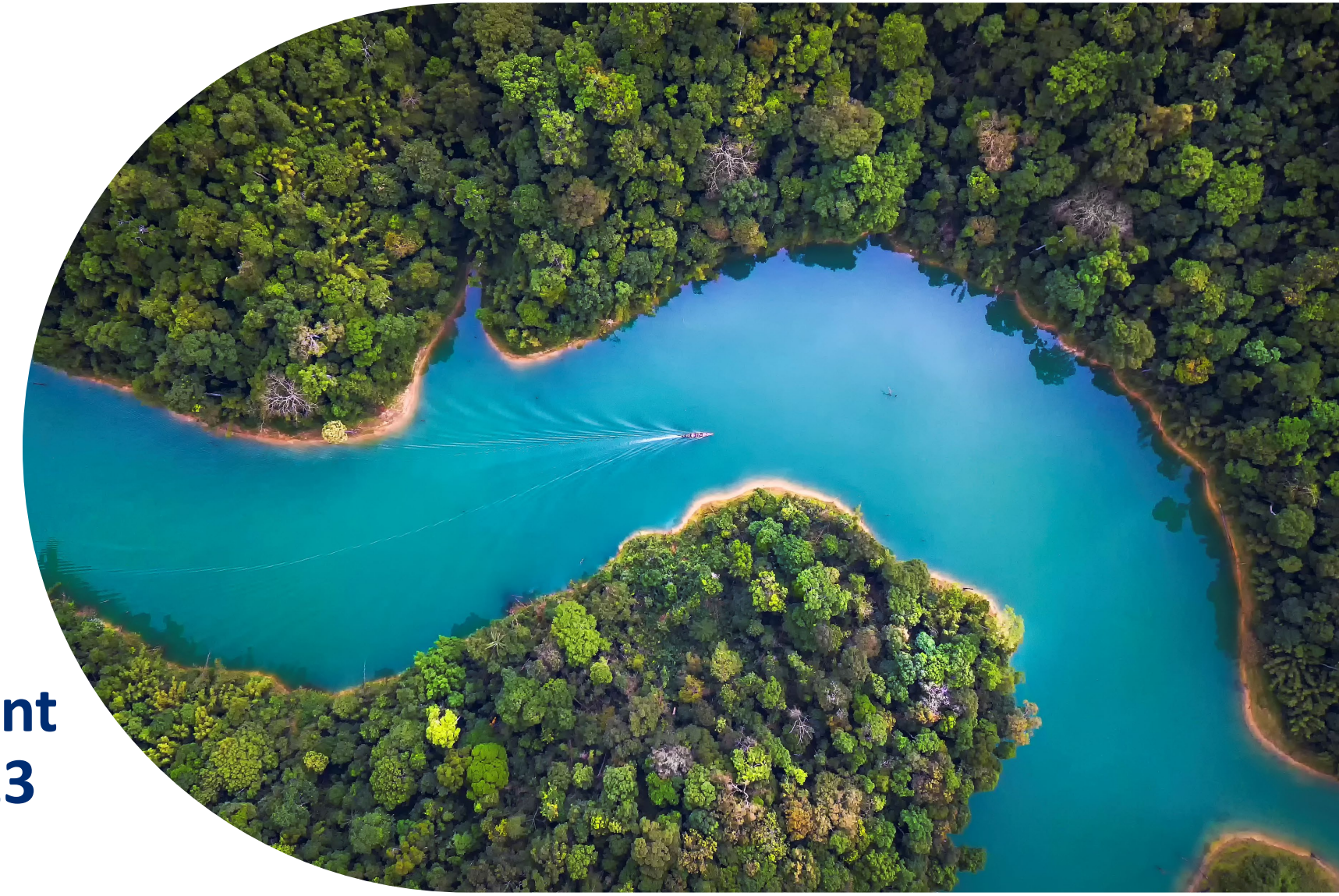
INDORAMA VENTURES



Water Risk Assessment Summary Report 2023

REIMAGINING
CHEMISTRY
TOGETHER
TO CREATE
A BETTER WORLD

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Introduction

The chemical industry can be vulnerable to water-related risks, that can disrupt its operations, infrastructure, and supply chains. Without water, we would not be able to operate efficiently or safely. Water is a crucial factor for us, both as an opportunity and a challenge, and requires careful and responsible management and stewardship. Water also poses some concerns, such as water scarcity, water pollution and water-related risks.

We are working globally to reach our goals of reducing water use by 10% by 2025 and 20% by 2030 from the 2020 baseline. We openly share our water data and management and try to keep improving our water performance. We need to manage the risk of water mismanagement / unregulated water consumption at each site with effective water practices.

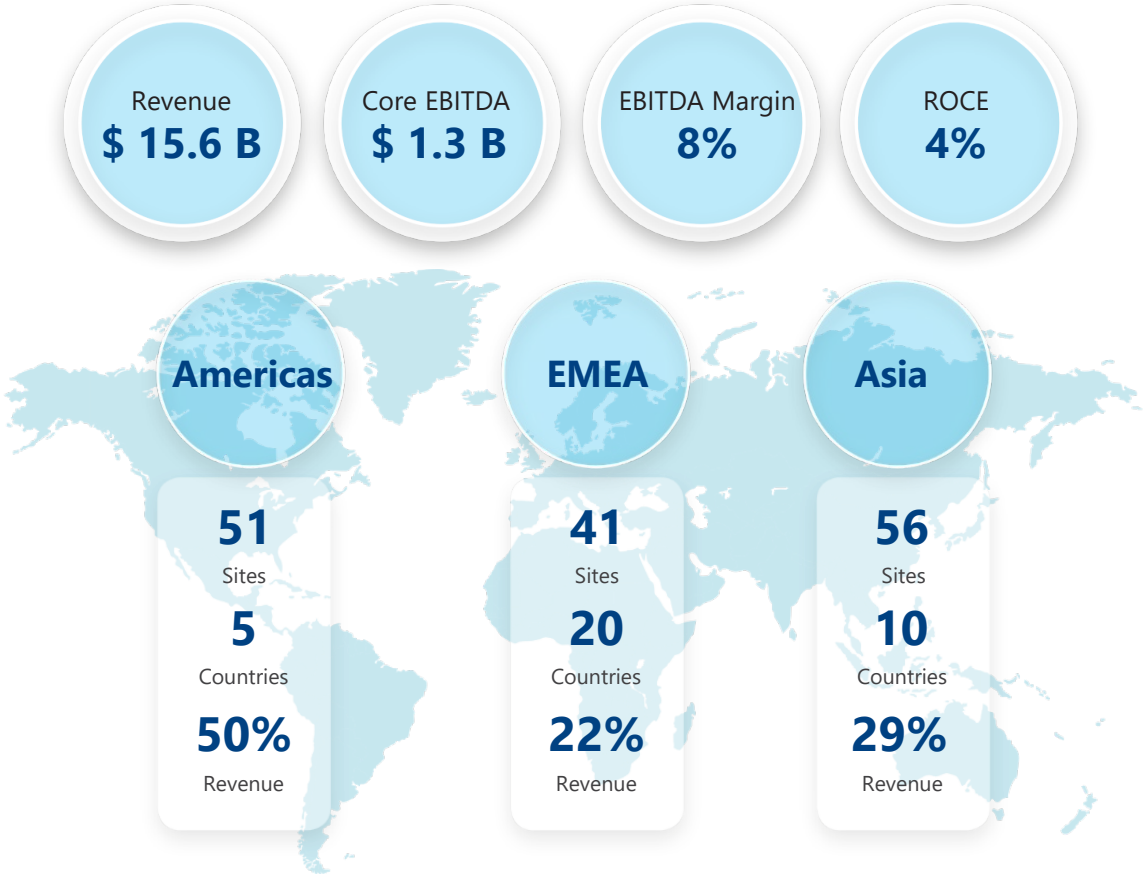
We used the AQUEDUCT 3.0 Water Risk tool developed by WRI and the ENCORE tool developed by UNEP-WCMC and partners to perform a comprehensive water sensitivity analysis for current and future scenarios. These tools combine various indicators of water risk, availability, withdrawal, dependency, and ecosystem services to provide a holistic picture of our water-related impacts and dependencies across our operations and value chain. Based on these tools, we conduct regular local water risk assessments and identify both the challenges and opportunities for water management.

