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# ॥ सुखिनोभवंतु ॥

(A Monthly Newsletter of Sustainability Standards Board)

ICMAI
THE INSTITUTE OF
COST ACCOUNTANTS OF INDIA
भारतीय लागत लेखाकार संस्थान
Statutory Body under an Act of Parliament
(Under the jurisdiction of Ministry of Corporate Affairs)

www.icmai.in

*Behind every successful business decision, there is always a CMA*

॥ सुखिनोभवंतु ॥

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# Message From Chairman, SSB

**"The nine days of Navratri remind us to cherish virtues daily."**

The season of joy and gaiety has begun with the onset of September, and I extend my heartfelt Dussera and Vijayadashami greetings in advance to all readers of our newsletter.

This month also reminds us of our responsibility toward the planet. Every year on September 16, we observe the *International Day for the Preservation of the Ozone Layer*. In times of escalating pollution, this is not just a day to commemorate but also a call for action to safeguard our environment. This year's theme, *"Ozone for Life: 35 Years of Ozone Layer Protection,"* is a reminder of our collective duty to protect the ozone layer and preserve the flora and fauna for a sustainable tomorrow.

A vibrant and new Board members has taken guard for this year. I am sure that with their energy and dedication, SSB is on the way for achieve many more new milestones. I eagerly look forward to their novel ideas so that the Board can implement in a timely manner.

I am also delighted to inform you that the Board has approved the "Best Article Award" for articles featured in the *Sukhinobhavantu* newsletter during the period October 2024 to September 2025. The process for selecting the best article will soon be initiated, and results will be announced by December 2025. My best wishes in advance to all the authors. No doubt, like last year there will be a close context.

I trust that our members and readers, particularly those from ICMAI, are deriving value from the *Sukhinobhavantu* newsletters and the *Vasudhaiva Kutumbakam* webinar series. It gives me great satisfaction to note that the *Pariniyati* Webinar series, a joint initiative of SSB and International Affairs committee is accepted by our members and other stake holders with both their hands. We have so far covered the Sustainability practices and opportunities in Gulf countries, Kenya and Tanzania. The next session will cover Malaysia and Indonesia. Stay tuned to the newsletter and the webpage of ICMAI SSB to get timely updates.

I am also pleased to share that enrolment for the 5$^{th}$ Batch of our ESG Course is in progress and admissions will be closing soon. I am given to understand there are good number of delegates from abroad who are getting themselves registered for the ESG course. From this it is evident that the course contents of the course are meeting the global requirements.

Lot more to cover, but I have to stop here as I have to meet the press timelines.

Durga is not outside us; she is the strength we awaken within. So during this auspicious Durga Puja days lets try to understand ourselves from with in and move ahead in a righteous and responsible way. During this Navaratri days, let us try imbibe atleast nine qualities and follow it in true spirit.

My wishes to one and all. May Durga Bless all of us always and in all ways!

**Professionally Yours,**

**CMA (Dr.) Ashish P. Thatte**
**Chairman**
**Sustainability Standards Board of ICMAI**
**September 25, 2025**

# Continent-wise Corporate Sustainability Reporting Frameworks – Mapping of SDGs and Evaluation of Diversities

## Episode 2 - North Africa - Sustainability Reporting in the Cradle of Civilization

**CMA (Dr.) Aditi Dasgupta**
Joint Director
The Institute of Cost Accountants of India
Kolkata

This article is part of the series on "Continent-wise Corporate Sustainability Reporting Frameworks – Mapping of SDGs and Evaluation of Diversities." In Episode 1 – Foundations of Corporate Sustainability Reporting, we explored how sustainability reporting has evolved from voluntary disclosures to structured frameworks that integrate environmental, social, and governance (ESG) dimensions. We discussed the global shift toward aligning corporate accountability with the UN Sustainable Development Goals (SDGs), the rise of frameworks such as GRI, Integrated Reporting (IR), and UNGC, and the increasing demand for transparency from regulators, investors, and stakeholders worldwide. The episode highlighted how corporate sustainability reporting has become both a compliance requirement and a strategic tool for long-term value creation. Building on this foundation, Episode 2 takes us to North Africa—a region where sustainability reporting is shaped by climate stress, resource scarcity, and socio-economic transitions, yet also energized by opportunities in renewable energy, green finance, and regional cooperation.

**Key Takeaways:** *North Africa is advancing sustainability reporting through frameworks like GRI, UNGC, and national ESG guidelines, with strong emphasis on climate action, clean energy, and decent work. Despite challenges such as resource gaps and political instability, green finance, renewable energy, and international cooperation present major opportunities. Indian CMAs can play a pivotal role in capacity building and assurance services, strengthening the region's sustainability ecosystem.*

North Africa, long regarded as the cradle of some of the world's oldest civilizations, today stands at the intersection of history, geography, and modern sustainability imperatives. Comprising Egypt, Morocco, Tunisia, Algeria, and Libya, the region holds a unique geopolitical position, connecting Africa, the Middle East, and Europe. Economically, it is a mosaic—ranging from resource-rich economies like Algeria and Libya, to Morocco's growing renewable energy hub, to Egypt's large and diversified market (World Bank, 2023).

Yet, North Africa is also among the most climate-stressed regions in the world. Desertification, water scarcity, rising sea levels in the Nile Delta, and extreme weather events threaten both economic and social stability (UNEP, 2022). At the same time, the region faces the challenges of rapid urbanization, high youth unemployment, and ongoing political transitions (ILO, 2023). Against this backdrop, sustainability reporting has emerged as a vital mechanism—not only to align businesses with global best practices but

also to anchor them in the development needs of their societies.

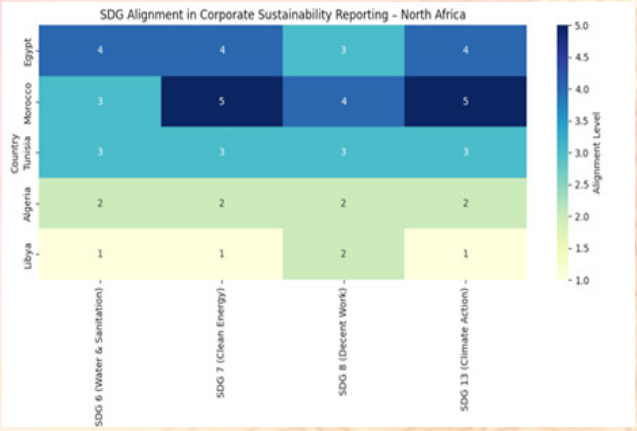
## Regional Sustainability Reporting Landscape

While the depth and maturity of sustainability reporting vary across North Africa, the trend is unmistakably forward-looking. Egypt has taken the lead by mandating ESG disclosures in its financial markets, with the Financial Regulatory Authority (FRA) requiring listed firms to publish sustainability-related information (Egyptian FRA, 2021). Morocco, often hailed as a green pioneer, has introduced its Green Bond Framework and incentivized companies to disclose environmental performance, particularly in renewable energy projects (Ministry of Economy and Finance, Morocco, 2016). Tunisia, although at an earlier stage, has witnessed SMEs and social enterprises embracing sustainability practices, supported by international donor programs (OECD, 2021).

Algeria and Libya remain in nascent stages, with fragmented reporting practices constrained by political and economic instability (African Development Bank, 2022). However, their potential is significant, especially as international investors increasingly demand transparency and ESG alignment before committing capital.

Across the region, several frameworks guide corporate disclosures. The Global Reporting Initiative (GRI) remains the most widely used, particularly among multinational subsidiaries and larger domestic companies (GRI, 2022). The United Nations Global Compact (UNGC) provides a values-based framework centered on human rights, labor standards, environmental stewardship, and anti-corruption (UNGC, 2023). Integrated Reporting (IR), inspired partly by South Africa's King IV model, is beginning to gain traction, albeit selectively (IoDSA, 2016). At the national level, Morocco's green bond policies and Egypt's FRA guidelines represent homegrown attempts to tailor ESG reporting to local realities.

## Mapping to UN SDGs



The United Nations Sustainable Development Goals (SDGs) serve as a compass for sustainability reporting across North Africa, with certain goals assuming special regional significance (UN, 2015).

- **SDG 6 – Clean Water and Sanitation**: Given the acute scarcity of water, particularly in Tunisia and Egypt, corporate disclosures often highlight initiatives around efficient water use, desalination technologies, and improved sanitation infrastructure (World Bank, 2022).
- **SDG 7 – Affordable and Clean Energy**: Morocco has emerged as a global leader in solar energy, with its Noor Solar Complex ranking among the largest in the world (IRENA, 2020). Egypt is investing heavily in wind farms and hydropower projects.
- **SDG 13 – Climate Action**: Climate change adaptation is a core theme. Companies report on carbon reduction measures, desertification control projects, and renewable energy integration (UNEP, 2022).
- **SDG 8 – Decent Work and Economic Growth**: High youth unemployment rates, exceeding 20% in several countries, make job creation central to sustainability disclosures (ILO, 2023).

Together, these SDG alignments show how corporate sustainability in North Africa is not merely about compliance—it is about survival and socio-economic transformation.

## Challenges and Opportunities

The road ahead for sustainability reporting in North Africa is not without hurdles. Limited ESG literacy remains a major obstacle (OECD, 2021). Many companies, especially SMEs, lack trained personnel capable of preparing sustainability reports aligned with global standards. Political instability in parts of the region also disrupts regulatory enforcement and continuity (African Development Bank, 2022). Moreover, the absence of standardized national frameworks leads to fragmentation, making cross-country comparisons difficult.

Yet, the opportunities are profound. Green finance is on the rise, with Morocco and Egypt issuing sovereign and corporate green bonds to fund renewable energy and sustainable infrastructure (Climate Bonds Initiative, 2021). Regional cooperation, particularly through the African Union's **Agenda 2063**, creates momentum for harmonized development goals (African Union, 2015). International partnerships, such as EU-Mediterranean sustainability initiatives, are further embedding ESG norms into corporate practices, driven by the demands of European investors and trade partners (European Commission, 2022).

## Role of Indian CMAs

This is where Indian Cost and Management Accountants (CMAs) can bring transformative value. With expertise in cost optimization, assurance, and sustainability accounting, CMAs are uniquely positioned to help North Africa bridge its ESG capacity gap.

Firstly, **capacity building**: Indian CMAs can design and deliver training programs in ESG assurance tailored to the needs of North African corporates and regulators. Secondly, **professional collaboration**: partnerships with local accounting bodies, such as Tunisia's *Ordre des Experts Comptables* or the Egyptian Society of Accountants and Auditors, can foster knowledge transfer and professional development. Thirdly, **low-cost compliance models**: leveraging technology, CMAs can develop scalable reporting templates and digital dashboards that reduce the burden of compliance for smaller firms.

By promoting South-South cooperation, Indian CMAs can help North African economies establish robust sustainability reporting ecosystems that are cost-effective, transparent, and aligned with global norms.

## Case Studies

Concrete examples demonstrate how North African countries are advancing sustainability reporting in practice.

- **Egypt:** The FRA's regulatory mandate has pushed listed companies to disclose ESG information. Leading financial institutions, such as Commercial International Bank (CIB), publish comprehensive sustainability reports aligned with GRI standards (CIB, 2022).

- **Morocco:** The country has positioned itself as a leader in green finance. Its issuance of green bonds and investments in solar and wind projects are accompanied by transparent reporting (Climate Bonds Initiative, 2021). The Casablanca Stock Exchange also actively promotes ESG practices among listed companies.
- **Tunisia:** While less advanced, Tunisia's SMEs are beginning to incorporate sustainability practices. Sectors such as textiles and agriculture are seeing donor-backed projects that improve ESG literacy and encourage adoption of sustainability reporting (OECD, 2021).

These case studies illustrate both the progress and the diversity of approaches across North Africa.

North Africa's journey in sustainability reporting is a story of both ancient roots and modern aspirations. As a region that once gave the world early models of civilization and governance, it now faces the challenge of redefining progress in the age of climate change and globalization. While political instability, capacity gaps, and fragmented frameworks remain challenges, the region's strides in renewable energy, green finance, and SDG mapping are promising.

Crucially, partnerships—whether with international investors, regional institutions, or professional networks like Indian CMAs—will shape the trajectory of sustainability reporting in the years ahead. North Africa's cradle of civilization is evolving into a cradle of sustainable development, with reporting as both a mirror of challenges and a map to future opportunities. SB

*(to be continued...)*

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# Spirituality in Leadership – Beyond Compliance to Purpose

## Part-2

**CMA (Dr.) Aditi Dasgupta**
Joint Director
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As the second article in the series *Spirituality, Governance, and Sustainability – An Integrated Pathway for Ethical Leadership*, this piece examines how spirituality enriches leadership by moving beyond regulatory compliance toward purpose-driven governance. It explores the role of mindfulness, empathy, and servant leadership in fostering authenticity and cautions against the risks of "ethics washing" in organizational practices. By linking personal values with institutional missions, leaders can align governance with ethical responsibility and long-term sustainability. The Tata Group serves as a case insight, illustrating how values-based leadership can balance profitability with social good, offering a model for integrating spirituality into governance for sustainable impact. Building on this foundation, the next article in the series will explore governance as the crucial bridge that translates values into tangible outcomes, ensuring that ethical intent is effectively embedded in institutional performance and societal impact.

