

# Indorama Ventures PCL Sustainability-Linked Finance Framework

December 2021

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# Company Background

Indorama Ventures Public Company Limited ( “IVL” or the “Company” ) is a world-class chemicals company with a global integrated leader status in PET and fibers serving major customers in diversified end-use markets. IVL commenced business operations in 1994 with the incorporation of Indorama Holdings Ltd., which was the first worsted wool yarn producer in Thailand.

At the end of 2020, we had 123 operating sites in 6 continents to serve our customers in various applications and end markets in 3 key business segments: Integrated Oxide Derivatives (IOD), Combined PET and Fibers. Additionally, with a total of 15 recycling facilities worldwide, we are a global leader in recycling and Europe's largest PET recycler. PET offers important advantages to the circular economy due to its energy-efficiency, 100% recyclability and high degree of resource-energy that can be recaptured through recycling.

Underpinned by a clear strategy and visionary leadership, we deliver strong profits year-on-year, continue to improve our production efficiency and demonstrate our commitment to our workforce and the environment.

The diversity of our end-use markets and our strong supply chains enables us to remain versatile and robust in difficult times. In addition to our leading management, and the delivery and sustainability of our own operations, we continue to promote and support sustainability initiatives across our value chain. This means increasing our use of renewable energy, managing our environmental impacts, adhering to the principles of World-Class Manufacturing and meeting ambitious targets in PET recycling.



# Sustainability Strategy

Our Sustainability Strategy focuses on the three core elements necessary to meet our 2025 targets – protecting the environment through responsible operations, empowering our people and transferring value to our stakeholders, and driving economic prosperity ethically and innovatively

## Environment – Responsible Operations

Our operations and products are focused on being environmentally friendly, contributing to the circular economy, minimizing resource consumption and reducing emissions to fight climate change, and contributing to the circular economy.

## Social – Empowerment Culture

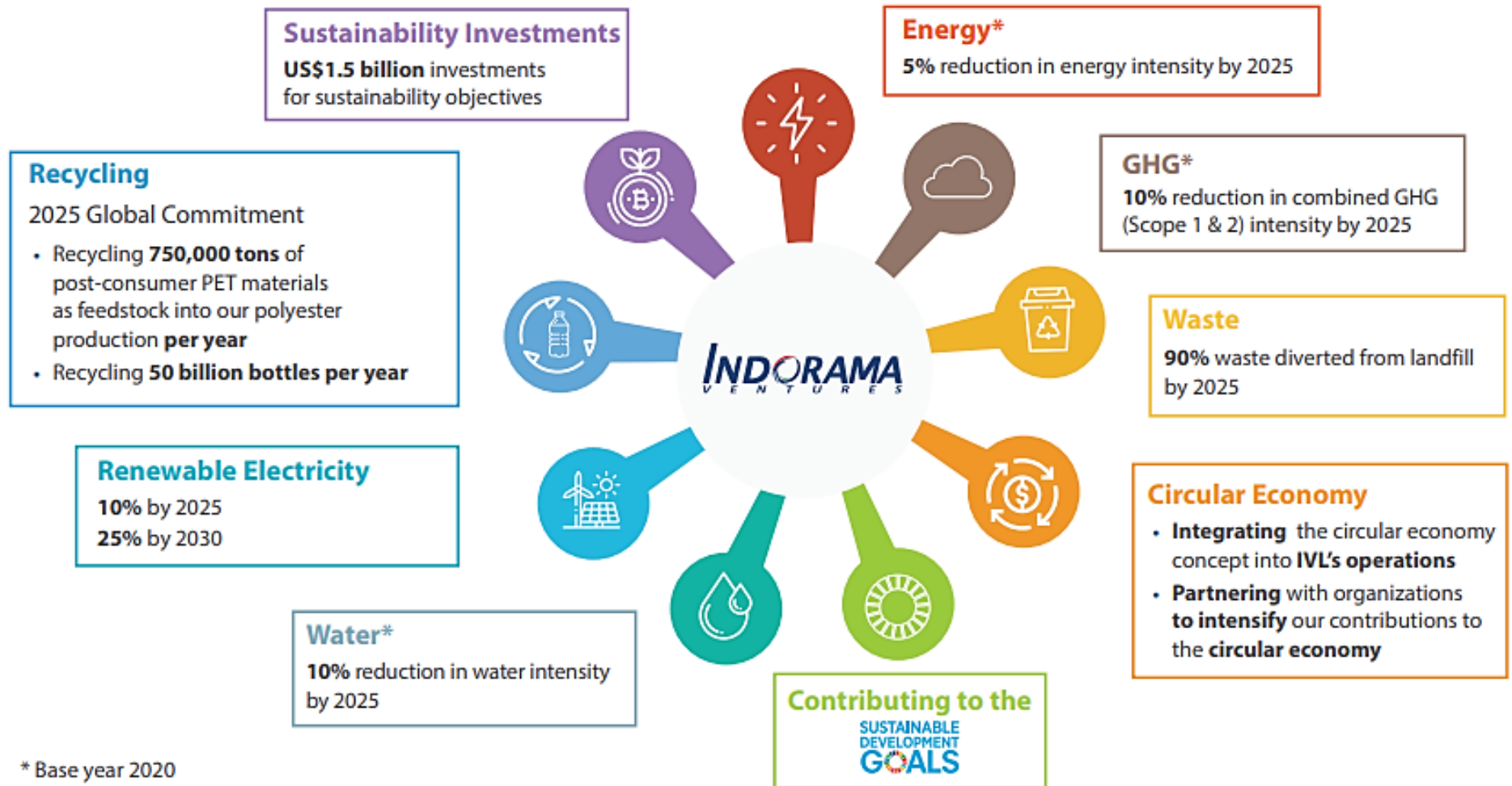
Our respect for human rights, engagement and investments in capacity building, and creating shared value for our stakeholders demonstrates our commitment to achieving long-term success.

