



# **NLGI LUBRICATING GREASE PRODUCTION SURVEY REPORT – 2022**

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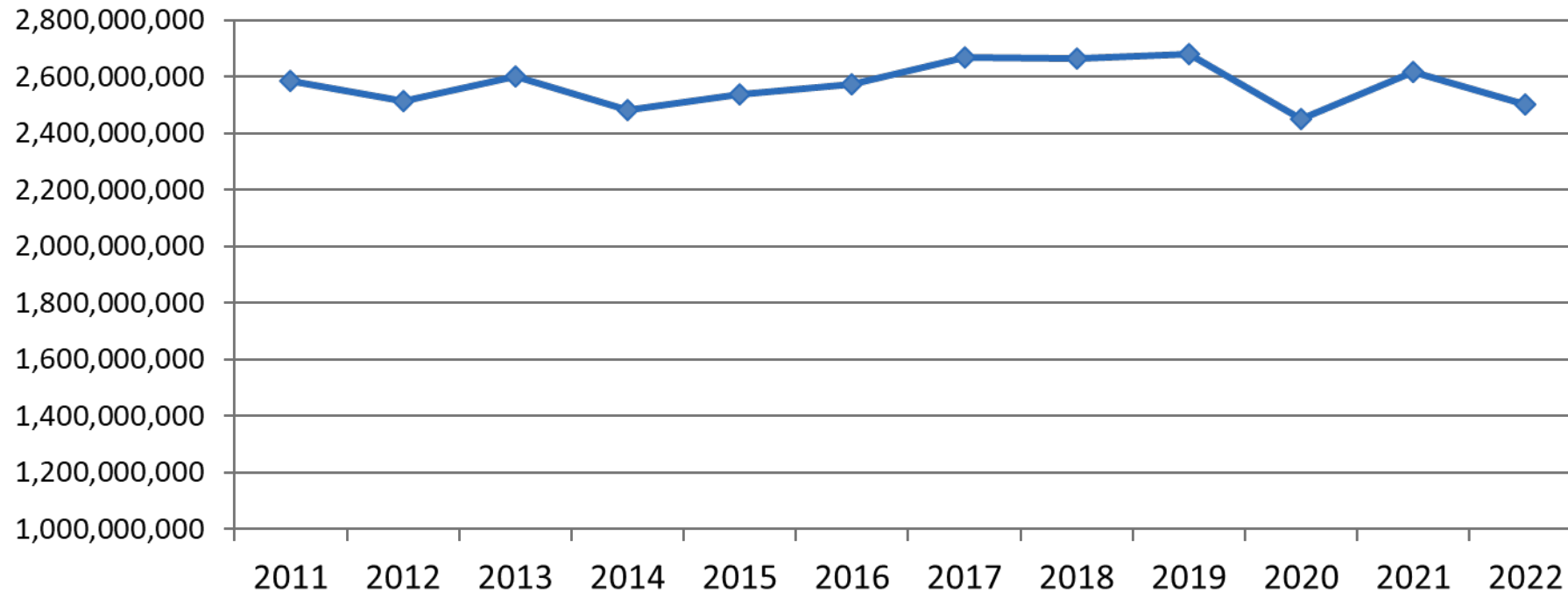
**NLGI AGM  
San Diego, CA  
June 2023**

# NLGI GREASE PRODUCTION SURVEY

- **What is the NLGI Production Survey?**
- Voluntary Submission of Annual Grease Production
  - **Only as accurate and meaningful as the quality of data reported**
  - **Inconsistent participation in certain regions of the world compromises data interpretation**
- **What does the NLGI Production Survey Provide?**
- Annual accounting of grease production globally
- The data is categorized in many useful ways
  - **By Geographic Region**
  - **By Thickener Type**
  - **By Year**
  - **By Base Oil Type (beginning in 2010)**

