Union of the
EUROPEAN LUBRICANTS INDUSTRY

Union Européenne de l'Industrie des Lubrifiants

Global Attitudes and Approaches to Sustainability: UEIL Sustainability Committee

Presentation to Lube Sustainability Conference

25th May 2022

WWW.UEIL.ORG

Agenda

- Objectives of the Sustainability Committee
- External Message
- Changing Regulatory and Customer Landscape
- UEIL Sustainability Committee and Working Groups
- Understanding the Needs of the UEIL Community (Survey)
- Working Groups Progress
- Summary

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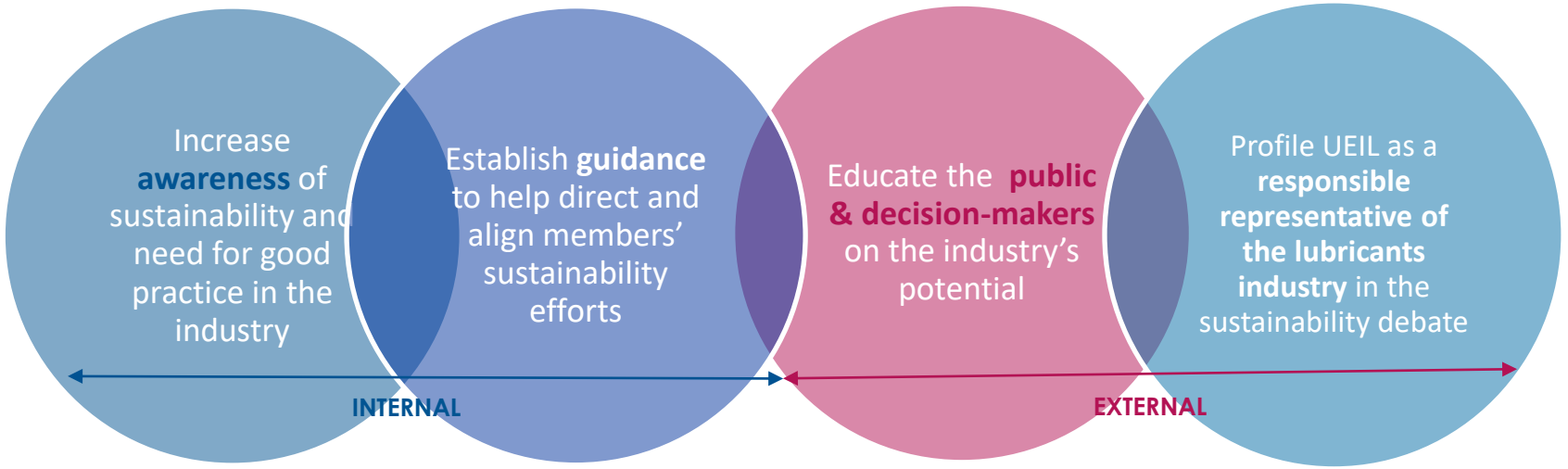
https://www.ueil.org/sustainability/

From Task Force to Sustainability Committee

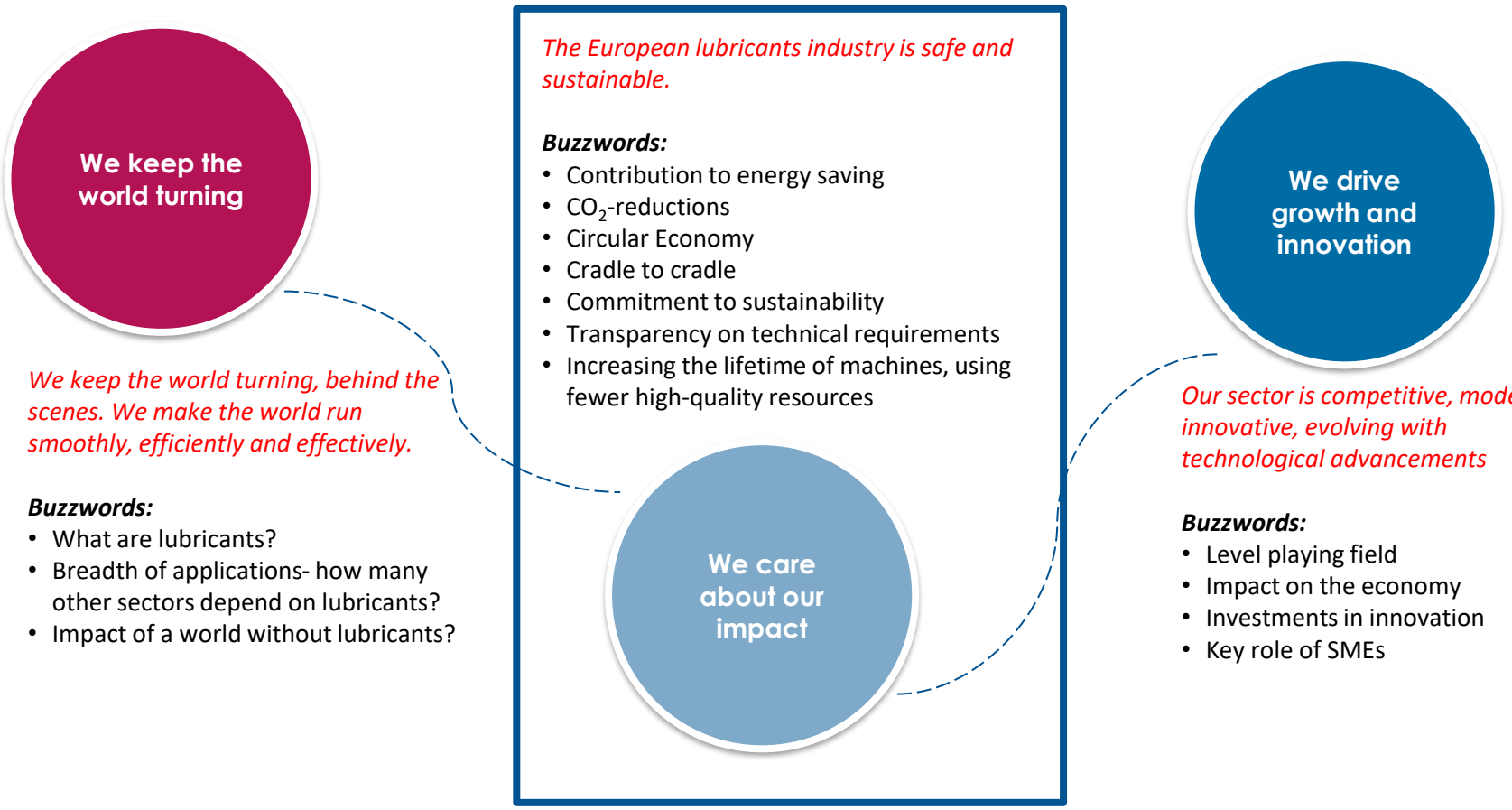
Objectives for the Sustainability Committee



Task Force: March 2019 – June 2020

External Message

The lubricants industry is a valuable asset to society and economy in Europe and beyond



Definition: ***Lubricants created by innovative businesses enabling the use of safe, resource saving technologies and processes which reduce the burden on the planet, local environments and benefit people and society.***

Changing Regulatory and Customer Landscape

Growing customer and market needs for sustainable solutions

Increasing legislative requirements

- EU Green Deal
  - Sustainable Product Initiative / Ecodesign for Sustainable Product Regulation
  - Transition to Circular Economy
  - Chemicals Strategy for Sustainability
  - Safe and Sustainable by Design
- REACH revision and other global chemical regulations
- Global emission reduction climate targets

