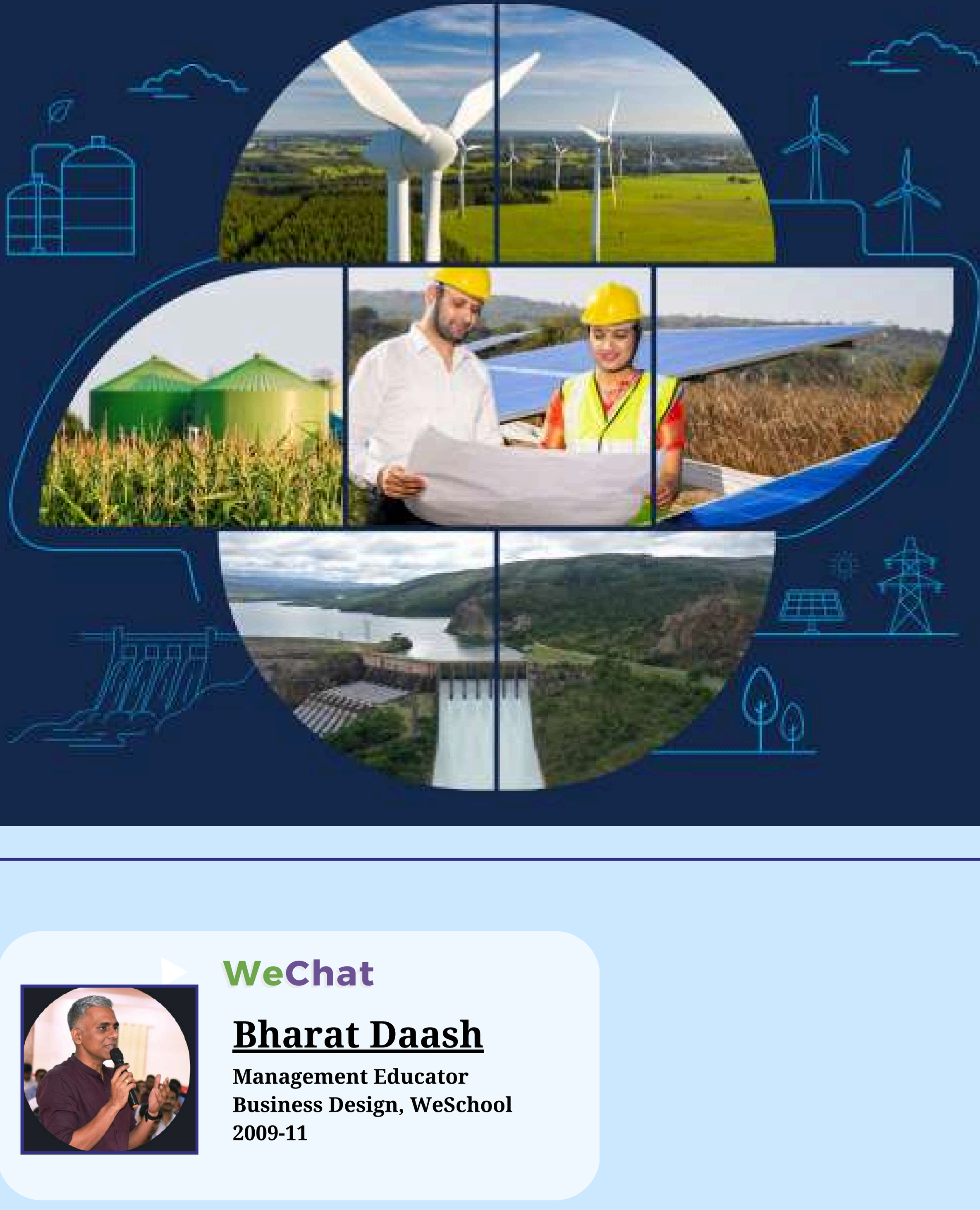
MAY 2026 | ISSUE 172

ENERGY TRANSITION



WeChat

Bharat Daash

Management Educator
Business Design, WeSchool
2009-11

MESSAGE FROM THE DIRECTOR

Prof. Dr. Uday Salunkhe
Group Director

Dear Readers,

It gives me great pride to introduce SAMVAD's edition every month. Our SAMVAD team's efforts seem to be paying off, and our readers seem to be hooked onto our magazine. At WeSchool, we try to acquire as much knowledge as possible and share it with everyone.

As we begin a new journey with 2026, I sincerely hope that SAMVAD will reach new heights with the unmatched enthusiasm and talent of the entire team.

Here at WeSchool, we believe in the concept of AAA: Acquire Apply and Assimilate. The knowledge you have acquired over the last couple of months will be applied somewhere down the line. When you carry out a process repeatedly, it becomes ingrained in you and eventually tends to come out effortlessly. This is when you have assimilated all the knowledge that you have gathered.

At WeSchool, we aspire to be the best and unique, and we expect nothing but the extraordinary from all those who join our college. From the point of view of our magazine, we look forward to having more readers and having more contributions from our new readers.

SAMVAD is a platform to share and acquire knowledge and develop ourselves into integrative managers. Our earnest desire is to disseminate our knowledge and experience with not only WeSchool students but also the society at large.

Prof. Dr. Uday Salunkhe,
Group Director

ABOUT US

OUR VISION

"To nurture thought leaders and practitioners through inventive education."

CORE VALUES

Breakthrough Thinking and Breakthrough Execution
Result Oriented, Process Driven Work Ethic
We Link and Care
Passion

"The illiterate of this century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn." -Alvin Toffler.

At WeSchool, we are deeply inspired by the words of this great American writer and futurist. Undoubtedly, being convinced of the need for a radical change in management education, we decided to tread the path that led to the corporate revolution.
Emerging unarticulated needs and realities require a new approach in both thought and action. Cross-disciplinary learning, discovering, scrutinizing, prototyping, learning to create and destroy the mind's eye needs to be nurtured differently.
WeSchool has chosen the 'design thinking' approach towards management education. All our efforts and manifestations, as a result, stem from the integration of design thinking into management education. We dream of creating an environment conducive to experiential learning.

FROM THE EDITOR'S DESK

Dear Readers,

Welcome to the 172nd Issue of SAMVAD!

SAMVAD is a platform for "Inspiring Futuristic Ideas". We constantly strive to provide thought-provoking articles that add value to your management education.

We have an ambitious goal of becoming one of the most coveted business magazines for B-school students as well as industry experts across the country. To help this dream become a reality, we invite articles from all management domains, so as to impart a holistic view, and bridge the gap between industry veterans and students through our WeChat section.

In this special issue of SAMVAD, we focus on the theme of **Energy Transition**, featuring an exclusive WeChat interaction with **Dr. Bharat Dash, Acting Dean, Faculty of Eastern Knowledge Systems, Sri Sri University, and Master Trainer with the IKS Division, Ministry of Education, Government of India.**

The global energy transition is unfolding at a pace few institutions were built for. Nations are recalibrating energy security against climate commitments, corporations are rewiring supply chains around renewables, and carbon accountability is fast becoming as fundamental to business as balance sheets. Yet the deeper challenge is not technological but human: transitions of this scale demand patience, adaptability, and a wisdom that outlasts any single policy cycle.

This is where our featured conversation with Dr. Dash finds its resonance. An IT engineer who moved through Infosys, CitiusTech, and HCL before walking away from what he calls the "boredom of a so-called conventional corporate career," he found in the Panchatantra a subject worth reinventing his path for. Through it, he shows us that some of the richest lessons in adaptability and long-term thinking were encoded centuries ago, not as rigid doctrine but as story — meant to be retold and reinterpreted so each generation can draw out what it needs. His advice to students facing their own uncertain transitions is refreshingly unformulaic: don't over-plan, follow your heart, and above all, stay committed — because passion and motivation will rise and fall, but commitment is what carries any transition through.

This edition intends to examine the energy transition not merely as a technological or policy shift, but as a test of institutional and individual character — one that classical wisdom, as Dr. Dash reminds us, may be well equipped to illuminate. Through insightful articles, interviews, and infographics, we aim to make this complex subject relatable and relevant to you.

A heartfelt thanks to the entire SAMVAD team, faculty members, and contributors who have shaped this issue with dedication and clarity.

We hope you have a great time reading SAMVAD!

Let's read, share and grow together!

Best Regards,

Team SAMVAD

Index

Bharat Daash

Management Educator
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For a Weschool student who has never engaged deeply with Indian classical texts, where would you suggest they start — and why?

"Okay, so assuming that this question is meant to generate an interest in people to begin their journey into Indian classical texts, nowadays there are many resources available, so you can start with those. As an initial step in understanding Indian classical texts, begin with the basic Panchatantra stories, or the stories from the Mahabharata and the Ramayana. I'm not talking about reading the Mahabharata or the Ramayana as complete books, because that may take some time. Instead, start with these stories and try to understand them through different lenses. And if possible, try to narrate these stories yourself, because once you narrate them, there's a possibility of discovering multiple perspectives in the process. Listening to a story is one part of the experience, but narrating it yourself gives you a new perspective. So, try doing that."

You moved from an IT engineering background — Infosys, CitiusTech, HCL — into Nitishastra and Panchatantra research. What was the moment that made you choose this path over a conventional corporate career?

Ha. The boredom of a so-called conventional corporate career. I was into sales and marketing, and I enjoyed storytelling and branding ever since I was an MBA student. But the way it was being practised at the corporate level, I felt it required more creative elements to keep me engaged. So, within a year or so, I got really bored. At the same time, I was very passionate about teaching and wanted to teach multiple subjects. I thought, let me just try it. I had the degrees and qualifications to come

back to the corporate world if things didn't work out, so I decided to take a two-year risk. It paid off, at least in terms of the number of students I was able to teach. That made me realise this was something I could continue doing. Then, a couple of years later, the Panchatantra accidentally happened to me. I fell in love with the book, and that eventually led me to the journey of Indian Knowledge Systems

If a student today wants to build a career that's unconventional, like yours, what's the one piece of advice you'd give them before they take that first leap?

Don't plan. Go with the flow. I could never have planned my career the way it has unfolded. Whatever you choose to do, give it your best effort and follow your heart. More importantly, make sure you're committed to the path you've chosen. Passion may go up and down. Motivation may come and go. But commitment is what keeps you moving forward. So, whatever path you decide to take, stay committed to it.

CARBON MARKETS: THE NEW ASSET CLASS POWERING THE ENERGY TRANSITION

WINNER

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Goldman Sachs opened a carbon trading desk in May 2023. BlackRock launched a carbon allowance ETF. JPMorgan released a research note comparing EU carbon allowances to emerging-market equities as a portfolio hedge. None of these institutions were inspired by an environmental conscience. They acted because carbon was beginning to behave like money.

In the same year, the world's largest certifier of carbon offsets was caught in a scandal for greenlighting credits that delivered no climate benefit. In the 12 months that followed, the voluntary carbon market fell 61 percent. The broader market for carbon trading, however, was valued at over $933 billion in 2025 and is projected to be worth $19 trillion by 2035.

This is the story of carbon markets, a financial instrument born out of climate necessity and grown into one of the most contested and consequential new asset classes of the twenty-first century. The question is no longer whether carbon markets can work in theory. It is whether they can be trusted in practice to mobilize the capital the energy transition needs.

From Policy Tool to Tradeable Asset

Carbon markets emerged as a regulatory tool. In compliance systems like the European Union Emissions Trading System, a government sets a cap on total emissions across heavy industry. Companies are given allowances, each of which permits one tonne of carbon dioxide. Those that emit less can sell their excess allowances and those that emit more than their allowance have to buy more or pay a fine. Every year the squeeze tightens — credits become more scarce, prices go up, and clean energy becomes the rational financial choice.