## Governance – Business Potential

Our business is based on our integrity and ethical principles, driving customer experiences through our innovative products and moving forward in meeting societal needs for sustainable growth and leadership



# Sustainability Targets





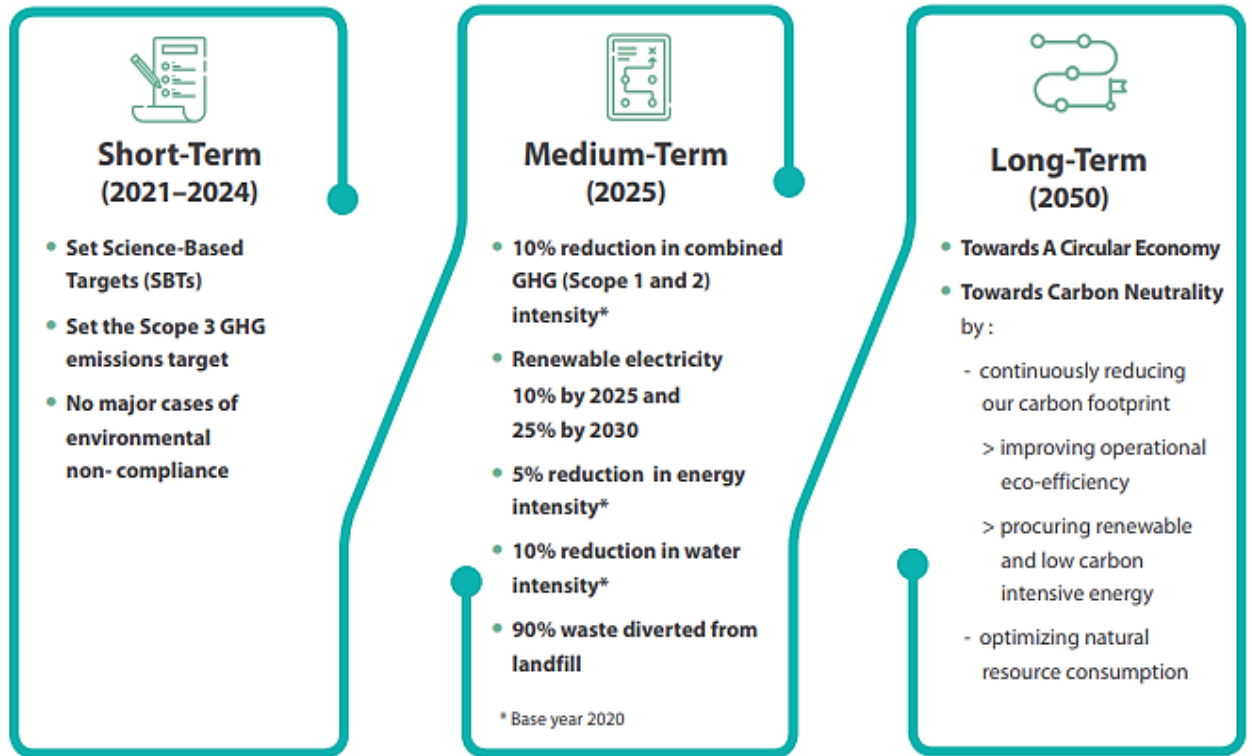
# Climate Change

Climate change is one of the biggest challenges we face. As a business, IVL has a vital role to play. We recognize these risks and are committed to taking action. Our Climate Strategy 2025 focuses on better use of natural resources, support for the circular economy, climate change resilience and efficiencies across processes and operations.

IVL is a [supporter of the TCFD<sup>1</sup> recommendations](#) and has implemented core elements of recommended climate-related financial disclosures. Our annual [TCFD report](#) outlines our climate governance risk management structures and the results of our risk assessments. We have considered the IEA 450 scenario for financial analysis and conducted stress-testing to anticipate the impacts on production, EBITDA, and revenue as part of our risk management process.

We see the circular economy as an important instrument in combating climate change and an opportunity to strengthen our recycling business globally.

We expect to link our targets directly to climate science by working towards Science Based Targets (SBT). We plan to initiate SBTs in 2021-2022 as part of our Sustainability and Climate Strategy.

