

Growing Responsibly



→ F.E. Indorama Kokand Textile JSC, Uzbekistan



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Assurance Statement

Business

Scope and Boundary

Operational entities under Indorama Corporation

Sr. No.	Company Name	Business	Country
Asia			
1	Indorama Corporation Pte. Ltd.	Corporate	Singapore
2	PT. Indo-Rama Synthetics Tbk	Fiber, PET, Spun Yarn, Weaving, Polyester	Indonesia
3	PT. Medisafe Technologies	Medical Gloves	Indonesia
4	YTY Industry Holdings Sdn. Bhd.	Medical Gloves	Malaysia
5	Indorama India Private Limited*	Fertilizers & Spandex Yarn	India
6	F.E. Indorama Agro LLC	Cotton Fibers	Uzbekistan
7	F.E. Indorama Kokand Textile JSC	Spun Yarn	Uzbekistan
8	JSC Indorama Kokand Fertilizers & Chemicals	Fertilizers	Uzbekistan
Europe			
9	Indorama Iplik San. Ve.Tic. A.S.	Spun Yarn	Turkey
Africa			
10	Indorama Eleme Petrochemicals Limited	Polyolefins	Nigeria
11	Indorama Eleme Fertilizer & Chemicals Limited	Fertilizers	Nigeria
12	Industries Chimiques Du Senegal	Fertilizers	Senegal
South America			
13	Adufertil Fertilizantes Ltda*	Fertilizers	Brazil
14	Adfert*	Fertilizers	Brazil

* Adufertil Fertilizantes Ltda, Brazil, was acquired in September 2021 and hence not included in reporting boundary for 2021. IndoGulf Fertilizers, Jagdishpur, India and Adfert, Brazil were acquired in 2022.



Material Topics

Area	Material Topics	Subtopics
Environment 	Energy and climate change	GHG emissions and climate adaption Energy management
	Green manufacturing	Solid waste management Effluents management Plastic waste Pollution prevention
	Biodiversity and land-use	Biodiversity and land-use
	Water resources	Water management
Social 	Safety	Occupational health and safety
	Human capital and diversity	Employee well-being Talent attraction and retention Gender inclusion
	Human rights and labour	Human rights Labour practices
	Community development	Community relations
Governance 	Ethics and integrity	Ethics Tax transparency Grievance redressal
	Product stewardship	Product stewardship
	Risk management	Risk management
	Digitalization and cybersecurity	Innovation and technology Data privacy

Production

GRI Standards	Production (tonne)	2021
General	Total Production	4,699,279
	Fertilizers	3,755,410
	Polymers	447,029
	Fibers & Yarns	403,066
	Medical Gloves	63,453
	Rotational Crops	30,321

Environment

Energy

GRI Standards	Energy	2021
Total fuel consumption within the organization from non-renewable sources (GJ)		
302-1	Total non-renewable energy consumption	61,440,801
	• Coal	9,429,697
	• Fuel oil	166,120
	• Natural gas	25,053,580
	• LPG	2,478
	• Diesel	1,195,551
	• Gasoline	23,850
	• Fuel gas	9,785,454
	• Electricity purchased from grid	15,784,070
Total fuel consumption within the organization from renewable sources (GJ)		
302-1	Total renewable energy consumption	2,549,501
	• Biomass	1,899,719
	• Renewable electricity generated and consumed	649,781
Energy Intensity (GJ/tonne production)		
302-3	Energy intensity	13.62

Emissions

GRI Standards	Emissions	2021
Emissions (tCO₂e)		
305-1	Direct (Scope 1) GHG emissions	2,920,216
305-2	Energy indirect (Scope 2) GHG emissions	945,316
	Total GHG emissions (Scope 1 + Scope 2)	3,865,532
GHG Emissions Intensity (tCO₂e/tonne production)		
305-4	Scope 1 GHG intensity	0.62
	Scope 2 GHG intensity	0.20
	Scope 1 + Scope 2 GHG intensity	0.82