# THE GLOBAL PERSPECTIVE

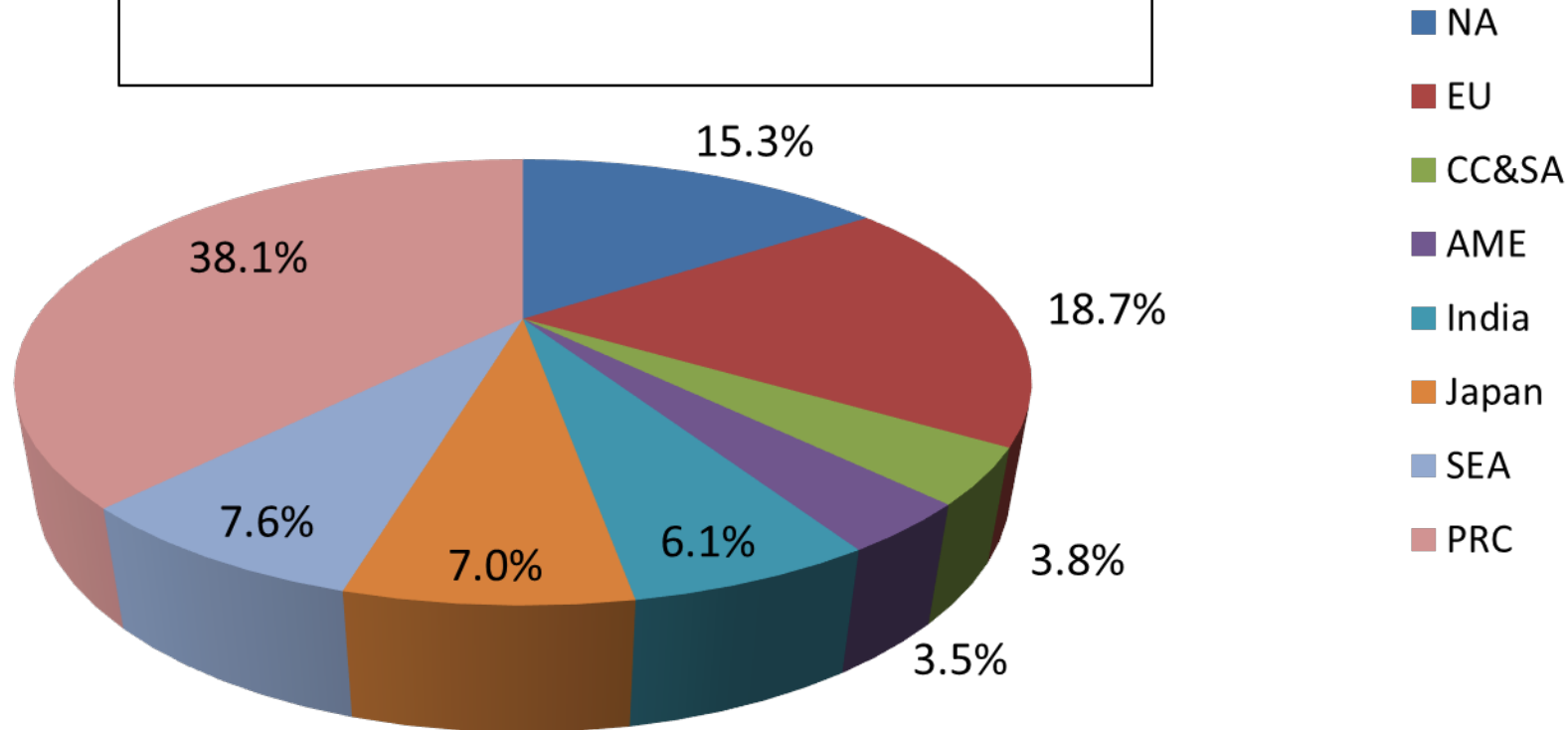
## World wide grease production, Lbs



- Global production has been relatively stable over this period, at just over 2.5 billion Lbs, but declined significantly in 2020 due to the pandemic
- 2021 showed a nice recovery to 2.6 billion Lbs, while poorer participation decreased the reporting for 2022
- CAGR of -0.3% over past 11 years

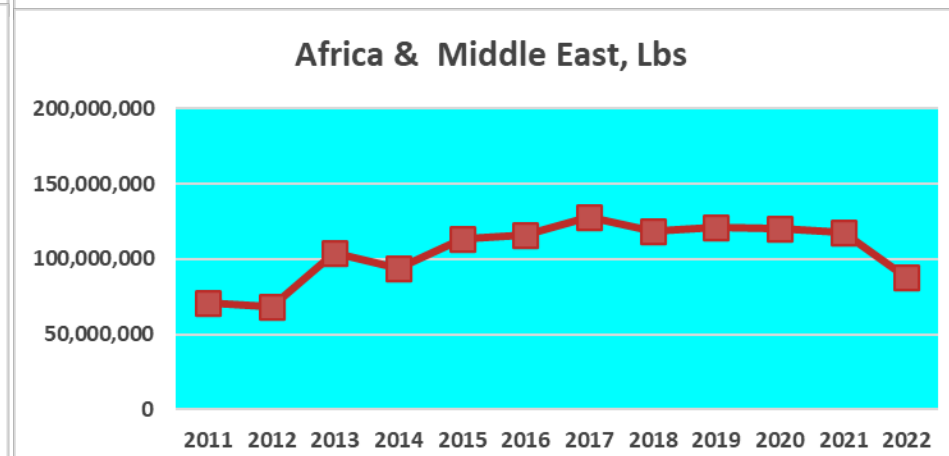
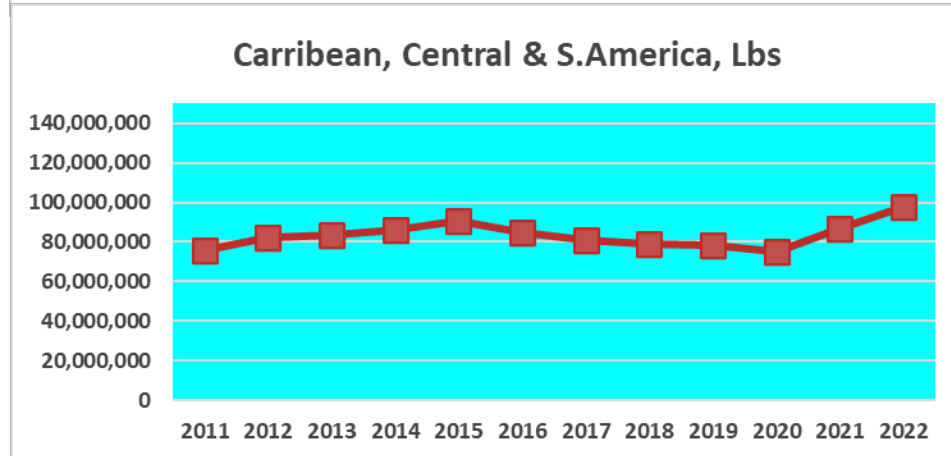
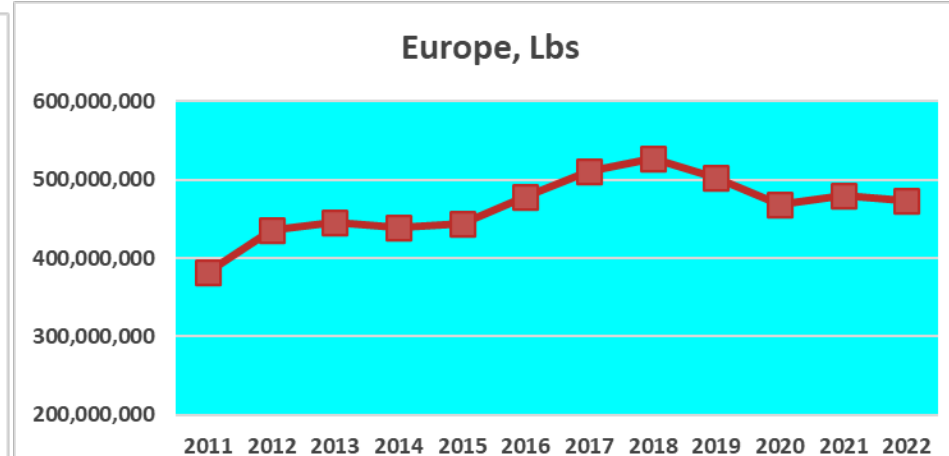
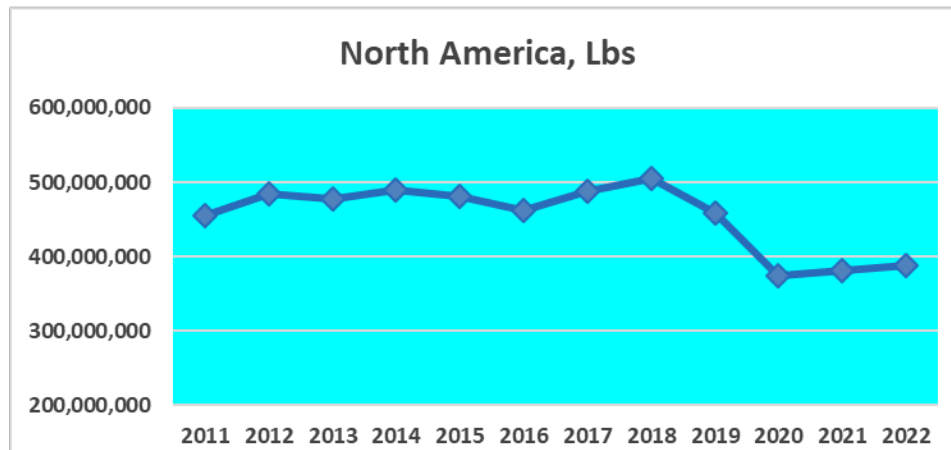
# THE GLOBAL PERSPECTIVE – BY REGION