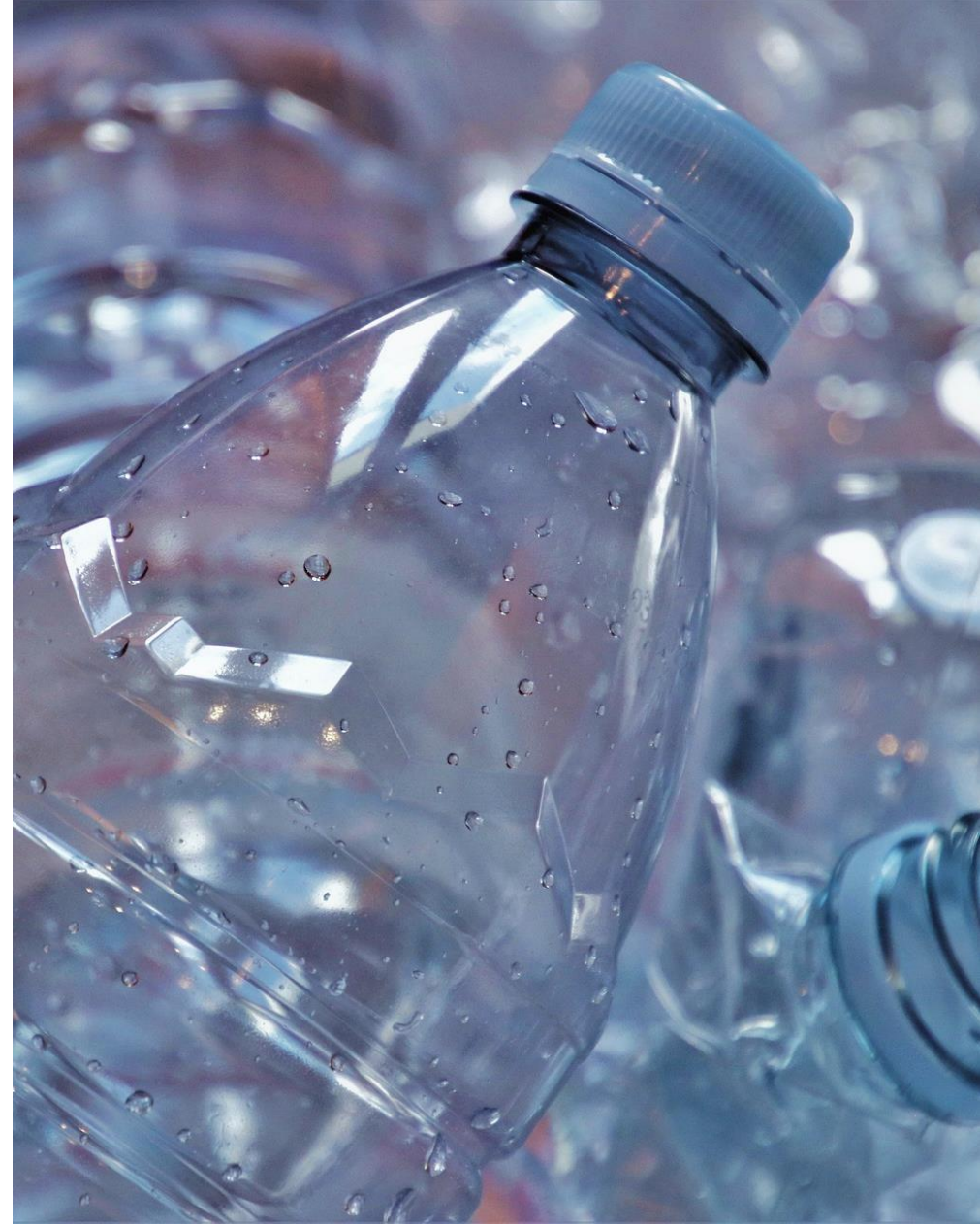


# Recycling

Recycled PET (rPET) has significant environmental advantages over virgin PET both in terms of lower lifecycle carbon emissions and in addressing plastic pollution. Our recycling strategy is focused on strengthening our capability to increase recycling rates globally, contributing to a circular economy, and ensuring a fully closed loop. We will build on our leadership position as the largest virgin PET producer and remain a leader in rPET.

We are increasing our investments in recycling plants and committed **US\$1.5 billion** towards sustainability objectives, encouraging the end-use of recycled PET and delivering a circular economy for beverage packaging. We have committed to increasing rPET capacity and are working with several industry partners to achieve a circular economy for sustainable plastics. We have acquired proprietary knowledge of mechanical recycling and developed partnerships with innovative players to develop and test next-generation chemical recycling technologies.

We have acquired proprietary knowledge of mechanical recycling and developed partnerships with innovative players to develop and test next-generation chemical recycling technologies. IVL currently has 15 recycling plants worldwide, with 4 acquisitions/JVs in 2020: IVSSF (USA), IVSSB (Brazil), IMP Polowat (Poland), and a greenfield PETValue JV (Philippines).



# SDGs



With a strong focus on creating value for the 3Ps - People, Planet and Prosperity, we continue to support and contribute to the UN SDGs.

## Recycling and Circular Economy

3 8 9 11 12 13 14 15 17

Bringing customers into the product value chain cycle and developing ways to support the circular economy.



Recycling Commitment



Industry Partnerships



Recycling Education

## Climate Change and Energy

7 9 11 12 13 14 17

Being fully aligned with global initiatives that develop strong low-carbon strategies.



Renewable Energy



Science-Based Target (SBTs)



GHG Reduction & Energy Efficiency

## Environmental Stewardship

3 6 7 9 12 13 14 15 17

Improving resource efficiencies and ensuring that our production is environmentally-friendly.



Water Stress Analysis



Waste Diverted from Landfill



Plastic Bottle Collection

## Health, Safety and Well-being

3 4 5 8 12 14 15

Guaranteeing that health and safety are at the forefront of our activities.



Safe Workplace



Human Rights Protection



Process Safety

## CSR and Collaborations

3 4 6 8 11 12 14 15 17

Making Recycling Education a global program and collaborating to have further positive impacts on society.