For much of their early history, carbon allowances were treated as a mere cost of doing business. That started to change around 2020. EU carbon prices rocketed from about €25 a tonne to a record high of €100 a tonne in February 2023, up some 300% in three years. Today carbon credits are traded on exchanges, held in diversified portfolios alongside equities and commodities, and referenced

in carbon-linked ETFs and futures contracts. The vocabulary of carbon has moved from the environmental policy arena to the language of finance.

Global carbon trading market: $933 billion (2025) — projected $19 trillion by 2035
Source: Precedence research, 2026

The Credibility Problem That Strengthened the Market

The voluntary carbon market tells a more complicated story. By 2021, investment in offset projects reached $1 billion. Then the system buckled under its own weight. In January 2023, a joint investigation by The Guardian, Die Zeit and SourceMaterial found that Verra, which certifies most all voluntary carbon credits traded globally, had approved credits through a programme that produced no measurable climate benefit. Research using analysis from Cambridge University found that the threat to forests created by these approved projects was overstated by an average of about 400 percent. Buyers such as Disney, Shell and Gucci had bought these credits while promoting their products as carbon neutral. Verra chief executive resigned in May 2023. REDD+ forest credits declined by more than 60% in a year. The EU voted to ban carbon-neutral claims based on offsets, a rule that will take effect in 2026.
94% of Verra rainforest credits showed no real climate benefit | Voluntary market fell 61% in 2023
Source: The Guardian / SourceMaterial Investigation, January 2023

Institutional Capital Enters the Picture

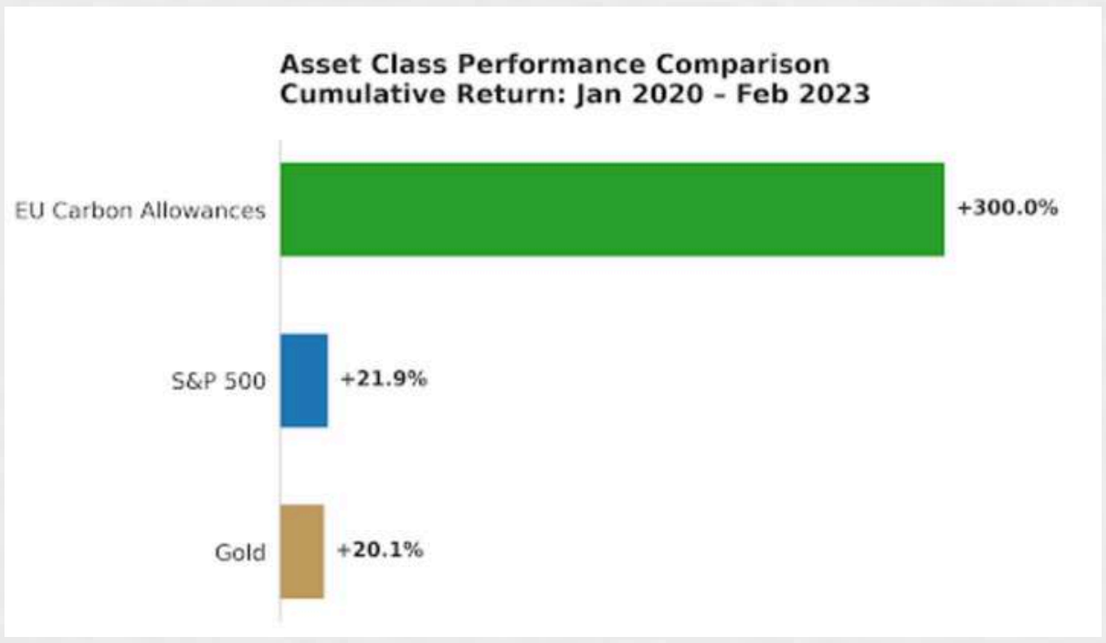


Figure 1: Cumulative Performance Comparison Across Key Asset Classes (January 2020-February 2023). Source: Bloomberg Asset Pricing Terminal; European Energy Exchange (EEX), 2023.

The difference between an asset class and a compliance mechanism is institutional capital, and that capital is here. Major asset managers have built carbon allowance exposure into their climate-focused funds. The biggest investment banks have set up specialist carbon trading desks. Now, big tech companies are signing long-term contracts for carbon removal, based on infrastructure offtake agreements. The correlation of EU carbon allowances with broader equity indices has been relatively low, offering diversification value that institutional allocators take note of. Derivatives markets enable players to hedge or speculate on the trajectory of carbon prices years out. These are signs of a maturing financial market, not something imposed by regulation.

India: The Carbon Opportunity No One Is Pricing In

India's Carbon Credit Trading Scheme (CCTS) was launched in June 2023 nd nine carbon-intensive sectors including

steel, aluminium and cement have been asked to meet emissions intensity targets. Tradeable Carbon Credit Certificates are awarded to successful companies. The EU's Carbon Border Adjustment Mechanism is now in place. CBAM-covered categories account for more than six billion euros of India's annual exports. Indian aluminium exports to the EU have already suffered a 41% cost impact. Under the May 2025 CBAM Omnibus regime, CCTS credits can directly offset the CBAM duty payable at the European border – turning a domestic carbon credential into a tool for trade competitiveness.

The bigger opportunity is over and above defensive compliance. India has more than 713,000 square kilometres of forest cover, one of the fastest-growing renewable energy programmes in the world and huge potential to cut agricultural methane. India has the ability to sell verified emission reductions to developed countries under Article 6 of the Paris Agreement as they work toward their own climate targets. A credibly implemented CCTS turns India into a net carbon credit exporter, not just a carbon border taxpayer.

Sector	CBAM Exposure	CCTS Status	Risk Level
Steel	Highest — largest EU export category	Direct CBAM offset eligible	Critical
Aluminium	41% cost impact already recorded	Direct CBAM offset eligible	Critical
Cement	Significant embedded carbon exposure	CCTS credits applicable	High
Fertilisers	Moderate; energy-intensive production	Emerging eligibility	Moderate
Power Sector	Indirect exposure via supply chain	Largest credit generation potential	Emerging

Figure 2: Indian Sectors Most Exposed to EU CBAM | Source: Alcircle, 2026; Lawrbit, 2026

What Needs to Happen — and What 2035 would Look Like

Three reforms will decide whether the 19 trillion-dollar projection will be realized. First, standardization: the Core Carbon Principles issued by the Integrity Council should be mandatory for any internationally recognized credit. Second, transparency: there must be a verifiable chain of custody for every credit from issuance to retirement, and distributed ledger technology can provide that. Third, integration: a carbon price from five dollars a tonne in one market to ninety euros in another creates arbitrage, not decarbonization. The most important systemic reform available is progressive market linking.

Carbon credits will be tokenized and recorded on public ledgers, enabling real-time verification of the source and retirement of each credit. Loan facilities might be automatically adjusted for interest rates based on verified carbon performance.

Commodity trades could settle partially in carbon. Pilots are already running in Singapore, Switzerland and the United Arab Emirates. This is not speculation – it is the next stage of a market that has already confounded those who wrote it off as a policy experiment.

Conclusion

Carbon markets were never meant to be an asset class. They were meant to make pollution expensive. What ensued was unplanned: investors arrived, exchanges listed futures, funds were formed.

The International Energy Agency estimates that the energy transition will need annual investments of between four and five trillion dollars until 2030. The government budgets alone can't fill that gap. It is carbon pricing that makes large-scale renewable investment financially rational.

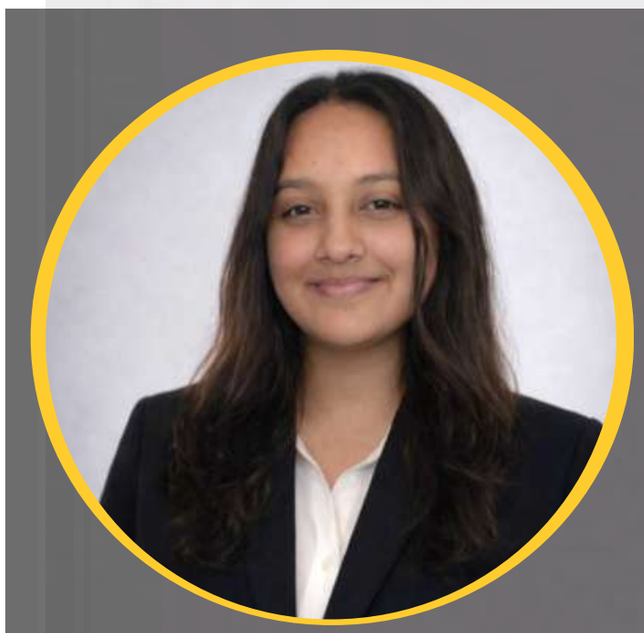
Carbon dating measures decay against a known physical constant to estimate age. It works because physics doesn't lie. Carbon markets need that same quality – standards that can stand up to scrutiny, measurements that don't buckle under commercial pressure, and prices that honestly reflect the cost of a tonne of carbon dioxide. Climate science will not be the sole determinant of the future of this asset class. It will depend on credibility.

REFERENCES

- *Marsh, A. (11 December 2023). Goldman, Citi Ready Trading Desks for New Wave of CO_2 Deals. Bloomberg / Moomoo News. https://www.moomoo.com/news/post/30890550/major-banks-such-as-goldman-sachs-and-citibank-set-up*
- *Carbon Credits (4 January 2024). Banking on Green: Wall Street's Race to Power a $1 Trillion Carbon Market.*
- *https://carboncredits.com/banking-on-green-wall-streets-race-to-power-a-1-trillion-carbon-market/*
- *The Guardian / SourceMaterial / Die Zeit (18 January 2023). Revealed: More Than 90% of Rainforest Carbon Offsets by Biggest Certifier Are Worthless. https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe*
- *Precedence Research (2026). Carbon Credit Market Size, Share and Trends 2026 to 2035.*
- *4ire Labs (27 February 2026). The Global Carbon Trading Market 2026: Key Insights into Market Size and Trends.*
- *Ecosystem Marketplace Insights Team (15 September 2021). Voluntary Carbon Markets Rocket in 2021, On Track to Break $1B for First Time.*
- *LSE International Development Blog (26 January 2023). The Verra Scandal Explained: Why Avoided Deforestation Credits Are Hazardous.*
- ***Green Queen (21 September 2023, updated 5 February 2024).** Carbon Offsets: A Nice Climate Fairytale That Has Not Panned Out.*
- ***Integrity Council for the Voluntary Carbon Market — ICVCM (December 2025).** Core Carbon Principles Impact Report 2025.*
- ***Greensutra (2025).** India's Carbon Credit Trading Scheme (CCTS): All You Need to Know.*
- ***Banerjee, N. (12 May 2026).** CBAM Hits Indian Aluminium Export by 41%: Indian CCTS to Reverse the Slide. Alcircle.*
- ***International Energy Agency — IEA (2024).** World Energy Investment 2024.*
- ***Grand View Research (2024).** Voluntary Carbon Credit Market Size & Industry Report, 2030.*
- ***Market Research Future (2025).** Carbon Trading Market Size, Share & Global Report 2035.*

Social Commerce 3.0: When Your Feed Becomes Your Store

RUNNER UP



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Social Commerce 3.0 – When your feed becomes your store

Imagine you are scrolling through Instagram for entertainment and a friend shares a skincare review or an influencer demonstrates a product, and within a few seconds you're checking out the exact same product all without leaving a single app. The perimeters between social engagement and shopping have faded. Welcome to the creator led economy- Social Commerce 3.0, where our feeds are no longer just places to socialise; they have become digital storefronts.

The Evolution: From E-commerce to Social commerce 3.0

Social commerce is currently transforming not only the consumers buying momentum but also the patterns of their consumption. Earlier exploring the product and then purchasing them was a sequential process. However, in today's time exploring and purchasing the product usually occur at the same time via various social media channels.
The evolution of online shopping can be traced through three distinct phases.

