



# THAILAND PLASTIC CREDIT PROGRAMME

Southeast Asia's First Institutional-Grade  
Plastic Credit Programme

Presented by XTND Dynamics x Verra  
Confidential | Version 1.0.0



# The Revenue Opportunity

## \$22.5M

Five-year base case revenue  
For a single industrial-scale operator

## 45,000 t/yr

Certified plastic throughput at operational scale

## \$100 / credit

Base case credit price – institutional buyer market

*"This is not a sustainability initiative. It is a revenue stream from an asset that currently generates nothing."*

*Net of programme fee. Based on Verra PWR Standard certification.*

### VALUE DRIVER

Plastic → Verified → \$Revenue

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01

# WHO WE ARE

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# XTND Dynamics



### 18 Years of Operational Excellence

A technology and programme management firm built in environments where precision is non-negotiable – from Singapore's national technology infrastructure to Thailand's most complex regulated systems.



### Singapore Technologies Heritage

A decade embedded within Singapore's technology ecosystem, including sustained work alongside Singapore Technologies – building institutional-grade platforms at national scale.



### Thailand Operational Presence

Active delivery across Cybersecurity, Utility System Management, and Aviation Management Platforms – sectors that demand the same data integrity the plastic credit market requires.

18

Years in operation

3

Mission-critical sectors active in Thailand


10


Years Singapore technology infrastructure

"XD was built, over 18 years, to solve exactly the kind of problem the plastic credit market presents."



Verra is the world's leading voluntary environmental standards organisation – the body that sets and administers the frameworks that give environmental credits their legal and commercial validity.

 **The Verified Carbon Standard (VCS)**  
The most widely used carbon crediting programme globally. Over one billion verified carbon credits issued. The global benchmark.

 **The Plastic Waste Reduction (PWR) Standard**  
The definitive international framework for verified plastic credits. The only standard recognised by institutional corporate buyers for plastic offset instruments.



# 1 Billion+

Verified carbon credits issued under VCS

*"Verra certification is not a marketing label. It is what makes a credit a bankable, tradeable asset."*

When a plastic credit carries the Verra mark, it is recognised by corporate treasury departments, ESG auditors, and regulators across Europe, North America, and Asia.

# The Only Complete Solution



x



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THE ONLY END-TO-END PLASTIC CREDIT PROGRAMME IN THAILAND

## VERRA WHAT VERRA BRINGS

**Global Standard**  
The only framework recognised by institutional buyers worldwide

**Registry Infrastructure**  
Permanent, public, tamper-proof credit registry

**International Credibility**  
Third-party validated by accredited VVBs

**Buyer Recognition**  
Accepted by European EPR, CSRD, and ESG programmes

## XD WHAT XD BRINGS

**In-Country Programme Design**  
Thailand-specific methodology configuration and management

**MRV Technology Platform**  
Purpose-built chain-of-custody data architecture

**Registration Navigation**  
End-to-end Verra registration – targeting 9 months

**Commercial Buyer Network**  
Established European and Asian institutional buyers

"Together: the standard, the systems, the market access – and the only turnkey delivery model available to operators in Thailand today."

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02

# THE PROBLEM

*Why most operators fail to capture this opportunity*

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# The Four Barriers Most Operators Never Clear



01

## The Verification Gap

Recycling plastic is an operational challenge. Proving it – to the standard required for a certified credit – requires chain-of-custody architecture, composition sampling, and annual third-party audits. Most facilities have none of this.



02

## Methodology Complexity

Credit tier, additionality framework, monitoring plan design – each is a specialist domain. A single error at the design stage can invalidate the entire programme. This is not recoverable.



03

## The Registration Bottleneck

Verra's process is rigorous by design. Without deep experience navigating it, operators face 18–24 month delays. Most attempts stall permanently here – not from lack of intent, but lack of expertise.



04

## Market Access

Even registered programmes frequently cannot reach premium buyers. European institutional buyers – paying \$100-\$150/credit – require traceability, verified audit trails, and counterparty credibility. Informal programmes do not qualify.

"The solution is not a better recycling process. The solution is a better programme."