Knowledge



Environment



Well-being



# Sustainable Finance

Sustainable finance represents a significant opportunity for IVL, with many multinational lenders and asset managers becoming signatories to the United Nations Principles for Responsible Investment (UNPRI)<sup>1</sup> and United Nations Principles for Responsible Banking (UNPRB)<sup>2</sup>. Financial institutions are integrating ESG into the investment process. IVL is a global leader on ESG integration and was able to secure US\$1 billion in sustainable financing as of the end of 2020, which includes:

1. [Thailand's first green loan](#) from Japan's Mizuho Bank for both USD 200m and EUR 200m linked to IVL's ESG rating
2. [A syndicated ESG loan for USD 255m](#) arranged by Mizuho Bank linked to IVL's ESG rating
3. [A blue loan for USD 300m](#) for use in increasing recycling in developing countries, arranged by the International Finance Corporation (IFC). Sources of funds are as follows:
  - **International Finance Corporation (IFC):** USD 150m
  - **Asian Development Bank (ADB):** USD 100m
  - **Deutsche Investitions-und Entwicklungsgesellschaft (DEG):** USD 50m





# SLF Framework

This Sustainability-Linked Finance Framework (the **“Framework”** ) has been developed to be aligned with the Sustainability-Linked Bond Principles (SLBP) <sup>1</sup> in June 2020, established by the International Capital Markets Association (ICMA), and the Sustainability-Linked Loan Principles (SLLP) <sup>2</sup> in May 2021, as published by the Loan Market Association (LMA). IVL may under this Sustainability-Linked Finance Framework issue different securities or instruments including bonds, loans, or any other debt instruments whose financial characteristics are linked with sustainability performance targets. The five core pillars of the SLBP are:

- **Pillar 1:** Selection of Key Performance Indicators (KPIs)
- **Pillar 2:** Calibration of Sustainability Performance Targets (SPTs)
- **Pillar 3:** Financial characteristics
- **Pillar 4:** Reporting
- **Pillar 5:** Verification

The proceeds of instruments raised using this Framework are intended to be used for general purposes. Prior to issuing bonds, loans, or any other debt instruments whose financial characteristics are linked with Sustainability Performance Targets ( **“SPTs”** ) that are based on this Framework, IVL will select at least one of the following SPTs, which are core, relevant, and material to IVL's business and measure progress against IVL's sustainability commitments.



# KPI Selection

KPI	Definition	Rationale for selection
<p><b>KPI 1:</b> Scope 1 and 2 GHG emissions intensity</p> <p><b>SPT 1:</b> Reduce IVL GHG emissions intensity by 10% by 2025 from a 2020 base year</p> <p>SDG 13 - Climate action</p>	<p>IVL Scope 1 and market-based Scope 2 GHG emissions (measured in tons of carbon dioxide equivalent), divided by total annual production (measured in tons) inclusive of intra-company sales. Scope 1 and Scope 2 market-based emissions are reported by IVL as per the GHG Protocol Corporate Standard<sup>1</sup>.</p> <p>Geographical scope: global IVL operations</p>	<p>The chemical sector supplies a broad range of products that serve a range of markets and industries. The chemical sector is a large energy user and GHG emitter, and faces risks associated with climate change and other sustainability issues. It is linked across entire value chains across almost all other industries, and is a key enabler of the low-carbon economy. GHG emissions are considered material both according to the SASB materiality framework<sup>2</sup> and our own materiality assessments.</p> <p>GHG emissions from IVL operations are primarily related to the fuel and power that the Company uses. IVL is actively working to reduce our carbon footprint across the value chain to improve our resource productivity. IVL has therefore been committed to reducing greenhouse gas emissions from its operations to and to find pathways for developing low-carbon strategies to limit activities that contribute to climate change.</p>
<p><b>KPI 2:</b> Post-consumer PET bale input into recycling</p> <p><b>SPT 2:</b> 750,000 tons of PET bale input in 2025</p> <p>SDG 12 – Responsible consumption and production</p>	<p>Post-consumer PET bale input (measured in tons)</p> <p>Geographical scope: global IVL operations</p>	<p>Plastic, especially PET, is a unique material with many benefits such as low cost, versatility, lightweight, resilience and recyclability. While it has several economic, environmental and social benefits, its mismanagement after use – leading to landfill and ocean littering – is causing global concern. PET is the most commonly used plastic with over 40% market share for water, beverage, and soda bottles. PET bottles are the most recycled of all plastics in the world. PET has a significantly lower carbon footprint, compared to the alternatives, and with increased recycling rates, this can be further reduced substantially.</p> <p>At IVL, we believe that recycled PET (rPET) is a new engine for growth. The PET produced by IVL is 100% recyclable. As part of our recycling efforts, we have made a global commitment to recycle post-consumer PET materials as feedstock into our polyester production.</p>
<p><b>KPI 3:</b> Renewable electricity consumption</p> <p><b>SPT 3:</b> 25% renewable electricity consumption in 2030</p> <p>SDG 13 - Climate action</p>	<p>IVL renewable electricity consumption (MWh) divided by total IVL electricity consumption (MWh), shown as a percentage.</p> <p>Geographical scope: global IVL operations</p>	<p>We are increasing the use of renewable electricity across our business as natural resources are finite and we recognize the need to lower our dependency on carbon-based energy production. Increasing our renewable electricity consumption incentivizes the development of more renewable electricity facilities and further supports our commitment to combat climate change.</p>



