



human energy®

Pricing Support Deck

November 2021



Factors Affecting Finished Lubricant Cost

To understand the reasons for the rise in cost of finished lubricants, it's first important to understand the components that make up a finished lubricant product.

A finished lubricant product is made up of the following raw materials and components:



BASE OILS

"Basic lubricant building block."

Factors Affecting Cost of Bases Oils

- Crude oil prices which determine the feedstock costs for base oils
- Competition for feedstock availability for other uses
- Supply/demand balance or capacity versus consumption



ADDITIVES

"Used to enhance the performance of an oil"

Factors Affecting Cost of Additives

- Crude oil prices, as many additives are derivatives of petrochemicals
- Base oil prices, as most additives contain base oil
- Supply/demand balance or capacity versus consumption



PACKAGING

"Ensures safe handling and consumer convenience"

Factors Affecting Cost of Packaging

- Crude oil prices, as plastics are derivatives of petrochemicals
- Steel costs driven by ore costs and milling capacity
- Supply/demand balance or capacity versus consumption



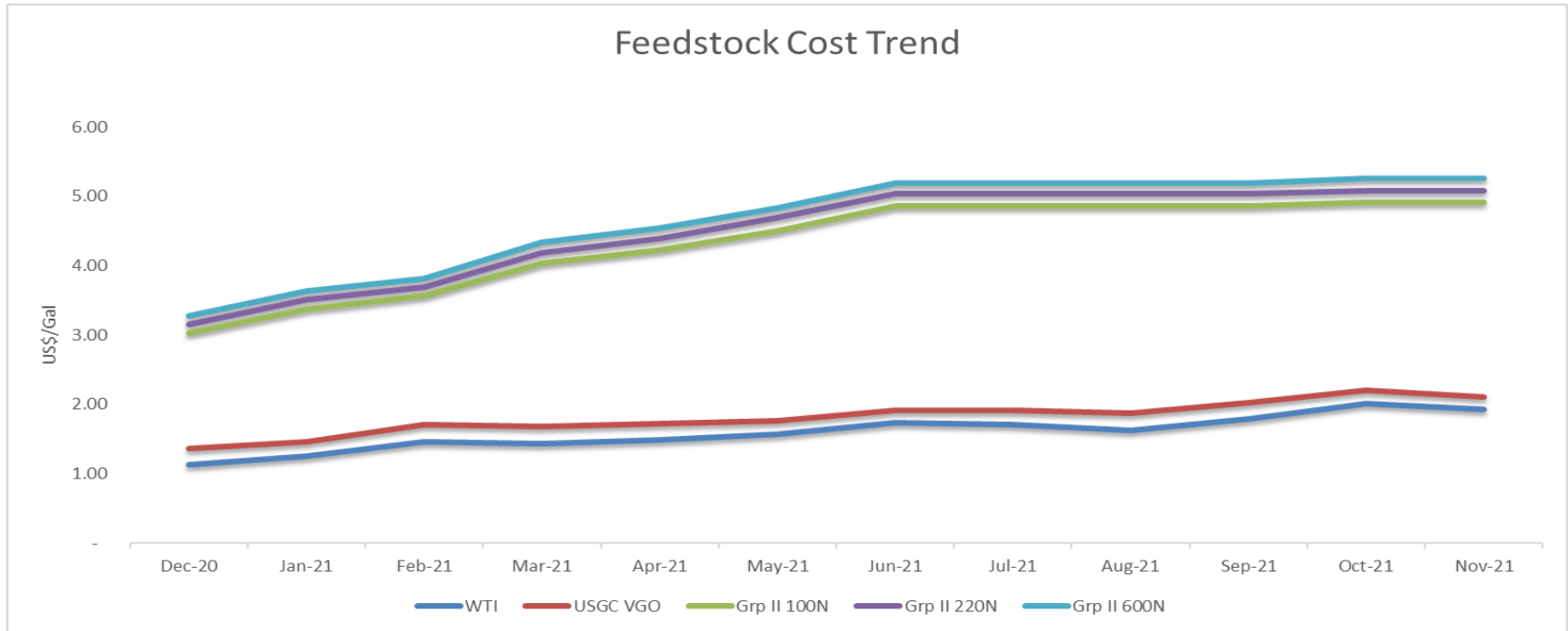