As a responsible corporate citizen, we engage with the local communities where we operate, participate in multi-stakeholder initiatives, and are considering a more all-inclusive approach that better includes all our relevant stakeholders along the value chain, specifically local communities.

By valuing water and committing to water conservation and efficient usage of water and are progressively contributing towards the achievement of SDG 6: Clean Water and Sanitation.

Indorama Ventures at A Glance

Indorama Ventures is a world-class sustainable chemical company and a global integrated leader in PET and fibers serving major customers in diversified end-use markets. In following our core strategies, we develop innovative products that meet the needs of our customers, making great products for society.



Note: Asia includes Egypt and EMEA includes Portugal in 2023

29,056* Total Employees

24.26% Female

148** Sites

6 Continents

35 Countries

20 Recycling facilities

27 R&D centers

** This number combines permanent and temporary employees.*
*** The Sustainability Report 2023 consists of data from 149 sites. Further details are provided in the full Sustainability Report 2023 (under "About this Report").*

Our platform

1. Integrated and diverse portfolio
2. Inter-connected businesses through raw materials, R&D and customers
3. Leading position in attractive and growing end markets

Water Risks Globally and to Indorama Ventures

Water is a very essential and important natural resource for all life functions on Earth. It sustains the functioning of human health, ecosystems, food security, energy supply, and human habitats.

However, water resources are facing multiple pressures from population growth, urbanization, industrialization, climate change, and pollution. The water crisis (water stress, droughts, floods, and a rise in sea levels) is a growing concern around the world.

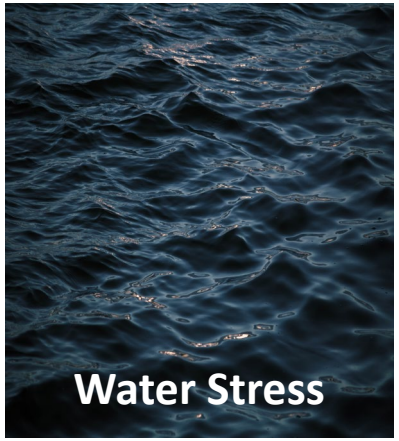
Indorama Ventures is committed to sustainable water management. As our operations are water-reliant, water risk can detrimentally affect our business. The water risk analysis, therefore, helps us identify both water risks and opportunities at all our operating sites and ensure the most efficient water consumption.

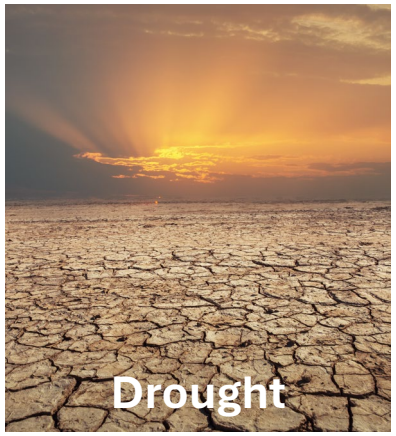
We practice responsible and sustainable water management in our operations, in addition to ensuring compliance with all applicable legislation. Governments, businesses and communities must adopt a more responsible approach to water consumption and sustainable water management practices to solve the global water crisis.

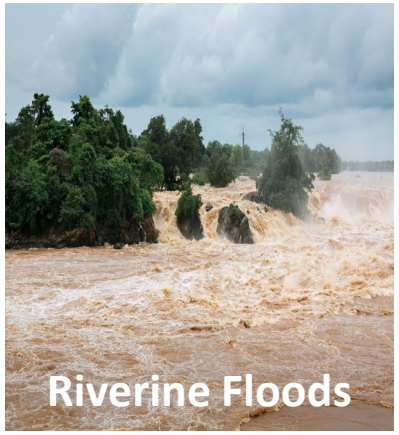
Objective of This Report

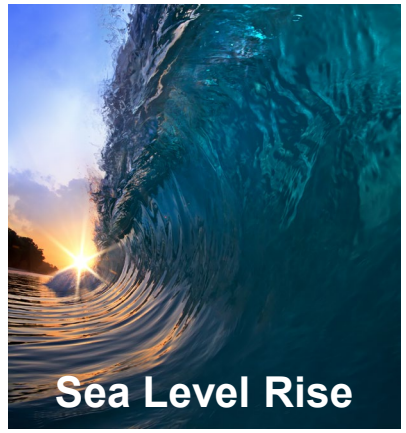
We analyzed the latest water status across Indorama Ventures' global network using the WRI AQUEDUCT water tool to address the following:

- ❑ Status in current water stress (2023) and Change in future water stress (2030)
- ❑ Status in current drought (2023)
- ❑ Status in current riverine floods (2023)
- ❑ Status in current coastal floods (2023)
- ❑ Status in current sea level rise (2023)