# SPT Calibration

SPT	SPT Observation Date	Baseline
<b>SPT 1:</b> Reduce IVL GHG emissions intensity by 10% by 2025 from a 2020 base year	31-Dec-2025	<b>Baseline: 0.607 tCO<sub>2</sub>e / ton production</b> (Base year: 2020)  The 2020 baseline was selected to provide the highest relevance, ambition, transparency, and clarity on the selected KPI. IVL calculated direct and indirect greenhouse gas emissions (GHG Scope 1 and 2) for all of our operations globally in accordance with the GHG Protocol on Corporate Accounting and Reporting by the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD), ISO 14064-1 and ISO 14064-3, with annual assurance carried out by an external environmental auditor.
<b>SPT 2:</b> 750,000 tons of post-consumer PET bale input in 2025	31-Dec-2025	<b>Baseline: 222,652 tons</b> (Base year: 2020)
<b>SPT 3:</b> 25% renewable electricity consumption in 2030	31-Dec-2030	<b>Baseline: 2.89%</b> (Base year: 2020)

## IVL Historical Performance of SPTs

KPI	Description	2016	2017	2018	2019	2020	2025 SPT	2030 SPT
KPI 1	Scope 1 & 2 GHG emissions intensity (tCO <sub>2</sub> e/t)	0.509	0.546	0.518	0.547	0.607	0.546	N/A
	Scope 1 GHG emissions (tCO <sub>2</sub> e)	3,109,687	3,211,409	3,688,970	4,744,746	7,035,992	10% GHG intensity reduction (2020 base)	N/A
	Scope 2 market-based GHG emissions (tCO <sub>2</sub> e) <sup>1</sup>	1,962,150	2,246,240	2,181,107	2,244,308	2,412,779		
	Production (t)	9,960,132	10,004,534	11,338,992	12,780,005	15,551,483		
KPI 2	Post-consumer PET bale input (t)	146,470	153,207	164,399	207,080	222,652	750,000	N/A
KPI 3	Renewable electricity consumption (%)	1.27%	7.37%	7.84%	6.86%	2.89%	N/A	25%

# Financial Characteristics

It should be noted that the parameters of the KPI or calibration of the SPT may change if there is a material change to IVL's current business operations and any such change will be communicated within its annual reporting and in line with IVL's related disclosure obligations. IVL's performance against the SPT will be reported on the company's website and in its annual Sustainability report. IVL's external assurance and verification provider will verify the company's performance. The notification date, related to this assurance, will occur 150 days after the Sustainability report for the specified target.

The securities or instruments issued under this Framework have a sustainability-linked feature that will result in a coupon adjustment, or a margin adjustment, or a premium payment, or purchase of Energy Attribute Certificates (EAC), or purchase of voluntary carbon offsets, or a combination of the above, should the issuer achieve or fail to achieve the targets as the case may be. The exact bond adjustment mechanism and target date will be specified in the instrument documentation.