In today's governance frameworks, compliance often takes center stage. Yet, true ethical leadership requires more than adherence to rules. Spirituality in leadership offers a deeper orientation—where decisions are guided by mindfulness, empathy, and a sense of higher purpose.

### From Compliance to Conscious Leadership

Mindfulness, as introduced into organizational settings through the work of Jon Kabat-Zinn, helps leaders cultivate awareness, clarity, and resilience. Research shows that mindful leaders make more balanced and ethical decisions, particularly under pressure. When combined with empathy, this fosters a human-centered approach where organizational choices respect dignity and interconnectedness.

Robert Greenleaf's concept of servant leadership reinforces this, arguing that leaders are called to serve first and lead second. Such an approach aligns naturally with spiritual values, encouraging humility, stewardship, and the prioritization of collective well-being. These qualities shift governance away from box-ticking compliance toward a more conscious and values-driven practice.

### Guarding Against "Ethics Washing"

In a climate where corporations often showcase ethics as part of branding, there is a danger of what some scholars call "ethics washing"—a gap between what organizations say and what they actually do. Spiritual leadership resists this by rooting decisions in integrity and consistency. Scholars such as Louis Fry, through his Spiritual Leadership Theory, emphasize hope, faith, and altruistic love as essential to ensuring that values are not simply performative, but embodied at every level of leadership.

### Linking the Personal with the Institutional

Leaders who integrate personal values into organizational missions create lasting cultural impact. James MacGregor Burns' theory of transformational leadership underlines this, showing how values-driven leaders can inspire followers to transcend self-interest for the greater good. When individuals embody integrity, compassion, and fairness, organizations evolve into purpose-led institutions—balancing profit with societal contribution.

### Case Insight: Tata Group

The Tata Group provides a compelling example of spiritual principles in action. Rooted in Jamsetji Tata's vision, its leadership philosophy emphasizes trust, fairness, and nation-building. Scholars writing on Tata's governance practices note that its decisions often reflect a "beyond profit" orientation—whether through early investments in employee welfare, large-scale philanthropy, or long-standing commitments to community development. This approach demonstrates how spiritual and ethical values can sustain an institution across generations, even in competitive markets.

### Conclusion

Spirituality in leadership reframes governance as a pathway to purpose, not just compliance. By integrating mindfulness, empathy, and servant leadership, leaders can build institutions that embody authenticity and inspire trust. Linking personal values with organizational mission ensures that ethics is not a veneer, but a lived practice—laying the foundation for sustainable and ethical leadership in the long term. SB

# Sustainability – A Global Outlook

1. **Hong Kong positions Itself as Global Hub as 90% of family offices integrate ESG**

   The latest survey from the Sustainable Finance Initiative (SFI) indicates a profound shift in global capital allocation, with 90% of family offices now committing funds to environmental, social and governance (ESG) investments. The findings position Hong Kong at the crossroads of private wealth management and impact investing, reinforcing its growing appeal as a financial hub for sustainable capital.

   Read More.....

2. **Ghana, Singapore forge sustainable development and carbon market partnership**

   Ghana and Singapore are strengthening their cooperation on sustainable development and agribusiness following bilateral talks in Singapore. The two countries confirmed they will deepen collaboration across carbon markets, modern agriculture, and downstream processing of key commodities such as cocoa and cashew.

   Read More.....

3. **China to impose absolute emissions caps from 2027 for nationwide carbon market**

   China will impose absolute emissions caps in selected industries beginning in 2027, marking a major shift in the country's approach to carbon regulation. The announcement, made by the State Council and Central Committee of the Communist Party, sets out a roadmap for expanding its national carbon market into a fully established emissions trading scheme (ETS) by 2030.

   Read More.....

4. **Africa advances carbon market strategy to drive climate finance**

   Africa is positioning itself as a frontrunner in global carbon markets, with the launch of the Africa Carbon Support Facility (ACSF) at the African Development Bank Group's high-level dialogue on *De-risking and Scaling Carbon Market Investments in Africa*, held alongside the Bank's 2025 Annual Meetings in Abidjan, Côte d'Ivoire.

   Read More.....

5. **Trump administration cuts $679 Million in offshore wind funding**

   The Trump administration has canceled $679 million in federal funding for 12 offshore wind projects, a move that effectively derails several cornerstone initiatives launched under the Biden administration's clean energy agenda. The cuts include $427 million for a marine terminal in Humboldt County, California, intended to be the first offshore wind terminal on the Pacific coast. The site was slated to revive a defunct facility for turbine assembly and staging.

   Read More.....

6. **Silvania partners with Alder Point to scale US Timberland Investments for climate and conservation**

   Silvania, the global nature capital investment platform, has entered a strategic partnership

with Alder Point Capital Management to accelerate sustainable investment in US timberland and farmland. The agreement combines Silvania's international focus on biodiversity and nature-based solutions with Alder Point's operational expertise in ecological forestry and land management.

Read More.....

### 7. GameChange Solar brings Utility-Scale Tracker technology to New Zealand

Global solar tracker manufacturer GameChange Solar has entered the New Zealand market through a partnership with Bright Fern Energy on the 23 MWp Dannevirke Solar Farm. The collaboration introduces advanced tracker technology designed to lower installation costs and reduce climate-related risks, marking a new phase for utility-scale solar development in the country.

Read More.....

### 8. Monsoon Wind powers up 600 MW, first cross-border wind farm in Asia

From ridgelines in southern Lao PDR, 133 turbines now send clean electricity across the border into Vietnam. The Monsoon Wind Power Project, which reached commercial operation on 22 August 2025, is the first wind farm in Laos and the first renewable energy project in Asia to transmit power internationally. At 600 MW, it is also the largest onshore wind installation in Southeast Asia.

Read More.....

### 9. Singapore secures $510M to accelerate green infrastructure across Asia

The Monetary Authority of Singapore (MAS) has secured $510 million in committed capital for a new fund targeting green infrastructure across Southeast and South Asia. The Green Investments Partnership, unveiled as part of the Financing Asia's Transition Partnership (FAST-P), will channel resources into renewable energy, storage solutions, and sustainable transport.

Read More.....

### 10. Texas Court blocks enforcement of anti-ESG law

A federal judge in Texas has pressed pause on the state's latest bid to rein in the use of environmental, social and governance considerations in corporate proxy advice, dealing a setback to lawmakers in Austin and Attorney General Ken Paxton.

Read More.....

# Sustainability – Indian Context

### 1. RBI to integrate climate resilience into India's financial system

The Reserve Bank of India (RBI) has been advised to strengthen its climate risk framework by balancing global best practices with domestic realities, according to a new report by the India Initiative on Climate Risk and Sustainable Finance (IICRSF). Produced in collaboration with the Climate Bonds Initiative, ODI Global, and auctusESG, the report lays out a blueprint for embedding climate resilience across India's financial system.

Read More.....

### 2. India to offer large carbon capture incentives as coal remains major part of energy mix

India is preparing to launch a national carbon capture initiative with substantial government incentives, as it seeks to balance rising energy demand with its climate goals while relying on coal, a senior official at India's leading policy think tank said. The initiative, aimed at promoting carbon capture, utilisation and storage (CCUS) technologies, could offer funding support ranging from 50% to 100% for select projects.

Read More.....

### 3. Large carbon capture incentives announced

India is preparing a national initiative to promote carbon capture, utilisation, and storage (CCUS) technologies. Incentives could cover **50% to 100%** support for selected projects. The aim is to allow industries to reduce emissions even while coal remains a key part of India's energy mix.

Read More.....

### 4. Haryana's dual climate plan

The state of Haryana has introduced a "dual climate plan" that targets both long-term $CO_2$ emissions reductions *and* short-lived climate pollutants (e.g. methane, black carbon). It includes action in agriculture, industry, transport, waste, biodiversity, etc.

Read More.....

### 5. Project cheetah recognized for conservation/ community engagement

Project Cheetah in India received the "Innovative Initiative Award" at the 3rd Eco Warrior Awards. It has revived an extinct species (cheetah), developed habitat at Kuno National Park, and involved local communities in conservation.

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### 6. Real estate funding via sustainability-linked bonds

Mindspace REIT raised **₹550 crore** via Sustainability-Linked Bonds (SLBs) with backing from IFC. These bonds are tied to ESG performance targets: reducing greenhouse gas emissions, increasing green-certified space, lowering energy intensity, etc. This issuance was under SEBI's updated ESG framework for debt securities.

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**7. Paper company taps waste & solar to scale sustainably**

Chandpur Paper (in Uttar Pradesh) uses bagasse (sugarcane waste) as raw material for packaging, and about **80%** of its energy comes from solar. The company has grown operations significantly, showing a sustainability-oriented business model.

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**8. Bajaj Finserv's carbon neutrality target**

Bajaj Finserv has committed to achieving carbon neutrality for its Scope 1 and Scope 2 emissions by 2032, based on a roadmap developed in FY2025.

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**9. Punjab (Ludhiana): stubble burning regulation**

Ludhiana's administration has mandated that all paddy harvesting must use combine harvesters fitted with Super Straw Management System (Super SMS) machines to reduce stubble burning and related air pollution.

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**10. Kolkata / Tala Prattay puja committee**

Festival waste (plastic, flowers, decorations, etc.) to be processed on-site using a decentralized waste-to-fuel plant. Clean water will be recovered and solid fuel used as clean substitute for wood/coal. This is a pilot for "zero-waste" festival management.

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# CERTIFICATE COURSE ON ESG

*Brochure*

## Sustainability Standards Board

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**भारतीय लागत लेखाकार संस्थान**
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Behind every successful business decision, there is always a CMA

## About The Institute

The Institute of Cost Accountants of India (ICMAI) is a statutory body set up under an Act of Parliament in the year 1959. The Institute as a part of its obligation, regulates the profession of Cost and Management Accountancy, enrols students for its courses, provides coaching facilities to the students, organizes professional development programmes for the members and undertakes research programmes in the field of Cost and Management Accountancy. The Institute pursues the vision of cost competitiveness, cost management, efficient use of resources and structured approach to cost accounting as the key drivers of the profession. In today's world, the profession of conventional accounting and auditing has taken a back seat and cost and management accountants increasingly contributing towards the management of scarce resources like funds, land and apply strategic decisions. This has opened up further scope and tremendous opportunities for cost accountants in India and abroad.

## International Affiliation

The Institute is a founder member of International Federation of Accountants (IFAC), Confederation of Asian and Pacific Accountants (CAPA) and South Asian Federation of Accountants (SAFA). The Institute is also an Associate Member of ASEAN Federation of Accountants (AFA) and member in the Council of International Integrated Reporting Council (IIRC), UK.

## Institute's Network

Institute's headquarters is situated at Headquarters: New Delhi with another office at Kolkata Office: Kolkata. The Institute operates through four Regional Councils at Kolkata, Chennai, Delhi and Mumbai as well as through 117 Chapters situated in India, 11 Overseas Centres abroad, 2 Centres of Excellence, 61 CMA Support Centres and 401 Recognized Oral Coaching Centres.

## Institute's Strength

The Institute is the largest Cost & Management Accounting body in the World, having a large base of about 1,00,000 CMAs either in practice or in employment and around 5,00,000 students pursuing the CMA Course.

## Vision Statement

"The Institute of Cost Accountants of India would be the preferred source of resources and professionals for the financial leadership of enterprises globally."

## Mission Statement

"The Cost and Management Accountant professionals would ethically drive enterprises globally by creating value to stakeholders in the socio-economic context through competencies drawn from the integration of strategy, management and accounting."

## Course Objective

- To build strategies and effectively integrate sustainability matters into all business practices dealing with the strategy, finance, operations and communications.
- To comprehend and assimilate the rules and regulations and structural framework of Business Responsibility and Sustainability Reporting.
- To understand and analyze the various disclosures made by the Indian companies and various assurance aspects.
- To understand and comprehend the best practices adopted in ESG.
- To build an understanding for preparation of Business Responsibility and Sustainability Report.
- To understand the value chain partners and their role in the business proposition.
- To properly map Business Responsibility and Sustainability Report to Global Reporting Initiative (GRI) and Integrated Reporting Framework.