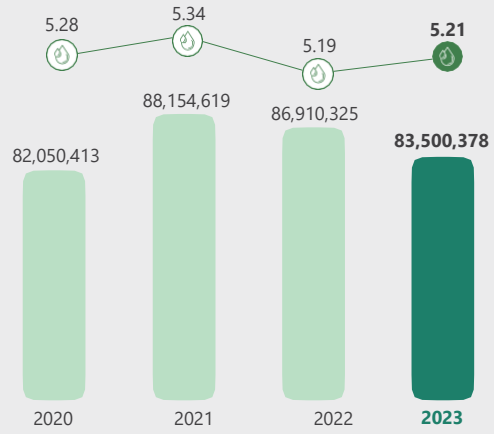




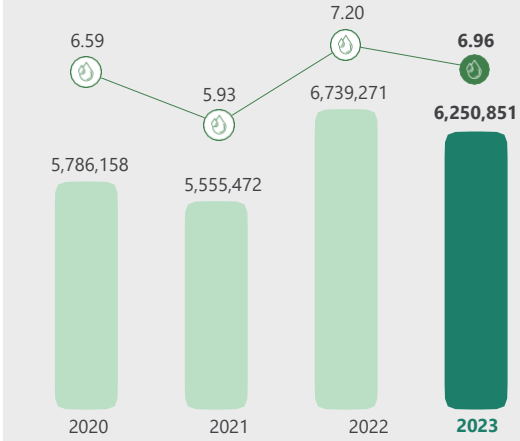


2023 Indorama Ventures' Water Performance

Total Water Withdrawal



Total Recycled / Reused Water



Water Intensity Reduction

(2020 baseline)

Target

10% by 2025 and

20% by 2030

Performance

In 2023, we recorded a water intensity of **5.21** m³/ton of production, a **1.33%** reduction against 2025 target.

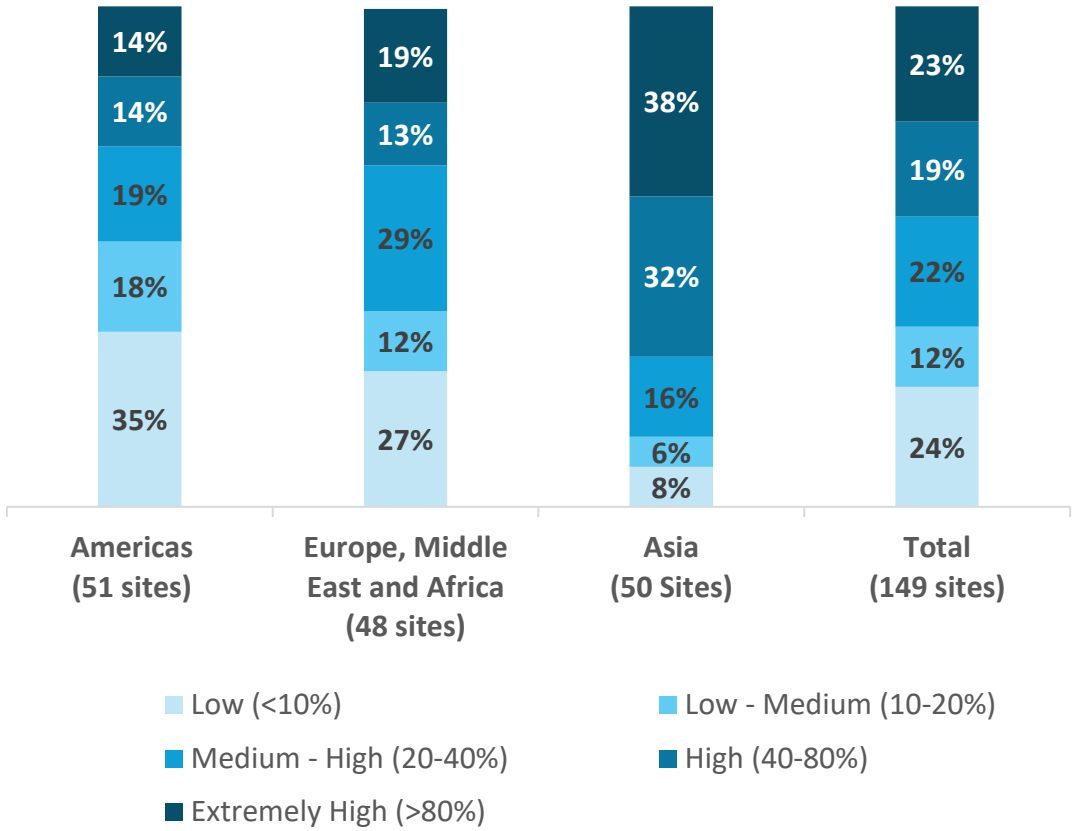
2023 HIGHLIGHTS

5 sites achieved **Zero Liquid Discharge**

- Avgol Nonwovens India Private Limited
- Indorama Petrochem Limited (PET)
- PT. Indorama Ventures Indonesia (PET)
- PT. Indorama Ventures Indonesia (Fibers)
- Schoeller Kresice s.r.o

2023 Water Stress Assessment

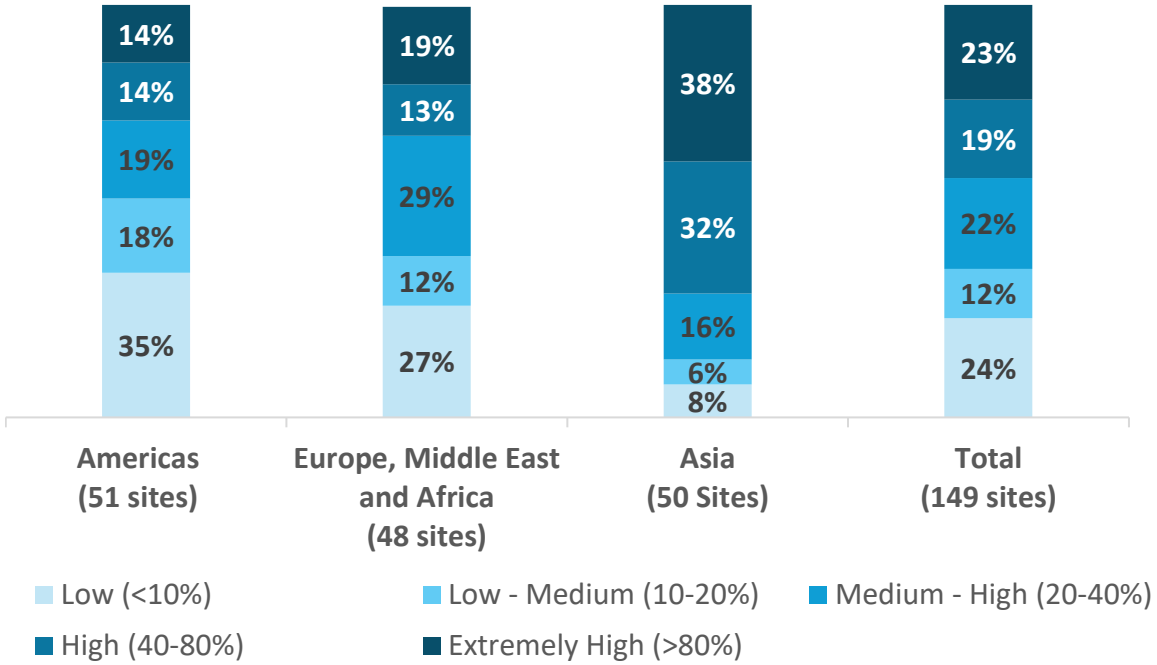
(% of Indorama Ventures' operations identified in water stress areas using the AQUEDUCT Water Risk Tool)