Phases	Features
E-Commerce 1.0	Focused on platforms like Amazon and Flipkart where consumers searched for the products they wanted to purchase.
Social Commerce 2.0	Driven by the expansion of social media, brands started to promote their products directly to the consumers via platforms like Facebook and Instagram.
Social Commerce 3.0	Features exploring, recommending, purchasing, and paying for the product within a single ecosystem by introducing to complete digital marketplaces like Instagram shops, TikTok shops, YouTube shopping.

Sprout Social research shows that ~61% of the viewers explore products via Instagram of whom many complete the purchase and payment all without even leaving the single app.
"The creator economy is where influence happens."

- Jane McDaid, founder of ThinkHouse.

Global Statistics: The Global Social Commerce Market

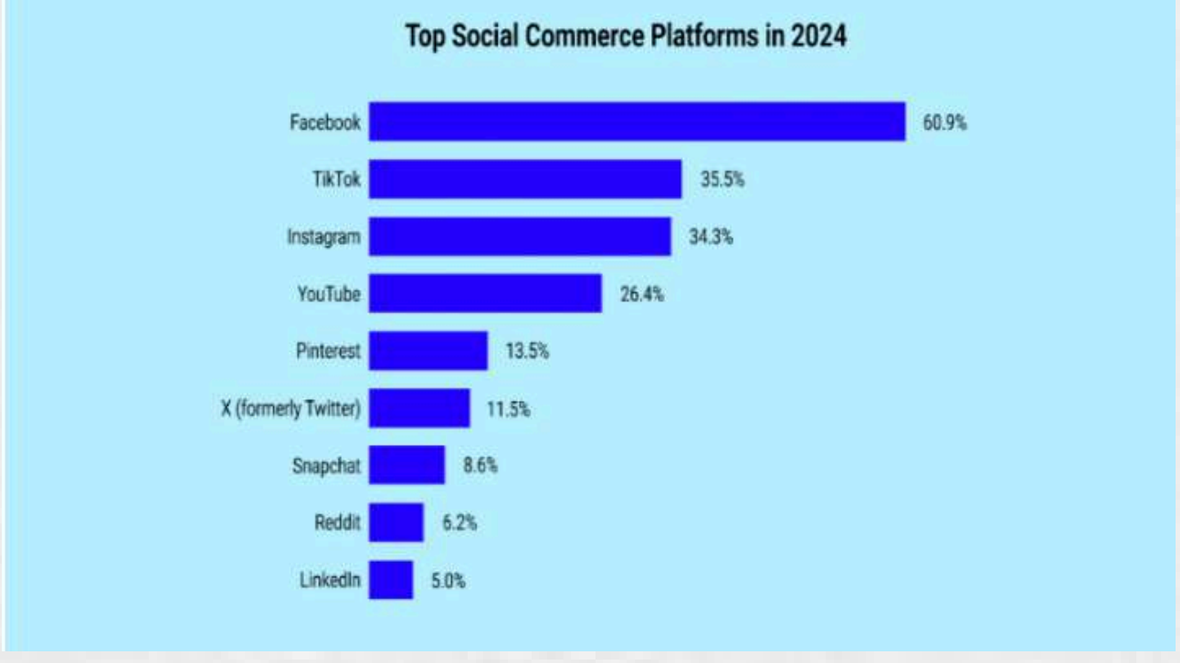
Recent research showed the global social commerce market trend increasing speedily due to social media shopping. The graph shows the market growth from 2023 to 2030, symbolising its powerful future potential.

The graph shows the speedy growth of the global social commerce market which is expected to rise from $1.3 trillion in 2023 to $8.5 trillion by 2030. This growth shows the growing impact of social media, influencer marketing, and within-app shopping on the buying patterns of the consumer.

Contribution of different Social Media platforms in the Global Commerce Market (2024)

As per the research done in 2024 Social commerce platforms remarkably influence the purchasing patterns by offering unique buying experiences. The graph below shows the top platforms of 2024 by the percentage of consumers who made purchases on them.

The data shows that with Facebook leading the social commerce market with 60.9% of consumers making purchases through the app, TikTok and Instagram captures the market by 35.5% and 34.3% respectively. The results demonstrate the growing influence of social media in the online shopping era.



"The Internet is becoming the town square for the global village of tomorrow."

- Bill Gates, co-founder of Microsoft.

The Reason: Why are Feeds becoming Stores?

The alteration of social media feed into digital stores is not sudden but a payoff of gradual compilation trust, technology and convenience that influenced the shopping patterns of the people. One of the biggest driver behind this shift is the rise of the **creator economy**.

At present, consumers relate to the creators more than the traditional advertisements because creators share experiences that feel personal and honest to their audience. Companies take advantage of this relatability and promote their product via creators which builds reliability among the viewers and ultimately become consumers of the product.

According to Sprout Social's 2024 Influencer Marketing Report, approximately **49%** of buyers make purchases on a frequent basis because of influencer posts they come across, showing the significant role that creators are now playing in buying decisions.

Another major driver is **AI-powered personalization**.

Social media platforms are now tracking the user behaviour by likes, comments, shares and watch time which helps algorithm show preferred items to the respective user.

In essence, *Consumers are no longer actively searching for products; products are finding consumers.*

“Trust is the glue of life. It's the most essential ingredient in effective communication. It's the foundational principle that holds all relationships.”

- Stephen R. Covey, co-founder of FranklinCovey.

Social Commerce 3.0: Benefits and Opportunities

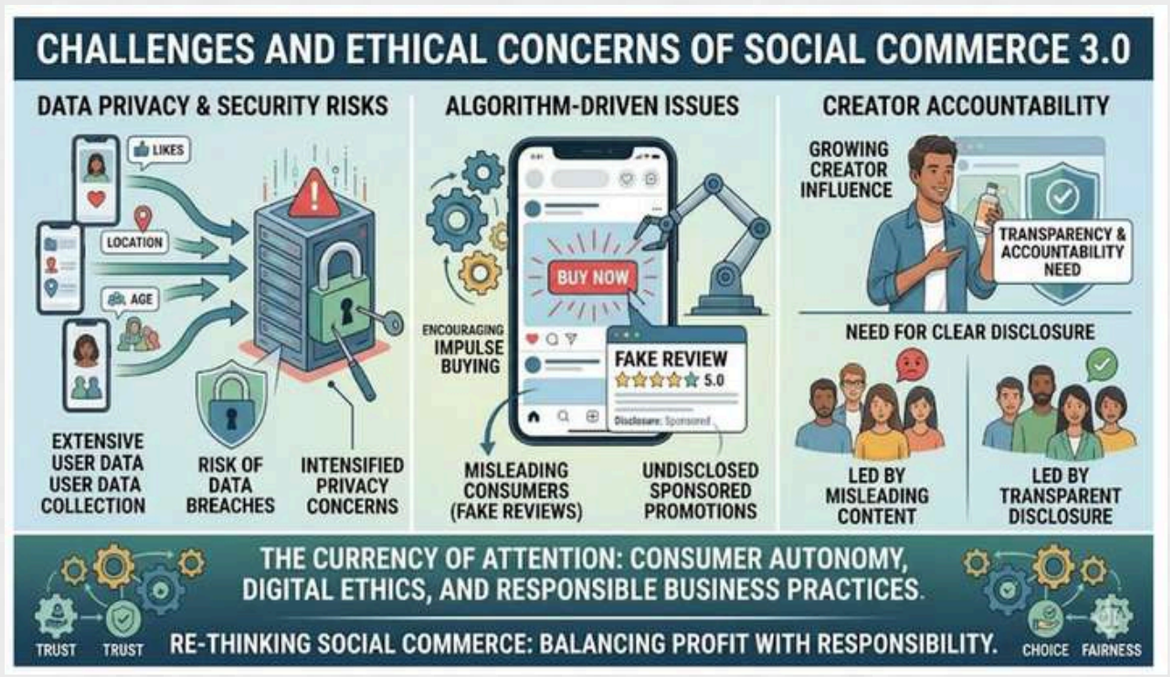
Social Commerce 3.0 has become a boon for small businesses, creators and consumers. A wider range of audience can be connected even by a local marketer without spending much on advertising.

For instance, a local artisian in Gujarat can attract to consumers world wide through a single viral reel.

By enabling businesses to connect directly with the target audience through the content and influencer partnerships, it has cut down several expenses that traditional marketing imposed on the marketers.

One of the other key benefits is community driven brand building. Reviews, feedbacks, comments help build trust of other users expecting to buy the product. This also boosts brand’s reputation and influence the buying decision in a positive manner.

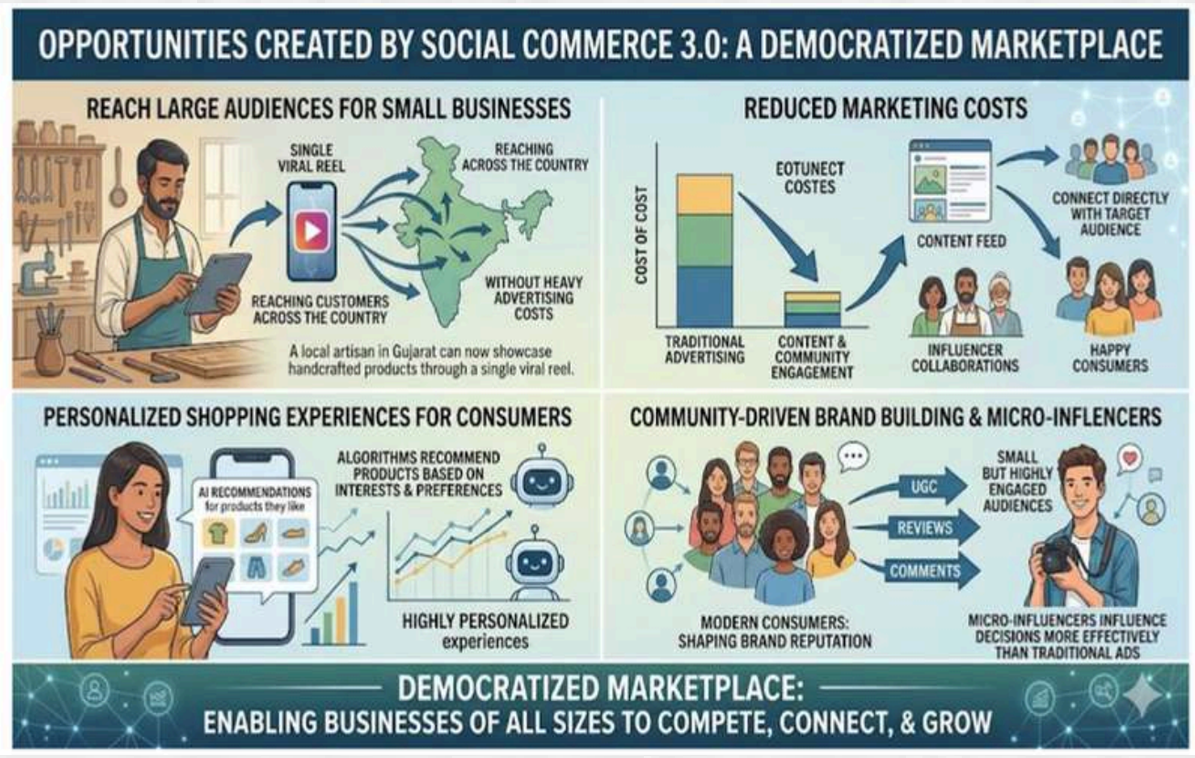
Overall, social commerce equalises the market, where businesses of all sizes and type can compete, connect, and grow in the global market.



"Technology is best when it brings people together."

- Matt Mullenweg, co-founder of WordPress.

Social Commerce 3.0: Challenges and Ethical Concerns



Even though social commerce 3.0 has several benefits, every coin has two sides, and thus it also has equal ethical concerns.