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03

# THE SOLUTION

*A complete, end-to-end programme – from design to credit sale*

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# What "Turnkey" Actually Means

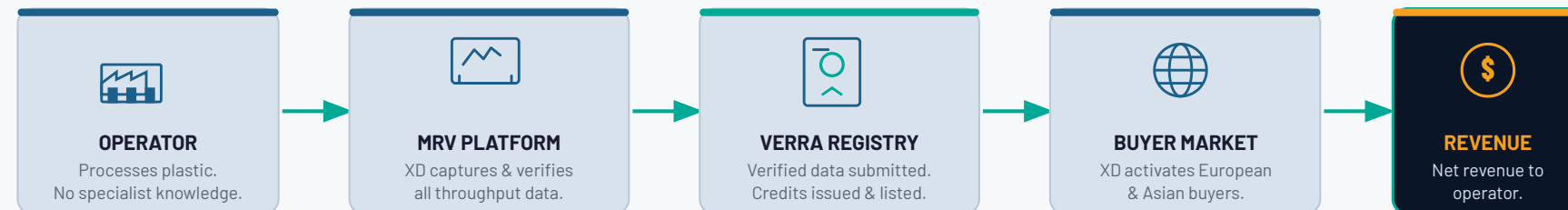
Most operators attempt to assemble this from multiple vendors. XD × Verra delivers it as a single, integrated programme.

COMPONENT	WHAT IT DELIVERS
Standard & Methodology Design	XD and Verra configure the optimal PWR methodology for the specific waste streams – eliminating the most common point of failure
MRV System Deployment	Purpose-built digital monitoring across all sites – weighbridges, chain-of-custody, composition sampling – integrated into existing operations
Verra Registration	Complete end-to-end management – Project Description, VVB appointment, technical review, stakeholder consultation. <b>Target: 9-month path to approval</b>
Annual Verification	XD manages the full VVB audit cycle. The operator participates – but does not carry the burden
Credit Issuance	Credits issued directly into the Verra Registry under the operator's programme – legally recognised, registry-tracked, tradeable assets
Market Access & Sales	Established European and Asian institutional buyer network – all commercial transactions managed by XD on the operator's behalf
Transparency Platform	Real-time operator dashboard – programme data, credit inventory, sales pipeline, and revenue. Full auditability at all times

*The operator's sole responsibility is to keep processing plastic. Everything else is XD × Verra.*

# How the Programme Works

A structured partnership – not a service contract. The distinction defines the economics.



### Partial Ownership

Credits are registered under the operator's name. They are the operator's assets – held in Verra's public registry.

### Zero Upfront Cost





XD absorbs all setup and registration costs. Financial exposure is zero until credits are sold and revenue is received.




### Full Transparency

Operator, Verra, and buyers can independently verify programme data at any time. Transparency is the architecture.

# Seven Outcomes. Zero Upfront Cost.

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-  **Certified Programme**  
Verra-registered plastic credit programme from a standing start – no specialist knowledge required
-  **New Revenue Stream**  
Recurring income from plastic already being processed. No change to core operations.
-  **Premium Buyer Access**  
European and Asian institutional buyers. Significantly above spot market rates.
-  **Reputational Positioning**  
Thailand's leading certified plastic recovery operator – recognised by regulators, financiers, and government

-  **ESG Credibility**  
Green financing instruments, international joint ventures, national sustainability recognition
-  **Operational Technology**  
MRV dashboard delivers improved site visibility and data quality – independent of credit revenue
-  **Credit Ownership**  
Registered environmental assets – held, sold, retired, or used as collateral in green financing structures

**\$0**

Operator upfront investment

+ All seven outcomes above

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04

# THE MARKET

*Why this opportunity is exceptional – and why timing is everything*

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# The World's Most Compelling Location for This Programme



TOP 10

## Scale of the Problem

Thailand generates ~28M tonnes of solid waste annually. An estimated 2M tonnes is plastic – with only a fraction formally recovered. A vast additionality base under PWR methodology.

[GLOBAL PLASTIC POLLUTERS BY OCEAN LEAKAGE](#)



10k t/day

## Bangkok as Ground Zero

10,000+ tonnes of solid waste per day. A network of managed landfills across the metropolitan region. Decades of accumulated plastic – currently generating zero economic return.

[BANGKOK METROPOLITAN DAILY WASTE GENERATION](#)



2018-2030

## Regulatory Momentum

Thailand's Plastic Waste Management Roadmap and incoming ASEAN EPR frameworks are building a compliance environment that will formally recognise certified plastic recovery programmes.

[THAILAND NATIONAL PLASTIC ROADMAP HORIZON](#)



LIMITED

## The First-Mover Window

Thailand has very few Verra-certified programmes at industrial scale. Supply of institutional-grade Thai plastic credits is far below what buyers are seeking. This window is measured in months – not years.

[TIME WINDOW FOR FIRST-MOVER ADVANTAGE](#)

"If you were designing the ideal location to launch this programme, you would design Thailand."

# Indicative Financial Scenarios

Net of XD programme fee. Based on certified throughput scaling to ~45,000 t/yr by Year 2.