Summary Water Risk Analysis 2023

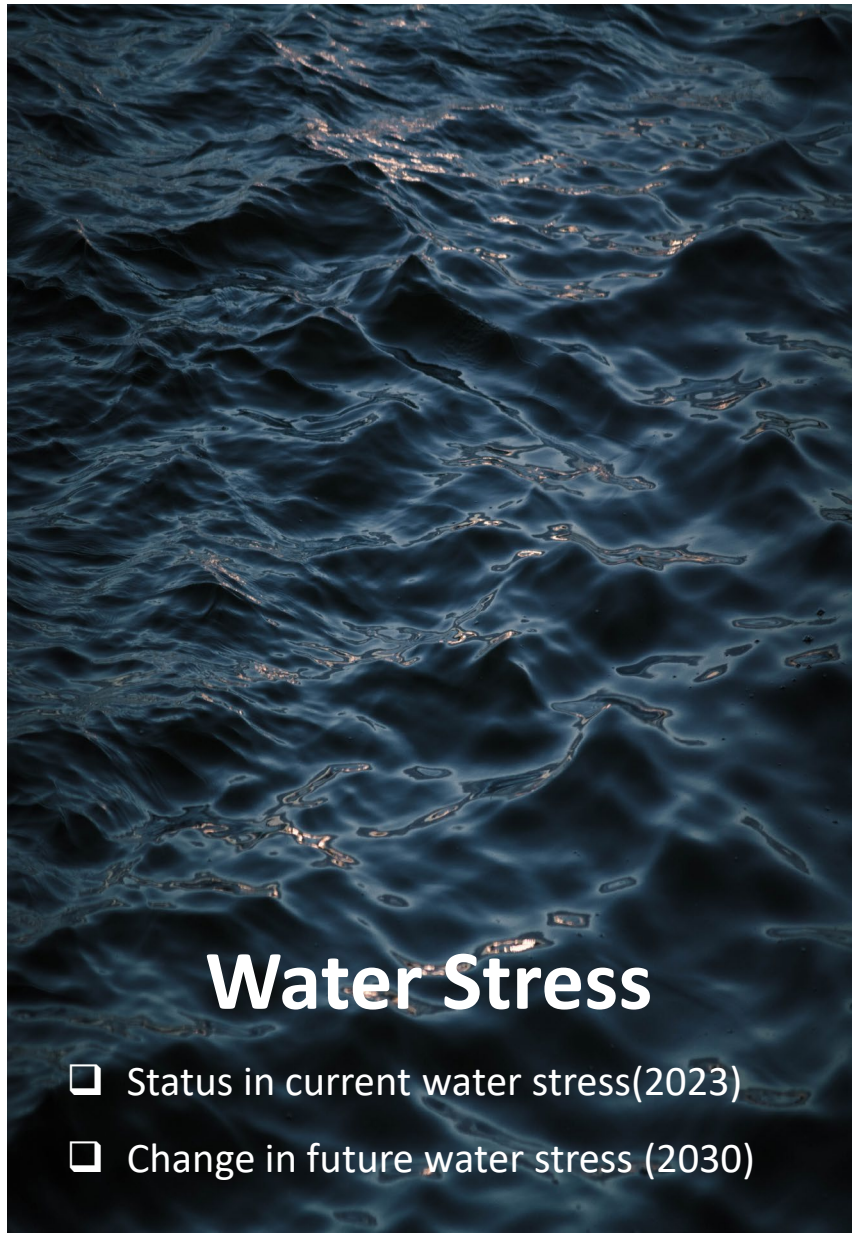
2023 Water Stress Assessment

(% of Indorama Ventures' operations identified in water stress areas using the AQUEDUCT Water Risk Tool)



Numbers of Sites	Water Stress		Drought*	Coastal flood	Riverine Flood
	2023	2030	2023	2023	2023
Extremely High	35	39	-	10	24
High	29	34	3	13	20
Medium	-	-	66	-	-
Medium – High	32	32	66	14	16
Low - Medium	18	11	11	19	30
Low	35	33	3	93	59
Total Sites	**149**	**149**	**146***	**149**	**149**

*3 sites data are not available



Summary

No. of Sites in each level	Water Stress		Regions (2023)
	2023	2030	
Extremely High	35	39	EMEA (9), The Americas (7), Asia (19)
High	29	34	EMEA (6), The Americas (7), Asia (16)
Medium – High	32	32	
Low to Medium	18	11	
Low	35	33	
Total	**149**	**149**	

Estimated Impacts subject to risk of Loss (Actual no loss)	**Production** Compared to total production	**Water Withdrawal** Compared to total Water withdrawal
Extremely High	**3.2 million tons (20.24%)**	**9.64 million m^3 (11.55%)**
High	**3.5 million tons (21.55%)**	**13.37 million m^3 (23.66%)**