## Course Eligibility

- FCMA/ACMA/ those who have qualified Final CMA examination
- Final year Students of the CMA course
- Any Graduate

(Minimum Intake is 25 numbers to start a batch)

## Course Duration

- Classroom learning of 2 hours per day in the Weekend through online mode
- 50 hours online coaching

## Online Examination for 100 marks

- Multiple Choice Questions – 60 questions, 1 mark each
- Case Study (also multiple choice)– 10 questions, 2 marks each
- Project Report – online submission – 20 marks ((including project presentation through video mode - 10 marks for a duration for 5 minutes)

Minimum Marks are 60% in each of the all above levels

## Course Fees

- Course Fees (including learning kit) of Rs. 6000 plus GST of 18 %.
- Final year Students of the CMA course for an amount of Rs. 4500 plus GST of 18 %.
- Examination Fees of Rs. 750 plus GST per attempt.

## Syllabus of the ESG Course

| Session No. | Particulars | Module Duration |
|---|---|---|
| 1 | **Shareholders to stakeholders**<br>Shifting emphasis from shareholders to Stakeholders<br>The Three Ps – People, Planet and Profits<br>Connecting sustainability to Strategy and Corporate Governance<br>**ESG – the pathway to Sustainability**<br>Introduction<br>Conceptual framework<br>Material ESG Issues<br>Concept of ESG Maturity<br>Challenges in implementing ESG | 4 hours |
| 2 | **Importance of Economics, Environment, Social and Governance (E+ESG) in Sustainability**<br>**UN Mandated Sustainable Development goals (SDGs)**<br>17 SDGs<br>SDG performance- Global and Indian Context<br>Reconciling priorities of SDGs Global and Indian Context | 4 hours |
| 3 | **Issues with respect to Environmental Factors**<br>**Conference of Parties (COP) – Key Takeaways from Recent Editions**<br>Climate Change – Risk Mitigation and Adaptation<br>Challenges arising out of depletion of natural resources, bio-diversity loss, land use and marine resources, Waste Disposal, Carbon Emission, Conservation of Energy | 4 hours |
| 4 | **Product Life Cycle, Service Life Cycle and Life Cycle Assessment, circular economy and Environmental laws**<br>Clean and technological innovation<br>Green / ESG related products<br>Blue Economy<br>Approaches to Environmental Analysis – Differences in approaches of developing, emerging and developed economies | 4 hours |
| 5 | **Overview of Framework relating to social security and Human rights**<br>NHRC<br>Training & Development<br>New Labour Code<br>• Labour-Employer relationship<br>• Occupational Health & Safety<br>• Community Development & Public Policy<br>POSH | 4 hours |
| 6 | **ESG Investments, Different ESG Instruments, Ratings, Due Diligence and Assurance**<br>**Approaches to ESG Investments**<br>Responsible Investment, Socially Responsible Investment (SRI), Sustainable Investment, Best in Class Investment, Thematic Investment, Impact Investment, Green Investment etc.<br>ESG Ratings – How conceptually different from Credit Ratings, Regulatory Ratings and Investor driven ratings<br>ESG Rating Providers (ERP) and their Internal Audit<br>ESG Assurance – External Assurance and Internal Audit / Assurance<br>ESG Due Diligence<br>ESG considerations in Valuation<br>ESG Risk & Opportunities | 6 hours |

## Syllabus of the ESG Course

| Session No. | Particulars | Module Duration |
|---|---|---|
| 7 | **Role of Metrics and Targets in ESG Reporting– How ESG compliance creates long-term value for the organization?**<br>• KPIs in the BRSR Core<br>• Other Regulatory Prescriptions – IRDAI, RBI.<br>• Analysis of Corporate Filings | 6 hours |
| 8 | **Sustainability and Capital markets**<br>• Evolution of regulations: NGRBC and BRSR<br>• Social Stock Exchange<br>• Sovereign Green Bonds<br>• Green Deposits<br>• Green Debt Securities and ESG Debt Securities<br>• ESG Schemes of Mutual Funds<br>• National green/climate finance taxonomy<br>• Overview of global and domestic sustainable finance markets<br>**Overview of global reporting framework**<br>• GRI<br>• IIRC<br>• TCFD<br>• CSRD<br>• EFRAG<br>• ESRS<br>• IFRS Sustainability Standards<br>• ISS1 and ISS2 | 6 hours |
| 9 | **Detailed coverage of BRSR**<br>3 sections<br>9 principles<br>Essential Indicators and Leadership Indicators<br>Presentation / coverage on the detailed requirements of disclosure in the reporting<br>Guidance Note Issued by SEBI<br>Identification of data points in the BRSR report and discussion on the same.<br>Case studies and practical aspects with respect to BRSR | 4 hours |
| 10 | **Concept of ESG Audit and opportunities** | 2 hours |
| 11 | **Project Work** | 6 hours |
| | **Total** | 50 hours |

## Contact for further queries

### Course Coordinators

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## Sustainability Standards Board

**ICMAI**
**THE INSTITUTE OF COST ACCOUNTANTS OF INDIA**
**भारतीय लागत लेखाकार संस्थान**
Statutory Body under an Act of Parliament
(Under the jurisdiction of Ministry of Corporate Affairs)
www.icmai.in

**Headquarters:**
CMA Bhawan, 3 Institutional Area,
Lodhi Road, New Delhi - 110003

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Kolkata - 700016

**Behind every successful business decision, there is always a CMA**

# Biogas: Turning Waste into Sustainable Energy

**CMA (Dr.) Aditi Dasgupta**
Joint Director
The Institute of Cost Accountants of India
Kolkata

As the world seeks alternatives to fossil fuels, biogas has gained recognition as a renewable energy solution that transforms organic waste into usable fuel. At first glance, it appears to be a win-win: reducing greenhouse gas emissions while generating energy. But how sustainable is it really, and can it be scaled effectively?

## What is Biogas?

Biogas is a type of biofuel produced through **anaerobic digestion**, a natural process in which microorganisms break down organic matter in oxygen-free environments. The resulting gas is typically composed of:

- **Methane ($CH_4$):** 50–75%, the primary combustible component.
- **Carbon dioxide ($CO_2$):** 25–50%, the main non-combustible fraction.
- **Trace gases:** Hydrogen sulfide ($H_2S$), nitrogen, and water vapor.

Because of its high methane content, biogas can be burned to generate **heat and electricity**, or upgraded into **biomethane**, a refined form with similar properties to natural gas.

## How Biogas is Produced?

Biogas production takes place in **digesters**, sealed tanks designed to optimize methane capture. The process unfolds in three main steps:

1. **Hydrolysis** – breakdown of complex organic matter into simple molecules.
2. **Acidogenesis and Acetogenesis** – conversion into fatty acids, hydrogen, and $CO_2$.
3. **Methanogenesis** – methanogenic bacteria transform compounds into methane-rich gas.

Feedstocks vary widely, from agricultural residues and livestock manure to food waste, sewage sludge, and even landfill emissions. Using waste-based inputs is considered most sustainable, as it prevents organic matter from decomposing uncontrolled and releasing methane directly into the atmosphere.

## Applications of Biogas

Biogas is valued for its versatility:

- **Electricity and heat generation:** In combined heat and power (CHP) plants, biogas produces electricity while repurposing waste heat.
- **Upgrading to biomethane:** Purified gas can be injected into natural gas grids or used as low-emission vehicle fuel, a practice already advanced in Sweden and Germany.
- **Industrial and residential uses:** Biogas supports manufacturing processes, rural cooking and heating, and small-scale digesters for farms, hotels, and communities.

By displacing coal, oil, or natural gas, biogas directly reduces reliance on fossil fuels.

## Environmental Impact: Benefits and Risks

### Greenhouse Gas Reductions

Methane is over **25 times more potent than $CO_2$** over a 100-year period. Capturing it for controlled combustion prevents uncontrolled emissions from landfills, farms, and wastewater. This makes biogas an effective tool for **short-term climate action**.

However, leaks from digesters or pipelines can offset these gains. Ensuring strong monitoring and maintenance is crucial to realizing net benefits.

## Circular Economy and Waste Management

Biogas represents a cornerstone of the **circular economy**. It reduces landfill use, lowers pollution, and produces **digestate**, a nutrient-rich by-product that substitutes for chemical fertilizers. Yet, concerns arise when dedicated energy crops are grown for biogas, leading to land-use conflicts and food security debates.

### Potential Drawbacks

- **Methane leaks** can erode climate benefits.
- **Air pollution:** Combustion emits nitrogen oxides (NOx).
- **Water contamination:** Mismanaged digestate can pollute waterways.
- **Land use:** Large-scale crop-based biogas risks deforestation and competition with agriculture.

Thus, the sustainability of biogas hinges on **responsible sourcing, regulation, and technology.**

## Economic and Social Dimensions

### Financial Viability

While biogas offers long-term cost savings, upfront investments in digesters and purification systems are significant. Government incentives—such as **feed-in tariffs, tax credits, and carbon pricing**—play a pivotal role in making biogas competitive with fossil fuels.

## Job Creation and Rural Empowerment

Biogas can stimulate rural economies by creating jobs in plant operations, waste collection, and maintenance. Farmers benefit from selling manure or crop residues, while rural households gain access to clean cooking fuel—reducing reliance on firewood and improving indoor air quality.

### Global Perspectives

- **European Union:** In 2023, Europe produced **234 TWh of biogas**, covering 6.6% of gas demand. The **REPowerEU** plan targets **35 bcm of biomethane annually by 2030** to enhance energy security.
- **United States:** By 2025, the US reached **2,478 operational biogas sites**, with 95% of new projects designed to produce Renewable Natural Gas (RNG) for pipelines and transport. California's **Low Carbon Fuel Standard** has been a major driver.
- **United Kingdom:** Recent projects, including AstraZeneca's biomethane plant in Lincolnshire, showcase how industrial players are adopting biogas to meet sustainability targets.

## Biogas in India: Untapped Potential

India generates **62 million tonnes of municipal solid waste annually**, much of it organic. The Indian Biogas Association (IBA) estimates a potential of **62 million metric tonnes of Bio-CNG annually**, yet uptake remains limited due to infrastructural gaps and fragmented policies.

Government schemes such as **SATAT (Sustainable Alternative Towards Affordable Transportation)**, **GobarDhan**, and the new **Compressed Bio-Gas Blending Obligation** are creating momentum. From 2025, suppliers must blend **1% biogas into natural gas**, rising to **5% by 2028**.

Beyond energy, biogas in India has profound **social impacts**:

- Reduces indoor air pollution, improving women's health.
- Frees up time spent collecting firewood, enabling education and income generation.
- Promotes women's participation in plant operations and entrepreneurial roles.

A unified **National Biogas Mission**, performance-linked incentives, and skill development programs are expected to accelerate adoption.

## The Road Ahead

Biogas is not a silver bullet for the climate crisis, but it is a **critical enabler of the transition to a low-carbon economy**. Its benefits are most evident when:

- Feedstocks are waste-based rather than crop-based.

- Methane leaks are minimized with robust infrastructure.
- Policies and subsidies make it financially viable.
- Communities are engaged, ensuring social and rural development.

## Conclusion

Biogas embodies the promise of **turning waste into wealth**. Globally, it supports climate goals, enhances energy security, and advances circular economies. In India, it has the added potential to transform rural livelihoods, empower women, and create decentralized energy hubs.

With strong policies, innovation, and international collaboration, biogas can help the world cut methane emissions, reduce fossil fuel dependence, and move closer to a sustainable and resilient future. SB

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ARTICLE-I

# Recipe of Financial Reporting – the ESG Ingredient

## Part-II Initiatives of the ICMAI in ESG Reporting

**CMA Anuradha Dhavalikar**
Practicing Cost Accountant
Pune

*This article takes a unified view of the approach of the ICMAI towards ESG and Sustainability reporting through various publications, courses, trainings, seminars, guidance notes, standards and so on. The article highlights the common theme apparent in each, namely, standardisation, operationalisation, strategic alignment, stakeholder focus, and global coherence. It discusses the core standards, the guidance notes, disclosure and reporting framework, and the strategic tools and training required for effective reporting.*

### Vision & Mission

The Vision and Mission Statements of the ICMAI reflect the deeply rooted sense of responsibility of the profession towards ESG. They state the Socio-Economic context of the profession, and aim to create value for all stakeholders. Environmental considerations are an essential part of the socio-economic aspect. The mission is to create globally relevant professionals for financial leadership, embracing the principle of 'Vasudhaiva Kutumbakam.' This thought leadership has resulted in a formation of the Sustainability Standards Board, and the issue of guidance notes, standards, and learning programs for the CMA professionals. These steps have kept the professionals abreast of the latest developments in this area, and given them a unique first-mover advantage in India. In this (second) part of this series, we discuss the initiatives of the ICMAI in ESG reporting.