**Global Grease Production by Region, %**



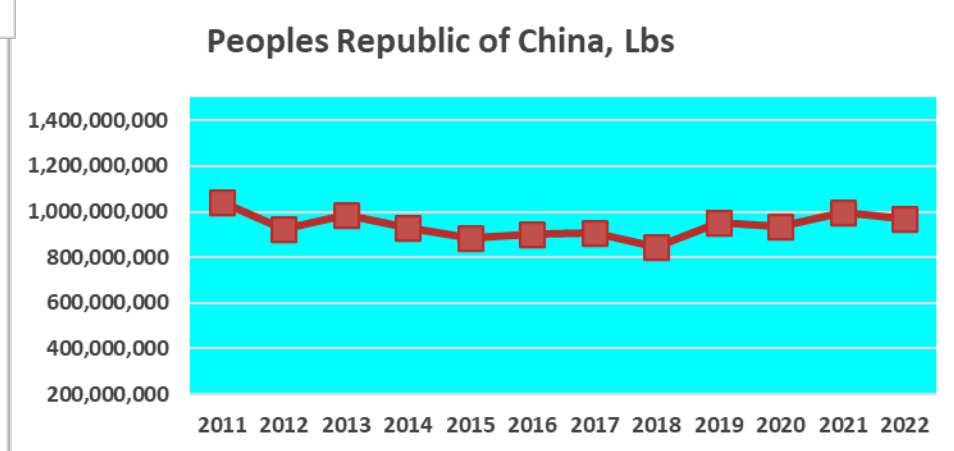
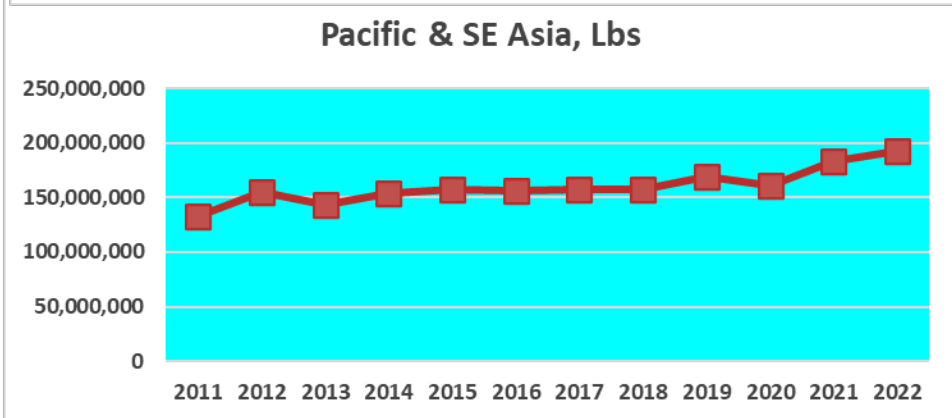
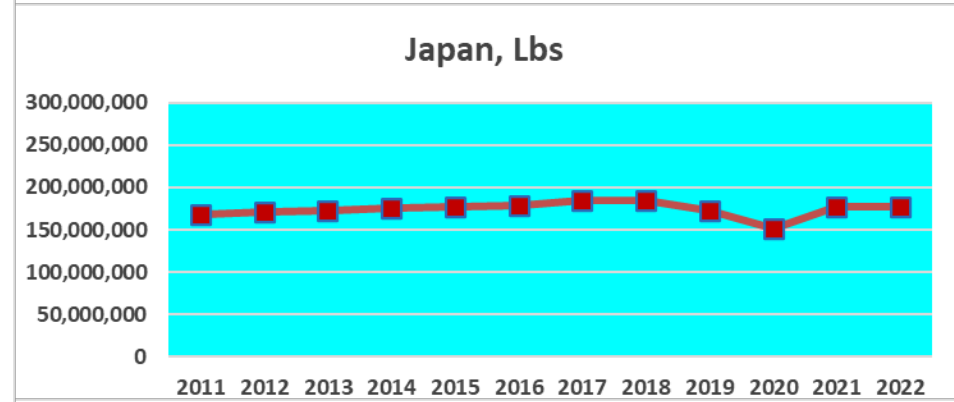
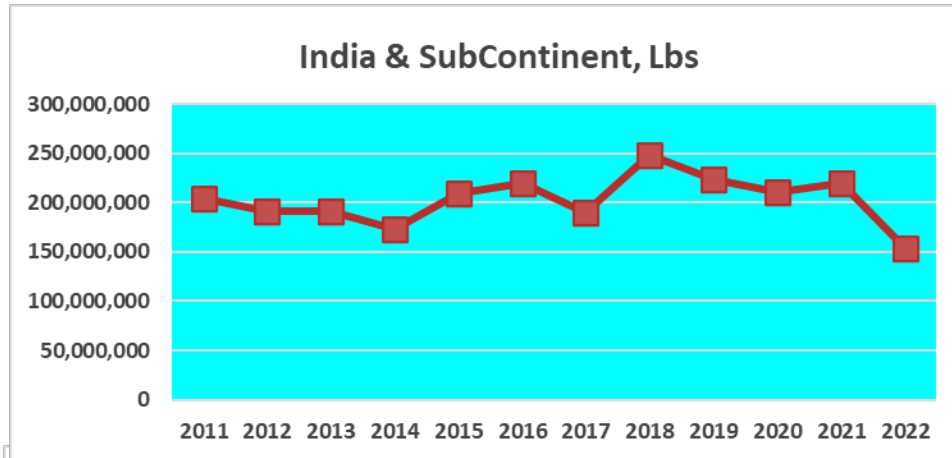
- People's Republic of China production continues to be greater than Europe and North America production combined
- North America production has been declining, with a CAGR of -1.3% while Europe production has been increasing with a CAGR of +1.8%