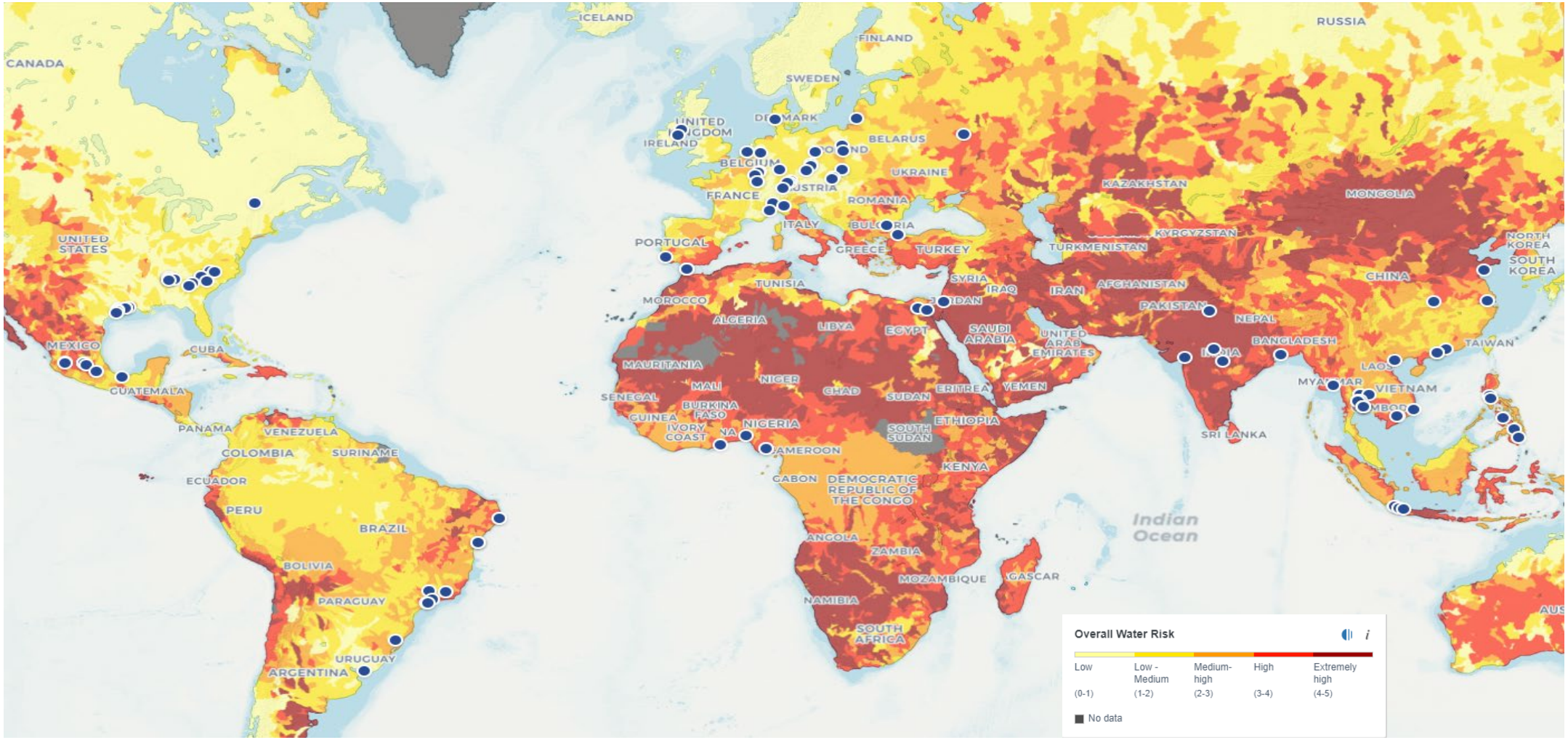
NOTE: Total production in 2023 = 16.03 million tons (including intercompany sales) and total water withdrawal = 83.50 million m^3

In 2023, the effects of water stress were nonexistent. However, we continued to monitor and analyze its effects while estimating the expenditures that would be incurred if this scenario were to occur.

Actual 2023 total cost of water = $ 35.50 million
Estimated production loss = 6.7 million tons (41.79%) , subject to risk of Loss (Actual no loss)
Estimated 2023 EBITDA loss from plant shutdowns = at least $ 157.38 million
(Due to water shortages) , subject to risk of Loss (Actual no loss)

Indorama Ventures : Current Condition - 2023

No. of Manufacturing Sites	2023 Water Consumption	2023 Water Cost
149	83.50 million m^3	$ 35.50 million



Estimated impacts to Indorama Ventures in 2023 – from extremely high and high stress areas

In 2023, the effects of water scarcity were nonexistent. However, we continued to monitor and analyze its effects while estimating the expenditures that would be incurred if this scenario were to occur based on the production, water, and cost of goods sold figures from 2023.

2023 Water Cost
$ 15.18 million (42.77%)
(out of total water costs
= $ 35.50 million)

Estimation of Production
Subject to risk of Loss (Actual no loss)
6.70 million tons, 41.79%
(out of Indorama Ventures' total production = 16.03 million tons)

Cost of Goods Sold (COGS)
Subject to risk of Loss (Actual no loss)
$ 5,759.03 million, 32.65%
(out of Indorama Ventures' COGS
= $ 17,639.45 million)

		Estimated EBITDA Loss Subject to risk of Loss (Actual no loss) *based on the current 2023 water stress assessment*		
Stress Level	No. of sites	30 days plant shutdown	60 days plant shutdown	90 days plant shutdown
(A) Extremely High	**35**	**$ 15.87 million**	**$ 31.74 million**	**$ 47.61 million**
(B) High	**29**	**$ 10.36 million**	**$ 20.72 million**	**$ 26.23 million**
Subtotal (A) + (B)	**64**	**$ 26.23 million**	**$ 52.46 million**	**$ 78.69 million**
Total (all stress levels)	**149**	**101.94**	**203.89**	**305.83**

Estimated impacts to Indorama Ventures in 2030

PROJECTION – 2030 Water Cost

2023 Water Cost $ 35.50 million	2030 Estimated Water Cost $ 40.55 million	% of Increase ↑ 14.23%

Stress Level	# Sites	% of sites	Estimated Water Cost 2030
Extremely High (>80%)	**39**	26%	$ 5.29 million
High (40-80%)	**34**	23%	$ 13.37 million
Medium High (20-40%)	**32**	21%	$ 5.08 million
Low-Medium (10-20%)	**11**	7%	$ 11.49 million
Low (<10%)	**33**	22%	$ 5.32 million
Total	**149**	**100%**	**$ 40.55 million**

2030 Water Cost Projection	
Extremely High (>80%)	30%
High (40-80%)	20%
Medium High (20-40%)	15%
Low-Medium (10-20%)	8%
Low (<10%)	0%

Climate-related Scenarios For Physical Risks :

RCP4.5 and RCP8.5 2030 2040

Description:

Optimistic	The "optimistic" scenario (SSP2 RCP4.5) represents a world with stable economic development and carbon emissions peaking and declining by 2040, with emissions constrained to stabilize at ~650 ppm CO_2 and temperatures to 1.1–2.6°C by 2100
Business as usual	The “Business as usual " scenario (SSP2 RCP8.5) represents a world with stable economic development and steadily rising global carbon emissions, with CO_2 concentrations reaching ~1370 ppm by 2100 and global mean temperatures increasing by 2.6–4.8°C relative to 1986–2005 levels.
Pessimistic	The "pessimistic" scenario (SSP3 RCP8.5) represents a fragmented world with uneven economic development, higher population growth, lower GDP growth, and a lower rate of urbanization, all of which potentially affect water usage; and steadily rising global carbon emissions, with CO_2 concentrations reaching ~1370 ppm by 2100 and global mean temperatures increasing by 2.6–4.8°C