## Fallback Mechanisms

The KPIs and SPTs set out in the Framework will remain applicable throughout the tenor of any security issued under the Framework. A "Sustainability Review Event" will occur if IVL notifies that any SPT is no longer an appropriate sustainability performance target for the purpose of sustainability interest rate adjustment or any additional covenants imposed under the terms and conditions of any security issued under IVL's Sustainability-Linked Financing Framework including (but not limited to), a case where any SPT cannot be calculated or observed in a satisfactory manner taking into consideration potential exceptional events (such as significant change in perimeters through material merger and acquisition activities) or extreme events, including drastic changes in the regulatory environment that could substantially impact the calculation of the KPIs, the restatement of the SPTs and/or pro-forma adjustments of baselines or KPI scope.

In making such determination and amendments, IVL will act in good faith and reasonably, have regard to the Group's business and the then current market standards, the performance against the SPTs, the status or availability of any relevant external organization or body and best industry practice for sustainability objectives, and provide evidence to stakeholders that the relevant SPT or KPI is considered no longer an appropriate sustainability performance target.

If a Sustainability Review Event occurs in respect of any SPT, IVL may do the following actions:

- (i) make amendments to the relevant SPT and the methodology for the SPT's assessment or any other necessary amendment or, if the Sustainability Review Event occurred as a result of any KPI becoming inappropriate for the purpose of sustainability interest rate adjustment, make amendments to the applicable scope or perimeter of that KPI or terminate or replace the relevant KPI or any other necessary amendment; and
- (ii) if the amendments referred to in (i) above are made, procure that a Second Party Opinion (SPO) be published by DNV or any other external review provider which confirms (among other things) such amendments.

For the avoidance of doubt, such amendments shall not take effect until the Second Party Opinion has been published and publicly disclosed on IVL's website as specified above. After the aforesaid amendments have taken effect, the Issuer shall, as soon as practicable, inform related parties (if required) in writing and deliver copies of the amendments and the Second Party Opinion (if required).

# Reporting

In order to provide investors of any instruments under this Framework and related other stakeholders with adequate information on the progress of IVL's key performance indicators, IVL will, for any case for any date/period relevant for assessing the trigger of the SPT performance leading to potential adjustments in financial characteristics of the instruments, include the progress performance in the appropriate section in IVL's Sustainability Report (or other report that may officially replace the IVL's Sustainability Report in the possible future). Such report will be easily accessible and publicly available on IVL's website and the information will at least, but not limited to, include:

- Up-to-date information on the performance of the selected KPI, including the baseline where relevant
- A verification assurance report on the basis of limited assurance relative to the SPT outlining the performance of the KPI against the SPT; and
- Any other relevant information which may enable investors to monitor the progress of the selected KPI

Information may also include when feasible and possible: a qualitative or quantitative explanation of the contribution of the main factors, including M&A activities, behind the evolution of the performance/KPI on an annual basis; illustration of the positive sustainability impacts of the performance improvement; and/or any re-assessments of KPIs and/or restatement of the SPT and/or adjustments of baselines or KPI scope.

## Pre-issuance: Review of the Framework

IVL has appointed DNV GL as a second party opinion reviewer and obtained and made publicly available a Second Party Opinion ( "SPO" ) and/or other external reviews from consultants with recognized environmental and social expertise to provide an opinion on the sustainability benefit of this Framework and its alignment to international standards. The SPO will be available on IVL's website.

## Post-issuance: Verification & Review of KPI against SPT

On annual basis, IVL will disclose the progress performance in the appropriate section in IVL's Sustainability Report (or other reports that may officially replace the IVL's Sustainability Report in the possible future). Such report will be easily accessible and publicly available on IVL's website. IVL will seek independent and external verification of the performance level for the stated KPI by the Assurance Provider. The Assurance Provider means a qualified provider of third-party assurance or attestation services appointed by IVL, who will provide a verification assurance report in the form of a "Limited Assurance" . The verification of the performance of the KPI, along with the Assurance Provider's verification report, will be made publicly available on IVL's website.



# Verification

To ensure alignment with the Sustainability-Linked Bond Principles and the Sustainability-Linked Loan Principles as well as best market practice, IVL will obtain the external reviews listed below. The external reviewer(s) will be chosen by IVL in accordance with the Voluntary Guidelines for External Reviews developed by the Green and Social Bond Principles and may at the discretion of IVL be changed subject to fulfilling the requirements set out in this framework. This framework and the below reports will be published on our website.