*Displayed at the Pune Chapter*

### SSB

The Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) was established in 2022 to lead the development of sustainability-related standards and guidance tailored to the Indian context. It aims to empower CMAs to play a key role in sustainability and ESG reporting, aligning the Indian practices with the global norms such as the IFRS, GRI etc., and to develop sector-specific standards that include the CMA principles. It has issued the ICMAI Sustainability Standards ISSI1 and ISSI2 so far. The Board runs a webinar series, "*Vasudhaiva Kutumbakam*," and publishes a monthly newsletter, "*Sukhino Bhavantu.*"

### Standards

The Cost Accounting Standards Board, the Sustainability Standards Board of the ICMAI have issued standards that are mandatory in

nature for its members. These standards are aimed at bringing uniformity in the identification, measurement, reporting and disclosures relating to ESG elements in cost accounting and sustainability accounting.

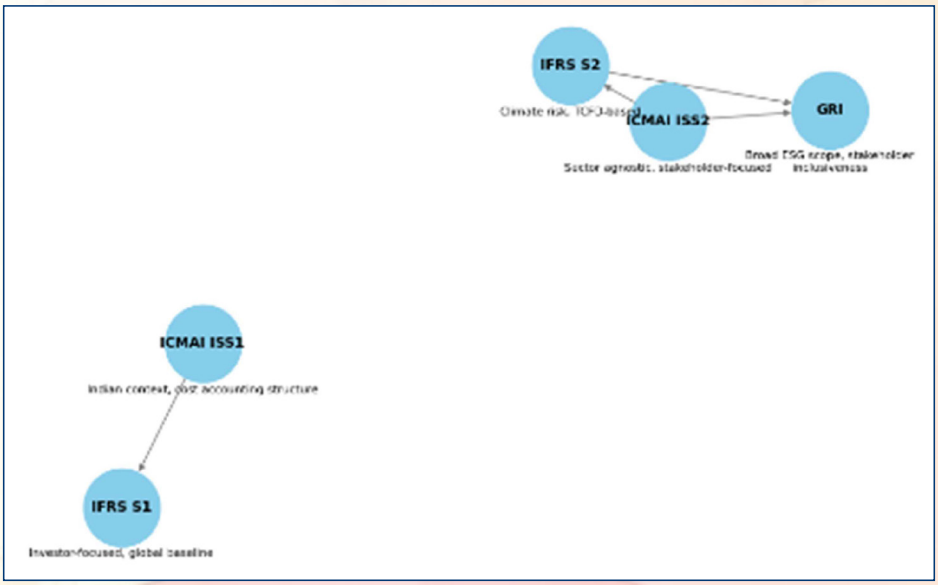
## CAS-14 Pollution Control Costs

CAS-14 was issued in 2012. It provides a framework for identification, measurement, allocation, and reporting of pollution control costs. These include costs related to air, water, and soil pollution, waste treatment, emission control, and regulatory compliance. It was later revised in 2017, to expand its scope and provide a detailed framework for manufacturing, service and industrial sectors for improved visibility of these costs. The inclusion of Activity-based classification, exclusion of imputed costs and finance charges, and enhanced alignment with regulatory requirements are noteworthy.

In the current revision, the cost information prepared using CAS-14 is useful for preparing the BRSR, Annual Sustainability Report, Annexure to Cost Audit Report, and Carbon accounting.

## ISS1 & ISS2

The SSB has issued the ICMAI Sustainability Standards ISS1 General Requirements for Disclosure of Sustainability-related Information and ISS2 Climate Risk Disclosures. These standards bring together the principles laid out in the GRI framework, IFRS S1 and S2, and align with the UN SDGs. The unique feature of ISS1 and ISS2 is the integration of Cost & Management Accounting with Environmental Costing and Sustainability reporting.




*Alignment Map: ICMAI ISS1/ISS2 vs IFRS S1/S2 and GRI*
*Graphics generated using Microsoft Copilot.*

**Key Highlights from the Map**

- ICMAI ISS1 ↔ IFRS S1
  - *Convergence*: General disclosure principles, risk and opportunity mapping
  - *Unique to ICMAI*: Indian context, cost accounting structure
- ICMAI ISS2 ↔ IFRS S2
  - *Convergence*: Climate risk disclosures, TCFD-based structure
  - *Unique to ICMAI*: Sector-agnostic, stakeholder-focused (not just investor-centric)
- ICMAI ISS2 ↔ GRI
  - *Convergence*: Broad ESG scope, emphasis on materiality and stakeholder inclusiveness
- IFRS S2 ↔ GRI
  - *Convergence*: GHG Protocol alignment (Scope 1, 2, 3), emissions reporting interoperability

## Guidance Notes

**MAG-III Implementing Corporate Environmental Strategies**

The MAG III was issued in 2011. Its preface states, "This guideline is both descriptive and prescriptive. Its descriptive parts shape a vision of the future, build commitment for change, and define strategies. Its prescriptive parts address how to lead, plan, and implement a corporate environmental strategy." It guides the CMAs in embedding the environmental aspects into business strategy, beyond regulatory compliances, to increase stakeholder satisfaction, improve profitability, seek competitive advantage, adopt a proactive and creative approach to environmental impacts, and reduce costs.

The MAG-III groups the activities involved in corporate environmental strategy design and implementation into three major stages.

Stage I: Managing regulatory compliance, that address risks such as clean-up costs, fines, penalties, and compensation, arising from current business practices

Stage II: Achieving competitive advantage through resource efficiency, life-cycle cost management, revenue generation through waste management and cost avoidance.

Stage III: Completing environmental integration at all levels of decision-making and all activities of the organisation.

It emphasises stakeholder buy-in, issuing clear policies, aligning corporate goals with environmental goals, visibility of environmental risks, costs, and advantages, and the role of the CMAs. Several illustrations from India and abroad, a ready reference to the environmental strategies of industry leaders such as ITC, Tata Motors, Reliance Industries, and the CII, a checklist for environmental action programs, and a list of important environmental laws and systems for environmental management are included.

**MAG IV: Tools and Techniques of Environmental Accounting for Business**

MAG IV deals with the identification, measurement, accounting, disclosures and reporting environmental costs for decision making and to various stakeholders. The guidance focusses on Costing analysis, Investment analysis and Performance evaluation aspects of decision making. The note defines Environmental Accounting, and covers cost analysis, allocation, investment requirement, cost management, and performance review and reporting. The tools and techniques suggested in the note can be summarised as follows:

| Decision Area | Tool/Technique | Purpose |
|---|---|---|
| **Cost Analysis** | Activity-Based Costing (ABC) | Allocates environmental costs based on actual activities |
| | Life Cycle Costing (LCC) | Assesses costs across product life cycle |
| | Environmental Cost Decision Tree | Classifies costs: visible, hidden, contingent, image-related |
| | Flow Cost Accounting | Tracks material/energy flows to identify inefficiencies |
| **Investment Analysis** | Environmental Capital Budgeting | Includes environmental costs in investment appraisals |
| | NPV & Payback with Environmental Inputs | Evaluates financial viability of green projects |
| | Risk Assessment Models | Assesses environmental risks and liabilities |
| **Performance Evaluation** | Environmental Performance Indicators (EPIs) | Measures efficiency (e.g., emissions per unit) |
| | Balanced Scorecard (with ESG metrics) | Integrates sustainability into strategic KPIs |
| | Benchmarking | Compares environmental performance with peers |

*Table generated using Microsoft Copilot*

## Guidance Note on Environmental Costing (2025)

The Professional Development Committee of the Institute has issued a Guidance note on Environmental Costing in April 2025. This note has introduced a Holistic Environmental Costing (HEC) Framework aligned with the global sustainability standards. It has a three-layered structure – Operations, Management and Reporting. It covers the direct and indirect environmental costs, and helps track GHG and non-GHG emissions, water usage, waste generation, biodiversity impact, and environmental impact across value chains, to support businesses in ESG reporting and rating exercises.

## Guidance Note on Carbon Credit Mechanism, GHG Accounting, and ESG Reporting (2023)

The note was issued in October 2023, soon after the Carbon Credit Trading Scheme was notified by the GOI in June 2023, to explain carbon credit systems and GHG accounting and ESG reporting, in sync with IFRS S1 and S2, and enable the CMAs to carry out sustainability assurance. The note provides the readers with a comprehensive view of the carbon market mechanisms, practices, accounting systems, reporting and assurance mechanisms, and the multi-lateral agreements and protocols in this context. It provides a glimpse of the potential regulatory changes that may be expected. Case studies are used to explain the issues with current frameworks for Carbon Credit Mechanism, GHG Accounting and ESG Reporting.

## Guidance Note on Treatment of Costs Relating to Corporate Social Responsibility (CSR) Activities

The guidance note on the treatment of CSR costs was issued in 2016, to guide the CMAs in recognition, measurement, presentation and disclosure of these costs with reasonable

accuracy, in compliance with the Companies Act, 2013 requirements and in conformity with the Cost Accounting Standards and Generally Accepted Cost Accounting Principles. At 2% of the net profits, they form an important statutory expenditure, and need to be monitored closely for effectiveness and transparency.

## Capacity Building

The ICMAI runs several types of programs for its member, students and the public. Some popular learning programs offered include

- CMA Final Examination Syllabus 2022: The curriculum does not include a subject exclusively dedicated to ESG or sustainability. The ESG related aspects are covered in several papers –
    - Strategic Performance Management and Business Valuation – as a part of non-financial performance indicators, stakeholder value and governance, and an introduction to sustainability metrics in valuation and decision-making.
    - Corporate Financial Reporting – as a part of Integrated Reporting and the BRSR report.
    - Strategic Cost Management – covers Environmental Cost Accounting, Life-cycle Costing and Sustainability Cost Analysis.
- SSB Certificate Course on ESG – It is a 50-hour course open to CMAs and CMA Final students and Graduates of any stream that covers the integration of ESG in business practices, statutory reporting requirements, Indian and global reporting frameworks, ESG practices across value chains.
- The ICMAI RVO and ICMAI SAO (Section 8 companies formed by the ICMAI) run certificate courses in ESG and Social Impact Assessment, which are open to the members, students and other eligible participants.

## Outreach

The ICMAI MARF carries out research beneficial to the stakeholders in various areas. For example, an ongoing program titled 'Detailed Study of Cost of Healthcare Services in India for Medical and Surgical Operations/ Procedures, Lab Tests etc. and recommendation of uniform rates for all medical procedures/Lab tests, irrespective of the source of funding' is being run by a Study Group comprising of domain experts, government & regulators' nominees, and Trade Associations: CII, FICCI and ASSOCHAM. Study is based on various hospitals all over India and will benefit the government, regulators, service-providers, and the nation. Another program titled 'ADR Process including Mediation Act, 2023 and the Latest Development in Arbitration' is planned in November 2025.

The SSB conducts workshops, and webinars known as "*Vasudhaiva Kutumbakam*" for the members. It actively engages in dialogue with the regulators and stakeholders. The monthly, "*Sukhino Bhavantu*," carries informative articles, research papers and the latest developments in ESG practices and law. The SSB committees have representation from various stakeholders such as the GOI, GRI, ICMAI and domain experts. The SSB maintains an online library and publishes technical material for use by members. Notable among them are the documents on Green Credit, BRSR Core alignment, and ESG in cost accounting. The Board is working towards the development of industry-specific technical material.

## The Way Forward

The SEBI mandated Social Impact Assessment for SSE eligibility criteria have undergone certain changes in June 2025. In July 2025, MCA has issued a draft for the revised Corporate Governance Code. In August 2025 the Environmental Audit Rules, 2025 have been notified, the Green Credit Programme methodology has been revised and a draft Environmental Damage Cost Assessment framework has been released.

ICMAI has made the wherewithal available to the CMAs to integrate ESG in their role responsibilities, and in their practices. It is now upto the CMAs to prepare themselves for the opportunities. In the next (concluding) part, we will discuss the emerging role of the CMAs. SB

Vasudhaiva Kutumbakam

VK Webinar Series of the Sustainability Standards Board

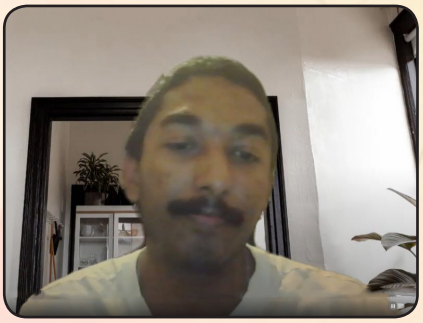
# 39th Webinar

# Holistic Wellbeing and Sustainability: Thinking beyond....

**August 29, 2025 from 4 to 5:15 p.m.**

**CMA Dibbendu Roy**

**CMA (Dr.) Aditi Dasgupta**



**Mr. Mukund Sivakumar**

The Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) successfully organized the 39th webinar of the *Vasudhaiva Kutumbakam* series on the theme "Holistic Wellbeing and Sustainability : Thinking beyond..." on August 29, 2025. CMA (Dr.) Aditi Dasgupta, Joint Director, ICMAI introduced the speaker and the topic.

