

# Global Used Oil 2009:

## Market Analysis and Opportunities

### 1st Edition of the Global Series

To Be Published 1st Quarter 2010

Base Year: 2009

#### Regional Coverage

Asia-Pacific

North America

Latin America

Eastern Europe

Western Europe

Africa and the Middle East

Used oil is any mineral or synthetic fluid-based oil that has been used in automotive and industrial applications for lubrication, power transmission, cooling, and other such functions and has become unsuitable for its original purpose. There are many options/routes available for the disposal of these used oils each with a different economic and environmental impact.

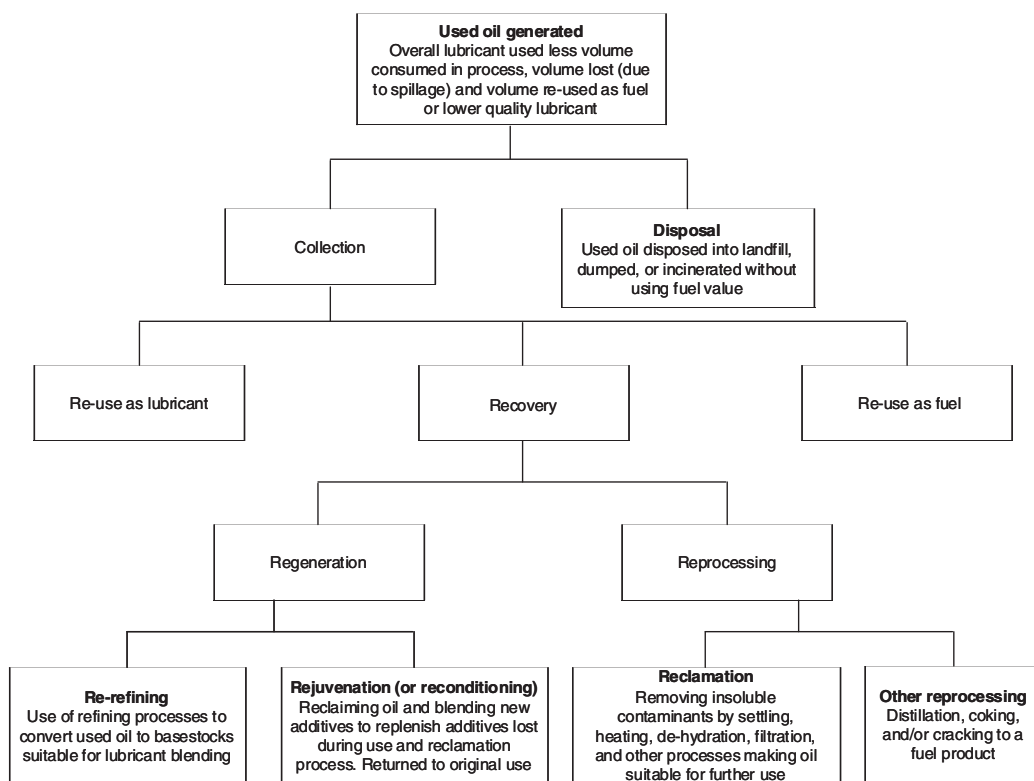
This report provides a comprehensive analysis of the global used oil market and will help answer such important questions as:

- How is used oil currently disposed within each region?
- What share of used oil is re-used for energy recovery in each region?
- What share of used oil is re-refined and used within finished lubricants within each region?
  - How is acquisition of used oil carried out?
  - What are the value-addition options available? What is the share of different options?
  - What share of used oil is re-refined and used to blend finished lubricants within each region?
  - What are the target markets for re-refined oils?
  - What is the outlook for re-refined baseoils?
  - What is the economic rationale for utilization of re-refined base stocks in finished lubricants?
  - Which finished lubricant product/market segments use re-refined base stocks? Why?
- What share of used oil goes to other dispositions within each region (e.g., rejuvenation/reclaiming, re-processing, or improper disposal)?

Competitive profiles will be provided for the leading 10 to 12 market entities, including technology vendors.

Within the literature for used oils, a lot of different terms are used to describe different processes. Figure 1 provides the terminology that will be followed throughout the report.

**Figure 1**  
**Used Oil Material Balance Terminology**



SOURCE: Europa.