Scenario	2030					
	Optimistic		Business as usual		Pessimistic	
	Sites	%	Sites	%	Sites	%
Low	33	22%	33	22%	32	21%
Low-medium	11	7%	11	7%	12	8%
Medium-high	38	26%	32	21%	38	26%
High	32	21%	34	23%	35	23%
Extremely high	35	23%	39	26%	32	21%
TOTAL	149	100%	149	100%	149	100%

2050					
Optimistic		Business as usual		Pessimistic	
Sites	%	Sites	%	Sites	%
32	21%	32	21%	30	20%
11	7%	12	8%	13	9%
33	22%	27	18%	27	18%
30	20%	43	29%	34	23%
43	29%	35	23%	45	30%
149	100%	140	100%	149	100%

Water Dependency

We use the Encore Tool to analyze the water dependencies on both ground water and surface water which are main sources of water withdrawal. This helps us to identify water risks and opportunities for water efficiency improvements, and to plan and implement strategies to ensure water security and sustainability.

Upstream activities:

The polymerization process, our main process, has a low materiality rating. This means it uses little water and doesn't depend on the ecosystem service for production. But we need water from the cooling tower to cool down the reaction.

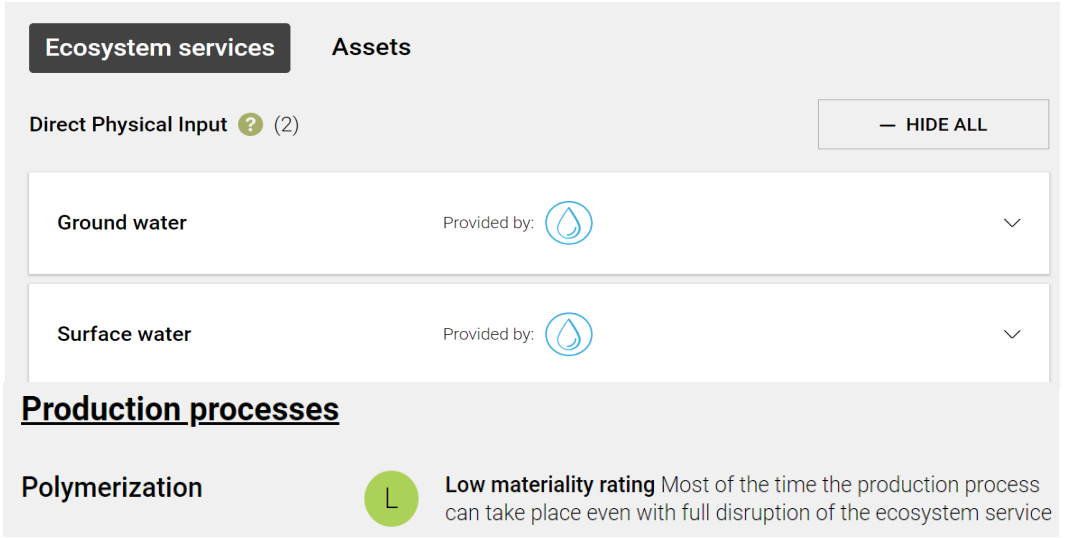
We conserve water by reusing and recycling it and storing it for utility purposes at our sites. But water quality is crucial for cooling systems and should be monitored even when we have enough water.

Downstream activities:

The process is strongly relied on water and must interrupt the whole process if water is not continuously supplied, or water is not of good quality.

- Water is essential for recycling, as we wash flakes twice with water.
- Water is used in fibers production to cool down the yarns after extrusion.

We are aware of the quality issue and have prepared the water treatment plant at sites to purify water for units that are associated with water.



https://encorenature.org/en/explore

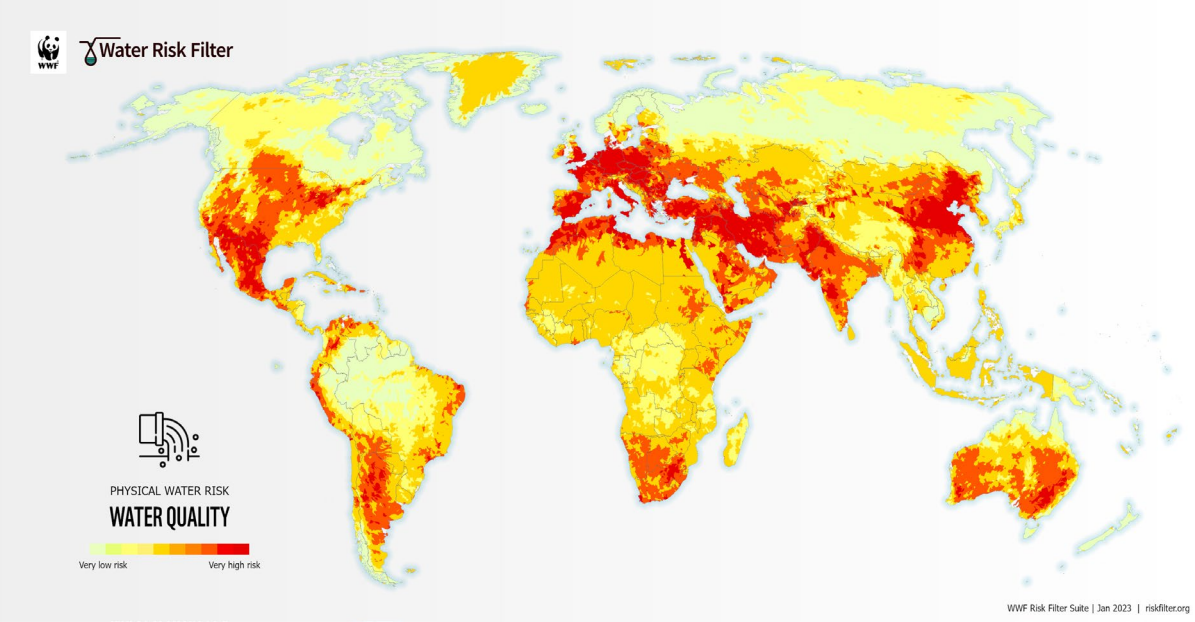
In summary, we found that our water hotspots are in the cooling systems, washing flakes, and extruded yarns. We have systems to reuse, recycle, and store water, and a water treatment plant to purify water for all units.