SCENARIO	CREDIT PRICE	THROUGHPUT	ANNUAL REVENUE	5-YEAR VALUE
Conservative	\$60 / tonne	~45,000 t/yr	~\$2.7M	~\$13.5M
<b>Base Case</b>	<b>\$100 / tonne</b>	<b>~45,000 t/yr</b>	<b>~\$4.5M</b>	<b>~\$22.5M</b>
Upside	\$150 / tonne	~45,000 t/yr	~\$6.8M	~\$34M

**\$100**

Current institutional buyer price range

**9 months**

Target time to first credit issuance

**Year 2**

Expected break-even on programme investment

Credit prices are indicative and reflect current market dynamics. Prices are subject to buyer negotiation and market conditions. First-year revenue will be lower due to registration timeline and ramp-up.

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05

## WHY ONLY XD ✕ VERRA

*Three reasons. No exceptions.*

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# The Only Complete Answer to Every Barrier

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**01**

## Verra Is Not a Partner You Can Replicate

No other organisation administers the PWR Standard. No other organisation runs the registry. Verra's involvement is the source of legal validity, market credibility, and long-term value. A plastic credit without Verra certification is not a tradeable instrument. It is a marketing claim.

**02**

## XD Has the Execution Capability the Market Lacks

Verra sets the standard. The standard does not implement itself. The history of failed programmes is a history of operators who understood the standard but could not build the systems. XD's 18-year track record in complex, regulated environments is the operational bridge between the standard and commercial reality.

**03**

## The Turnkey Model Changes the Economics Entirely

Independent assembly – consultant, MRV vendor, legal firm, VVB, sales effort – is sequential, expensive, and high-risk. The XD x Verra model collapses all of it into a single, success-fee-based partnership. Zero operator exposure until credits are sold.

**1**

Programme. Everything included.

THE INVITATION

# The programme will be built. The question is who moves first.

Bangkok sits at the intersection of every factor that makes this viable: the waste baseline, the infrastructure, the regulatory momentum, and the buyer demand. The first operator to achieve Verra registration at industrial scale captures a market position that cannot be replicated.

**Next Step:**

Technical scoping session – XD and Verra programme team assess operational data, confirm methodology pathway, and present a binding programme proposal with guaranteed path to first issuance.

**\$22.5M**

5-year base case

**9 months**

To first credit issuance

**\$0**

Operator upfront cost

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# APPENDIX

Reference materials and technical background

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# How Plastic Credits Work



## WHAT A PLASTIC CREDIT IS

A plastic credit is a certified, registry-tracked instrument representing **1 metric tonne** of plastic waste that has been collected and/or recycled above what would occur under business-as-usual conditions.

The **additionality principle** ensures that only plastic recovery that would not have happened otherwise generates credits – maintaining market integrity.

## HOW IT IS SOLD

Corporate buyers purchase credits to offset their plastic footprint – driven by EPR compliance obligations, CSRD reporting requirements, voluntary net-zero commitments, and consumer ESG scrutiny.

Each credit is **permanently retired** upon sale – preventing double-counting. All registry records are public and auditable.

# Verra Plastic Waste Reduction (PWR) Standard

DIMENSION	DETAIL
Standard Body	Verra (Washington D.C.) – administrator of VCS, PWR, and other leading voluntary environmental standards
Credit Unit	1 Plastic Credit = 1 metric tonne of plastic waste collected and/or recycled above business-as-usual
Credit Tiers	<b>Tier 1</b> (Collection + Recycling) – highest value   <b>Tier 2</b> (Collection only)   <b>Tier 3</b> (Aggregated)
Additionality	Programme must demonstrate plastic recovery that would not occur under business-as-usual conditions
Verification	Annual third-party verification by accredited Validation/Verification Body (VVB)
Registry	All credits issued, transferred, and retired on the public Verra Registry – permanent and tamper-proof
Buyer Recognition	Recognised by European EPR frameworks, CSRD reporting requirements, and major corporate ESG programmes globally

# Key Terms

TERM	DEFINITION
Plastic Credit	A certified, registry-tracked instrument representing 1 tonne of plastic waste collected and/or recycled above business-as-usual
PWR Standard	Plastic Waste Reduction Standard – Verra's framework for issuing and verifying plastic credits
MRV	Monitoring, Reporting and Verification – the data infrastructure that underpins all credit claims
Additionality	Demonstration that the plastic recovery would not have occurred without the programme
VVB	Validation/Verification Body – accredited independent auditor that validates programme design and verifies annual credit claims
Chain of Custody	Documented, auditable record of plastic from collection source to processing output
EPR	Extended Producer Responsibility – regulatory framework requiring producers to manage end-of-life plastic
CSRD	EU Corporate Sustainability Reporting Directive – drives European corporate demand for verified plastic offsets
Credit Retirement	Permanent cancellation of a credit upon sale – prevents double-counting; recorded on public registry
Offtake Agreement	Pre-committed agreement by a buyer to purchase a defined volume of credits at an agreed price