# REGIONAL TRENDS



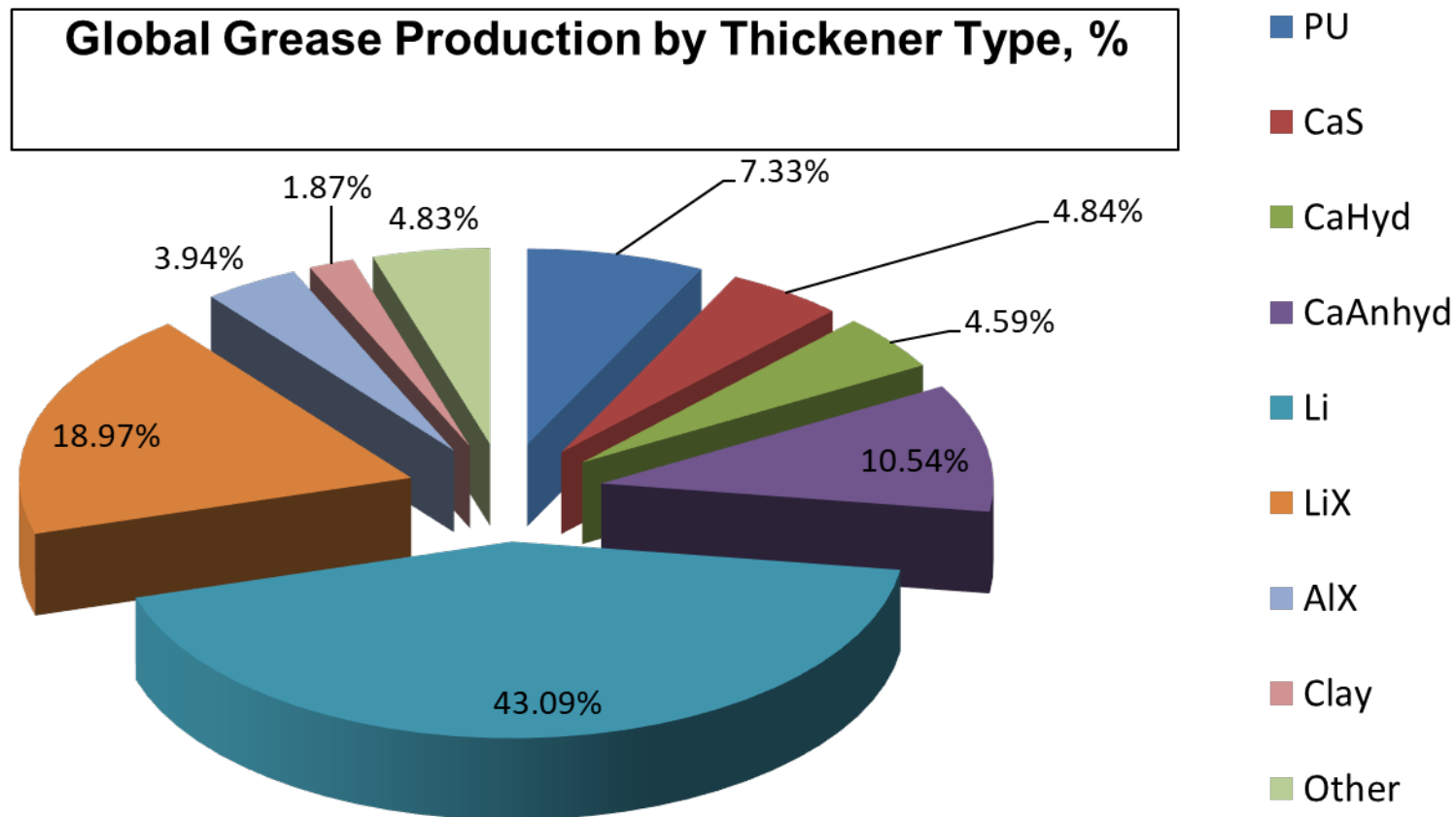
- North America was up slightly, with real growth offset by drop in participants
- Europe was showing a recovery from 2020, but lost participants for 2022
- Latin America increased 13% due to changes in participants and Africa & Middle East reported 25% lower production due to decreased participation