The accumulation of large data for giving consumers a personalised recommendation gives birth to concerns like privacy and security of the personal data.

Due to algorithm driven content, fake reviews and feedbacks and

and unmentioned sponsored promotions, consumers get misled and might be exploited.

Moreover, the rise in influencer marketing embarks a need for transparency and accountability of the content shown by the creator.

"Privacy is not an option, and it shouldn't be the price we accept for just getting on the Internet."

- Gary Kovacs, CEO of Accela.

Social Commerce 3.0: The Future

The future of social commerce will be more digitalised and interactive.

People will get the advantage of trying on the product virtually before purchasing with the help of Augmented Reality (AR).

One of the example for this adaptability is “Titan” where it lets consumer see how the watch will look on their hand before buying it. In future, consumers will get the feasibility to explore, try, evaluate and then purchase the product all even without visiting the company’s website.

This makes social media a primary gateway to digital and online shopping.

Conclusion

Social Commerce 3.0 is not only changing the purchase patterns of consumers but also how are they trusting the brand and how the brands are communicating with them.

It is showing the upwards trend of the impact of creator and influencer marketing on the buying decisions.

In a world where any feed can transform into a store, businesses prioritising authenticity and transparency will win the race.

REFERNCES

- *Instagram Statistics Marketers Should Know in 2025 [Updated] | Sprout Social*
- *Social Commerce Statistics Of 2026 (Demographics And Trends) | SellersCommerce*
- *Top Social Commerce Platforms in 2024 [Updated Oct 2024]*
- *The State of Influencer Marketing Report | Sprout Social*
- *Gemini.com (for AI generated images)*

THE THERMAL TRANSITION TRAP: DECARBONISING INDUSTRIAL OPERATIONS IN THE GLOBAL COFFEE SUPPLY CHAIN

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Introduction: The Hidden Energy Footprint of a Daily Habit

For most consumers, a cup of coffee is a daily ritual. For global supply chain architects, it represents a highly complex, energy-intensive industrial process caught in the crosshairs of the global energy transition. While public discourse on sustainability frequently fixates on agricultural practices or retail packaging, the true operational bottleneck of the net-zero race lies within the industrial processing core: thermal roasting and manufacturing operations.

In 2026, the industrial roasting sector faces a dual crisis. It must aggressively decarbonize to meet stringent Scope 1 and Scope 2 regulatory mandates, while simultaneously navigating a highly volatile energy landscape characterized by fluctuating grid infrastructures and raw material price shocks. Moving beyond superficial compliance narratives, a structural analysis reveals a stark operational paradox. Transitioning industrial operations from fossil-fuel-reliant thermal systems to green alternatives introduces new layers of systemic risk, forcing operations managers to balance thermodynamic consistency with volatile energy economics.

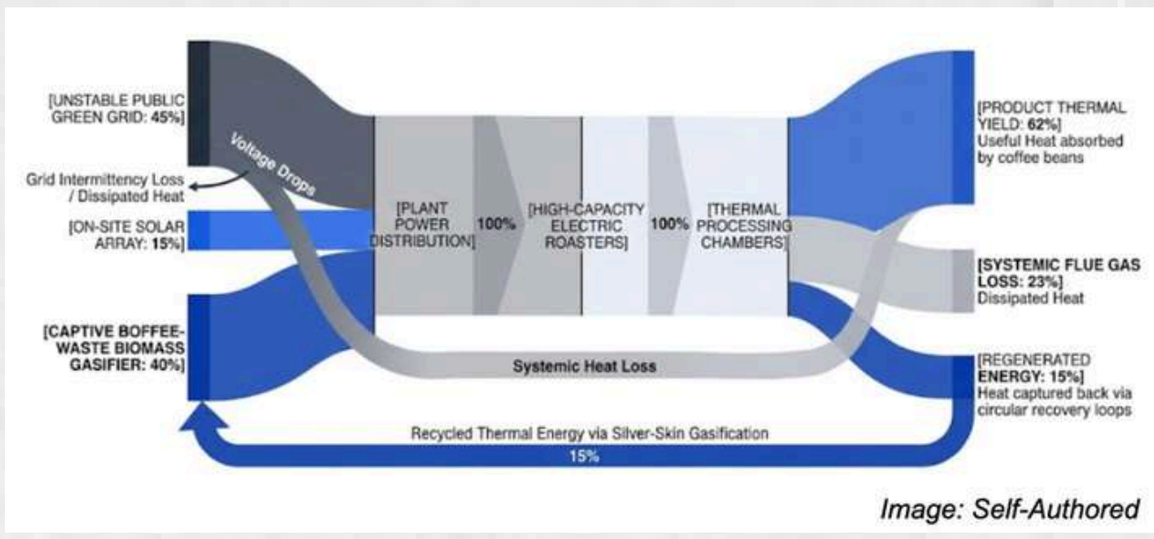


Image: Self-Authored

The Mechanics of the "Thermal Transition Trap"

To understand the operational friction of green industrial operations, one must look closely at the core unit operation of coffee processing: roasting. Industrial roasting requires massive, uninterrupted thermal energy to trigger the precise chemical transformations-such as the Maillard reaction and Pyrolysis-that define product quality.

Traditionally, this energy requirement has been met using natural gas, a fossil fuel prized for its high energy density and precise, instantaneous temperature controllability. Decarbonizing this operation requires a fundamental shift

toward industrial electrification (high-capacity electric roasters) or green hydrogen alternatives. However, this transition triggers a self-reinforcing operational bottleneck- the Thermal Transition Trap:

- The Intermittency Spillover: When an industrial facility switches to high-capacity electric roasting, its operational viability becomes directly tied to the local electricity grid. As regional grids transition from baseload fossil fuels to renewable sources (solar and wind), power quality and pricing experience extreme, high-frequency volatility.
- The Cost-Quality Asymmetry: Unlike natural gas, which offers smooth thermal curves, early-stage electric or biomass-driven thermal systems often suffer from thermal lag. In a high-volume manufacturing environment, a micro-fluctuation of even 2°C can ruin an entire multi-tonne batch, leading to unprecedented industrial waste and a collapse in operational yield.
- The Capital Expenditure Lock-in: Transitioning a legacy industrial facility to net-zero operations requires deep capital expenditure. If a firm over-indexes on an unproven green thermal technology, it risks locking itself into a sub-optimal asset base that degrades unit economics for the next decade.

From Linear Chains to Closed-Loop Energy Ecosystems

Traditional operations management views energy as a variable input cost to be managed via procurement contracts. In the net-zero race, this linear view is entirely obsolete. Industrial facilities must treat energy generation, thermal processing, and agricultural waste as an interconnected, reflexive system.

The danger lies in treating decarbonization as an isolated compliance task rather than an integrated operational strategy. To achieve genuine operational resilience, forward-thinking manufacturers are deploying Circular Thermal Co-generation Systems. Instead of drawing exclusively from an unstable green power grid, industrial plants are repurposing coffee silver-skin (the primary byproduct of the roasting process) and spent coffee grounds as a high-density biomass fuel source.

By gasifying this operational waste on-site, facilities generate clean, localized thermal energy to power their roasters. This effectively insulates production schedules from external energy grid turbulence. This shift transforms a linear, waste-generating supply chain into a self-sustaining, closed-loop industrial ecosystem.

Quantifying the Green Operational Frontier

For operations directors and supply chain heads, traditional performance metrics like Overall Equipment Effectiveness must be fundamentally rewired. In 2026, optimizing for speed alone is a recipe for financial execution failure; operations must optimize for the Carbon-Utility Frontier.

This requires the real-time tracking of two critical operational vectors:

1. Thermal Efficiency Realisation (TER): Measuring the exact quantum of clean energy successfully transferred to the core product versus the energy dissipated due to systemic lag in electrified machinery.
2. The Green Premium Variance: Tracking the real-time cost differential between operating on transitioning public grids versus localized, self-generated bio-energy systems. When grid prices spike due to renewable supply deficits, the system must automatically throttle production or switch to stored biomass energy.

Managerial Implications: Executing the Net-Zero Shift

For corporate supply chain officers and manufacturing heads, surviving the energy transition demands an immediate pivot from reactive mitigation to proactive infrastructural engineering. Operational execution must be redesigned across three fundamental pillars:

1. Dynamic Thermal Scheduling over Static Planning: Facilities must move away from rigid, calendar-based production schedules. In a regime where industrial power costs vary based on real-time renewable availability, manufacturing runs must be dynamically scheduled. Operations should be algorithmically timed to coincide with peak localized energy generation or low-tariff grid windows, minimizing the financial burden.
2. Decentralized Co-Generation Infrastructure: Corporate treasuries can no longer view on-site renewable energy infrastructure as an optional sustainability trophy. It is a core operational defense mechanism. Investing in localized biomass gasification and industrial battery storage is essential to maintain baseline processing capacity when the primary energy grid experiences transition shocks.
3. Thermodynamic Skill-Upgrading: The shift from mechanical, gas-fired processing to highly automated, electrified, and data-driven thermal systems redefines the floor-level workforce requirement. The traditional job description of a plant operator is dead. The modern workforce must be reskilled in data-driven thermodynamics and predictive asset maintenance to manage the delicate interplay between digital twins, IoT sensory networks, and green thermal machinery.

Conclusion: The New Anatomy of Operational Excellence

The global industrial landscape has mutated. The democratization of green technology has stripped away the competitive advantage of simply claiming to be "sustainable. "The winners of the next decade will not be those who purchase carbon offsets to mask inefficient, legacy operations.

They will be the operational architects who understand the granular plumbing of their thermal supply chains.

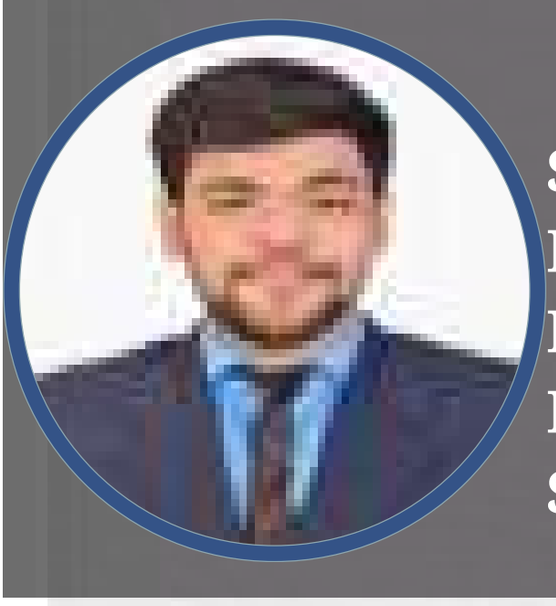
In 2026, true operational alpha is no longer just about maximizing throughput or minimizing raw material costs. It is about building an industrial architecture resilient enough to absorb the structural shocks of a world transitioning its entire energy base. From the processing beans to the final boardroom delivery, the future belongs to those who turn the cost of decarbonization into an unassailable operational moat.