Water

GRI Standards	Water	2021
Water withdrawal and consumption (million m³)		
303-5	Total Water withdrawn/consumption from all areas	343.3
	• Surface water	292.3
	• Groundwater	42.1
	• Sea water	0.0
	• Produced water	0.0
	• Third party water	8.9
	• Rainwater	0.0
Water Intensity (m³/tonne production)		
303-5	Water intensity	73.06
Water withdrawal (million m³)		
303-3	Total Water withdrawn from all areas	343.3
	• Total Fresh Water (≤1,000 mg/L TDS)	61.2
	• Total Other Water (>1,000 mg/L TDS)	282.1
	Surface water	292.3
	• Fresh Water (≤1,000 mg/L TDS)	10.1
	• Other Water (>1,000 mg/L TDS)	282.1
	Ground water	42.1
	• Fresh Water (≤1,000 mg/L TDS)	42.1
	• Other Water (>1,000 mg/L TDS)	0.0
	Sea water	0.0
	• Other Water (>1,000 mg/L TDS)	0.0
	Produced Water	0.0
	• Fresh Water (≤1,000 mg/L TDS)	0.0
	• Other Water (>1,000 mg/L TDS)	0.0
	Third Party	8.9
	• Fresh Water (≤1,000 mg/L TDS)	8.9
	• Other Water (>1,000 mg/L TDS)	0.0
	Rainwater collected & stored	0.0
	• Fresh Water (≤1,000 mg/L TDS)	0.0
	• Other Water (>1,000 mg/L TDS)	0.0

Environment

GRI Standards	Water	2021
Water discharge (million m³)		
303-4	Total water discharge by destination	17.9
	• Surface water	16.1
	• Ground water	1.7
	• Sea water	0.1
	• Third Party water	0.0
	Total water discharge to all areas by type	16.1
	• Fresh Water	3.6
	• Other Water	12.5
	Total water discharge to all areas with water stress	0.0
	• Fresh Water	0.0
	• Other Water	0.0
	Water discharge by level of treatment	17.9
	• No Treatment	3.1
	• Primary	0.4
	• Secondary	12.3
	• Tertiary	2.1

Waste

GRI Standards	Waste	2021
Waste Generated (tonne)		
306-3	Total waste composition	89,753
	• Hazardous Waste	45,809
	• Non-Hazardous Waste	43,944
Water Intensity (tonne/tonne production)		
306-3	Waste Intensity	0.02
Waste Diverted from Disposal (tonne)		
306-4	Total hazardous waste diverted from disposal	36,939
	• Reuse	36,576
	• Recycling	53
	• Other recovery operations	311
	Total non-hazardous waste diverted from disposal	31,726
	• Reuse	15,121
	• Recycling	12,649
	• Other recovery operations	3,955
Waste Directed to Disposal (tonne)		
306-5	Total hazardous waste directed to disposal	8,870
	• Incineration (with energy recovery)	0
	• Incineration (without energy recovery)	0
	• Landfilling	1,177
	• Other disposal operations	7,692
	Total non-hazardous waste directed to disposal	12,218
	• Incineration (with energy recovery)	0.01
	• Incineration (without energy recovery)	0.01
	• Landfilling	10,208
	• Other disposal operations	2,010

Social

Human Resources

GRI Standards	Human Resources	2021
Employees (Person)		
GRI2-7a	Total employees by gender	19,153
	Male	13,597
	Female	5,556
GRI2-7b	Total Permanent employees	17,884
	Male	12,537
	Female	5,347
	Total Temporary employees	1,269
	Male	1,060
	Female	209
405-1	Total employees by Level*	18,494
	Senior Management (G1)	204
	Male	203
	Female	1
	Middle Management (G2)	773
	Male	683
	Female	90
	Junior Management (G3)	1,870
	Male	1,416
	Female	454
	Non Management (G4)	15,647
	Male	10,860
	Female	4,787
	Total employees by Age*	17,366
	Male	12,136
	Female	5,230
	Over 50 years old	2,464
Male	2,249	
Female	215	
30-50 years old	9,234	
Male	6,580	
Female	2,654	
Below 30 years old	5,668	
Male	3,307	
Female	2,361	

