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# Harmonising the biolubricant definition

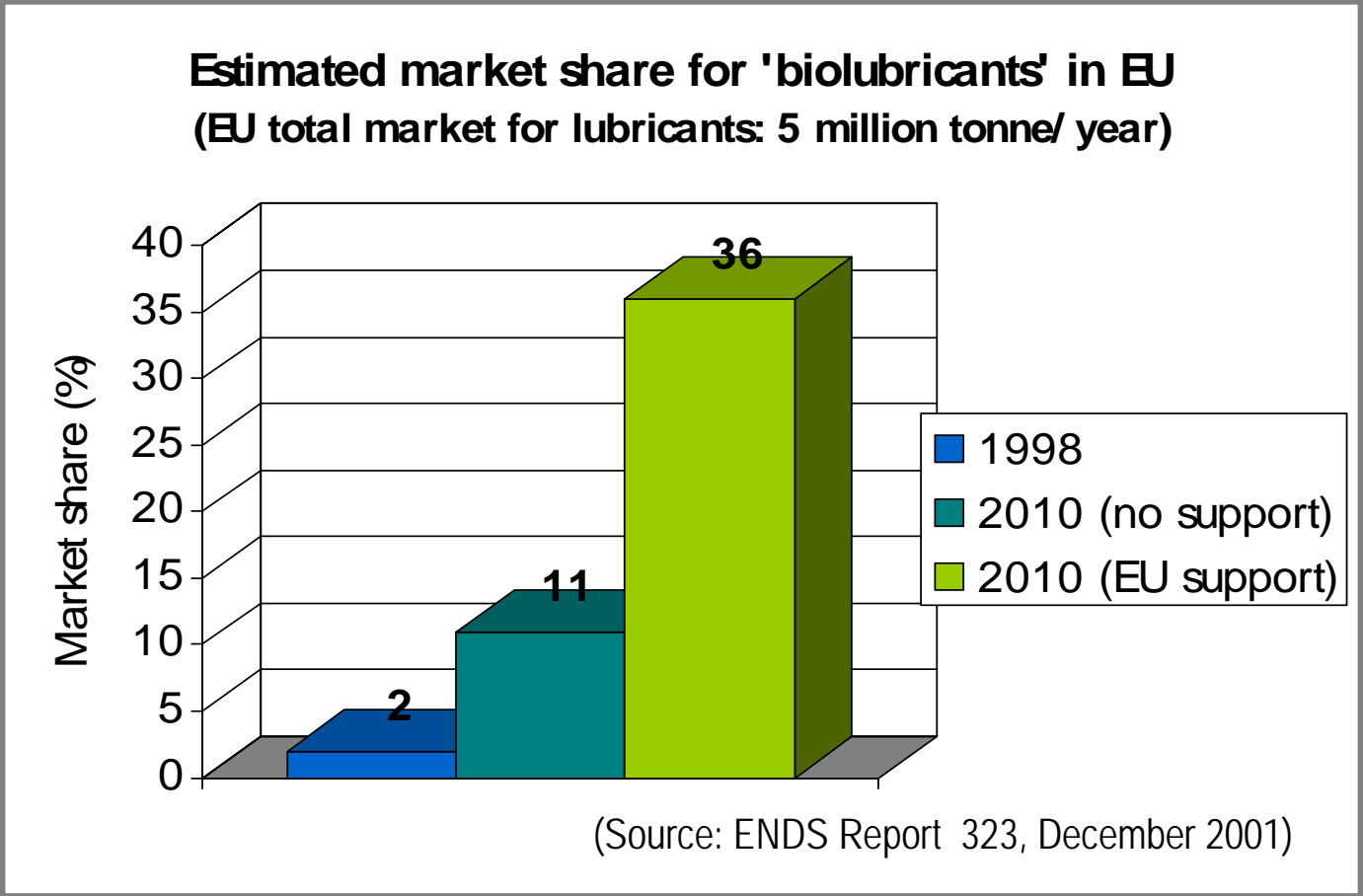
Nigel Battersby  
Cheshire Innovation Park  
England

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# Biolubricants market share (European Union)



...why is the market share so low  
?

# What is a biolubricant ?

## - examples of 'biolubricant' definitions (1/2)

Scheme	Description used	Minimum biodegradability	Maximum ecotoxicity	Renewables content
 <b>Swedish Standard</b> SS 15 54 34	<i>Environmentally acceptable hydraulic fluid</i>	Components	Components	None
 <b>EU LLINCWA</b> ('Why and how to use biolubricants')	<i>Biolubricant or Biolub</i>	Formulated product	Formulated product	None
 <b>German Blue Angel eco-label</b> RAL-UZ 79	<i>Rapidly biodegradable hydraulic fluid</i>	Components	Components	None
 <b>International Standard</b> ISO 15380	<i>Environmentally acceptable hydraulic fluid</i>	Formulated product	Formulated product	None

# What is a biolubricant ?

## - examples of 'biolubricant' definitions (2/2)

Scheme	Description used	Minimum biodegradability	Maximum ecotoxicity	Renewables content
<b>Dutch VAMIL accelerated depreciation of environmental investments</b>	<i>More environmentally friendly operating asset</i>	Formulated product	Formulated product	None
<b>Nordic White Swan</b> eco-label for lubricants	<i>(Hydraulic fluid) which has the least potential adverse impact on health and the environment during its lifecycle.</i>	Components	Components	65% wt. Minimum
<b>German Positivliste</b>	<i>Biogenic lubricant</i>	Formulated product	Formulated product	50% wt. Minimum