REFERNCES

- *World Economic Forum (2025) - The Net-Zero Industrial Blueprint: Transitioning High-Thermal Manufacturing Sectors.*
- *Harvard Business Review (2025) - Managing Supply Chain Infrastructure Through the Global Energy Transition.*
- *Journal of Cleaner Production (2025) - Biomass Gasification and Closed-Loop Thermal Dynamics in Agricultural Commodity Processing.*
- *McKinsey & Company Operations Practice (2026) - Green Ops: Rewiring Unit Economics for the Electrified Industrial Plant.*

CARBON MARKETS:
THE NEW ASSET CLASS POWERING THE ENERGY TRANSITION WITH SPECIAL REFERENCE TO MAHARASHTRA STATE, INDIA

NATIONAL FINALIST



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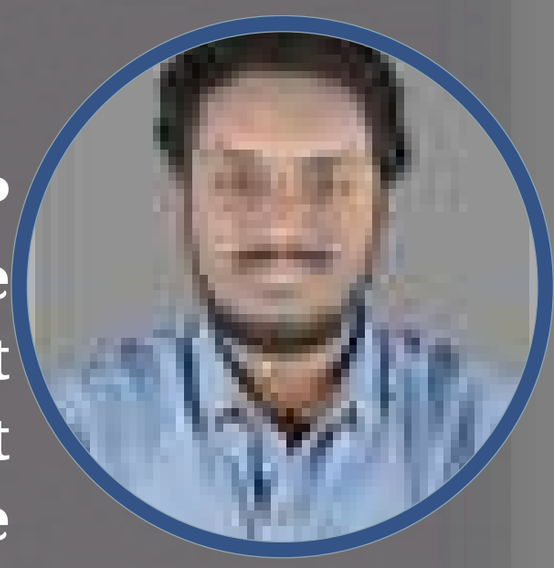


Why Carbon Markets Matter for Maharashtra in 2026 ?

Maharashtra, contributing nearly 15% of India's GDP, sits at the heart of the country's industrial growth, with large clusters of cement, steel, petrochemical, textile, and refinery industries driving economic activity. However, these sectors are also among the state's largest emitters, placing Maharashtra at the centre of India's climate transition. In 2026, carbon markets are no longer a future possibility, they are a business reality, with nearly 490 industrial entities now operating under India's Carbon Credit Trading Scheme (CCTS). Emission reductions have become financially valuable through carbon credits, while global regulations such as the EU's CBAM are raising the cost of inaction for exporters. For Maharashtra, the shift to a low-carbon economy is not just about compliance; it is an opportunity to strengthen competitiveness, attract investment, and lead India's next phase of sustainable industrial growth.

Global Carbon Markets: Financial Landscape and Comparative Analysis

According to market research estimates, the global carbon credit market exceeded USD 800 billion in 2024-25 and is projected to grow into a multi-trillion-dollar market over the next decade, driven by expanding compliance markets, voluntary carbon trading, and stricter climate regulations worldwide. This trajectory places carbon firmly alongside equities and commodities as a major asset class.

Region / Market	Mechanism Market Status (2025- 26) Coverage Carbon Price (2025)
European UnionEU ETS (Cap & Trade)World's largest mature compliance market	~40% of EU emissions ~EUR 55–70 / tCO_2e
China National ETS (Intensity-based Trade)	World's largest by emissions volume~8 Bn tCO_2e/yr; Power sector; expanding to Steel, Cement ~CNY 80–100 / tCO_2e

North America WCI + RGGI (Cap & Trade)	Mature regional carbon markets Power & Industrial sector USD 25–40 / tCO_2e
India	(ICM/CCTS) Intensity-based Baseline & Credit Emerging compliance market 490 obligated entities across major industrial sectors Price discovery underway in 2026

Entering this landscape in 2026, has the opportunity to learn from mature systems and leapfrog to a robust market architecture but faces the same structural challenges of price stability, MRV rigour, and market liquidity.

From Kyoto to Paris: The CDM Legacy and India's Carbon Heritage

India's involvement in carbon markets began with the Kyoto Protocol (1997), under which the Clean Development Mechanism (CDM) enabled developing countries to earn Certified Emission Reductions (CERs) through clean energy and energy-efficiency projects. India emerged as one of the world's leading CDM destinations, reflecting its strong potential for low-carbon development. A significant milestone came in 2012 when the UNFCCC's 4,000th registered CDM project was a wind power project in Maharashtra, expected to reduce 21,807 tonnes of CO_2 annually, highlighting the state's early contribution to global carbon markets.

Building on this foundation, the Bureau of Energy Efficiency's (BEE) Perform, Achieve and Trade (PAT) scheme helped Indian industries save over 106 million tonnes of CO_2 emissions between 2015 and June 2024. Covering more than 1,300 entities across 13 sectors, PAT created the institutional framework for today's Carbon Credit Trading Scheme (CCTS). The shift from PAT's focus on energy efficiency to CCTS's direct greenhouse gas targets marks India's transition towards market-driven decarbonisation, where carbon is increasingly treated as a tradable financial asset.

BEE, CCTS, and the Regulatory Architecture: Guidelines, Targets & Penalties

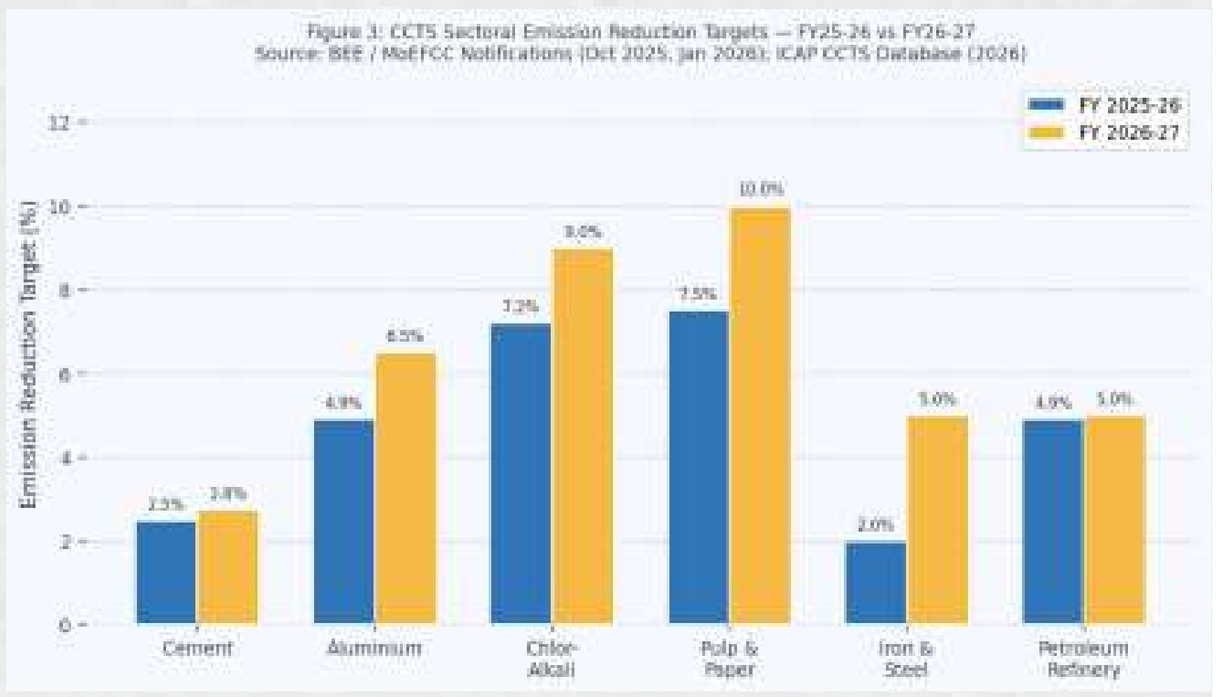
The Bureau of Energy Efficiency (BEE), under the Ministry of Power, serves as the designated administrator of India's carbon market. Its mandate has expanded significantly from managing energy efficiency targets to overseeing the full architecture of the Indian Carbon Market (ICM).

Key Regulatory Features of India's CCTS (as of June 2026):

- Legal Basis: Energy Conservation (Amendment) Act, 2022; CCTS officially notified June 2023
- Coverage: 490 entities across 9 sectors (Aluminium, Cement, Chlor-Alkali, Pulp & Paper, Iron & Steel, Fertilisers, Petroleum Refinery, Petrochemicals, and Textiles)
- Mechanism: Intensity-based 'baseline-and-credit' scheme; targets set as tCO_2e per unit of output, baseline year FY 2023-24
- Credits: One Carbon Credit Certificate (CCC) = one tonne of CO_2e reduced; unlimited banking permitted
- Trading Platform: India's power exchanges (IEX, PXIL) under supervision of CERC (Central Electricity Regulatory Commission)

Table 2: Sectoral Emission Reduction Targets under CCTS

Sector No. of Entities (India)	Reduction Target FY25-26 FY26-27
Cement 186	~2-3% ~2.5-3%
Aluminium 13	~2.8-7.06% Higher trajectory
Chlor-Alkali 30	~3.3-11% Higher trajectory
Pulp & Paper 53	Up to 15% Higher trajectory
Iron & Steel Notified Jan 2026	~1-3% ~2-8%
Petroleum Refinery 21 (2 in Maharashtra)	~4.2-5.5% ~5%
Petrochemicals / Textiles / Fertilisers Remaining entities	sector specific

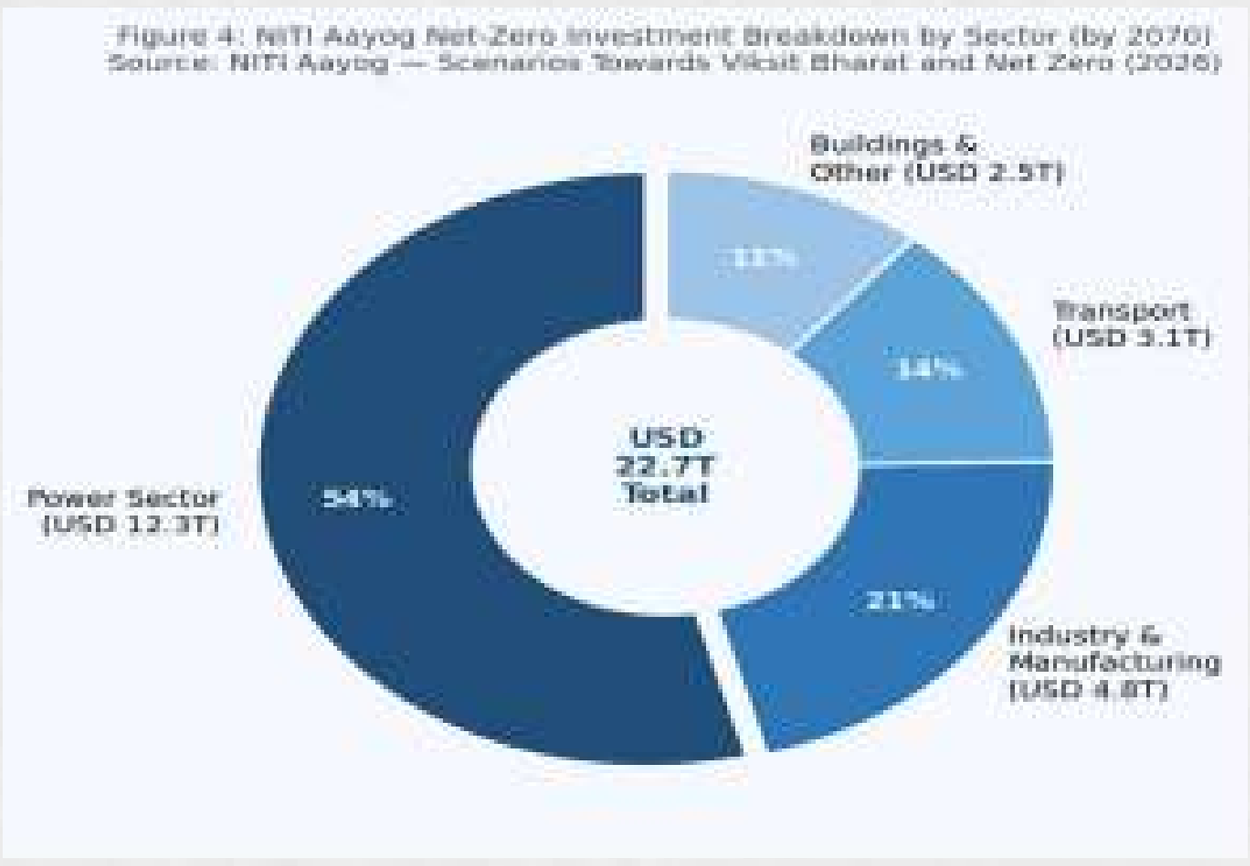


Under the GHG Emission Intensity Target Rules (2025), entities failing to meet their targets face a financial penalty equal to twice the prevailing market price of carbon credits per unit of shortfall. For Maharashtra's refinery and cement sectors, this penalty mechanism transforms carbon management from a CSR footnote into a core treasury function.

