

Sustainability Report 2021 – Executive Summary

Nouryon is Contributing to a Sustainable Future

From reducing our own environmental impact, to partnering to develop new innovative, sustainable solutions for our end-markets that answer societal needs, sustainability is embedded in our growth strategy, our values and in how we define our future success.




Our Commitment



We partner with our customers, suppliers, and employees to deliver innovative solutions, drive progress, and create a safe and sustainable today and tomorrow for everyone.

 <p>CONTINUOUSLY IMPROVE our safety and environmental performance</p>	 <p>GROW AND INNOVATE to create Sustainable Solutions, enabling customers to be more sustainable</p>	 <p>ENGAGE AND PARTNER with employees, customers, suppliers, and society to drive sustainable progress</p>
<p>Key sustainable development goals:</p> 	<p>Key sustainable development goals:</p> 	<p>Key sustainable development goals:</p> 


Our 2021 Ratings

 <p>EcoVadis Gold Rating</p>	 <p>CDP B Rating Climate Change</p>	 <p>Sustainalytics¹ 25.3 Rating</p>
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Our Memberships and Partnerships



Our Ambitions and Targets



Safety ambition:
Zero injuries, waste, and harm

- 2030**
 - By the end of 2030, we have targeted reducing our absolute Scope 1 & 2 GHG emissions by **40%**, vs. a 2019 baseline
 - By the end of 2030, we have targeted reducing our total waste intensity by **10%**, and water consumption intensity by **10%**, vs. a 2019 baseline
- 2050**
 - By 2050, we aspire to be a **net zero** organization

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Continuously Improve our Safety and Environmental Performance

Sustainability is at the core of Nouryon's operations. We are focused on continually improving our safety performance and further reducing our environmental footprint for the benefit of our employees, contractors, customers, communities, and the environment.



Top-quartile performer in people safety



~22% of organic raw materials are bio-based



78% reduction in Process Safety Events²



~59% of total energy is low carbon based



Eco-efficiency tracking in place at 100% of manufacturing sites



~83% of electricity is low carbon based

Grow and Innovate to Create Sustainable Solutions, Enabling Customers to be More Sustainable

As a leading global provider of sustainable solutions, we are dedicated to helping our customers achieve their sustainability goals and to growing our attractive end-markets. These are areas in which we have a privileged position, and we pursue them by investing resources.



38% of Revenues from Eco-Premium Solutions³



71% of our R&D pipeline is focused on solutions with sustainable benefits in 2021



11 strategically located Innovation and Application Centers



Retention rate of more than 98% over the past five years for our top 250 customers



Megatrends drive Growth for our Sustainable Solutions

Engage and Partner with Employees, Customers, Suppliers, and Society to Drive Sustainable Progress

Nouryon actively engages and partners with our employees, customers, suppliers, and society to drive progress. We empower our people to successfully deliver on our Company purpose and strategy through our Values: 'We aim high', 'We own it', and 'We do it right'. These form the backbone of our performance-driven culture.



36% gender and ethnic diversity represented on our Board of Directors⁴



96% of suppliers were assessed for CSR risk using the EcoVadis Risk IQ tool⁷



24% of mid-level managers and above are female in 2021⁵



Established Global Mentoring Program



Established Global I&D Network⁶



Four Business Resource Groups⁸

Compliance and Ethics

Our global footprint exposes us to increasingly stringent laws and regulations on a broad range of subjects, such as: safe use of hazardous substances; operational impacts; historical soil and groundwater contamination; product liability; human rights concerns; economic sanctions; antitrust laws; and anti-corruption laws.



Code of Conduct and Business Partner Code of Conduct



100% of employees completed mandatory Compliance trainings



SpeakUp! and Non-Retaliation Policy



Conflict minerals risk assessment



Anti-Corruption Policy



Modern slavery and forced labor risk assessment

² PSE1+PSE2, compared to 2018.

³ Our Eco-Premium Solutions are products that offer significant sustainability benefits over mainstream alternatives in the market while providing the same or better functionality.

⁴ Board Members who are female and/or of a US racial/ethnic minority.

⁵ Mid-level managers are defined as the management paygrade below the first senior executive level. Source data, December 2021.

⁶ With 50 representatives from 35 Nouryon locations, to localize and activate I&D initiatives.

⁷ In terms of all external spend (product, non-product, energy, logistics, etc.) The Risk IQ tool considers industry segment risk, country risk and EcoVadis scores from the complete EcoVadis database. Based on 2020 spend.

⁸ Nouryon Women's Network, Pride, Veterans, and Boost.