GRI Standards	Human Resources	2021
New employee hires* (Person)		
401-1	Total employees hired*	4,390
	Male	2,484
	Female	1,906
	Over 50 years old	238
	Male	210
	Female	28
	30-50 years old	1,629
	Male	1,031
	Female	598
	Below 30 years old	2,523
Male	1,243	
Female	1,280	
Employees Turnover* (Person)		
401-1	Total Employees Leaving*	4,120
	Male	2,620
	Female	1,500
	Over 50 years old	481
	Male	356
	Female	125
	30-50 years old	1,609
	Male	1,135
	Female	474
	Below 30 years old	2,030
Male	1,129	
Female	901	

Social

GRI Standards	Human Resources	2021
Parental Leave* (Person)		
401-3	No of employees entitled to parental leaves	6,204
	Male	3,944
	Female	2,260
	No of employees who took parental leave	485
	Male	132
	Female	353
	Number of employees who returned to work after taking parental leave	431
	Male	132
	Female	299
	Retention to work (after parental leave and still employed for the next 12 months)	408
	Male	128
	Female	280
	No of employees who returned after availing parental leave in previous reporting period	425
	Male	134
	Female	291
	Return to work Rate	89%
	Retention Rate	96%
Employees training*		
404-1	Total training hours provided to employee (Hours)	69,713
	Male	55,183
	Female	14,529
	Total average training hours (Hours/Employee)	3.9
	Male	53.1
	Female	2.7
Performance Review*		
404-3	Total employees receiving regular performance reviews (Person)	15,355
	Male	10,456
	Female	4,899
	Percentage of employees receiving regular performance reviews (No. of Employees receiving review/total no. of employees)	86%
	Male	84%
	Female	92%

* Does not include temporary employee. Temporary employee is an employee with a contract for a limited period (i.e., fixed term contract) that ends when the specific time period expires, or when the specific task or event that has an attached time estimate is completed (e.g., the end of a project or return of replaced employees).

Occupational Health and Safety

GRI Standards	Employee	2021
Employee (Person)		
GRI2-7a	Total employees	19,153
	Male	13,597
	Female	5,556
GRI2-8	Total Contractor's employees	9,293
	Male	7,758
	Female	1,536
Worker training on occupational health and safety (Numbers)		
403-5	Safety Training Programs conducted	1,392
	Permanent Employees trained	7,161
	Temporary Employee trained	3,768
	Contractor workers trained	2,840
Worker training on occupational health and safety (Hours)		
403-5	Training Hours Employee	58,360
	Training Hours Temporary Employee	774
	Training Hours Contractor persons	28,836
	Average Training hours per employee	3.3
	Average Training hours per Temporary employee	0.6
	Average Training hours per contractor worker	3.1
Workers covered by an occupational health and safety management system		
Coverage of Occupational health and safety management system (Person)		
403-8	Employees	18,813
	Workers (who are not employees)	9,293
Coverage of Occupational health and safety management system which has been internally audited (Person)		
403-8	Employees	15,171
	Workers (who are not employees)	6,163
Coverage of Occupational health and safety management system which has been externally audited (Person)		
403-8	Employees	14,526
	Workers (who are not employees)	5,266
Work - related injuries (Person)		
403-9	Total Fatalities as a result of work-related injury	0
	Employees	0
	Workers	0
	Total High-consequence work-related injuries (excluding fatalities)	3
	Employees	3
	Workers	0