NITI Aayog's Strategic View: Investment Imperative for India

Strategic projections within NITI Aayog's Scenarios Towards Viksit Bharat and Net Zero (2026) indicate that India necessitates a staggering cumulative capital mobilization of nearly USD 22.7 trillion by 2070 to realize its net-zero ambitions. Within this financial landscape, the power sector represents approximately USD 12.3 trillion exceeding 50% of the total requisite funding—reinforcing its pivotal position in the nation's energy evolution. Furthermore, the analysis envisions a decisive departure from fossil fuel reliance, culminating in a total shift toward non-fossil-based power generation by the year 2070.

Figure 4: NITI Aayog Net-Zero Investment Breakdown by Sector (by 2070)
Source: NITI Aayog — Scenarios Towards Viksit Bharat and Net Zero (2026)



Maharashtra's Carbon Opportunity: A State-Level Perspective

Maharashtra presents a compelling micro-case for carbon market participation. The state has identified 14 districts with the highest concentration of fossil-fuel-intensive industries, including coal-based thermal power plants, iron and steel facilities, petroleum and chemical plants, cement plants, brick kilns, and foundries (Climate Group / Maharashtra Government).

From a sectoral standpoint, Maharashtra is home to entities in at least four CCTS-notified sectors: petroleum refinery (2 units notified), petrochemicals, cement (UltraTech, ACC plants), and textiles. JSW Steel's Salav Works in Maharashtra has already implemented CCUS (Carbon Capture, Utilisation and Storage) technology to produce low-emission steel using natural gas and DRI, positioning itself for both CCTS compliance and potential carbon credit generation.

Maharashtra is well-positioned to benefit from India's emerging carbon market, with Mumbai's financial ecosystem playing a key role in financing and trading carbon credits. As the Carbon Credit Trading Scheme (CCTS) becomes operational, banks and investors can support industries through green bonds and carbon-linked financing. Carbon credits also create new business opportunities by connecting Indian industries with global buyers. At the same time, exporters from sectors such as steel and petrochemicals must prepare for stricter carbon regulations in international markets, particularly the EU's CBAM framework. By helping industries measure and reduce emissions, the CCTS can strengthen Maharashtra's competitiveness and attract sustainable investment.

Carbon as the Currency of Maharashtra's Industrial Future

Carbon markets in 2026 are not a future prospect, they are an operational financial reality. By 2025, the global carbon market has grown to over USD 1 trillion and is projected to exceed USD 8

trillion by 2035, highlighting the increasing financial importance of carbon pricing. For Maharashtra, this transition presents a significant opportunity as industries can generate Carbon Credit Certificates (CCCs) by reducing emissions and create new revenue streams. At the same time, companies that fail to meet emission targets may face penalties and growing export challenges under mechanisms such as the EU's CBAM. With its strong industrial base and legacy of successful carbon projects, Maharashtra is well positioned to capitalize on the emerging carbon economy.

Carbon, once a liability on industrial balance sheets, is now the asset class powering the energy transition and Maharashtra has both the industrial base and the financial market depth to lead India's carbon economy.

REFERENCE

[1] ICAP – India notifies emission intensity targets for nine sectors under CCTS (Nov 2025): https://icapcarbonaction.com/en/news/india-notifies-emission-intensity-targets-nine-sectors-under-carbon credit-trading-scheme

[2] ICAP – Indian Carbon Credit Trading Scheme (ETS Factsheet, 2026): https://icapcarbonaction.com/en/ets/indian-carbon-credit-trading-scheme

[3] BEE, Government of India – Carbon Market: https://beeindia.gov.in/show_content.php?lang=1&level=1&ls_id=189&lid=294

[4] GreenSutra – Indian Carbon Market: All You Need to Know (March 2026): https://greensutra.in/indian carbon-market-all-you-need-to-know/

[5] Climate Policy Lab – From PAT to CCTS (May 2025): https://www.climatepolicylab.org/communityvoices/2025/5/22/from-pat-to-ccts-can-indias-new-carbon-market fix-the-past

[6] Market Research Future – Carbon Trading Market Size & Forecast (2025): https://www.marketresearchfuture.com/reports/carbon-trading-market-22870

[7] Polaris Market Research – Carbon Credit Market Forecast (2026–2034): https://www.polarismarketresearch.com/industry-analysis/carbon-credit-market

[8] Grand View Research – Carbon Credit Market Size, Share (2025): https://www.grandviewresearch.com/industry-analysis/carbon-credit-market-report

[9] Custom Market Insights – China Carbon Emissions Market (April 2026): https://www.custommarketinsights.com/report/china-carbon-emissions-market/

[10] Grand View Research – India Carbon Credit Market Outlook 2024–2030: https://www.grandviewresearch.com/horizon/outlook/carbon-credit-market/india

[11] Center for Sustainable Finance – State of Carbon Markets: 2025 Review (March 2026): https://centerforsustainablefinance.com/carbon-markets-2025-review

[12] UNFCCC – The Clean Development Mechanism: https://unfccc.int/process-and-meetings/the-kyoto protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism [13] UNFCCC CDM – 4,000th Registered CDM Project (Maharashtra Wind Farm, 2012): https://cdm.unfccc.int/press/newsroom/latestnews/releases/2012/07_index.html

[14] Fernando (2025) – Kyoto's CDM for Emissions Reduction, Australian J. of Agricultural & Resource Economics: https://onlinelibrary.wiley.com/doi/full/10.1111/1467-8489.12615

[15] NITI Aayog Net Zero Report – India needs USD 22.7 trillion (February 2026): https://www.argusmedia.com/en/news-and-insights/latest-market-news/2786864-india-needs-22.7-trillion-to hit-net-zero-niti-aayog

[16] Offset8 Capital – Indian Carbon Market: CCTS and Article 6 (March 2026): https://offset8capital.com/articles/indian-carbon-market-ccts-article6/

[17] Deccan Herald – Can India's carbon market pivot boost climate action? (Dec 2025): https://www.deccanherald.com/amp/story/opinion/can-indias-carbon-market-pivot-boost-climate-action 3842100

[12] UNFCCC – The Clean Development Mechanism: https://unfccc.int/process-and-meetings/the-kyoto protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism

13] UNFCCC CDM – 4,000th Registered CDM Project (Maharashtra Wind Farm, 2012):

THE INTELLIGENT LAST MILE
HOW EV FLEETS, DRONES, AND CONNECTED CITIES ARE REWIRING URBAN DELIVERY

NATIONAL FINALIST

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2026-2028

Every 10-minute grocery delivery sets off a chain reaction. A battery-powered two-wheeler threads through Mumbai traffic. A transformer absorbs unmanaged charging demand. A routing algorithm reassigns three vehicles in real time. This is not future-tense—it is the reality of urban logistics across India's major cities, illustrating why last-mile delivery remains the most expensive, congested, and carbon-intensive segment of the supply chain.

Last-mile operations account for over 53% of logistics costs and nearly 30% of freight emissions (Accenture, 2023). The global market, valued at USD 167 billion in 2024, is projected to reach USD 349 billion by 2033. Under a business-as-usual scenario, urban delivery emissions will rise 60% by 2030. Electrification, drones, and AI are standard corporate responses. Yet, the critical question remains: can these technologies, deployed in isolation, actually close the gap? They cannot.

The Last Mile Problem: Cost, Congestion, and Carbon

The last mile is a structural paradox: the shortest delivery segment consumes the largest resource share. Failed first-attempt deliveries—affecting 5–10% of urban parcels—effectively double the cost and emissions of affected shipments, yet this failure rate barely registers in sustainability discourse.

India's situation is acute. E-commerce is growing at a **21.5%** CAGR into infrastructure built for neither this volume nor velocity. Platforms like Blinkit and Zepto collapsed consumer expectations to a 10-minute window. The dark-store model enabling this—geographically dense micro-inventory nodes—is structurally incompatible with consolidated logistics. Electric vehicles (EVs) clean individual trips, but cannot fix the inefficiency of fragmenting routes to chase 10-minute deadlines.

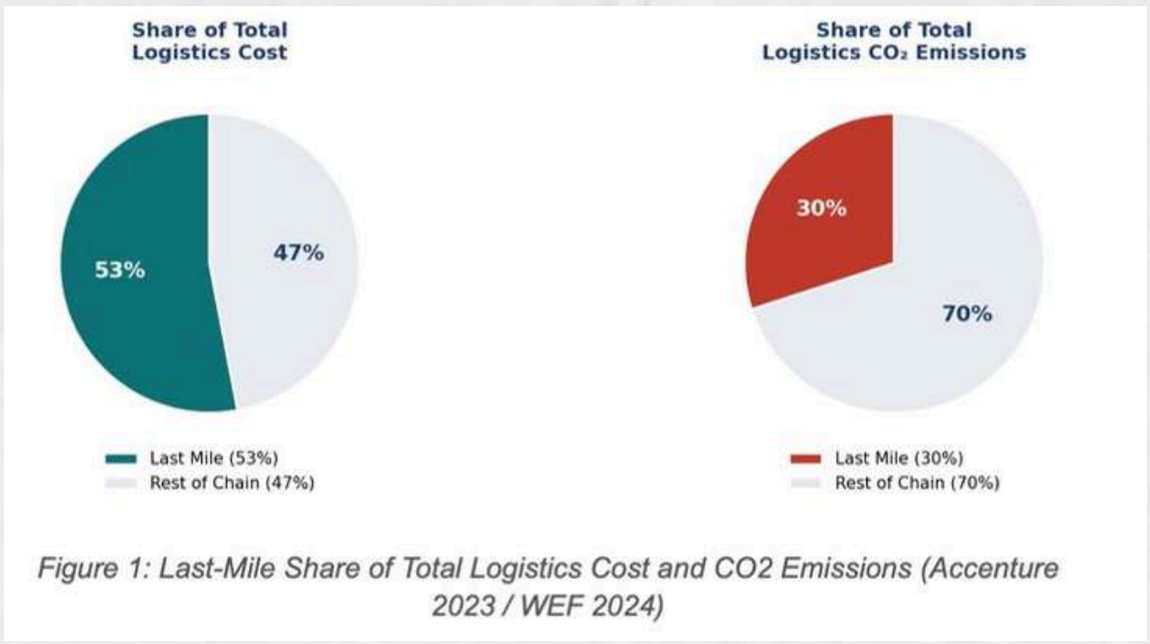

Figure 1: Last-Mile Share of Total Logistics Cost and CO2 Emissions (Accenture 2023 / WEF 2024)

EV FLEETS: ECONOMICS AND THE LIMITS OF ELECTRIFICATION

Corporate fleet electrification is highly visible. Amazon deployed over 25,000 Rivian EVs across US stations; India's Flipkart crossed 10,000 EVs by late 2024, electrifying over 70% of grocery deliveries. The financial trajectory is compelling: a 10-truck EV fleet saves roughly USD 850,000 over ten years relative to diesel, driven by 60–80% lower fuel costs and 36% less maintenance spends (7Gen, 2026; ICCT, 2024).

Yet the net-zero cases rests on a fragile assumption: the grid must be clean, and charging intelligently scheduled. A 2024 PNAS study identified uncoordinated depot charging as the primary grid bottleneck; three vehicles drawing simultaneously from a 25 kVA transformer risk hardware failure. In coal-heavy grids, an EV charged without smart scheduling carries a higher carbon footprint than a Euro-6 diesel van. The vehicle is not the problem; the infrastructure is.