	Unit	2009	2018	2019	2020	2021	% Change 2009-2021
Company Carbon Footprint: Cradle-to-Gate							
Direct emissions (Scope 1)	kton CO ₂ -eq	526	533	523	537	550	4%
Direct emissions (Scope 1) intensity	Ton CO ₂ -eq/ton of production	200	149	151	161	159	-21%
Indirect emissions (Scope 2) ¹⁰	kton CO ₂ -eq	668	796	894	825	885	32%
Indirect emissions (Scope 2) intensity	Ton CO ₂ -eq/ton of production	254	222	259	248	256	1%
Combined Direct and Indirect emissions (Scope 1 and 2)	kton CO ₂ -eq	1,194	1,329	1,417	1,362	1,434	20%
Scope 3 upstream emissions for Raw Materials ¹¹	kton CO ₂ -eq	n/a	n/a	2,163	2,246	2,291	
Estimated Scope 3 Total	kton CO ₂ -eq				4,541		
Total emissions (Scopes 1, 2, and 3 estimated)	kton CO ₂ -eq				5,903		
Direct emissions, covered by emissions-limiting regulations	% of direct emissions		26%	25%	28%	29%	
Product Related Carbon Footprint							
Direct emissions	kton CO ₂ -eq	526	531	516	530	544	3.3%
Indirect emissions	kton CO ₂ -eq	668	796	894	825	885	32%
Average carbon footprint per ton of product	kg CO ₂ -eq/ton	454	370	408	407	413	-9%
Energy Management¹²							
Total energy consumption	mIn GJ	23.0	29.1	29.8	30.2	32.1	40%
Energy intensity	GJ/ton of production	8.74	8.12	8.62	9.06	9.29	6%
Percentage renewable energy ¹³	%		51%	46%	52%	51%	
Percentage low carbon and renewable energy ¹⁴	%		63%	59%	59%	59%	
Percentage energy from grid electricity	%		70%	62%	61%	60%	
Total self-generated electricity	mIn GJ	-	-	-	-	-	
Air Quality							
NOx absolute emissions	Ton	889	497	465	463	492	-45%
NOx emission intensity	Kg/ton of production	0.34	0.14	0.13	0.14	0.14	-58%
SOx absolute emissions	Ton	5,286	3,264	3,413	2,995	3,111	-41%
SOx emission intensity	Kg/ton of production	2.01	0.91	0.99	0.90	0.90	-55%
VOC absolute emissions ¹⁵	Ton	717	789	669	1,172	1,938	170%
VOC emission intensity	Kg/ton of production	0.27	0.22	0.19	0.35	0.56	106%
Hazardous Air Polutants	Ton					374	
Hazardous Air Polutants intensity	Kg/ton of production					0.11	
Emission to Water – Chemical Oxygen Demand (COD)¹⁶							
COD absolute emissions to surface water	Ton	968	1,134	845	768	896	-7%
COD emission intensity to surface water	Kg/ton of production	0.37	0.32	0.24	0.23	0.26	-30%
COD absolute emissions to external waste water treatment	Ton			15,245	16,503	17,905	
COD emission intensity to external waste water treatment	Kg/ton of production			4.41	4.96	5.18	
Water Management							
Total fresh water intake	1,000 m ³	162,148	142,953	134,721	147,123	161,436	-0.4%
Per ton of production	m ³ /ton	61.7	39.9	39.0	44.2	46.7	-24%
Percentage in regions with high water stress	%	0.3%	1.8%	2.3%	2.0%	1.6%	
Fresh Water Consumption¹⁷							
Total	1,000 m ³	11,078	11,839	11,350	10,621	10,037	-9.4%
Per ton of production	m ³ /ton	4.2	3.3	3.3	3.2	2.9	-31%
Percentage in regions with high water stress	%	3%	17%	17%	18%	16%	
Waste Management							
Total waste	Ton	47,746	51,365	52,659	50,872	53,068	11.1%
Per ton of production	Kg/ton of production	18.2	14.3	15.2	15.3	15.4	-15%
Hazardous waste	Ton	14,440	16,802	16,546	17,543	20,874	45%
Hazardous waste to landfill	Ton	1,615	312	417	465	268	-83%
Hazardous waste reused	%	39%	20%	25%	39%	36%	

⁹ For all figures, minor corrections to historical data may be made to improve accuracy or based on methodology updates.

¹⁰ All Scope 2 emissions are calculated using the market-based method.

¹¹ In 2019, we updated our methodology for calculating Scope 3 upstream emissions. In prior years, we estimated emissions from raw materials based on the bill of materials for products. In 2019, 2020, and 2021 we use actual raw material data. Raw materials exclude intra-company transfers, trading, tolling, and utilities.

¹² Energy consumption is expressed in mIn GJ which is the sum of the actual consumed by the sites. For 2018, 2019, 2020, and 2021 the consumption was extracted from our reporting system Enablon. The energy consumption for 2009 was derived from the consumption

expressed in Fuel Equivalents that year by applying a factor expressing the relation between direct consumption in GJ and Fuel Equivalents for 2018, 2019, 2020, and 2021.

¹³ Including renewable grid electricity.

¹⁴ Renewable energy data includes renewable fuel consumed, produced and purchased and is based on utility or supplier data, or other green power products. This does not consider certifications for biomass and hydro power, which are not tracked currently.

¹⁵ The increase in the 2020 volatile organic components (VOC) emissions compared to 2019 is due to the acquisition of the CMC Aänekoski site.

¹⁶ Until 2018, only COD discharge to surface water was measured.

¹⁷ Total freshwater consumption (excluding once through cooling water intake) [1,000m³]

Environment Continued

	Unit	2009	2018	2019	2020	2021	% Change 2009-2021
Production							
Performance Formulations	kton		1,844	1,792	1,708	1,725	
Technology Solutions	kton		1,740	1,662	1,622	1,729	
Sustainable Sourcing							
Suppliers screened using Risk IQ ¹⁸	%					96%	-
Suppliers measured on EcoVadis performance ¹⁹	%					49%	
Suppliers acknowledging our Business Partner Code of Conduct ²⁰	% by spend					98%	
% of bio-based raw materials (portion of organic materials)	%			20%	21%	22%	
Management Systems							
% of manufacturing sites with ISO-14001/RC-14001 certifications	%				Per April 2021 77%	Per Febr 28, 2022 84%	
% of manufacturing sites with ISO-9001 certifications	%					88%	

Social

	Unit	2018	2019	2020	2021
Workforce Data²¹					
Global headcount Nouryon employees	#	10,395	10,389	9,730	7,650 ²²
% female in workforce	%	23%	24%	23%	25%
% female in senior positions ²³	%	26%	25%	24%	24%
Employee turnover rate (voluntary and involuntary)	%	12%	17%	14%	14%
Safety					
Total Recordable Incident Rate (TRIR)– Nouryon Employees, temporary workers and contractors	Per 200,000 hours worked	0,34	0,26	0,23	0,17
Lost Time Incident Rate (LTIR) – Nouryon Employees, temporary workers and contractors	Per 200,000 hours worked	0,15	0,07	0,13	0,09
Management Systems					
% of manufacturing sites with OHSAS-18001/RC-18001 and ISO45001 certifications	%			36%	16%

Governance

	Unit	2018	2019	2020	2021
Board					
Directors	#	9	9	10	11
Average director tenure (years)	#	0	1	2	2
Independent directors	#	8	8	9	10
Independent directors (%)	%	89%	89%	90%	91%
Board Diversity					
Women on the Board	#	1	0	1	3
Women on the Board (%)	%	11%	-	10%	27%
Board members of racial/ethnic minority	#	1	0	0	1
Board members of racial/ethnic minority (%)	%	11%	-	-	9%
Board diversity	%	11%	-	10%	36%
Board Coverage of ESG Issues					
Frequency of Board updates on ESG issues		Quarterly	Quarterly	Quarterly	Quarterly
Board oversight of climate strategy? (Y/N)		Y	Y	Y	Y
Policies and Statements					
Code of Conduct, anti-discrimination, anti-harassment		N	Y	Y	Y
Anti-corruption, anti-bribery		N	Y	Y	Y
Business Partner Code of Conduct, including suppliers		N	Y	Y	Y
Health, Safety, Environment and Security (HSE&S), including product stewardship		N	N	Y	Y
Palm oil statement		N	N	Y	Y
Sensitive Country Policy		N	N	Y	Y

¹⁸ In terms of all external spend (product, non-product, energy, logistics, etc.) The Risk IQ tool considers industry segment risk, country risk and EcoVadis scores from the complete EcoVadis database. Based on 2020 spend.

¹⁹ Based on policies, actions, results. For more information: <https://ecovadis.com/>

²⁰ Tracked by acceptance of a Nouryon Purchase Order or a signed Nouryon contract.

²¹ Workforce data prior to 2021 includes Nobian employees (Nobian's separation from Nouryon occurred in 2021). 2021 workforce data excludes Nobian employees.

²² Headcount and similar metrics may differ slightly, depending on exact collection date, due to timing of reporting schedules, divestments, and acquisitions, as well as regular workforce fluctuations.

²³ Senior positions are defined as mid-level managers and above. Source data December 2021.