## Second Party Opinion

IVL appointed DNV GL as a second party opinion reviewer and the Company has obtained a Second Party Opinion from DNV Business Assurance Australia Pty Ltd ( "DNV" ). Amongst other things, it confirms the alignment of this framework with the Sustainability-Linked Bond Principles in June 2020 and the Sustainability-Linked Loan Principles in May 2021. The Second Party Opinion is available on IVL's webpage.

## Verification

As part of GHG intensity KPI, IVL will appoint TÜV NORD CERT GmbH ( "TNC" ) as the External Verifier to perform independent verification on IVL's direct and indirect (Scope 1 and Scope 2) GHG emissions, on an annual basis and in relation to any Target Observation Date(s). IVL appointed DNV to perform independent verification of the production volume in 2020 and will appoint DNV for independent verification of the production volume in 2025. With regard to the recycling and renewable electricity KPI, IVL will appoint TNC as the External Verifier to perform independent verification on both KPIs.

In the event that DNV or TNC resigns or is otherwise replaced, any other qualified provider of third-party assurance or attestation services will be appointed by the Company, to review the indicators. The External Verifier will provide a Limited Assurance. The verification shall be made public together with the IVL's Sustainability Report, no later than **150 days** after year-end as well as no later than **150 days** post the applicable Target Observation Date(s).

## Framework Review and/or Amendment

IVL may review this Framework from time to time, including (but not limited to) its alignment to updated versions of the relevant Sustainability-linked Finance principles as and when they are released, with the aim of adhering to best practices in the market (e.g. KPI target beyond 2025). IVL may also review this Framework in case of material changes in the perimeter, methodology, and in particular KPIs and/or the SPT's calibration. Such review may result in this Framework being updated and amended. The updates, if not minor in nature, will be subject to the approval of a Second Party Opinion reviewer, prior the release. Any future updated version of this Framework that may exist will either keep or improve the current levels of transparency and reporting disclosures, including the corresponding review by an External Verifier. The updated Framework, if any, will be published on IVL's website and may replace this Framework.

For the avoidance of doubt, this updated and/or amended Framework shall not have an impact on those Sustainability-Linked Bonds, Sustainability-Linked Loan, or any other debt instruments whose financial characteristics are linked with sustainability performance targets, that were launched or issued prior to the update and/or amendments.

# Footnotes

## Climate Change

1. <https://assets.bbhub.io/company/sites/60/2020/10/FINAL-2017-TCFD-Report-11052018.pdf>

## Sustainable Finance

1. <https://www.unpri.org/pri/what-are-the-principles-for-responsible-investment>
2. <https://www.unepfi.org/banking/bankingprinciples/>

## SLB Framework

1. <https://www.lsta.org/content/sustainability-linked-loan-principles-sllp/>
2. <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp/>

## KPI Selection

1. <https://ghgprotocol.org/corporate-standard>
2. <https://materiality.sasb.org/>

## SPT Calibration

1. GHG intensities shown in this document are calculated based on Scope 2 market-based GHG emissions and accordingly may differ from Scope 2 location-based GHG intensities shown in other company documents

# Disclaimer

This Sustainability-Linked Finance Framework (the “**Framework**” ) is intended to provide non exhaustive, general information. This Framework may contain or incorporate by reference public information not separately reviewed, approved or endorsed by Indorama Ventures Public Company Limited and accordingly, no representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by Indorama Ventures Public Company Limited as to the fairness, accuracy, reasonableness, or completeness of such information.

This Framework may contain statements about future events and expectations that are forward-looking statements. Forward-looking statements inherently involve risks and uncertainties that could cause actual results to differ materially from those predicted in such statements. None of the future projections, expectations, estimates or prospects in this Framework should be taken as forecasts or promises nor should they be taken as implying any indication, assurance or guarantee that the assumptions on which such future projections, expectations, estimates or prospects have been prepared are correct or exhaustive or, in the case of the assumptions, fully stated in the Framework.

No representation is made as to the suitability of any Sustainability-Linked Financial instruments to fulfil environmental and sustainability criteria required by prospective investors.