We also aim to improve our water efficiency and productivity by optimizing our water use and impacts, and by increasing the value added per unit of water consumed or withdrawn.
Currently, we have 5 sites achieved Zero Liquid Discharge.

Water Quality

Water Quality Risk Current trend Scenario 2030

We use the WWF Water Risk Filter to assess the physical water risk - water quality risk in the future [in the year 2020 (baseline)]. This is how water quality risk will look like in a world similar to current socio-economic development trends (SSP2) and intermediate GHG emission levels (RCP4.5 /RCP6.0), a pathway which will lead to an increase of global mean surface temperature of approximately 2°C by the end of the 21st century.



Water Quality Risk in 2030 (Focused on 55 sites in extremely-high- and high-water stress areas)	
Very High Risk	**11 sites** [Americas = 6 / EMEA = 1 / Asia = 4]
High Risk	**17 sites** [Americas = 2 / EMEA = 11 / Asia = 4]
Medium Risk	**14 sites** [Americas = 0 / EMEA = 1 / Asia = 13]
Low Risk	**13 sites** [Americas = 6 / EMEA = 1 / Asia = 6]
Very low Risk	**0 sites** [Americas = 0 / EMEA = 0 / Asia = 0]

Summary

No. of Sites in each level	2023	Regions (2023)
Extremely High	0	
High	3	Asia (3)
Medium High	66	
Medium	66	
Low to Medium	11	
Total	**146***	

*3 sites' data is not available with WRI software

Estimated impacts subject to risk of Loss (Actual no loss)	**Production** Compared to total production	**Water Withdrawal** Compared to total water withdrawal
Extremely High	**-**	**-**
High	**0.17 million tons (1.06%)**	**0.20 million m^3 (0.24%)**

NOTE: Total production in 2023 = 16.03 million tons and Total water withdrawal in 2023 = 83.50 million m^3

In 2023, the effects of drought were nonexistent. However, we continued to monitor and analyze its effects while estimating the expenditures that would be incurred if this scenario were to occur.

Actual 2023 total cost of water = $ 35.50 million in 2023
Estimated production loss = 0.17 million tons (1.06%), subject to risk of Loss (Actual no loss)
Estimated 2023 EBITDA loss from plant shutdowns = at least $ 9.62 million
(Due to water shortages) , subject to risk of Loss (Actual no loss)

Summary

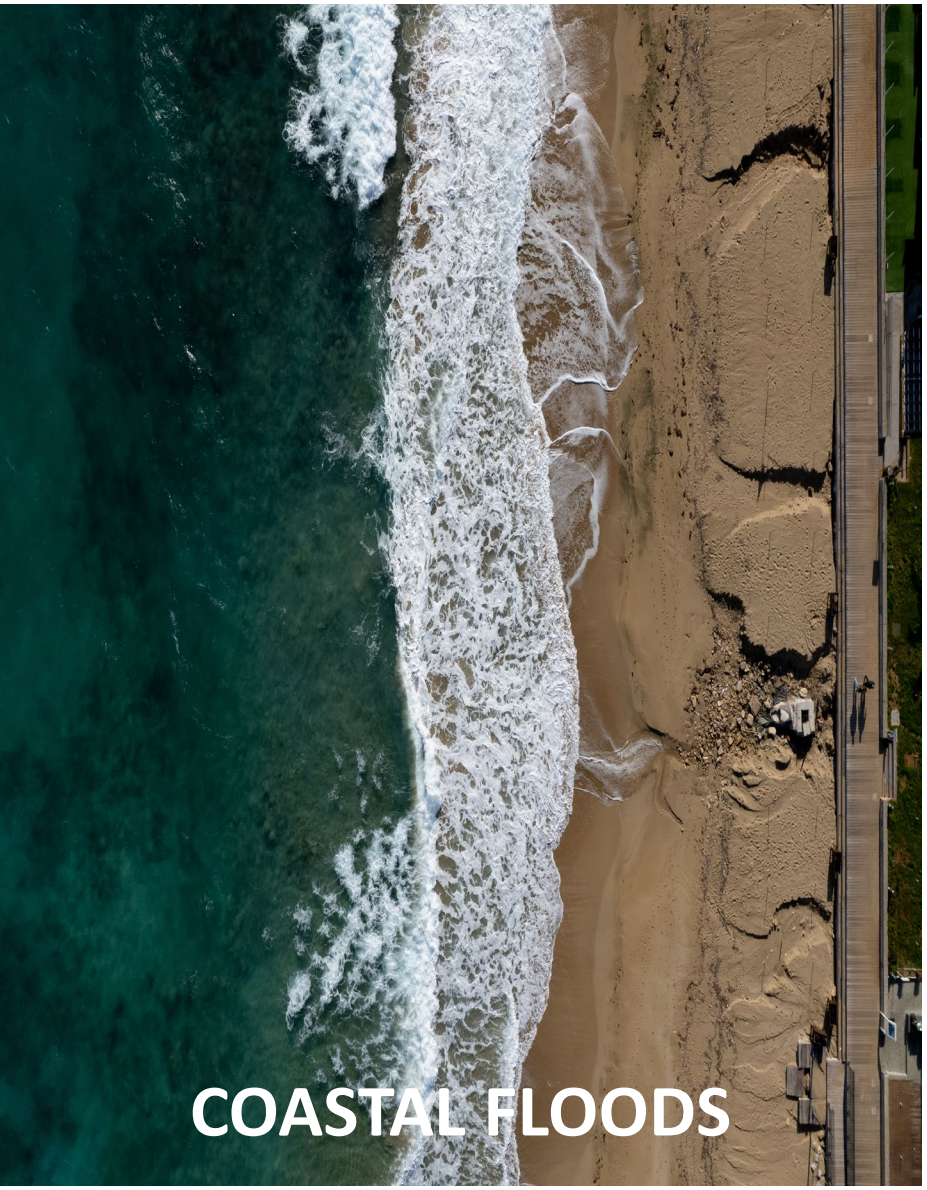
No. of Sites in each level	2023	Regions (2023)
Extremely High	24	Africa (4), The Americas (4), Asia (16)
High	20	Africa (1), The Americas (6), Asia (13)
Medium High	15	
Low to Medium	30	
Low	59	
Total	**149**	

Estimated impacts subject to risk of Loss (Actual no loss)	**Production** Compared to total production
Extremely High	**2.88 million tons (17.98 %)**
High	**1.39 million tons (8.67%)**

NOTE: Total production in 2023 = 16.03 million tons

In 2023, the effects of riverine floods were nonexistent. However, we continued to monitor and analyze its effects while estimating the expenditures that would be incurred if this scenario were to occur.

