Chart of the Week 2022-07:
The Renewable Fuel Standard and Gasoline Prices

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Biofuel Mandates Are Adding to Gasoline Prices

The cost of biofuel mandates (measured as credits under an EPA program - RINs) have been on the rise.

Small Refinery Exemptions (SREs) helped keep RIN costs low.

RIN Cost per Gallon 7/1/2013 to 12/23/2021

Analysis Based on Daily CME, EIA, EPA, and EcoEngineers Data

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Recent increases in gasoline prices in the United States are primarily driven by crude oil prices and refining costs. Although taxes and distribution costs play an important role, these costs have been relatively stable over the last year.

"The Crack Spread" is defined as the value of petroleum products less the cost of the crude oil raw material; it serves as a benchmark proxy for the refinery gross margin. The so-called 3-2-1 Crack Spread assumes that 3 barrels of crude oil will yield 2 barrels of gasoline (xBOB) and 1 barrel of diesel.

Under US law (RFS – Renewable Fuel Standard), refiners and importers must meet mandates to include specific volumes of biofuels in the production of gasoline. RINs (Renewable fuel Identification Numbers) are acquired and submitted for compliance.

Both the cost of biofuels and the cost of compliance at higher mandates are adding to refiner costs, which are passed on to consumers.

This slide deck is available at: https://eprinc.org/chart-of-the-week/

For more information on this chart, please contact Lucian Pugliaresi (loup@eprinc.org) or Max Pyziur (maxp@eprinc.org).
Additional Slides
Biofuel Mandates Are Impacting Refiners’ Margins

**RIN Cost and Net 3-2-1 Crack Spread**

*7/1/2013 to 12/23/2021*

- **Total Crack Spread**
- **Implied RIN Cost**
- **Net 321 Crack**
- **Implied RIN Cost as %tage of 3-2-1 Crack Spread**

*Analysis Based on Daily CME, EIA, EPA, and EcoEngineers Data*
Ethanol as a Percentage of Gasoline


<table>
<thead>
<tr>
<th>Year</th>
<th>Ethanol Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>9.57%</td>
</tr>
<tr>
<td>2013</td>
<td>9.70%</td>
</tr>
<tr>
<td>2014</td>
<td>9.74%</td>
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<tr>
<td>2015</td>
<td>9.75%</td>
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<tr>
<td>2016</td>
<td>9.81%</td>
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<td>2017</td>
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<tr>
<td>2018</td>
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<tr>
<td>2019</td>
<td>9.96%</td>
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<tr>
<td>2020</td>
<td>9.98%</td>
</tr>
<tr>
<td>2021</td>
<td>10.04%</td>
</tr>
</tbody>
</table>

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Analysis based on EIA Data

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