Shri Mukund Sivakumar delivered an insightful presentation on fitness and wellbeing, offering practical perspectives on the subject. He observed that today's sedentary lifestyle is strongly linked to the growing prevalence of lifestyle-related diseases, which are closely associated with current work patterns. He emphasized the importance of holistic wellbeing and the pivotal role that sports science plays in ensuring good health. He highlighted the benefits of rigorous physical activity while also stressing the mental dimension of wellbeing. Stress management practices and the adverse impact of excessive screen time on overall health were key areas of focus. Shri Sivakumar also discussed the importance of social and occupational wellbeing, along with the virtues of proper nutrition. He elaborated on the critical role of sleep quality, explaining mechanisms to achieve restorative rest through improved sleep performance. Further, he underscored the benefits of ergonomic workplace design and proper seating arrangements, and concluded by outlining future directions for promoting wellbeing in the workplace.

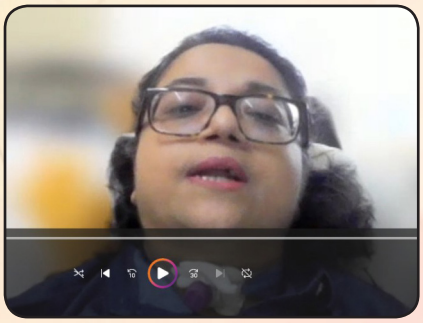
The webinar concluded with a thought-provoking Q&A session, reflecting the active engagement and keen interest of participants. CMA Dibbendu Roy, Additional Director of ICMAI, delivered the concluding remarks and extended a formal vote of thanks, expressing gratitude to the speaker, participants, and organizers for their valuable contributions to the session.

Vasudhaiva Kutumbakam

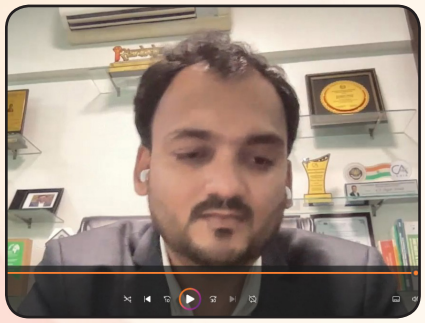
VK Webinar Series of the Sustainability Standards Board

# 40th Webinar
# Sustainability Governance-CMA Perspective

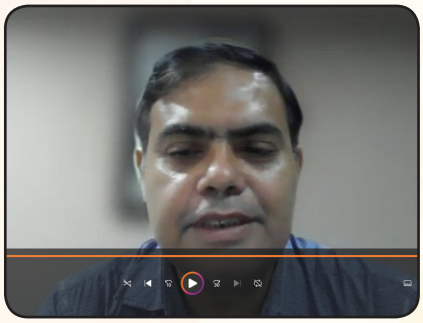
**September 12, 2025 from 4 to 5:15 p.m.**



**CMA (Dr.) Aditi Dasgupta**



**Shri Jigar Shah**



**CMA Dibbendu Roy**

The Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) successfully organized the 40th webinar of the *Vasudhaiva Kutumbakam* series on the theme "Sustainability Governance-CMA Perspective" on September 12, 2025. CMA (Dr.) Aditi Dasgupta, Joint Director, ICMAI introduced the speaker and the topic.

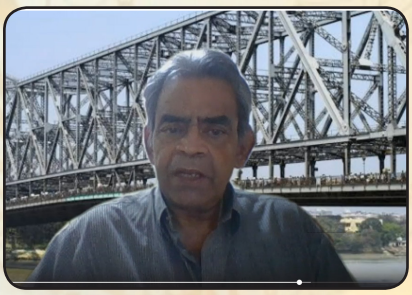
Shri Jigar Shah delivered an insightful presentation on Environmental, Social and Governance (ESG) Reporting. He began with the basics of ESG and briefly explained the objective of the webinar. Thereafter, he elaborated on the regulatory framework in India, covering SEBI's provisions under the LODR Regulations and the BRSR (Business Responsibility and Sustainability Reporting) requirements. He provided a ringside perspective of ESG reporting and disclosure norms and explained the concept of BRSR Core while also highlighting the alignment with the United Nations Sustainable Development Goals (SDGs). Shri Shah further offered insights into international frameworks, including the ISSB Standards, IFRS S1 and S2, and GRI, and compared them with the existing IFRS provisions. He specifically emphasized the role of Cost and Management Accountants (CMAs) in strengthening ESG compliance and reporting. Summing up, he underlined the significance of ESG reporting for businesses and stakeholders and concluded by outlining the emerging trends in ESG.

The webinar concluded with a thought-provoking Q&A session, reflecting the active engagement and keen interest of participants. CMA Dibbendu Roy, Additional Director of ICMAI, delivered the concluding remarks and extended a formal vote of thanks, expressing gratitude to the speaker, participants, and organizers for their valuable contributions to the session.

# Global Sustainability Opportunities – Africa Series-I

CMA Dibbendu Roy

Dr. Ranjith Krishnan



CMA A.Sekar

The Sustainability Standards Board (SSB) in collaboration with the International Affairs Committee of the Institute of Cost Accountants of India (ICMAI) started the webinar series titled *"Parinayati" from July onwards* with the objective of orienting the members and other professionals interested in the subject to explore the possibilities in the field of ESG and Sustainability across the globe.

In the month of September, 2025 they have conducted the series on Africa- Series-1 covering the two countries –Kenya and Tanzania.

The second Webinar of the said series was held over two days on September 3 and 4, 2025 on the topic "Global Sustainability Opportunities – Africa Series-I". The resource persons for the webinar were CMA A Sekar, Practising Company Secretary and Dr. Ranjith Krishnan, Sustainability Consultant.

On the first day, September 03, 2025, the resource persons spoke on the topics "Overview on the Economy, SDG performance and ESG Reporting Framework with reference to Kenya.

While delivering the opening remarks, Dr. Ranjith Krishnan gave an overview of the emerging opportunities in the ESG space within the African nations in general and Kenya in particular. He touched upon the business and economic dynamics in Kenya and highlighted the diversity of culture and the adoption of ESG by the African nations and their performance in various ESG parameters.

Thereafter CMA A. Sekar delivered a detailed presentation on overview of the economy, sustainability concepts, sustainable development goals and overall performance of Kenya. He explained the ESG reporting framework prevailing globally and in Kenya and highlighted the importance of science based targets in the ESG initiatives.

On the second day, September 04, 2025, they broadly covered the issues relating to sustainable finance, challenges and opportunities and the role of professionals.

Dr. Ranjith Krishnan opened the session by discussing the various aspects of sustainable finance and the scope for professionals in ESG space in Tanzania.

CMA A. Sekar delivered a presentation on Tanzania and opportunities for professionals in the ESG sphere. He highlighted the key economic indicators, SDG commitments and SDG performance of Tanzania. The principal highlight was the coverage of IFRS S1 and S2 as also how with a carve out approach and addition of CMA dimensions, the SSB has come out with ICMAI's ISS1 and ISS2. A brief overview of The ESG regulatory framework in Tanzania was presented followed by a presentation which explained the subtle difference between assurance and assessment. He elaborated how certain CMA techniques could ideally be applied in the management of ESG activities. The presentation was rounded up with the coverage of the framework of Sustainable finance in Tanzania and the potential scope for Indian professionals.

Both the resource persons made the sessions interactive citing practical examples. The queries raised by the participants were appropriately responded.

Upcoming webinars of the *Parinayati* will cover countries like Malaysia and Indonesia. Stay tuned for further updates.

PARINAYATI WEBINAR SERIES

# ICMAI

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(Statutory body under an Act of Parliament)

iCMA

## Webinar Series on

# GLOBAL SUSTAINABILITY OPPORTUNITIES– SOUTH EAST ASIA PERSPECTIVE

Sustainability Standards Board and the International Affairs Committee of ICMAI are jointly coming out with an International Webinar Series titled – *Parinayati*

*Global Sustainability Opportunities*

**South East Asia Series 1 – Indonesia & Malaysia**

The coverage is as follows: -

CMA T C A Srinivasa Prasad
President, ICMAI

CMA Neeraj D. Joshi
Vice President, ICMAI

**Day 01**

**Wednesday, October 8 - 5 PM to 6.30 PM**

- Overview of Economy
- Overview of SDG Performance
- Overview of ESG Reporting & Regulatory Framework

CMA (Dr.) Ashish P. Thatte
Chairman
Sustainability Standards Board & International Affairs Committee, ICMAI

**Day 02**

**Thursday, October 9 - 5 PM to 6.30 PM**

- Overview of ESG Reporting & Regulatory Framework (continued)
- Sustainable Finance
- Challenges and Opportunities
- Role of Professionals

**Resource Persons**

CMA A.Sekar
Practising Company Secretary

Dr. Ranjith Krishnan
Sustainability Consultant

*For queries, email to* ssb@icmai.in

CPE Credit 2 Hour

***Web Link:*** https://eicmai.in/Webinar_Portal/Members/Memberlogin.aspx

**Organised by:** Sustainability Standards Board and International Affairs Committee

**Behind every successful business decision, there is always a CMA**

FORTHCOMING VASUDHAIVA KUTUMBAKAM SERIES




**CPE Credit 1 Hour**

**Web Link:**
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PAST ISSUES OF SUKHINOBHAVANTU


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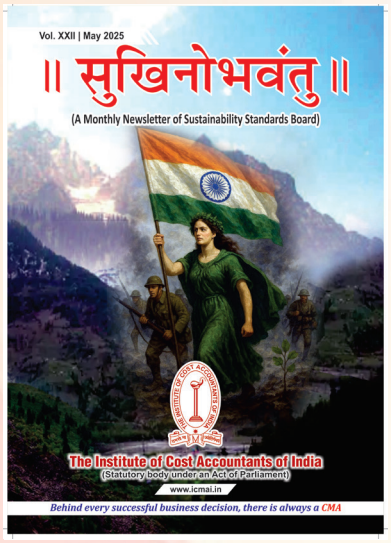


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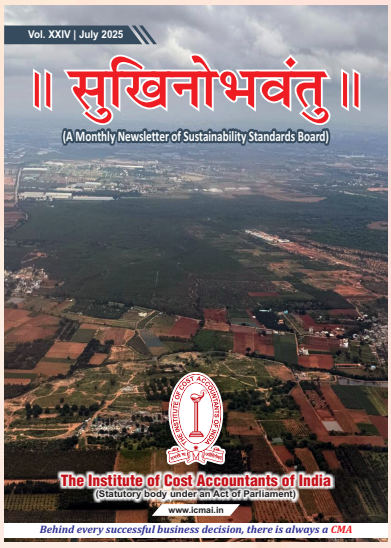


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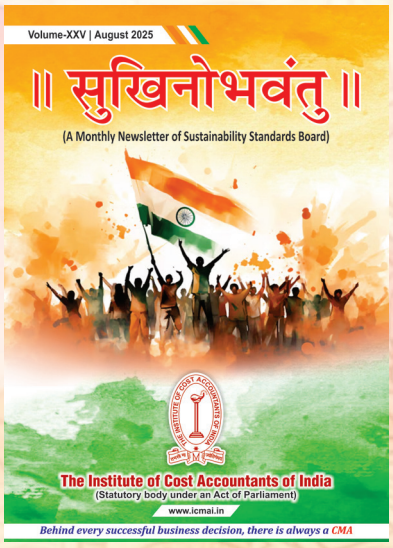


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# Informal Gatherings Etiquette: Imbuing Celebration with Professionalism

**Usha Ganapathy Subramanian**
Practicing Company Secretary
Chennai

## Introduction

Workplaces are not all about work, computers, systems, and getting things done; there are circumstances where they embrace the more human aspect of celebrations. Annual parties, festival celebrations, farewell lunches and team outings have become vital threads that forge bonds among teams. These occasions permit colleagues to interact beyond their formal roles, thereby enabling them to see each other for the individuals they are underneath their designations. However, it must still be noted that professional conduct is of utmost importance even on these occasions. Despite the informal nature of these occasions, lines must be drawn around what is shared and how much is shared and one's behaviour, in order that when the people go back to their work roles, the interactions are not imbued with any awkwardness, but are rather strengthened with better understanding. Hence, knowing how to enjoy these events while staying grounded in workplace etiquette is an underrated but essential skill.

This article explores how professionals can participate in workplace celebrations and gatherings in a way that balances warmth and appropriateness, and in a way that fosters camaraderie losing the touch of professionalism.