Social

GRI Standards	Employee	2021
Work - related injuries (Cases)		
403-9	Total Recordable Injuries (not including first aid incidents)	67
	Employee	60
	• Male	26
	• Female	34
	Contractor	7
	• Male	6
	• Female	1
Work - related injuries (Cases)		
403-9	Fatalities as a result of work-related injury	0
	Employees	0
	Workers	0
	High-consequence work-related injuries (excluding fatalities)	0.05
	Employees	0.07
	Workers	0.0
	Total Recordable Injury Rate (TRIR)	1.03
	Employee	1.39
	• Male	0.84
	• Female	2.79
403-9	Contractor	0.32
	• Male	0.34
	• Female	0.27
	Total Lost Time Injuries	35
	Employee	33
	• Male	19
	• Female	14
	Contractor	2
	• Male	2
	• Female	0
	Lost Time Injury Frequency Rate (LTIFR)	0.54
	Employee	0.76
	• Male	0.61
	• Female	1.15
	Contractor	0.09
	• Male	0.11
	• Female	0.00
Work - related ill health (Person)		
403-10	Fatalities as a result of work-related ill health	0
	Employees	0
	Workers	0
Work - related ill health (Cases)		
403-10	Recordable work-related ill health	0
	Employees	0
	Workers	0

Governance

Indorama Corporation Governance Board

Diversity in Governance Body (Board of Directors)

GRI Standards	Age Group	<50 years	50-60 years	>60 years
405-1	Number of members	1	1	4

Number of Directors under Executive, Non-Executive and Independent Directors

GRI Standards	Executive	Non-Executive and Independent Directors
405-1	5	1

Tenure of Board of Directors

GRI Standards	Tenure	<5 years	5-10 years	>10 years
405-1		0	1	5

Note: IRC – Please note that 1/3 of the directors retire by rotation at the Annual General Meeting with the option to be re-elected, pursuant to the Constitution of IRC.



Assurance Statement

To the Directors and Management
 Indorama Corporation Pte. Ltd.,
 143 Cecil Street, #14-00 GB Building,
 Singapore –069542

Indorama Corporation Pte. Ltd. (hereafter IRC') commissioned TUV India Private Limited (TUVI) to conduct independent external assurance of non-financial information disclosed in IRC's First Annual Sustainability Report (hereinafter 'the Report') for the period January 01, 2021 to December 31, 2021 period. This engagement comprises a "limited assurance" of IRC's sustainability information for the applied reporting period. The Report is based on the principles of GRI Standards 2021. This assurance engagement was conducted in accordance with ISAE 3000 (revised).

Management's Responsibility

IRC has developed the Report content by monitoring the performance data. Its Management is responsible for identifying material topics and carrying out the collection, analysis, and disclosure of the information presented in web-based and printed Reports, including website maintenance and integrity. IRC's Management is also responsible for ensuring the quality and accuracy of the Report in accordance with the applied criteria stated in GRI standards in such a way that it is free of intended or unintended material misstatements.

Scope and Boundary

The scope of work includes limited assurance of the following non-financial disclosures stated in the Report. In particular, the assurance engagement included the following:

- Review of the disclosures submitted by IRC;
- Review of the quality of information;
- Review of evidence (on sample basis) for identified non-financial indicators

TUVI has verified the below-mentioned disclosures given in the report.

Topic	Indicator	GRI Disclosure
Energy	Energy consumption within the organization	302-1
	Energy intensity	302-3
Water and effluents	Water withdrawal	303-3
Emissions	Direct (Scope 1) GHG emissions*	305-1
	Energy indirect (Scope 2) GHG emissions	305-2
Waste	Waste generated	306-3
	Waste diverted from disposal	306-4
	Waste directed to disposal	306-5
Occupational health and safety	Work-related injuries	403-9
Training and education	Average hours of training per year per employee	404-1

* All GHG sources under Scope -1 emissions are not calculated example fugitive emissions from refrigerant, refill of fire extinguishers, LPG consumption in canteen, emissions on account of use of fertilizers