# REGIONAL TRENDS



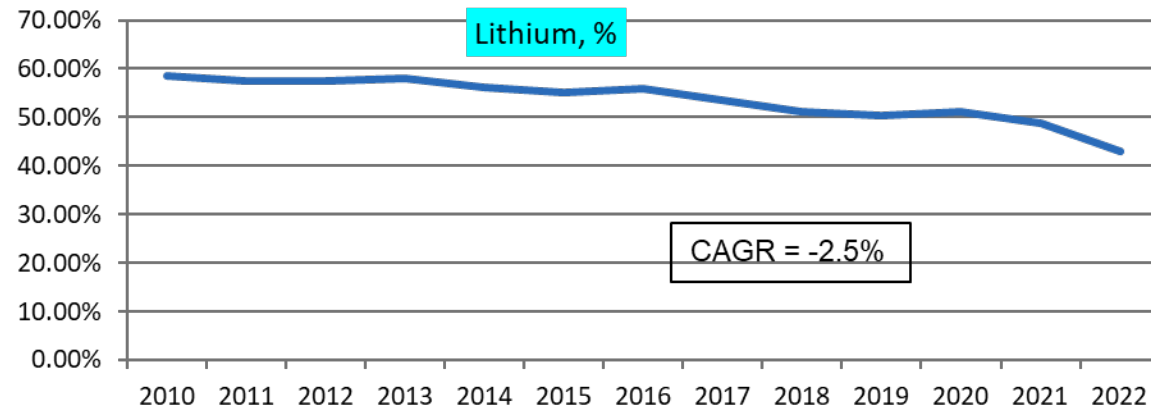
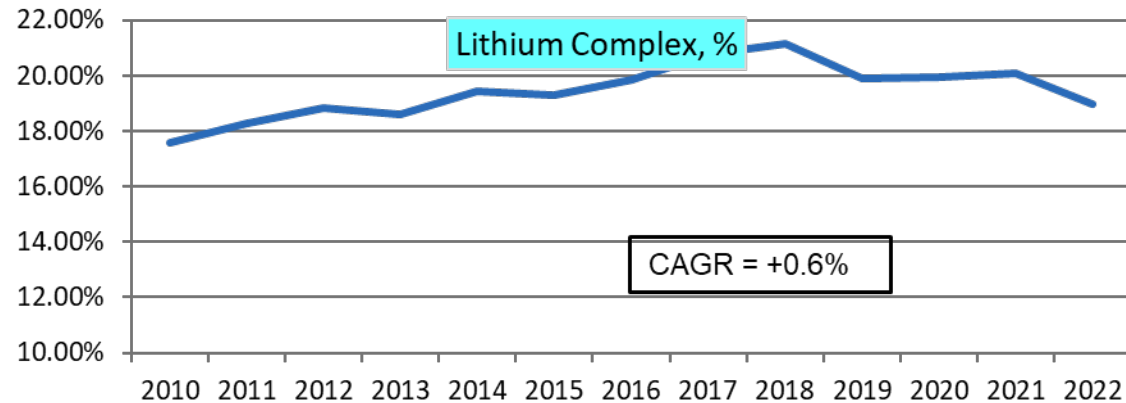
- India reporting dropped 66M lbs (30%) from 2021 due to lack of participation, slightly offset by real growth
- Japan reported production was relatively unchanged
- Southeast Asia increased by 5% due to real growth and China decreased by 2.7%

# THE GLOBAL PERSPECTIVE – BY THICKENER TYPE



➤ In 2022, total reported lithium grease production dropped to 62% of all grease types, with simple lithium grease production dropping steadily over the past 10 years and lithium complex grease production dropping for the past 4 years. Trends shown in next several slides.

# TRENDS BY THICKENER TYPE - LITHIUM DETAILS

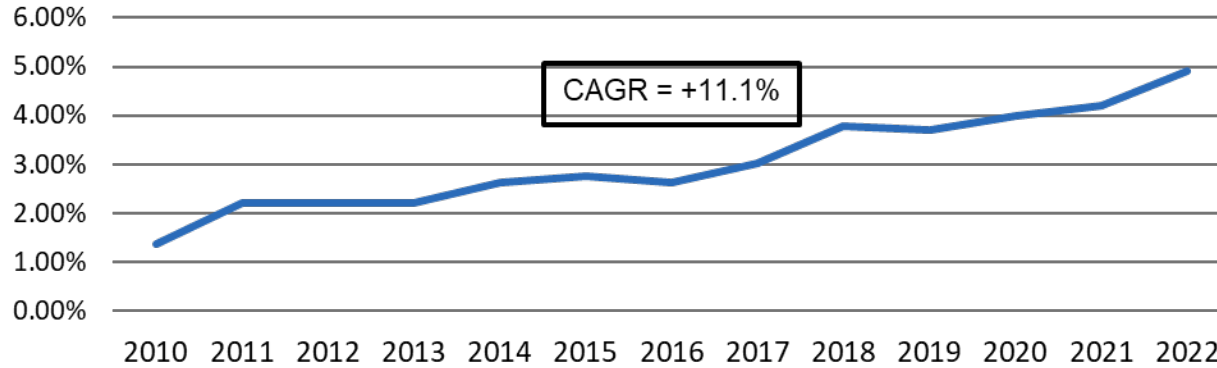


- Continuing trend to Lithium Complex (CAGR = +0.6%) at the expense of Simple Lithium (CAGR = -2.5%)
- However, LiX growth is clearly slowing, showing a decrease of over 1% while Ca soap greases increased