Conscious consumers

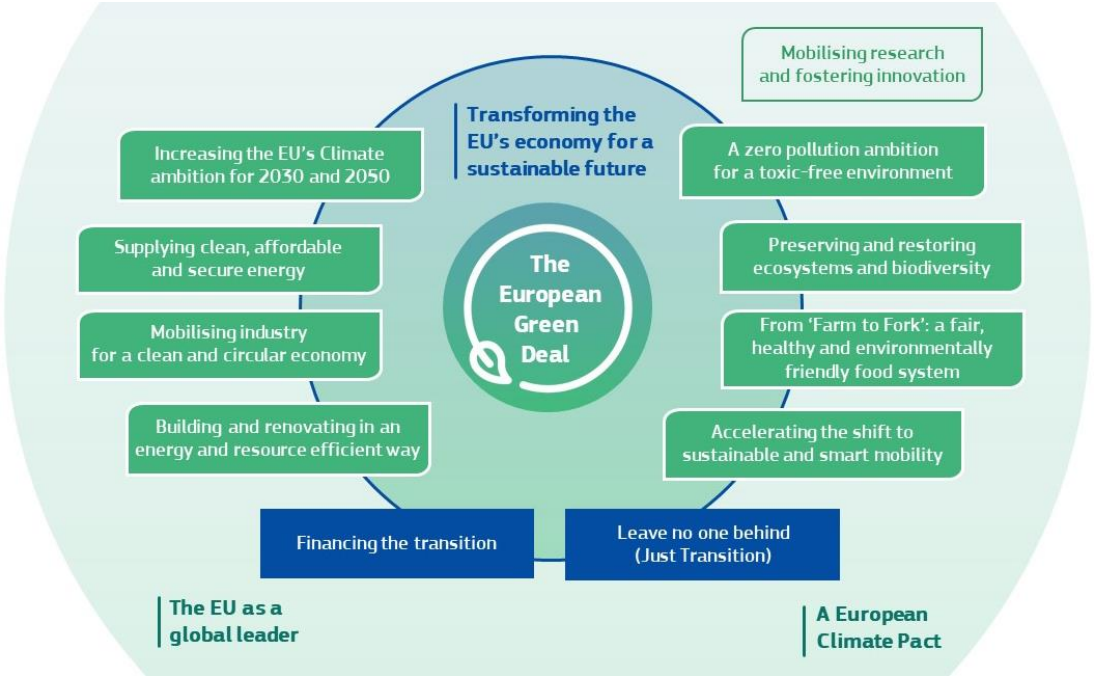
- Growing population that consciously wants to purchase sustainable products

Brand-owners setting sustainability targets

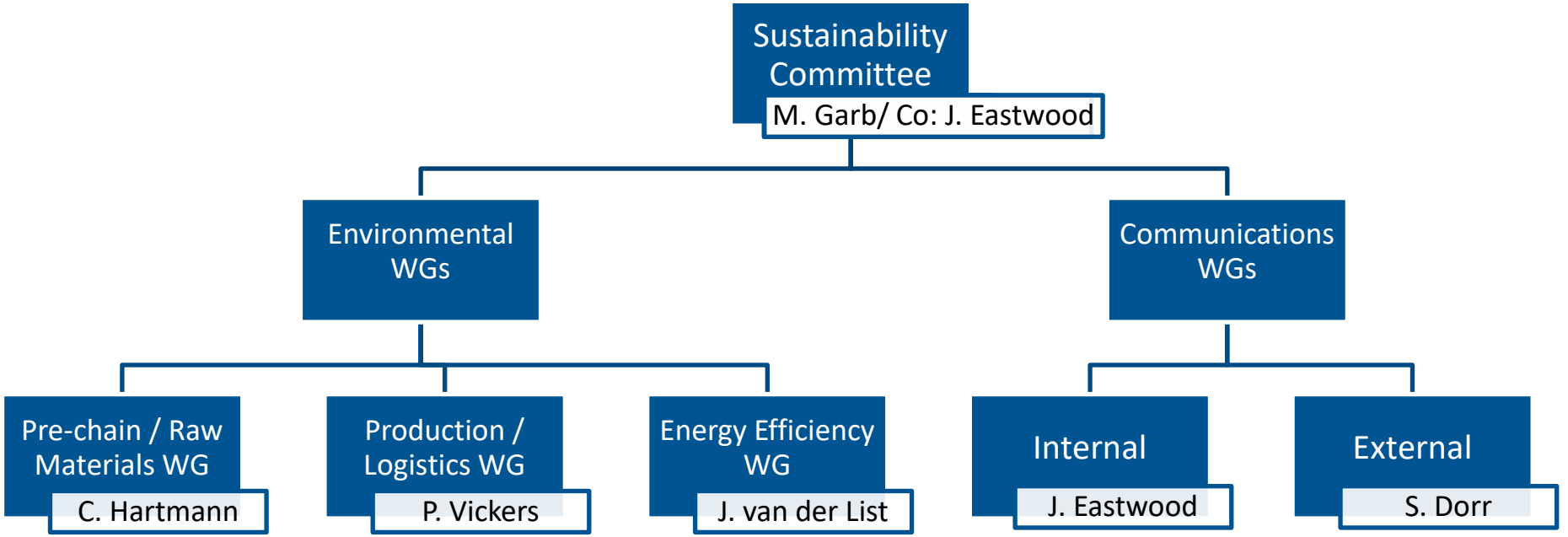
- Pushing demand for sustainable and innovative solutions
- Supply chain transparency and certification