## 1. Balancing Warmth and Professionalism, and Exercising Mindfulness in Conversations

Within the concrete jungles of workspaces, informal gatherings can hold space for light banter and laughter and become oases of connection. However, care must be taken to ensure that conversations do not breach the boundaries of acceptable topics and professional behaviour.

- Gossiping about other team members or those higher up in the organisational hierarchy must be strictly avoided.
- It is better to avoid excessive familiarity and broaching into personal topics like health, family, or finances. It is generally considered acceptable to enquire about the well-being of a colleague's family. However, even here, it is necessary to exercise caution; for it would be appropriate only in certain circumstances like, if the colleague has earlier shared about their family or when the person has met the colleague's family earlier.
- Sharing confidential information about their projects or work with each other is also a strict 'no'. This is not just a matter of professional conduct, but often times, becomes a breach of contractual obligation or in certain circumstances, a contravention of law.
- Controversial topics are better to be avoided.
- One must always maintain a respectful tone, especially in a mixed group of seniors and juniors.
- Even if the setting is casual, topics like religion, politics, personal finances, or insensitive jokes are best avoided.

On these occasions, warmth and cheerfulness matter and so does knowing when to step back and not cross boundaries.

## 2. Including and Respecting All Team Members

One of the hallmarks of professionalism is inclusivity. It is being mindful about the fact that everyone would have different preferences, beliefs, and opinions. Not everyone celebrates festivals in the same way or even the same festivals. Not everyone feels comfortable in loud settings. The setting and the conversations must take into account these aspects.

Many team members would have dietary restrictions like vegetarian, vegan due to religious observances or health reasons or have dietary preferences towards meat or desserts or beverages. However, it is important that no one should be put in a position to explain or justify their preferences and choices.

It is also necessary to appreciate that people have diverse preferences for the intensity, pace and extent to which they participate in conversations. Similarly, everyone has different levels of inclination to participate in games, dances or activities. It is necessary to create a respectful space for members to join at their pace.

If a topic becomes uncomfortable for someone, gently steering the conversation in another direction is considered respectful and appropriate.

Inclusivity is not just about inviting everyone; it is about making everyone feel welcome and feel part of the celebrations.

## 4. Gratitude Towards Hosts and Organisers

Every event, whether big or small, takes time and effort to plan and execute. Oftentimes, the individuals or committees behind the events and their painstaking efforts go unnoticed unless something goes wrong. It is necessary to make it a point to thank the organisers personally during or after the event, and acknowledge thoughtful details such as décor, food selection or travel arrangements. One must also avoid complaining about minor inconveniences overlooking the efforts. Any suggestions for improvement, may be offered privately, constructively and respectfully. Public criticism during or right after the event can hurt morale and is not in keeping with a good professional.

## 5. Thoughtful Follow-up and Acknowledgements

If not done during the event, follow-ups after the event with appreciation to the organisers strengthens are in order. The hosts on their part, wherever appropriate, could send a note of thanks for attending the event; especially, in cases where invites were sent out for attending or the event is of a non-obligatory in nature or where some benefit accrues to the host out of the event. Mentioning memorable moments during the event or meet in the follow-up is also a thoughtful gesture. These gestures make events more meaningful.

## Conclusion: Celebrate with Grace

Informal gatherings or events are moments to reinforce the workplace culture and team camaraderie. They do transform into moments of human connection and joy. By balancing warmth and camaraderie with professionalism and respectfulness, and by showing genuine appreciation, it is possible to create workplaces that brim with team spirit and a sense of belonging. This in turn fosters innovation without an iota of force, and takes the organisation to newer levels of success. SB

*Reproduced with suitable modifications from the personal writings and posts of Ms. Usha Ganapathy Subramanian.*

FEATURE

# GST Rate Cuts and Their Economic Impact: A Snapshot

**CMA (Dr.) Aditi Dasgupta**
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The Indian government has announced significant GST rate reductions across sectors, particularly for agriculture and essential goods, effective 22nd September 2025. Tractors and tractor parts now attract 5% GST, down from 12–18%, while irrigation systems, farm machinery, and bio-pesticides also move to 5%. These reforms aim to reduce farmers' costs, encourage mechanization, and boost rural income.

Simultaneously, broader GST rationalization discussions focus on simplifying slabs from four to potentially two (5% and 18%), reducing compliance complexity and correcting inverted duty structures. Sectors like automobiles, consumer durables, cement, and textiles are expected to benefit, resulting in lower prices, higher consumption, and expanded formalization of the economy.

A study by CSE highlights that high GST on waste streams (metal scrap, plastics, e-waste) hampers recycling and circular economy initiatives. Reducing these rates from 18% to 5–12% could generate Rs 1.8 lakh crore by 2035, incentivize formalization, and improve worker conditions.

Revenue-wise, while short-term collections may dip (₹ 48,000 crore), evidence shows long-term growth through increased compliance and consumption. Coupled with income tax cuts, RBI rate easing, and 8th Pay Commission payouts, GST reductions act as a potent consumption booster, supporting GDP growth even amid external shocks like US tariffs. India's GDP is heavily driven by domestic consumption, with nearly 60% coming from personal consumption, while exports contribute only about 16%. In contrast, economies such as Vietnam rely far more on exports, with almost 85% of its GDP linked to external trade. By reducing GST rates and simplifying refund procedures, India has positioned itself as a reform-oriented and stable market, sending a positive signal to global investors. This perception is particularly valuable in times of global trade volatility, as it highlights India's commitment to creating a transparent and investor-friendly business environment.

In essence, GST rate rationalization is positioned not just as a tax cut but as a strategic lever for consumption-led growth, economic formalization, and sustainable development. SB

# Indigenous Farming Practices for Sustainable Agriculture

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## Introduction

It is hard to fathom that something as essential and innocuous as agriculture, could have an impact on the Mother Earth. More than 75% of the Earth's surface has been degraded due to human land use – deforestation, agriculture, inhabitation, and so on. Agriculture has been one of the primary among these. To picture this, over 16 mn sq.km. of area, the size of South America, is used for growing crops. Further, land size equivalent to that of Africa is used as grazing land.[1] Global land use for agriculture and loss of tropical forests have been increasing hand in hand. Besides increase in land area subject to agriculture, intensification and industrialization of agriculture has also had its effect – the use of fertilizers, pesticides and other chemical agents. These practices have not just created problems for the environment, but with their degradation of land, air and water resources, and loss of biodiversity, have also indirectly impacted food security of our own posterity.

We are now standing at a crossroads. Should we let the current practices continue to abet the environmental problems, or should we pivot to more sustainable practices to undo the damage done and restore nature's bounty to its past glory?

## Traditional wisdom

In this scenario, India's rich heritage of indigenous farming practices offers time-tested wisdom, and practical models for eco-friendly farming. These are rooted in understanding of the local ecology, community wisdom and respect for nature. Practices like traditional organic farming, permaculture, mixed cropping, agroforestry, and seed saving are some of the practices that made agriculture sustainable. They are not just aimed at productivity but also help regenerate soil, conserve biodiversity and strengthen food security in the long run.

## Traditional Organic Farming: Farming in Harmony with Nature

Long, long before the term "organic" became a buzz-word and a certification standard, Indian farmers practised it – by default. Cow dung, leaf litter, green manure and fermented preparations were used to enrich soil. This naturally lead to the following benefits:

- Biodegradable and non-toxic: These inputs were biodegradable and non-toxic, and didn't leave harmful chemical residues in the soil.
- Health Benefits: Whereas today's conventional farming produces food with potential chemical residue, traditional organic farming produces chemical-free food with potentially higher nutritional value.
- Soil fertility: The organic matter in these naturally improved soil structure supplying it with essential nutrients like nitrogen, phosphorous and potassium. The organic matter stimulated microbial activity and promoted biodiversity.
- Water retention in soil: The improved soil structure acted like a sponge, allowing the soil to absorb and retain water more effectively. This was especially important in arid regions.
- They also supported carbon sequestration in the soil.

1 https://drawdown.org/insights/how-food-and-farming-will-determine-the-fate-of-planet-earth

## Mixed Cropping and Crop Rotation

Mixed cropping is still practised in many areas of India.[2] Farmers usually grow one crop that is vulnerable to weather conditions with another that can thrive in extreme conditions. Mixed cropping, intercropping, and crop rotation were integral to traditional farm systems. A single field may grow millets, pulses and oilseeds together. Or rice is grown alongside legumes and indigenous vegetables. This improves soil health, enhances biodiversity, ensures yield even if there is a crop failure, and also increases nutritional diversity in diets.

## Lessons from Tribal and Rural Farming Communities

Indigenous farmers are the custodians of agro-ecological knowledge, more so, when it comes to tribal farmers cultivating crops on slopes and forested land, in a way that respects nature. Some key practices include[3]:

- **Zabo Farming in Nagaland**: Zabo refers to an indigenous water management system that is practised by the Chakhesang Tribes in Nagaland. Efforts are made to ensure that no drop of rain water is wasted. Rainwater flows through a chain of desilting tanks, then through livestock pastures collecting manure rich in nutrients, and reaches the crop fields. Thus it combines forest, agriculture, and animal husbandry in one unit.
- **Apatanis of Arunachal Pradesh**: The Apatani tribes have evolved a similar water management system. Bamboo channels and water regulators are used to channel water to the fields. What is unique about this system is that after rice is transplanted, they rear fish in the same fields thanks to the water trapped with precision. This helps in recycling nutrients and increasing yield.

These systems offer valuable lessons in closed-loop farming, water conservation, and protection of the local ecosystems.

## Soil Regeneration

One of the devastating impacts of industrialised agriculture has been **soil degradation**. India is reportedly losing 5.3 billion tonnes of soil annually due to erosion[4]. Traditional farmers use various techniques such as mulching, composting, vermiculture, contour bunds, and so on to preserve soil. Mulching is the practice of applying a protective layer of material to soil to preserve its nutrients and moisture, and when done organic matter like straw, leaves and wooden chips, it has immense benefits. Vermiculture refers to growing of worms to convert waste organic matter to nutrient-rich soil. Contour bunds prevent run off, and hence prevent soil erosion.

2 https://www.mospi.gov.in/421-recording-area-under-mixed-crops

3 https://thebetterindia.com/465233/zabo-apa-tani-water-farming-northeast-india/

4 https://www.thehindu.com/sci-tech/agriculture/India-losing-5334-million-tonnes-of-soil-annually-due-to-erosion-Govt/article15717073.ece

## Permaculture

Permaculture refers to a wholistic system of working closely with nature and viewing its various components like plants, animals, as integral to the system, and ensuring that both humans and other living beings can continue to exist. This also setting limits on consumption. Although the term was coined in Australia in the later part of the twentieth century, it aligns closely with Indian traditional agricultural wisdom.

These forms of self-sustaining systems have been practised in India indigenously. For example, home gardens in Kerala or thoppu are systems where a variety of crops, fruits and vegetables are grown together with livestock in a single compact area.

## Seed Sovereignty and Community Seed Banks

The present systems of agriculture depend on hybrid and GMO seeds, where corporate control exists. However, in indigenous farming, decentralized and democratic mechanisms like seed saving, seed sharing and community seed banks are used. Farmers conserve the seeds of heirloom varieties of rice, millets, and vegetables, in order that the future can continue to enjoy them. Organisations like Navdanya have been striving to preserve seed diversity by hosting community seed banks among other measures.[5]

5 https://www.navdanya.org/#

## Indigenous Wisdom and Climate Policy

Recognising the urgent need to pivot to traditional practices, the Indian Government has also adopted major policies and missions towards this end.

The Paramparagat Krishi Vikas Yojana (PKVY) promotes organic farming and this is a component of the Soil Health Management under the National Mission on Sustainable Agriculture (NMSA).[6] The NMSA is a critical component of the National Action Plan on Climate Change itself.

More incentives are needed for supporting tribal and small farmers, and measures are needed to consolidate and codify traditional practices in formal agricultural literature. Further, a grassroots- level participatory approach is needed when it comes to agricultural policies and climate adaptation plans.

## The Way Forward

In the face of global climate uncertainty, reverting to our indigenous practices is not just ideal but also practical. They are living systems of knowledge entrenched in our communities that can guide us gently towards a sustainable future. SB

*Reproduced with suitable modifications from the personal writings and posts of Ms. Usha Ganapathy Subramanian.*

6 https://darpg.gov.in/sites/default/files/Param-paragat%20Krishi%20Vikas%20Yojana.pdf

# Environmental Consciousness and Sustainability during Kanishka's Reign

**CMA (Dr.) Aditi Dasgupta**
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Although the Kushan era did not frame sustainability in modern terms, many of its cultural, economic, and religious practices reflected an early ecological consciousness. Emperor Kanishka (c. 127–150 CE), the most renowned Kushan ruler, presided over an empire stretching across Central Asia, Northern India, and Afghanistan, integrating trade, agriculture, and spiritual traditions in ways that fostered balance with nature.