Estimated 2023 production loss = 4.27 million tons (26.63%) , subject to risk of Loss (Actual no loss)
Estimated 2023 EBITDA loss from plant shutdowns = at least $ 141.47 million
(Due to water shortages) , subject to risk of Loss (Actual no loss)



Summary

No. of Sites in each level	2023	Regions (2023)
Extremely High	10	Asia (8) , EMEA (2)
High	13	EMEA (5), The Americas (3), Asia (5)
Medium High	14	
Low to Medium	19	
Low	93	
Total	**149**	

Estimated impacts subject to risk of Loss (Actual no loss)	**Production** Compared to total production
Extremely High	**1.22 million tons (7.63%)**
High	**3.03 million tons (18.92%)**

NOTE: Total production in 2023 = 16.03 million tons

In 2023, the effects of coastal floods were nonexistent. However, we continued to monitor and analyze its effects while estimating the expenditures that would be incurred if this scenario were to occur.

Estimated 2023 production loss = 4.25 million tons (26.51%), subject to risk of Loss (Actual no loss)
Estimated 2023 EBITDA loss from plant shutdowns = at least $ 240.89 million
(in case there were to water shortages happened)

Summary

Impacts to Indorama Ventures

In 2023, the effects of sea level rise were nonexistent. However, we continued to monitor and analyze its effects while estimating the expenditures that would be incurred if this scenario were to occur.

- Sea level rise would affect to 6 operations on 4 countries.
- This would lead to 1.43 million tons of production loss and at least US$ 41.50 million EBITDA loss from plant shutdowns (calculation based on 2023 EBITDA).

To date, we have not faced any impact on sea level rise.

We continue to monitor this risk and have business continuity plan in place to manage the risk and take actions effectively.

Water-related Business Risks

- **Physical:**
  A business facing physical water-related business risks is ineffective in managing its operations due to a lack of water supplies or services. This can be the result of prolonged water scarcity due to droughts, damage to infrastructure and/or water supply disruptions due to floods, or polluted water that is unfit for operational use.
  Our water-related risk assessment and BCM practices are in place, the impacts are being monitored, and managed effectively. To date, we haven't experienced any impact.

- **Regulatory:**
  Corporate water consumption and management is challenged by regulatory risks that arise from changes in laws, regulations, or management practices. The regulatory changes are bound by issues like water scarcity, sectoral conflict, or a negative public image of the company regarding its business operations.
  We are committed to adhering to the laws and regulations in the locations where we operate, and we are going to keep monitoring regulatory updates. The effects of regulatory changes were nonexistent.

- **Reputational:**
  A business suffers reputational risks from its unethical and harmful activities, such as the water-related impacts on water sources, ecosystems and communities. Such risks diminish the loyalty of stakeholders, reduce the company's brand value, and can result in regulatory concerns over the company's legal and social license to operate.
  We have no water conflicts with stakeholders, and there have been no water-related incidents that have impacted our operations, plant closures, or stakeholders to yet.

Near-term Mitigation Measures

- The risk management committees of plants and business segments regularly monitor potential regulatory changes and evaluate water risks and opportunities by conducting scenario analyses with those changes.

- We undertake natural disaster risk assessment of our plants and sites to determine the risk level and risk mitigations and intervention required, by developing risk assessment standards in collaboration with Environmental, Health & Safety, and Group Insurance.

- We establish ''minimum expectations'' on assessment , preparedness, and response planning including emergency procedure for natural disasters such as hurricanes, winter freeze, and flooding

- We conduct a water sensitivity analysis using the AQUEDUCT Water Risk tool developed by the World Resources Institute to identify water stress locations. This tool helps us evaluate changes in water demand, water supply, risks from stakeholders and changes in regulations based on current and future conditions.

- We evaluate options and the potential to reduce water consumption, increase the recycling and reuse of wastewater, and collecting rainwater to achieve our goal of zero effluent discharge at as many sites as possible, and establish targets at the entity and group level.

- We are committed to sustainable water management (including water withdrawal and discharge) by complying with all applicable environmental laws, international standards, and regulations in the countries where we have operations, and will be proactive in demonstrating our leadership and responsibility in line with our values.

Impact to Stakeholders

We conducted the assessment as part of our commitment to environmental sustainability and social responsibility.

The Aqueduct Water Risk Atlas, a tool developed by the World Resources Institute, ENCORE and WWF Water Risk Filter have been used to ***assess the water-risks for our business. The tools measure water-risks across 13 indicators, such as water stress, drought, flood, groundwater depletion, and water quality.***

Our water-risk assessment showed that our business does not have any water-risks that impact the local stakeholders. Our water-risk score for our locations was low, indicating that we have sufficient and reliable water supply, ***and that we do not contribute to water scarcity or pollution. Our suppliers and customers also had low water-risk scores, meaning that they are not exposed to water-related hazards or conflicts.*** We are confident that our business operations are water-resilient and water-responsible, and that we are not imposing any water-risks on the local community, the ecosystem, or the water resources. ***Our products (chemicals, bottles, fibers) have no water concerns connected in the downstream activities or during use phase, such as contamination in water, and/or water and energy inefficiently consumed.***

In collaboration with the Industrial Estate Authorities (IEA) such as IEA Rayong, Thailand, ***we assess the impacts of water on local stakeholders. Five sites of our operations have been achieved the zero liquid discharge in 2023.***

We will continue to monitor our water-risks and take actions to reduce them to ensure that our business does not pose any significant water-risks to the local community, the ecosystem, or the water resources.

Our Contributions to SDG#6 Clean Water and Sanitation

Indorama Ventures is committed to sustainable water management and ensuring the most efficient water consumption by analyzing global water risk at all our operating sites in addition to implementing the 3Rs (reduce, reuse, recycle).

We also collaborate with the authorities on issuing collective actions on water issues to improve the efficiency of water supply management and avoid potential conflicts with stakeholders.

Additionally, we provide safe drinking water and systems to communities and schools in rural areas.

2023 PERFORMANCE

Target : 6.3.1 Water Consumption and Conservation
1.33% reduction against 2025 target

Target : 6.3.2 Water Quality
Wastewater returned to sources at the acceptable quality and level of local laws and regulations

Target : 6.4.1 Water Use Efficiency
Water intensity = **5.21 m3/ton of production**
6.29% Water reused & recycled

Target : 6.4.2 Water Stress
Water stress assessment is conducted every year
23% of sites are in **extremely high-water** stress area
19% of sites are in **high water** stress area

Target : 6.5.1 Integrated Water Management
US$ 63,000 implemented CAPEX **in water consumption reduction projects**
5 sites have achieved Zero Liquid Discharge

Target : 6.5.2 Transboundary Cooperation
Ocean Clean Sweep project

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Thank you