Integrity of green credentials

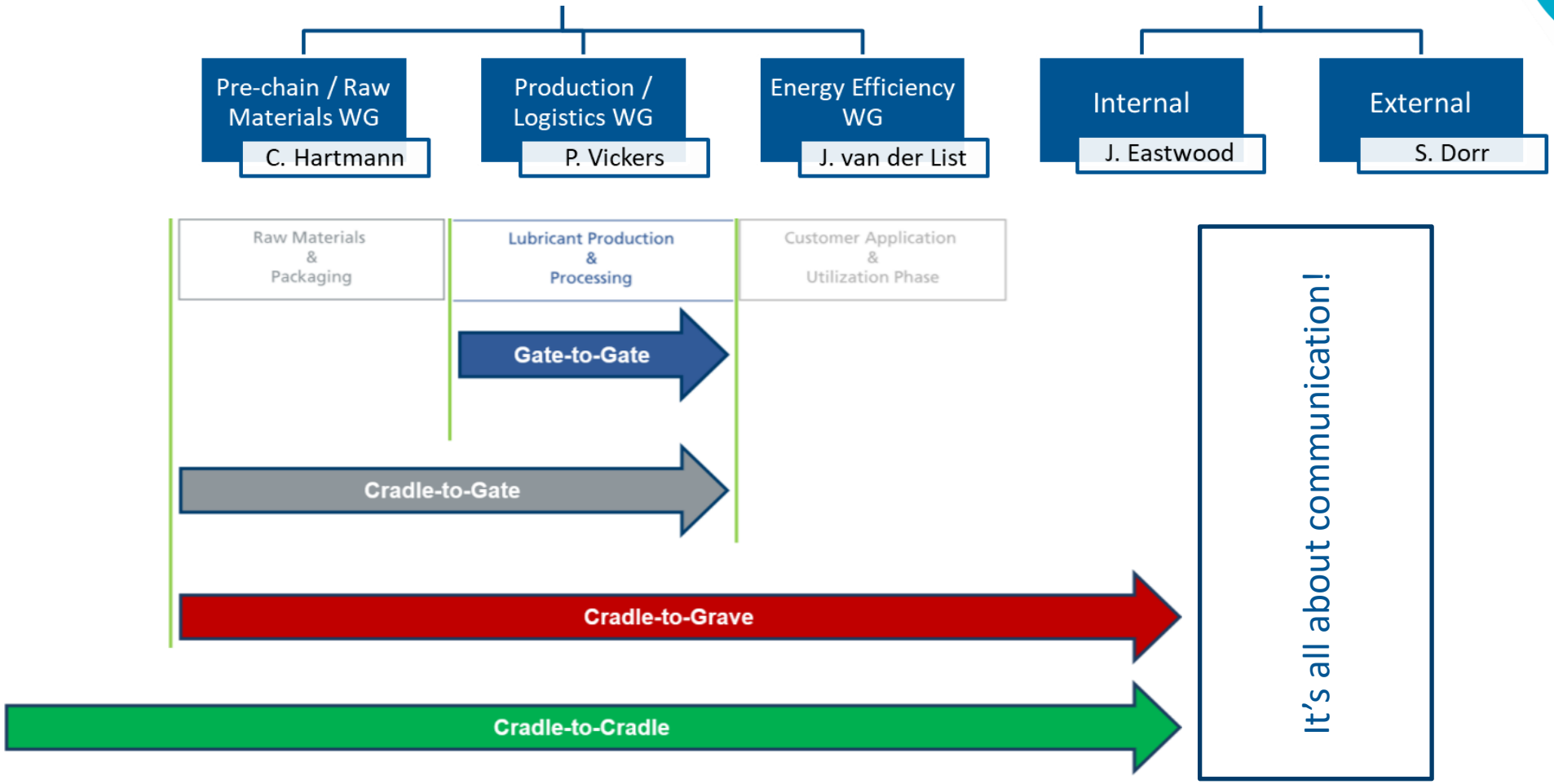
- Green claims substantiation



UEIL Sustainability Committee



UEIL vs Scopes within the Lubricants Industry



Understanding the needs of the UEIL Community

UEIL Sustainability Survey – June 2021

- Aims:
  - determine the status of sustainability within the Lubricants Industry
    - understanding and attitudes towards sustainability and its challenges
  - define benchmarks and inform stakeholders about the status of sustainability within our sector
    - UEIL members
    - regulators
    - the public

UEIL Sustainability Survey - Results

Our respondents shared their sustainability journey with us! Find out more about the results of the 2021 Sustainability Survey of UEIL's Sustainability Committee

***Dr Christine Fuchs**, **Dorottya Meszner** and **John Eastwood**, UEIL Sustainability Committee*

Background to the survey

The objectives of the survey were to help UEIL to define a sustainability benchmark for its members, to provide clarity about support needed to increase their sustainability efforts, and to inform stakeholders (including regulators) and the public about the contribution of the lubricants industry to delivering on sustainability objectives. Responses were collected anonymously between 17 May and 18 June 2021. All companies operating in the lubricants supply chain were invited to participate in the survey, regardless of their status within their own sustainability journeys.

Who were the respondents?

Respondents were asked to submit one response on behalf of their company and to indicate in which country their company was headquartered, which resulted in a total of 189 respondents from 27 countries. The overall response rate to the survey was very positive, around 40-50% providing UEIL with a great picture of sustainability considerations in the lubricants sector.

In which country are you based?

Most of the respondents said they were working as either CEOs or Directors (65) or Managers (77) but it should be noted that 32 said they identified their role in 'other' functions. When it comes to the three countries with the largest number of respondents (Germany, the UK and the US), the trend was similar but with a higher percentage of UK respondents being in the position of CEOs or Directors, which could indicate that sustainability related topics are handled on a higher management level compared to other countries.

In terms of the department that respondents belong to, 62 identified with a Sales and Marketing department and 30 with Research & Development, but it is again worth noting that 62 answered they belonged to 'other' departments, with many specifying that they are in "Management" or "Leadership" roles rather than a specific department.

To which department do you belong?

Interestingly, 19 responses came from people operating within a functional group of Sustainability. This suggests that many responding companies consider sustainability important enough to have a dedicated department. The figure may in fact be higher as some respondents to the survey might identify with another function but completed the survey on behalf of their companies which do have a sustainability function.

