TOMORROWING TODAY
— … FUTURING FUCHS

| Apu Gosalia
| Vice President Sustainability & Global Competitive Intelligence
| FUCHS PETROLUB SE
| BASF Sustainability Business Community Meeting | 10th May 2017
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— … FUTURING FUCHS

01 • FUCHS PETROLUB SE

02 • The Lubricants Market

03 • Sustainability@FUCHS
Established 3 generations ago as a family-owned business

Almost 5,000 employees

Preference share is listed in the MDAX

57 companies worldwide

No. 1 among the independent suppliers of lubricants

More than 2.3 bn euro sales in 2016

The Fuchs family holds 54% of ordinary shares

A full range of over 10,000 lubricants and related specialties
FUCHS PETROLUB SE
Sales Breakdown

Sales 2016: 2.3 bn
(~80% international)
by customer location

- **Automotive lubricants**
  - ~40%

- **Industrial lubricants**
  - ~60%
  - e.g. Industrial oils, MWF/CP* and greases

100,000 customers
in more than 150 countries

- **Car industry**
- **Manufacturing**
- **Engineering**
- **Construction**
- **Mining**
- **Trade, Services & Transportation**
- **Heavy Duty**
- **Steel & Cement**
- **Aeronautic**
- **Agriculture industry**
- **Wind energy**
- **Food**

*Metalworking Fluids/Corrosion Preventives
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01  · FUCHS PETROLUB SE

02  · The Lubricants Market

03  · Sustainability@FUCHS
The Lubricants Market
Development Global Lubricants Demand (Million Tons)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Demand (Million Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>35.9</td>
</tr>
<tr>
<td>2008</td>
<td>35.7</td>
</tr>
<tr>
<td>2009</td>
<td>31.9</td>
</tr>
<tr>
<td>2010</td>
<td>34.4</td>
</tr>
<tr>
<td>2011</td>
<td>35.1</td>
</tr>
<tr>
<td>2012</td>
<td>35.1</td>
</tr>
<tr>
<td>2013</td>
<td>35.4</td>
</tr>
<tr>
<td>2014</td>
<td>35.5</td>
</tr>
<tr>
<td>2015</td>
<td>35.6</td>
</tr>
<tr>
<td>2016</td>
<td>35.7</td>
</tr>
</tbody>
</table>

*Without Marine Oils
The Lubricants Market
Development Regional Lubricants Breakdown (Million Tons)*

- Asia-Pacific & MEA: 35.9 (23%), 35.7 (19%)
- Americas: 32%, 28%
- Europe: 45%, 53%

- Asia-Pacific & MEA: 42% (35%)
- Americas: 19% (22%)
- Europe: 11% (13%)
- Africa: 6% (6%)
- Middle East: 5% (4%)
- Western Europe: 11% (13%)
- Eastern Europe: 8% (10%)
- Latin America: 9% (10%)
- North America: 19% (22%)

*Without Marine Oils
The Lubricants Market
Regional Per-Capita Lubricants Demand (kg)
The Lubricants Market
Ranking Top 20 Lubricant Countries

2016

2007
The Lubricants Market
Global Industry Structure*

*Manufacturers > 1,000 tons
The Lubricants Market
Ranking Top 20 Manufacturers*
The Lubricants Market
Competitive Landscape

Drivers

- Vertical Diversification
- "Niche" Retraction
- "NOCs" Glocalisation
- "Independents" Merging
- "Majors" Restructuring
- Lateral Diversification
The Lubricants Market

Digitalization

Disruptors

Third Party
Third Party
Third Party
Third Party
Third Party
Third Party
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Poor-quality oil does not lubricate properly, no matter how much of it you use ... Skimping on the quality of the oil used can lead to ten times the cost in repairs. Therefore, cheap oil ultimately is the most expensive oil.
Sustainability@FUCHS
Internal Drivers

- Mission Statement
- Competitiveness
- Credibility
- Employee Loyalty
- Efficiency Enhancement
- Capital Access
- Employer Branding
- Quality Improvement
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External Drivers
Sustainability@FUCHS

Intentions

- Comprehensive Demand (Value Chain, Society, Ecosystem)
- Internal Control and Improvement
- Public Image

Sustainable Enterprise
Equal consideration of all three aspects

Sustainable Corporate Control

„Greenwashing“

Considered Sustainability Aspects

Source: Graduate School Rhein-Neckar
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Dimensions

Sustainability

Economic
- Shareholder Value
- Stakeholder Value

Ecological
- Raw Materials: Suppliers / Supply
- Finished Lubricants: Production / Products

Social
- Internal: Employees
- External: Society
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Ecological KPIs

Development of Energy Consumption
(in kilowatt hours per ton produced)

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>220</td>
<td>240</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td>280</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>

Development of Water Consumption
(in liters per ton produced)

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>420</td>
<td>440</td>
<td>460</td>
</tr>
<tr>
<td></td>
<td>480</td>
<td>500</td>
<td>520</td>
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</table>

Waste Generation
(in kilograms per ton produced)

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

Basis: FUCHS production locations.
Tank cleaning with compressed air

- Manufacturing and storage tanks characterized by: plain interior surface, external heating coils, cone bottom for better flow of oil
- Inlying loop, which descends automatically after drain and cleans the tank wall using compressed air
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Water Reduction

Stage I
- Cold tab water to Grease reactor
- Hot tap water to the sewage

Stage II
- Cold tab water to Grease reactor
- Buffer tank for water
- Hot tap water to the sewage