Time-of-Use pricing and AI load scheduling shift charging to off-peak windows, cutting peak demand by 30–40%. Furthermore, Vehicle-to-Grid (V2G) technology—discharging batteries to the grid during evening peaks—can reduce EV running costs by 80% (Energy Hub, 2024). The solution requires deliberate co-investment in infrastructure, not merely vehicle procurement.

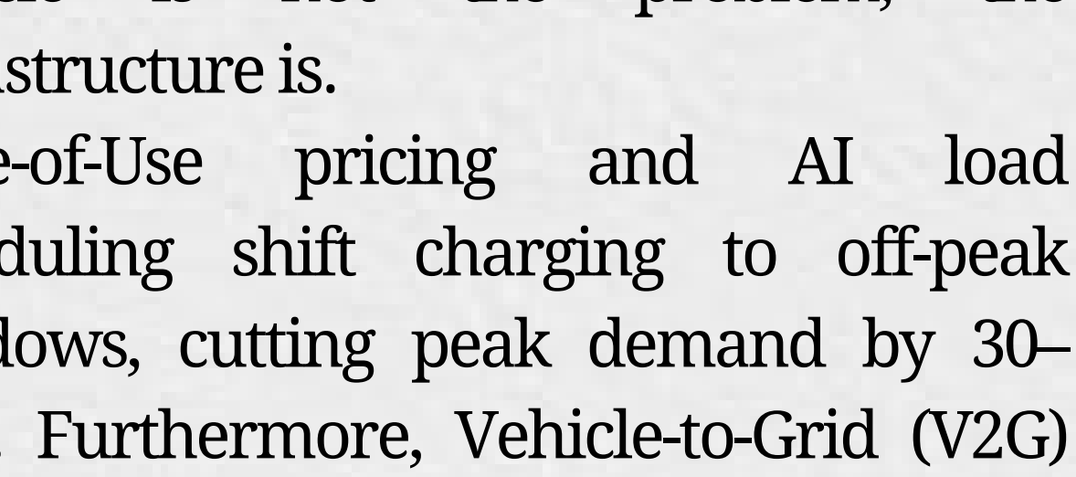

Chart 1: EV vs. Diesel 10-Year Total Cost of Ownership — 10 Medium-Duty Trucks (7Gen 2026)

Drones: Genuine Promise, Structural Ceiling

The drone delivery market is expanding 48% annually, projected to hit USD 16 billion by 2030 (Grand View Research, 2025). Zipline surpassed two million deliveries by January 2026, and Wing targets 60 million US households by year-end. The operational case is undeniable, yet limited to narrow contexts: time-critical medical shipments, rural routes, and premium sub-2kg payloads.

The commercial payload ceiling of 2 to 8 pounds is a strict physics and regulatory constraint excluding most e-commerce SKUs. Amazon Prime Air's early-2025 suspension over sensor issues proves commercial reliability is harder than prototype performance suggests. As the WEF noted, London simply lacks the airspace to route every parcel by air.

The realistic forecast: drones will claim 1–5% of urban deliveries by 2030, concentrated in peri-urban corridors. Asset-light Drone-as-a-Service (DaaS) models are necessary to make unit economics work. The true competitive moat is regulatory. UPS Flight Forward's FAA Part 135 certification took years; that first-mover advantage compounds rapidly.

Connected Cities: The Intelligence Layer

The genuine transformation in last-mile logistics lies within the systems layer connecting vehicles, infrastructure, and demand signals. AI route optimization, currently deployed by 41% of logistics providers (WEF, 2024), measurably reduces fuel consumption. The ambitious 2030 architecture is a dispatch stack

where AI assigns each parcel to the optimal transport mode in real time, processing weight, urgency, airspace, grid state, and weather.

Micro-Fulfilment Centres (MFCs) form the physical infrastructure beneath this intelligence. At 3,000–10,000 square feet, MFCs reduce per-order CO2 by 35–50% and slash delivery times by over 40%. Accenture found MFCs could cut London's annual delivery vehicle miles by 320 million. Paired with rooftop solar and battery storage, these nodes approach carbon-neutral operations in grid-constrained environments.

India serves as a vital laboratory for this convergence. EMO Energy's battery-swapping network powers over 300,000 monthly deliveries across 12 cities. Battery swapping is not a workaround; it is the correct operational solution for fleets unable to afford 30-minute charging windows inside a 10-minute promise. Western markets have largely ignored this model because they lack this velocity constraint.

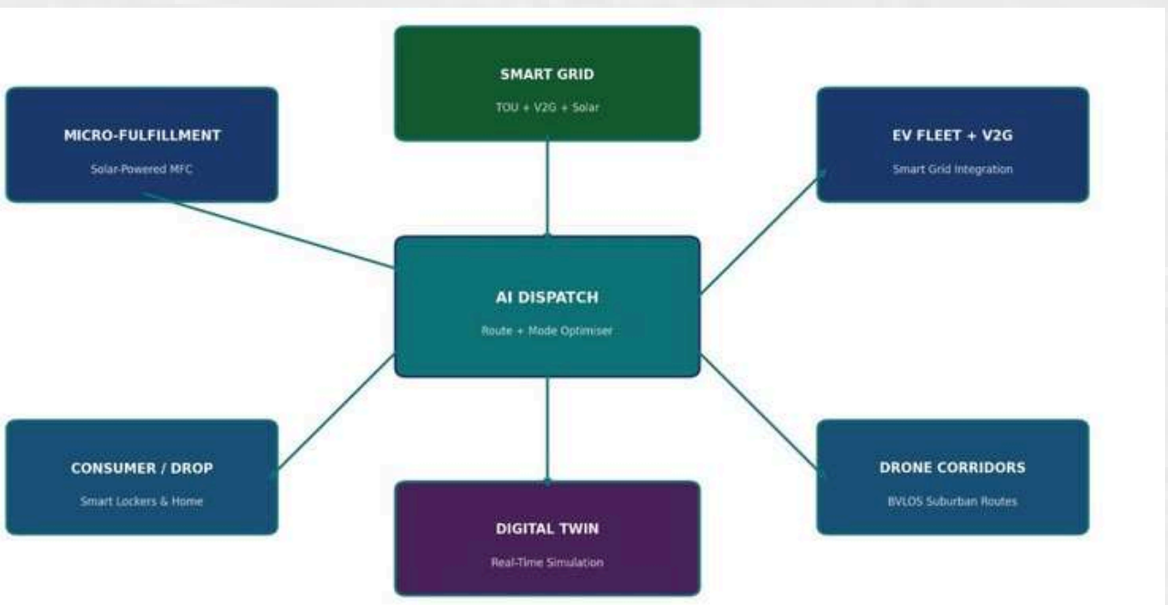

Exhibit 1: Connected Last-Mile Ecosystem — MFC, EV Fleet, Drone, Smart Grid Integration (Analyst Framework)

Three Assumptions That Demand Pushback

Most analyses echo the same optimistic consensus. However, three foundational assumptions require robust pushback:

- **EVs do not automatically decarbonize logistics.** In coal-heavy grids, unmanaged fleet charging activates fossil-fuel peaker plants, potentially increasing net emissions. Operators deploying electric fleets without smart charging infrastructure merely shift carbon risk from the tailpipe to the power station.
- **Pickup-point consolidation can backfire.** A *Nature* study found that when collection lockers are over 3 km away, more than **30%** of customers drive to retrieve their parcel (WEF/arxiv, 2025). That car trip generates more emissions than a dedicated van delivery. Consolidation is only sustainable if geospatial mapping prevents secondary driving.
- **Quick-commerce and sustainability are structurally at odds.** The 10-minute model demands a dark-store density and vehicle frequency opposing efficient logistics. While EVs reduce individual trip emissions, they do not resolve the route fragmentation that multiplies total trips. Hyper-speed carries an environmental cost that alternative fuels cannot resolve.

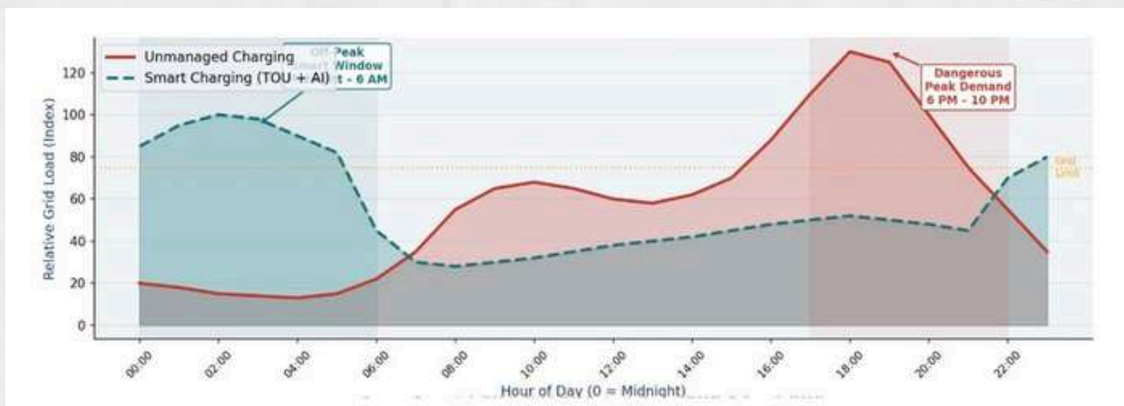

Figure 2: Smart vs. Unmanaged EV Charging — 24-Hour Grid Load Profile (Energy Hub 2024 / PNAS 2024)

The Last Assumption

The last-mile problem is fundamentally a systems problem.

A city electrifying its delivery fleet without upgrading transformer infrastructure has merely relocated the bottleneck. A retailer launching drone delivery without resolving airspace density has only carved out a PR-friendly niche.

By 2035, the competitive edge will belong to operators constructing a closed-loop utility: integrating MFCs, EV fleets with V2G capability, dedicated drone corridors, and AI dispatch. These operators will act as energy market participants—monetizing V2G flows, accumulating carbon credits, and bypassing Low Emission Zone penalties. Bloomberg NEF projects EV total cost of ownership parity with internal combustion vans by 2027. The economics are converging; the question is whether systems intelligence will converge alongside them.

India's contribution to this future remains underappreciated. Battery swapping, shared energy networks, and the operational rigor of 10-minute windows have forced solutions developed markets haven't needed to build. Flipkart's EV scale and EMO's swap volumes position India not as an importer of Western logistics models, but as a future exporter, signalling that next-generation infrastructure thinking may travel East to West.

Ultimately, the final hurdle is not the last kilometre. It is the last assumption: the enduring, flawed belief that deploying better vehicles in isolation is a sufficient response to the massive scale and complexity of modern urban logistics.

REFERNCE

Accenture. (2023). Last-Mile Delivery: Managing the Costs and Complexity. Accenture Insights.

Austin Energy. (2025). Time-of-Use Pricing and EV Fleet Demand Management. Austin Energy Annual Report.

BloombergNEF. (2024). Electric Vehicle Outlook 2024: Last-Mile Cost Parity Projections. BNEF.

Boston Consulting Group (BCG). (2025). Sustainability in Last-Mile Logistics: MFC Impact Analysis. BCG.

CrowdCharge / DriveElectric. (2024). Smart Charging and V2G Cost Reduction Analysis. CrowdCharge Industry Report.

DAC Beachcroft / University of Newcastle. (2025). The Future of Last-Mile Logistics. DAC Beachcroft Research.

Driivz. (2026, February). Fleet Electrification: Closing the 2025 Deployment Gap. Driivz.

EnergyHub. (2024, November). Avoiding Gridlock: Distribution Impacts of EV Charging. EnergyHub.