OTHER COMPONENTS

- Import Duties
- Freight Cost
- Manufacturing Cost



Base Oil and Feedstock Prices

Group II Base Oil Trend



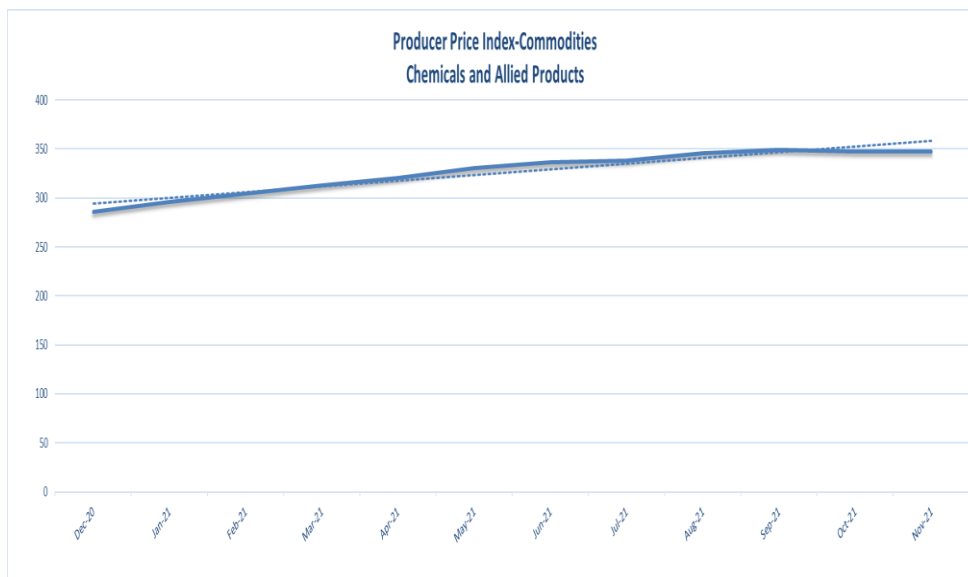
- USGC G2 average postings (Motiva, Excel Paralubes and Chevron)
- WTI crude increased by 70% since Year-end 2020 and by 11% since year-end June 2021
- VGO rose by 15% during 2H2021.
- Continued higher trend in Group II base oil cost driven by higher crude oil and feedstock prices, squeezed margins, tight base oil supply, and rising transportation, labor and energy costs were some of the factors thought to be driving the increase.



Other Finished Lubricant Cost Component

Additives

- The index below (PPI for Chemicals and Allied Products) was used as a representation for additives components.
- Many additive producers announced price increases in November up to 9%.
- Output disruptions at several chemical and additive plants caused a shortage of raw materials to manufacture lubricants, automotive fluids, and other finished products for most of 2021.
- Capacity constraints drove higher inbound logistics costs also impacted total additives cost.

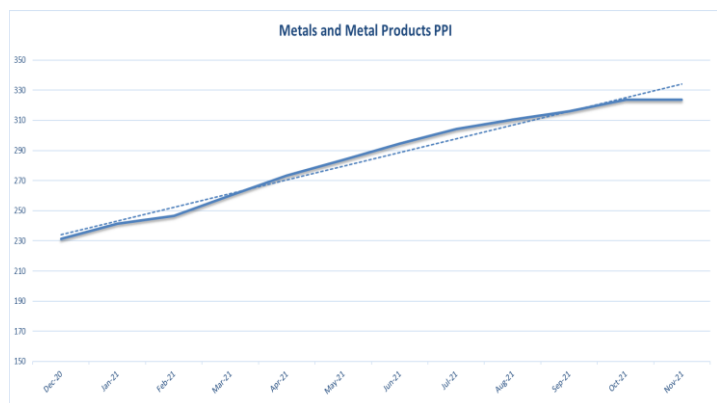
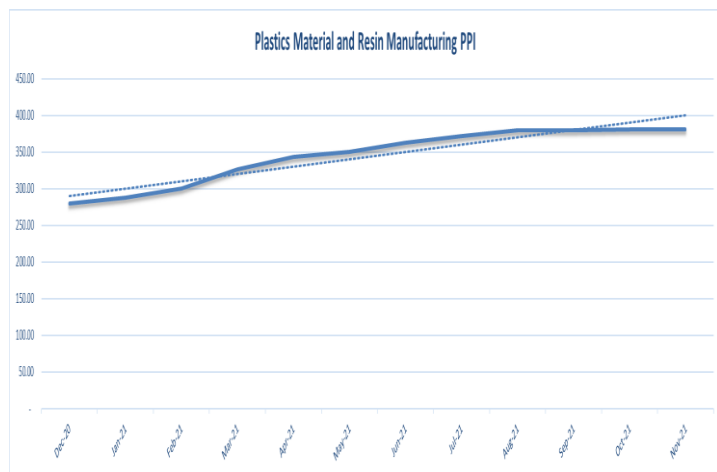