**Buddhist Environmental Ethics**

Kanishka was a great patron of Mahayana Buddhism. The Fourth Buddhist Council, convened under his rule in Kashmir, codified texts that emphasized **compassion, non-violence, and respect for all living beings**. Buddhist monasteries often maintained self-sustaining ecosystems with gardens, water tanks, and medicinal herb cultivation. The doctrine of interdependence (*pratītyasamutpāda*) reinforced the view of humans as part of a larger ecological cycle.

**Agriculture and Water Management**

Agriculture formed the foundation of the Kushan economy.

- In the Indo-Gangetic plains, farming thrived on river-fed irrigation.
- In Bactria and Gandhara, advanced canals and water distribution ensured soil fertility and long-termproductivity. State tax structures encouraged cultivation without exhausting land resources. This reflects **early principles of sustainable land use and water management**.


## Urban Planning and Architecture

Kanishka developed cities such as Purushapura (Peshawar), Mathura, and Kapisa into cosmopolitan centers. Urban planning included **water reservoirs, storage systems, and organized roads**. The monumental Kanishka

Stupa in Peshawar—built with stone, mud-brick, and timber—used **local materials** and harmonized with its landscape. Unlike modern extractive construction, Kushan architecture was monumental yet ecologically adaptable.

## Trade and Resource Circulation

The Kushan empire sat at the heart of the **Silk Road**, linking China, India, Persia, and Rome.

- Caravan and river routes minimized large-scale environmental disruption.
- Trade promoted sustainable goods like textiles, spices, and herbal medicines.
- Metals were re-minted, organic materials reused—reflecting a **cyclical approach to resources**. This trade-based connectivity enhanced economic sustainability without industrial over-exploitation.

## Cultural Syncretism and Ecological Respect

Kanishka's religious eclecticism—embracing Buddhist, Hindu, Zoroastrian, and Greco-Roman deities—often honored **natural forces and fertility symbols** (e.g., Mitra, Shiva). Agricultural practices integrated Iranian, Indian, and Chinese techniques, ensuring adaptability to diverse ecosystems such as Kashmir. This **cultural syncretism preserved local ecological knowledge** rather than erasing it.

## Medicinal and Botanical Knowledge

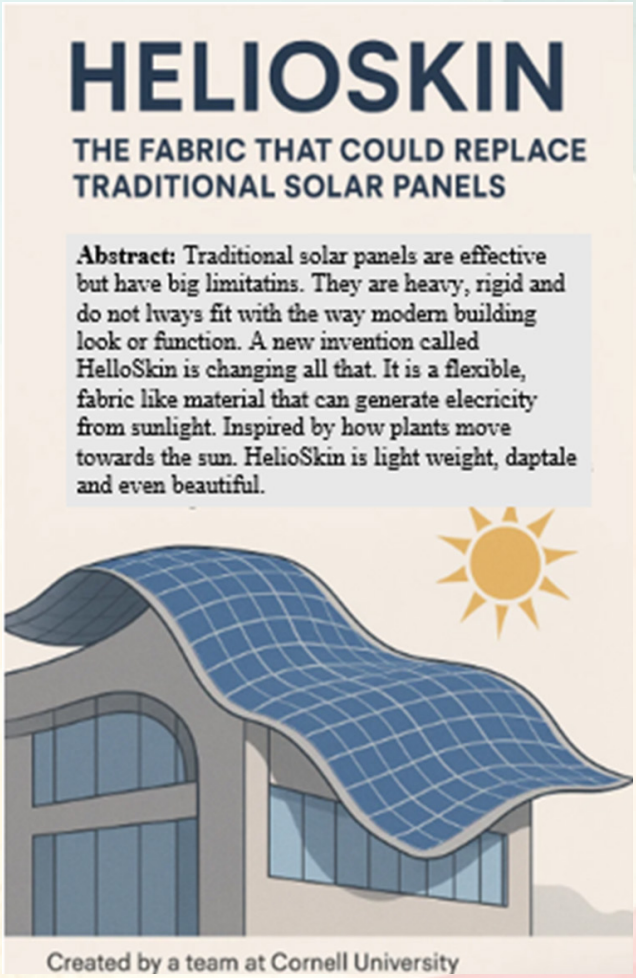
Ayurvedic traditions thrived alongside Buddhist medical practices. Texts like the *Charaka Samhita* (consolidated in this period) emphasized **seasonal harmony, conservation of herbs, and balance in resource use**. This points to a sophisticated ecological awareness within healthcare systems.

Despite these sustainable practices, Kanishka's reign also saw resource-intensive trade in **ivory, gemstones, and metals**, which encouraged extraction. Expanding urban centers sometimes placed pressure on forests and agricultural lands. Thus, sustainability was not absolute but balanced within the limits of pre-industrial society.

Kanishka's reign reflected **proto-sustainability** rooted in Buddhist ethics, agricultural stability, water management, ecological architecture, and trade practices respectful of natural routes and resources. While not an environmentalist in the modern sense, his policies and cultural patronage fostered harmony between human society and the natural world. His legacy illustrates how ancient empires could embody principles of environmental consciousness through **spiritual values, infrastructural foresight, and cultural respect for ecosystems**. SB

# Insight Series: IV

**CMA Arunabha Saha**
Practicing Cost Accountant
Thane

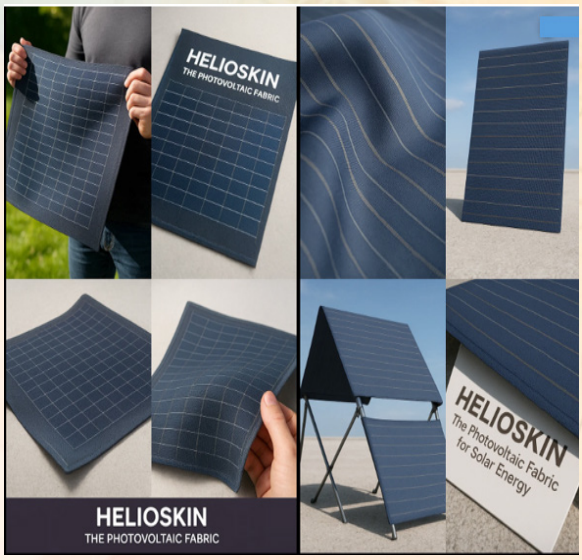



## 1. Introduction

Solar panels have become a symbol of clean energy, but they are not always easy to work with. Most are stiff, heavy, and must be installed on flat rooftops. This makes them hard to use on buildings with curves or irregular shapes.

**HelioSkin** offers a bold solution. It is a **flexible photovoltaic fabric** that can bend and stretch. Think of it like a solar-powered skin that can cover all sorts of surfaces—domes, tents, backpacks, or even clothing.

The team behind HelioSkin includes architects, scientists, engineers, and biologists. They were inspired by nature—especially how plants like sunflowers move toward light. Using advanced tools like 3D printing and folding geometry, they have made a fabric that not only captures sunlight but also follows the sun's path throughout the day.




## 2. How HelioSkin Works

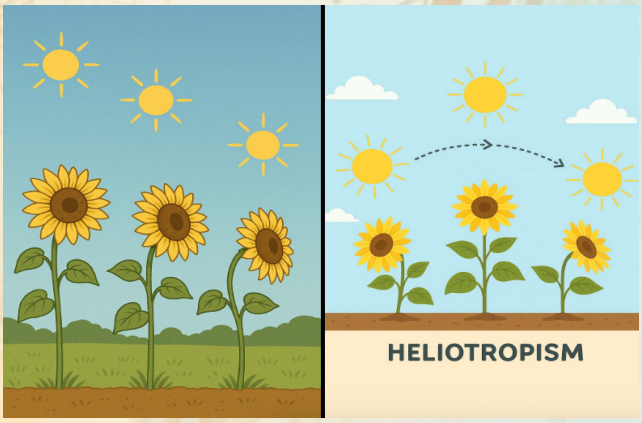
### 2.1 The Science of Solar Energy

HelioSkin generates electricity using the same basic idea as traditional solar panels. It uses materials that can absorb sunlight and convert it into electric current. These materials, often perovskites or organic semiconductors, react to sunlight by moving electrons—this creates power.

### 2.2 Inspired by Nature

HelioSkin mimics heliotropism—the natural behaviour of some plants to turn toward the sun. Plants like Arabidopsis thaliana do this by expanding their cells unevenly on either side of a stem. Scientists studied this behaviour and used similar ideas in fabric design, allowing parts of the material to bend or stretch in the direction of sunlight.

This natural approach means the fabric can move or angle itself without motors or electronics—a big advantage over mechanical sun-tracking systems.




**"Nature is not only a model for sustainability — it's the master of it."** — *Janine Benyus, Founder of Biomimicry Institute*

## 3. How HelioSkin Is Made

**Step 1: Choosing Materials**

- **Substrate**: Lightweight polymer mesh with stretchable mechanical properties.
- **Photovoltaic Ink**: Perovskite or silicon-based nanomaterials that can be roll-printed.
- **Conductive Traces**: Silver nanoparticle ink or carbon-based flexible conductors.
- **Optical Filters**: Layered polymers or graphene oxide to tune light absorption.

**Step 2: Nature-Inspired Design**

- Computer models simulate how plant cells grow and respond to light.
- These simulations guide how the fabric should move, stretch, or fold in sunlight.

**Step 3: Kirigami Patterns**

- **Kirigami** is the art of cutting and folding paper to create new shapes.
- In HelioSkin, these patterns help the fabric bend and twist in 3D ways.


- This gives it the ability to "track" the sun without electronics.

**Step 4: 3D Printing**

- Advanced printers lay down layers of different materials to form the fabric.
- The process is **scalable**, meaning it can be used for large surfaces or small portable items.

**Step 5: Testing and Optimisation**

- Engineers measure how much electricity the fabric produces under different conditions.
- The goal is to optimise for maximum energy, minimum overheating, and longest life.

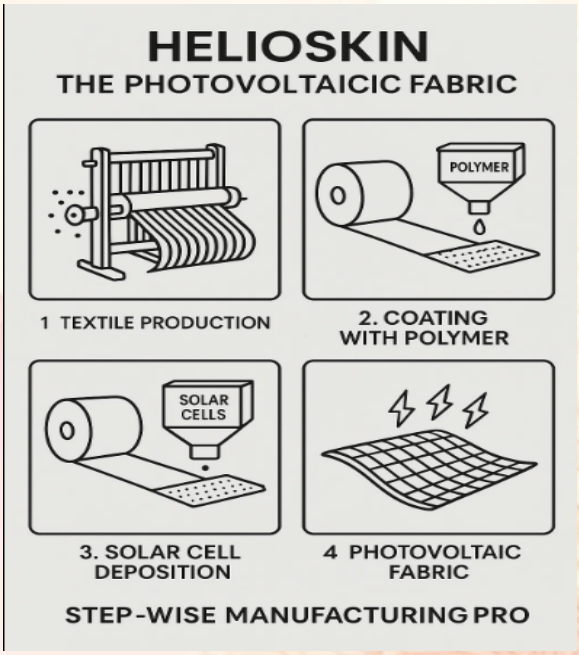
**Step 6: Real-World Testing**

- Small prototypes like canopies and awnings are built and tested for:

➢ Voltage and current output

➢ Resistance to weather and sunlight

➢ Flexibility and aesthetic appeal




## 4. Where HelioSkin Can Be Used

**Urban Buildings**

- Skyscrapers, domes, or curved walls can be wrapped in solar fabric.
- It becomes part of the building—generating power while also acting as a shading or decorative layer.

**Rural and Emergency Settings**

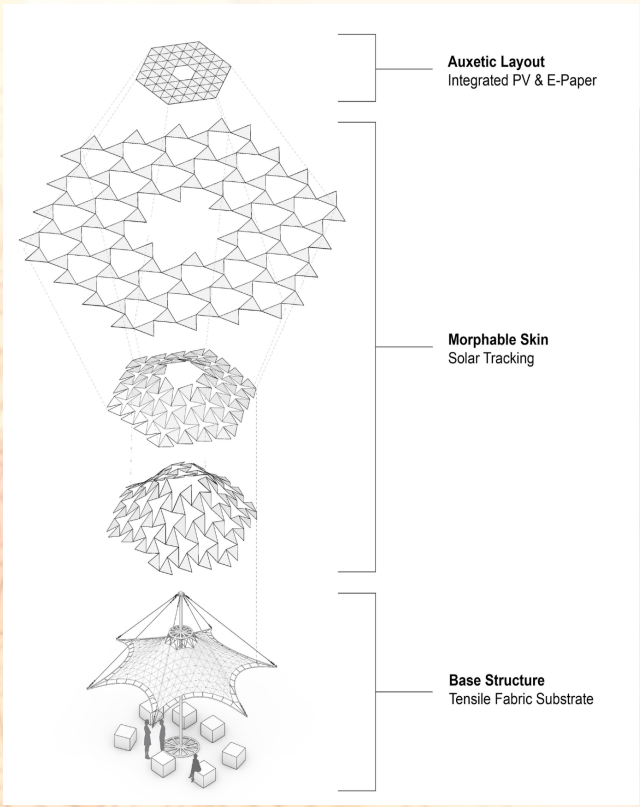
- Portable shelters in off-grid areas or disaster zones can use HelioSkin for energy.
- Tents or canopies can power lights, fans, or small devices.

