hits its peak, it tends to gradually yield less and less oil (for much more on this subject, just Google 'Peak Oil'). Although one can argue the specifics, there is little doubt that there will be a growing gap between the world's needs and the ability to satisfy those needs. By the year 2020, that gap would be substantial. Obviously something must give and if production cannot be increased, demand must inevitably adjust.

Rounding out the oil discussion would be incomplete without looking specifically at the United States. We are a unique society with regard to the geopolitics of global oil. Consider that the U.S.:

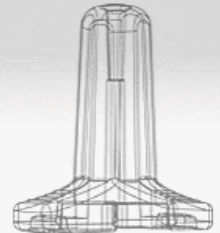
- Has just 2% of World Oil Reserves
- Has 8% of World Production
- Has only 5% of the World's Population
- Consumes 25% of World's Production (2/3 is imported)

U.S. oil production has been in serious decline since the mid 1970s. There is no true energy policy that will have a meaningful impact on this situation – at least in the foreseeable future. Practically speaking, U.S. oil consumption is dominated by transportation. Simply look out the window on to the freeway to comprehend this. Americans live in the suburbs, work an hour from home, and therefore rely on their vehicles more than just about every other country. Additionally, a typical morsel of food we consume has traveled 1,500 miles – largely by long-haul carriers on US highways. This situation does not bode well for domestically produced resins.



One can develop a better appreciation for where the plastics industry sits within the oil 'food chain' from the chart above. Just over 4% of a barrel of oil goes into feedstocks that are used to make the plastics we mold. It is quite easy to conclude that refiners consider

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petrochemicals as an afterthought in light of an ever tightening transportation market. Again, because these feedstocks represent basic ingredients for most plastics, the pricing situation will likely remain very tenuous.

Where does this leave the injection molding community that relies on continuous streams of reasonably priced plastics to keep their businesses running? After all, approximately 75% of a part's cost is in material so the selling price of the part has a high degree of sensitivity to resin price increases.

Perhaps the best advice for any molder is to have options. Resin buying options in a free market can provide some leverage for price improvement. Since many OEMs will specify a particular grade (as a result of working closely with a particular material supplier), it may be difficult to consider other resins within the same family or even more of a commodity family as a replacement. In light of today's situation, OEMs seem to be much more open to considering options. If an OEM can be encouraged to not specify a particular grade on a part drawing and leave the door open to consider an equivalent, perhaps less expensive material, then everybody wins.

There also seems to be more activity in the secondary market now. There are a multitude of brokers and traders that contribute to this important part of the plastics industry. The challenge for a molder is to find trusted sources that can supply the needed quantities at an attractive price. Better resources for molders to source materials in this market will inevitably emerge. The Internet is a natural means for finding secondary market materials. For more, search '[secondary market](#)' on The Plastics Web®.

One would also expect that technology and innovation in resins will continue to put downward pressure on resin prices. Consider, for example, the recent announcement by DuPont to produce corn-based polymers. Others like [Nature Works](#) have been in the bio-polymers arena for some time. There will undoubtedly be others.

Expect the road to be rough for some time. In order to remain competitive, molders must continue to seek innovative ways to keep costs in check. Having a few resin options for any project can help. Also, tap the power of the Internet to scour the web for [alternate](#) sources of plastic materials. Most importantly, perhaps this article has highlighted the notion that cheap oil and low plastic prices are a thing of the past. Now we need to have more focus than ever on new ways and opportunities to get beyond this predicament.

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