Continued on page 50

https://www.ueil.org/ueil-sustainability-survey-2021-results/

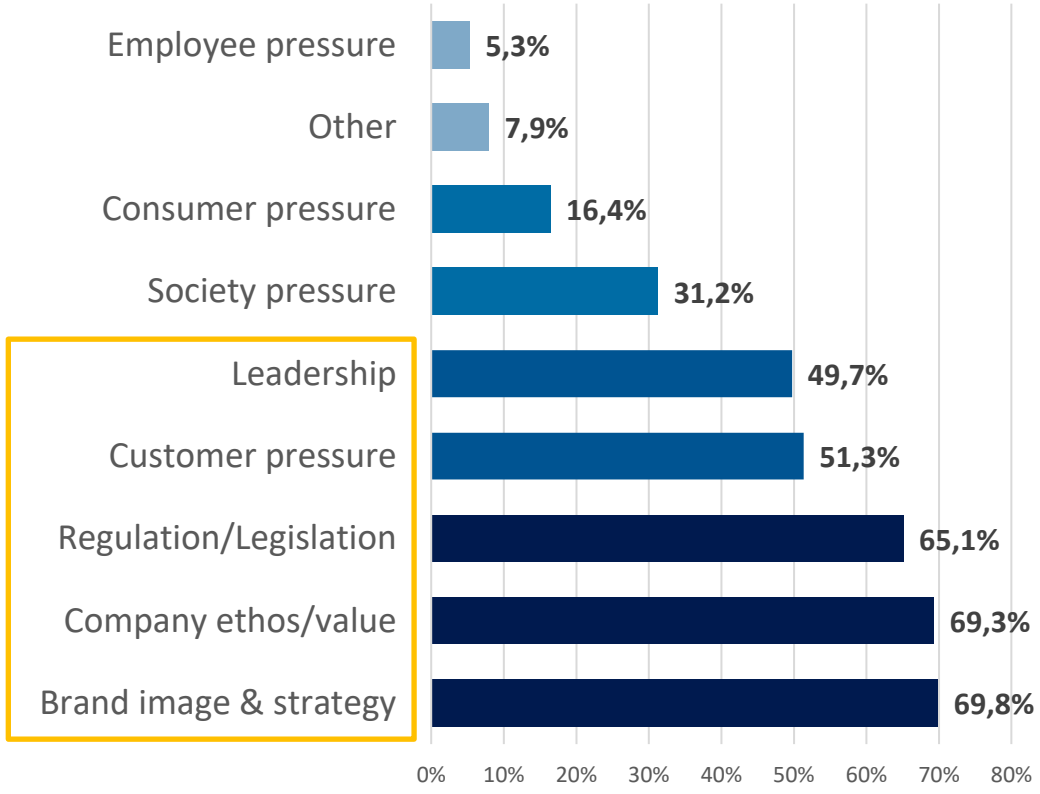
UEIL Sustainability Survey

Respondees

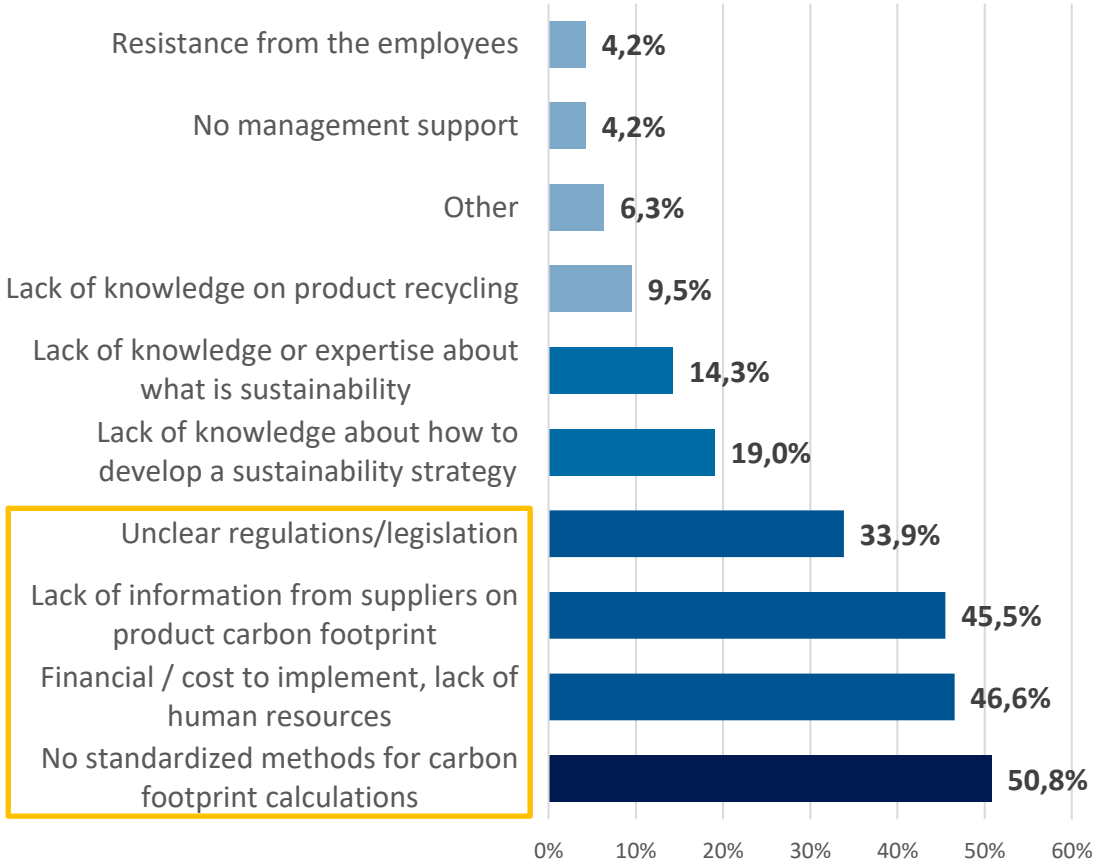
- 189 respondents
  - 121 from SMEs
- Open to UEIL and non-UEIL members
  - 140 (74%) affiliated to UEIL, 49 respondees not affiliated to UEIL
- Responses came from 27 countries
  - 60 from Germany
  - 31 from UK
  - 18 from US
  - 17 from Italy

- *156 respondents rated the importance of sustainability as Very High or High*
- *129 respondents have a sustainability strategy*
  - *A further 35 said they expected to develop a strategy within 1-2 years*
- *Only 73 of 129 respondents said their company publishes a sustainability report*
  - *A further 35 said they expected to publish a report in the next 1-2 years*

Survey: *What were or could be the drivers for implementing a sustainability strategy?*



Survey: *What concerns do you have about implementing a sustainability strategy?*



Understanding the needs of the UEIL Community

UEIL Sustainability Survey – June 2021

- Impact of Results:
  - The survey fed directly into the objectives of the Sustainability Committee to provide guidance to:
    - define, develop and measure sustainability in the European lubricants industry
    - address any potential misconceptions on the industry's sustainability capacities
    - enable UEIL to take part in the ongoing discussions on sustainability at EU and international levels
  - UEIL's three environmental working groups are working together with industry partners on establishing a harmonized method and guidelines for the calculation of carbon footprint and life cycle assessment

UEIL Sustainability Survey - Results

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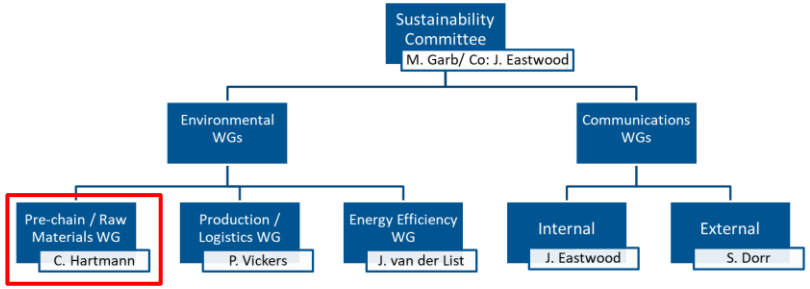
Environmental WG: Pre-chain / Raw Materials Working Group



- Product Carbon Footprint

- Carbon is currently considered the highest impact factor – aligned with net-zero ambitions of regions, countries and organisations

- Companies are starting to request PCF from their suppliers for raw materials and formulated lubricants

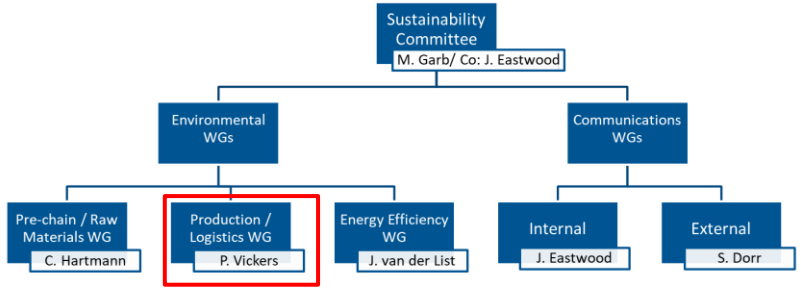
- Chemical Industry is aligning to develop guidelines for calculating PCF (cradle-to-gate; i.e. raw materials converted into chemical products / materials)

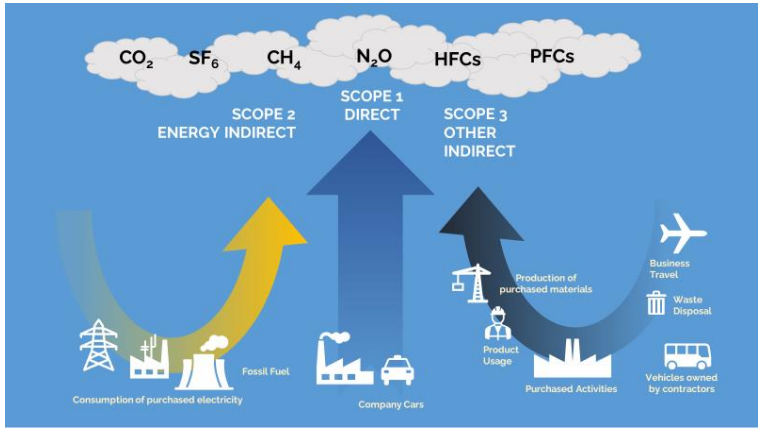
- Lubricants Industry is starting to align to define methodology and guidance documents for calculating and reporting PCF (gate-to-gate; formulated lubricants)
  - API, UEIL, ATIEL, ELGI (NLGI), VSI, UNITI, ATC, ILMA, ALIA, GEIR, ALA

- Product Environmental Footprint will follow in the coming years
  - at least 16 impact categories with the option to include many more
  - LCA

Environmental WGs: Production/Logistics Sub-WG

- Corporate Carbon Footprint – UEIL's self-assessment tool
- Toolbox contains:
  - Guidance notes to explain what data you need and where to find it
  - A "fictitious company" to use as an example and guide, to help you think about your own emissions
  - A spreadsheet with clear places to enter your data
  - Formulae to automatically calculate your Scope 1, 2 and 3 emissions from your data