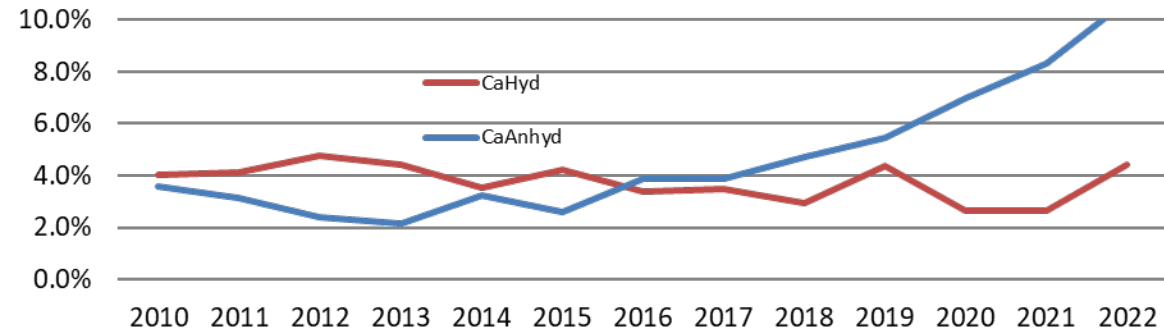


# TRENDS BY THICKENER TYPE - CALCIUM DETAILS

## Calcium Sufonate, %

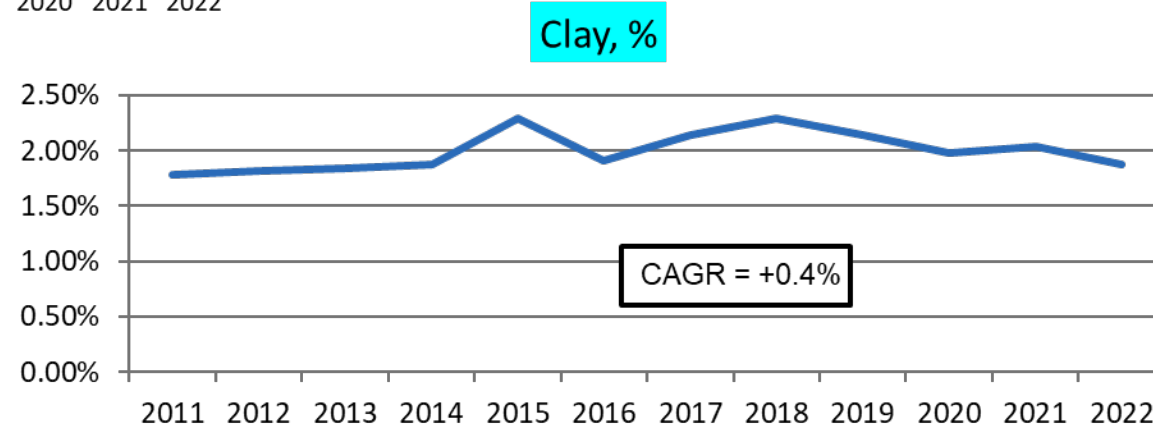
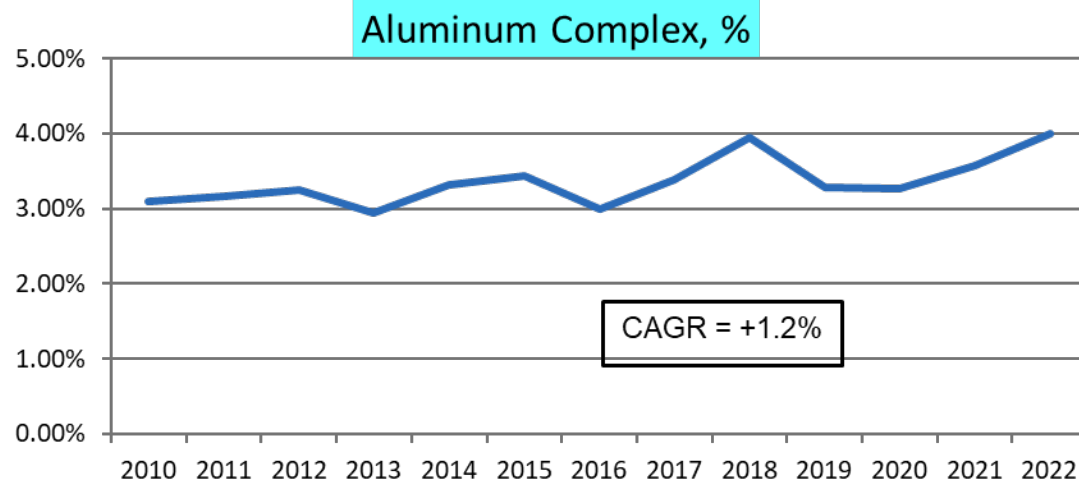