.... and then there are the OEM requirements

**KOMATSU**

**EATON** | Hydraulics

**CATERPILLAR**<sup>®</sup>

**Rexroth**  
Bosch Group

# What is a biolubricant ?

## - generally accepted requirements

- **High** biodegradability
    - rapid removal from the environment
  - **Low** ecotoxicity
    - minimal effect on the environment
- and
- **Meets** technical specification
    - acceptable performance

# Internationally accepted biodegradability test methods are available

For example a 'readily' biodegradable base fluid or lubricant:

- has achieved  $\geq 60\%$  biodegradation by 28 days in OECD 301 B or F
- should be rapidly and extensively biodegraded in the environment
- ✓ can be used in a 'biodegradable' or 'environmentally acceptable' product ('biolubricant')

# Internationally accepted ecotoxicity test methods are available

OECD 203

Rainbow trout (feed on water fleas)

OECD 202

Water flea - *Daphnia* (feed on algae)

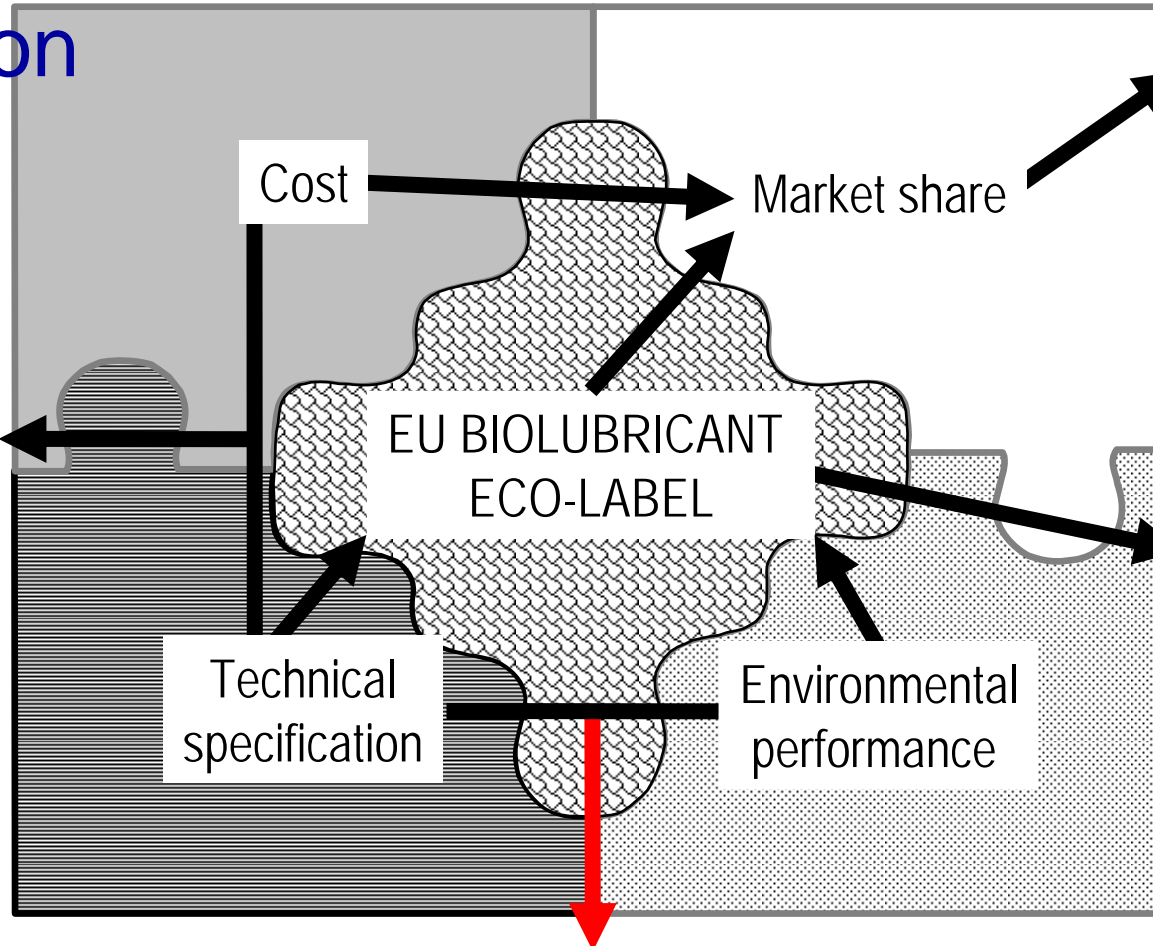
OECD 201

Algae (primary producers)

## Other ecotoxicity tests:

- Toxicity to micro-organisms (OECD 209)
- Toxicity to soil organisms (OECD 207, 208)

# Biolubricants - issues for discussion



Can biolubricants compete with mineral oil products on price vs. performance ?

Can technical specification be met without compromising environmental performance ?

Will the market share for biolubricants only increase if financial incentives and/or legislation are in place ?

- Specification ?
- Timing ?
- Would an eco-label be sufficient to increase the market share for biolubricants ?
- Would national bodies be prepared to give up their own standards and eco-labels ?