## Report Scope

The scope of the study is global.

The base year for the supply and demand data will be 2009. The study will also present supply and demand forecasts from 2009 to 2014. Additionally, the economic feasibility of re-refined baseoils in relation to conventional baseoils will be evaluated in scenarios of high, mid, and low crude prices.

## Key Benefits

Subscription to this report will help understand drivers in the used oil market and the opportunities and threats represented by this market to your business. Insights from this report will help you customize your business strategy to judge whether/how to accommodate re-refined lubricants and will help maintain and improve your competitive position in the market place.

### Tentative Report Contents

1. **Introduction**
2. **Executive Summary**
3. **Used Oil Material Balances (by region covering 2004, 2009, and projection for 2014)**
  - A. Overall lubricant consumption in region by market segment and product type
  - B. Disposition of used lubricant
    - I. Lubricant consumed in use - hence not available for disposition
    - II. Used lubricant rejuvenated/reclaimed by consumer on-site and used as fuel or lower quality lubricant
    - III. Used lubricant not collected - improperly disposed or dumped
    - IV. Overall lubricant volume collected
  - C. Disposition of lubricant volume collected
    - I. Used oil disposed without value recovery (landfill, incineration without energy recover)
    - II. Used as fuel (combusted for energy value) -- without substantive re-processing
    - III. Used in less severe lubricant and other applications (de-dusting oil, field lining oil)
    - IV. Re-processed to fuel products (for example fuel oil)
    - V. Re-refined into base oil
  - D. Supply of re-refined oils by region
    - I. Total supply of used-oil to re-refiners
    - II Typical yield structure of a re-refined base oil plant (share of re-refined base oil, fuel products, and waste)
    - III. Total re-refined base oil supply and classification by API groups (Less than Group I, Group I, Group II) and viscosity grades
4. **Economic Cost-benefit Analysis of Used Oil Disposition as Fuel/Re-processed Fuel Versus Re-refining**
  - A. What is the economic value of each disposition option under different price scenarios?
  - B. What is the impact of subsidies on relative economic value of each option?
  - C. What is the impact of market structure - collection infrastructure and proximity to re-refiner?
5. **Demand for Re-refined Base Oils/ Finished Lubricants Using Re-refined Baseoils**
  - A. Technical limitation and economic limitations
    - I. Which lubricant products can use re-refined oils?
    - II. Which lubricant products cannot be blended with re-refined oils? Why? Any fixes?
    - III. Minimum volume of used-oil to be re-refined and used in finished lubricants
  - B. Value proposition to lubricant blenders/lubricant marketers
    - I. What is the quality perception of re-refined oil in relation to virgin oils?
    - II. What is the influence of source, collection method, and re-refining technology on this quality perception?
    - III. How do they view the association of re-refined oils with their brand name?
    - IV. What is the price discount/premium they expect for using re-refined oils in relation to virgin oils?
  - C. Value proposition to lubricant end-users (industrial users, commercial fleets, installers)
    - I. Quality perception of re-refined oil based lubricant in relation to regular/fresh lubricant
      - Do you think re-refined oil-based lubricants perform as well as regular lubricants?
      - Will you use re-refined oil-based lubricants with under-warranty equipment/vehicles; off-warranty equipment/vehicles; old equipment/vehicles?
      - Will use of re-refined oil-based oils affect your maintenance practices? - Oil change intervals, equipment monitoring, used oil analysis
    - II. Cost of using re-refined oils in relation to regular oils
6. **Re-refined Baseoils Business Economics**
  - A. Business environment
    - I. Regulation in key markets
    - II. Government subsidies, incentives, taxes, and their impact on re-refining business
    - III. Potential changes to regulations and subsidies
  - B. Description of used-oil acquisition schemes and cost of used-oil acquisition
    - I. Collection cost relative to population/car and truck density
    - II. Economically viable versus economically stranded supply
    - III. Impact of subsidies on increasing share of economically viable supply
  - C. Description of re-refining schemes and cost of re-refining
  - D. Estimation of gross margins under different crude oil scenarios
7. **Re-refined Baseoil Business Attractiveness Evaluation**
  - A. Barriers to entry
    - I. Investment capital
    - II. Intellectual property issues
    - III. Government regulations
    - IV. Alternative value (e.g., fuel)
    - V. Others
  - B. Business threats and opportunities
    - I. Green lobby support
    - II. Growing trend in legislation in conducting and understanding life-cycle analysis
8. **Supplier Profiles**
  - A. Used oil input capacity
  - B. Re-refined base oil output capacity
  - C. Basestock quality mix (Less than Group I, Group I, Group II)
  - D. Processing technology used
  - E. Used oil acquisition infrastructure, coverage, and tie-ups if any
  - F. Re-refined base oil target market