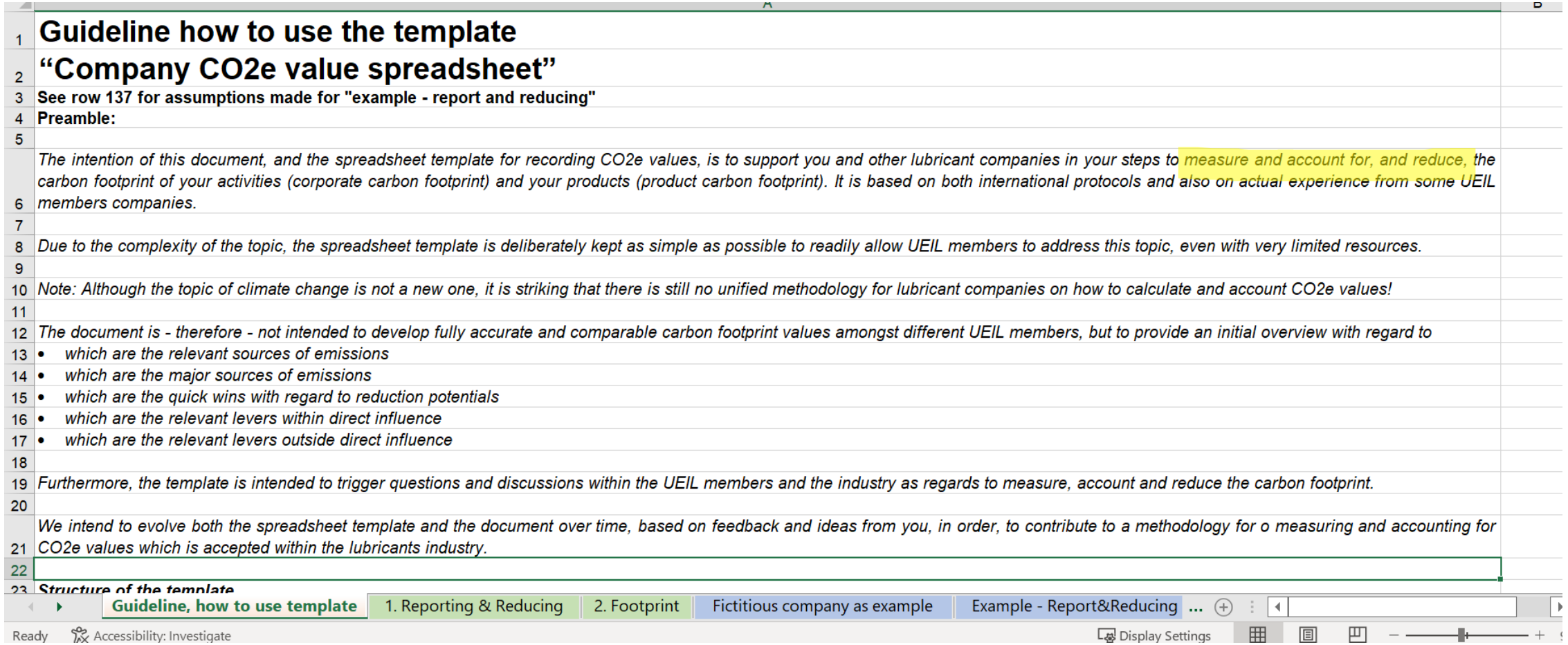




https://www.ueil.org/sustainability/toolbox/

Corporate Carbon Footprint; UEIL‘s self-assessment tool

Guidance notes



Guideline how to use the template

“Company CO2e value spreadsheet”

See row 137 for assumptions made for "example - report and reducing"

Preamble:

The intention of this document, and the spreadsheet template for recording CO2e values, is to support you and other lubricant companies in your steps to measure and account for, and reduce, the carbon footprint of your activities (corporate carbon footprint) and your products (product carbon footprint). It is based on both international protocols and also on actual experience from some UEIL members companies.

Due to the complexity of the topic, the spreadsheet template is deliberately kept as simple as possible to readily allow UEIL members to address this topic, even with very limited resources.

Note: Although the topic of climate change is not a new one, it is striking that there is still no unified methodology for lubricant companies on how to calculate and account CO2e values!

The document is - therefore - not intended to develop fully accurate and comparable carbon footprint values amongst different UEIL members, but to provide an initial overview with regard to

- *which are the relevant sources of emissions*
- *which are the major sources of emissions*
- *which are the quick wins with regard to reduction potentials*
- *which are the relevant levers within direct influence*
- *which are the relevant levers outside direct influence*

Furthermore, the template is intended to trigger questions and discussions within the UEIL members and the industry as regards to measure, account and reduce the carbon footprint.

We intend to evolve both the spreadsheet template and the document over time, based on feedback and ideas from you, in order, to contribute to a methodology for o measuring and accounting for CO2e values which is accepted within the lubricants industry.

Structure of the template

Guideline, how to use template | 1. Reporting & Reducing | 2. Footprint | Fictitious company as example | Example - Report&Reducing ...

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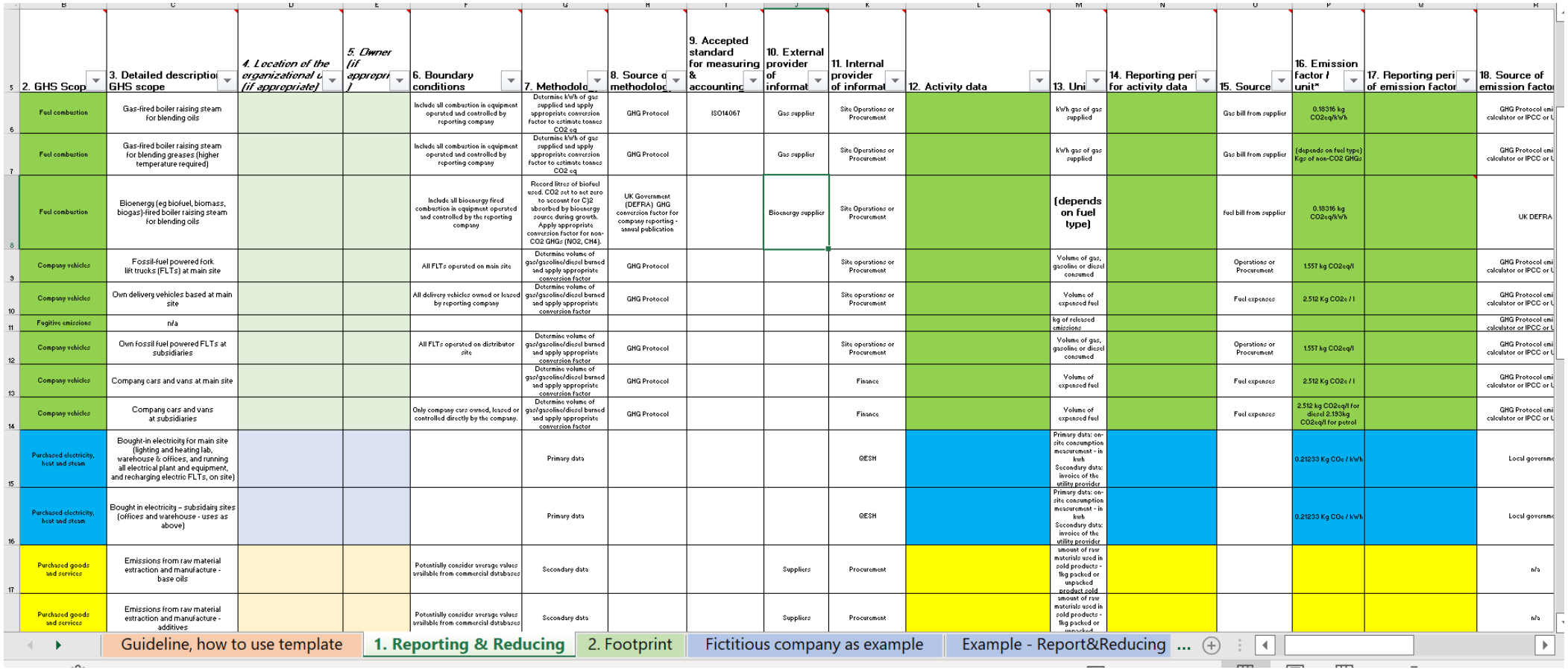
Corporate Carbon Footprint; UEIL's self-assessment tool