**Public Spaces**

- Park benches, walkways, or art installations can be covered in HelioSkin.
- It can even display messages or lights using E-Ink technology.

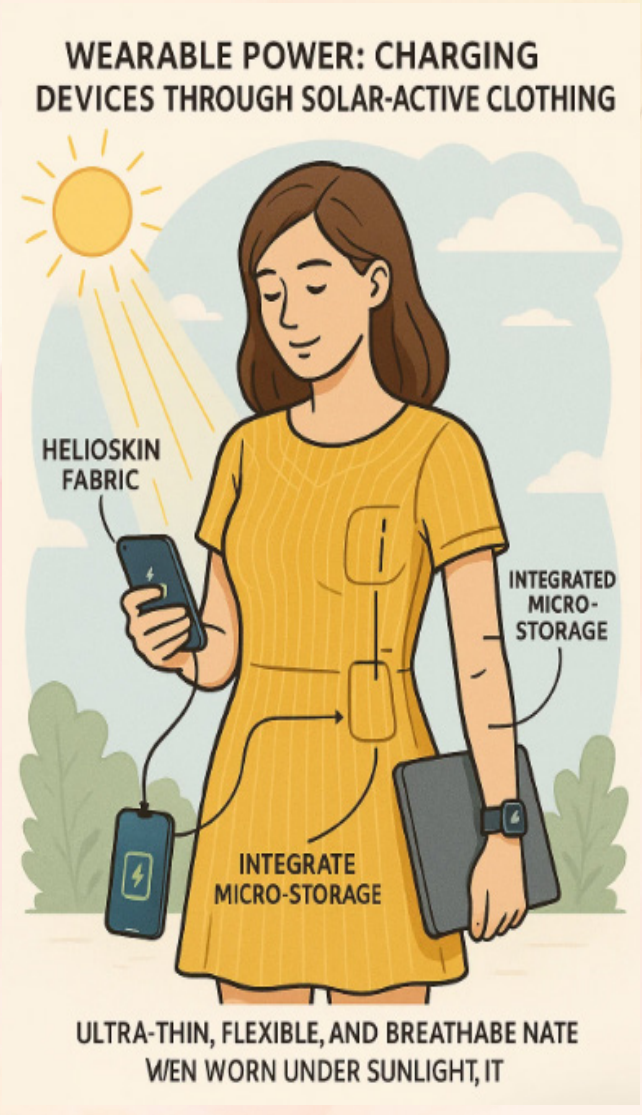
**Commercial Products**

- Businesses could design colourful, branded versions for advertising or product displays.
- HelioSkin can combine solar power and style.




**Wearable Power: Charging Devices Through Solar-Active Clothing:**

HelioSkin fabric can potentially be stitched into dress materials due to its ultra-thin, flexible, and breathable nature. When worn under sunlight, it can harness solar energy to generate electricity. This power can then be used to charge mobile phones, laptops, smartwatches, or other portable electronic devices via integrated micro-storage or wireless charging modules.



## 5. How It Compares to Traditional Solar Panels?

| Feature | Traditional Panels | HelioSkin |
|---|---|---|
| Material | Rigid silicon | Stretchable fabric |
| Weight | Heavy | Lightweight |
| Installation | Flat surfaces only | Any shape or surface |
| Looks | Plain | Customisable and attractive |
| Efficiency | 20–23% | Targeting over 25% |
| Tracking the Sun | Requires motors | Moves passively like plants |

**"The future belongs to those who prepare for it today."** — *Malcolm X*

## 6. What Challenges Remain?

**Durability**

- Making sure the fabric lasts through years of sun, wind, and rain.

**Wiring**

- Integrating power lines and connectors in a way that's safe and scalable.

**Mass Production**

- Using **roll-to-roll printing** methods to produce the fabric at a low cost.

**Commercial Rollout**

- The team has a three-year plan:
  - ✓ Year 1: Lab testing
  - ✓ Year 2: Small-scale outdoor prototypes
  - ✓ Year 3: Market launch

## 7. How Cost and Management Accountants (CMAs) Can Help?

HelioSkin is not just a science project—it is a potential business. CMAs can make sure it's financially viable and scalable.

**A. Feasibility Studies**

- Compare costs with traditional panels.
- Calculate metrics like ROI (return on investment) and LCOE (Levelized Cost of Electricity).

**B. Cost Planning**

- Break down costs for R&D, printing, testing, and materials.
- Help find where to reduce costs without hurting quality.

**C. Managing Supply Chains**

- Ensure that advanced materials (like perovskites and silver inks) are sourced affordably.
- Minimise waste in production.

**D. Government Support**

- Identify grants, tax credits, or carbon incentives.
- Help apply for green bonds or climate-focused funding.

**E. Smart Pricing**

- Suggest pricing based on location, industry, and customization.
- Use strategies to keep it affordable yet profitable.

**F. Tracking Project Progress**

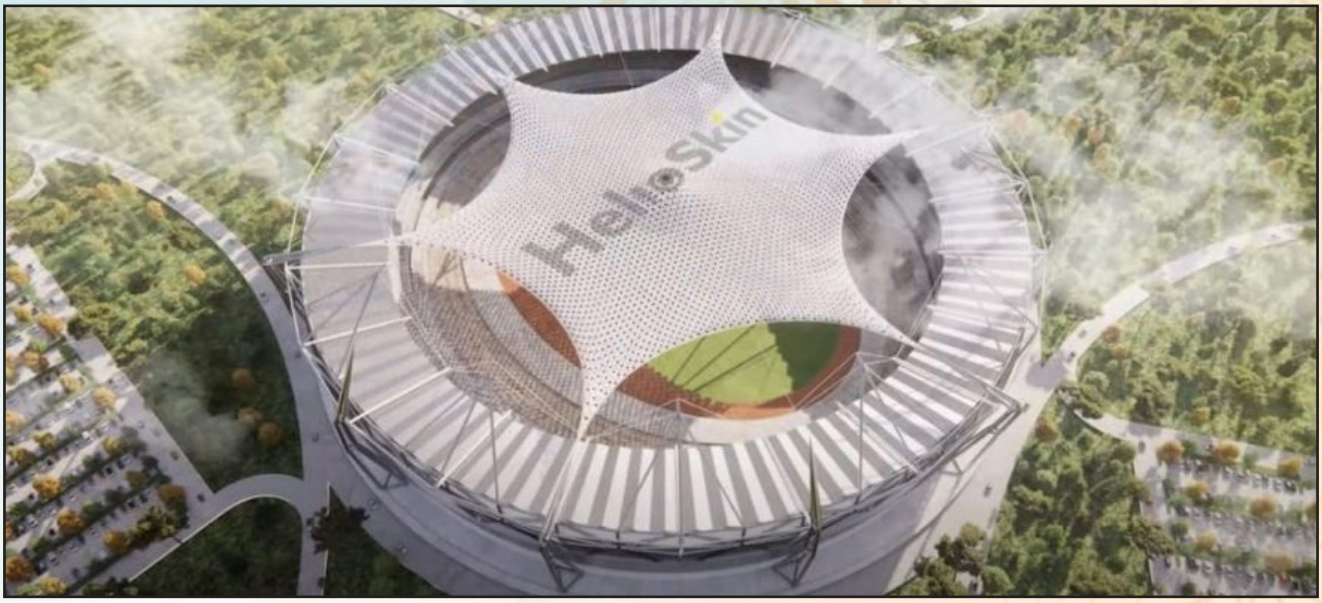
- Use tools to monitor budgets and timelines.
- Keep the project within scope and on schedule.

**G. ESG and Sustainability Reporting**

- Track environmental and social benefits for investors and regulators.
- Report savings in carbon emissions and energy costs.

**H. Cross-Team Communication**

- Translate technical info into business terms.
- Ensure designers and engineers understand the cost implications of their choices.




*The HelioSkin above a stadium will not only protect from sunlight but will also capture photons to generate electricity for lighting the stadium.*

**"The true cost of anything is measured by how it affects the future."** — *Anonymous, Sustainability Economics Thought*

## 8 How Helio Skin Supports Sustainability?

HelioSkin aligns with all three pillars of sustainability: environmental, social, and economic.

**Environmental**

- Produces clean energy.
- Uses fewer raw materials than traditional panels.
- Mimics nature to minimize waste.

**Social**

- Brings energy to remote or disaster-hit areas.
- Can be used in shelters, schools, and hospitals.
- Enhances public awareness of renewable energy.

**Economic**

- Lowers energy bills over time.
- Creates green jobs in tech, design, and manufacturing.
- Opens new markets in fashion, architecture, and consumer electronics.

**"Sustainability is not a goal to be reached but a way of thinking, a way of being, a principle we must live by."** — *Giuseppe Penone*

## 9. Conclusion

HelioSkin is more than a solar panel—it is a vision for the future. It blends science, design, and nature to create a new way of generating energy. Lightweight, beautiful, and versatile, it could turn our cities, clothing, and public spaces into power sources.

With smart planning, cost control, and support from both public and private sectors, HelioSkin could help us move toward a future where **every surface has the power to create clean energy**. SB

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The **Nav Yuwan Housing Society**, a 30-year-old residential complex in Mira Road, has achieved a remarkable milestone by becoming the **first housing society in Asia** to be awarded the prestigious **EDGE Advanced green building certification**. The recognition was conferred by **Excellence in Design for Greater Efficiencies (EDGE)**, an international green building certification system developed by the **International Finance Corporation (IFC), World Bank Group**.

Through a series of practical, low-cost interventions, the society has successfully reduced its monthly electricity bill from **₹52,000 to ₹18,000**, while delivering measurable environmental benefits. Notable initiatives include the installation of **150 motion sensor-based dim tube lights** in staircases, lift lobbies, and other common areas. These fixtures operate at reduced brightness when unoccupied and switch to full illumination upon detecting movement, ensuring both energy efficiency and resident safety.

As a result of these measures, Nav Yuwan Housing Society has reported:

- **41% savings in energy consumption**
- **35% savings in water usage**
- **59% improvement in material efficiency**
- **232.78 $tCO_2$ reduction in annual operational emissions**

"This certification demonstrates how existing residential complexes can integrate sustainability into their daily operations without the need for new construction," said a representative from the society's managing committee. "Our initiative stands as a model for future **climate action interventions in the residential sector**."

The Nav Yuwan initiative showcases how community-led efforts can deliver meaningful, scalable outcomes that align with India's climate and sustainability goals. SB

SUSTAINABILITY QUIZ – RAPID-FIRE ROUND

## Five questions on sustainability

1. The Environment Audit Rules, 2025 is a new Indian framework established by the MoEFCC to enforce _____ through independent audits.
2. Assessing a Product's Life Cycle includes examining _____ and environmental impacts
3. Focus of impact investing approach is Achieving measurable positive social or environmental outcomes alongside _____
4. The KPIs pertaining to Circular Economy relate to_____.
5. Ease of doing Business is both a _____ and a measure of good governance.

| CONGRATULATIONS TO ALL THE WINNERS ! | |
|---|---|
| **Sl. No.** | **Name** |
| 1. | CMA K N Thakur |
| 2. | CMA Biswajit Kumar Mal |
| 3. | CMA Arun Mehra |

CORRECT ANSWERS OF PREVIOUS QUIZ

| | |
|---|---|
| 1. | 120 |
| 2. | Contaminated Site |
| 3. | 56% |
| 4. | 43% |
| 5. | 11 6.5 billion |

*The names of first 5 participants giving correct responses will be declared in the ensuing newsletter.*

**The responses may be sent to ssb.newsletters@icmai.in**

## Call for articles

*Sukhinobhavantu is inviting articles on the theme ESG/ Sustainability or related themes for publishing in October'2025 edition. The articles should be relevant and original. The article should clearly cover/depict the scope, opportunity and potential for cost accountants. It should not exceed 2200 words and references/ sources are to be given wherever required. It should reach us latest by October 14, 2025, by email to ssb.newsletters@icmai.in The right for selection of articles vests with SSB. Decision of SSB will be final and binding.*

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