## Hyd + anhyd calcium soap greases, %



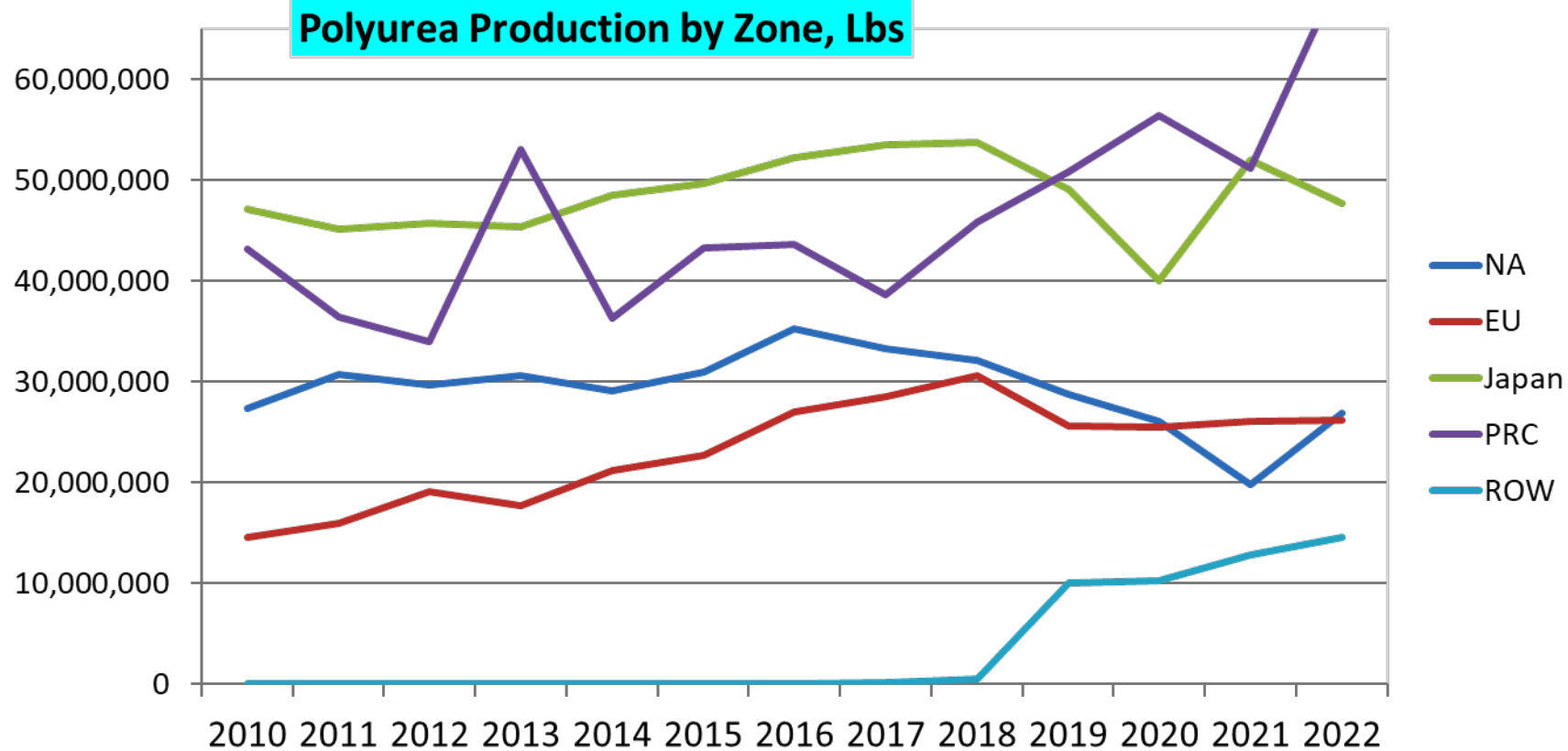
- Calcium Sulfonate grease is growing at a CAGR of 11.1%
- Anhydrous calcium soap greases are making a comeback (up nearly 2.5% from 2021), apparently due to shifts away from simple lithium greases, especially in China

# TRENDS BY THICKENER TYPE – ALUMINUM COMPLEX AND CLAY DETAILS



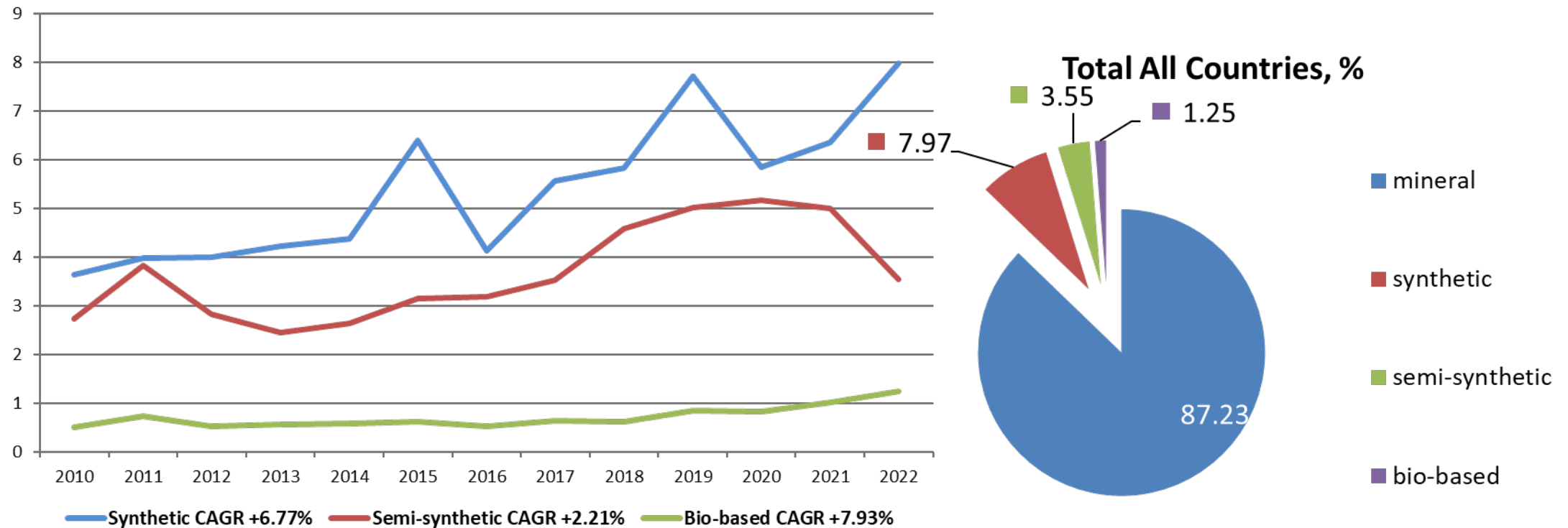
- Aluminum Complex as a % of all thickeners grew slightly over 2021, and shows a CAGR of +1.2% over this 12-year period
- Clay greases continue to average about 2% of the market, dropping slightly in 2022