Reporting template



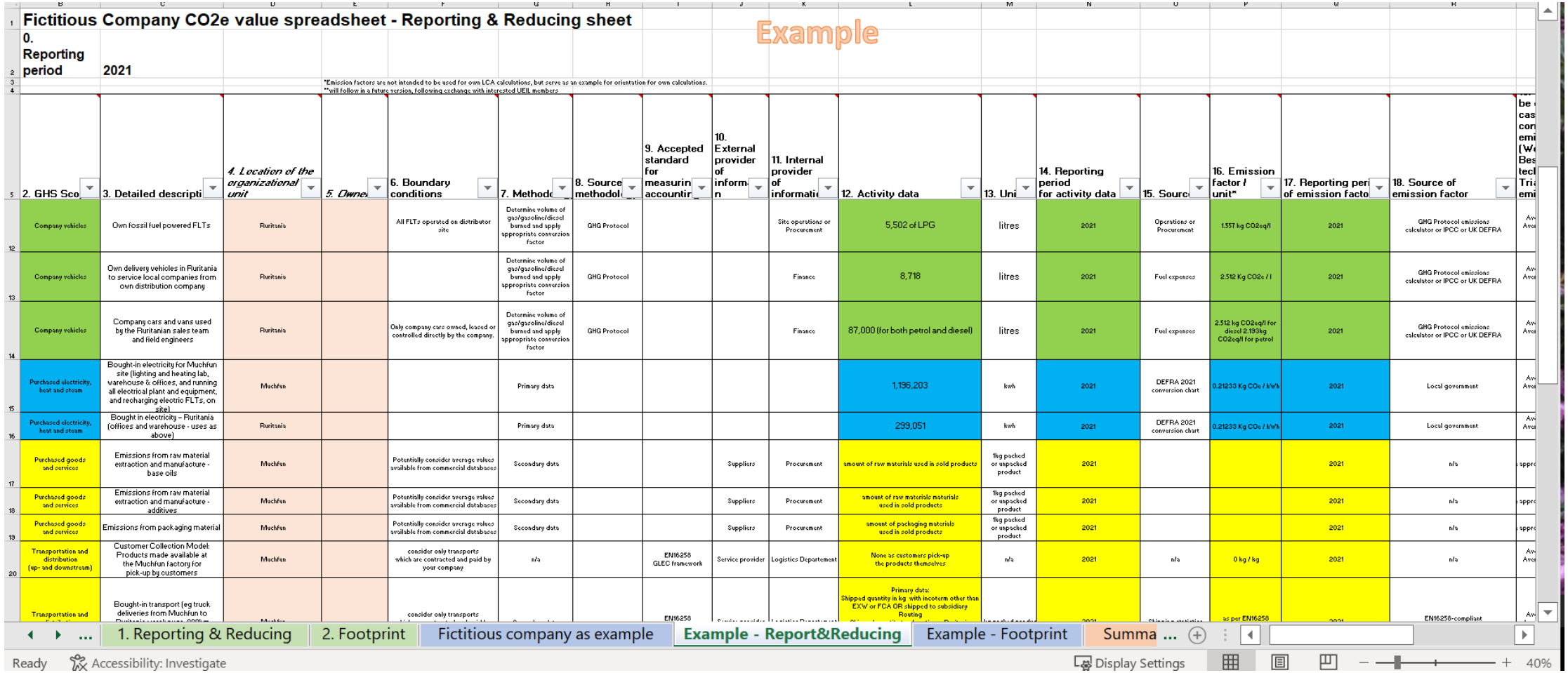
2. GHS Scop	3. Detailed description GHS scope	4. Location of the organizational u (if appropriate)	5. Owner (if appropri)	6. Boundary conditions	7. Methodolo	8. Source o methodolog	9. Accepted standard for measuring & accounting	10. External provider of informat	11. Internal provider of informat	12. Activity data	13. Uni	14. Reporting peri for activity data	15. Source	16. Emission factor / unit*	17. Reporting peri of emission factor	18. Source of emission factor
Fuel combustion	Gas-fired boiler raising steam for blending oils			Include all combustion in equipment operated and controlled by reporting company	Determine kWh of gas supplied and apply appropriate conversion factor to estimate tonnes CO2 eq	GHG Protocol	ISO14067	Gas supplier	Site Operations or Procurement		kWh gas of gas supplied		Gas bill from supplier	0.18316 kg CO2eq/kWh		GHG Protocol emi calculator or IPCC or L
Fuel combustion	Gas-fired boiler raising steam for blending greases (higher temperature required)			Include all combustion in equipment operated and controlled by reporting company	Determine kWh of gas supplied and apply appropriate conversion factor to estimate tonnes CO2 eq	GHG Protocol		Gas supplier	Site Operations or Procurement		kWh gas of gas supplied		Gas bill from supplier	(depends on fuel type) Kgs of non-CO2 GHGs		GHG Protocol emi calculator or IPCC or L
Fuel combustion	Bioenergy (eg biofuel, biomass, biogas)-fired boiler raising steam for blending oils			Include all bioenergy fired combustion in equipment operated and controlled by the reporting company	Record litres of biofuel used. CO2 set to net zero to account for C)2 absorbed by bioenergy source during growth. Apply appropriate conversion factor for non-CO2 GHGs (NO2, CH4).	UK Government (DEFRA) GHG conversion factor for company reporting - annual publication		Bioenergy supplier	Site Operations or Procurement		(depends on fuel type)		fuel bill from supplier	0.18316 kg CO2eq/kWh		UK DEFRA
Company vehicles	Fossil-fuel powered fork lift trucks (FLTs) at main site			All FLTs operated on main site	Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Site operations or Procurement		Volume of gas, gasoline or diesel consumed		Operations or Procurement	1.557 kg CO2eq/l		GHG Protocol emi calculator or IPCC or L
Company vehicles	Own delivery vehicles based at main site			All delivery vehicles owned or leased by reporting company	Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Site operations or Procurement		Volume of expensed fuel		Fuel expenses	2.512 Kg CO2e / l		GHG Protocol emi calculator or IPCC or L
Fugitive emissions	n/a										kg of released emissions					GHG Protocol emi calculator or IPCC or L
Company vehicles	Own fossil fuel powered FLTs at subsidiaries			All FLTs operated on distributor site	Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Site operations or Procurement		Volume of gas, gasoline or diesel consumed		Operations or Procurement	1.557 kg CO2eq/l		GHG Protocol emi calculator or IPCC or L
Company vehicles	Company cars and vans at main site				Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Finance		Volume of expensed fuel		Fuel expenses	2.512 Kg CO2e / l		GHG Protocol emi calculator or IPCC or L
Company vehicles	Company cars and vans at subsidiaries			Only company cars owned, leased or controlled directly by the company.	Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Finance		Volume of expensed fuel		Fuel expenses	2.512 kg CO2eq/l for diesel 2.193kg CO2eq/l for petrol		GHG Protocol emi calculator or IPCC or L
Purchased electricity, heat and steam	Bought-in electricity for main site (lighting and heating lab, warehouse & offices, and running all electrical plant and equipment, and recharging electric FLTs, on site)				Primary data				GESH		Primary data: on-site consumption measurement - in kwh Secondary data: invoice of the utility provider			0.21233 Kg CO2 / kWh		Local governme
Purchased electricity, heat and steam	Bought in electricity – subsidairy sites (offices and warehouse - uses as above)				Primary data				GESH		Primary data: on-site consumption measurement - in kwh Secondary data: invoice of the utility provider			0.21233 Kg CO2 / kWh		Local governme
Purchased goods and services	Emissions from raw material extraction and manufacture - base oils			Potentially consider average values available from commercial databases	Secondary data			Suppliers	Procurement		amount of raw materials used in sold products - tkg packed or unpacked product sold					n/a
Purchased goods and services	Emissions from raw material extraction and manufacture - additives			Potentially consider average values available from commercial databases	Secondary data			Suppliers	Procurement		amount of raw materials used in sold products - tkg packed or unpacked					n/a

Guideline, how to use template | 1. Reporting & Reducing | 2. Footprint | Fictitious company as example | Example - Report&Reducing ...

Green = Scope 1, Blue = Scope 2, Yellow = Scope 3.