The reporting boundaries for the above topics include 30 manufacturing plants across 8 countries. Onsite Assessment was performed for Indorama India Private Limited, Spandex Division, Baddi (IIB) 18th -19th October 2022 followed by remote verification (via Skype, web-based video conference calls, and telephone calls) for

- F.E. Indorama Agro LLC, Uzbekistan - 01– 02 November 2022



- Indorama Petrochemicals Limited, Nigeria (IPL) 13 -14 October 2022
- PT. Medisafe Technologies, Indonesia - 20 – 21 October 2022
- PT. Indo-Rama Synthetics Tbk, Indonesia - 23-25 August 2022
- Indorama Eleme Fertilizer & Chemicals Limited, Nigeria - 10 -12 August 2022
- Industries Chimiques Du Senegal, Senegal - 15-16 August 2022
- Indorama India Private Limited, Fertilizer Division, Haldia, India - 8-10 August 2022

The assurance activities were done together with a desk review carried out for all other IRC sites within the reporting boundary. Applicable boundaries for disclosures are explained in the Report.

Limitations

TUVI did not perform any assurance procedures on the prospective information, such as targets, expectations, and ambitions, disclosed in the Report. Consequently, TUVI draws no conclusion on the prospective information. During the assurance process, TUVI did not come across any limitation to the agreed scope of the assurance engagement. TUVI expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this Assurance Statement.

Our Responsibility

TUVI's responsibility in relation to this engagement was to perform a limited level of assurance and to express a conclusion based on the work performed. This engagement did not include an assessment of the adequacy or the effectiveness of IRC's strategy or Management of sustainability-related issues or the sufficiency of the report against GRI Standards, and ISAE 3000 (revised). TUVI's responsibility regarding this verification is in accordance with the agreed scope of work which includes non-financial quantitative and qualitative information disclosed by IRC. This assurance engagement is based on the assumption that the data and information provided to us by IRC are complete and true.

Verification Methodology

During the assurance engagement, TUVI adopted a risk-based approach, focusing on verification efforts with respect to disclosures. TUVI has verified the disclosures and assessed the robustness of the underlying data management system, information flows, and controls. In doing so:

- TUVI examined and reviewed the documents, data, and other information made available by IRC for non-financial disclosures;
- TUVI conducted interviews with key representatives, including data owners and decision-makers from different functions of IRC;
- TUVI reviewed the level of adherence to principles of GRI standards.
- TUVI examined and reviewed the documents, data (on sample basis) and other information made available by IRC for the reported disclosures including the Management Approach and performance disclosure;

Opportunities for Improvement

During the assurance engagement, TUVI adopted a risk-based approach, focusing on verification efforts with respect to disclosures. TUVI has verified the disclosures and assessed the robustness of the underlying data management system, information flows, and controls. In doing so:

- Internal carbon pricing can be fixed and utilized as instrument to appraise the renewable and less GHG intensive projects
- IRC may strengthen internal audit of sustainability performance data
- IRC may publically commit its targets example- water neutrality, zero liquid discharge, zero waste to landfill, RE 100, net zero and similar as applicable to organization
- IRC can develop dedicated manuals supported with dashboards for the monitoring of the sustainability data against the established targets
- Scope 3 emissions as per ISO 14064 could be maintained & published for futuristic disclosure. GHG, water, waste, and other applicable impacts due to the colonies can be considered in upcoming reporting
- IRC can opt for Annual GHG verification as per ISO 14064 standard



Our Conclusion

In our opinion, based on the scope of this assurance engagement, the disclosures on Sustainability performance reported in the Report along with the referenced information provides a fair representation of the material topics, related strategies, and performance disclosures and meets the general content and quality requirements of the GRI Standards.

Disclosures: TUVI is of the opinion that the reported disclosures generally meet the GRI Standards reporting requirements. IRC refers to general disclosure to report contextual information about IRC, while the Management Approach is discussed to report the management approach for each material topic.