Sources: United States Department of Labor, Bureau of Labor Statistics; Lube Report



Other Finished Lubricant Cost Component

Packaging Cost Trend



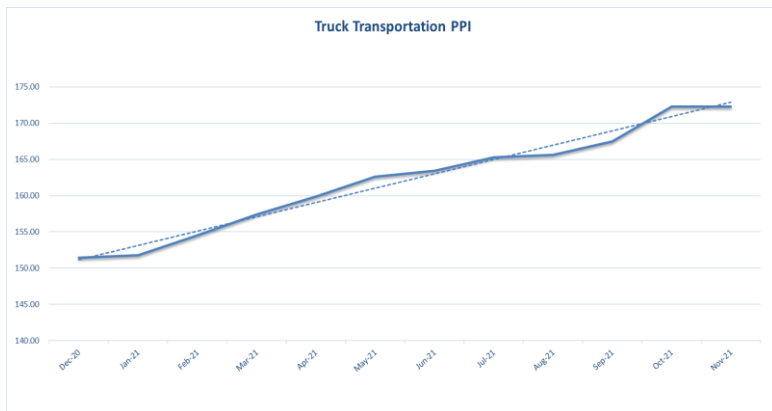
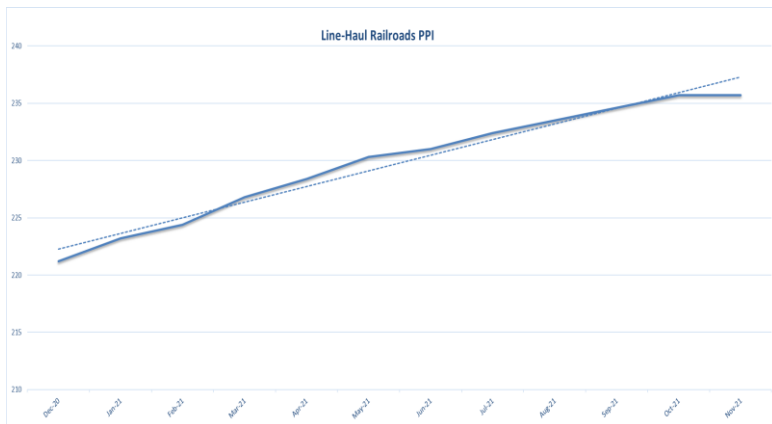
- Plastics Material and Resin Manufacturing PPI increased 36% since December 2020 and 5% since June 2021.
- Metals and Metal Products PPI increased 40% since year-end 2020. The data indicate an upward trend of 10% during 2H2021.
- Lubricant and grease producers faced mounting costs for raw materials, packaging, and logistics, which prompted several of them to communicate price increases between 5% and 10% for November implementation.
- Rising inbound logistics cost due to imbalances in equipment and driver shortages affected total packaging cost.

Sources: United States Department of Labor, Bureau of Labor Statistics; Lube Report



Other Finished Lubricant Cost Component

Transportation Costs



- **Line-haul PPI** indicates a growth of 7% since December 2020 and 2% during the last four months.
- **Truck Transportation PPI** increased 14% over year-end 2020 and 5% since June 2021.
- Not only was a lack of base oil availability and additives impacted downstream operations, but a scarcity of truck drivers, trucks, and railcars also affected inbound and outbound logistics significantly.

Sources: United States Department of Labor, Bureau of Labor Statistics; Lube Report



General Overview

Data show a continued upward trend in all cost components in 2021. The increases are driven by tight supply conditions, healthy demand, firm feedstock and crude oil prices, and increased production costs. The second half of 2021 was impacted by increasing additives and packaging costs due to an upward trend in raw materials cost and higher inbound logistics rates. Grease cost was significantly affected by higher raw materials cost and supply disruptions following the fire at Chemtool.



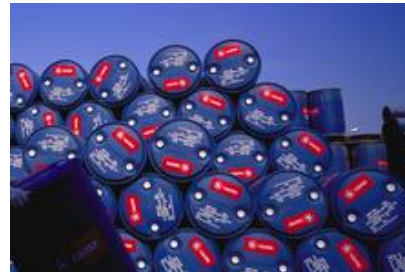
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