Corporate Carbon Footprint; UEIL‘s self-assessment tool

Ficitious company (“CCMNPP Lubes“) as example



Fictitious Company CO2e value spreadsheet - Reporting & Reducing sheet

Example

0. Reporting period: 2021

*Emission factors are not intended to be used for own LCA calculations, but serve as an example for orientation for own calculations.
**will follow in a future version, following exchange with interested UEIL members

2. GHS Sco	3. Detailed descripti	4. Location of the organizational unit	5. Owne	6. Boundary conditions	7. Methodo	8. Source methodol	9. Accepted standard for measurin accountin	10. External provider of inform n	11. Internal provider of informati	12. Activity data	13. Uni	14. Reporting period for activity data	15. Sourc	16. Emission factor / unit*	17. Reporting peri of emission facto	18. Source of emission factor	be cas con emi (We Bes tecl Tri emi
Company vehicles	Own fossil fuel powered FLTs	Ruritania		All FLTs operated on distributor site	Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Site operations or Procurement	5,502 of LPG	litres	2021	Operations or Procurement	1.557 kg CO2eq/l	2021	GHG Protocol emissions calculator or IPCC or UK DEFRA	Ave Ave
Company vehicles	Own delivery vehicles in Ruritania to service local companies from own distribution company	Ruritania			Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Finance	8,718	litres	2021	Fuel expenses	2.512 Kg CO2e / l	2021	GHG Protocol emissions calculator or IPCC or UK DEFRA	Ave Ave
Company vehicles	Company cars and vans used by the Ruritanian sales team and field engineers	Ruritania		Only company cars owned, leased or controlled directly by the company.	Determine volume of gas/gasoline/diesel burned and apply appropriate conversion factor	GHG Protocol			Finance	87,000 (for both petrol and diesel)	litres	2021	Fuel expenses	2.512 kg CO2eq/l for diesel 2.193kg CO2eq/l for petrol	2021	GHG Protocol emissions calculator or IPCC or UK DEFRA	Ave Ave
Purchased electricity, heat and steam	Bought-in electricity for Muchfun site (lighting and heating lab, warehouse & offices, and running all electrical plant and equipment, and recharging electric FLTs, on site)	Muchfun			Primary data					1,196,203	kwh	2021	DEFRA 2021 conversion chart	0.21233 Kg CO2 / kWh	2021	Local government	Ave Ave
Purchased electricity, heat and steam	Bought in electricity – Ruritania (offices and warehouse - uses as above)	Ruritania			Primary data					293,051	kwh	2021	DEFRA 2021 conversion chart	0.21233 Kg CO2 / kWh	2021	Local government	Ave Ave
Purchased goods and services	Emissions from raw material extraction and manufacture - base oils	Muchfun		Potentially consider average values available from commercial databases	Secondary data			Suppliers	Procurement	amount of raw materials used in sold products	1kg packed or unpacked product	2021			2021	n/a	appro
Purchased goods and services	Emissions from raw material extraction and manufacture - additives	Muchfun		Potentially consider average values available from commercial databases	Secondary data			Suppliers	Procurement	amount of raw materials materials used in sold products	1kg packed or unpacked product	2021			2021	n/a	appro
Purchased goods and services	Emissions from packaging material	Muchfun		Potentially consider average values available from commercial databases	Secondary data			Suppliers	Procurement	amount of packaging materials used in sold products	1kg packed or unpacked product	2021			2021	n/a	appro
Transportation and distribution (up- and downstream)	Customer Collection Model: Products made available at the Muchfun factory for pick-up by customers	Muchfun		consider only transports which are contracted and paid by your company	n/a		EN16258 GLEC framework	Service provider	Logistics Departement	None as customers pick-up the products themselves	n/a	2021	n/a	0 kg / kg	2021	n/a	Ave Ave
Transportation and	Bought-in transport (eg truck deliveries from Muchfun to	Muchfun		consider only transports			EN16258			Primary data: Shipped quantity in kg with incoterm other than EXW or FCA OR shipped to subsidiary Routing		2021		as per EN16258	2021	EN16258-compliant	Ave

1. Reporting & Reducing | 2. Footprint | Fictitious company as example | Example - Report&Reducing | Example - Footprint | Summa ...

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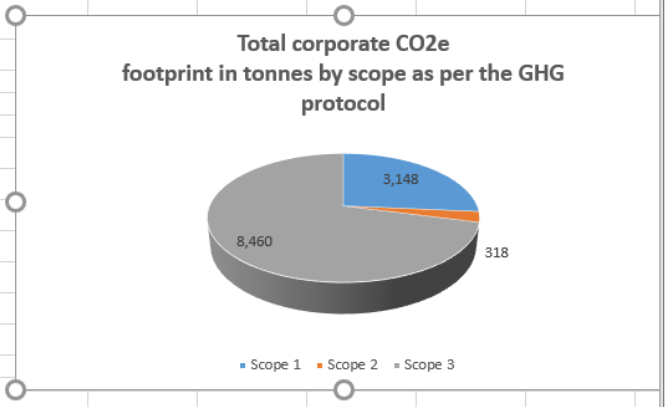
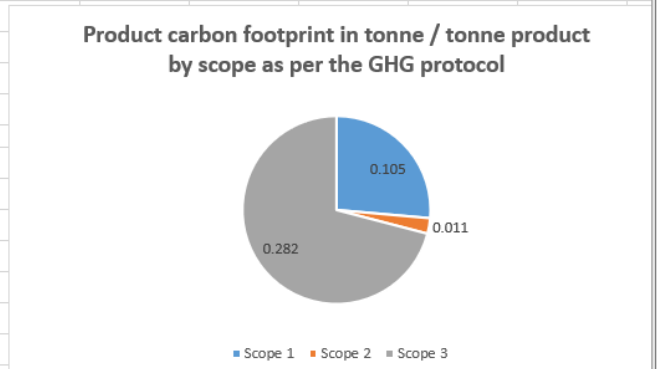
Corporate Carbon Footprint; UEIL's self-assessment tool

Automatic calculation of carbon footprint

1	**Fictitious Company CO2e value spreadsheet - Footprint sheet**				0
2					
3	**Reporting Period**				**Remark**
4	#REF!		#REF!		
5					
6					
7	**KPIs Carbon Footprint Company**		(do not change - automatic calculation)		
8	**Grand total CO2e emissions for the respective reporting period**		11,925	**metric tonne**	
9	**whereof:**	Scope 1	3,148	**metric tonne**	
10		Scope 2	318	**metric tonne**	
11		Scope 3	8,460	**metric tonne**	
12	**Grand total produced volumes for the respective reporting period**		30,000	**metric tonne**	
13	**Grand total sold volumes for the respective reporting period**		30,000	**metric tonne**	
14					
15	**KPIs Carbon Footprint Product**				Allocation to product groups to follow in a later version
16	**CO2e emissions per kg sold**		**0.398**	tonne per tonne sold product	
17	**whereof:**	Scope 1	**0.105**	tonne per tonne sold product	
18		Scope 2	**0.011**	tonne per tonne sold product	
19		Scope 3	**0.282**	tonne per tonne sold product	
20					
21					
22	**Values applicable for:**		Gate factory-to-gate customer		
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

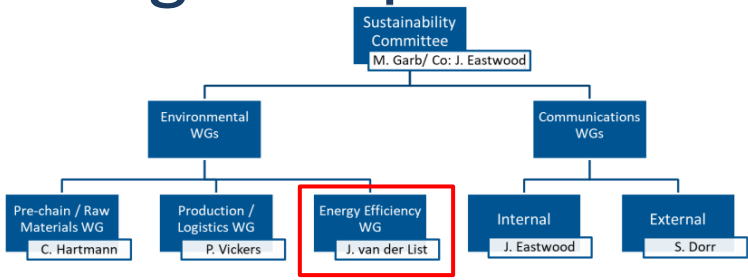
Example





... | 2. Footprint | Fictitious company as example | Example - Report&Reducing | Example - Footprint | Summary of template revisions | ...