Stage III
- Cold tab water to Grease reactor
- Buffer tank for water
- Hot tap water to the sewage

Mixer for product with water
Objective: Identifying the key areas where insulation would provide the biggest savings

Project started in January 2014 and completed in May 2014

Project cost payback: 15 months

Nicor Gas Energy Efficiency Program initiated with an engineer to do a study of the facility

Scope: insulation of 13 storage tanks, boiler room, steam & condensate return lines

Annual energy savings of nearly 6 million kWh
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Energy Efficiency

**Consumption**
- Gas: 25%
- Electricity: 18%
- Steam: 13%
- Heating Oil: 2%
- Other energy source: 2%

**Cost**
- Gas: 42%
- Electricity: 19%
- Steam: 14%
- Heating Oil: 18%
- Other energy source: 2%

**Carbon**
- Gas: 40%
- Electricity: 29%
- Steam: 22%
- Heating Oil: 17%
- Other energy source: 2%

Colors:
- Blue: Gas
- Red: Steam
- Orange: Heating Oil
- Grey: Other energy source
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Corporate Carbon Footprint*
(in kilogram CO₂e per ton produced)

- Scope 1: Direct emissions through own energy generation
- Scope 2: Indirect emissions through purchased energy
- Scope 3: Indirect emissions along the value chain

*FUCHS Production Locations 2014
Sustainability@FUCHS
Company Car Fleet*

- 2013: 136 gCO₂/km
- 2014: 130 gCO₂/km
- 2015: 123 gCO₂/km
- 2016: 121 gCO₂/km

*FUCHS Germany
Sustainability@FUCHS
Strategy

4S / FourS

Suppliers
Sales
Standards
Students
Sustainability@FUCHS

Suppliers

From 2017 on Sustainability will become part of the Supplier Performance Evaluation

Participating FUCHS Companies
Australia, Belgium, China, France, Italy, Germany (FS, FLT, Wisura), Poland, Spain, UK, USA, South Africa

Participating Functions
Lead Buyers, Local Buyers, R&D Specialists, Sustainability Manager

Rating Criteria
Subcriteria
Business Relationship: 5
Price Competitiveness: 4
Development Ability: 4
Quality: 3
Delivery: 4
Sustainability: +5

Total: 20

Rating:
Very Good: 5 Points
Good: 4 Points
Average: 3 Points
Poor: 2 Points
Very Bad: 1 Point
Unknown: Do not rate
Sustainability: 2 / 1 / 0 Points

Not everybody can rate every criterion
Business Relationship: All
Price Competitiveness: Lead Buyer only
Development Ability: R&D only
Quality: Local Buyer and R&D
Delivery: Local Buyer only
Sustainability: Sustainability Manager
**Sustainability@FUCHS**
Supplier Performance Evaluation (SPE)

<table>
<thead>
<tr>
<th>Sustainability Rating / Subcriteria Scoring Points</th>
<th>Yes</th>
<th>On the way</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG (Environmental Social Governance) Guidelines</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Corporate Carbon Footprint (CCF)</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Product Carbon Footprint (PCF) - Overall / General</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Product Carbon Footprint (PCF) - Supplies to FUCHS</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Product Carbon Footprint (PCF) - Reduction Targets</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
The topic of sustainability is becoming increasingly important. In cooperation with suppliers and customers, FUCHS is working to quantify the term sustainability. The objective is to develop a benchmark that allows our products to be assigned to categories. From this we derive tasks for research and development. We expect the change from qualitative to quantitative assessment of sustainability to bring significant progress. Sustainability will be included in the specifications for lubricants in the future.
Proposed/Named by FUCHS, the sustainability working group “NaSch“ was established under the roof of the VSI (German Lubricants Manufacturers Association).

- **Members:** AVIA BANTLEON, FUCHS, ROWE KLÜBER LUBRICATION, ZELLER+GMELIN

- **Objective:** Establish sustainability standards, KPIs, benchmarks for the lubricants industry and emphasize its value for society (image campaign)

- UEIF cooperation with NASCH carrying sustainability forward to the level of the European lubricants industry
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Sales

CO₂e emission distribution (global warming potential) of compact cars with combustion engine

Source: BMW
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E-Mobility

- Downstream chains obtaining materials
- Production at supplier location
- Transport
- BMW Group production
- Transport
- Usage incl. fuel provision
- Recycling

16% → 80%

CO₂e emission distribution (global warming potential) of compact cars with combustion engine → e-drive

Source: BMW
Sustainability@FUCHS

Chair of Corporate Social Responsibility

Cooperation with Student Initiatives

CSR-Weekend at the University of Mannheim
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Engagements

Responsible Care

FUCHS is a signatory to the Responsible Care Global Charter of the International Council of Chemical Associations (ICCA). FUCHS is committed to this initiative.

Chemie³

FUCHS is engaged in the Chemie³ sustainability initiative of the German Chemical Industry Association (VCI), the German Mining, Chemical and Energy Industrial Union (IG BCE) and the German Chemical Industry Employers‘ Federation (BACV).

Wittenberg-Zentrum für Globale Ethik/econsense

FUCHS is engaged in a cross-industrial initiative of German companies with the objective of creating sustainability networks in emerging and developing nations. This initiative has been set up by the sustainability network econsense and the WZGE.
Sustainability@FUCHS
Department

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Member of the Executive Board
Chief Technology Officer

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