Universal Standard: IRC followed GRI 101: Reporting Principles for defining report content and quality, GRI 102: General Disclosures were followed when reporting information about an Organization's profile, strategy, ethics and integrity, governance, stakeholder engagement practices, and reporting process. Furthermore, GRI 103 was selected for Management's Approach on reporting information about how an organization manages a material topic. TUVI is of the opinion that the reported specific disclosures for each material topic generally meet the GRI Standards reporting requirements.

Topic Specific Standard: 200 series (Economic topics), 300 series (Environmental topics), and 400 series (Social topics); These Topic-specific Standards were used to report information on the organization's impacts related to environmental and social topics. *TUVI is of the opinion that the reported material topics and Topic-specific Standards that IRC used to prepare its Report are appropriately identified and addressed.*

Limited Assurance Conclusion: Based on the procedures we have performed, nothing has come to our attention that causes us to believe that the information subject to the limited assurance engagement was not prepared in all material respects. TUVI found the sustainability information to be reliable in all material respects, with regards to the reporting criteria of the GRI Standards.

This assurance statement has been prepared in accordance with the terms of our engagement. In accordance to the ISAE 3000 (revised) requirements

Independence:

TUVI follows IESBA (International Ethics Standards Board for Accountants) Code which, adopts a threats and safeguards approach to independence. It is confirmed that the Assurance Team is selected to avoid situations of self-interest, self-review, advocacy and familiarity. The Assessment Team was safeguarded from any type of intimidation.

Quality control:

The Assurance Team complies with the Code of Ethics for Professional Accountants issued by the IESBA, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. In accordance with International Standard on Quality Control, TUVI maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

In the context of Assurance, the following contemporary principles has been observed:

Evaluation of the adherence to other contemporary Principles

Inclusivity: Stakeholder identification and engagement is carried out by IRC on a periodic basis to bring out key stakeholder concerns as material topics of significant stakeholders. In our view, the Report meets the requirements.

Materiality: The materiality assessment process has been carried out based on the requirements of the GRI Standards, considering topics that are internal and external to the IRC range of businesses. The Report fairly brings out the aspects and topics and their respective boundaries of the diverse operations of IRC. In our view, the Report meets the requirements.

Responsiveness: TUVI believes that the responses to the material aspects are fairly articulated in the report, i.e., disclosures on IRC policies and management systems, including governance. In our view, the Report meets the requirements.

Impact: IRC communicates its sustainability performance through regular, transparent internal and external reporting throughout the year, aligned with GRI, and its policy framework encompassing the Environmental, Social, Ethical and other policies. IRC reports on sustainability performance to the Top Management, who oversees and monitors the implementation and performance of objectives, as well as progress against goals and targets for addressing sustainability-related issues.

TUVI expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on this Assurance Statement. The intended users of this assurance statement are the Management of IRC. The Management of the IRC is responsible for the information provided in the Report as well as the process of collecting, analyzing, and reporting the information presented in web-based and printed Reports, including website maintenance and its integrity. TUVI's responsibility regarding this verification is in accordance with the agreed scope of work which includes non-financial quantitative and qualitative information (Sustainability Performance) disclosed by IRC in the Report. This assurance engagement is based on the assumption that the data and the information provided to TUVI by IRC are complete and true.

Our Assurance Team and Independence

TUVI is an independent, neutral third party providing sustainability services with qualified environmental and social specialists. TUVI states its independence and impartiality and confirms that there is "No Conflict of Interest" with regard to this assurance engagement. In the reporting year, TUVI did not work with IRC on any engagement that could compromise the independence or impartiality of our findings, conclusions, and recommendations. TUVI was not involved in the preparation of any content or data included in the Report, with the exception of this Assurance Statement. TUVI maintains complete impartiality towards any individuals interviewed during the assurance engagement.

For and on behalf of TUV India Private Limited

Manojkumar Borekar
Project Manager and Reviewer
Head – Sustainability Assurance Service



Date: 21-11-2022
Place: Mumbai, India

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