Environmental WGs: Energy Efficiency Sub-working Group



AGRI

MWF

PowerGen / GEO

Hydraulics

2x case studies (UTTO and Rear Axle Oil) mostly based on energy improvements related to FZG energy efficiency testing.

2x case studies Milling/drilling fluid with the benefit of reduced emulsion concentration (and Boron/Formaldehyde/Chlorine and secondary Amine free)

3x high performance (GR III) against traditional product longer oil life and reduced consumption.

Confirmation of handprint benefits

Three mineral oil-based hydraulic lubricants, over the entire life cycle for the excavator application.

LCA

Next step:
Prepare templates for website launch

LCA hydraulics excavator application:

Analysis of the environmental properties and costs for three mineral oil-based hydraulic lubricants, over the entire life cycle for the excavator application

Elements:

- LCA framework (acc ISO 14040): 1. Goal/Scope, 2. inventory analysis, 3. impact assessment (incl. interpretation steps)
- Life Cycle **Impact** Assessment (and how to compare environmental impact categories)

mandatory | optional

Definition of the impact categories	Classification	Characterization	Normalization	Weighing

- Conclusions about which life cycle stage is the most relevant.
- Which data must be gathered for future studies to improve quality?

BASF / Fuchs

Create LCA toolbox with learnings/guidelines from this detailed example.

Recyclability

Waste Oil regulations
Circular Economy Action Plan (CEAP)

Communications WG

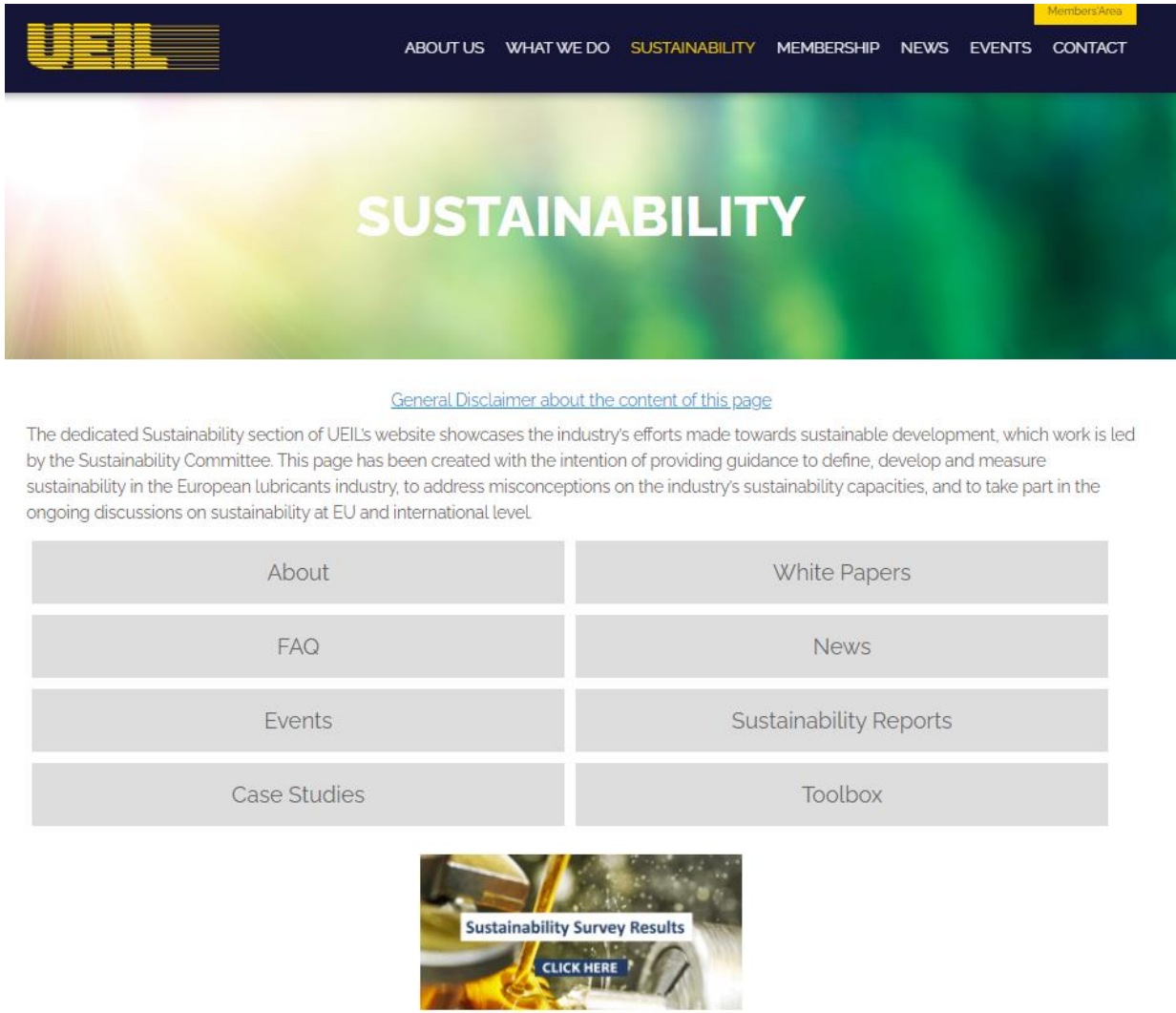
https://www.ueil.org/sustainability/

New web page linked to the UEIL Website (Feb 2022)

- White Papers
  - The Basics of Sustainability Reporting
  - Key Performance Indicators
  - The Basics of Carbon Footprint (WIP)
  - The Basics of Circularity (WIP)
- FAQs
- Case Studies (WIP)
- Company Sustainability Reports

External engagement

- Contribution to the Lube Magazine
- Speaking opportunities
  - Lube Sustainability Conference 25th May 2022
  - ICIS World Base Oils and Lubricants 20th June 2022
  - UEIL Congress on 19th October 2022



Communications WG: Planning Ahead

	2022											
	January	February	March	April	May	June	July	August	September	October	November	December
UEIL Sustainability									Vision / Mission Statement			
Surveys										Survey 2 ?		
Sustainability Website												
New - Define Structure / Site-Build	New Site Launch											
Whitepapers	Basics of Sustainability Reporting / KPIs				Under-standing Carbon Footprint	Basics of Circularity	Scope 1 and 2 Carbon	Under-standing Carbon Handprint	Scope 3 Carbon	European Green Deal		
Other Content Updates	Full Survey Report (ppt/pdf)	Company CO2e (Scope1, 2 and spreadsheet)					Energy Efficiency Case Studies					
Guidance Documents					Company CO2e							
Training (Virtual)					Company CO2e							
FAQs												
Lexicon / Abbreviations												
UEIL Newsletters			Toolbox, FAQs, Whitepapers									
Lube Magazine	Sustainability Website		Toolbox, FAQs, Whitepapers									
Member Sustainability Reports	Call to action via Lube, UEIL Newsletter, National Associations											
Member Sustainability Stories												
Conferences / Exhibitions					Lube	ICIS				UEIL Congress		

Summary

- We are in a dynamic period regarding sustainability
  - Consumer and Customer pull for more ‘sustainable’ products
  - Regulatory push
- Increasing collaboration within the lubricants value chain is fundamental to becoming more ‘sustainable’
- The Lubricant industry is in a unique position:
  - We already provide solutions that drive improvements in energy efficiency and support the trend towards renewable energy, and we will enable the transition to net-zero carbon emissions
  - But we also recognise that we must continually adapt and innovate, and increasingly move towards a larger circular economy
- UEIL is committed to supporting our affiliate associations and members in their sustainability journeys and we will work together with other industry partners to make the transition to a more sustainable future as smooth and easy as possible

Union of the European Lubricants Industry

THANK YOU!

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