# TRENDS BY THICKENER TYPE - POLYUREA DETAILS



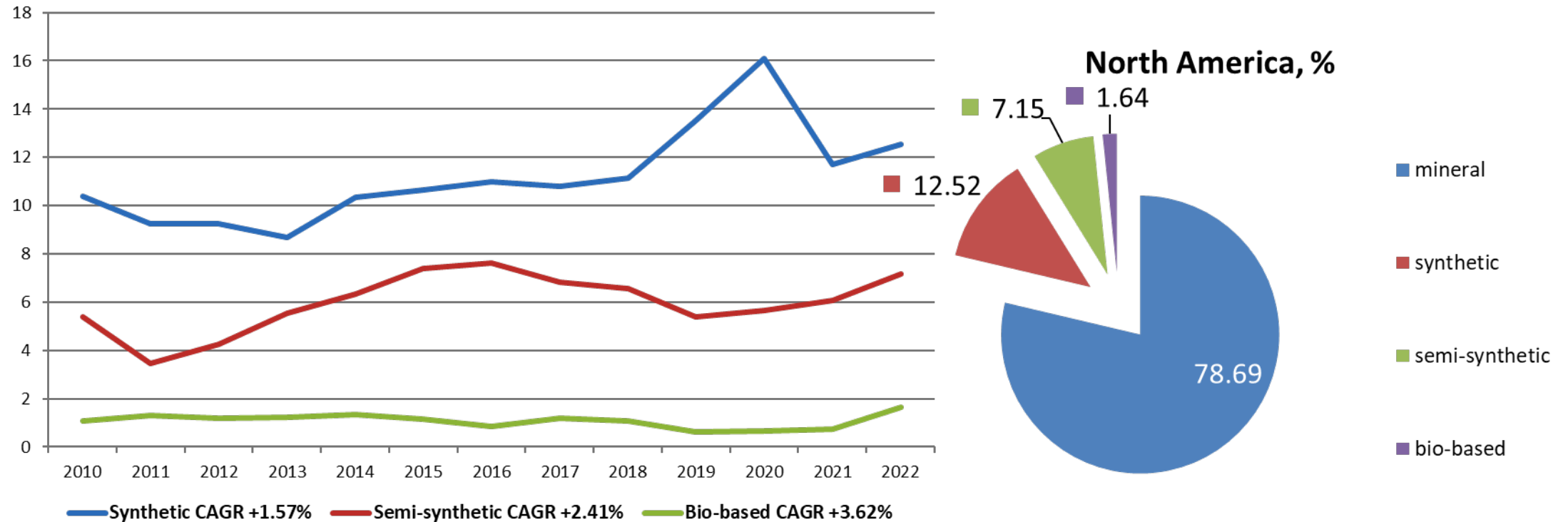
- Polyurea grease production was nearly 7.5% of all thickeners in 2022 with a CAGR of +3% over the 12-year period
- Regionally, only China and North America showed significant growth over 2021, Japan declining slightly and Europe staying flat
- The Rest of World production continues to grow at a CAGR of nearly 97%

# GLOBAL PRODUCTION – BY BASE OIL TYPE



- Conventional base oils represent 87% of grease production, a slight decrease from 2021
- Production using all non-conventional base oil types has increased over the past 12 years (CAGR=5.3%), led by full synthetics
- The use of bio-based oils is continuing to increase slowly from the previous plateau of around 0.5% globally to over 1%

# NORTH AMERICA BASE OIL TRENDS



- Conventional base oils represent 79% of NA grease production, down nearly 3% from 2021
- Production using all non-conventional base oil types has increased over the past 12 years (CAGR~1%), synthetic oils showing the strongest growth, and showing an increase in 2022 of almost 1%
- The use of bio-based oils jumped from 2021 by nearly 1 %

## SUMMARY

- The 2022 Production Survey has been completed and is now available:
  - ↓ Worldwide grease production was down by about 0.4% compared to 2021
  - ↑ North American production was up slightly over 2021
  - ↓ Europe was down by nearly 1.5%
  - ↔ Japan production was relatively unchanged
  - ↓ Africa & Middle East and India were both down significantly due to under reporting
  - ↑ Pacific & SE Asia was up by over 5%
  - ↓ China was down slightly over 2.5%
  - ↑ Latin America reported production increased by 13%

## SUMMARY CONTINUED

- ↓ Lithium complex production decreased by 1% while simple lithium production dropped over 6%. Total reported lithium grease production now 62% of all thickeners
- ↑ Polyurea production continues to grow in ROW and China, and is recovering in NA
- ↑ Calcium sulfonate grease continues to show the most rapid and continuous increase compared to other high temperature thickeners, especially in China
- ↑ Anhydrous calcium soap greases are making a comeback, apparently due to shifts away from simple lithium-based greases, most notably in China
- ↓ Use of all non-conventional base oils continues to increase, up by nearly 1/2% in 2023, led by NA where they are approaching 25% of all base oils used in grease

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# QUESTIONS







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