## Methodology

Kline & Company's leadership role in providing high-quality market information on the global lubricant and lubricant basestocks industry is based primarily on primary research.

Although secondary sources such as the Internet, trade publications, government statistics, import-export statistics, and others will be used the primary research methodology employed in *Global Used Oil 2009: Market Analysis and Opportunities* is telephone interviews and personal visits with re-refiners, end users, technology companies, additive suppliers, government agencies, trade associations, and other industry experts. Our tentative interview plan for this study is as follows:

Type of interview	Segment	Number of interviews	Research objectives
In-depth discussions	Re-refiners	30-a	Business environment, key issues, regulation, views of used oil collection (what works, what does not, costs, impact of subsidies), views on target markets for re-refined oils/rejuvenated lubricants (who is most interested, why, what issues need to be tackled), details on their own operations, and outlook
	Additive companies	4	Technical viability of using re-refined oils, views on extent of use of re-refined base oils in lubricant formulation that is currently happening
	Lubricant blenders	15	Perceptions and value proposition in eyes of blenders towards using re-refined oils. Is it a plus or a minus to their brand? What are their customers demanding? Which lubricant segments are most interested in re-refined oils
Structured interviews-b	Consumer-c	60	Perceptions and value proposition in eyes of end-users towards lubricants made from re-refined oils, current recycling practices
	Commercial-d	100	
	Industrial-e	70	
	Recyclers and collection agencies	60	Understand current recycling practices in various regions and relative share of different channels for used oils, impact of regulations, economics of collection
Total		330-350	
<p>a- Actual number of interviews conducted may vary from plan.  b- Structured interviews will be conducted by third-party survey agency.  c- Interviews will cover mainly installers (quick lubes, garages, and OEM-authorized service stations, among others).  d- Interviews will cover transport, trucking and off-highway fleets in mining, construction, and agriculture.  e- Interviews will cover power generation, metals, automotive manufacturing, and others.</p> <p>NOTE: Interviews will be conducted in select markets in North America, Europe, and Asia.</p>			

All in-depth interviews, analysis, and report writing will be conducted by a team of Kline & Company professionals and associates with decades of experience in baseoil sales, consulting, and technical service.

All structured interviews will be conducted using third-party professional survey agency (or agencies) with experience in industrial research. The agency will conduct its survey using structured questionnaires developed by Kline & Company. Kline will maintain quality control and integrity of the survey by randomly re-interviewing some respondents and checking the responses received against the completed questionnaires received from the survey agency.

### Kline Credentials

Kline is a worldwide consulting and research firm dedicated to providing the kind of insight and knowledge that helps companies find a clear path to success. The firm has served the management consulting and market research needs of organizations in the chemicals, materials, energy, life sciences, and consumer products industries for 50 years.

Kline's research and consulting services extend across the entire lubricant industry value chain. Our solutions have helped clients develop better ways to create and profit from new business opportunities, respond to competitive and economic threats, improve productivity, achieve sustainable growth, and optimize performance. Kline provides clients with facts, forecasts, and recommendations based solidly on the realities of the market.

Our market research reports and services are designed to provide subscribers with a deeper understanding of their markets, an outlook for their business, and accurate information about their competitors. Our clients tell us they often use Kline's market research to validate their own internal analysis, and many clients rely on Kline reports as their most critical source of information.

For more information about this study or Kline's other services, e-mail us at [sales@klinegroup.com](mailto:sales@klinegroup.com), visit our website at [www.KlineGroup.com](http://www.KlineGroup.com), or contact us at any of our regional offices listed below.

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- Kline Basestock Sellers Database
- The Outlook for the Global Lubricants Industry: The Impact of Recession