Flipkart. (2024). 100% Electric Mobility — EV100 Progress Report. Flipkart Corporate.

Fleet Rabbit. (2026, March). EV vs. Diesel Fleet Cost Comparison 2026 Guide. Fleet Rabbit.

Fortune Business Insights. (2025). Drone Package Delivery Market Report 2025–2032. Fortune Business Insights.

Grand View Research. (2025). Last Mile Delivery Market Size Report

2025–2033. Grand View Research.
Grand View Research. (2025). Drone Logistics and Transportation Market Report 2025–2030. Grand View Research.
IJES Academic Study. (2025). Dark Stores and Micro-Fulfillment Centers for Supply Chain Agility in Indian Cities. International Journal of Engineering and Sciences.
International Council on Clean Transportation (ICCT). (2024). Battery-Electric Truck Maintenance Cost Analysis. ICCT.
McKinsey & Company. (2021). Efficient and Sustainable Last-Mile Logistics: Lessons from Japan. McKinsey Center for Future Mobility.
McKinsey & Company. (2023). The Future of Last-Mile Ecosystem. McKinsey Insights.
Mordor Intelligence. (2026). Delivery Drones in Service Fleet Projections 2024–2030. Mordor Intelligence.
Nature Cities. (2026, April). Decarbonising Last-Mile Logistics in Chinese Cities. Nature Cities.
PNAS. (2024, April). Impact of EV Charging Demand on Distribution Grid Congestion. Proceedings of the National Academy of Sciences.
ScienceDirect. (2026, May). Smart EV Charging of Fleet and Personal EVs Through Joint V2G Optimisation. ScienceDirect.
Scientific Reports (Nature). (2024, October). Managing Grid Impacts from EV Adoption. Scientific Reports.
SkyQuest. (2025). Global Last Mile Delivery Market Report 2025–2033. SkyQuest.
7Gen. (2026). EV vs. Diesel Total Cost of Ownership for Canadian Fleets. 7Gen Analytics.
WEF. (2024). Transforming Urban Logistics: A Net-Zero Framework. World Economic Forum.
WEF / arxiv. (2025, January). Differentiated Pickup Point Offering for Emission Reduction. World Economic Forum.
YourStory / EMO Energy. (2025, September). Solving India's EV Energy Bottleneck: EMO Battery Swapping. YourStory.

Winner
We4tech Hackathon 4.0

Parichay Garg, Kushal Parikh, Navya Choudhary, Ojas Tambe, Trisha Pal.

Could you give us a brief overview of this competition along with challenges faced by the team and how did you'll overcome them?

We were presented with a problem statement and tasked with identifying an effective solution. This involved analyzing the issue in depth, exploring possible approaches, and collaborating as a team to arrive at the best outcome. The process demanded clarity of thought, creativity, and teamwork to ensure our solution was both practical and innovative.

Challenges:

Our main challenges were understanding each other's strengths and deciding on the most suitable method to tackle the problem. Aligning our diverse perspectives and working styles required patience and open communication, which was crucial for building team synergy and moving forward effectively.

Overcome:

We overcame these challenges by conducting frequent meetings and emphasizing a deep understanding of the problem rather than rushing toward a solution. This approach helped us align our thoughts, respect each member's contribution, and create a stronger foundation for implementing the right method.

TEAM SAMVAD

EDITORIAL TEAM

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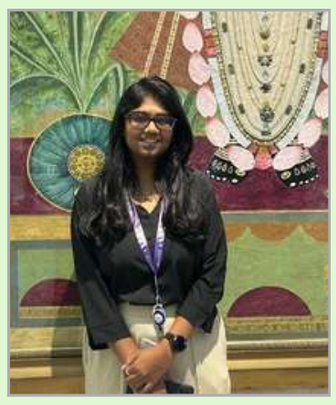

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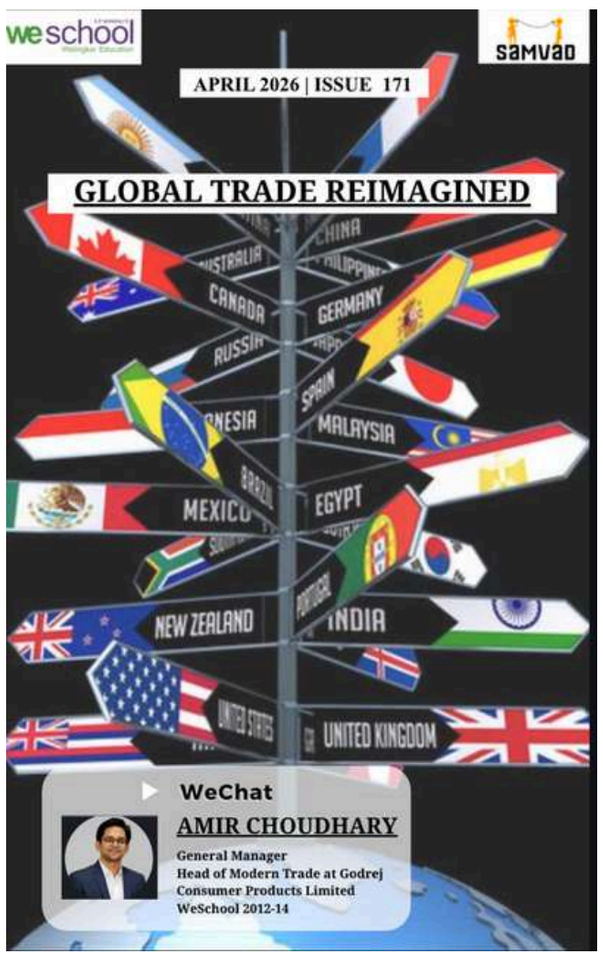

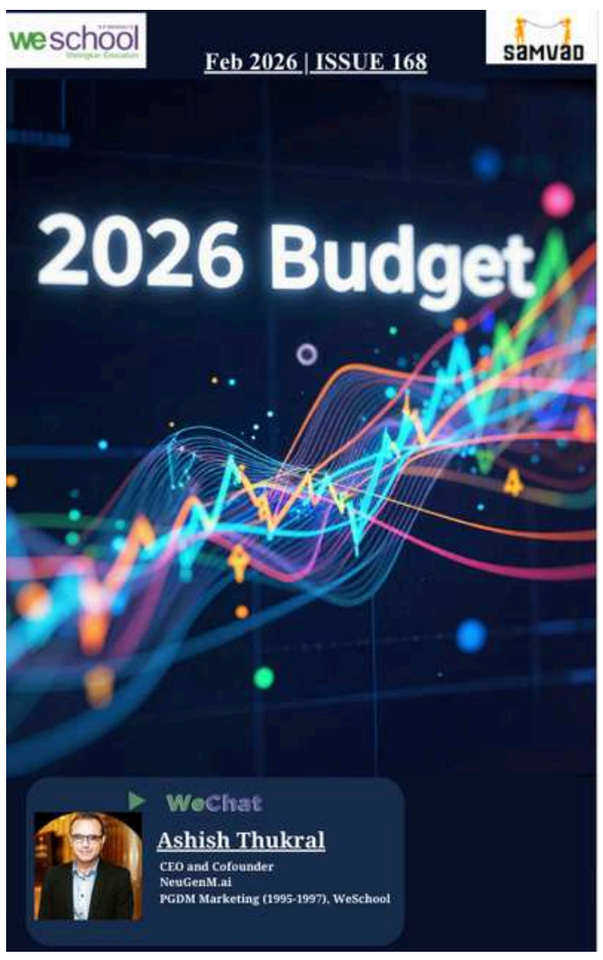

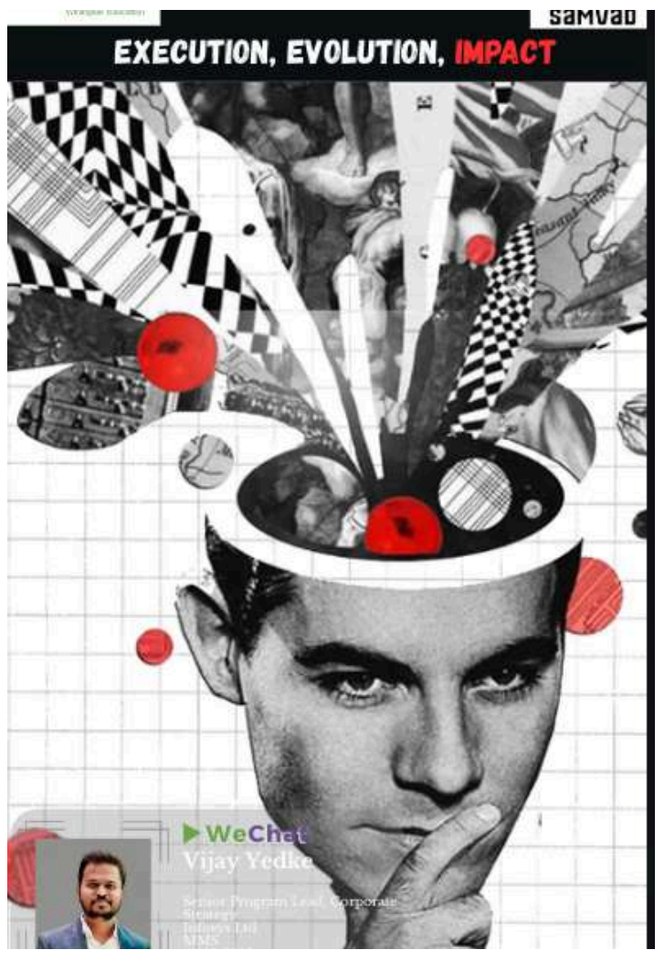

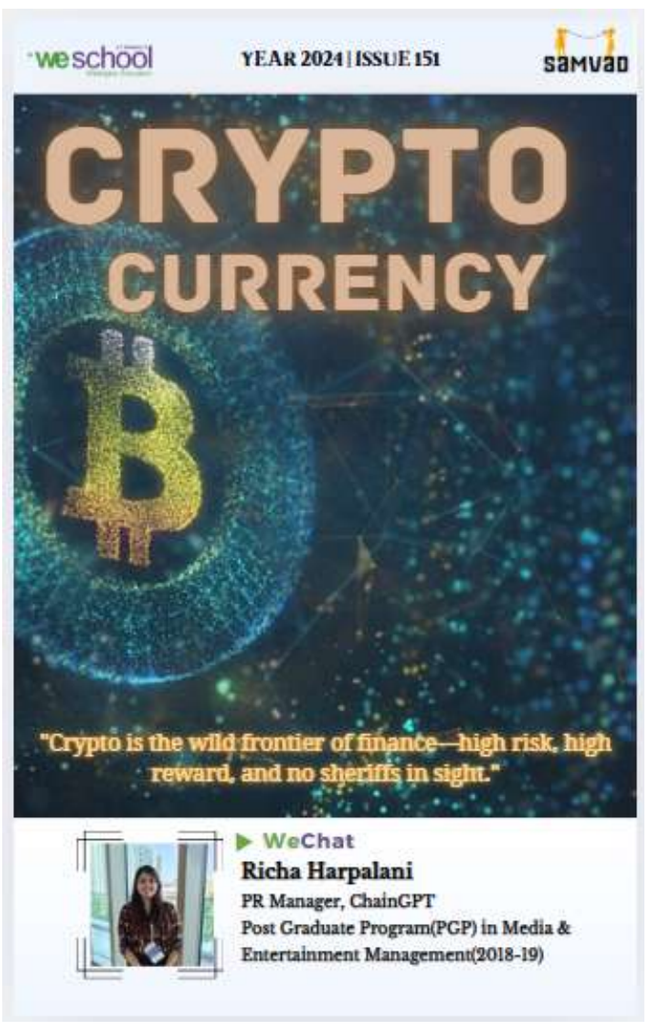

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