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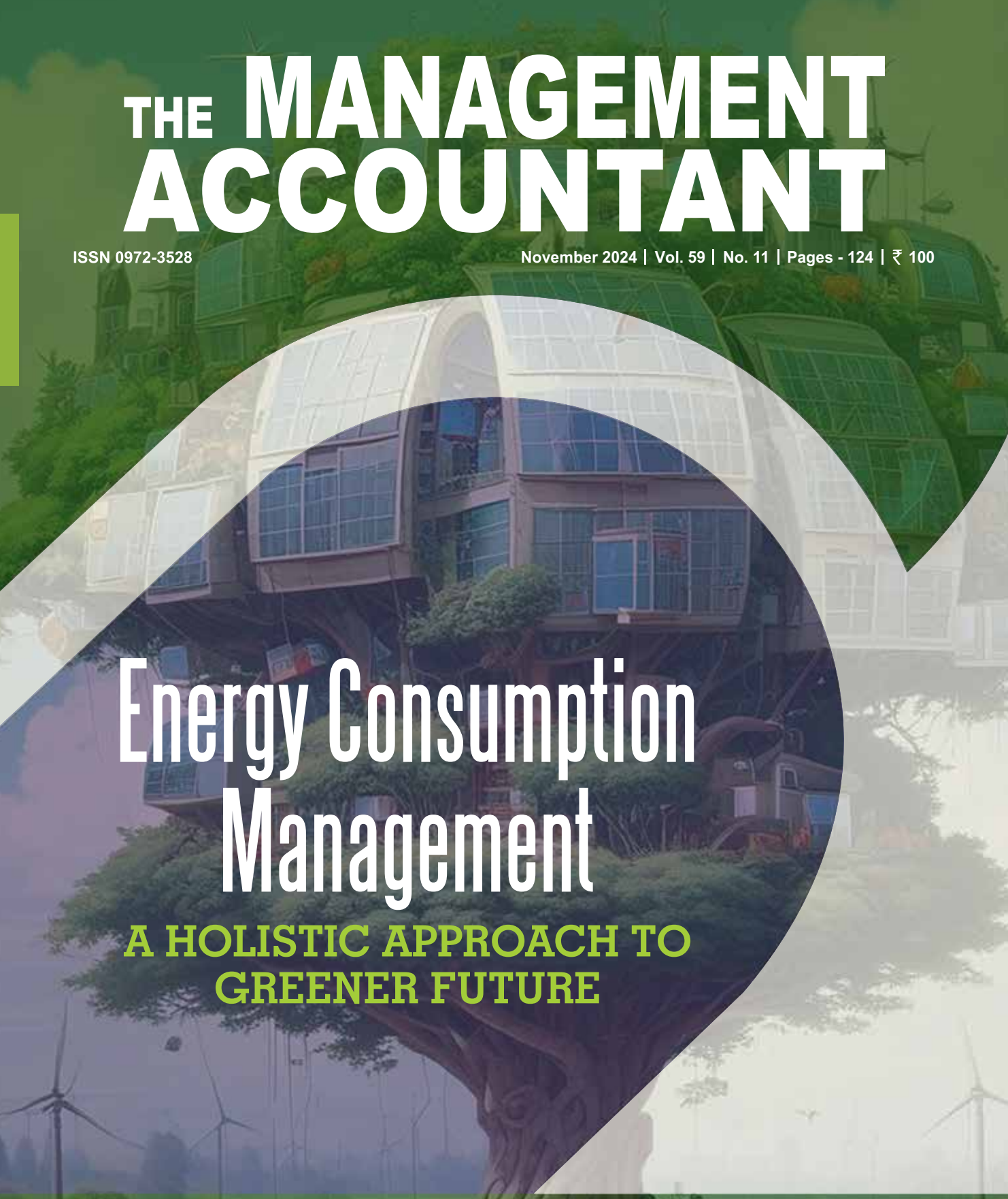

Energy Consumption Management

A HOLISTIC APPROACH TO GREENER FUTURE

Journal of

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(Statutory Body under an Act of Parliament)

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Benevolent Fund

FOR THE MEMBERS OF THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

CMA Bhawan, 12 Sudder Street, Kolkata - 700016

OBJECTIVE

The Fund has been created to provide outright grant of prescribed amount to the member in the event of critical illness of a member / beneficiary of the Fund. It is also for outright grant of prescribed amount to the beneficiary in the event of death of a member of the Fund.

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- Stroke / Cerebral Attack / Paralysis
- Heart Valve Replacement Surgery
- Myocardial Infarction (heart attack) / Heart Failure / Pace Maker Surgery / Kidney Dialysis(CKD)/ Renal Failure
- Major Organ Transplant
- Hemophilia
- Thalassaemia
- Neurological Diseases
- Flue Blown acquired Immune Deficiency Syndrome
- Multiple sclerosis
- Tuberculosis / Bronchopneumonia/ Pleurisy
- Permanent disablement
- Any other disease that may be considered by the Board of Trustees to be critical in nature.

To apply for life membership or for further details please visit
https://eicmai.in/External/Home.aspx#

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ICMAI
The Institute of Cost Accountants of India

(Statutory body under an Act of Parliament)

www.icmai.in

- **THE INSTITUTE OF COST ACCOUNTANTS OF INDIA** (erstwhile The Institute of Cost and Works Accountants of India) was established in 1944 as a registered company under the Companies Act with the objects of promoting, regulating and developing the profession of Cost Accountancy.
- On 28 May 1959, the Institute was established by a special Act of Parliament, namely, the Cost and Works Accountants Act 1959 as a statutory professional body for the regulation of the profession of Cost & Management Accountancy.
- It has since been continously contributing to the growth of the industrial and economic climate of the country.
- The Institute of Cost Accountants of India is the only recognized statutory professional organisation and licensing body in India specialising exclusively in Cost & Management Accountancy.

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 CMA 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."

Institute Motto

असतोमा सद्गमय तमसोमा ज्योतिर् गमय मृत्योर्मामृतं गमय ॐ शान्ति शान्ति शान्तिः	From ignorance, lead me to truth From darkness, lead me to light From death, lead me to immortality Peace, Peace, Peace

IDEALS THE INSTITUTE STANDS FOR

- to develop the Cost and Management Accountancy Profession
- to develop the body of members and properly equip them for functions
- to ensure sound professional ethics
- to keep abreast of new developments

Headquarters:
CMA Bhawan, 12 Sudder Street, Kolkata - 700016

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

Behind every successful business decision, there is always a CMA

The Management Accountant, official organ of The Institute of Cost Accountants of India, established in 1944 (founder member of IFAC, SAFA and CAPA)

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For the purpose of RNI Compliance

Chairman, Journal & Publications Committee
CMA Harshad Shamkant Deshpande

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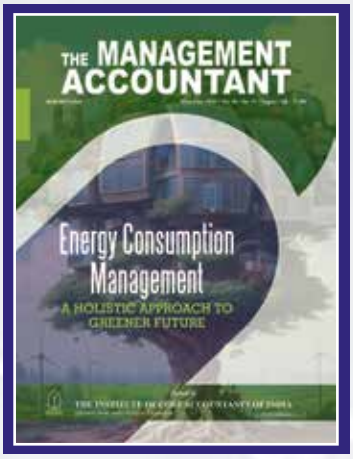
November 2024



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From the EDITOR'S DESK

Energy Consumption Management: A Holistic Approach to Greener Future

Energy consumption management is not just about reducing energy use; it is about creating a sustainable energy ecosystem that balances economic growth with environmental protection. By embracing efficiency, renewable energy, and smart technologies, and by fostering a culture of sustainability, we can move towards a greener and more sustainable future for all.

This issue of Management Accountant is focusing on **Energy Consumption Management: A holistic approach to greener future**. Various authors have contributed thought provoking articles based on the theme of this issue.

Solar Energy Technology and Its Role in Sustainable Development in India concludes that the continued advancement of solar energy technology in India will be pivotal in fostering a future centered around sustainability and environmental responsibility. By embracing this shift, businesses can contribute to building a greener planet for future generations.

Role of CMAs in Renewable Energy Management highlights that renewable energy management presents a valuable opportunity for cost and management accountants to apply their expertise in areas such as rescheduling and reengineering production processes, providing input to regulators on pricing mechanisms, and auditing information security systems.

India's Energy Management Solutions: Conquering Challenges, Guiding the Globe explains that integrating renewable energy is hindered by infrastructure gaps, high costs, and intermittency. However, through a strategic approach to energy management, India is not only paving the way for its own low-carbon future but also leading the world towards a more resilient and sustainable planet.

Energy Security and Non-conventional Energy Sources: An Intertwined Twofold Impetus to Propel Inclusive and Sustainable Development: Briefly discusses energy security with an emphasis on non-conventional sources in India and also highlights related global perspectives.

Energy Management and Decarbonisation: The Need, The Way Forward, and The Role of CMAs explores how the global shift towards energy transition and management is prompting businesses to closely examine their energy consumption and cost data. Companies are increasingly focused on optimizing resource use and minimizing waste. The triple bottom line approach is becoming both a necessity and a reality. In this evolving landscape, CMAs, with their diverse skills and roles, can serve as guiding lights to lead the way forward.

The Sun Never Sets for a Green Future - India embraces the philosophy of "Vasudhaiva Kutumbakam" - "One Earth, One Family, One Future" - highlighting the importance of sustainable energy. Solar and wind energy together account for nearly 89% of the nation's total renewable capacity. While India is a global leader in renewable energy, significant efforts are still needed to meet SDG targets, presenting fresh opportunities for CMAs to play a pivotal role with their expertise.

Optimizing Energy Consumption in the Circular Economy: The Strategic Role of CMAs emphasizes that by effectively managing energy consumption, businesses can reduce costs, enhance profitability, and play a vital role in fostering a more sustainable and environmentally responsible economy.

Energy Management Software: A Veritable Game Changer for the Modern-Day Business Enterprise highlights the critical role of Energy Management Systems in collecting and analyzing energy usage data for businesses. By comparing individual energy consumption with industry standards and baselines, these systems help organizations achieve both environmental sustainability and energy efficiency.

Key Aspects in Energy Conservation underscores how the perspective on energy conservation has shifted from being merely a cost-saving strategy to a broader responsibility, shaped by evolving regulatory frameworks.

Biofuel: Redefining the Path to Energy Sustainability in India highlights that biofuels have the potential to economically and feasibly replace a significant portion of the country's current reliance on traditional fuels, across all regions.

Energy Management and ESG explores the vital pivot of energy management with Environmental, Social and Governance [ESG] frameworks. It underscores efforts by companies to become more sustainable in response to ecological concerns.

Role of CMAs in Energy Audit emphasizes that by integrating energy audits with sustainability initiatives, CMAs ensure that businesses meet their long-term environmental goals. As companies strive to reduce costs, comply with regulations, and achieve sustainability targets, cost and management accountants play an increasingly vital role in the energy audit process.

In addition to the topics mentioned, this issue features articles on a range of other contemporary subjects. We are also honoured to include an exclusive interview of CMA (Dr.) Bijay Kumar Mohanty, Director (Finance) at IREDA.

We extend our sincere thanks to everyone who contributed articles for this issue. Please share your thoughts with us at ***editor@icmai.in.***

Happy Reading!

President's Communiqué

CMA Bibhuti Bhusan Nayak
President
The Institute of Cost Accountants of India

"The true measure of success is not just what you achieve, but also how you positively impact others."

-- Ratan Tata

My Dear Professional Colleague,

As we move forward, I hope the festivities of October brought joy, peace, and renewed energy to each of you. These moments of celebration provide us with renewed strength and unity, inspiring us to bring the same enthusiasm to our professional lives. Let us channel this festive energy into our work, striving for excellence and impactful contributions to the Institute and CMA profession. May the celebrations continue to remind us of the importance of unity, compassion, and dedication in all we do.

Meeting with Governor RBI

I am happy to inform you that I along with my Council Colleagues CMA Manoj Kumar Anand, CMA Chittaranjan Chattopadhyay and CMA (Dr.) Ashish P. Thatte had a meeting with Shri Shaktikanta Das, Governor, RBI on 30th October, 2024 at RBI office, Mumbai wherein extensive discussions were held on the role of CMAs in the Banking Sector.

Call for Nominations for 19th National Awards for Excellence in Cost Management 2024 and 8th CMA Awards 2024

I am pleased to share that the Institute is receiving the nominations from the organisations for the 19th National Awards for Excellence in Cost Management 2024 and from CMAs in employment for 8th CMA Awards 2024. Considering the requests from the organizations and members, the Institute has extended the last date of submission of nomination upto 15th November, 2024.

I urge the companies/ organisations and CMAs in employment for their active participation. For submitting nominations for Awards, please visit the website of the Institute:

For National Awards 2024: https://icmai.in/Awards/National_Awards/index.php

For CMA Awards 2024: https://icmai.in/Awards/CMA_Awards/index.php

Meeting with Dignitaries

I along with CMA Manoj Kumar Anand, Council Member, ICMAI and CMA Avijit Goswami, Council Member, ICMAI had a meeting with CMA Samir Kumar Swain, Director (Finance), U.P. Transmission Corporation Ltd., CMA (Dr.) Bijay Kumar Mohanty, Director (Finance & CFO), IREDA Limited, CMA Gagan Bihari Swain, Director (Finance), Odisha Power Generation Corporation Ltd. (OPGC) and CMA (Dr.) Prasanna Kumar Acharya, Director (Finance), NLC India Limited (NLCIL) during their visit to CMA Bhawan, New Delhi on 7th October, 2024.

Peer Review Board

You are aware that the Council of the Institute has implemented the Peer Review System in the Institute w.e.f. 1st April 2023 and the same is voluntary for the first three years of implementation. I urge the practicing members to come forward

and get their firm/s (Proprietorship, Partnership or LLP) peer reviewed by an empaneled reviewer. For this please fill up the PU Questionnaire and send a signed copy of the same to the peer review Board on its email peerreviewboard@icmai.in. For assistance please go through the Instructions for filling up the Questionnaire.

I urge the eligible practicing members to empanel themselves as Peer Reviewer in order to undertake the Peer Review assignments on payment basis, by filling up Empanelment Form and sending a signed copy to the Peer Review Board at peerreviewboard@icmai.in along with the signed declaration.

For more information regarding the Peer Review Mechanism of the Institute, please visit the Peer Review Webpage on the Institute's website.

MOU with ACCA-UK

As you are aware that ICMAI and the Association of Chartered Certified Accountants (ACCA), UK signed a Memorandum of Understanding on 9th August, 2021 to work together towards co-operation in respect of professional training, education and examinations. The Members of both the Institutes are allowed mutual advanced entry through exemptions from appearing in the majority of papers to acquire the qualification of the other professional body.

On 7th October, 2024, an Addendum to the above said MoU was signed between ICMAI and ACCA-UK to allow exemptions to ACCA members to pursue CMA qualification under Syllabus 2022. The weblink of the Circular dated 16th October, 2024 regarding Reciprocal Exemption between ICMAI and ACCA-UK (as per MOU) is as follows:

https://icmai.in/upload/Students/Circulars/CMA-ACCAExemption-Circular.pdf

MoU with the MSME Chamber of Commerce and Industry of India (MSMECCII)

I am pleased to share with you that the MSME & Start-up Promotion Board, under the Chairmanship of CMA Suresh R. Gunjalli has entered one MoU with the MSME Chamber of Commerce and Industry of India (MSMECCII) on 23rd October at Delhi. The MoU was signed by the Secretary of ICMAI and the Chairman of the MSMECCII Shri Indrajit Ghosh.

The MSME Chamber of Commerce and Industry of India is an NGO established in 2019 for working on the field to help the industry and social issue. The MSMECCII works closely with the government, industry associations, and other stakeholders to create an enabling environment for MSMEs to thrive. It provides a range of services to MSMEs, including capacity building, market development, technology upgradation, and policy advocacy. MSMECCII Chamber has all relevant members globally in various fields to guide the sector to grow fast.

I strongly believe that the MoU will help to constitute a think tank by drawing professionals and experts from multi-disciplinary areas across sectors and periodically deliberate and chart pathways to work more closely for the betterment of the CMA fraternity towards MSME Sectors.

Members Meet at Hyderabad Chapter

I along with CMA TCA Srinivasa Prasad, Vice President, ICMAI and CMA (Dr.) K Ch A V S N Murthy, Council Member, ICMAI had an opportunity to meet and interact with the members during the Members Meet organised by the Hyderabad Chapter of ICMAI at Hyderabad on 26th October, 2024. This event provided an interactive platform for members for discussing the recent initiatives of the Institute and important matters related to CMA profession.

I wish prosperity and happiness to our members, students, and their families on the occasion of Chhat Puja & Guru Nanak Jayanti and wish them success in all of their endeavours.

With warm regards,

CMA Bibhuti Bhusan Nayak

November 4, 2024

BRIEF SUMMARY OF THE ACTIVITIES OF VARIOUS DEPARTMENTS/ COMMITTEES/ BOARDS OF THE INSTITUTE DURING THE MONTH OF OCTOBER 2024

AGRICULTURE COST MANAGEMENT BOARD (ACMB)

The Agriculture Cost Management Board (ACMB) under the Chairmanship of CMA Chittaranjan Chattopadhyay has successfully organized Webinar on "Social Costs and Benefits in Agriculture in connection with Climate Change and Related Issues" on 27th September, 2024. The Chief Guest and Speaker of the webinar was Dr. T. N. Prakash Kammardi, Ret. Professor of Agricultural Economics and Formerly Chairman Karnataka Agricultural Prices Commission, Govt. of Karnataka. This webinar was for the dissemination of knowledge among members and to increase the numerous professional avenues available to the members in the field of agriculture.

BANKING, FINANCIAL SERVICES AND INSURANCE BOARD

The Banking, Financial Services & Insurance Board of the Institute and the BFSI department continued its various activities and initiatives in October 2024, a synopsis of which is presented herein under:

A. Certificate Courses of BFSI

i) Advance Certificate Course on Fintech

The admission for the 1st batch of Advance Certificate Course on Fintech is going on.

ii) Investment Management in collaboration with NSE Academy

The admission for the Level-1 (Fundamental Analysis & Valuations) Batch No. 2 of the Investment Management in collaboration with NSE Academy has started on 19th October, 2024 and the admission for the Level-3 Batch No. 1 (Financial Derivatives & it's application) is presently going on.

iii) Certificate Courses on Banking

The admission for the 11th batch of Concurrent Audit of Banks has started and the last date of admission is 8th November, 2024 and the classes will commence from 9th November, 2024.

The admission for the 11th batch of Credit Management of Banks and 9th batch of the Treasury and International Banking are currently going on.

The syllabi and the study materials has been amended as per the latest developments and amendments and all are requested to be take admission for capacity building and knowledge enhancement.

The admission window for the courses is stated as follows:

https://eicmai.in/OCMAC/BFSI/DelegatesApplicationForm-BFSI.aspx

B. Webinars

The following webinars were organized by the BFSI on various topics:

1. The webinar on "IPOs the process of fund raising for India Inc" was organized on 4th October 2024. CMA Nayan Mehta, Former CFO, BSE and BFSI Board Member, ICMAI was the Speaker.
2. The webinar on "Internal Audit of Life Insurance Companies" was organized on 7th October 2024. CMA P N Murthy, Insurance Consultant and BFSI Board Member, ICMAI was the Speaker.
3. The Webinar on "What CMAs ought to know about the complexities of Life Insurance Business" was organized on 18th October 2024. CMA B. K. Unhelkar, Former Executive Director, Life Insurance Corporation of India was the Speaker.
4. The Webinar on "Understanding the basics of Commodity market and Energy Price Risk Management" was organized on 24th October 2024. Shri Ashish Bhagtani, Assistant Vice President – PMT Energy, Multi Commodity Exchange of India Ltd. was the Speaker.

C. Publications

i) Release of the 18th issue of the BFSI Chronicle (FinTech Special)

The BFSI Board, ICMAI has released the 18th issue of the BFSI Chronicle (FinTech Special) in the month of October, 2024.

ii) Sale of Aide Memoire on Infrastructure Financing (Revised and Enlarged 2nd Edition)

The online purchase link of the publication titled Aide Memoire on Infrastructure Financing (Revised and Enlarged 2nd Edition) is as follows:

https://eicmai.in/booksale_bfsi/Home.aspx

D. Inclusion of CMAs/CMA Firms in various opportunities

The CMAs are included in various opportunities and professional opportunities in the BFSI sector namely:

i. CMAs are included in various vacancies of National Housing Bank

ii. CMA Firms are eligible for stock audit of Indian Overseas Bank

iii. CMA Firms are eligible for concurrent audit of NEDFi

iv. CMA Firms are eligible in providing services to assist in Liability Servicing and related works in IFCI Ltd.

CAT DIRECTORATE

⊙ CAT Course for retiring/retired Defence Personnel

The CAT Directorate has continued the Institute's collaboration with the Directorate General Resettlement (DGR), Ministry of Defence, Government of India. As part of this ongoing partnership, another batch of the CAT course for retiring and retired JCOs/OR and their equivalents commenced on 21st October 2024 at the SIRC premises in Chennai. This initiative is in line with the approved training calendar for the 2024-25 year by the DGR.

⊙ Online Classes for CAT Students

The e-learning classes for CAT Course Part I officially commenced on 7th October, 2024. These sessions, led by expert resource persons, have been thoughtfully redesigned to foster greater interaction. With this enhanced format, students and faculty can now engage directly, leading to a more impactful and dynamic learning experience.

The students are encouraged for their regular participation, as these sessions will prove instrumental in your preparation for the upcoming CAT examination.

MEMBERSHIP DEPARTMENT

During the month of October, 2024, 160 new Associate memberships were granted and 43 Associate members were upgraded to Fellowship. Under the leadership of CMA Avijit Goswami, Chairman of the Members' Facilities Committee, these new memberships were granted even during festivities in the month of October 2024.

PROFESSIONAL DEVELOPMENT & CONTINUOUS PROFESSIONAL EDUCATION (PD & CPE) COMMITTEE

The Regional Institute of Pharmaceutical Science and Technology has considered Cost Accountants Firms for filling and Assessment of Income Tax. Further, the Maharashtra Mantralaya & Allied Offices Co-Operative Bank Ltd. invited applications from the Cost Accountants for recruitment of Assistant Manager (Audit).

Please visit the PD Portal regularly , check for Tenders/EOIs during the month of October 2024 where services of the Cost Accountants are required in the Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Ltd., Indian Institute of Engineering Science and Technology, Shibpur, Jamshedpur Notified Area Committee, Spices Board, Artificial Limbs Manufacturing Corporation of India (ALIMCO), Armoured Vehicles Nigam Limited, Assam Power Distribution Company Limited, National Health Mission, Haryana, Jammu and Kashmir State Power Development Corporation Limited, Industrial Finance Corporation of India, Assam Power Distribution Company Limited, etc.

In the monthly Series of discussion with the practitioners, Professional Development & CPE Committee conducted 10th Webinar on 3rd October 2024, discussion with practitioners on "Certification and Verification assignments in Banks", wherein CMA Praveen Kumar Dangi made a comprehensive presentation sharing valuable insights and strategies. The session was very much appreciated by the participants and Chairman, Professional Development & CPE Committee also encouraged the active interaction.

The Professional Development & CPE Committee conducted a Seminar on "Construction Industry" under Industrial Seminar Series on 16th October 2024 at New Delhi. The seminar featured esteemed speakers, including CMA Hrishikesh Kumar, Executive Director (Finance) NBCC (India) Limited, CMA (Smt.) B.K. Sokhey, Former Director (Finance) NBCC (India) Limited, as Guest of Honor, and CMA Sanjay Jindal, Director (Finance) Engineers India Limited, as Chief Guest. The seminar proved to be a highly engaging and informative program, the participants actively interacted with the speakers, leading to a stimulating question-and-answer session. This platform provided participants with an opportunity to understand the Industry perspective and the role of CMAs.

The Professional Development & CPE Directorate of the Institute conducted online preparatory classes for the UPSC Recruitment Test for the recruitment of Assistant Director (Cost). These intensive classes were conducted from 17th September 2024 to 9th October 2024, encompassing a total of 79 hours. The curriculum was meticulously designed to cover all pertinent topics in the examination syllabus, ensuring thorough preparation and guidance for eligible candidates. Approximately 500 registrations, all registered students accessed the recorded sessions. The sessions were led by a distinguished panel of experts and academicians.

The Professional Development & CPE Directorate of the Institute conducted a meeting on 22nd October 2024 with Mr. André Sanseverino, co-founder and Vice President of MyABCM was associated with Gary Cokins, a well renowned in the field of Activity Based Costing and Management Accounting Techniques to discuss areas of professional relevance and importance of mutual interest.Learned members of the Institute actively participated in the discussion to understand the implementation of the software to facilitate the professionals and companies.

Professional Development & CPE Committee associated with PHD Chamber of Commerce and Industry for "Direct Tax Conclave 2024" at PHD House, New Delhi on 4th October 2024.

During the month of August, around 30 programmes in Physical mode and around 50 programmes in online mode were organised by the different Committees, Regional Councils and Chapters of the Institute on the topics of Recent Changes in GST, Cost Audit – Intricacies, Leveraging Budgetary Control for Enhancing Performance of Cooperatives, Stock Edge for Technical & Fundamental Analysis, Managing Wroking Capital in an Inflationary Envoirnment, Key Steps and Emerging Technologies for conducting an Effective Internal Audit, Unlocking Input Tax Credit Eligibility under GST: Your Guide to Maximise Benefits, Being Digital: Conceptualization to Digital Transformation and so on. We are sure that our members are immensely benefited with the deliberations in the sessions.

SUSTAINABILITY STANDARDS BOARD

The Sustainability Standards Board had organized the 18th webinar of Vasudhaiva Kutumbakam Series on the topic 'Corporate Social Responsibility: Regulatory Provisions' on October 11, 2024. Shri Naman Shah, Director, Deloitte Haskins & Sells LLP was the speaker for the webinar. The 19th webinar of Vasudhaiva Kutumbakam Series on the topic "Overview of the Green Battery Concept and its Future in Enhancing Sustainability in India (with Case Studies)" was organized on October 25, 2024. CMA Chandrashekhar Chincholkar, Consultant was the speaker for the webinar.

The inauguration of the 2nd batch of Certificate Course on ESG was done on 31st October, 2024. The classes commenced from 3rd November, 2024.

The Sustainability Standards Board released the October 2024 edition of its monthly newsletter Sukhinobhavantu. The Download link is as follows:

https://icmai.in/upload/Institute/Updates/SSB_October_2024.pdf

TAX RESEARCH DEPARTMENT

A Stakeholder consultation meeting for Comprehensive Review of the Income Tax, 1961 was held under the Chairmanship of Revenue Secretary, Ministry of Finance on 18th September, 2024 at North Block, New Delhi, wherein the Institute had submitted its suggestions for simplification of the language of the IT Act to make it concise, lucid and easy to read and understand; and to mitigate litigation, provide tax certainty, bring down the demand involved in litigation and reduce the compliance burden.

In this connection, the "CMA Tax Volunteer Scheme", which has been launched in the 3rd week of September, 2024 for CMAs, CMA Students and the general public to provide their inputs on the proposed changes suggested on the new Income Tax Act, 1961, is continued throughout October, 2024. The last date of submission for the scheme was 31st October, 2024. In this regard, Regional Councils and Chapters of the Institute were also requested to contribute their views and suggestions, in which many chapters have contributed positively.

On 08.10.2024, the Institute has submitted a representation to Shri Sanjay Malhotra, IAS, Secretary to the Government of India, Department of Revenue, Ministry of Finance requesting for availability of GSTR-9 Forms and ITC Reports for FY 2023-24 in GST portal.

During the month of October, 2024, the department conducted two important webinars on the topic "Vivaad se Vishwas Scheme, 2024" on 15th October, 2024 and 'Unlocking Input Tax Credit Eligibility

under GST: Your Guide to Maximise Benefits' on 18th October, 2024. Both the webinars were participated by a large number of members and both the sessions were quite interactive.

Admissions to the Taxation Courses have also commenced. The details can be reached at: https://eicmai.in/OCMAC/TRD/TRD.aspx. The courses are:

i. Certificate Course on GST (Batch – 17)
ii. Advanced Certificate Course on GST (Batch – 13)
iii. Advanced Course on GST Audit and Assessment Procedure (Batch – 10)
iv. Certificate Course on International Trade (Batch – 7)
v. Certificate Course on TDS (Batch – 13)
vi. Certificate Course on Filing of Returns (Batch – 13) and
vii. Advanced Course on Income Tax Assessment & Appeals (Batch – 10)

The classes for GST Course for college and university students have commenced at Seshadripuram Degree College, Mysuru (Batch 2) from 14th October, 2024 with strength of 75 candidates. The classes continued at St. Anns College, Hyderabad (Batch 2).

The quiz on Indirect Taxes is conducted on every Friday on PAN India basis. The Taxation Portal is being updated regularly with the circulars, notifications and press releases. Anniversary Edition of Tax Bulletin volume 169th and thereafter volume 170th has been published by the Tax Research Dept. and the same were circulated to the various stakeholders of the Institute.

INSOLVENCY PROFESSIONAL AGENCY (IPA) OF THE INSTITUTE

The Insolvency Professional Agency of Institute of Cost Accountants of India (IPA ICMAI), in its endeavour to promote professional development and sharpen the skills of the professionals, has constantly been conducting various professional & orientation programs across the country and publishing various publications and books for the benefit of stakeholders at large. IPA ICMAI has undertaken several initiatives, as enumerated below, during the month of October 2024.

- Workshop on "Mediation & IBC Framework: Trajectory & Prospects" was conducted on 5th October 2024.
- Workshop on Forensic Audit & Transaction Audit was conducted on 10th October 2024 wherein the deliberations were held on contents such as Transaction Audit, Conducting the Transaction Audit., Reporting and recommendations. - Legal Framework. - Post audit process and Dispute resolution, Forensic Audit - Role & Scope of Forensic Audit, Identifying specific areas of investigation etc.
- Workshop on Cross Border & Group Insolvency" was conducted on 19 October 2024
- Workshop on "Judicial Pronouncements under IBC, 2016 was conducted on 26th October 2024 wherein the deliberations were held on contents such as Landmark Judgements of NCLT, NCLAT, High Court(s), Landmark Judgements of Supreme Court and other important judgements.
- In its endeavour to promote the profession, knowledge sharing and sensitisation of the environment, IPA ICMAI published Au-Courant (Daily Newsletter), a weekly IBC Dossier, and a monthly e- Journal which are hosted on its website.

ICMAI REGISTERED VALUERS ORGANIZATION (RVO)

ICMAI RVO has successfully organized one "50 Hour's training programs" for Securities or Financial Assets, one for Land and Building asset and also organized 8 "Professional Development Programs" in the month of October, 2024. In its efforts to bring out relevant publications for development of the valuation profession, the company also released its monthly Journal– The Valuation Professional. ICMAI RVO celebrated valuation day on 18th October 2024 by organising a program at Bengaluru chapter in association with IBBI, Bangalore Valuers Association and Bengaluru Chapter of ICMAI.

ICMAI SOCIAL AUDITORS ORGANIZATION (SAO)

ICMAI SAO organized "2" Proficiency Development Program and one Certificate Course on Social Enterprises during the month of October, 2024. ICMAI SAO also released its monthly Journal – The Social Auditor.

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CMA B. B. Nayak, President, ICMAI, CMA TCA Srinivasa Prasad, Vice President, ICMAI and other members of the Council of ICMAI along with IIMA Professors, and officials of ICMAI and IIMA during a session held at IIM Ahmedabad on 4th October, 2024.

CMA B. B. Nayak, President, ICMAI felicitating CMA Samir Kumar Swain, Director (Finance), U.P. Transmission Corporation Ltd. at CMA Bhawan, New Delhi. (L/R) CMA (Dr.) Bijay Kumar Mohanty, Director (Finance & CFO), IREDA Limited, CMA Gagan Bihari Swain, Director (Finance), Odisha Power Generation Corporation Ltd. (OPGC), CMA Samir Kumar Swain, CMA B. B. Nayak and CMA M.K. Anand, Council Member, ICMAI.

CMA Ajay Mittal, CGM (F), Indian Oil Corporation Limited, Mrs. Mala Ghosh Choudhury, GM-HR, IREDA, Dr Ashok Dash, Chief Manager (HR - Law), IREDA and other officials from IREDA with CMA B.B. Nayak, President ICMAI at CMA Campus Placement Programme on 22.10.2024 at Kolkata.

CMA B B Nayak, President, ICMAI along with CMA M K Anand, CMA Chittaranjan Chattopadhyay and CMA (Dr.) Ashish P Thatte, Council Members, ICMAI called on Shri Shaktikanta Das, Governor, RBI on 30.10.2024 at Mumbai to highlight the role of CMAs in the Banking Sector.

CMA Avijit Goswami, Chairman, Members in Industry & PSUs Committee, ICMAI felicitating CMA (Dr.) Prasanna Kumar Acharya, Director (Finance), NLC India Limited (NLCIL) in presence of CMA B.B. Nayak, President, ICMAI at CMA Bhawan, New Delhi.

CMA Avijit Goswami, Chairman, Members in Industry & PSUs Committee, ICMAI felicitating CMA (Dr.) Bijay Kumar Mohanty, Director (Finance & CFO), IREDA Limited in presence of CMA B.B. Nayak, President, ICMAI at CMA Bhawan, New Delhi.

CMA Avijit Goswami, Chairman, Members in Industry & PSUs Committee, ICMAI felicitating CMA Gagan Bihari Swain, Director (Finance), Odisha Power Generation Corporation Ltd. (OPGC) in presence of CMA B.B. Nayak, President, ICMAI at CMA Bhawan, New Delhi.

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Mr. Rohit Agrawala
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*speakers confirmed as on 04.11.2024

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Congratulations on your retirement

Wishing all the very best to CMA Dr. Kaushik Banerjee, Secretary, The Institute of Cost Accountants of India, who superannuated on 31st October, 2024 after more than 27 years of long dedicated service to the Institute, its members, students and other stakeholders with efficiency and integrity. Under his able leadership, the Institute has experienced new prospects and adapted to the changing environment and culture thus making the employees prepared for any impromptu situation.

At all times, he has acted as pillar of the Institute by providing yeoman's service.

We wish CMA Dr. Kaushik Banerjee the very best for all his future endeavours.

Memorandum of Understanding (MoU)

was signed by and between

The Institute of Cost Accountants of India (Statutory body under an Act of Parliament) and MSME Chamber of Commerce and Industry of India (NGO and a non-profit organization) at Delhi on 23rd October, 2024

The MSME & Start-up Promotion Board (MSPB), under the Chairmanship of **CMA Suresh R. Gunjalli** has entered one MoU with the MSME Chamber of Commerce and Industry of India (MSMECCII) on 23rd October at Delhi.

The MoU was signed by the Secretary of ICMAI, CMA (Dr.) Kaushik Bannerjee and the Chairman of the MSMECCII Dr. Indrajit Ghosh. CMA Bibhuti Bhusan Nayak, President, CMA TCA Srinivasa Prasad, Vice President (on-line) of ICMAI with CMA Ashwin G. Dalwadi-IPP, CMA Suresh R.Gunjalli, Chairman of the Board, CMA Chittaranjan Chattopadhyay, CMA Manoj Kr. Anand, CMA Niraj D. Joshi, CMA (Dr.) K Ch A V S N Murthy, CMA Rajendra Singh Bhatti, Council Members, Dr. E Vijaya-representative of ni-msme, CMA (Dr.) Sumita Chakraborty, Secretary of the Board, were present in the event.

WEBINAR ON
"Economics of Transport and Logistics Sector"

Organized by

Directorate of Journal & Publications on October 22, 2024

The Directorate of Journal & Publications, ICMAI organized a webinar on the topic "Economics of Transport and Logistics Sector" on October 22, 2024.

CMA Harshad Shamkant Deshpande, Chairman, Journal & Publications Committee, ICMAI welcomed the speaker and emphasized on the Transport and Logistics Sector that witnessed tremendous growth, innovation and transformation in Indian Economy. NHAI, the Sagarmala project and various other cost effective measures are the growth enablers and have a significant impact on Country's GDP and can keep pace with the increasing demand. Adoption of Digital technology viz Blockchain, Artificial Intelligence and IoT (Internet of Things) is revolutionizing the Logistics operation. He also asserted that this technology is not only enhancing the transparency but also streamlines the supply chain processes with savings in costs and improved service delivery. CMAs can analyse, advice, strategize the Logistics Sector and can achieve greater sustainability and economic prosperity.

CMA Avik Ghosh, Assistant General Manager, Reserve Bank of India Kanpur, the resource person detailed on sector determinants followed by global and Indian perspectives, future endeavours, research outcomes, etc. He discussed on value chain and supply chain managements, constituents and short-run and long-run determinants of the sector, demand and supply factors. The global logistics market size accounted for USD 8.96 trillion in 2023 and it is expected to be worth around USD 21.91 trillion by 2033, CAGR of 9.35% from 2024 to 2033. Key factors he said are E-commerce, operational cost, lower margin, global value chain, technological innovation. India strives to realize its ambitious economic goals- a GDP of US$ 5.5 trillion by 2027. He also elaborated prospective research areas which includes Long-run Equilibrium Models, Transport Policy Analysis- NLP and many more.

Ms Indrakshi Bhattacharya, Assistant Grade I, Journal and Publications Directorate, moderated the webinar and it concluded with the vote of thanks by CMA Sucharita Chakraborty, HoD (Journal and Publications).

SOLAR ENERGY TECHNOLOGY AND ITS ROLE IN SUSTAINABLE DEVELOPMENT IN INDIA

Abstract

Solar energy technology is increasingly essential for addressing climate change and promoting sustainable development. It offers significant economic benefits alongside environmental advantages, particularly for energy-intensive industries like baking. By harnessing solar power, businesses can lower operational costs and reduce their carbon footprints, appealing to environmentally conscious consumers. The triple bottom line approach - focusing on people, planet and profit - aligns with this transition, as companies benefit economically from reduced energy costs and potential government incentives while contributing to cleaner air and community engagement. Utilizing unused rooftop spaces for solar installations maximizes efficiency, while government support through tax credits and rebates facilitates adoption. Overall, integrating solar energy into business operations not only fosters sustainability but also positions companies as leaders in the renewable energy movement, addressing urgent climate challenges.

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As India grapples with climate change and rising energy demands, solar energy technology shines brightly as a solution. Not only does it offer a sustainable alternative to fossil fuels, but it also brings significant benefits to businesses and communities across the country.

Why Solar Energy Matters in India

With an average of 5-6 kWh of solar radiation per square meter each day, India is blessed with abundant sunlight. This makes it one of the sunniest countries globally. The Indian government aims to achieve an ambitious target of 500 GW of renewable energy capacity by 2030, with solar energy playing a crucial role. As of early 2024, India has reached around 75 GW of installed solar capacity - a promising step but still needing more expansion.

The urgency for sustainable energy is heightened by India's population, projected to surpass 1.4 billion by 2025. As our energy needs soar, reliance on fossil fuels which currently account for about 75% of our energy mix - only exacerbates air pollution and greenhouse gas emissions. Transitioning to renewable energy isn't just a smart choice; it's essential for our health and our planet.

How Solar Energy Benefits Businesses

More and more Indian businesses are waking up to the benefits of solar energy. By harnessing the sun's power, they can significantly cut down on electricity costs while doing their part for the environment. This is particularly vital for energy-intensive industries like manufacturing and food processing.

Example: Bakeries in Maharashtra

Take, for example, Poonam Bakery in Nashik. Like

many small businesses, they were feeling the pinch of rising electricity costs, with monthly bills reaching about ₹50,000. In 2023, they decided to invest ₹8 lakh in a solar power system. After the installation, their monthly bill dropped to around ₹20,000, leading to annual savings of about ₹3.6 lakh. This means they'll likely recoup their investment in just over two years!

Such real-life success stories show that solar energy isn't just for big corporations; even local bakeries can benefit, making them more profitable while appealing to customers who value sustainability.

The Triple Bottom Line: People, Planet, Profit

The concept of the triple bottom line - focusing on people, planet, and profits perfectly with the shift toward solar energy in India. Economically, businesses can enjoy lower energy costs and potential government incentives. Environmentally, switching to solar reduces carbon emissions, leading to cleaner air. And socially, companies investing in solar often engage with their communities, supporting local initiatives and spreading awareness about sustainability.

Transforming Manufacturing

The manufacturing sector is also reaping the rewards of solar energy. For instance, a textile manufacturer in Tamil Nadu installed a solar system that generates 2 MW of electricity. This investment slashed their annual electricity costs by ₹30 lakh, making it a shining example for others in the industry.

Rooftops: A Goldmine of Potential

One of the most innovative ways to harness solar energy is through rooftops. Many commercial and residential buildings have vast, underutilized spaces just waiting to be transformed into solar installations. This approach helps businesses generate their own energy and reduce dependence on the grid.

In bustling cities like Mumbai, several cafes and restaurants have taken the leap to install rooftop solar panels. A popular cafe chain, for instance, generates about 30% of its energy needs from solar power. This not only cuts costs but also resonates with eco-conscious customers, boosting the cafe's appeal.

The Role of Government Support

Government support is key to making solar energy accessible for businesses across India. Programs like the Solar Park Scheme and the National Solar Mission provide essential financial incentives. The Ministry of New and Renewable Energy (MNRE) offers subsidies that can cover up to 30% of project costs for both residential and commercial users.

States like Gujarat and Rajasthan have also implemented net metering policies, allowing businesses to sell excess energy back to the grid. For example, Gujarat's net metering program has successfully facilitated over 2 GW of solar installations as of early 2024.

Lowering Carbon Footprints

Reducing carbon footprints is a priority for businesses today. Transitioning to solar energy allows companies to significantly lower their greenhouse gas emissions. According to the Indian Renewable Energy Development Agency (IREDA), the solar sector is expected to help avoid around 40 million tons of CO_2 emissions by 2030.

By tracking their carbon footprints, businesses can identify areas for improvement and take meaningful steps toward sustainability. This transparency builds trust with consumers and attracts socially responsible investors who prioritize eco-friendly companies.

Financial Viability and Return on Investment

The financial benefits of solar energy systems are hard to ignore. Generating their own electricity allows businesses to drastically cut energy costs. Many companies find that the return on investment (ROI) for solar installations can be realized within 3 to 5 years. As technology advances and prices fall, solar energy becomes an increasingly attractive option.

According to the Council on Energy, Environment and Water (CEEW), the levelized cost of solar power in India has dropped to around ₹2.2 per kWh in 2024. This makes solar one of the cheapest sources of electricity available, especially compared to coal-based power, which typically costs between ₹4 to ₹5 per kWh.

Selling Surplus Energy: A Smart Move

The ability to sell surplus energy back to local

utilities is another significant advantage of solar adoption. Through net metering, businesses can earn credits for the excess energy they generate, offsetting future energy costs and providing an extra income stream.

For instance, a small manufacturing unit in Andhra Pradesh installed a 100 kW solar system that produces more energy than it consumes. Thanks to net metering, they sell back excess energy to the grid, creating a revenue stream of about ₹2 lakh per year. This not only strengthens their finances but also contributes positively to the local energy supply.

Broader Implications for Sustainable Development

The adoption of solar energy technology extends beyond individual businesses; it has broader implications for sustainable development in India. Transitioning to renewable energy is crucial for reducing dependency on fossil fuels and addressing climate change.

The Indian government aims for 50% of its energy requirements to come from renewable sources by 2030. This ambitious goal aligns with global sustainability efforts and can stimulate job creation in the green economy. According to the International Solar Alliance (ISA), the solar sector in India is expected to create over 1.2 million jobs by 2030, supporting both economic growth and social equity.

Community Engagement: Building Connections

Companies that invest in solar energy often take an active role in their communities, supporting local initiatives and promoting awareness about sustainability. Many businesses participate in educational programs that highlight the importance of renewable energy.

For instance, a solar panel manufacturer in Gujarat not only produces panels but also conducts workshops in local schools to teach children about the benefits of solar energy. This community engagement fosters a culture of sustainability and encourages local businesses and households to explore renewable energy options.

With the right government support and a focus on the triple bottom line, Indian companies can lead the charge toward renewable energy

Navigating Challenges

Despite the many advantages, transitioning to solar energy in India comes with its challenges. Initial installation costs, regulatory hurdles, and the need for adequate space for solar arrays can pose significant barriers for some businesses. However, as technology advances and prices decrease, these challenges are becoming more manageable.

Businesses also face complex energy regulations that vary by state. Engaging with local energy authorities and industry experts can help streamline the process and ensure compliance.

Looking Ahead: The Future of Solar Energy in India

As India moves into the future, the role of solar energy in sustainable development will only continue to grow. Innovations in solar technology, such as improved battery storage and advanced photovoltaic materials, promise to enhance the efficiency and reliability of solar systems.

The rise of smart grids and energy management systems will enable businesses to optimize their energy use, further increasing the financial and environmental benefits of solar energy. By integrating solar systems with energy storage solutions, businesses can store excess energy generated during the day for use during peak hours, reducing reliance on the grid and maximizing savings.

Conclusion: A Brighter Future Awaits

In conclusion, solar energy technology is a powerful tool for promoting sustainable development in India. By integrating solar power into their operations, businesses can achieve substantial cost savings, reduce their carbon footprints, and build strong reputations within their communities. The growing evidence supporting the economic, environmental, and social benefits of solar energy makes it an attractive option for businesses of all sizes.

With the right government support and a focus on the triple bottom line, Indian companies can lead the charge toward renewable energy. By doing so, they not only tackle the pressing challenges of

climate change but also pave the way for a more sustainable future.

As we look ahead, the continued growth of solar energy technology in India will play a crucial role in shaping a world that prioritizes sustainability and environmental stewardship. By embracing this transition, businesses can help create a greener planet for generations to come. Solar energy is more than just a trend; it is a vital step toward a sustainable, equitable, and prosperous future for all of us in India. MA

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ROLE OF CMAs IN RENEWABLE ENERGY MANAGEMENT

Abstract

Technological enabler such as big data analytics,Internet of Things (IoT) and advancement in computing and informatics make possible to match varying supply and demand of electricity through smart grid technology. Introduction of time of day (ToD) tariff and smart matters with regulatory backup brings advantages for all stakeholders. Consumers can be in winning position way by of rescheduling their power consumption requirement and reducing energy bills. This open a new window of opportunity for cost and management accountants to offer core expertise in rescheduling / reengineering production and processes of commercial entities, rendering inputs to regulators in pricing mechanism and auditing of information security systems.

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Introduction:

Ever increasing energy needs and climate concerns forced us to resort natural renewable energy sources for meeting energy demand in sustainable manner. Renewable energy sources offer many advantages over traditional fossil fuel-based power installations. Despite of several merits of renewable energy sources such as natural replenishment, carbon neutrality and lesser installation period of utility, variability in output from these sources is a major a factor that limiting renewable share in overall energy mix. In general electricity is generated and consumed simultaneously and renewable sources especially solar and wind utilities make difficult grid stabilization due to huge variability in solar and wind influx. One solution could be the bulk energy storage, but it is expensive, complex and limited to address the variable output from the renewable energy sources. Power is generated from geographically spared utility installations in bulk (say in Megawatts) and consumed across the nation, in our homes, offices, factories etc.(through millions of tinny consumption points).Managing varying demand and supply with higher share of renewable sources is a challenge.However with advancement in information and communication technologies (ICT), computers are capable to analyze large and heterogeneous data generated from interconnected physical devices (also called physical objects or things) and smart grid can monitor and manage the flow of electricity from diverse consumption and supply points on real time basis.

Greener Commitment and Enablers:

Our auspicious goal of becoming carbon neutral by 2070, with sub target of securing 50% of power from non-fossil sources by 2030 and reducing carbon emission by 1 billion tones for limiting global average temperature within 2^0C above pre-industry level is achievable with true commitment and enablers like smart grid technologies. Transition toward cleaner energy in increasing electricity demand situation require widespread rollout of

renewables like wind and solar, which further turbulate the supply and demands matrix on the grid. Last decade witnessed remarkable uprise in renewable installations, but still out of 4,17,668 MW (Megawatt) nationwide installed capacity, nearly 55% electricity generated from fossil-based utilities. Increasing further share of renewable make difficult to manage grid stability and call grid stabilisation solution such as energy storage technologies and smart grids backed by IoT and big data technologies. IoT (internet of thing) coupled with big data analytics make grids enough smart to address the issue of variable output from renewable sources.Smart grid technologies can truly help to manage this transition while reducing cost of new infrastructure and can also make grids more cost effect, resilient and reliable.

In order to get better clarity on interrelated terms IoT, big data analytics and management of renewable energy by the smart grid, few descriptions are necessary at this juncture.

Smart Grid: An electricity network backed by information and communication technologies (ICT) and other advanced digital technologies capable to match varying supply and demand on real time basis while maintaining grid reliability and security at reduced cost.

Internet of Things (IoT): Describes as physical objects (embedded multiple sensors) and actuators that communicate with computer systems either through wired connections or wireless transmission for real time sharing of data for further monitoring and controling.

Big data Analytics: Big data is big in term of volume, speed and heterogeneity and beyond the capabilities of traditional information systems to process and handle the request.Big data is generally having five attributes named as 5 V's: Volume, Veracity, Variety, Velocity, Value. Data is new oil in data driven business enviornment. Like crude oil become useful (petrol,diesel, kerosene etc) only after refining, likewise big data also need to be refined to derive some valuesand actionable insights. About 80% data of business enterprises is either semi-structured or un-structured. It require proper refining and to be broken down by loading in appropriate data base management system and data mining to extract the values from it in term of hidden pattern and actionable insights to address the business-related problems and decision making (Oracle,2023).With proper big data analytics tooling descriptive, predictive and prospective modelling can support management decision such as process reengineering/ rescheduling and utility cost management.

Regulatory Initiative:

National Smart Grid Mission: Government of India has setup a National Smart Grid Mission (NSGM) in 2015 for effective planning, monitoring and implementation of policies, programmes and related activities of smart grid at national level. SG (smart grid) has to increase efficiency, improve reliability and security of the electricity networks and make the grid compatible to variable renewable energy inputs through geographically distributed generation points. Smart grid and smart meters enable consumers to manage their electricity consumption in better manner, reducing their energy bills, while distribution companies are in position to reduce transmission and distribution losses and improve their collections. In short following enduring nature benefits can be achieved on deployment of smart grid;

- Enhanced renewable share in energy mix (Renewable integration).
- Reduction in transmission and distribution losses.
- Peak load management.
- Better quality of services
- Grid reliability.
- Grid security.
- Reduced power purchase cost.
- Increased return on assets (ROA)
- Preventive and predictive maintenance of grids.

Role of management accountants' in technological integration of renewable energy:

Pricing model for renewable energy: Pricing mechanism for renewable energy is a kin to traditional energy sources (i.e. fossil fuels-based utilities), but unique characteristic (variability) of

the renewable sources needs to be incorporated in pricing model. Smart grid technology envisaged to extend benefit to consumer, producer, distributor, government and society at large by better utilization of electric assets beside ensuring security, reliability and preserving environmental aspects. Therefore, in pricing mechanism (tariff structure) the criterion has to be taken into consideration are marginal cost, loading pattern, social & related factors and revenue needs of producers.

> Smart grid and smart meters enable consumers to manage their electricity consumption in better manner, reducing their energy bills

Marginal cost: Marginal costs methodology rest on concept of incremental costs that arrived from the adjusted cost of utility with matching demand per unit. The electricity tariff need to be aligned with mariginal costing methodology at all four levels i.e.generation, transmission, distribution and retailing.

Load pattern and (ToD): As solar influx is available in day time only and the best way is to consume solar energy in same time span. Electricity (Rights of Consumers) Rules, 2020 has been amended by central government and introduced the concept of time of day (ToD) tariff and simplified smart metering rules. Accordingly, power tariffs are up to 20% lesser during solar hours and 10%-20% higher in peak hours. With effect from 1st April, 2024, ToD tariff shall be applicable on all commercial and Industrial consumption points having maximum demand of 10 KW and above and for all other consumers from 1st April, 2025.Agricultural consumers have been kept out from purview of these regulations.In case of smart meters,ToD shall be applicable from day of installation of smart meter itself. Rules have been simplified for smart metering consumer to avoid inconvenience and rationalisation (reduction) of penalties for demand beyond the maximum sanctioned load. With respect to upward loads, the demand shall be revised only if sanctioned load has been exceeded at least three times in a financial year. ToD is a global practice, as one of the best demand side mechanism which ensure renewable energy sources integration in grids.Consumers have to play now smartly to utilise cheaper power opputunities by way of effective planning. Cost of utilities particularly electricity is significant in any production process or manufacturing industries.

Social Angle: There is substantial variance in tariff across the states and require rationalisation to minimise differences within a category. Further, there shall be a place for subsidy, but it should be limited to small and marginal consumer and in direct transfer mode only. Although solar solution is perceived as environment friendly, but on retirement of utilities, factors such as disposal cost and environmental consequences need to be considered. Therefore, a proper disposal policy needs to be formulated considering appropriate cost of disposal including environmental factors and same shall also be calibrated in pricing mechanism.

Here, Management accountants (CMAs) role comes in picture to provide inputs to the regulator(s) for effective rollout of pricing mechanism. Commercial and industrial clients may get immense benefit from expert consulting services of CMAs by aligning their production schedules with cheaper tariff for saving in cost of utilities. Many commercial organisations of producing power for captive consumption, now they have to undertake cost benefit analysis in light of ToD tariff framework. There may be cases where process reengineering may require, CMAs may render required expert services to improve the values. Essence of Cost Accounting Standard on Cost of Utilities (CAS-8) such as classification, measurement and assignment of cost of utilities etc. need to be observed in production/ process rescheduling.

Information System Security Audits: Whole infrastructure of smart grid and renewable integration is backed by information and communications technologies. Higher level of complexity in information systems raise the concern of integrity and security of the grid networks.Therefore, information system integrity and security become matter of paramount interest.

It is advocated that professionally certified personnel should only be engaged in system security audit. Diploma in Information System Security Audit (DISSA) offered by the institute (ICMAI) is recognised by Ministry of Electronics and Information Technology, (Government of India) and many prestigious organisations like NTPC. This emerging area offers huge potential to establish professional expertise in information system security audit. DISSA certified professional are in best position to undertake this assignment by virtue of their deeper technical standing in energy sector. MA

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INDIA'S ENERGY MANAGEMENT SOLUTIONS: CONQUERING CHALLENGES, GUIDING THE GLOBE

Abstract

India, the world's third-largest energy consumer and green house gas emitter, faces significant energy challenges driven by industrialization and urbanization, with heavy reliance on imported fossil fuels. Integrating renewable energy is complicated by infrastructure gaps, high costs, and intermittency. In response, India is implementing solutions like scaling renewable energy, electrification, and the Lifestyle for Environment (LiFE) initiative. The 2024-25 Budget further supports clean energy and green growth. India's ground breaking initiatives have positioned the country as a leader in the global fight against climate change. India's ambitious goals include achieving net-zero emissions by 2070, and meeting 50% of energy needs from renewable by 2030 which set a remarkable example for the world to follow. With its strategic blueprint for addressing energy management challenges, India is not only shaping its own low-carbon future but also guiding the world towards a more resilient, sustainable planet.

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Introduction

Energy management is vital for economic growth, sustainability, and reducing climate change. Globally, rising energy demand and limited resources pose challenges. In India, rapid industrialization and population growth make energy management complex, with a strong focus on transitioning to renewable energy like solar and wind. This article examines India's energy management challenges and its trailblazing efforts to address them, forging a blueprint for nations pursuing a low-carbon, sustainable energy future.

Review of Literature

1. The S&P Global Report (2024), "India Forward: Emerging Perspective", highlights India's energy transition goals, emphasizing the challenge of balancing energy security with economic growth and sustainability amid its reliance on fossil fuels.
2. The IEA and NITI Aayog Report (2021), "Renewable Integration in India", points to

obstacles in renewable energy integration, focusing on the need for grid modernization and energy storage investments.

3. The World Economic Forum Report (2024), "How India is Emerging as an Advanced Energy Superpower", highlights India's renewable energy efforts and the National Hydrogen Mission, projecting its leadership in global sustainable energy.
4. Faith Birol and Amitabh Kant (2022) emphasized India's target to achieve net-zero emissions by 2070 and source 50% of its electricity from renewables by 2030, offering a model for other developing nations in the global climate fight.

Objectives

1. To analyze India's energy challenges.
2. To evaluate India's sustainable energy initiatives.
3. To assess India's global leadership in energy transition.

Research Methodology

The research methodology for this study is based on a qualitative review of secondary sources. National and international reports, along with scholarly articles, were examined to explore India's energy challenges, sustainable energy initiatives, and its leadership in global energy transition. The study synthesizes insights from existing literature to evaluate India's impact as a model for a low-carbon, green future.

Energy Management In India: Key Challenges

India's energy sector has advanced in the past decade due to government policies, but challenges persist. A 2021 IEA and NITI Aayog report outlines three key challenges: expanding reliable and affordable energy access, securely integrating renewable energy, and reducing emissions while balancing social, climate, and economic goals. These challenges fall into following three areas:

1. Energy Demand and Supply Challenges:

India is the world's third-largest energy consumer. A report of International Energy Agency ((IEA) in 2023 estimates that India's energy demand is rapidly increasing due to industrialization, urbanization, and population growth, with energy requirements expected to double by 2030. The industrial sector, dominated by energy-intensive industries like steel and cement, consumes over 40% of total energy (TERI, 2022). The transportation sector is also a major contributor to rising fossil fuel demand. On the supply side, India relies heavily on fossil fuels, with coal accounting for over 60% of electricity generation in 2023 (IEA). A report of S &P Global, released on September 19, 2024, reveals that India's demand for energy will continue to grow and fossil fuels are expected to maintain a 76% share of India's energy mix by 2030, raising concerns about energy security due to reliance on oil imports and vulnerability to price fluctuations.

2. Renewable Energy Adoption Challenges:

India is recognized as a global leader in renewable energy, ranking fourth in installed capacity according to REN 21's 2022 report. Despite this progress, several challenges impede renewable energy adoption which is stated below briefly (Dey, P., 2024):

I. Inadequate grid infrastructure: India's grid, built for fossil fuels, requires upgrades to handle renewable energy's variability and decentralized generation.

II. Initial high costs: Higher initial costs of solar and wind technologies discourage adoption despite long-term benefits.

III. Interstate transmission issues: Concentration of renewable energy in certain states leads to transmission challenges.

IV. Curtailment challenges: To stabilize the grid, renewable energy is sometimes curtailed, wasting clean energy.

V. Financial strains of distribution companies: Coal contracts limit Discoms' financial ability to invest in renewables.

3. Energy Security and Sustainability Challenges

India faces significant energy security challenges, including a heavy reliance on fossil fuel imports, which makes it vulnerable to global price fluctuations. A September 2024 report from Outlook Business states that coal accounts for 73% of power generation,

hindering the transition to renewable. The energy sector contributes heavily to carbon emissions, with coal exacerbating climate change and resulting in extreme weather events. World Population Review (WPR) notes that India ranked third globally in total carbon emissions in 2022, following China and the US, while having lower per capita emissions due to its large population. According to a Forbes report (September 2024), the power sector is responsible for 48% of carbon dioxide emissions in India, followed by industry at 21%. While global goals aim for net-zero emissions by 2050, India has committed to achieving net-zero by 2070.

> India's energy landscape faces significant challenges, including rising energy demand, heavy reliance on imported fossil fuels, and hurdles in adopting renewable energy

Conquering Energy Challenges: Learning From India

To tackle pressing energy management challenges, the Government of India has emerged as a global leader by implementing innovative measures that ensure energy security and drive a low-carbon future. These initiatives exemplify India's commitment and serve as best practices for other nations. India's experience in the energy sector offers valuable lessons and a blueprint for resolving energy issues. By pioneering a new model of economic development that avoids carbon-intensive practices, India provides guidance for other developing economies (Birol, F. & Kant,A. 2022). Below are India's key measures that set global standards for overcoming energy challenges.

1. **Scaling Renewable Energy:** India targets 500 GW of non-fossil fuel capacity by 2030, focusing on aggressive policies and investments in solar and wind energy. The country aims for net-zero emissions by 2070.
2. **Electrification and Energy Efficiency:** India's efforts to electrify transportation and enhance energy efficiency have significantly reduced emissions. The IEA reports electric passenger vehicles reached nearly 5% market share in 2022, with sales tripling from 2021.
3. **Energy Security and Diversity:** India's "all-of-the-above" strategy balances traditional and clean energy sources to reduce risks from fuel price volatility. A Forbes India feature emphasizes the importance of energy diversification as a model for other nations.
4. **LiFE - Global Mass Movement led by India:** India's "Lifestyle Environment (LiFE)" initiative, a global campaign that encourages environmentally conscious living and sustainable lifestyles to address the climate crisis, was launched by Honorable Prime Minister Shri Narendra Modi at COP26 in November 2021 and formally established as Mission LiFE in October 2022 with UN Secretary-General António Guterres. The IEA report, "LiFE Lessons from India," estimates that this initiative could save the world $440 billion by 2030, equivalent to about 5% of global fuel spending that year. NITI Aayog has outlined eco-friendly "LiFE actions" for daily life, including energy conservation, waste reduction, and sustainable food choices. The IEA projects that global adoption of LiFE actions could reduce annual carbon emissions by over 2 billion tons by 2030, covering one-fifth of the reductions required to achieve net-zero emission
5. **National Hydrogen Mission (2021):** Aims to make India a leader in green hydrogen production, essential for decarbonizing industries like steel and chemicals.
6. **Grid Modernization and Storage:** India is modernizing its grid and developing large-scale battery storage to integrate renewable energy and manage solar and wind intermittency.
7. **Diversification of Energy Sources:** The country is expanding LNG, nuclear power, and biofuel to reduce reliance on imported fossil fuels and strengthen energy security.
8. **National Solar Mission:** Targets expanding solar power from 100 GW (2022) to 280 GW by 2030 as part of achieving 500 GW non-fossil fuel electricity generation.
9. **Perform Achieve, and Trade (PAT) Scheme:** Energy-intensive industries meet energy reduction targets, with financial incentives through tradable Energy Savings Certificates.

10. **Faster Adoption of Manufacturing of Electric Vehicles in India (FAME) Scheme:** Promotes electric vehicle adoption, supporting domestic EV manufacturing, emission reductions, charging infrastructure, and 30% transportation electrification by 2030.
11. **India's Budget 2024-25:** This budget includes following key initiatives for clean energy and green growth:
    A. Promotion of Pumped Storage Projects for grid stability and reduced fossil fuel reliance.
    B. Collaboration with the private sector to setup Bharat Small Reactors to enhance energy security
    C. Development of an 800 MW Advanced Ultra Super Critical (AUSC) plant by NTPC and BHEL for higher efficiency and lower emissions.
    D. Rooftop Solar Initiative to provide up to 300 units of free electricity to one crore households.
    E. Financial aid for Micro and Small Industries to shift to cleaner energy.
    F. Climate Finance Taxonomy to increase capital for climate adaptation and mitigation.

Conclusion

India's energy landscape faces significant challenges, including rising energy demand, heavy reliance on imported fossil fuels, and hurdles in adopting renewable energy due to inadequate infrastructure and high costs. The energy sector is a major contributor to global greenhouse gas emissions. To address these issues, India is pioneering sustainable development through initiatives like the "Lifestyle for Environment" (LiFE) program, launched by Honorable Prime Minister Shri Narendra Modi at COP26, along with comprehensive strategies for scaling renewable energy, electrification, energy efficiency, and grid modernization. Key initiatives such as the National Hydrogen Mission, National Solar Mission, FAME India Scheme, and Perform, Achieve & Trade (PAT) Scheme, and certain proposals of 2024-25 budget, are driving India's transition to clean energy. By implementing innovative measures, India is on track to meet its targets of achieving net-zero emissions by 2070 and sourcing 50% of its energy from renewable sources by 2030, establishing itself as a global leader in sustainability. India with its strategic blueprint for addressing energy management challenges, India is shaping its own low-carbon future while guiding the world towards a more resilient and sustainable planet. As U.S. Secretary of Energy Jennifer Granholm noted, "the world's energy future will depend on India's energy future," emphasizing India's key role in the global energy transition (Kelaczkowski, M., et.al. 2024). MA

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ENERGY SECURITY AND NON-CONVENTIONAL ENERGY SOURCES: AN INTERTWINED TWOFOLD IMPETUS TO PROPEL INCLUSIVE AND SUSTAINABLE DEVELOPMENT

Abstract

Energy security, a modern-day tagline of a comprehensive spectrum of inclusive energy accessibility and sustained supply-demand balance, is strongly influenced by the increase in renewable energy in the total energy mix. Riding on a sustainable energy security trajectory, India is on the right track with focused policymaking and sectoral governance. This article briefly discusses energy security with an emphasis on non-conventional sources in India and also highlights related global perspectives.

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Introduction

Energy security refers to reliable and affordable access to energy resources(World Energy Outlook, 2022). Given the vital importance of energy security for individual and national well-being, it has been incorporated as one of the Sustainable Development Goals[1]. The expanding global population and rising per capita energy requirements substantially complicate energy security. Furthermore, the effects of climate change on energy requirements pose challenges to realizing the Sustainable Development Goal. To address these challenges, it is crucial to prioritize improving energy efficiency and accelerating the adoption and capacity enhancement of renewable energy sources as the costs of energy supply and demand continue to escalate.

The United Nations' Sustainable Development Goals adopted in 2015 provide a framework for international cooperation to secure a sustainable future. SDG 7, the energy goal, has three key aims: ensuring affordable, reliable, and universal access to modern energy, substantially increasing the global share of renewable energy, and improving energy efficiency at a faster pace(Gielen et al., 2019). Significant progress has been made in various indicators related to SDG7, but more extensive efforts are still needed to fully achieve the set goals (Table 1).Renewable energy sources such as solar, wind, hydropower, and bioenergy play a vital

[1] SDG7: Ensure access to affordable, reliable, sustainable, and modern energy for all.

role in achieving these goals and supporting the broader SDGs by offering clean, sustainable, and affordable energy to help address energy poverty, foster economic development, and mitigate climate change.

Table 1: Primary Indicators of Global Progress towards the SDG7 targets

Indicator	2015	2022
People without access to electricity	957.5 million	685 million
People without access to clean cooking	2.7 billion	2.1 billion
Share of total final energy consumption from renewable sources	16.7%	18.7%
Primary Energy Intensity	4.9 MJ/ USD	4.6 MJ/ USD
International financial flows to developing countries in support of clean energy	12.3 USD billion	15.4 USD billion
Installed renewable capacity	250 watts per capita	424 watts per capita

Source: Tracking SDG7 – The Energy Progress Report, 2024, IRENA

India's rapidly expanding economy, growing population, accelerating urbanization, and industrialization have driven a significant increase in the country's energy demand, positioning it as the third-largest consumer of energy globally(India Energy Outlook, IEA, 2021). Addressing this challenge necessitates a multifaceted approach integrating both conventional and non-conventional energy strategies.

India's Energy security opportunities

With its rapidly expanding economy and sizable population, India faces significant obstacles to securing its energy supply. The relentless dependence on biomass, predominantly firewood, as cooking fuel by over 660 million individuals, coupled with the ongoing importation of crude oil and coal, as well as transmission and distribution power losses of 19.6%, underscores the persistent challenges in attaining sustainable energy access (Enerdata, 2024). To address these concerns, the Indian government has established ambitious targets for renewable energy deployment, successfully meeting its goal of installing 175 gigawatts of renewable energy capacity by 2022. It is well on its way to achieving its revised target of 500 gigawatts of non-fossil fuel-based capacity by 2030. Policy and regulatory interventions, including ambitious objectives, financial incentives, and supportive infrastructure development, have propelled India's renewable energy initiatives.

Renewable energy, particularly solar and wind power, holds immense potential to enhance India's energy security and contribute to achieving the Sustainable Development Goals. With abundant solar irradiation and a lengthy coastline suitable for wind power, India's geographic location provides a favorable foundation for renewable energy deployment. The government's commitment to policies such as the Jawaharlal Nehru National Solar Mission and India's Faster Adoption and Manufacturing of Electric Vehicles has further spurred investment and growth in the renewable energy sector.

Multiple government ministries oversee India's energy sector's management and conservation efforts. However, the government of India has implemented several initiatives, such as SAMARTH, SHAKTI, UJALA, NEF, and NSGM[2], which has enabled the country to advance its energy sector and increase the renewable energy component in its energy mix, aligning with the Sustainable Development Goals and Nationally Determined Contributions(Ministry of Power, GOI, 2024). Through effective policy interventions, India has successfully reduced its energy deficit from 30,000

[2] Sustainable Agrarian Mission on use of Agri-Residue in Thermal Power Plants (SAMARTH), Scheme for Harnessing and Allocating Koyala Transparently in India (SHAKTI), Unnat Jyoti by Affordable LEDs for All (UJALA), National Electricity Fund (NEF), and National Smart Grid Mission (NSGM) are policy initiatives by Government of India.

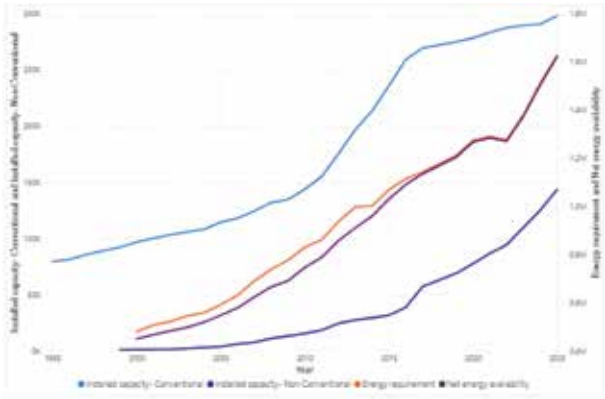
MW in 2000 to approximately 4,000 MW in 2024, decreasing its peak power shortage to 1.4 percent. Furthermore, India has achieved the significant milestone of attaining 100 percent electrification of all 597,464 villages as of March 2022.

Global assessment of India's Energy Sector and energy security

According to the IEA's[3] Renewables 2024 report, India is projected to exhibit the fastest growth rate in renewable capacity expansion among major economies during the 2024-2030 period. Comparative global assessments indicate that India's energy security has strengthened over the years, owing to its emphasis on renewable energy. India has progressed from the 'Moderately Vulnerable' to the 'Less Vulnerable' category in the InternationalEnergy Security Index. Moreover, India's ranking in the World Energy Council's Energy Trilemma Index[4] has improved from 97th position in 2010 to 69th position in 2022, reflecting enhanced performance across the three dimensions of energy security, energy equity, and environmental sustainability. India's ranking has also advanced in the Global Energy Transition Index[5], rising from 76th position in 2015 to 63rd position in 2022.

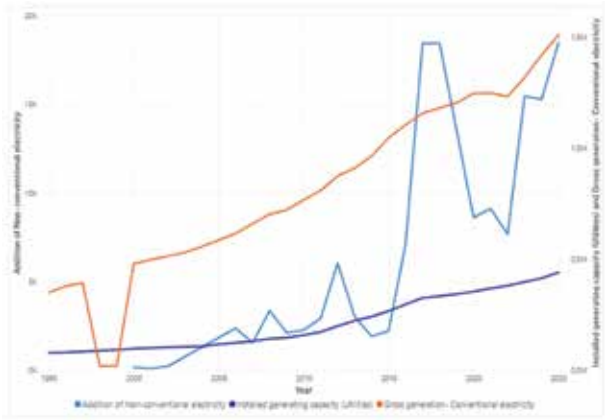
India has observed growth in both its conventional and non-conventional installed energy capacity over time. The country's energy production capabilities have expanded in alignment with its growing economic development needs. The total installed capacity increased significantly from 275 GW to 442 GW by 2024(Ministry of Power, GOI, 2024). Furthermore, non-conventional energy sources, such as renewable energy from solar, wind, and hydropower, have experienced much more rapid expansion compared to conventional energy sources like fossil fuels (Chart 1, 2).

Chart 1: Installed capacity (both conventional and non-conventional), energy requirement and energy availability



Source: Centre for Monitoring Indian Economy (CMIE), Authors' construct

Chart 2: Growth trajectories of Conventional and Non-conventional electricity



Source: Centre for Monitoring Indian Economy (CMIE), Authors' construct

Energy Security and Social Outcomes

Access to electricity empowers households, enhancing the quality of life and other life outcomes and promoting social and financial inclusion. However, access to electricity must be accompanied by affordability and sustainability (Halkos & Gkampoura, 2021). For India, improvement is visible at household levels as the government's initiatives have enabled widespread access to modern energy services, particularly electricity, leading to enhanced socio-economic development and quality of life for the population. The urban-rural divide in access to electricity has reduced considerably in recent years. At the granular level,

[3] IEA: International Energy Agency

[4] The **World Energy Trilemma Index** ranks countries on their ability to provide sustainable energy. It measures a country's energy system performance across three dimensions: energy security, energy equity, and environmental sustainability.

[5] World Economic Forum published the **Global Energy Transition Index** (ETI) as a framework and ranking system that measures how well countries are transitioning to cleaner, more efficient, and more accessible energy systems

we observe significant progress in household electrification, with the percentage of households having access to electricity increasing from 67% in 2001 to 98% in 2022. Empirical studies demonstrate that increased electricity access is associated with improved educational attainment, income, and health outcomes in India. (Manju & Sagar, 2016; Narayan et al., 2020).

Empirical Findings

When we identify major energy security determinants, we find wide variations over three decades. Table 2 depicts those key indicators, and a strong heterogeneity among variables is observed. In the 30 years of this study, the installed generating capacity (Utilities) for conventional electricity witnessed 274% growth, whereas non-conventional electricity saw a whopping 14738% growth. Further, gross addition to installed generating capacity for non-conventional energy witnessed a 54642% growth. This may be due to the base effect; however, the CAGR of the last decade strengthens the claim for a sustainable and accelerated growth story of non-conventional electricity generation.

Table 2: Summary of the key determinants

Variable	Mean	Min	Max	% Change
Installed generating capacity (Utilities) in Mw	214868.1	79689.0	441969.6	455%
Installed generating capacity (Utilities): Conventional electricity in Mw	179535.6	79689.0	298325.1	274%
Installed generating capacity (Utilities): Non-conventional electricity in Mw	42399.0	968.1	143644.5	14738%
Gross addition to installed generating capacity (Utilities): Non-conventional electricity in Mw	4997.9	33.8	18484.7	54642%
Gross generation: Utilities and Non-Utilities in Million kWh	956010.8	385534.2	1829834.8	375%
Gross generation (Utilities) in Million kWh	852679.5	20391.0	1738828.2	8427%
Gross generation (Utilities): Conventional electricity in Million kWh	809018.0	20391.0	1512993.4	7320%
Energy requirement in Mw	951987.2	480430.0	1626132.0	238%
Net energy availability in Mw	913272.3	450594.0	1622020.0	260%
Energy surplus/deficit in Mw	-38714.9	-86905.0	-4112.0	-95%
Transmission and distribution losses: Utilities in Million kWh	190509.2	69568.6	272418.6	292%
Towns electrified (outstanding data)	5688.8	4021.0	7935.0	97%
Villages electrified (outstanding data)	530000	439800	597464	36%
Percentage of villages electrified	89.472	74.07	100	35%

Source: Centre for Monitoring Indian Economy (CMIE), Authors' construct

Regression analysis was undertaken to establish a relationship between the increase in installed capacity and the improvement in the number of villages electrified. The results indicate that a 1-gigawatt expansion in renewable energy generation capacity is associated with a 20.5% increase in the proportion of electrified villages (Table 3). Conversely, an equivalent increase in conventional energy sources corresponds to only an 8.9% rise in village electrification levels (Table 4). These results highlight the substantial impact of renewable energy investments on enhancing energy access, particularly in rural areas, compared to conventional energy alternatives. When we see the electrification growth trajectory, we observe that village electrification in India jumped to 100% in 2020 from approximately 86% in 1995. This is primarily attributed to the addition of non-conventional energy sources like solar, biomass, and small hydropower projects. The empirical results reiterate the fact that the marginal contribution of non-conventional renewable electricity to changing the energy security landscape in rural areas appears to be higher compared to the conventional

grid-based network. The theoretical premises of the relevance of renewables in inclusive energy transition emerge as an accelerating force through this empirical analysis.

Table 3: Regression result: Percentage of villages electrified vs Installed generating capacity (non-conventional electricity)

Source	SS	df	MS	Number of obs	=	19
				F(1, 17)	=	35.28
Model	943.086959	1	943.086959	Prob > F	=	0.0000
Residual	454.373083	17	26.7278284	R-squared	=	0.6749
				Adj R-squared	=	0.6557
Total	1397.46004	18	77.636669	Root MSE	=	5.1699

PERCPR	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AIIUNC	.2050175	.0345141	5.94	0.000	.132199	.2778359
_cons	83.51122	1.709436	48.85	0.000	79.90462	87.11781

Source: Authors' calculation

Table 4: Regression result: Percentage of villages electrified vs Installed generating capacity (Conventional electricity)

Source	SS	df	MS	Number of obs	=	24
				F(1, 22)	=	78.19
Model	1181.84171	1	1181.84171	Prob > F	=	0.0000
Residual	332.51434	22	15.1142882	R-squared	=	0.7804
				Adj R-squared	=	0.7704
Total	1514.35605	23	65.8415674	Root MSE	=	3.8877

PERCPR	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AIGCCE	.0890618	.0100718	8.84	0.000	.0681743	.1099494
_cons	74.53764	1.890177	39.43	0.000	70.61766	78.45763

Source: Authors' calculation

Conclusion

India's strategic focus on promoting clean, affordable, and sustainable energy access has solidified its status as a global leader in the renewable energy transition. In an emerging economy like India, energy security plays a critical role in fostering inclusive economic growth and equitable development. It not only underpins the country's improved productivity but also ensures access to basic energy services for the poor and marginalized sections of society (Ailawadi & Bhattacharyya, 2006).The improvements in energy security and the growing contributions of renewable sources have been instrumental in advancing India's sustainable development agenda. Ensuring reliable energy supply to rural and urban areas has yielded welfare gains across education, health, and income levels, underscoring the broader socio-economic impacts of electrification initiatives. However, sustaining this preeminent position requires continued policy interventions integrating innovative technologies and processes into the country's energy infrastructure and trade framework. Furthermore, the strategic planning of energy infrastructure development should incorporate environmentally friendly designs and sustainable technologies to mitigate climate impacts and bolster the transition toward energy security.

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Disclaimer: *'The views expressed in this article are purely personal views of the authors and not those of the Reserve Bank of India.'*

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ENERGY MANAGEMENT AND DECARBONISATION: THE NEED, THE WAY FORWARD AND THE ROLE OF CMAs

Abstract

There is increasing realization of the harmful and sustainable ways in which industrialization has panned out and caused global warming. With global efforts aimed at arresting the global warming at 1.5°C and achieving net-zero, implementing energy management measures to achieve energy efficiency and transitioning to cleaner sources of energy is the mandate for governments and businesses alike. While these measures demand huge investments in terms of money and manpower, the cost of action is still small compared to the cost of inaction. Cost and Management Accountants (CMAs) play a pivotal role in making net-zero a reality in their various capacities as in-house experts, internal auditors, cost auditors, consultants, ESG assurance and assessment providers, among others. The Institute of Cost Accountants of India has constituted the Sustainability Standards Board (SSB)to guide the efforts of the nation in moving towards a sustainable future. The SSB, through its various measures,educates and enlightens the stakeholders with an aim to make them champions of the sustainability movement.

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1. Rationale of the Paper

Global warming is a dire challenge for the entire humanity. One of the quick ways to tackle the problem is to focus on the energy sector, primarily through efforts towards decarbonization and energy management, which requires a multi-disciplinary approach. It is in this context that this paper aims at the following:

1. Highlighting the urgency of addressing global warming through energy management and decarbonization strategies.
2. Presenting an overview of the rise of the ESG movement and the cost of action versus the cost of inaction.
3. Exploring the multifaceted role of CMAs in driving the transformation.
4. Presenting the initiatives undertaken by the Sustainability Standards Board (SSB) of the Institute of Cost Accountants of India (ICMAI) in fostering a sustainable future.

2. The Pandemic of Global Warming

The post-industrialization growth has been fuelled by unsustainable practices involving exploitation of natural resources, which has had an indelible and devastating effect on the environment. The current lifestyle, industrial and business practices involve using the equivalent of 1.6 Earths.[1] The Earth is about 1.36°C warmer as of 2023 than the preindustrial average.[2] We are experiencing increasingly warmer summers than ever in the history of mankind.[3] Climate change and its adverse impacts are no longer a the oretical prognosis but an actual reality felt in the various realms of daily life. What is more unfortunate is that, we are still accelerating towards more disastrous consequences as the practices that lead to global warming are nowhere near to being arrested. Even if reversal may not be possible, at least to preserve the liveable condition of the planet, global warming needs to be arrested before spiralling beyond 1.5°C.

The primary cause of climate change are greenhouse gas (GHG) emissions, which envelop the Earth trapping the heat within the atmosphere.[4] Arresting global warming requires significant reduction in GHG emissions. Achieving reductions in emissions by 45% by 2030 and reaching net zero by 2050 is the plan that nations have agreed to under the Paris Agreement in the 2015 United Nations Climate Change Conference.[5] Over 140 countries have set a net-zero target. The G20 countries alone account for over 76% of GHG emissions.[6] Developed economies are to reach their net-zero goals by 2050 and developing nations, a bit later by 2050-70.

India has set its eyes on achieving net-zero by 2070.[7] Transitioning to a net-zero world involves collective action from people and businesses that reflects as a complete transformation of consumption and production patterns.

3. Role of Energy in Reaching Net-Zero and the Importance of Decarbonisation

Energy and GHG emissions: Production of energy is the primary source of GHG emissions contributing to around 75% of the emissions.[8] Changing the ways in which energy is produced and consumed could very well be the key to decelerate the downward spiral.

As per the Energy Statistics published by the Ministry of Statistics and Programme Implementation publication[9], coal is the biggest source of energy in India accounting for 45% of energy consumed in 2020-21, followed by crude oil at 31%, hydro, nuclear and others at 15%, natural gas at 8% and lignite at 1%.

Electricity production patterns: Of the users of coal and lignite in different sectors, electricity is the highest at 64% and 84.46% respectively.[10] It is clear that electricity needs to move away from coal. India has announced that it would meet at least half of its electricity needs from energy sources by 2030.[11] This requires a significant shift. In India coal accounts for around 70% of power generation in FY24, whereas globally the share is only around 35%.[12] However, India is also making strides in renewable power capacity additions and generation; it stands 4th in renewable energy installed capacity. With the share of renewable energy around 30% in power generation at present, it aims to increase this to over 43% by 2029-30.[13]

Need for decarbonising the energy sector: The above data clearly shows replacing traditional sources of energy like coal, gas and oil with energy from renewable sources like wind or solar energy is the way to go. Decarbonization, or the process of reducing carbon emissions by relying less on or moving entirely away from fossil fuels, is crucial in the energy sector.Given the share of coal in power generation in India, achieving full decarbonisation in the near future is difficult but not impossible.

4. The ESG Movement – Corporates' Awakening to the Grim Reality

The industrial sector is the biggest guzzler of electricity in the world and India consuming over 40% of electricity.[14] Driven by the awakening to the grim reality of global warming, many corporations worldwide have taken up the mantle to decarbonize their businesses. Over 9,000 companies have committed to cutting their emissions to half by 2030.[15]

Stakeholders of businesses have also been pressuring corporates to adopt more sustainable practices.Institutional investors are increasingly seen discharging their stewardship responsibilities by engaging with the investee entities to make informed investment decisions and actively exercising their voting rights keeping in mind the ethical aspects of their investee's functioning. Responsible business conduct is now seen as important as profits and not just as something 'nice to have.' The triple bottom line approach emphasizing people, planet and profits is becoming the norm.

Regulators, on their part, have been nudging corporates to make disclosures on their Environment, Social and Governance (ESG) performance in the hope that disclosures could spur introspection and eventually lead to meaningful changes in the way the organizations are governed and operated. SEBI's Business Responsibility and Sustainability Reporting(BRSR) mandate is one such measure that requires the Top 1,000 listed entities by market capitalization to make the reporting a part of their Annual Reports and the Top 150 to carry out an assurance exercise on core ESG parameters (proposed to be replaced with assessment). The granular nature of the reporting rightly forces the corporates to self-evaluate their energy sourcing and consumption patterns, and GHG emissions, among other environmental parameters.

5. Energy Management and Energy Transition – The Need of the Hour

As corporates turn their attention towards become more ESG-friendly, energy management becomes the need of the hour. Energy management refers to the processes aimed at measuring, monitoring, controlling and optimizing the consumption of energy in organizations. It is aimed at improving efficiency in utilisation of energy, reducing energy waste and a conscious shift towards sustainable energy sources to reduce environmental impacts.

Businesses in energy-intensive industries may find the need to implement effective energy management systems (EMS) in their attempts to achieve their decarbonization targets. EMS involves development of a clearly-defined top-level policy backed by targets, action plans, operating procedures, review and control mechanisms and continual improvement practices. Businesses will do well to follow a systematic way to implement EMS. The International Standards Organization has issued the ISO 50001:2018[16], which provides a comprehensive framework to set up EMS in organizations. The standard aims at a plan-do-check-act cycle for guiding continual improvement. This Standard has been recognized by the International Energy Agency. The Bureau of Energy Efficiency in India has also backed the Standard and plans to implement it across all States in energy-intensive industries.[17] The Bureau has also implemented the Perform, Achieve and Trade Scheme to incentivize energy-intensive industries to improve their energy efficiency and with tradeable Energy Savings Certificates for those who exceed energy efficiency targets and penalties for underperformance.[18] This gives further impetus to setting up of EMS by industries.Though ISO 50001:2018 rating may not be obligatory, it may become a practical necessity to avail funding for sustainable energy measures and to demonstrate environmental responsibility to stakeholders.

Energy transition involves shifting sources of energy to renewable sources in a phased manner. It may also take the form of adopting green hydrogen, which is becoming recognised as a key component in the decarbonisation programmes. Green hydrogen refers to hydrogen produced with clean methods. The Ministry of New and Renewable Energy has released a paper titled "India's Green Hydrogen Revolution - An Ambitious Approach" in May, 2024 outlining the nation's ambitions for adopting the technology.[19]

6. Cost of Transition and Cost of Inaction

Decarbonizing including migration to renewable

sources of energy, setting up green hydrogen plants, retrofitting buildings, adopting energy-efficient machinery, adopting digital tools like smart meters and IoT (Internet of Things) to monitor and optimize energy use, and setting up of energy management systems require significant investments in terms of time, money and labour. It would also involve recurring expenditure to maintain and monitor the aforesaid systems and mechanisms, and conducting energy audits to identify wastages and inefficiencies

However, the cost of inaction could be higher. In a business-as-usual scenario, losses in case of 1.5°C the avoidable losses will be USD 1,266 trillion over the years 2025-2100. However, the climate finance that would be needed from 2025-2050 is only a fraction of the avoidable losses at USD 266 trillion, says Climate Policy Initiative.[20] A Power utility in the US has realized that not transitioning could cost USD 2 billion whereas transitioning involves just USD 750 million.[21]

7. Sustainability Finance: Supporting Sustainable Energy Initiatives

Globally varied funding options are being used to transition to sustainability:

Grants from Governments and development finance institutions (DFIs); low-cost project debt from DFIs, multilateral DFIs, state-owned FIs; project-level market rate debt from commercial FIs, DFIs, Governments and corporates; project-level equity from Corporates and public sector undertakings, balance-sheet financing (debt) (including bonds and debentures) from households, commercial FIs, and corporates and balance-sheet financing (equity) from households, commercial FIs, and corporates.[22]

Globally, the size of the ESG investing market is USD 17.2 trillion in 2023, and this is projected to grow at 9.4% CAGR till 2032.[23] Among the various funding options, green bonds have become a favourite both among issuers as well as investors. Cumulative climate GSS+ bonds (Green, social, sustainable, and sustainability-linked bonds) in 2023 globally was USD 4.4 trillion.[24] Internationally, sovereign green bonds have been issued by a few countries, where the proceeds have been earmarked for expenditures in grid-scale solar and wind, decentralized solar, green hydrogen, among other sustainability measures.

In India too, green bonds have been issued under the SEBI's framework as well as under IFSCA's framework. The permissible end uses include renewable energy, clean transportation, climate change adaptation, climate resilience, energy efficiency including green buildings, yellow bonds for solar energy generation, transition bonds for aligning with India's Nationally Determined Contributions (climate goals), among others.

It must be kept in mind that availing climate finance would entail additional disclosures and compliances including impact assessment, internal tracking method verified by an external auditor,third-party review and certification on the end use, in a bid to prevent green-washing. In case of project finance for energy-related measures, setting up of an EMS may also be insisted upondepending on the lender's policies or the issuance frameworks. And it becomes imperative to engage qualified professionals to help in the journey.

8. The Role of CMAs in Energy Transformation

This move towards sustainable energy presents both opportunities and challenges for businesses, and CMAs play a vital role in navigating this transition and making the sustainability goals a reality, in various capacities as follows:

- **In-house Cost Accountants:** Without the data on costs, there is no starting point to initiate a change. CMAs provide the much-needed macro and micro-level data for energy consumption in monetary and quantitative terms to identify the areas of energy consumption and energy inefficiencies. They can also double up as monitors of energy usage with their ability to dig deep into data.CMAs can be also be relied upon for developing robust internal reporting and control mechanisms.
- **Internal Auditors:**In their role as internal auditors, CMAs can help assess the robustness of the control mechanisms aimed at energy efficiency and compliance with the energy policy of the organization, and in identifying critical vulnerabilities.
- **Cost Auditors:** As part of their cost audit, they provide assurance on the cost management and cost record systems, that provide the confidence to rely on the cost data maintained by the businesses. They can also be further empowered to analyse and report specifically on energy costs.
- **ESG Assurance Providers/Assessors:**CMAs are well-equipped to take up assessment of ESG performance of businesses as they understand the granular-level implications of the ESG disclosures and can cull out cost patterns inconsistent with the disclosures.
- **Consultants for energy transition:** The energy transitions themselves have to be cost-effective and viable. By conducting comprehensive cost-benefit analyses, advising on renewable energy funding options and compliance,and tracking the return on investment for transition efforts, CMAs can help achieve the dual goals of sustainability and profitability.
- Additionally,those with engineering background and satisfying the requirements of the Bureau of Energy Efficiency can also aim to get accredited as Energy Managers and Energy Auditors, thereby contributing to the transition on the operational side.[25]

9. ICMAI's Sustainability Standards Board

The Council of the Institute of Cost Accountants of India has constituted the Sustainability Standards Board (SSB) in the year 2022 with the objective of empowering its Members to take up an active role in ESG compliance and disclosures. The SSB functions with the objective of developing frameworks for developing sustainable strategies, standards, performance metrics, guidance for sustainability reporting, frameworks for managing sustainability-related risks, and to foster a culture of sustainability-conscious business conduct.

On the path towards achieving its aspirations and discharging its functions, the SSBhas come out with several measures to make the stakeholders a part of the journey.

- The SSB brings out a monthly newsletter aptly titled *"Sukhinobhavantu"* with a rich collection of insightful articles on various dimensions of sustainability.
- It conducts the *"Vasudhaiva Kutumbakam"* webinar series for sensitizing the stakeholders on the various aspects of sustainability.
- The SSB has also launched a Certificate Course on ESG aimed at capacity building for its Members, Students and others. Recently, the second batch of the Course was launched along with the unveiling of the brand image of the *"Vasudhaiva Kutumbakam"* webinar series.
- Further, the month of January of every year is proposed to be celebrated as the "Sustainability Month" by the SSB. There

will be month-long events conducted across the country focussed on sustainability.

- The SSB has launched an ESG Training Module for KMPs (Key Managerial Personnel), which is tailor-made to the requirements of the KMPs, focussing on how KMPs can implement the ESG goals of a business, the concepts of ESG – management, maturity, assurance, and climate finance, and an overview of BRSR.

The triple bottom line approach towards business performance is becoming a necessity and reality

The SSB looks forward to be a partner in the global transformation by leading and guiding members, students and the general public in their sustainability efforts.

10. The Way Forward

With the world taking up the agenda of energy transition and management seriously, businesses are paying more attention to their energy consumption and cost data, and looking at ways to optimise their resource consumption and minimize wastages. The triple bottom line approach towards business performance is becoming a necessity and reality. The astute judgment of CMAs will be essential in implementing sustainability measures, and in particular, energy efficiency measures.In this changing world, CMAs, in their varied capacities and roles, can serve as the beacon light for the path forward. MA

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THE SUN NEVER SETS FOR A GREEN FUTURE

Abstract

India strongly advocates the concept of "Vasudhaiyva Kutumbakam" meaning and signifying "One Earth-One Family-One Future". In this context, the emphasis is on usage of sustainable sources of energy. Out of the various renewable sources, Solar and Wind Energy together constitute around 89% of the Cumulative Installed renewable energy capacity. Though India is in the forefront with respect to renewable energy in the global scenario, there is a lot more to be done to achieve the committed targets under the SDGs with respect to energy mix. Here the CMAs have new opportunities in their area of expertise.

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INTRODUCTION

The Sun is known to have been worshipped since ancient times and even today in India significantly through the powerful "Surya namaskar" which is regarded as one among the better ways to absorb the solar energy (energy from the sun) at the level of an individual striving for higher level of consciousness. Further, Indians are also aware of the healing power of the Sun in curing various ailments and hence attach a great significance to "Surya Namaskar" and "Surya Anjali". The various temples in India, for example the Konark Sun Temple (Puri), Katarmal Sun Temple (Almora), Surya Mandir (Gwalior) and Modhera Sun Temple (Mehasana District) dedicated to Sun God bear testimony of the reverence to the solar deity. Elsewhere, there is a Sun temple in Beijing, China and quite a few in Egypt.

In fact, the Indians believe that the "Pushpaka Vimana" used by King Ravana which resembled the Sun was a solar powered device as also the "Sudarsan Chakra" of Lord Krishna. The Rowdree Darpan yantra is an energy weapon device, which combines the solar rays of the sun and produces heat and light that was capable of melting anything in sight and has the energy to absorb the powerful sunrays. The predominant energy sources include solar glow, use of crystals and electric and ether power. It is believed that they were used to design and make vimanas (aircrafts), both for combat and transportation that ran on solar energy.

The 19th and the 20th century saw the growth of the British Empire estimated to have control over around 25% of the land mass of the Planet Earth consisting of colonies across continents. During this period, the phrase "the sun never sets on the British empire" was popularly used to describe the extent of its vastness. However, with the colonies becoming independent, the attachment of the colonies to the Commonwealth gradually declined and the balance of global power has shifted largely with the US and to a lesser extent the EU. However, though the sun has finally set on the British empire, it is up to the

world leaders to ensure that OUR SUN does not set on the globe.

It is pertinent to note that the Indian government has been from time to time initiating appropriate steps for sustainable development such as "Rural Electrification Supply Technology" (REST). Our Hon'ble Prime Minister had extended the call for connecting the global solar resources through the vision of 'One Sun One World One Grid' (OSOWOG) with the concept that 'The Sun Never Sets' and is always shining at some geographical location, globally, at any point of time. India has made its presence felt as it took the G20 leadership in 2023 with the theme "Vasudhaiyva Kutumbakam" meaning and signifying "One Earth-One Family-One Future". It is in this context that the emphasis is on harnessing and utilizing such sources of energy that are infinitely available and has least economic, environmental and social impacts from a sustainability point of view.

SUSTAINABLE SOURCES OF ENERGY

Broadly, the sources of energy can be classified into two categories: -

- Non-renewable sources of energy and
- Renewable sources of energy

The principal difference between the non-renewable sources of energy and the renewable sources of energy is that while the former cannot be replenished, the latter is capable of being replenished at a rate equal to or faster than the rate of their utilization.

There are four non-renewable sources namely oil, Natural Gas, Coal and Nuclear energy. Except for nuclear energy, the other three sources are collectively also referred to as fossil fuels, which were formed over times immemorial from the dead plants. The long-term reliance on non-renewable sources is not sustainable since over a period of time the availability of energy from these sources is finite and constantly depleting. Besides in the case of fossil fuels, apart from limited availability, their burning releases greenhouse gases into the atmosphere thereby causing adverse environmental impacts. In the case of nuclear energy, though prima facie, it does not have such adverse environmental impacts as fossil fuels, the very high upfront costs and possible shortages in Uranium make it an unattractive option. The fact that fossil fuels constitute around 80% of energy sources globally makes such dependence unsustainable and hence the drive towards renewable energy sources.

There are five renewable sources namely solar energy, wind energy, geo-thermal energy, Bio-energy and Hydropower. In addition to these five sources, Ocean Energy is also being explored and in terms of potential availability over a long period, it is believed that it far exceeds the requirement.

The following table shows the cumulative installed capacity of the renewable energy sources as at 31st March, 2024

Table – 1 Sector -wise Cumulative Installed Capacity as on 31.3.2024

	Sector	Cumulative Installed Capacity (GW)	% to Total
1	Solar Power	81.81	57.0%
2	Wind Power	45.89	31.9%
3	Bio- Energy	10.94	7.6%
4	Small Hydro	5.00	3.5%
	Total	143.64	100.0%

Source: https://mnre.gov.in/annual-report-2023-24/

In the following paragraphs, the salient points of the principal sources of renewable energy in India namely Solar and Wind Energy which together constitute around 89% of the Cumulative Installed renewable energy capacityare discussed: -

Solar energy

India being a tropical country receives on an average 2300 to 3200 hours of sunshine in a year, which translates to more than 5000 trillion Kwh of solar radiation – far in excess of India's peak energy needs. There is ample scope for promoting solar energy in rural India which directly contributes to lesser use of non-renewable energy in rural households. Gradually doing away with the use of fossil fuels which leads to continuous depletion of natural resources, solar energy is a handy substitute keeping in mind India's sustainable future.

Globally, China with an Installed Capacity of

710 GW and USA at 200 GW rank first and second respectively. India ranks third in solar energy with an Installed Capacity of 81.81 GW as at 31st March, 2024 (90.76 GW as at 30th September, 2024). However, as regards solar energy potential of India, as per GWp (Giga Watt potential) peak estimates made by National Institute of Solar Energy (NISE), the 31 states and the Union Territories combined have a GWp of 748.98. Thus, it can be seen that the potential for harnessing solar energy is very much underutilized (Installed Capacity in GW as a percentage of GWp is just about 11%). It highlights the reasons for the prominence given in India for Solar Energy, which currently accounts for 57% of the total installed capacities of the renewable energy mix.

Wind Energy

Wind energy is also a prominent source in the renewable energy mix currently accounting for around 32% of the total installed capacities of the renewable energy mix. Like Solar Energy, Wind Energy plays a major role in reducing the carbon footprints and helps the country inreducing the intensity of its emissions thereby moving closer to achieving the SDG targets.

Wind energy capacity is mainly concentrated in the Southern, Western and North-Western states. The following table depicts the state-wise break up of the installed capacity in respect of wind energy: -

Table 2 - Installed Capacity as at 31st March, 2024

	States	Installed Capacity in MW	% to Total
1	Gujarat	11722.72	25.55
2	Tamil Nadu	10603.54	23.11
3	Karnataka	6019.61	13.12
4	Maharashtra	5207.98	11.35
5	Rajasthan	5195.82	11.32
6	Andhra Pradesh	4096.65	8.92
7	Madhya Pradesh	2844.29	6.20
8	Telangana	128.10	0.28
9	Kerala	63.50	0.14
10	Others	4.30	0.01
	Total	45886.51	100.00

Source: https://mnre.gov.in/annual-report-2023-24/

Globally, China with an installed capacity of 441.89 GW, USA with 148.02 GW and Germany with 69.46 GW rank first, second and third respectively. India with an Installed Capacity of 45.89 GW currently ranks fourth.

Over the last decade, the wind power generation has grown from 33768 MU in FY 2014-15 to 83385 MU in FY 2023-24 representing a CAGR of 10.57%.India's onshore wind potential is estimated at 132 GW. Its current installed capacity is around 34.8% of its wind power potential, which highlights the unutilized potential. This does not include the potential of offshore wind energy. India is a peninsula having a coastline of around 7500 kms which offers exciting wind energy generation potential. According to the Annual Report 2023-24 published by the Ministry of New and Renewable energy, National Institute of Wind Energy (NIWE) – Chennai has been designated as the nodal authority for facilitating offshore wind energy projects. The strategy paper developed by the said ministry in September 2023 indicates an auction trajectory till 2029-30 to the extent of 37 GW (37000 MW).

Around 70% of the wind power generation generally comes during the months of May to September, at which time, India receives the South - West Monsoon. The contrary is true with respect to Solar energy which can be generated during the day in the non-monsoon period. Further, generally during the night most of the wind power is generated. This points to a scenario wherein solar energy and wind energy in India are complimentary to each other.

RENEWABLE ENERGY AND SDGS

193 nations are signatories to the UN mandated 17 Sustainable Development Goals (SDGs). Most of the member nations have committed to certain specific targets under the respective SDGs. One of the 17 SDGs is SDG7, which has set the goal to "**Ensure access to affordable, reliable, sustainable and modern energy for all".** This SDG is not only closely linked to renewable energy, but also connected to the actions to combat climate change and helps in smoothening the pathway for achieving certain other SDGS. Considering the various benefits that emanate from the increased use of renewable energy, the member nations

have agreed to increase substantially the share of renewable energy in the global energy mix by the year 2030.

The Central Government through the Ministry of New and Renewable Energy (MNRE) has taken many initiatives to fuel the adoption of renewable energy in India to pave the way for achieving its commitments in its renewable energy targets, reducing GHG emissions to move to a regime of green and clean energy. The said Ministry's annual reports contain the details of these initiatives and their status.

At present around 31% of India's energy requirements are met from renewable sources. However, India on its part has committed to an ambitious target of satisfying 50% of India's energy requirements from renewable energy by 2030 and increasing non-fossil fuel power generation capacity to around 40% of the total power generation capacity. As per an estimate in the World Investment Report 2023 by UNCTAD, developing countries like India face an annual investment deficit of about USD 4 trillion as they work to achieve the SDGs by 2030. It is also necessary to develop practical solutions to the problems of variations and fluctuations in the generation, supply and evacuation of energy generated from renewable sources which impacts the stability of the grid, all of which in combination makes it imperative to make timely investments in technologies and solutions for storage of energy, Grid Infrastructure, Prevention of power loss during transmission / distribution and robust strategies for managing variations in demand for energy.

In the background of these challenges, India has consciously committed to enhance international co-operation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.

ROLE OF CMA

Apart from the known role of a CMA with respect to energy consumption management, the emerging professional opportunities for a CMA can be perceived in 3 distinct aspects: -

Strategic Management: The use of renewable energy offers distinct cost advantages vis-à-vis use of non-renewable sources of energy. CMA's with engineering background / knowledge will be in a better position to evaluate the Cost Benefits Analysis of various technologies and processes of power generations from the power plant, their transmission to sub-stations and finally distribution to the end customer. CMA's in general are best equipped to handle / advise on not only capital budgeting and investment decisions relating to the viability of the existing infrastructure vis a vis the smart grids, but also in monitoring the progress and performance evaluation as critical inputs to the strategic decision making and management process.

Sustainability: Following the global emphasis on ESG, business entities are beginning to give more importance to various non-financial parameters including ESG KPIs such as Energy Intensity, Waste Management, GHG emissions etc. not only for itself but also for entities in the value chain. Considering that the energy sector is going to be the sector which needs to be geared up substantially to not only fuel India's ambitious growth targets but also add the dimension of Sustainability, the requirement for professionals in this domain in the emerging scenario is expected to grow multi-fold. CMAs with expertise in this sector and believing in greater emphasis on substance over form are slated to get handsome opportunities.

Accountability, Accessibility and Awareness (AAA): It is rightly said that well planned is half done. But what is not immediately understood is that both "half planned or only planned" is not well done. This highlights the importance of the planning and execution management of the Project and the related operations. CMA's play a vital role in the functioning of the project management team through their inputs to the Project Monitoring and Control mechanism, Project Cost Management and Management of the Project Infrastructure, so that project costs are kept within sanctioned limit and there are no time overruns. The timely dissemination of relevant and reasonably authentic data and information through a balancing of top-down and bottom-up approach is the minimum requirement for highlighting red flags which enables prompt demonstrable corrective action. This will go a long way in strengthening Public-Private-Participation

which are invariably the mechanism which must be adopted. This takes care of Accountability, Accessibility and Awareness. CMA's can also play a major role in enabling theuse of AI and other techniques and technologiesin relation to Project Management.

Solar energy and wind energy in India are complimentary to each other

WAY FORWARD

Perhaps the biggest threat to the green future is the dynamics of the current balance of power which is oscillating between US and its allies on one hand and the Russia-China bloc on the other with each one of them vying for exclusive global supremacy at the cost of not only endangering the achievement of the SDGs but also posing a fundamental question mark over the entire gamut of global sustainability. The fall-out is obvious because if this is a continuing trend, it will push up multi-fold the demand for non-renewable sources of energy at a cost which will, apart from disturbing global peace also cause irreparable damage to the ecology and pose a serious threat to the well-being and the very existence of the people at large. The situation calls for a transparent balancing approach to preserve the environment for a green future. It is here that the neutral part of the world,that comprises mainly of the backward, developing or emerging economies as also some developed economies are possibly looking for a fresh and more effective global order as the UN mandated efforts for peace and green future have not really yielded sustainable results consequent to polarization by the power blocs and warring groups. India has advocated, demonstrated and shown the potential way forward in balancing the conflicting priorities in such a manner that a right approach through consensus is developed to address the concerns relating to long term sustainability. This is very well reflected in India's progress with respect to use of renewable energy and the way energy consumption is managed. If globally it is done this way, the sun will never set for a greener future. MA

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Academic Excellence

Congratulations!!!

Our heartiest congratulations to CMA Prof Gaddam Naresh Reddy, Member of the Institute, for being appointed as Registrar of Prestigious Osmania University.

We wish CMA Gaddam Naresh Reddy, the very best for all his future endeavours.

OPTIMIZING ENERGY CONSUMPTION IN THE CIRCULAR ECONOMY: THE STRATEGIC ROLE OF CMAs

Abstract

The transition to a circular economy is essential for achieving sustainability by reducing waste, enhancing resource efficiency, and creating a loop of production and consumption. Energy consumption plays a critical role in this shift, with emphasis on minimizing energy use, integrating renewable energy sources, and optimizing energy efficiency across all production processes. CMAs contribute significantly by aligning energy management with financial and sustainability goals through energy audits, cost-benefit analysis, and lifecycle costing. They assess energy-saving opportunities, drive investments in energy-efficient technologies, and ensure regulatory compliance. Ultimately, by managing energy consumption more effectively, businesses can reduce cost, improve profitability, and contribute to a more sustainable, environmentally responsible economy.

Introduction

In the pursuit of attaining the Sustainable Goals the world economies are transiting towards a Circular Economy from the traditional Liner Economy. The primary goal of a circular economy is to reduce waste, improve resource efficiency and create a sustainable loop of production and consumption. In this context, energy consumption is a critical element and managing and optimizing energy consumption is vital for minimizing environmental impact and achieving long-term economic sustainability.

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How Energy Consumption is connected with Circular Economy?

Resource Efficiency and Energy Use:

In a circular economy, resource efficiency means using fewer resources and less energy to produce goods and services. By designing products for durability, reusability, and recyclability, companies reduce the energy needed to extract, process, and manufacture raw materials.

Example: A company that implements a closed-loop manufacturing process can use recycled materials, which typically require far less energy than producing goods from virgin resources. This reduces energy consumption across the supply chain.

Energy Recovery and Waste-to-Energy:

In the circular economy, waste is seen as a resource. Energy recovery processes, such as waste-to-energy (WTE), can convert non-recyclable waste into usable energy (electricity, heat, or bio fuel). While the primary goal is to minimize waste, WTE can be an effective way to capture energy from

residual waste that cannot be reused or recycled.

Example: Municipal waste incineration plants generate electricity by burning non-recyclable waste, reducing landfill use and offsetting energy consumption from fossil fuel-based power sources.

Renewable Energy Integration:

A circular economy emphasizes the use of renewable energy sources to power industrial processes, manufacturing, and other operations. Shifting from fossil fuels to renewable energy (solar, wind, biomass) helps reduce the carbon footprint of production and consumption cycles.

Example: Companies can power their factories with solar panels, reducing their dependency on non-renewable energy sources, thereby closing the loop on energy consumption by making it more sustainable.

Energy Efficiency and Circular Design:

One of the principles of the circular economy is to design out waste and optimize processes. By applying energy-efficient technologies in production, companies can minimize energy loss, reduce their operational energy needs, and create more sustainable products.

Example: LED lighting, energy-efficient machinery, and smart energy management systems help businesses consume less energy, thereby supporting the circular economy goal of reducing resource use.

Decentralized Energy Systems:

Circular economy models encourage the development of decentralized energy systems, where energy is produced and consumed locally, often through renewable sources. This reduces transmission losses and creates a more efficient energy network.

Example: Local micro grids powered by renewable energy sources such as wind turbines or solar panels can provide energy to small communities or factories, reducing the need for large-scale, inefficient energy transmission networks.

Energy Consumption in Product Lifecycle Management:

The circular economy takes a holistic view of product lifecycles, considering the energy consumption not just in manufacturing but also in use, reuse, recycling, and disposal. By designing products for multiple life cycles, companies reduce the total energy demand associated with production, consumption, and disposal.

Example: Electric vehicles (EVs) designed with longer-lasting batteries and easy recyclability reduce both energy consumption during use and the need for energy-intensive processes to recycle or dispose of components.

Digitalization and Energy Monitoring:

Circular economy models leverage digital technologies to monitor and optimize energy consumption in real time. The Internet of Things (IoT), smart meters, and advanced energy management systems allow companies to track energy use at every stage of production and distribution, leading to more efficient energy consumption.

Example: Using IoT sensors, a factory can detect inefficiencies in its energy use and adjust processes automatically to reduce energy waste.

Circular Economy in the Energy Sector:

The energy sector itself can adopt circular economy principles. Decommissioned infrastructure, like old wind turbines or solar panels, can be recycled, and materials like rare earth elements can be reused, reducing the need for new resource extraction.

Example: When wind turbines reach the end of their useful life, their components, such as steel and copper, can be recycled, reducing the need for new raw materials and saving the energy required to produce them.

While we have seen the connection between the Energy Consumption and Circular Economy, at the same time it becomes important to measure the impact of the energy consumption in meeting the goals of reducing waste, improving resource efficiency and creating a sustainable loop of production and consumption. To measure the energy

consumption and its impact, an Energy Audit maybe crucial and some of the key metrics in an energy audit are as follows.

Energy Consumption (kWh):

This is the total amount of energy used by a facility, measured in kilowatt-hours (kWh). It serves as the baseline for identifying energy-saving opportunities.

Tracking energy costs in relation to total production output and creating benchmarks to optimize energy usage per unit of output, helps reduce operational costs.

Energy Intensity (kWh per unit of production):

This metric measures energy consumed per unit of production (e.g., per ton of product, per square foot, or per process).

Monitoring this metric, energy costs can be directly linked to production efficiency. The profitability of energy-intensive processes can be assessed more accurately by appropriate cost allocation and energy pricing strategies.

Energy Cost per Unit of Output:

This is a financial metric representing the cost of energy per unit of production. It helps companies understand the financial impact of energy consumption on their overall cost structure.

Identifying which production units are the most energy-efficient helps in reallocating resources or setting targets to reduce the cost of energy in less efficient units.

Energy Savings Potential (ESP):

ESP quantifies the potential savings achievable through energy efficiency measures such as upgrades in technology, better operational practices, or renewable energy integration.

Performing cost-benefit analysis of energy-saving initiatives helps in appropriate decision making on capital investments in energy-efficient technologies.

Power Factor:

This metric measures the efficiency of electrical power usage (ratio of real power to apparent power). A low power factor indicates inefficient energy usage and higher costs.

Quantifying the financial losses due to poor power factors, helps in initiating corrective actions such as capacitor installations to improve efficiency and reduce costs.

Energy Efficiency Ratio (EER):

The EER compares the amount of cooling or heating provided to the amount of energy used. Higher ratios indicate more energy-efficient systems.

Tracking EER, helps in upgrading to more energy-efficient equipment, balancing the upfront investment against long-term energy savings.

Carbon Footprint (CO2 Emissions per kWh):

This metric calculates the amount of CO2 emissions generated per unit of energy consumed, critical for assessing the environmental impact of energy usage.

Integrating carbon accounting into financial reporting, helps translate carbon savings into financial terms, such as cost avoidance from carbon taxes or regulatory compliance costs.

Energy Cost Reduction Percentage:

This metric tracks the percentage reduction in energy costs over time, particularly after implementing energy-saving initiatives.

Monitoring the financial impact of energy audits by comparing pre- and post-implementation costs, ensures that energy efficiency measures lead to tangible cost savings.

Return on Energy Investment (REI):

REI evaluates the financial return on investments made in energy-saving technologies or practices, calculated as the ratio of energy savings to the cost of energy-efficient measures.

Modelling REI scenarios, helps businesses prioritize investments in energy efficiency projects based on potential cost savings and return on investment.

Energy Load Factor:

This metric represents the ratio of average energy load to the peak energy load over a period. A higher load factor indicates better energy usage consistency, reducing peak demand charges.

Analyzing the cost implications of peak demand charges and strategizing to flatten energy load curves, lead to more predictable and lower energy costs.

Role of CMAs in Energy Audits:

CMAs play a pivotal role in energy audits by connecting energy performance metrics with financial insights, helping businesses make informed decisions.

Cost Analysis and Benchmarking:

CMAs analyze energy costs in comparison to industry standards and historical benchmarks. They provide management with reports that highlight areas of inefficiency and suggest cost-saving measures.

Budgeting and Forecasting:

CMAs incorporate energy costs into financial forecasts and operational budgets. They help companies anticipate fluctuations in energy pricing and plan accordingly, ensuring that energy expenditures are optimized within the overall cost structure.

Investment Appraisal for Energy-Efficient Technologies:

CMAs assess the financial viability of investments in energy-efficient equipment and technologies. By conducting payback period analyses, discounted cash flow (DCF), and net present value (NPV) assessments, they help businesses evaluate the long-term financial benefits of such investments.

Energy Efficiency Reporting and Compliance:

CMAs assist businesses in aligning with government regulations and standards on energy efficiency and sustainability. They ensure that financial reports include detailed data on energy consumption, cost savings from energy audits, and environmental impact (e.g., carbon footprint reduction).

Cost Allocation for Sustainability Initiatives:

CMAs help allocate energy costs accurately to different departments, processes, or products. This enables companies to track the profitability of energy-intensive operations and identify opportunities to shift resources toward more energy-efficient alternatives.

Performance Monitoring and Continuous Improvement:

Post-audit, CMAs play a key role in monitoring energy performance over time. They track the effectiveness of energy-saving measures and continuously adjust financial plans to ensure sustained energy efficiency.

Linking Energy Audits to Corporate Sustainability Goals:

CMAs integrate energy audit findings into the broader sustainability goals of the organization. By translating energy savings into financial terms, they help businesses achieve a balance between environmental responsibility and profitability.

Energy Risk Management:

CMAs identify risks associated with energy consumption, such as price volatility or potential regulatory changes (e.g., carbon taxes). They develop strategies to mitigate these risks, such as locking in energy prices through hedging or diversifying energy sources.

The Role of CMAs in Managing Energy Consumption for Circular Economy:

CMAs play a crucial role in aligning energy management with the principles of the circular economy by connecting operational efficiency with financial and sustainability goals.

Energy Cost Analysis and Allocation:

CMAs can provide detailed energy cost analysis by tracking energy usage across different departments or processes. They can allocate energy

costs based on consumption patterns, helping businesses identify areas for improvement in energy efficiency and cost savings.

Example: CMAs can use cost accounting to analyze how much energy is consumed per unit of product or process and suggest energy-saving initiatives that reduce operational costs.

> Circular economy models encourage the development of decentralized energy systems, where energy is produced and consumed locally

Energy Efficiency Investment Appraisal:

CMAs help assess the financial viability of investments in energy-efficient technologies or renewable energy. Through cost-benefit analysis, net present value (NPV) calculations, and payback period assessments, CMAs guide businesses in making informed decisions that align with both circular economy goals and financial performance.

Example: Evaluating the long-term savings from switching to energy-efficient HVAC systems or integrating renewable energy sources like solar panels.

Lifecycle Energy Costing:

By using lifecycle costing (LCC), CMAs can help companies evaluate the total energy costs over the life of a product, from raw material extraction to disposal or recycling. This approach encourages businesses to design products and processes that minimize energy use and maximize resource efficiency.

Example: Assessing the total energy consumption of a product that includes recycled materials versus one made from virgin materials, factoring in energy use at every stage of the product's lifecycle.

Energy Audit and Performance Metrics:

CMAs contribute to energy audits by quantifying the financial impacts of energy consumption and identifying energy-saving opportunities. They develop energy performance metrics, such as energy cost per unit of output, and help companies measure and report energy efficiency improvements.

Example: After an energy audit, CMAs can calculate the cost savings from reducing energy consumption and present a report showing the financial benefits of circular economy practices.

Sustainability Reporting and Compliance:

CMAs integrate energy consumption data into sustainability reports, ensuring transparency in a company's energy performance. They help businesses comply with energy efficiency regulations and frameworks, such as the Global Reporting Initiative (GRI) and ISO 50001 (Energy Management).

Example: Providing detailed energy usage reports that highlight how much energy has been saved through circular economy practices, such as waste-to-energy or recycling.

Carbon Accounting and Emissions Reduction:

CMAs play a role in carbon accounting, tracking the energy consumption associated with greenhouse gas emissions. They help businesses calculate and reduce their carbon footprint by transitioning to more energy-efficient and sustainable practices in line with circular economy principles.

Example: Developing carbon footprint reduction targets based on energy savings from the use of recycled materials or energy-efficient processes.

Conclusion:

Energy consumption is at the heart of circular economy initiatives, as reducing energy use, increasing efficiency, and shifting to renewable sources are key to sustainability. CMAs facilitate this transition by integrating energy performance metrics into financial decision-making, helping businesses align their energy management practices with circular economy goals. Through cost analysis, investment appraisal, energy audits, and lifecycle costing, CMAs provide the financial and operational insights necessary to reduce energy consumption while maintaining profitability. By leveraging key metrics, companies can achieve sustainable cost reductions, improve energy efficiency, and contribute to environmental goals while maintaining profitability. MA

ENERGY MANAGEMENT SOFTWARE: A VERITABLE GAME CHANGER FOR THE MODERN-DAY BUSINESS ENTERPRISE

Abstract

The growing adoption of green energy is set to transform industries, trade and commerce. To put a halt to global warming, emissions need to be cut down by almost half by 2030 and reach net-zero by 2050. To achieve these phased targets, it is imperative that industrial, commercial and public sector organisations across the globe meet all energy regulation norms and environmental guidance, and adopt best of breed green energy technologies. They should put an end to their dependence on fossil fuels. The need is both acute and enormous in the same breath. All utility companies, industrial and commercial spaces, government organizations, other large enterprises and small to medium sized enterprises have to run their operations in such a manner which will either directly or indirectly help to diminish carbon footprint by reducing the emission of greenhouse gases. Energy Management System plays a crucial role of collecting and analysing energy usage data of corporates and comparing their individual energy consumption with industry standards/ baselines to help achieve environmental sustainability and energy efficiency.

"It's time to stop burning our planet and start investing in the abundant renewable energy all around us."

ANTÓNIO GUTERRES, *United Nations Secretary-General*

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As the world prepares for a major transition in industry, trade, and commerce, phrases like "green energy" or "renewable energy" have emerged as the new buzzwords. Use of green / renewable energy sources is going to herald an unprecedented green energy revolution in the coming days. In 2021, global leaders gathered for a High-level Dialogue on Energy in New York, where aggressive and enthusiastic targets and investment decisions were announced to achieve universal energy access and reduce emissions by nearly half by 2030 to net-zero by 2050. Over US$400 billion was committed by governments and private sectors towards these goals for mitigating severe climate change impacts.

During the Dialogue, a global roadmap was proposed and passed unanimously which vouched for:

1. termination of energy access gap
2. shifting to decarbonized energy by quadrupling solar and wind capacity
3. phasing out coal plants by 2030 in richer countries, with others by 2040
4. improving energy efficiency and tripling clean energy investment to five trillion dollars per year
5. redirecting fossil fuel subsidies and fixing the price of carbon
6. creation of green jobs in vast numbers and

empowering the most vulnerable segment of the society.

Dependence on fossil fuels must end for achieving this immense task. Simultaneously, investment in alternative sources of energy is to be upsurged. Now it is imperative that to achieve this, industrial, commercial and public sector organizations across the globe must meet all energy related regulatory norms, environmental guidance, and operational standards and apply well-defined technological procedures wisely in their day-to-day operation. This is equally applicable to utility companies, industrial and commercial spaces, government organizations/business and other large enterprises as well as small to medium sized enterprises. Here comes the role to be played by Energy Management System.

What is Energy Management System (EMS)?

EMS is a collection of tools comprised of both software and hardware that optimally distributes energy flows between connected distributed energy resources. To put it another way, EMS is a tool that helps organizations to monitor, analyse and optimize their energy consumption and carbon footprint with an aim to take a control over their energy usage.

Modus Operandi of Energy Management System:

A. Collecting energy-usage data–Tracking of energy usage and collection of data of the same are the first steps in taking control of energy usage. EMS collects raw data from multiple energy sources using sensors placed on electrical circuits, BAS (Building Automation System), smart meters and also from different AIdevices. Data can be collected from a variety of energy sources, such as Fuel Oil, Natural gas, Coal, Electricity, Wood, Steam, Water, Refuse & other sources, Waste water etc.

B. Analysing energy-usage data–Then from the data collected, EMS conducts detail analysis of utility bills, energy initiatives, energy waste etc. This helps the management to understand the pros and cons of the current allocation of resources and assets within the organisation. Analysis of energy-usage data is vital for solving complex problems within organizations.

C. Comparing energy-usage data–The third step of the functioning process of an EMS is to help management to compare energy consumption with industry standards/ baselines and with similar facilities. This comparison is required to detect the facilities which are not operating efficiently for making necessary adjustments/changes to them.

Components of an Energy Management System

An Energy management system has following key components:

I. Gateway: This is a data collection and processing system that consists of

i. voltage level converter
ii. a micro-controller and
iii. EMS-ESP32 firmware.

The version of the smart circuit board determines the edition of the gateway.

II. Software: This includes a range of sophisticated algorithms that create instructions and restrictions to control energy assets according to specific needs of the user like optimizing self-sufficiency, setting limits for energy consumption according to local grid requirements etc. Software part of EMS consists of application programs for the network of energy systems and typically comes with following attributes:

i State-of-the art encryption methods
ii. Multi-factor authentication
iii. Conformity/compliance measures for adherence to regulatory norms

III. Interface: This is a platform that enables users to visualize live and historical data, view KPIs, set parameters, and manage energy flows. EMS interface combines various

energy operations into a well-integrated platform that acts as a single access point for monitoring, controlling, and data integration for different energy assets. It includes:

i. smart panel
ii. consumption monitors
iii. a control system to communicate outbound instructions from the EMS interface
iv. the actual controlled devices, viz air conditioners, fans, lights, other electrical machines

Types of Energy Management Systems

A. Rule-based energy management system

In a rule-based energy management system, the science/principles of reasoning behind energy distribution among connected DERS (Distributed Energy Sources) is contrived and put into effect by means of a definite plan. The rule-based approach ensures stability in the operation of DERS. This kind of EMS is suitable for scenarios where simple decision parameters can achieve effective energy management. But as rule-based energy management system operates using the conventional controllers which do not effectively optimize the energy output of solar systems, so it has limitations of its own.

B. Forecast-based Energy Management Systems

A forecast-based energy management system is used in designing advanced optimization strategies for complex energy management scenarios where rule-based EMS cannot be applied. Since due to increase in apprehensions about climate change, renewable energy systems such as photovoltaic (PV) systems have become more popular now, so to enhance data sanity and security in a changing or critical energy landscape this forecast-based EMS is implemented. It acts on real-time data, such as battery status, load consumption, rooftop PV (Photovoltaic) production, along with external information like current electricity prices or weather forecasts. This enables the Forecast-based EMS to make intelligent decisions on when to charge or discharge a battery, when to use locally generated solar energy or draw power from the grid etc. Using AI, it ensures constant optimization of energy management strategies to satisfy the 3D parameters (digitization, decarbonization, and decentralization) of the new energy era.

C. Cloud-based energy management system

Cloud-based EMS can be called as an innovative energy management software solution, which is used by utility companies, energy consultants and various industries to leverage their energy efficiency by effectively using the power of cloud computing. Cloud-based energy management system can knock out geographical constraints to give remote access to energy-related data and tools. It has an overwhelming suite of features, viz.

i. data collection from energy meters and sensors,
ii. secure cloud-based storage,
iii. advanced analytics and
iv. real-time reporting

Due to these excellent features, cloud-based EMS gives the corporates a clear edge on their competitors.

Few prominent Energy Management Software in 2024

1. **SAP -** SAP offers a variety of energy management software products and solutions, including:

   a. **SAP Cloud for Energy -** This is a public cloud solution that allows users to manage energy and water data with Big Data technology.

   b. **Sustainability Monitoring –** This is a solution that helps corporates to track the sustainability of their performances and to increase the transparency of their environmental, social, and governance (ESG) initiatives.

   c. **Utilities Management –** This solution

supports different market roles within the energy and utilities business. It also provides a meter-to-cash solution for the energy and utility companies.

d. **Energy Data Management (SAP IS-U-EDM) –** It integrates with the SAP IS-U system and allows users to bill new types of contracts. It interfaces with automated meter reading systems.

e. **Oil and Gas Software -** A solution that helps oil and gas companies in automating their business processes, improve customer interactions, and manage bulk transportation.

2. **Entronix EMP-** Entronix provides cloud-based solutions for real-time monitoring and insights on energy, water, waste, and GHG emissions at equipment level across plants and facilities. Using AI tools, it offers a multi-faceted product, which can deliver a holistic view of an organization's energy and sustainability performance, identify hidden cost-saving means and prioritize projects/tasks to meet sustainability targets. It is easy to install Entronix EMP which can run even simultaneously with/in addition to a pre-existed power monitoring system. It consists of a secured web gateway with pre-configured customizable reports and dashboards through which all energy related data can be sent securely to the cloud. Thus, it has the scope to consolidate all utility data viz consumption of energy, water, waste, and GHG emissions data of a user in one place. Consequently, a company can obtain an all-inclusive picture of its operations and by using predictive analysis can alleviate potential risks. It uses ML algorithms to recognize and rectify data inaccuracies, billing errors, and unusual patterns in energy use & emissions.

3. **Events 2HVAC –** Events 2HVAC is powerful and flexible software which is also compatible with many systems. It reduces energy use 20-40% by returning HVAC to unoccupied settings between events. As per the industry experts, use of Events2HVAC software can cut down annual energy costs on an average of $0.50/sq. ft.

4. **Eniscope–** Eniscope is another cloud-based EMS system that combines metering technology with an advanced energy network controller on real time basis. By installing Eniscope, organizations can access live readings and real-time graphical logs of energy consumption of buildings, departments, circuits and even machines24 hours a day. The Eniscope IoT hub seamlessly connects with a suite of wireless sensors and provides easily perceptible, granular energy data across multiple sites. As Eniscope shows energy usage on real time basis, so identifying and eradicating energy wastage and finding energy-draining equipment becomes easy. By this way it helps to save annual energy bills and reach the sustainability goals of corporates.

5. **AMCS Utility Billing –**AMCS Utility Billing solution is a comprehensive cloud-based Software-as-a-service application designed for billing water, sewer, and electricity services. It includes a Customer Information System that manages customer data, meters, invoices, and payments. Key features include accurate meter reading entry, payment processing, SMS payment reminders and a web portal for customer access to usage and billing information. The solution also generates monthly or quarterly reports to assist organizations in assessing their business performance, allowing users to view revenue reports, collection data and other relevant information.

6. **Energy CAP–** Energy CAP is popular energy and sustainability ERP software which can track and analyse an organization's energy consumption, carbon emissions, and provide extensive reporting and analysis options for informed decision-making. It comes with advanced features like facility benchmarking, charge backs & tenant billing, customisable

warnings and alerts, tariff analytics, automatic GHG conversion, BI tool integration, report generation facilities & dashboard and many more.

How and Why is Energy Management Software a game changer for today's business world?

- **Attaining Sustainability -** Since demand for energy is growing exponentially, and since sustainability is the most crucial thing for every organisation, optimization of energy efficiency has become a conclusive factor in cost-efficient production. EMS supplies a comprehensive picture of the status and performance of different energy sources used by an enterprise to enable it to make informed, data-driven decisions to
  i. optimize its energy consumption.
  ii. ensure power reliability and
  iii. achieve environmental sustainability to remain competitive in the ever-changing economy.

- **Enhancing Efficiency -** EMS can identify the equipment, which are not operating efficiently thru its 'replace or repair' approach which earmarks the assets, which consume more energy compared to their productivity. By doing so, it helps to boost the operational efficiency of a plant or an entire organisation through significant energy savings and operating costs cutting over time.

- **Cost Analysis –** Since high energy costs hurt profitability, appropriate use of energy monitoring software provides insights into an organization's vital cost drivers to take cost saving measures and remain profitable always.

- **Energy Cost Curtailing-** EMS can reduce a company's energy costs by introducing following practices:
  i. Enhancing operational efficiencies
  ii. Discarding useless/extra apparatuses
  iii. Automation of low-traffic locations
  iv. Powering down at the end of business hours

- **Carbon Management –** Corporates can benefit a lot from implementation of carbon reduction initiatives and GHG Offsetting Schemes through EMS tools as they can measure and manage greenhouse gas (GHG) emissions and carbon footprint. EMS can also help in
  i. reducing environmental impact
  ii. staying compliant with carbon-related legislation
  iii. increasing competitive advantage and
  iv. meeting corporate social responsibility
  v. report carbon performance to different stakeholders of the organization.

- **Observance of Regulatory Compliance –** With an aim to diminish the harmful effect of carbon footprint, the global average of which per person is now near to 4 tons, energy efficiency norms and regulations enforced by different regulatory bodies are becoming stricter day by day. EMS aids with compliance by providing authentic and latest information about utility usage and the effectiveness of energy consumption. With the help of EMS, the corporates can leverage their energy consumption and remain up to date regarding all compliance requirements to avoid fines and penalties and satisfy CSR.

- **Energy Benchmarking –** Corporates need to install Energy management software in commercial buildings and workspaces for making energy benchmarking possible, which is a method used to figure out whether in a particular climate, a building/facility is using more/less energy than similar buildings/ facilities with similar occupancies.

- **Control System Simulator –** EMS can watch and control various systems such as heating, ventilation, air conditioning (HVAC), lighting, and other energy-consuming equipment. It provides:
  i. Graphical animation of complex control

logic with/ without voltage drops calculation

ii. Time-dependent loads of control systems in battery discharge & sizing calculation

iii. Operator initiated control actions and/or auto-run mode

iv. Display and alert overloading as well as pickup/dropout voltage violations

v. Flexible device modelling with user-defined duty cycle or actual inrush/ burden rating

- **Automated Reporting –** Automated reporting is another significant aspect that supports the entire process of compiling energy usage reports. Also, it helps in time saving and reduces the risk of human errors in reporting activities.

  Implementing an Energy Management System can enhance a corporate's brand image to internal and external stakeholders by displaying environmental-friendly practices. This is a beneficial step for companies aiming to demonstrate their commitment to sustainability. Studies across the globe showed that on an average by using EMS businesses save up to 40% of operational costs over a 12-month period. It is pertinent to note that implementation of EMS assists in substantial increase in ROI of corporate organisations, as it can be customised for organizations' unique building needs as each premise has its own requirement. It is high time we as professionals acknowledge the significance of EMS and make it a defining characteristic of our workplace ecosystem and ethos. MA

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NOTES FOR AUTHORS

Referencing is a crucial aspect of writing a journal article to avoid plagiarism. 'Plagiarism' refers to the act of using someone else's work or ideas without giving proper credit to the original source. To avoid plagiarism in your writing, you must properly reference all the sources that you use in your research.

- **Choose a referencing style:** There are many different referencing styles, such as APA, MLA, Chicago, and Harvard, each with its own specific format and rules. Choose the style that is most appropriate for your field and stick to it consistently throughout your paper.
- **Cite your sources:** Cite the sources of information you use in your text by giving the author's name, publication date, and page number(s) for direct quotes or paraphrased material.
- **Use a reference list:** At the end of your paper, include a reference list that lists all the sources you have used in alphabetical order. This will give your readers a complete list of the sources you consulted in your research.
- **Be accurate:** Ensure that the information you provide in your references is accurate and complete. This includes the author's name, publication date, title, and source of the information.
- **Paraphrase carefully:** When paraphrasing, make sure to put the information into your own words, but still give proper credit to the original source.

By following these tips, you can effectively reference your sources in your journal article and avoid plagiarism. Remember that proper referencing is not only important for avoiding plagiarism, but it also helps to support your arguments and show the depth of your research.

KEY ASPECTS IN ENERGY CONSERVATION

Abstract

There is increasing emphasis on energy conservation within the framework of global efforts toward carbon neutrality and sustainability. The view of energy conservation has evolved from being solely a cost-saving measure to a broader responsibility, influenced by regulatory frameworks. When implementing energy conservation proposals, organisations must consider several key aspects: the need for accurate measurement, a systems-thinking approach to evaluate initiatives holistically and prevent unintended consequences, and regular reviews to adapt to changing conditions.

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A couple of decades ago, energy conservation were prioritised mainly for its compelling benefits to two stakeholders: for consumers, it reduced energy consumption and brought about substantial cost savings; and for electricity generators and distributors, it freed up capacity and enhanced demand management. However, this scenario has dramatically changed over time as countries around the world now drive the carbon neutrality agenda to address the devastatingly alarming global warming crisis. Today, even a small step in conserving energy by an individual has a much broader, global impact.

Energy conservation has become a key element in sustainability reporting. ESG (Environmental, Social, and Governance) reporting is now mandatory for the top 1000 companies by market cap through the BRSR (Business Responsibility and Sustainability Reporting) framework. Starting from FY2024, SEBI has introduced BRSR Core for the top 150 listed companies by market cap, requiring them to provide data on their environmental impact, including greenhouse gas emissions, water, and energy usage.

Thus, energy conservation is no longer just about cost savings for individual organizations it is a crucial step toward helping nations and the world to achieve carbon neutrality while also meeting compliance norms such as ESG requirements.

Measure What You Want to Manage

There are key aspects every company must consider when implementing energy conservation measures. One important principle is: *You can't manage what you can't measure.*

Often, when preparing techno-commercial proposals for energy-saving methods or technologies, companies calculate the payback period based on several assumptions. For instance, if ABC company wants to replace a motor with an energy-efficient one, they might base their estimates on likely energy savings provided by the manufacturer, the motor's running hours, operating conditions, and the cost of the proposal.

However, organisations must measure the actual power consumed by the motor both before and after replacement, under similar operating conditions using a power analyser. Simply measuring the motor's current drawn is insufficient, since power consumption is a product of voltage, current, and power factor. Accurate measurements will allow management to

evaluate the real power savings, helping them make better decisions about replacing similar equipments. Let's look at some industry use cases.

A company replacing an inefficient boiler with a modern, energy-efficient one might expect significant fuel savings based on the manufacturer's claims. However, before committing to further upgrades, they should measure actual fuel consumption and heat output of both the old and new boilers under similar load conditions. This will confirm whether the expected energy savings are being realised or if any adjustments are necessary.

Similarly, a manufacturing plant installing an energy-efficient air compressor to reduce power consumption should not rely solely on the vendor's estimates. The plant must measure air pressure levels, energy usage, and any air leakage before and after installation to ensure the compressor is functioning efficiently. This may reveal whether further improvements, like managing air leaks or adjusting system pressure, are required to achieve the projected energy savings.

In a water treatment plant replacing older pumps with energy-efficient models, it's important to track operational parameters like flow rate, pressure, and temperature, both before and after the upgrade. This comparison will help determine if the new pumps are delivering the promised energy savings or if operational inefficiencies are still affecting performance.

Systems Thinking Approach

When implementing energy conservation measures, it's important to take a systems thinking approach, considering the entire system and evaluating both the positive and negative effects. Avoid creating a "pill for the headache" situation, where solving a person's headache problem might lead to a stomach ache.

For example, adding insulation to a building can reduce energy consumption for heating and cooling. However, if this leads to reduced natural ventilation, it may worsen indoor air quality. Systems thinking would balance insulation benefits with air circulation needs.

Similarly, installing a high-efficiency HVAC system may reduce energy costs, but if it isn't correctly sized or integrated with the existing infrastructure, it could create uneven heating or cooling, leading to discomfort or higher energy use in other areas. A holistic evaluation of the building's thermal dynamics can prevent such problems.

Replacing traditional bulbs with energy-efficient LEDs cuts energy use, but if the lighting design isn't optimal, it could result in poor or harsh lighting, leading to discomfort or additional lighting requirements. Systems thinking ensure that lighting efficiency meets usability needs.

Critical Review of Technical and Financial Aspects

Energy-saving proposals must undergo thorough technical and financial evaluations. Technical experts should assess the technology, while financial experts must review costs, funding, and payback periods. For example, when a state electricity board increased power tariffs, a factory's technical manager suggested switching to diesel generators to save costs. His reasoning was that running diesel generators would reduce both maximum demand and energy consumption from the grid. However, another manager pointed out that the company had to pay for its contracted maximum demand, regardless of whether it was fully used. Therefore, while energy consumption from the grid would drop, maximum demand charges would remain unchanged, undermining the cost-saving argument.

Moreover, the idea of reducing the contracted maximum demand and relying on diesel generators was impractical. If the generators failed or were unavailable, the factory would have to revert to grid power, and a reduced contracted demand would lead to penalties or disruptions. This example highlights the importance of critical, balanced evaluation before moving forward with such proposals.

Jidoka and Automation

The Japanese concept of *Jidoka*, or "automation with a human touch," applies equally to energy conservation efforts. For example, a company automating its data center's cooling system to minimise energy consumption should design the system to alert human operators when performance drops, such as during cooling failures or overheating. This ensures that while automation helps conserve energy, human oversight is available to address unforeseen issues and prevent further energy waste or costly downtime.

Role of Quality Circles

Quality circles, comprising employees from various levels, can be instrumental in identifying areas where energy is being wasted. These teams can promote energy conservation by fostering a culture of continuous improvement, teamwork, and engagement. Employees who are directly involved with these systems are well-positioned to pinpoint inefficiencies that might be overlooked by management.

Periodical Review

After implementing an energy conservation measure, organisations must periodically review it, as variables such as power costs can change over time. For instance, a proposal that wasn't attractive when power costs were low may become more feasible as energy prices rise. Similarly, a previously successful project may become unviable due to changing conditions. Ongoing review ensures that energy-saving initiatives remain effective and relevant.

Culture of Sustainability

Promoting a culture of energy conservation and sustainability among employees fosters long-term environmental responsibility, reduces operational costs, and enhances corporate reputation. When employees adopt energy-saving practices, it creates a sense of collective accountability, with everyone contributing to reducing the organisation's carbon footprint. This culture minimises waste and inefficiency in daily operations, while helping companies to meet regulatory requirements and satisfy the growing demand for environmentally conscious business practices.

> Today, even a small step in conserving energy by an individual has a much broader, global impact

By embedding sustainability into company values and engaging employees through training, incentives, and leadership support, organisations can drive meaningful behaviour changes, ensuring that energy conservation becomes a sustained, collective effort. This culture also boosts employee morale and engagement, as they feel that they are contributing to a cause greater than just business success. MA

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Corporate Corner

Congratulations!!!

Our heartiest congratulations to CMA Delzad Dinyar Tanaz Jivaasha, Member of the Institute, who was bestowed the honour of "Individuals who have shaped the ESG landscape" at the International Prithvi Awards, 2024. The awards were instituted to recognize the path breaking innovations by individuals in the space of Environmental, Social and Governance (ESG) Risk Management and to recognize thought leaders in that space who have successfully implemented novel practices. CMA Delzad Dinyar Tanaz Jivaasha was also declared a winner at the prestigious All India CFO Next100 Awards, 2024, for the fourth consecutive year in a row, for his landmark and industry defining/benchmarking initiatives and practices in Enterprise Risk Management, Governance and Compliance. The Jury for the awards were eminent C-Suite Executives of leading companies of Corporate India Inc.

We wish CMA Delzad Dinyar Tanaz Jivaasha, the very best for all his future endeavours.

BIOFUEL-REDEFINING THE PATH TO ENERGY SUSTAINABILITY IN INDIA

Abstract

Traditional energy resources are constantly violating the principle of energy sustainability. On one hand they are constantly depleting all over the earth and on other hand they are creating environmental nuisances. Biofuel or biomass energy coming from plant and animal waste and from several types of algae is a game changer in this situation. They are one of the best examples of sustainable energy sources in India. These energy sources can be generated easily and cost effectively. Moreover, CO_2 emissions from these types of fuels are also much less in comparison to traditional sources. More use of biofuels will boost country's mandate of energy use transformation from traditional to sustainable.

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Background of the Study:

Considering the vast population of the country and remarkable progress in the field of science and technology; the expansion of use of biofuel is becoming easy and cost-effective day by day. Biofuels are generally energy resources deriving from wastes created by biological elements. In context of India researchers have identified many important sources of it. The plant waste like crop residues, human activity generated biological waste materials, waste generated from livestock, direct plant products and livestock, etc. are regarded as present and prospective sources of bio-energy in India. In India majority of bio-energy is achieved from plant related sources. The plant generated biofuels are carbon neutral in nature, the CO_2 absorbed during the growing process of plants is more or less similar in amount that has been released in earth by them when used as biofuels.

India has 2nd largest arable land area in the world after USA and in terms of gross irrigated crop area India is also largest. There is also 17% of total area in the country considered as wasteland as of 2019. These generate huge propensity for generation of plant related biofuel elements in the country. Moreover, livestock population in the country is 536.76 million as per livestock census 2019. Every year India generated huge amount of livestock related waste. This is a serious concern for majority of the states in perspective of different types of pollution. If these livestock related waste can be properly harnessed, these can generate huge amount of biofuel elements.

Review of Literature:

For nearly a decade India has stared focussing on Three important aspects of "Resilient India". First one is "Make in India" concept, second one is "Swachh Bharat Abhiyan" and third one is "Atma Nirbhar Bharat". All these three aspects are extremely vital from economic development of the country. India can reduce its import dependency on traditional fuels to a huge extant if it can innovate and implement more ways of generation and application of biofuels, **Gunatilakeet al. (2014).** These will not only reduce economic drainage but will also protect environment, **Sheelanere & Kulshreshtha (2013).** Generation of bio-fuels in a sustainable manner will promote multiple aspects, like proper land use, efficient crop management, enhanced energy supply, etc. in India **Ravindranath,et al. (2011).** Finally,considering the huge quantity of the waste generated in India annually and technology that are coming; it's the best time to write on it. Hence, researchers found it as an important research gap at present toput light on the mesmerizing prospect of the biofuel sector in catering multidimension challenges of the country.

Research Objective:

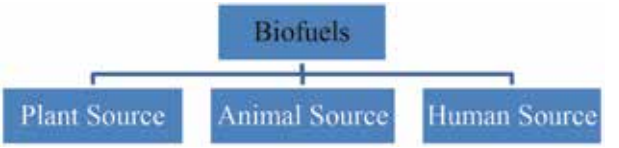
The primary objective of the study is to identify the present and prospective sources of bio-fuels in India. The Secondary objective is to identify how it can be economically and effectively harnessed to fulfil energy and other needs of the country in a sustainable manner.

Research Methodology:

The study is descriptive, analytical and exploratory in Nature. The researchers have gone through several audio-visual and written literatures in the concerned area and have interviewed several individuals of the concerned field to collect data for the study. Those collected sets of data are logically analysed and presented in a sequential manner here with supporting facts and logic to fulfil the research objective. Hence, the study is based on both primary and secondary sources of data.

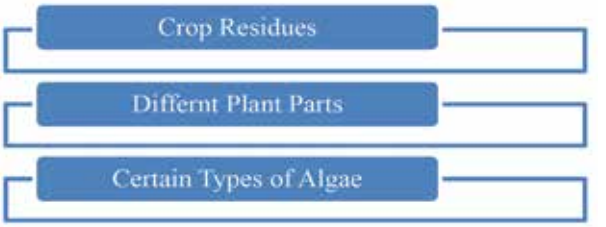
How Biofuels are Generating Sustainable Prospect for India?

Due to high importance of biofuel in the present context, the researchers tried to identify various sources and application of biofuels in India. Generally, biofuels can be sourced from three main elements. These are plant source, animal source and human source. Various sub-sources with present or prospective applications are discussed below, source wise.



Plant Sourced Biofuels

These types of biofuels are mainly sourced from different types plants including algae and microbes. They are basically consisting of crop residues, different plant parts and certain types of algae.



Crop Residues: Crop residues or plant based agricultural waste is basically composed of bio-materials that are left open in the field or remain unused after the crop harvest. It includes weeds, seed pods, straw, broken stems, fallen leaves, etc. These generally have no direct economic values to the farmers.

Different Plant Parts: It basically consists of different category of woods from stems and branches of large trees, leaves and barks of plants, different types of grasses and weeds that grows in barren lands unsuitable for agriculture, etc.

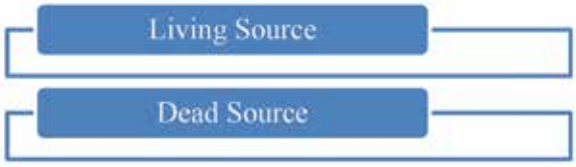
There are three ways of generating biofuels from crop residues and plant parts. First one is direct burning, which generate heat that can be used for cooking and heating for different purposes. Secondly, methane gas can be produced by bacterial decomposition of residues and plant parts in absence of Oxygen. This gas is primarily used in villages for cooking and heat generation. Finally, these residues and plant parts can also

be converted into other types of gases, oils and chemicals through different chemical process likes Pyrolysis, Hydrolysis, Gasification, Hydrothermal Liquefication etc. These gas and oils can be used for running vehicles, for household cooking and for different industrial and agricultural applications.

Certain Types of Algae: Algae can be grown in open water body or under controlled conditions in lab or factory. For production of biofuel, algae will be dried through dehydration. Then a solvent, mainly Hexane is used to extract certain types of energy rich elements from the dehydrated algae. Then those elements are further chemically processed to get bio-diesel from it. This type of biofuel can be used for both industrial and agricultural purposes.

Animal Sourced Biofuels

This type of biofuel is basically sourced from different types of livestock that are commercially maintained by the farmers in rural and semi-urban areas. This includes two types of sources. One is from living animals and other is from dead animals.



Living Source: This source basically includes animal waste derived from livestock. Cow dung, excreta discharges from hen, duck, cattle and from other types of domesticated livestock, hair and feather of different commercially domesticated livestock, etc. There is generally two ways of deriving biofuels from this source. Primarily, from livestock excreta biogas (Methane) is generated. It is produced by bacterial decomposition of livestock excreta in absence of Oxygen. For this process large pits are created in open areas and tightly covered. Biogas generated through this process reached houses through pipelines and are used for cooking and heating. Hair and feathers of livestock are directly burned for generation of heat used for different household purposes, mainly.

Dead Source: Biofuels derived from all types of animal body parts are falling under this category. This includes oils, flesh, skin, different body organs, hair, horns, feathers, etc. of different types of commercially domesticated livestock. There are two ways of generating biofuels from this source. First one is direct burning of body parts, which generate heat that can be used for cooking and heating for different purposes. Secondly, these body parts can also be converted into other types of gases, oils and chemicals through different types of chemical process likes Pyrolysis, Hydrolysis, Gasification, Hydrothermal Liquefication etc. These gas and oils can be used for running vehicles, for household cooking and for different industrial and agricultural applications.

As livestock are commercially domesticated mainly in rural areas, these sources are primarily used for biofuel generation in rural areas.

Human Sourced Biofuels

Human sourced biofuels are mainly categorized into two types of sources. First one is Industrial sources and second one is domestic sources. Both the sources of biofuels are gaining more importance day by day in India due to rapid expansion of all forms of human activities all over the country.

Domestic Source: All kinds of waste generated through domestic activities of human being forms the domestic source of biofuel generation. It includes human excreta, waste generated from human cooking, human bathing and from all other types of daily domestic human activities. It includes durable waste like furniture, cooking utensils, electronic items, etc. and also nondurable waste like paper, packets, plastics, food scarps, etc. Biofuel can be generated from domestic sources by all three ways. Organic waste can be used for generation of biogas, oil, chemicals and can also be burned to generate heat. Inorganic wastes are mainly refined in factories to collect valuable elements and final scrap is burned to generate heat, especially to meet industrial energy requirements.

Industrial Source: Industrial sources of biofuel are in general are the by-products and residual

waste of different industrial processes. It comprises of animal and plant oil extracted in different food processing industries, organic and inorganic waste materials of different industries and organic and inorganic by-products of several industries. These include metals, chemicals, fats, glass, seeds, leaves, etc. Organic sources are treated through anaerobic fermentation and other types of chemical processes to generate oil and gas. Inorganic sources are basically treated through aerobic processes to generate heat, which is further used for different purposes.

These biofuels can economically and feasibly replace a good amount of current use of traditional fuels in all corners of the country

Conclusive Discussion:

As compared to traditional fuels, biofuels are much less environmentally harming. The emissions of harmful greenhouse gases are much less in case of use of biofuels for energy generation in comparison to traditional fuels. Moreover, biofuels are not depleting in nature like traditional fuels. Considering the multidimensional diversity of the country it can be certainly put forwarded that India has vast capacity to generate biofuels. These biofuels can economically and feasibly replace a good amount of current use of traditional fuels in all corners of the country. Cost of generation of biofuels from its sources is comparatively cheap in comparison to production of traditional fuels also.

In villages and sub-urban areas of the country where large amount of biofuel sources are generated every year from agricultural and livestock activities, can be economically and sustainably utilized for the generation of necessary power. Moreover, large unutilized open areas are available in plenty in rural and sub-urban areas of the country; which can be utilized for growing of specific plant species for generation of biofuels easily. Household and commercial waste disposal is a big problem in rural and sub-urban areas of the country due to poor public facilities. This problem can be highly solved in a sustainable manner through biofuel generation from waste materials.

The urban and metropolitan centres of India are the main sources of all types of major pollution in the country. The major cause of it is the use of traditional fuels. The air and water quality of these areas can be highly improved if a small part of traditional fuels can be replaced by biofuels. Industrial and domestic waste and residues are the main sources of biofuels in urban and metropolitan areas of India. Every year tons of waste and residue materials are generated from these areas of the country and amount is constantly increasing. In many major cities like Delhi and Kolkata, there are huge problems faced by local authorities for its proper disposal. If this waste can be used to generate biofuels; a big problem of environment pollution can be tackled sustainably.

More innovations are required for economical and efficient conversion of waste in to biofuels in India. All the biofuel materials that are used today do not have comparative advantages over traditional fuels in terms of greenhouse gas emission. So, development of more robust technology is required for generation and use of biofuels. Finally, pastures, wet lands and open lands which are used for generation of biofuels should be used sustainably.

MA

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ENERGY MANAGEMENT AND ESG

Abstract

This article explores the vital pivot of energy management with Environmental, Social and Governance [ESG] frameworks. It underscores efforts by companies to become more sustainable in response to ecological concerns. Energy management, which includes energy audits and efficiency initiatives like renewable integration is a critical driver to sustainability but also improves the bottom line of an organization. In building owner environments, the inclusion of energy management is achieved through ESG strategies, providing environmental, financial and social/governance considerations which in turn helps prepare these companies for sustainable growth and investor trust as we move forward into a low or zero carbon future.

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Introduction:

It is clear and evident that the world is under immense pressure to take immediate actions to counter the multitude of environmental challenges. Companies across different verticals and spheres are rightly being urged to adopt more sustainable business practices across their value chain. It is heartening to note that both, businesses and governments have started adopting energy management approaches in conjunction with the Environmental Social Governance (ESG) framework towards recreating a more livable and greener world for the current and future generations. When it comes to sustainability, energy management is one of the key fields focused on enhancing resource management. The need of the hour is a scrupulous process-based management combined with ESG principles that will not only curb environmental pollution and abuse but will also raise corporate awareness about the criticality of environment-friendly business practices and unflinching commitment to corporate social responsibility.

In this article, we will unfold the essence and significance of the alignment and overlap between the key concepts of Energy Management and ESG.

Energy Management - Why It's Vital

Energy management is the proactive, organized control of energy use within an organization or system. The gist of Smart Home includes less energy usage, lower bills and enhanced efficiency in using the scarce resources even though with a lesser impact on environment.

Energy management involves a few aspects, such as:

1. Energy Audits – Assess energy consumption patterns and wastage areas.

Bureau of Energy Efficiency (BEE) — *The BEE provides detailed guidelines for conducting energy audits in industrial, commercial, and government buildings in India.https://beeindia.gov.in/hi.*

National Productivity Council (NPC) - *NPC, under the Ministry of Commerce and Industry, offers professional energy audit services and reports for identifying energy wastage and efficiency improvement areas. https://www.npcindia.gov.in/*

NPC/User/index

2. Energy efficiency measures - Changes that reduces the amount of energy used in operations, buildings and manufacturing processes.

Perform Achieve and Trade (PAT) Scheme - BEE: *The PAT scheme is a flagship program by BEE to promote energy efficiency in large energy-intensive industries. It focuses on reducing energy consumption through various efficiency measures.*

Energy Efficiency Services Limited (EESL) - *National Energy Efficiency Strategy: EESL, under the Ministry of Power, drives large-scale initiatives to reduce energy consumption across sectors like lighting, cooling, and building efficiency. https://www.eeslindia.org*

3. Renewable Energy Integration - A system of introducing renewable Sources like Solar, Wind and Hydro to energy supply Systems.

MNRE (Ministry of New and Renewable Energy) *- Renewable Energy Policies: MNRE is responsible for policy development and the integration of renewable energy sources like solar, wind, and hydro into India's energy grid. https://mnre.gov.in/*

National Solar Mission**:** *This mission aims to promote solar energy usage across India, increasing the share of renewable energy in the total power supply. https://www.indiascienceandtechnology.gov.in/st-visions/national-mission/jawaharlal-nehru-national-solar-mission-jnnsm*

4. Continuous Energy Monitoring and Reporting: Ensuring that energy is used efficiently, while spending less.

Energy Conservation Building Code (ECBC) - BEE: *The ECBC mandates continuous energy monitoring and reporting in large commercial buildings to ensure optimal energy use.*

Smart Meter National Programme (SMNP) - EESL: *SMNP facilitates energy monitoring through smart meters, allowing continuous tracking and reporting of energy consumption. https://eeslindia.org/en/smart-meters/*

https://pib.gov.in/PressReleasePage.aspx?PRID=1604289

Energy management is the most useful tool for any of the organizations to develop sustainable usage, reducing their carbon footprint and reduce cost. It is the critical foundation of environmental sustainability for any organization, especially in this age with global commitments on climate action goals.

ESG: An Overview

Similar to what Global has established for economic and fiscal development, ESG Environmental, Social & Governance is a generic term that refers to the broad context within which companies manage their business activities. These three pillars are mutually reinforcing:

1. Environmental (E): A company's impact on the environment, such as its carbon foot print, water use or energy efficiency and waste management.
2. Social (S): the S category relates to how a company handles its relationships with employees, suppliers, customers and communities in which it operates. This category relates to social issues and includes working conditions, diversity, human rights or community engagement.
3. Governance (G): Refers to elements including the company's leadership and its structure, pay arrangements for key executives, internal control mechanisms like a audit or an ethics hotline along with transparency that shareholders have in addition to rights of stakeholders.

Furthermore, we are seeing a growing number of investors and stakeholders prioritize ESG criteria in their decision-making as companies with superior ESG practices have better long term growth prospects along with reduced risks and enhanced ability to withstand the challenges likely ahead.

On the cusp of ESG and Energy Management

For the environmental element of ESG, energy management plays a significant role and is tightly integrated. Some of the most important steps for firms that aim to be ESG compliant are reducing energy consumption, increasing their own energy

efficiency and switching towards renewable sources. Given the impact of energy consumption on key environmental indicators, including carbon emissions, energy intensity and resource efficiency that are closely monitored within ESG rating frameworks; effective management is seen as a critical element in any organisation's sustainability objectives.

Yet, energy management and ESG are more than a simple fact that has positive environmental ramifications. Social and governance pillars are also affected by energy efficiency as well as sustainability practices. For instance, advancements in energy-efficient technology can create a better and safer work environment by reducing human capital exposure to harmful emissions. Transparent energy reporting and sustainability initiatives illuminate corporate responsibility, by serving as a means of accountability showing stakeholders the action steps that are being undertaken.

The Advantages for ESG: Investment of Energy Management

1. Environmental Benefits:

Lowering Carbon Emissions: When energy is optimized and complemented with renewable, companies reduce their carbon emissions by a great deal hence hitting the global climate mark.

Conservation of Resources: As used by the Energy management for its efficient usage, this minimizes wastage and maintains well- balanced natural ecosystems.

Regulatory Compliance: Most of the goods must be delivered in containers that comply with rigorous environmental regulations; By using energy management strategies, organizations can meet regulatory needs thereby saving themselves fines and penalties.

2. Financial Benefits:

Reduced Costs: Reduced energy utilization that results in lower power costs; directly boosting EBITDA While, admittedly require time to get ROI, investment in energy-efficient technologies tends to pay off over the long run.

Sustainable Financing: the positive correlation between companies that excel on ESG metrics (i.e., including Energy Management) and attractiveness to investors with an increasingly greater emphasis towards stronger energy management for green bonds/sustainable financing applications.

Increased Asset Value – Energy-efficient systems often have a direct impact on the value of your buildings and facilities, allowing you to secure highly competitive property valuations as well as associated operational cost reductions.

3. Social Benefits:

Safety and Communication: Energy efficiency projects can sometimes contribute to air quality & pollution reduction that provides healthier workspaces for employees.

Employment Generation: Switching to green energy resources and low-carbon technologies creates new jobs in the form of renewable industry workers.

Stakeholder Engagement: Visible efforts towards clean energy and sustainability can turn into value added for business by building brand, engendering trust among various stakeholders customers, communities & employees.

4. Governance Benefits:

Guarding Against Risk: Robust governance on energy management and sustainability can help companies foresee, prepare for, and potentially avoid certain operational risks like regulatory modifications or supply chain disruptions and reduce the likelihood of future resource obsolescence.

Increased Visibility: Tangible monitoring of energy utilization and eco-centric metrics promotes responsibility, guiding stakeholders in wise decision-making

Increased Investor Confidence: With investors analysing ESG criteria more than ever, businesses who have a strong grasp of energy management are able to be in control by attracting capital and therefore help your company become sustainable.

Overcoming Barriers to ESG Energy Management Deployments

However, despite the benefits of energy management in an ESG context organizations find several challenges to their efforts.

1. Financial Barriers:

Energy efficient tech or renewable energy systems can be expensive up front. Alas! How does the small and medium enterprise (SME) afford this investment, which is going to invest in projects that can save lots of money in long term but have no cash flow returns.

2. Data and Measurement:

It is not easy to understand how much energy you consume and also the actual environmental impact, in some cases more than others when it comes to complex operations or supply chain. One important insight uncovered through the multi-case approach was an affirmation that information for reliable ESG reporting can only be captured with sophisticated monitoring systems, which not all organizations have built.

3. Regulatory Complexity:

Regional and sector specific — ESG regulations & reporting but it can be difficult for companies with operations in multiple countries, faced with potentially differing metrics or required practices (let alone language differences) to find their way.

4. Organizational Culture:

Energy management is essential for success and buy-in from at all levels of the organization Making this transition may not be easy for some companies, given the general tendency of corporate employees at all levels to live and work with little thought toward energy efficiency.

How to beat the odds with energy management and ESG

Companies can overcome these challenges and fully integrate the energy management as part of their ESG research by following some hints, such as improving your stance about it only when asked to share more on this topic:

1. Technology and Innovation: Use it as much as Possible

Establishing smart grids, enabling energy storage systems along with the use of Internet of Things (IoT)-enabled devices can optimize power consumption by saving costs due to be lower meter readings. In addition, digital tools can be used to track and report energy performance more accurately thereby improving compliance with ESG reporting obligations.

2. Engage Stakeholders:

Sustainable energy solutions can be a long-term investment, or organizations may work with suppliers, customers and regulators to develop ways that will monetize* in the longer term. This can involve creating industry-wide best practices, joining renewable energy programs or working with government and private companies in public-private partnerships focused on shared environmental targets.

3. It can focus on employee engagement and training.

Organizational culture will not shift towards sustainability unless we can engage and train staff successfully. Education, incentives for energy-efficient behaviour and a sense of ownership among employees are what would enable companies to meet sustainability goals.

4. Use Sustainable Financing

These costs can be stranded by the deployment of green bonds and other forms of sustainable financing. This will give businesses the ability to invest in required technologies and systems without breaking their cash flow.

5. Establish Goals and Benchmarks

Companies should also establish ESG-aligned, measurable and time-bound energy management goals. Monitoring progress against these goals and benchmarking performance to industry peers can also drive continuous improvement.

Real World Applications to Energy Management and ESG

Some companies have already found great success in embedding energy management within their ESG strategies, and the results are impressive.

Infosys, a global leader in IT services, has set the bar for energy management and ESG integration

in India's technology sector. The company's commitment to sustainability is evident in its energy policies and ESG strategies. (https://videos.infosys.com/watch/hE81fQ7D1vLKHAz6UWEvfQ)

Infosys has been carbon neutral for four years in a row across scope 1, 2 and 3 emissions

Carbon Neutrality: Infosys has been carbon neutral for four years in a row across scope 1, 2 and 3 emissions. Infosys became carbon neutral in 2020, achieving this goal by reducing energy consumption, increasing energy efficiency, and investing in renewable energy. The company has installed large solar photovoltaic systems at its campuses, contributing to its renewable energy capacity.

Energy Management and ESG is the Future

With the increasing move to a 'low-carbon economy' around the world, energy management will continue to be an essential part of any good corporate sustainability strategy. As ESG frameworks advance, companies that have already proven energy management into their operations will be better prepared to respond to shifting regulatory environments and ever-higher expectations from stakeholders and investors.

Decarbonization, circular economy and sustainable supply chain are trends that will be more emphasised in ESG strategies driven further energy management. Innovative companies who use technologies, engage with stakeholders and integrate sustainability will be the winners of a green economy.

Conclusion

Energy management & ESG are key areas aimed at creating a greener, sustainable future. Businesses that take a more holistic approach to their use of energy will help cleanse the environment, reduce costs, and contribute towards social development and well being. The challenges are indeed formidable; and the measurable benefits of integrating energy management into ESG initiatives will help pave the way towards long-term sustainable development. MA

ROLE OF CMAs IN ENERGY AUDIT

Abstract

In India, the role of Cost and Management Accountants (CMAs) in energy audits is gaining importance as businesses strive to align sustainability goals with financial management. With the increasing pressure to reduce carbon footprints, stricter regulatory requirements, and rising energy costs, companies are actively seeking ways to maximize energy usage and enhance efficiency.

CMAs, with their expertise in cost control and financial analysis, are well-positioned to help organizations achieve energy efficiency. They play a crucial role in ensuring compliance with energy regulations such as the Energy Conservation Act, 2001, and participate in initiatives like the Perform, Achieve, and Trade (PAT) scheme, which incentivizes energy efficiency in specific industries. By managing risks associated with energy consumption and ensuring long-term sustainability, CMAs contribute significantly to organizations' financial stability.

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1. Introduction

Energy efficiency is becoming an increasingly important problem for enterprises across all industries in the quickly changing economic and environmental landscape of today. Businesses are under increasing pressure to increase their energy efficiency and decrease waste as energy prices rise and as governments and regulatory organizations put tougher controls on energy usage and carbon emissions. These pressures are especially strong in India's energy-intensive industries, which include FMCG (fast-moving consumer goods), manufacturing, cement, and iron and steel. In this case, energy audits are an essential tool for finding inefficiencies, cutting energy use, and enhancing bottom line results.

In India, cost and management accountants, or CMAs, have historically concentrated on performance evaluation, financial management, and cost control. Yet, they are now playing a bigger part in energy management and sustainability. Through energy audits, CMAs can make a significant contribution to an organization's energy strategy by evaluating energy use, estimating the cost-benefit of energy-saving initiatives, and guaranteeing regulatory compliance. This study examines the expanding role of CMAs in energy audits and describes the duties, competencies, and regulatory environments they must work within. It also emphasizes the vital roles that CMAs may play in advancing environmental sustainability and financial efficiency.

2. Objectives

The study's goals centre on analysing how CMAs are changing their position in energy audits in India. Important goals consist of:

- Investigating the duties of CMAs in energy audits, with a focus on performance review, cost analysis, and financial assessment.

- Evaluating how CMAs contribute to sustainability and energy efficiency in businesses and coordinating energy audits with more general sustainability objectives.
- Being aware of the laws that control energy audits in India, including the PAT program and the Energy Conservation Act of 2001.
- Determining the knowledge and abilities needed for CMAs to carry out energy audits successfully.

3. Research methodology

The research methodology used in this study primarily involves a review and analysis of existing literature. This method includes:

- Review of the Literature: Compiling and analysing the body of research on the function of CMAs in energy audits. Publications, research articles, legal frameworks such as the Energy Conservation Act, and actual case studies from a range of businesses are all cited in the study.
- Analysis of Current Frameworks: To give a contextual foundation for comprehending how CMAs support energy audits, an examination of India's regulatory requirements, including the Energy Conservation Act of 2001 and the Perform, Achieve, and Trade (PAT) plan, is conducted.
- Evaluation of Case Studies: Making use of recorded case studies that show how to carry out energy audits in actual environments, emphasizing the effects of their work on finances and operations.

This methodology allows for a comprehensive understanding of the topic by critically reviewing and analysing prior research and documented evidence.

4. Literature reviews

The role of CMAs has evolved from traditional cost control to actively contributing to energy audits. "Cost and Management Accountants now play an important role in energy audits, assessing energy usage and recommending strategies for energy efficiency" (Calu et al., 2023).CMAs perform cost-benefit analysis in energy audits, crucial for financial decision-making. "The financial analysis by CMAs helps determine which energy-saving measures are feasible" (Krarti, 2020).CMAs assess energy efficiency initiatives by calculating the return on investment (ROI). "CMAs calculate ROI, ensuring that energy-saving initiatives are financially viable" (Dongellini et al., 2014).CMAs ensure that organizations comply with the regulatory requirements of energy efficiency. "CMAs play a critical role in helping businesses comply with energy regulations, such as the Energy Conservation Act, 2001" (Bureau of Energy Efficiency, 2001). Under Energy Conservation Act 2001, CMAs help organizations in energy-intensive sectors comply with mandatory audits. "The Energy Conservation Act mandates energy audits in energy-intensive industries, and CMAs can help in compliance" (Ministry of Power, Government of India, 2023). CMAs are essential in aligning energy audits with sustainability objectives. "Energy audits conducted by CMAs ensure that energy efficiency initiatives are consistent with sustainability goals" (Redmond & Walker, 2016).CMAs play a key role in helping organizations participate in the Perform, Achieve, and Trade (PAT) scheme. "CMAs can assist businesses in achieving energy efficiency targets and trading energy savings certificates under the PAT scheme" (Ministry of Power, Government of India, 2023).CMAs assist organizations in managing risks associated with energy consumption. "By identifying inefficiencies, CMAs help mitigate the risks of rising energy costs" (Krarti, 2020).

5. Overview of Energy Audits

An energy audit is a thorough, methodical procedure that evaluates how much energy is used by a company for all of its premises, equipment, and operations. The main goal is to assess energy consumption patterns, pinpointing inefficiencies and potential areas for improvement.

"Energy audits provide a valuable tool for identifying energy-inefficient practices, quantifying energy losses, and implementing cost-effective energy-saving measures. A comprehensive energy audit can help building owners and managers to

reduce energy consumption, lower operating costs, and improve the overall sustainability of their buildings." (Krarti, M. 2020).

"An energy audit is the procedure by means of which it is possible to analyse the energy balance of a system in order to define possible improvements of its energy efficiency, to achieve the mitigation of its environmental impact and to reduce energy costs" (p. 425). (Dongelliniet al., 2014).

It typically involves the following steps:

Data collection: Compiling data on energy usage, energy costs, and the functionality of equipment that uses a lot of energy.

Analysis: It include pinpointing inefficient regions, figuring out the root reasons of inefficiency, and estimating the possible savings from energy-saving initiatives.

Suggestions: Outlining particular steps or financial commitments that can boost energy economy.

Implementation and Monitoring: Making sure that the suggested actions are carried out and keeping an eye on energy consumption to make sure that gains are maintained.

Energy audits can be categorized into two types:

- **Initial Energy Audits**: Concentrate on high-level analysis to pinpoint the most important inefficient locations.
- **Comprehensive Energy Audits**: Involve a thorough analysis of operational procedures, equipment performance, and possible energy-saving strategies.

6. Role of CMAs in Energy Audits

According to C. R. Wagner (August 1982), applying common sense is the main requirement for carrying out an energy efficiency audit. Finding inefficient energy use locations and putting simple steps in place to cut back on usage are part of the audit.By maximizing energy-use efficiency, energy audits and life-cycle costing techniques can dramatically lower energy use and expenses across a range of industries.

Professional accountants are essential to improving energy efficiency in businesses because they collect and analyse both financial and non-financial data on energy consumption; they prepare integrated reports that mandate the disclosure of energy efficiency data; they assess the cost-effectiveness of energy efficiency improvement initiatives; and they assist businesses in adhering to energy-related regulations and reducing the risks associated with energy consumption and price fluctuations. (Calu et al.,2023).

The role of CMAs in energy audits is multifaceted, encompassing several key areas that are crucial to the audit's success.

⊙ Cost Analysis and Financial Evaluation

CMAs are adept at analysing cost structures and identifying areas where operational expenses can be reduced. In the context of energy audits, CMAs can:

To ascertain the financial viability of various initiatives, perform cost-benefit evaluations of energy-saving techniques.

Determine the energy efficiency projects' return on investment (ROI) to assist organizations in ranking efforts according to their financial impact.

Determine the payback times of energy-saving techniques and technology to make sure businesses are investing money wisely.

Find ways to help firms adopt energy-efficient solutions by utilizing government incentives, such grants or tax breaks.

Through comprehensive financial assessments of energy-saving initiatives, CMAs guarantee that businesses make well-informed choices that strike a compromise between immediate cost reductions and long-term viability.

⊙ Integration with Sustainability Goals

Many firms now consider sustainability to be a strategic priority due to legal requirements as well as customer expectations. In order to make sure that energy audits are in line with an organization's larger sustainability goals, CMAs are essential. This includes:

Creating and monitoring energy efficiency and consumption key performance indicators (KPIs).

Ensuring energy-saving initiatives support a company's objectives for cutting carbon emissions and raising environmental performance standards.

Supplying financial projections and models that illustrate the environmental advantages and long-term cost savings of using renewable energy technology, such solar or wind power.

Through the integration of energy audits with sustainability initiatives, CMAs guarantee that enterprises meet their long-term environmental goals while simultaneously reducing their energy expenses.

⊙ Performance Measurement and Reporting

Ongoing performance measurement is crucial for ensuring that energy-saving initiatives continue to deliver the expected benefits. CMAs can:

Provide systems for measuring energy efficiency, tracking usage over time, and comparing outcomes to initial readings.

Help companies create energy performance reports, which may be necessary for regulatory compliance or to update stakeholders on their progress toward sustainability targets.

To find patterns in energy consumption and improve operating procedures for increased energy efficiency, use data analytics.

CMAs assist organizations in ensuring that energy efficiency projects are sustainable and in line with their operational and financial goals by facilitating efficient performance measurement and reporting.

⊙ Regulatory Compliance and Risk Management

Energy audits are often required by law for energy-intensive industries. In India, the Energy Conservation Act, 2001, and other regulatory frameworks mandate energy audits for certain sectors. CMAs play a key role in ensuring that organizations comply with these regulatory requirements by:

Carrying out energy audits in compliance with the guidelines established by the Bureau of Energy Efficiency (BEE), the Indian government organization in charge of promoting energy efficiency.

Preparing and sending the required compliance reports to the relevant authorities, making sure that businesses fulfil their regulatory requirements.

Controlling the operational and financial risks related to energy use, such as unforeseen spikes in energy bills or noncompliance with regulations.

CMAs ensure that energy efficiency criteria are met and contribute to successful risk management by assisting firms in navigating the complicated regulatory landscape.

7. Regulatory Framework in India

India has enacted a number of laws and policies to encourage energy conservation and lower energy usage, in keeping with its pledge to pursue sustainable development. The Energy Conservation Act (2001) is one of the major measures; it requires qualified energy managers to be appointed and energy audits for specific businesses. By establishing energy-saving goals for businesses that use a lot of energy and permitting the exchange of energy-saving certificates, the Perform, Achieve, and Trade (PAT) program encourages improvements in energy efficiency. In order to guarantee energy-efficient products, the Bureau of Energy Efficiency (BEE) also supports labelling initiatives and standards.

In order to guarantee that firms adhere to these frameworks, CMAs are essential. To efficiently conduct energy audits and ensure that all efficiency measures comply with national legislation, they must possess a thorough understanding of these requirements. CMAs may help businesses satisfy regulatory requirements, optimize energy use, avoid penalties, and contribute to India's energy efficiency goals by helping them comprehend policies like PAT and BEE standards.

⊙ Energy Conservation Act, 2001

The primary piece of law in India pertaining to energy efficiency is the Energy Conservation Act, 2001. The Bureau of Energy Efficiency (BEE), which was founded under the Act, is in charge of encouraging energy conservation and putting energy-saving measures into action. The Act mandates that "designated consumers," or specific industry groups, carry out routine energy audits and put energy-saving measures in place.

Energy-intensive industries including cement,

iron and steel, aluminium, textiles, and power plants are examples of designated users. These sectors are required to submit energy audit reports to the BEE and adhere to strict energy efficiency standards. Through the completion of energy audits, the creation of compliance reports, and the recommendation of energy-saving measures, CMAs play a crucial part in assisting designated consumers in adhering to the Act.

> Through the integration of energy audits with sustainability initiatives, CMAs guarantee that enterprises meet their long-term environmental goals

⊙ Perform, Achieve, and Trade (PAT) Scheme

A market-based tool called the Perform, Achieve, and Trade (PAT) plan encourages energy efficiency in specific businesses. Energy efficiency targets are established for designated consumers under the PAT plan. Those that surpass their targets can exchange their extra energy savings with other organizations that fall short of their targets.

By conducting energy audits, estimating energy savings, and guaranteeing compliance with the plan's standards, CMAs assist enterprises in taking part in the PAT scheme. Additionally, they help businesses trade Energy Savings Certificates (ESCerts), which offer monetary rewards for surpassing energy efficiency goals.

⊙ Standards and Labelling Program

By informing customers about the energy efficiency of equipment and appliances, the BEE's Standards and Labelling Program encourages energy efficiency. Products like air conditioners, refrigerators, and lighting fixtures must have energy labels on them that reflect their energy efficiency rating.

CMAs perform energy audits on industrial equipment to verify compliance with the Standards and Labelling program. Through the identification of chances to swap out inefficient equipment for more energy-efficient models, CMAs assist organizations in lowering their energy usage and adhering to regulations.

8. Skills and Expertise Required for CMAs in Energy Audits

CMAs must possess a range of skills and expertise to effectively contribute to energy audits. These include:

⊙ Knowledge of Energy Management Systems

CMAs must have a solid grasp of both energy efficiency concepts and energy management systems (EnMS). This includes being aware of the patterns of energy use in industrial processes, knowing how to monitor energy, and knowing how to spot and fix inefficiencies. Since the ISO 50001 standard for energy management systems offers a framework for enhancing energy performance, familiarity with it is also essential.

⊙ Financial and Analytical Skills

Comprehensive financial analysis is necessary for energy audits in order to assess how cost-effective energy-saving strategies are. For energy efficiency projects, CMAs need to know how to create financial models and figure out ROI, payback times, and net present value (NPV). They must also be able to recognize sources of funding for energy-saving projects, such as private sector funding and government incentives.

⊙ Knowledge of Regulatory Frameworks

India's energy efficiency laws, such as the Energy Conservation Act, the Perform, Achieve and Trade (PAT) plan, and the Bureau of Energy Efficiency (BEE) requirements, must be thoroughly understood by CMAs. It's essential to comprehend these rules in order to guarantee compliance and spot chances for businesses to gain from government energy-efficiency incentives.

⊙ Project Management and Implementation

CMAs frequently have a major influence on how energy-saving measures are carried out. Strong project management abilities are needed for this, including the capacity to work with cross-functional teams, keep track of developments, and guarantee

that projects are finished on schedule and within budget.

9. Conclusion

Cost and management accountants play a more crucial part in energy audits as businesses look to cut expenses, adhere to rules, and achieve sustainability objectives. When it comes to the energy audit process, CMAs offer a special blend of financial knowledge, analytical proficiency, and familiarity with energy management systems. This enables firms to find potential for cost-effective energy savings and guarantee regulatory compliance.

It is anticipated that the need for CMAs with experience in energy audits will increase as long as India keeps enacting laws meant to encourage energy efficiency. Through the enhancement of their expertise in energy management, sustainability reporting, and regulatory compliance, CMAs may significantly contribute to the financial and environmental prosperity of enterprises. MA

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Interview

CMA (Dr.) Bijay Kumar Mohanty

Director (Finance), IREDA

CMA (Dr.) Bijay Kumar Mohanty is the Director (Finance) of the Company since October 12, 2023. He holds the position of Chief Financial Officer of the Company since October 16, 2023. He is also entrusted with Additional Charge of the post of Director (Technical) of the company. He is a fellow member of the Institute of Cost Accountants of India. He holds a Bachelor's Degree in Commerce and Master's Degrees in Philosophy (Commerce) and Public Administration from Utkal University, Odisha. He also holds a Master's Degree in Commerce from Delhi University, Bachelor in Law from Utkal University Odisha and a Doctorate of Philosophy in Commerce from the Kalinga Institute of Industrial Technology, Bhubaneswar. He has over 25 years of experience in the Indian Power Sector and has experience in Finance, Accounts, Commercial, Project Appraisal, Project Execution and Management, and Legal functions. Prior to joining the Company, he worked as the Head of Division (Smart Metering) at REC Power Development and Consultancy Limited (RECPDCL), and Senior General Manager (Finance and Accounts) at REC Limited. During his tenure at REC Limited, he also worked as Chief Program Manager of Tripura, Nagaland, Mizoram, West Bengal and Odisha. He also acted in the capacity of Chief Executive Officer of FACOR Power Limited. Further, he has previously worked at Central Electricity Supply Company of Orissa Limited (CESCO) and Grid Corporation of Orissa Limited (GRIDCO). He has also made significant contributions in the implementation of Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY) and Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) schemes of the Government of India in the state of Odisha, West Bengal and North Eastern States.

Q1. It is indeed heartening to note that an esteemed organization like the IREDA is leading India's energy transition movement. Could you share salient points of IREDA's blueprint for meeting India's renewable energy targets that will in turn pave the way for achieving net-zero emissions by 2070.

Ans. India's emission breakup in 2022 shows that direct power generation accounts for 53%, industry for 24%, transport for 13%, and others for 10%.

Currently, 73% of India's power generation comes from thermal sources (FY25, CEA), while renewable energy (RE) accounts for 23%. Achieving net-zero emissions will require significant investment in traditional RE sectors like wind, solar, and hydro.

At present, industries such as refineries, ammonia/fertilizer manufacturing, and methanol production rely on grey hydrogen, which is carbon-intensive. Transitioning to green hydrogen with electrolyzer manufacturing and utilizing RE sources can substantially reduce emissions. For instance, 1 kg of grey hydrogen emits 12 kg of CO2, while 1 kg of green hydrogen emits only 2 kg, resulting in significant carbon reductions.

The Road transport sector, responsible for 90% of emissions within the Transport sector, must undergo an EV transition. Light vehicle electrification (2W/3W/4W), which contributes 50% of total road transport emissions, is more feasible in the short to medium term. However, heavy commercial vehicles might require alternative solutions like hydrogen fuel cells, though these technologies are still evolving.

IREDA is already financing the EV ecosystem—supporting EV fleet manufacturing, EV fleet financing, and charging infrastructure. By 2030, IREDA plans to expand its financing to emerging sectors like green hydrogen, electrolyzer manufacturing, and solar PV & wind turbine manufacturing, crucial for reducing carbon-intensive industries and making atmanirbhar India.

Q2. The loan portfolio of your esteemed enterprise has grown from strength to strength. Could you briefly talk about this big leap forward, as also the resounding success stories of your Renewable Energy projects.

Ans. IREDA has demonstrated impressive growth, with its loan book expanding at 26% CAGR over the past 4.5 years, reaching nearly INR 64,564 crore by the end of H1 FY25. Notably, 56% of its loan book is dedicated to solar, wind, hybrid, and hydro power generation projects. In addition, IREDA has diversified into sectors such as ethanol, biomass power, and cogeneration, which now contribute 9% to its portfolio.

Thanks to its robust and sustainable growth in renewable energy financing, IREDA was awarded Navratna status by the Department of Public Enterprises (DPE) and upgraded to a Schedule A CPSE over the past year. The company also established a GIFT City subsidiary, facilitating foreign currency loans for export-oriented sectors like green hydrogen.

IREDA follows a disciplined project appraisal approach, ensuring sound investments in both traditional (wind, solar, hybrid, hydro) and emerging sectors (smart meters, EV, etc.). Its asset quality has significantly improved, with net NPAs dropping from 7.18% in FY20 to 1.04% in H1 FY25. Additionally, IREDA maintains a high CRAR of 20.4% (H1 FY25), well above the RBI's 15% floor.

Geographically, IREDA's presence spans 23 states and 4 Union Territories, with Andhra Pradesh, Rajasthan, and Karnataka accounting for around 43% of the total loan book.

Q3. Given IREDA's strategic collaborations and MOUs with marquee institutions, as also the coveted International Credit Rating conferred by S & P, which are the key projects expected to move from ideation to fruition in the near future?

Ans. IREDA has been rated "AAA Stable" by several domestic credit rating agencies, including ICRA, India Ratings, CARE, and Acuite. It has also received an international rating of "BBB- Long Term Stable" and "A-3 Short Term Stable" from S&P Global. These strong credit ratings enhance IREDA's ability to raise funds in both domestic and international markets. Currently, IREDA's borrowing profile consists of 84% domestic and 16% foreign borrowings (H1 FY25).

IREDA has begun financing emerging sectors such as solar cell and module manufacturing, electrolyzer manufacturing, green hydrogen,

and battery energy storage systems (BESS). The company is also developing its appraisal capabilities for projects in PSP (pumped storage) energy storage, battery swapping, green ammonia, and wind turbine manufacturing, among others. By pioneering financing in these areas, IREDA is positioning itself to support India's ambitious goals of building non-fossil fuel capacity of 500 GW and 5 MMTPA Green Hydrogen Production by 2030 (national Green Hydrogen Mission).

Q4. In line with the central theme of our next issue which is "Energy Consumption Management", could you share your perspectives on the essence and significance of Green Energy Management?

Ans. The Indian Government has undertaken several initiatives to promote Green Energy Management and accelerate the shift towards renewable energy.

The PM Suryaghar Muft Bijli Yojana aims to install rooftop solar systems (around 3 kW per household) across 1 crore households by FY27, targeting 30 GW of residential rooftop solar. Since the scheme's launch in February 2024, 5.06 lakh rooftop solar installations have been completed.

Additionally, the government is focusing on transitioning to smart meters, which transmit real-time energy consumption data to utility operators. These devices help in tracking peak and non-peak demand, predicting future usage, and improving energy management. Under the Revamped Distribution Sector Scheme (RDSS), the goal is to replace 25 crore conventional meters with smart prepaid meters. To date, 22 crore smart meters have been sanctioned till date, with 1.53 crore already installed, according to the National Smart Grid Mission (NSGM).

While solar and wind power are key to green energy management, significant investment is also needed in transmission infrastructure to accommodate renewable energy. Due to lower Plant Load Factors (PLF) for renewables (solar: 20-25%, wind: 30-38%, hybrid: 40-45% as per SECI), compared to thermal power (69% FY25 as per ICRA), higher transmission capacity is required to meet the same electricity demand as India transitions from thermal to renewable energy.

Q5. In your learned opinion, what are the formidable challenges impacting the global drive toward net-zero carbon emissions, and how should the world go about resolving them?

Ans. Globally, the power sector contributes around 40% of CO_2 emissions, followed by industrial sector (25%) and transportation (22%). To unlock this decarbonization, electricity can be a pivotal step because → by addressing emissions in electricity, the benefits will also translate to transportation and industry that rely on energy *[potentially solving for ~60% of global emissions]*.

Pledging Renewable energy Capacity

At the 28th meeting of the Conference of the Parties (COP28), held in December 2023 held in Dubai, 116 countries signed the Global Renewable Pledge, committing to **tripling global RE generation capacity to at least 11 TW by 2030**. This underscores the urgent need to accelerate climate action on a global scale. Over 140 countries, including major emitters like China, the United States, India, and the European Union, have committed to reaching net-zero emissions, covering about 88% of global emissions. Countries such as the US, the UK, Japan, and the EU have all set targets for net zero by 2050, while others, like China and India, aim for a slightly later target of 2060 & 2070 respectively.

Substituting Grey Hydrogen with Green Hydrogen

Petrochemical refineries, fertilizer and methanol production require Hydrogen as a feed input. Current grey hydrogen is highly carbon-emission intensive (1 kg of grey hydrogen produces 12 kg CO2 equivalent). Switching to Green Hydrogen can reduce the emission intensity as 1kg Green Hydrogen produces 2 kg CO2 equivalent.

Electrification of Steel Industry

Currently, 71% of global steel output is based on Blast Furnace – Basic Oxygen Furnace (BF-BOF) as of 2021, resulting in significant carbon emissions due to its dependence on fossil fuels and roughly emits 2300-2400 Kg CO_2 for each tonne of Crude steel produced.

- Advancement in CCUS (Carbon Capture,

Utilization and Storage) would capture CO_2 produced and utilized in other areas → lead to CO_2 emission reduction by 58% vs BF-BOF.

- Transition to EAF (Electric Arc Furnace – utilizing electricity to melt iron and produce steel) can abate the carbon emission if the electricity is sourced from RE sources. For e.g. Scrap-EAF technology uses electricity to recycle and melt scrap steel, significantly reducing the carbon footprint by promoting the reuse of existing materials in a circular economy. This method cuts emissions by approximately 76% vs BF-BOF.

Q6. We would like your thoughts on the criticality of transition finance in enabling industries causing carbon emissions to gradually switch to cleaner methods, as a key complementary initiative to support green energy ventures through green finance.

Ans. Key interventions required to drive RE financing:

DFIs/MFIs/Green Funds

- <5% of MFI/DFI funds to India are in form of Grant vs. 18.7% global average; mainly funding received in form of debt which is not attractive given convergence between international and Indian interest rates.
- Need concerted attempt to channel grants to India especially for emerging technologies→ incentive for MFIs/DFIs to create de-risking instruments for segments which are globally important for developed countries following China+1 supplier strategy (e.g., RE equipment manufacturing and Green Hydrogen & derivatives).

Green taxonomy

- India is building a framework for Green Taxonomy, aimed at identifying the green sectors and increasing investor's confidence while investing in "Green" sectors – avoiding "greenwashing" of investments
- EU has already launched their Taxonomy with encouraging results- In 2023, ~600 European companies reported capital investments into Taxonomy-aligned activities totalling €191bn; this figure is €249bn for 2024 till date. In 2023**, 90% of green bonds issued by EU public actors referenced the EU Taxonomy.** Further, in 2023, more than half of global green bonds originated in Europe.

India Bond market

- Current Indian Bond market is underdeveloped vs Global → While Global bond market is ~$130 Tn (vs equity market capitalization of ~$110 Tn), India's bond market is $2.6 Tn (vs equity market capitalization of $5.0 Tn) as of Mar'24.
- Global cumulative GSSS (Green, social, sustainability, sustainability-linked) bond issuance $4.4 trillion (till Dec'23, 2.5%-3.5% of Global bond market) while India Cumulative GSSS Bond Issuance was $30 billion (till March'23, ~1%-2% of total Indian Bond market)
- Mandates are needed for LIC/GIC/EPFO to invest upto 5% of AUM into RE sector and removal of net-worth linked investment limits (e.g. IRDAI exposure norms for single investee – <20% of net worth) for RE financing NBFCs (such as IREDA)

Q7. Please share your incisive views on the pivotal role CMAs can play in business and industry, whether as industry captains, practitioners or consultants?

Ans. As the Director (Finance) at IREDA, I believe, Cost and Management Accountants (CMAs) play a pivotal role in business and industry, particularly in today's dynamic and sustainability-focused landscape.

CMAs act as **strategic partners** in decision-making by providing **data-driven insights** into cost structures, pricing, and profitability. Their expertise enables businesses to optimize costs, improve financial efficiency, and enhance overall profitability, especially in capital-intensive sectors like renewable energy.

CMAs also excel in **risk management and compliance**, ensuring businesses adhere to financial regulations, tax laws, and sustainability standards. They help organizations to navigate complex issues

like green bonds, carbon credits, and climate-related financial disclosures.

Furthermore, CMAs play a key role in driving **financial sustainability** by guiding businesses in making sound investments in new technologies that offer long-term value creation. Their expertise in green financing ensures businesses can access the necessary funding for projects aligned with climate goals.

Q8. Communication skills are integral to sustainable success and fulfilment in any profession. Our readers seek your actionable insights on how to break the glass ceiling in their careers through a fine blend of personal development and professional excellence.

Ans. To break the glass ceiling and achieve sustainable success, professionals need to focus on **personal development** and **professional excellence**, with **communication** being pivotal. Strong communication skills, characterized by clarity, conciseness, and adaptability, enhance one's ability to **articulate ideas, negotiate, and collaborate**, which are crucial for leadership.

Additionally, effective communication also involves **active listening**—understanding others' perspectives to build trust and influence. Alongside this, continuous learning is essential. Staying updated on industry trends and improving technical knowledge helps professionals present complex ideas clearly and confidently.

Equally important is cultivating **emotional intelligence (EQ)**. Managing your own emotions, while understanding and responding to others' emotions, helps in conflict resolution and strengthens relationships, which are key to career advancement.

Combining communication, continuous learning, and emotional intelligence creates a well-rounded skill set, allowing professionals to overcome barriers and achieve excellence in their careers.

Q9. Could you share the key milestones of your career as it will motivate our readers to tread similar trajectories in their chosen spheres.

Ans. As **Director (Finance)** at **IREDA**, a leading green energy-focused NBFC, I oversee the financial strategy to drive the growth of **sustainable energy projects** across India. My deep-rooted passion for renewable energy has shaped my journey in the **power sector**, and my expertise in **financial management**, gained from roles at **REC**, **GRIDCO**, and **CESCO Distribution Company**, has been pivotal in my career growth.

To the readers, I encourage everyone to follow one's passion while aligning with India's larger commitments at global stage. By doing so, one can contribute meaningfully to the nation's growth. True leadership comes from fostering the growth of others and inspiring teams to work towards a shared vision of progress and sustainability.

I have always had thirst for knowledge, be it academic or professional. I pursued PhD in Commerce after completing postgraduate degrees in M.Phil, M.Com, MA and diploma in Management and fellowship from Cost & Management Accountants. Moreover, I continuously strive to stay abreast of current innovations in the finance and power industry, ensuring that my expertise evolves with changing times. I would encourage the readers to never let the thirst for knowledge die, as it not only broadens your horizons but also empowers you to lead with confidence and make informed decisions.

Q10. Any other advice for our would-be and young CMAs …how should they approach their careers to move up the value chain of employment and entrepreneurship in good time?

Ans. For young and aspiring CMAs, the key to moving up the value chain in both **employment and entrepreneurship** lies in a strategic blend of **adaptability**, **continuous learning**, and **networking**.

First, **embracing adaptability** is key. The business landscape is changing rapidly and being open to new technologies and shifting industry trends will increase resilience. I'd like to emphasize the importance of flexibility by sharing my experience at IREDA, where, despite a **finance/commerce background**, I was entrusted with the **Additional Charge of Director ((Projects)**. This exemplifies how adaptability can lead to opportunities beyond your traditional expertise. Additionally, during

my formative years, I feel proud to be a part of the great team for implementation of DDUGJY (Deen Dayal Upadhyaya Gram Jyoti Yojana) and SAUBHAGYA (Pradhan Mantri Sahaj Bijli Har Ghar Yojana) schemes of Govt. of India in the hilly terrain of North-Eastern states, West Bengal and Odisha. DDUGJY scheme was designed to provide uninterrupted power supply to the entire rural India including electrification of 18,452 unelectrified villages within 1000 days and SAUBHAGYA scheme aimed to provide last-mile connectivity and electricity connection to 2.86 crore unelectrified households.

To stay ahead in today's digital world, CMAs should focus on **upskilling** in emerging fields like **data analytics, automation**, and **Artificial Intelligence**, which are in high demand and will set them apart as forward-thinking professionals. Building a **strong professional network** is equally crucial; surrounding yourself with mentors, peers, and industry leaders can offer valuable guidance and expose you to opportunities that might otherwise remain unseen. Additionally, **calculated risks** should not be avoided—whether in employment or entrepreneurship, seizing the right opportunities at the right time can significantly accelerate your career progression. By combining continuous learning, networking, and strategic risk-taking, CMAs can enhance their careers and thrive in today's dynamic business environment. MA

Abstract

As we progress discussion on start-up valuation, this time I am presenting a "PAIN POINT VALUATION MODEL" to effectively decipher different factors affecting valuation. An entrepreneur supported by competent CMA Valuer is going to be pillar to measure the unstructured forecast data creation & its implication to make models successful. And certainly as consultant we take pride in sharing story of my own biggest valuation assignment. (Names withheld in view of NDA signed).

PAIN POINT VALUATION MODEL

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In India, Thanks to our vast population, majority start-ups are aggregators.

So this month we are discussing Startup valuation for aggregators thru pain point valuation.

I call it as pain point valuation model.

I am sure, we all know financial liabilities. But what are non-financial liabilities and within that what if I may call it "intangible liabilities"

Certainly, pain points are intangible liabilities. But intangible liabilities concept, I will discuss in next articles. Currently let us focus on VALUATION OF START-UPs especially AGGREGATORS. For which let us aim at identifying pain points.

Who does not know OLA, UBER as of today which were non-existent 10 years back

Below given cab-tech model

Find pain points

Customers

1. No air-conditioning
2. Waiting period
3. Driver refusals outright or drive off without even formally refusing
4. Driver refusal to particular destination
5. No search possible physically even though it may 2/3 minutes away.
6. Futile search as no taxis or available exactly on other side
7. Have to be on street and search
8. Haggling negotiations for fare
9. Excess quote
10. Time waste in whole process
11. No safety tools
12. Can take thru wrong and long routes
13. Misguiding
14. Cleanliness missing
15. Behavioural issues with no remedy
16. Items missed lost have no track
17. Inter City or rentals generally not available
18. Exact spot has to be explained spending crucial time
19. Alternatives for most suitable choices of size of cab not available.
20. May refuse standard metered fare
21. Traffic rules breaking goes uncontrolled

Driver's issues

1. No full-time usage to earn optimally
2. Waiting time waste
3. Non availability of customer increases anxiety and spoils mental state leading to odd behaviour
4. Odd spots don't find customers leads to preferring only selective areas hence refusal to other customers
5. Competition to grab when more taxis are at same place
6. Meters failing and repairs
7. Other than owner driver - uncertainty
8. May miss insurance
9. Passengers pushing for speed or breaking rules due to rush or arrogance

10. Air conditioning cost saved also spoils drivers' health and mood
11. Bad habits of drinking can emerge and remain uncontrolled
12. Own cleanliness and habits like smoking paan go uncontrolled
13. Loss of market share arising out of all above factors and people preferring public transport

Now it therefore comes to what cost customer will pay for this.

1. Can we value all these intangible benefits, by easiest usage of maps google maps network and all IT and telecom investment
2. Prices get determined by demand supply
3. Average taxi usage increases by 50 to 80%
4. This improves breakeven point
5. Brand-building advantages apart
6. Group marketing happens
7. Individual efforts of selling moves to collective effort certainly 1+1 becomes 11 and big is beautiful emerges

So, entrepreneurs like ola, uber get into starts and valuer needs to generate data

1. Cities - % growth and %migrant
2. Income strata
3. Sharing models available
4. Standard routes
5. Population
6. Age-wise analysis
7. Demographics
8. Current competition with same model
9. Public transport competition
10. Offline Kali pili and auto rickshaw competition
11. Spread of digital payments
12. Google map's reliability and options available
13. Conversion probability %
14. Pickup drops in shared services companies
15. Night shift working
16. Non availability of parking
17. Non availability of drivers
18. Temperature needing air-conditioning
19. For inter-City trains planes buses availability
20. Luggage carrying requirements of moving population
21. Distance from airport, train station and bus stands to offices and residences
22. Knowledge workers needing to work on laptops
23. Density of flat system with parking lots %
24. Malls where people do bulk shopping
25. WFH % of working population, This is new super addition post covid
26. No of malls, international schools, entertainment places like gardens museum theatre drama halls hospitals religious places temples clubs' pubs
27. Bachelor population
28. Big roads, flyovers, express highways, service roads

How to quantify above and factor them into valuation exercise is coming in next month's article. MA

Corporate Corner

Congratulations!!!

Our heartiest congratulations to CMA Anjeev Kumar Jain, Member of the Institute, for assuming the charge of Director (Finance), NBCC (India) Ltd. Earlier he served as Executive Director (Finance) at RITES Ltd.

We wish CMA Anjeev Kumar Jain, the very best for all his future endeavours.

BUSINESS MODEL AND ITS CONSEQUENCE FOR COST MANAGEMENT

Abstract

This case presents the impact of misguided alteration in the business model, on the overall cost performance of a functional division. It brings out the negative side of excessively treating a function as an investment centre.

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Modern Petroleum Limited (MPL) was a market leader in the segment of almost all types of lubricants, with a dominating market share of 42%. It started losing this dominance with a rapidly growing competition from the multinational companies which recently entered the Indian subcontinent. Especially the Chinese companies brought voluminous business of lubricants with an obvious cost advantage. MPL found that its 'lubricant manufacturing process' needed improvisation in terms of quality enhancement and cost reduction. MPL's lubricant brands were reasonably popular among its customers, because its distribution network was robust and the marketing team was very strong. The manufacturing function needed better attention. Therefore MPL separated this function and carved it out into a separate subsidiary company. This new entity was called "MPL Blending Pvt. Ltd.", which now owned all the blending assets and blending employees.

Initially there was euphoria of an independent business model in this new organization. Quite a few senior executives were promoted as "top executives and board members". It was like a newly created small state with an independent cabinet of ministers. With better attention to the value - chain of blending, there was a little improvisation in the quality of the product. But gradually the top team started realizing that its business model is not 'complete' because it does not have the authority to procure raw material and sell the end product. Yet there was an undue comparison between its restricted value chain and the complete business of some of the competitors. This new situation created frustration among the senior executives.

As an independent legal entity, now it had a separate Income Statement and a Balance sheet. This glaringly brought out the idle blending capacity and the unabsorbed fixed cost. Earlier these elements remained 'passive' in the combined financial statements of MPL. With the new accounting arrangement, this blending company was now being allocated a bigger portion of "common cost", which further increased the 'cost of blending'. As a result of this, the 'transfer price' of lubricants charged to the marketing team of MPL was also badly impacted. Top management of this blending company felt that it didn't have any control on the 'cost of raw material procurement'. Earlier the 'entire blending cost' was a component of the 'total product cost'. Hence the cost inefficiencies (both, controllable and uncontrollable) of the blending process were covered up by the shelter of the 'gross business cost'.

With the legal, physical and emotional separation of the blending process from the other processes, the «working synergy» reduced to some extent. This impacted the quality of feedback from both the functions - marketing and purchase. This obviously brought down the efficacy of ‹production planning›, resulting in the increase in the overhead cost. Now there was a growing confusion about the exact purpose of creating a separate ‹blending company›, as neither it was performing like an independent business unit nor it enjoyed the original organic oneness with the supply chain and distribution chain. Another organisational problem erupted, that of the reduced opportunities of vertical and horizontal growth for the "blending executives". As a result, many middle level executives resigned. This started impacting the "group strength" of this strategically important function.

Now the management of MPL is seriously reviewing its decision of separating the blending function. The alternative of treating this function notionally as a «Profit Centre» within the organizational structure of MPL is now being considered. This would certainly require a suitable accounting approach that would carry out the "financial performance" of this function, alongwith its operational excellence. The synergy among "procurement - production - marketing" functions will have to be restored, to regain the best blending performance. Organisational Effectiveness and Strategic Cost Management will have to be viewed in an integrated manner!. MA

BEHAVIOURAL FINANCE AND FINTECH - DIGITAL DESIGNERS' OLIVE BRANCHES TO INVESTORS AND OTHER USERS

Abstract

Interwinding behavioral finance with FinTech for decision management free of cognitive biases and related risks is an emerging field for digital solution designers. Applications of AgenticAI are also opening up new opportunities for the computing system to successfully perform once the user prompts the tasks and objectives to be achieved. This paper has introduced the subject and also briefly narrated the purposes for which technologists can extend olive branches to achieve pervasive digital transformation of financial decision management.

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Introduction – Behavioural Finance

Cash continues to enjoy a regal status in countries leading the digital revolution. According to a report in the Economic Times[1] on July 10, 2024, the lower and aspiring Indian middle-class, with annual earnings of up to Rs. 5.00 L and Rs. 5 to 10 L, respectively, are using 60% and 52% cash for off-line transactions. People withdraw physical currency from banks or receive it from their employers and store. Thus, they miss the opportunity to earn as the money is not invested. This may be because many people are psychologically yet to be out of the strong influence of cash or maybe not tech-savvy.

In the corporate world, the often-referred-to axiom is that cash is king. However, cash here mainly indicates cash equivalents, i.e., investments that can be liquidated to cash within ninety days. The motive is to remain pre-provisioned for any unprecedented risks and immediate investments. Maintaining such cash equivalents requires effective investment management from liquidity and return optimisation perspectives, which can be simplified with innovative FinTech solutions.

Non-urban India is nearly at an inflection point where the pace of digital payments is accelerating at an overwhelming speed. As per the Internet and Mobile Association of India (IAMAI), the number of Indian smartphone users will reach one billion by 2025. Even roadside vendors in urban areas are accepting digital payments. As per the Ministry of Finance, GoI[2], "*Digital payments in India have witnessed significant growth, with the total number of digital payment transactions volume increased from 2,071 crore in FY 2017-18 to 18,737 crore in FY 2023-24 at Compounded Annual Growth Rate (CAGR) of 44%.*"

On the other hand, various investment platforms are also gradually being digitalized, with typical platform-oriented designs predominantly using blockchain. Therefore, the time is now for FinTech designers to consider all the facets of 'Behavioural Finance' (BFin) because people will logically extend their habit of digital payment to digital investment, and the different types of cognitive biases will influence the latter. The task is challenging from three perspectives. The first is to drive the rest of the population to digital payments; the second is to push the investing population through FinTech without brokers; and finally, facilitating investors to feel their investment grow and yield earnings and be forewarned against potential challenges/losses.

Objective

The predominant objective of this paper is to introduce the subject of braiding FinTech with behavioral finance. It has opened up the elements for designers to consider/strengthen digital solutions. powered by AI to reduce scopes for infiltration of human biases and avoid/minimise the evil impacts of psycho-social and socio-financial factors in financial decision management. The purposes for which digital designers can extend olive branches to users of FinTech for making investments and other financial decisions that are prone to various risks have also been narrated.

Behavioral Finance & the Designers' Olive Branch

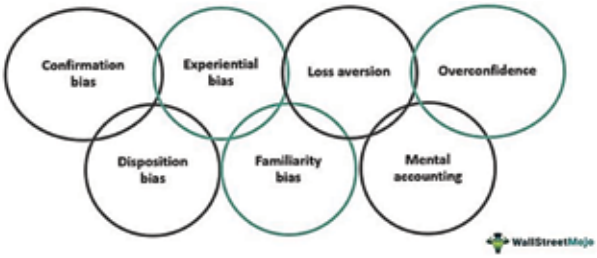
It would be helpful to revisit the features of Behavioral Finance (BFin) and the phrase 'Olive Branch' before interwinding BFin with FinTech. BFin is an interdisciplinary field based on the triangular foundations of sociology, psychology, and finance. Although no hostility is expected between investors, wealth management service providers, and their digitalised platforms, one must appreciate whether FinTech can provide the olive branch' to millions of investors. The objective should be to encourage them to adopt digital technology and avoid/eliminate the ill impacts of negative heuristics/biases to successfully use FinTech in making investment decisions with timely optimised returns.

Behavioral Finance

BFin was born at the intersection of theories on traditional finance and psychology and was influenced by theories of sociology on people's collective behavior. The modern theory of BFin can be traced back to the writings of Amos Tversky, Daniel Kahneman, and Richard Thaler during the 1980s. However, its genesis can be identified in George Seldon's publication 'The Psychology of Stock Market' in 1912. BFin is broadly an approach that attempts to explain:

- Psychological and emotional drivers of decision-making for investment by an individual,
- Investors' responses to the anomalous behavior in financial securities' prices defying theories of the 'Efficient Market Hypothesis' and Capital Asset Pricing Model (CAPM),
- Psychological prejudices and behavioral distortions of investors in the securities marketplace,
- Why do people suffer from '*cognitive bias'* (irrational thinking), which is a '*prejudiced predisposition*' or a '*systematic distortion*,' while making investment decisions, and
- Why biases, subjective, and/or pre-conceived judgments operate at the subconscious level.

Behavioural Finance – Cognitive Biases



Source: https://www.wallstreetmojo.com/behavioral-finance/

The following could be some of the major reasons for the above biases to creep in besides personal heuristics while making financial decisions:

- More reliance on the first received information,
- People are influenced by each other,
- There is a peer/social pressure to conform,
- Herding behavior: "safety-in-numbers"
- Informational cascades* (Waterfalls)
- Positive feedback, e.g., excessive demand for unique IPOs with extremely high opening-day returns.

Wallsteet Mozo[3] (August 2024) explains that "*Behavioral finance refers to the study focusing on explaining the influence of psychology in the decision-making process of investors. It explains the occurrence of irrational decision-making in the financial market when it is expected to be a manifestation of rational decisions and an efficient market*."

Arnold Wood of Martingale Asset Management says, "*Evidence is prolific that money managers rarely live up to expectations. In the search for reasons, academics and practitioners alike are turning to Behavioural Finance for clues. It is the study of us ..... After all, we are human and we are not always rational what the equilibrium models would like us to be. Rather we play games that indulge self-interest.*"

Digital Designers' Olive Branch

The origin of the phrase 'Ólive Branch' can be traced to Greek mythology, where "*A dove returned with an olive branch after the flood, taken as a symbol of peace after God punished humankind*." Thus, the branch of an olive tree metaphorically signifies peace, love, friendship, and partnership with an intense bondage. This is one of the most commonly used phrases in any form of literature to indicate those features when people are in various forms of relational engagements. This aspect has been dealt with more in the following section.

Extended Field of Behavioural Finance

According to this author, investment is selecting an opportunity and allocating funds to earn profit at the desired rate within a defined time period. While making such decisions, investors suffer from many biases, as are named in the above graphic. For such acts, an investor is driven by an emotional attachment to money and external socio-economic and socio-psychological influence. With the application of digital technologies to create investment platforms and the application of AITools, investors' expectations are also gradually increasing.

The issue is becoming more complex from an investor's perspective because investment units are no longer expressed in the traditional form but are instead indicated in tokenised forms. Like any fixed-income security, e.g., a market-traded Bond or Debenture of Rs. 1,000 face value issued by a corporate house is now called one Digitalised Token. These are also recognised in statutes like the Income Tax Act, 1961 of India as Virtual Digital Assets (VDA). For the platform to be investor-friendly and encourage investors to adopt it, the designer must ensure that additional information is provided effectively at the pre-decision and post-investment stages to help the investor minimize cognitive biases and emotions.

For all these, the solution designer must have full ideas for BFin. Hence, in the coming years, FinTech and BFin will also go hand in hand. John Devine and Keith Gilson believe[4] (2010), "*By guiding the design of customer interactions, the principles of behavioral science offer a simple, low-cost route to improved customer satisfaction*."

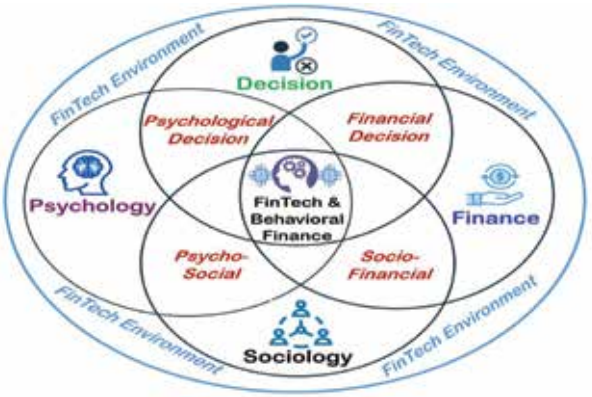
An investment platform designed with Blockchain is driven by Smart Contracts to ensure all legal and regulatory compliances and non-interfered/ automated transaction processes. However, it cannot deal with an investor's psychological biases and emotions. Therefore, the challenge for the platform designer is not only to motivate the investor to get rid of the heuristic biases but also to enlighten her/ him about the tokenised security and adopt the platform for making an investment decision and finally allocate funds to buy. Herein comes the phenomenon called the **'Digital Designers' Olive Branch'** for the investor. The phrase olive branch here is considered a digital means for peaceful partnership, collaboration, help, friendly service offering, etc.

Thus, the operators in FinTech, as a digital technology segment, must understand users' emotional connection with money and the impact of digital technologies on their way of life. This is essential because the intersection of BFin and FinTech is reshaping ordinary people's approach to savings, prioritising investment options, and optimising returns.

Users' expectations and demands from the FinTech solutions are multiplying almost daily to help them minimise risks emanating from socio-financial factors and psycho-social factors besides selecting the suitable investment options for optimisation of return during the chosen period. The digital designer will, therefore, have to devote equal attention and efforts to the transactional platform and application of AI Tools for users to apply informed judgment towards financial management with specific attention to investment decisions.

Taxonomy for BFin Driven FinTech

The above discourse can now be summarised in the following graphic: a Taxonomy for behavioral finance-driven FinTech solutions designed for a win-win proposition from the perspective of all stakeholders connected with the investment world through financial securities.



Source: Designed by the author using icons freely available in cyberspace

The above graphic captures all the forces that drive an investment decision and the soft factors that influence the selection of securities from the return optimisation perspective and allocation of funds. The external influence of macroeconomic and financially motivated social factors has been indicated through socio-financial factors, and the factors connected with influences associated with crowds have been covered under the psycho-social group. This group also considers individual emotions and the psychological impacts of the perceived collective behavior of other investors associated with the class of securities under consideration.

Success in handling all these tangible, emotional, and social factors will finally be influenced by the FinTech design of the digital investment platform and the information feed to be provided to investors. Hence, FinTech is the overarching environment that should extend the Olive Branch to investors and transform the entire process digitally. The solution can be designed to provide duly personalised guidance, feedback for each App user, and stroke prods that can help develop better decision-making habits devoid of cognitive biases.

Leaving aside the adoption of algorithm-based trading by super-professional players in the financial securities market, general investors who use digitalised platforms would like AIBots to help them make buy-and-sell investment decisions. The system must help investors eliminate the negative influences of the biases generated from her/his own psychological issues emanating from various biases and the collective psychology of investors, like 'herd behavior' and 'Informational Cascade Effect,' etc. Such a cascade occurs when a user of any solution disregards her/his opinion and chooses to prioritise and adopt that digital solution and investment option, which others are adopting and using.

The efficiency in embedding design-based facilities at every step for dealing with the BFin-related issues connected with the investment decision would help the service provider attain competitive advantages and attract corporations to use their platforms for fundraising. Again, the solution should be offered in all significant vernaculars for app design and platform usage. The Olive Branch here must also be extended to hold the hands of investors to enable them to get rid of the fear of the unknown and fearlessly adopt digital apps using their smartphones at all times.

Olive Branch for Corporate Financial Decisions

Readers will agree with the author's view that financial managers in the corporate world suffer from personal and collective heuristic biases for many other aspects of financial management besides investment and liquidity management. Cases in point are foreign currency risk exposure management, customer-centric credit-risk analyses, commodity procurement risk exposure management, etc.

Source: Not known

All these occur because People show bounded rationality while making decisions. It means the ability to make rational choices is bounded by:

- Insufficient information about the problem
- Relevant criteria
- Constraint of time and cost
- Quality and amount of data
- Mental constraint to solve the problem

Caged by the above financial managers:

- Compromise on the best possible solution,
- Go for something acceptable to the leadership team or adopt the path of least resistance and
- Satisfies rather than optimise.

FinTech designers can extend several more olive branches again to help corporate financial managers eliminate the abovementioned problems and contribute to better for-profit and profitability. Again, BFin will play a significant role in designing the solutions and providing insights from past transactional data.

BFin, Agentic AI, FinTech

The upcoming development in this field could involve applications of Agentic AI in FinTech solutions with an understanding of BFin. The users' expectations would scale up to the extent that they would prompt the digital solution to only what they want in terms of objectives to be attained against a specified sum of money allocated for specified financial decisions. The rest of the responsibilities would be of the digital technology-enabled solution.

As a branch of Artificial Intelligence, Agentic AI deploys high-end and intellectually stimulating reasoning to find solutions to complex problems with higher productivity independently. Such tools are usable across industry sectors, particularly in FinTech. Eric Pounds wrote in a publication of Nvidia (October 2024)[5] that. *"Agentic AI systems ingest vast amounts of data from multiple sources to independently analyse challenges, develop strategies and execute tasks like supply chain optimization, cybersecurity vulnerability analysis and helping doctors with time-consuming tasks."* Readers can make out from these features of Agentic AI that with advancements in this technology, solutions can be found to get rid of heuristics in financial decision-making. Over time, RoboAdvisors can also be enabled with Agentic AI solutions so that customers can receive interactive services.

Conclusion

The author feels that some aspects of the subject remain to be narrated, for which the second volume of the paper can be written in the future. Meanwhile, several potential areas at the cross-section of FinTech and behavioral finance have been opened up for empirical research. The findings of such research can help solution designers effectively minimise the ill effects of biases, liberate people from bonded rationality, and make financial decisions with informed judgment. MA

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ETHICAL LEADERSHIP - THE CORNERSTONE OF RUNNING A BUSINESS SUCCESSFULLY

Abstract

Ethical leadership has become a vital concept in today's corporate world, as recent scandals have highlighted the catastrophic impact of unethical practices. This article delves into the core principles of ethical leadership and explores how it influences organizational culture, decision-making, and long-term business success. It examines prominent global and Indian corporate failures that illustrate the importance of integrity and transparency in leadership roles. Through a review of literature, analysis of objectives, and study of ethical leadership's organizational benefits, this article underscores the essential role that ethical leaders play in fostering sustainable growth and creating positive stakeholder relationships.

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Introduction:

Historically, leadership has been studied from various perspectives, with management experts like Peter Drucker and Michael Porter identifying numerous styles, including authoritative, transformational, and servant leadership. However, as the corporate landscape evolves, ethical leadership has gained significant importance. The public demands greater accountability from business leaders, driven by high-profile failures like Enron, WorldCom, Lehman Brothers, and India's Satyam scandal. Ethical leadership not only prevents corporate misconduct but also fosters a culture of transparency, integrity, and accountability, which is crucial for sustainable success.

Literature Review

The concept of ethical leadership is not new, but its systematic study gained momentum in the late 20th and early 21st centuries. Brown and Treviño (2006) defined ethical leadership as the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships. They argued that ethical leaders promote ethical conduct through two-way communication, reinforcement, and decision-making. Kouzes and Posner (2002) emphasized that leaders who exhibit integrity and consistency build trust within their organizations, leading to a healthier workplace culture.

The Global Business Ethics Survey (2020) shows that organizations with ethical leadership report fewer incidents of misconduct. In contrast, those lacking it often face severe financial and reputational consequences. Research by the Ethics Resource Center (ERC) highlights that ethical leadership mitigates risks related to fraud, employee dissatisfaction, and operational inefficiencies. The need for ethical leadership has been amplified by the transparency demanded by today's hyper-connected world.

Objectives

The primary objective of this article is to:

1. Examine the role of ethical leadership in mitigating corporate risks and fostering a culture of integrity.
2. Highlight case studies of corporate failures linked to unethical practices.
3. Analyze how ethical leadership contributes to enhanced stakeholder trust and long-term organizational success.
4. Present the characteristics of ethical leaders and

how they influence their organizations positively.

5. Encourage companies and boards to prioritize ethical leadership for sustained growth and reputational advantage.

Methodology

This article adopts a qualitative approach, drawing on case studies, industry reports, and existing literature to analyze the impact of ethical leadership on organizational outcomes. Examples from global and Indian corporate failures, including Enron, WorldCom, Lehman Brothers, Satyam, Kingfisher Airlines, and Punjab National Bank (Gitanjali Jewellers), provide insights into the negative consequences of unethical leadership. These cases are juxtaposed against theoretical perspectives and the author's extensive industry experience to underscore ethical leadership's transformative potential.

Findings

The analysis reveals the profound influence of ethical leadership on organizational culture and stakeholder relationships. Key findings include:

1. **Case Studies of Ethical Failures:**
   - **Enron and WorldCom** exemplify how unethical practices can lead to a company's downfall, eroding stakeholder trust and resulting in financial collapse.
   - In India, **Satyam's accounting fraud** in 2009 and **Kingfisher Airlines' financial mismanagement** illustrate how unethical practices not only harm investors but also damage employees' lives and tarnish the reputation of entire industries.
   - The **PNB fraud case** in 2018 related to Gitanjali Jewellers, involving billions of rupees, highlights the far-reaching consequences of unethical practices when banking officials and corporate leaders collude for personal gain.
2. **Characteristics of Ethical Leaders:** Ethical leaders exhibit several defining traits, including integrity, accountability, transparency, and empathy. They lead by example, fostering a culture of open communication and mutual respect. Ethical leaders are proactive in addressing conflicts, taking responsibility for their actions, and ensuring a fair work environment. They create a culture where unethical behavior is neither tolerated nor ignored, reinforcing a zero-tolerance policy towards misconduct.
3. **Impact on Organizational Culture:** Ethical leaders have a transformative effect on organizational culture. They establish a foundation of trust and respect that permeates all levels of the organization. Employees in such environments feel secure, respected, and valued, which enhances morale and productivity. Ethical leaders also invest in hiring individuals who align with the company's values, promoting a consistent ethical standard across the organization.
4. **Sustainability and Long-term Success:** Organizations led by ethical leaders are better positioned for long-term success. Such companies tend to attract loyal customers, investors, and employees who value integrity. Ethical leaders drive sustainable business practices, reducing the risk of regulatory fines, legal disputes, and reputational damage. This approach aligns with the emerging trend of Environmental, Social, and Governance (ESG) criteria, which investors increasingly consider in their decision-making.
5. **Creativity and Problem-Solving:** Ethical leaders often excel in creative problem-solving, as they encourage open dialogue and innovative thinking. By addressing issues transparently and fostering a culture that values input from all levels, ethical leaders inspire their teams to devise solutions that align with the organization's values and goals.

Conclusion

Ethical leadership is essential for sustainable business success. As demonstrated by various case studies, unethical leadership can lead to catastrophic failures, financial losses, and loss of stakeholder trust. In contrast, ethical leaders foster a positive organizational culture that enhances employee morale, customer loyalty, and investor confidence. Promoters, boards, and senior executives must prioritize ethical leadership as a core competency when selecting organizational leaders. Companies that adopt ethical leadership as a guiding principle not only achieve superior financial performance but also establish themselves as admired organizations that contribute positively to society. MA

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VIKSIT BHARAT 2047: INDIA'S STRATEGIC APPROACH IN BALANCING TRADE COMPETITIVENESS AND FARMER WELFARE AT THE WTO

Abstract

The liberalization of global agricultural trade under the World Trade Organization (WTO) has been a contentious issue for developing countries like India. Faced with structural imbalances and asymmetries in the Agreement on Agriculture (AoA), India's policy responses have been pivotal in protecting the interests of its agricultural sector and ensuring food security. The Narendra Modi-led Indian government took a strong stance during the 13th WTO Ministerial Conference (MC13) in Abu Dhabi to protect Indian farmers, even at the cost of diplomatic friction with developed nations. India, while safeguarding its domestic agricultural interests, defended its farmer-friendly policies against the demands of developed countries for reducing domestic support. This study will examine India's evolving role at the WTO, focusing on rice export ban as well as the broader strategic implications for balancing trade competitiveness with farmer welfare.

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INTRODUCTION

India's assertive approach at the 13th WTO Ministerial Conference (MC13) in Abu Dhabi demonstrated its continued focus on protecting farmers through policies like the minimum support price (MSP), public stockholding for food security, and fisheries subsidies. India's stance has a historical precedent, with the issue of public stockholding emerging prominently during the Ninth Ministerial Conference in 2013, where India agreed to a temporary "Peace Clause" (*Bali Ministerial Conference,* WTO,

2013). Since then, successive Indian governments have resisted external pressures to dilute farmer welfare policies, maintaining that public stockholding is essential for welfare programs like Prime Minister Garib Kalyan Ann Yojana (PMGKAY) and the National Food Security Act (NFSA). India's strategic decisions, such as its rice export ban and position on domestic subsidy ceiling, will be explored in this paper to highlight the tension between trade liberalization and domestic agricultural interests.

Global trade policies have a profound impact on the agricultural sector, particularly for developing nations like India, where a significant portion of the population is dependent on farming for livelihood. In recent years, India has faced the challenge of aligning its economic aspirations with the needs of its farmers, particularly when engaging in international trade agreements under the auspices of the WTO.

As India moves toward its goal of becoming a developed nation by 2047 (Vikshit Bharat), it is essential to assess how international trade, particularly WTO negotiations, influences farmer welfare and food security. The central question is: **How can India balance its trade competitiveness with the need to safeguard the welfare of its farmers?**This paper aims to analyse India's trade negotiations, focusing on its positions at the WTO related to food security and farmer welfare, and identify the implications of these policies on the agricultural sector.

TRADE RELATIONSHIPS AND FARMER WELFARE

India's agricultural policies, particularly its export restrictions and subsidies, have recently come under scrutiny from several nations, including the US, UK, Japan, and Canada, at the World Trade Organization (WTO). These countries have raised concerns regarding India's balance between promoting domestic food security and fulfilling its global trade obligations.

- **Rice Export Ban:** India imposed a ban on non-basmati white rice exports in July 2023, citing concerns about domestic food security. This has drawn criticism from countries like the US, UK, and Japan, who have requested clarity on when the ban will be lifted or eased. Some nations are also questioning whether India plans to replace the ban with an export duty. Despite the restriction, exceptions have been made for countries like Nepal, Mauritius, and Namibia.***[Later, the government has lifted the ban on non-basmati white rice exports with immediate effect and introduced a Minimum Export Price (MEP) of USD 490 per tonne. This policy change, issued by the Directorate General of Foreign Trade on September 27, 2024, follows the export prohibition implemented on July 20, 2023, which was aimed at boosting domestic supply]***
- **Food Security and Export Restrictions:** Canada raised concerns regarding India's wheat export ban, which was imposed in May 2022 following a heatwave-induced crop damage. Canada questioned whether India considered the food security needs of importing nations when placing such restrictions.
- **Agricultural Subsidies and Support Schemes:**Japan has raised concerns over India's electricity subsidies to farmers, noting that the increase in these subsidies seems disproportionate to actual electricity prices. Additionally, Australia and Canada have questioned India regarding the criteria for the PM Kisan Samman Nidhi Yojana, an income support scheme for farmers, and the agricultural support provided by states like Odisha and Andhra Pradesh.

LITERATURE REVIEW

The interplay between WTO regulations and Indian agriculture has been a widely researched area, focusing on how international trade rules impact domestic agricultural policies and food security. Yet, few studies directly address the research question this study explores, apart from notable contributions like those of Bhattacharya and Ahuja (2023). In their work, these authors argue that India must balance its domestic agricultural interests while adhering to its WTO obligations, emphasizing the necessity of aligning national policies with international trade frameworks.

Public Stockholding (PSH) is a critical policy tool used by India and other developing countries to stabilize prices and ensure steady food supplies, particularly given the dependence of many livelihoods on agriculture. The Institute of Agriculture and Trade Policy (2024) describes PSH as essential in maintaining stable agricultural distribution, underscoring the vital role of stockholding by various entities, including farmers, traders, and government bodies. This policy measure helps mitigate price volatility, but it also draws scrutiny under WTO regulations due to concerns around its compliance with trade rules.

The broader theme of agricultural trade policies has generated significant discourse, especially among developing economies, where agriculture remains a

primary livelihood source. According to NAAS (2021), trade policies for agriculture have been a crucial concern as they affect the livelihood security of vast populations. Sharma et al. (2021) note that India faces criticism at the WTO for its price support-based procurement and public stockholding practices, especially in light of WTO's Agreement on Agriculture (AoA). This agreement raises concerns about the implications of such policies for market fairness and international trade obligations.

In a recent study, Manduna and Murphy (2024) observe that confidence in the WTO has significantly waned, with pressing calls for a permanent solution on PSH to be a focal point of the 13th Ministerial Conference. They argue that achieving a resolution on this issue is critical for restoring the WTO's relevance in addressing the complex challenges faced by its member countries, including India. Their work highlights the urgent need for the WTO to adapt and support policies that allow member nations to address domestic food security challenges effectively.

Sharma (2018) examined PSH policies in select developing countries, assessing their compatibility with WTO's AoA provisions. The study argues that current rules may restrict countries from addressing hunger and food security issues effectively, advocating for amendments to ensure fairer trade practices that support food security goals in developing nations.

OBJECTIVES OF THE STUDY

This study aims to examine India's approach to balancing trade competitiveness and farmer welfare in the global agricultural market, with a specific focus on its policies in the context of the World Trade Organization (WTO). The specific objectives are as follows.

1. To analyze India's agricultural policies including public stockholding, export restrictions, and subsidies in the context of WTO commitments, highlighting key areas of alignment and contention.
2. To examine the impact of domestic policy interventions on India's rice export trends, particularly the effects of export bans on non-basmati rice.
3. To explore the policy challenges and global trade implications associated with India's agricultural subsidies.

RESEARCH METHODOLOGY

Nature of the Study: The research design is both exploratory and descriptive, aiming to assess the historical and current stance of India on agricultural subsidies, export policies, and trade negotiations within the WTO framework.

Research Approach: The paper utilizes case study approach, such as India's rice export ban and the invocation of the WTO "Peace Clause," to provide in-depth analysis of specific instances where India has balanced domestic needs with international trade obligations.

Sources of Data: The study is based on secondary data and the main sources of data are listed below.

a. WTO Publications and Reports
b. Documents from the Ministry of Commerce and Industry, Directorate General of Foreign Trade, etc.
c. Directorate General of Commercial Intelligence and Statistics

Data Analysis Techniques: A qualitative content analysis was performed on policy documents, WTO reports, and conference proceedings. Apart from this, a trend analysis was done based on rice production, export trends, and subsidy levels.

DOMESTIC FOOD SECURITY PRIORITIZATION OVER TRADE COMPETITIVENESS

Rice is one of the major food grains produced and exported by India. While China leads global rice production, India ranks second in production but holds the top position as the world's largest rice exporter. It means that India's dominance in the global rice market is well-established, being the second-largest producer and the largest exporter of rice. The country's rice export dynamics reflect not only its capacity to meet global demand but also the intricate balance between domestic policy interventions and international trade. The data provided for the Financial Years (FY) 2020-21 to 2023-24 sheds light on critical shifts in both basmati and non-basmati rice exports, particularly under the influence of India's policy decisions.

- **Overview of Rice Production and Export Trends:** India's rice production has shown consistent growth over the last few years. From 1294.71 lakh tonnes in FY 2021-22 to 1357.55 lakh tonnes in FY 2022-23 and further reaching 1370 lakh tonnes in FY 2023-24, the trend reflects a stable rise in domestic production. This increasing production sets a foundation for India's global export capability, allowing the country to fulfil both domestic and international demand.

TABLE 1: EXPORT OF NON-BASMATI RICE

Year	Quantity Exported in Tons	YoY Change (%)	Export Value in Billion USD	YoY Change (%)
2021-22	17288961	NA	6.13	NA
2022-23	17792144	2.91	6.36	3.64
2023-24	11116703	(37.52)	4.57	(28.05)

Source: Director General of Commercial Intelligence & Statistics, Government of India, August 2024

The export of rice, however, tells a slightly more complex story due to government interventions. Notably, India has maintained its position as the largest rice exporter, driven by substantial exports of basmati rice and non-basmati rice.

- **Export Dynamics of Basmati Rice:** Basmati rice exports have seen a rising trend in both quantity and value. India's international classification system categorizes basmati rice under commodity code A3. The share of basmati rice in India's total export value increased from 0.84% in FY 2021-22 to 1.06% in FY 2022-23, and further to 1.34% in FY 2023-24.

  This rising trend reflects the growing demand for premium-quality basmati rice in global markets. The preference for basmati rice is largely driven by its aromatic quality, long-grain texture, and unique flavour, which commands a higher price in international markets. