SustainAgility™ Solutions Assessment

Our methodology and ambition for developing a sustainable product portfolio

IMERYS

Contents

This document aims to provide full transparency on Imerys' methodology to assess our sustainability performance, in terms of assessment scope, metrics, categories and process used to conduct the assessment and how to interpret the final results. This document has been updated in September 2023.









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SustainAgility: Unlocking the sustainable potential of minerals

Minerals are essential to everyone: from the calcium carbonates in your toothpaste and the kaolin in your bathroom floor tiles, to the talc in your cars and the calcium aluminate in your building materials.

Minerals are key components that contribute to our lives, our homes and our economies. Yet, as our consumption levels around the world increase, the growing demand for natural resources places pressure on ecosystems around the world.

As the world's leading supplier of mineral-based specialty solutions, the technical expertise and innovative mindset of our people enable us to extract and transform minerals responsibly and in a sustainable way over the long-term.

Our ambition is simple: we want to unlock the sustainable potential of minerals.

We recognize the need to act rapidly to provide solutions to the environmental and societal challenges facing the world. We are already on a journey to achieve our ambition, with clear measurable objectives, through what we call "SustainAgility". This is an integral part of how we do business. Our people are already engaged in making our business more agile, always learning and improving, and leading our industry as we contribute to the UN Sustainable Development Goals.

In our business, we are scaling up our efforts to deliver new solutions and opportunities to extend the life cycle of our minerals, by assessing our portfolio of products against sustainability criteria, recognizing the demands from both society and customers to produce better for longer.

Within our communities, we are determined to play a positive role, both for local ecosystems and economies over the long-term. We are partnering with recognized experts, such as the French Museum of Natural History, to better preserve biodiversity and we are finding new ways to help our local communities thrive.

In the global drive to combat climate change, we are committed to act by reducing our absolute scope 1 and 2 greenhouse gas emissions by 42% by 2030 from a 2021 base year. We are accelerating the pace of our decarbonisation efforts across our business.

For us, SustainAgility is about much more than 'ticking the boxes' and complying with regulations. It means we all do everything we can to unlock the sustainable potential of minerals so we can be a positive force for change across the value chain. To drive that change, we will work closely with our customers, suppliers and other stakeholders, leading the way towards a more sustainable industry – one that responds to the world's growing demand while benefiting our communities and protecting our natural environment.

That's SustainAgility – it goes to the heart of who we are and what we are as a business, now and long into the future.

SustainAgility™
FOSTERING POSITIVE CHANGES

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SustainAgility: Our call to action

SustainAgility was developed to engage each and every employee in transforming our ambition for sustainable development into reality – locally and globally.

Launched in 2018, SustainAgility is structured around three key areas, each of which has two pillars.

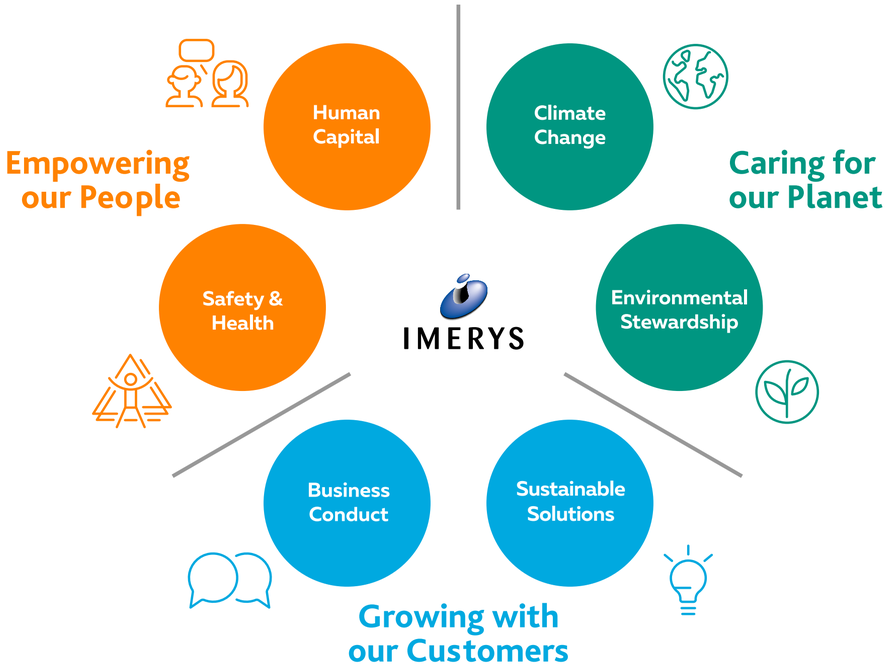
Measurable steps to improvement
Through SustainAgility, Imerys' sustainability performance is guided by a comprehensive program focused on continuous improvement, with maturity-assessed and measurable objectives set at all levels of the Group.

A steering committee, chaired by our CEO, guides the sustainability roadmap development and deployment, and monitors progress of implementation.

By redefining the way we operate as a company, and maintaining a laser-like focus on our sustainability performance, we can rise to the social, economic and environmental challenges of today and create lasting value for all our stakeholders.

Embedded deeply into our organization, SustainAgility will harness our rich potential to innovate on a world-class scale.

Aligned with the United Nations' Global Compact and specifically focused on concretely contributing to nine of the Sustainable Development Goals (SDGs), SustainAgility takes Imerys beyond corporate compliance and toward sustainable business transformation.



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SustainAgility: Our call to action

A common approach across Imerys

We have defined a methodology to develop and manage our product portfolio from an environmental and societal point of view.

This robust methodology was developed in 2020 to support our market-focused, customer-centric organization.

As part of this, we are deepening our understanding of our customers and end markets, so that we steer our portfolio in a consistent, sustainable and effective way. Our Group is driving consistency throughout our business, so that our customers can be assured that our solutions are based on the same criteria around quality, safety, value and sustainability wherever they are in the world.

The first phase of implementation took place between 2020 and 2022. During this phase, all Imerys business activities were considered, starting with the largest market segments in terms of revenue, with a priority on those driven by sustainability megatrends. The climate change scenario analysis related to transitional risk and opportunity was also considered.

At the end of this first phase, targets for 2022 have been achieved: more than 55% of the existing product portfolio by revenue has been covered with SSA and more than 75% of our research and development projects were rated as SustainAgility Solutions.

The results of this first phase were key to the design and development of the second phase, including the update of the methodology and the definition of portfolio coverage ambition – namely how we intend to progress our review, and the timing and resources needed to achieve a broader portfolio assessment.

Thanks to this first phase, new targets have been set up and the methodology has been updated.

A long-term process of continual review

Initiated in January 2023, the second phase of SSA methodology implementation sets more ambitious targets to reach by 2025:

- Cover at least **75%** of the existing product portfolio by revenue
- Cover all our research and development projects to ensure that at least **75%** are rated as SustainAgility Solutions
- Cover all merger and acquisition projects.

We will continue to update the methodology according to our policy of continuous improvement and to report our findings and progress with our internal and external stakeholders in a clear, transparent way.

“SustainAgility confirms our corporate vision to continually improve our processes and products, our relationships and ourselves as an organization to act as a force for positive change. The aim is to anchor sustainability at the heart of Imerys’ strategy. This will mobilize everyone, at all levels, around a set of corporate values and goals that move us toward a better future and lead us to best-in-class performance within our industry.”

Olivier Pirotte, *Chief Strategy and M&A Officer*

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Driving towards a common goal

The aim of this SustainAgility Solutions Assessment framework is to quantify the impact and the benefits of our products – from extraction to end of life – and to differentiate Imerys' solutions from less sustainable alternatives.

SustainAgility Solutions Assessment: a 5-step process

Our sustainability measurement

Ever-increasing demand for specialty minerals and materials to meet the world's needs calls for more sustainable solutions. Responding to our customers' evolving needs for low carbon emission products is fundamental to the long-term success of our business.

The way we develop and manage our product portfolio is central to ensuring Imerys has a sustainable future. We have defined a methodology to do this from an environmental and societal point of view, to support our drive to provide more sustainable solutions to our customers and society.

This robust, scientific approach is based on the World Business Council for Sustainable Development (WBCSD) Portfolio Sustainability Assessments (PSA) framework.

Our goal is to identify sustainability-related opportunities and risks within Imerys' portfolio, to ensure we are doing our best for the environment and future generations – and enabling our customers to do the same.

We're on an ambitious journey to minimize the environmental and social impacts of our products, while maximizing the benefits to our customers and society.

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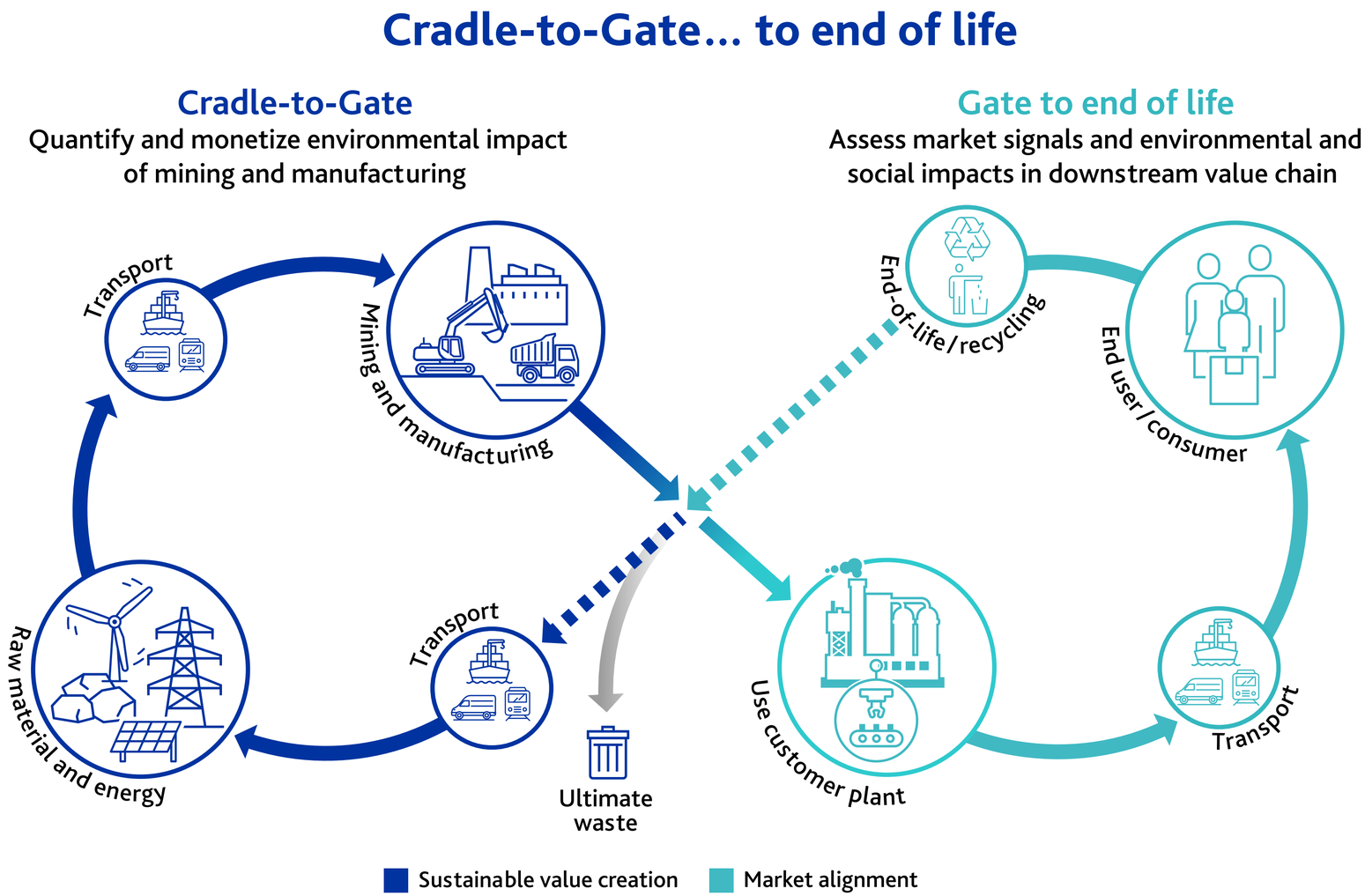
Driving towards a common goal

We will work closely with our customers to help develop circular economy solutions – eliminating waste (reuse, recycle, remanufacture), making better use of available resources and extending the lifespan of products – that will support them in the transition to a sustainable and inclusive economy.



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Portfolio segmentation

Imerys is the world's leading supplier of industrial specialty minerals. Our organization is structured around two segments: Performance Minerals, and Refractory, Abrasives & Construction.

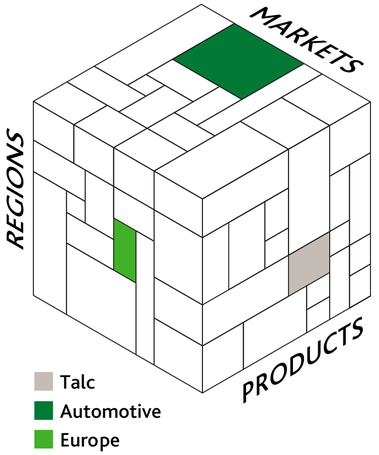
Our Business Areas and their product portfolios are aligned to our customers in core markets – although our products can be used in applications across multiple markets.

In evaluating our products, it is important to analyze their end-to-end life cycle. In order to do this fairly, our methodology uses sub-market segmentation – taking into account where our products end up. In other words, we study our products and services in tandem with the final customer's market application.

The value of segmentation is to ensure that our SustainAgility Solution Assessments consider the specific context of a product or service: the supply and value chain in which it will be integrated, as well as the region or regions in which it will be used.

Grouping products with similar activities and market needs and, potentially, similar sustainability needs helps simplify the evaluation process. Products can be merged where there are similarities in terms of raw material supply or cradle-to-gate industrial processes.

As a market-focused and customer-centric business, Imerys is already well positioned in terms of segmentation of products and services.



Talc, automotive and Europe are used only as an example for illustrative purposes.

PERFORMANCE MINERALS

PERFORMANCE MINERALS EMEA (~€1.3bn revenue)
- Plastics, Rubber, Paints & ACS (Adhesives, Caulk & Sealants)

PERFORMANCE MINERALS AMERICAS (~€1.2bn revenue)
- Ceramics & Building products
- Filtration & Life Sciences

PERFORMANCE MINERALS APAC (~€0.6bn revenue)
- Paper and board
- Batteries & Fuel cells

HIGH TEMPERATURE MATERIALS & SOLUTIONS

REFRACTORY ABRASIVES & CONSTRUCTION (~€1.4bn revenue)
- Refractory Producers
- Abrasives
- Building & Infrastructure

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Sustainable value creation assessment

Life Cycle Assessment studies are a focal area of our sustainability assessment. According to ISO 14040 and 14044 standards, we quantify the environmental impact from cradle to gate (also called "ecoprofile") of our activities on the environment, resource consumption, energy and circular economy, thanks to a wide range of indicators.

Main raw data is specific to Imerys' mining and industrial operations; data from suppliers and public databases are also used to fully complete the assessment with generic data.

The ecoprofile results are then monetized by using shadow costs, drawn from authoritative scientific sources to define the financial investment needed to remedy or prevent those negative impacts.

The ratio of economic revenues generated divided by the monetized environmental impact created is used as a final indicator.

The impact indicators on pages 18 and 19 are calculated and analyzed.

"Using LCA standardized methodology brings us many benefits: a broader understanding of our environmental footprint at all stages of our products' life cycles; benchmarking our products' profiles from a production, logistic and supply chain perspective; and a strong framework to provide customers with reliable and specific data."

Emmanuelle Henry-Lanier,
Climate and Portfolio Sustainability VP

Land use, occupation

Water use

Depletion of abiotic resources

Climate change

Air acidification

Tropospheric ozone depletion

Stratospheric ozone depletion

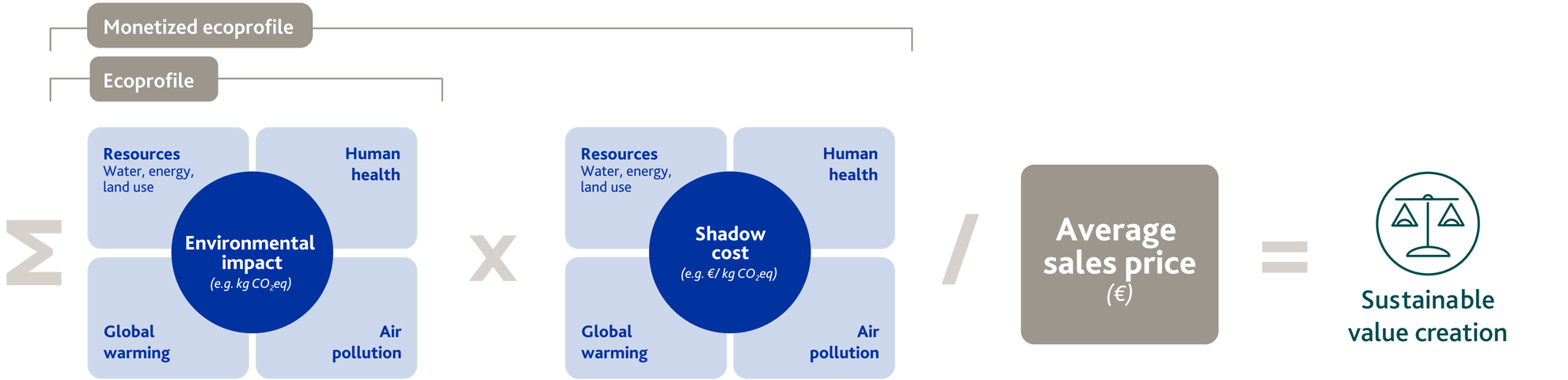
Water eutrophication

Respiratory inorganics

Human toxicity and ecotoxicity

Methodology – LCA & Sustainable value creation

Sustainable value creation formula is based on monetized ecoprofile = "cost for the planet"



- **LCA from cradle to gate** (ISO 14040/44)
- **Based on Imerys plant data** or publicly available database
- Impact indicators selection according to latest dataset of European Commission (CML 4.2 and EF 3.0)

- Estimation of the "cost for the planet"
- Science-based approach, mainly based on prevention-cost approach
- Defined by external experts (ex. shadow cost for climate change = €100/ton CO_2)
- Used to consolidate and compare the different impact categories

- Average sales price on the market segment
- Defined from financial Imerys data

Represents the balance between the economic value created and the cost for the planet.

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Market alignment assessment

The environmental and social impacts – obstacles and benefits – of Imerys' products in their application are assessed through a rigorous, interdisciplinary questionnaire process, in which each response determines the next stage of the review process.

Our assessment takes into account indicators of potential concern:

Human health – safety and prevention	Exposure to harmful or toxic substances	Energy consumption
Climate change	Air and water quality, including freshwater availability	Regulatory and market trends
Resources efficiency and circularity	Ethical sourcing of mine raw material	Other social issues

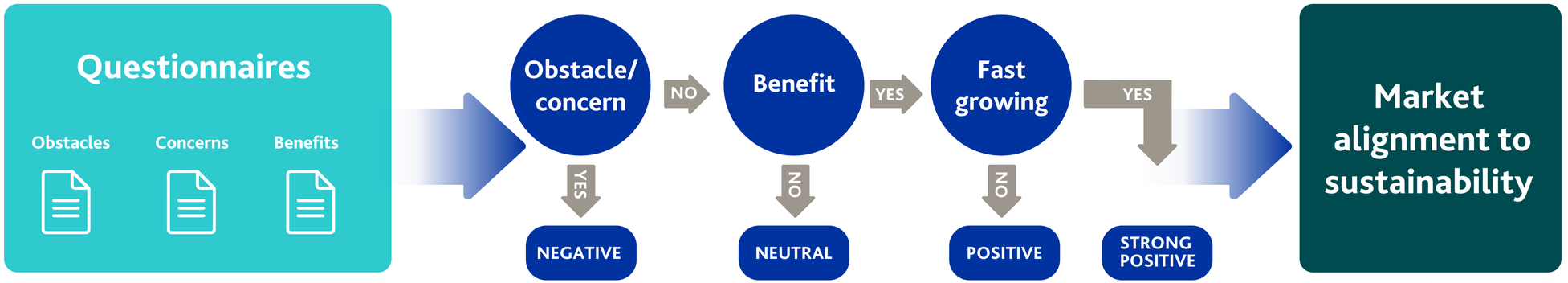
If an obstacle or concern is identified, the product cannot be given a positive or neutral rating.

Market alignment assessment also involves monitoring the market signals, through an evaluation of public communication and/or discussions with key stakeholders.

Product stewardship and the whole life cycle of the product is taken into account through the methodology.

Methodology – Market alignment

Market alignment assessment involves detecting the market signals, thanks to either an evaluation of publicly available information or discussions with key stakeholders (legislation, customers' needs, ecolabel requirement)



Qualitative, evidence-based, collection of sustainability-related market signals (positive and negative)

These are based on questionnaire responses, assessed during workshops with multi-disciplinary experts, including Product Stewardship, Sales & Marketing, Environment, Health & Safety, and Science & Technology teams

No concession decision tree: once an obstacle or a concern is identified, the product in application will be ranked negative.

List of social & environmental topics of concern:

- Exposure to harmful or toxic substances (human or environmental)
- Health, safety & prevention
- Air/Water quality and freshwater availability
- Climate change
- Energy consumption
- Resources (scarcity, circularity)
- Regulatory and market trends
- Ethical sourcing of mine raw material
- Other social issues

Products are analyzed in their end-user application, to assess absolute and relative sustainability performance.

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Categories and ratings

Our evaluation reviews our products and services based on several criteria, ultimately scoring them on two factors:

- ***Sustainable value creation** – the balance between the economic value created and the cost for the planet.*
- ***Market alignment** – the level of sustainability-related benefits or challenges (based on an evaluation of public communication and feedback from key stakeholders).*

	Sustainable value creation indicator	Market alignment
Strong positive	Cost for the planet less than 10% economic value	One or more strong sustainability-related benefits (no challenge identified)
Positive	Cost for the planet less than 25% economic value	One or more sustainability-related benefits (no challenge identified)
Neutral	25% economic value < cost for the planet < 50% economic value	Neither benefits nor risks
Negative	Cost for the planet more than 50% economic value	One or more sustainability-related challenge

For each of these two factors, each product and service will be given a rating, ranging from **A+**, indicating a product or service that demonstrates an extremely positive result or strong sustainability-related benefits, to **C**, indicating a product or service that requires improvement or presents sustainability-related risks.

A product or service scoring **Strong positive** for sustainable value creation has a very low environmental cost for the planet compared with its economic value (less than 10%). A product or service rated **Negative** for this factor has a cost for the planet that exceeds half of its economic value.

In terms of market alignment, a **Strong positive** product or service has one or more strong sustainability-related benefits and no risks, whereas a product or service rated **Negative** has an existing or potential sustainability-related challenge.

Calculating an overall rating

For each product and service, the ratings for each of the two factors are combined and will determine which of four categories they belong to:

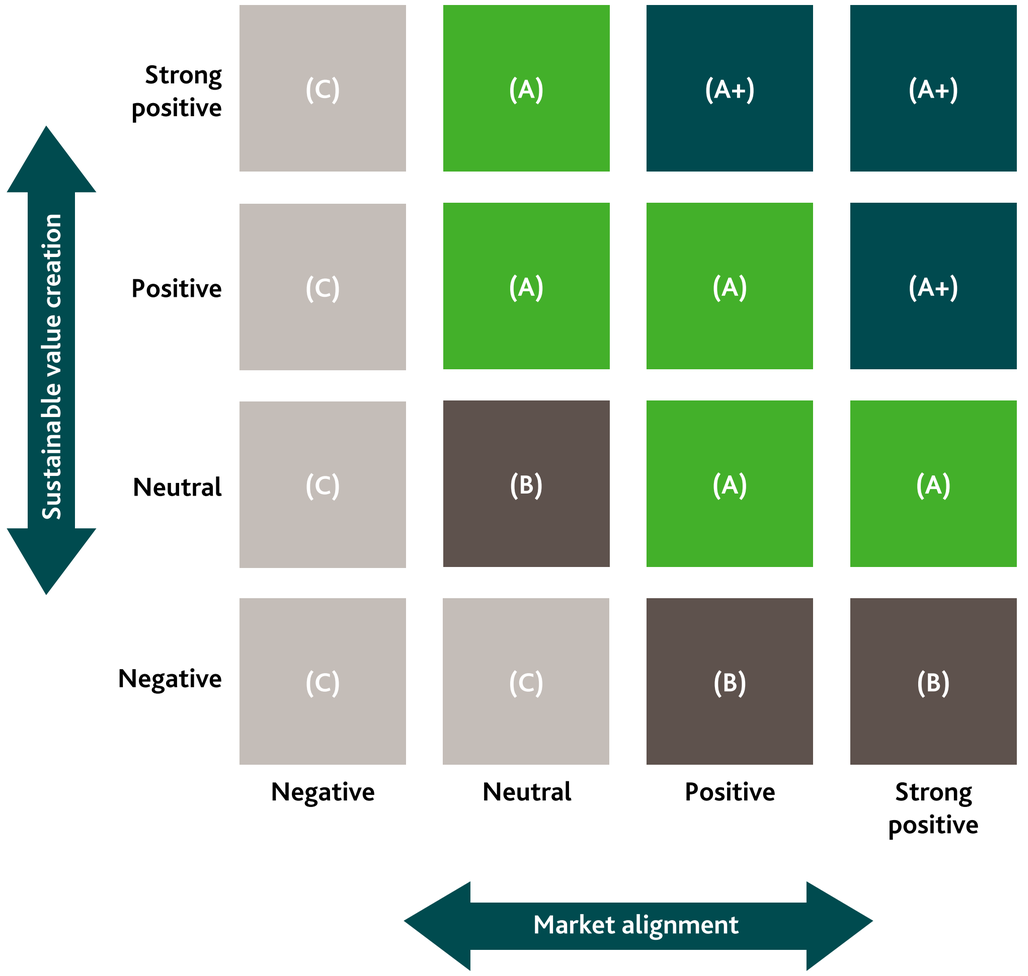
- **Pioneer (A+)** – our highest rating, for products and services with an outstanding sustainability performance compared to the reference on the market
- **Enabler (A)** – a sustainable product or service aligned with sustainability market trends
- **Transitioner (B)** – a product or service that is neutral from a sustainability perspective, and creates value in the market it serves
- **Learner (C)** – a product or service with an existing or potential sustainability challenge in one or both factors, and that requires improvement.

Products ranked in both A and A+ categories (Pioneer and Enabler) are considered as SustainAgility Solutions.

The Pioneer score is given for a product or service that scores highly for both factors. It is a product in a given application that provides a high social and environmental contribution to the downstream value chain, at the same time demonstrating a low environmental impact in its production phase.

PIONEER
Rated by Imerys
SustainAgility™ SOLUTIONS

It is possible for a product or service to score a 'strong positive' for sustainable value creation, but 'neutral' for market alignment – or vice versa. Even if a product or service has a positive score for sustainable value creation, a negative score on market alignment will likely place it in the overall C (LEARNER) category, implying it needs significant improvement on one or more indicators to progress and score as Transitioner or SustainAgility Solution.



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The process

This method is accompanied by a clearly established process, allowing a systematic approach. The implementation of this method is also reviewed internally on a yearly basis. It is critical to integrate a structured sustainable content assessment from the inception of a project – and then follow this through the complete process and different steps.

Roles and responsibilities

Portfolio segmentation and market alignment assessments are conducted in workshop challenging sessions, involving a multidisciplinary team from corporate and Business Areas (BAs).

Experts are invited to contribute to these sessions, offering insight in these fields:

- Product sustainability
- Product stewardship
- Product management
- Environmental management
- Sustainability
- Sales and marketing
- Research and development.

For the sustainable value creation axis, product segmentation is discussed with industrial experts from the BAs, as well as a selection of the most representative manufacturing plants for mining and processing operations. Cradle-to-gate ecoprofiles are then calculated according to Life Cycle Assessment (LCA) ISO 14040 and 14044 standards, based on primary data collected at Imerys plant level. Data from suppliers and public LCA databases are also used to complete the calculation. Calculation rules are defined at Imerys Group level and updated every two years.

Imerys function	Expertise offered
Corporate: Product Sustainability*	Method owner; cross-BAs view; cross-market and region sustainability expertise
Corporate: Sustainability*	Link with SustainAgility Program implemented within the Group; cross-BAs and region view
BAs: Sustainability Manager	Link with SustainAgility Program implemented within the BA and the market segments; sustainability knowledge of the BA and its respective market segments
Corporate: Product Stewardship*	Group Chemical Policy Owner; regulatory expertise; cross-BAs and region view
BAs: Regional Product Stewardship, Product Stewardship Market Manager	Product and region: specific toxicological, eco-toxicological, regulatory and stakeholder expertise
Corporate: Environmental Management*	Link with environmental management and climate change program implemented within the Group; cross-BAs and region view
BAs: Environmental Expert	Link with Environmental Management plan implemented within the BA – expertise on environmental footprint of products
BAs: Market Segment Leader, Marketing	Expertise on product performance, benefits, value proposition and competitive solutions; market trends overview, mid-term and long-term market segment strategy; economical figures
BAs: Product Management	Development and management of product portfolio, including production and supply chain expertise
Research & Development	Expertise on development of new products and new processes

*Member of internal expert panel

Imerys will carry out product segmentations and assessments based on their application within specific markets and, sometimes, geographical regions. However, through our workshops and insight-gathering with internal experts across all our business areas, we will take into account global opportunities, risks, impact and environmental footprint.

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The process

Market alignment workshop session

A preparation phase is mandatory to conduct each workshop session in an effective manner. Preparation includes economical figures, market trends analysis, technical studies related to product performance, regulatory trends analysis, and compliance with Imerys Group Chemical Policy.

Workshop challenging sessions are organized face-to-face, or remotely using an interactive tool, to allow every participant to actively give feedback; voting tools ensure every participant's voice is taken into account.

The sustainability assessment results are then discussed successively for each product in application under review.

An executive report including all comments is prepared after the workshop by the Sustainability Manager from the BA. The final sustainability score is provided by combining workshop session results with cradle-to-gate ecoprofile results.

Documentation

Data from both axes are documented and recorded in Imerys' SSA database to ensure transparency and reproducibility of our assessment process. The following documents are then available for third party verification:

- Evaluation spreadsheet (questionnaire answers)
- Executive summary, including key findings (list of positive and negative signals) from the workshop session and relevant documents and evidence
- LCA card with ecoprofile results

Screening assessment for projects

Imerys aims to help drive sustainable innovation in the specialty minerals industry, pushing the boundaries of its products to meet customers' needs, while at the same time offering sustainable solutions that meet global environmental and social challenges.

All new product development, major capex and M&A projects are systematically assessed according to a screening tool, using a shortlist of indicators.

The future target is compared to the existing or reference product, and screening assessment results are fully integrated in Imerys' innovation process as a criteria for decision making and stage gate pass.

Internal and external review

An internal expert panel is in place to review assessment results for those products in application that are rated in the highest and bottom categories.

The mandate of this committee is to:

- check that the process has been applied according to the rules and procedures
- confirm that strong positive or negative signals are justified by evidences
- identify areas for improvement and update the methodology and process accordingly.

A third-party verification of the market alignment assessments will be carried out by an external and independent reviewer on a regular basis to:

- check the alignment of Imerys' methodology with the Portfolio Sustainability Assessment Framework published by the WBCSD
- review a sample of products in application assessment results based on available documentation.

In 2021, Arthur D Little conducted a detailed review and confirmed the Imerys' compliance with the application of the PSA method.

"We can drive enhanced sustainability through three axes around the theme of innovation: a more efficient end use of our materials and minerals, sustainable material design and enhanced process efficiencies in the manufacturing of our products. We have a great opportunity to become more sustainable through innovation, but only if we can measure and track the sustainable content of our innovation actions and use this in our decision-making."

Chris Parr, *Science & Technology VP, Refractory, Abrasives and Construction Market*

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A key decision-making tool: how we will use the results

SustainAgility Solutions is a key lever to achieve our ambition to embed sustainability into everything we do, from new product development and strategic acquisitions, to engaging in dialog with customers and other stakeholders. It will help us make smarter business decisions that strengthen our organization.

Our SustainAgility Solutions tool will highlight risks in, and opportunities for, our products. The results will help us to make informed decisions about how to reduce the environmental impact of our products and improve or sustain each product's rating.

The rigorous assessments will help us establish and design appropriate strategic actions to mitigate market-related challenges and progress the performance of our portfolio – whether from an industrial, energy-efficiency or research and development point of view – and increase value for customers.

Internally, we will use the results to

- educate all managers and colleagues about sustainability issues and benefits
- inform our approach to new product development
- influence strategic and investment-based decisions at executive committee level.

Our customers will be better informed about how their purchasing decisions can make a significant difference to their environmental and social footprint.

Thanks to these detailed assessment results, we can explain to customers how a particular Imerys product or service can improve the life cycle of their own end-product or prove cost-effective in the long-term by minimizing future maintenance or re-engineering investment to align with sustainability policies.

We will share the steps we are taking to improve the sustainability of the products they buy from us, which will ultimately benefit their end-product.

Over time, we will look to steer our portfolio based on our findings to ensure we are more broadly meeting the demands of our customers and other stakeholders.

Our SustainAgility Solutions Assessment is a fundamental part of how Imerys' will meet its ambition to unlock the sustainable potential of minerals.

"SustainAgility Solutions Assessments will drive Imerys towards further excellence – answering key societal concerns around sustainability. The tool will reinforce Imerys' position – from product conception to customer deliveries. It will help us to become the partner of choice for many companies sharing the same values. It aims to provide trust and transparency, facilitate product positioning, capture additional value and differentiate us from the competition."

Thierry Casteran, *Filtration & Life Sciences VP, PM EMEA*

Appendix 1 Sustainable value creation assessment – indicators

Land use, occupation

This indicator quantifies the amount of land occupied and transformed within the system. Given the nature of Imerys' industrial operations, the method focuses on mining activities, where the largest use of land occurs.

Land occupation characterizes the surface (in m^2/yr) of land used every year to produce a specific quantity of minerals. Land transformation characterizes the surface (in m^2) of land transformed (e.g. through deforestation) to produce a specific quantity of minerals, and integrates the surface of land rehabilitated.

Water use

Only net water consumption is considered. This is calculated by the volume of water inputs from underground and surface origins minus rejects to the surface water, and assumes withdrawals and rejects concern the same watershed. The volumes of water that are recovered in the mining process and discharged in ponds or pits before being reused in the process is not taken into account.

Water stress is considered in the local/ regional context of water availability for all users (agriculture, industry, domestic use, nature).

Depletion of abiotic resources

This indicator focuses on the depletion of the environment in terms of its mineral resources, rather than the impact caused by their extraction from the natural environment. Living resources and their associated impacts, such as the disappearance of species or the loss of biodiversity, are excluded from this category.

The calculation is made in comparison with estimated remaining stocks and with the consumption rate of the current economy.

Climate change

Impacts on climate change over a 100-year timeframe are assessed using the amount of greenhouse gas emissions – expressed in carbon dioxide equivalent – from Imerys sites, from the consumption of electricity and steam bought by Imerys sites, and from the supply chain.

It takes into account the fossil emissions CO_2 and N_2O, as well as CH4 – but not CO_2 biomass emissions resulting, for example, from the combustion of waste in incinerators. CO_2 input involved in the recarbonation of lime to create limestone is accounted for negatively.

Detailed shadow cost and methodology sources can be found in Appendix 2.

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Appendix 1: Sustainable value creation assessment – indicators

Air acidification

An increase of acid compounds, such as nitrogen oxides and sulphur oxides in the atmosphere.

Tropospheric ozone formation

Photochemical smog caused by the reaction of atmospheric emissions from industries and transport under the influence of solar rays.

Stratospheric ozone depletion

The release of specific ozone-depleting substances, including chlorofluorocarbons, hydrofluorocarbons, methyl chloride, methyl bromide, carbon tetrachloride and trichloroethane.

Water eutrophication

The depletion of oxygen from the enrichment of waters in nutritive elements as a consequence of human intervention.

Respiratory inorganics

The assessment of damage to human health due to outdoor and indoor emissions of primary and secondary particulate matter in urban and rural areas.

Human toxicity and ecotoxicity

The degree to which a substance can damage an organism.

Detailed shadow cost and methodology sources can be found in Appendix 2.

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Appendix 2 Shadow costs' values and data sources

Impact indicator	Shadow cost (€/unit)	Data sources for characterisation method and shadow costs
Land use, occupation (m^2/yr)	0,127 to 2,05	ESVD, 2012[1]
Water use (m^3)	3	TEV Methodology[2]
Climate change (kg CO_2 eq.)	0,1	IEA 2021[3]/CPLC[4] & France Strategy[5]
Depletion of abiotic resources (kg Sb eq.)	0,16	EF 3.0[6] / TU Delph[7]
Air acidification (mol H+ eq.)	6,68	
Water eutrophication (g P eq.)	12.78 10^{-3}	
Human toxicity (CTUh)	920 000	
Freshwater aquatic ecotoxicity (CTUe)	5.54 10^{-6}	
Stratospheric ozone formation (g CFC-11 eq)	0,03	
Tropospheric ozone formation (g C_2H_4 eq)	10,35 10^{-3}	CML 4.2[8]/TU Delph
Particulate matter/respiratory inorganics (g $PM_{2.5}$)	0,034	TU Delph

[1]"Global estimates of the value of ecosystems and their services in monetary units", R de Groot et al., University of Wageningen, 2012. [2]Unepfi, Integrating water stress into corporate bond credit analysis 2021. [3]World energy outlook 2021 : International energy agency (IEA). [4]"Report of the High-Level Commission on Carbon Prices", Carbon Pricing Leadership Coalition, May 2017. [5]"La valeur de l'action pour le climat – une valeur tutélaire du carbone pour évaluer les investissements et les politiques publiques", France Stratégie, February 2019. [6]"Supporting information to the characterisation factors of recommended EF Life Cycle Impact Assessment methods – Version 2 from ILCD to EF 3.0", European Commission, Ispra, 2018. [7]Environmental Prices Handbook 2017, TU Delft – Methods and numbers for valuation of environmental impacts. [8]CML: University of Leiden (The Netherlands). Impact assessment pack 4.2, April 2013 (Oers, L. van, 2015. CML-IA database, characterisation and normalisation factors for midpoint impact category indicators)

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Appendix 3 Glossary

BA = Business Areas
Imerys' organisation is structured by four business areas: Performance Minerals Europe, Middle East & Africa; Performance Minerals Americas; Performance Minerals Asia-Pacific, and Refractory, Abrasives & Construction.

Cost for the planet (= external cost)
Theoretical valorization of the environmental costs for one kg of product. This monetization is based on ecoprofile results and shadow costs (impact value).

Cradle-to-gate – Life Cycle Assessment
An assessment of a partial product life cycle from resource extraction (cradle) to the factory gate (i.e. before it is transported to the consumer).

Ecoprofile
The output of a "cradle to gate" study, an ecoprofile is based on a detailed life cycle inventory taking into account materials and energy input and outputs flows in the form of emissions to land, air, water and resources consumption; environmental impact quantification is done for one kg of product.

ISO 14040:2006
ISO 14040:2006 is an international standard that describes the principles and framework for life cycle assessment (LCA), including: the definition of the goal and scope of the LCA, the life cycle inventory analysis phase, the life cycle impact assessment phase, the life cycle interpretation phase, reporting and critical review of the LCA, limitations of the LCA, the relationship between the LCA phases, and conditions for use of value choices and optional elements.

ISO 14044:2006
ISO 14044:2006 specifies the requirements and provides guidelines for life cycle assessment (LCA) as outlined in the definition for the ISO 14040: 2006 standard (above).

Pioneer
The highest rating, for products and services with an outstanding sustainability performance compared to the reference on the market.

The Pioneer certificate, introduced in 2021, facilitates the identification of sustainable solutions for Imerys customers and stakeholders. It aims to provide quantitative and qualitative information about the environmental and social footprint of solutions with outstanding sustainability performance, helping customers to straightforwardly consider such criteria in their purchasing decisions.

Portfolio Sustainability Assessment (PSA)
PSA is a methodology developed by the WBCSD to help companies steer their product portfolios towards improved sustainability performance. PSA was updated on Sep 2023 (v2.0)

Product Stewardship
The proactive management of the products Imerys sells to ensure they can be used safely and are compliant with the regulations in the applications and markets they serve across their entire life cycle.

Shadow cost
The shadow costs are the conversion factor (in € per unit of impact) for monetizing the overall cost for the planet of individual impact on the surrounding ecosystems. It is used to aggregate different dimensions by using a single metric.

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Appendix 3: Glossary

Sustainability megatrends
Megatrends are significant changes beyond human intervention that shape and influence the world and future markets. These can be challenges and threats, but also opportunities. Sustainability megatrends include global warming and climate change, scarcity of resources and population growth.

SustainAgility Solutions
An Imerys product in a given application that brings high social and environmental contribution to the downstream value chain and, at the same time, demonstrates a low environmental impact in its production phase; it groups the two highest categories (Pioneer and Enabler) defined by Imerys Portfolio Sustainability Assessment framework.

Sustainable value creation indicator
This indicator represents the balance between the economic value created and the cost for the planet. This ratio ranges from negative value to a maximum value of 1. Ratio is zero if environmental cost is equal to half the economic value. It is negative if environmental cost is higher than half the economic value. The higher the ratio, the lower the environmental damage cost is compared to economic value created, and the higher the business resilience to costs from sustainable development.

Tropospheric
The lowest layer of the earth's atmosphere, and where most of the mass of the world's atmosphere is found.

UN Sustainable Development Goals
The 17 Sustainable Development Goals (SDGs) are a call for global action to protect and preserve the planet, now and in the future. They highlight that ending poverty and other deprivations go hand-in-hand with strategies that improve health and education, reduce inequality and spur economic growth. In tandem, these tackle climate change and work to preserve our oceans and forests.

United Nations' Global Compact
A voluntary initiative based on CEO commitments to implement universal sustainability principles and take steps to support UN goals. It encourages companies to align their strategies and operations with societal goals and global objectives around environment, human rights, labor and anti-corruption.

World Business Council for Sustainable Development
WBCSD is a global, CEO-led organization of 200+ businesses working to accelerate the transition to a sustainable world.

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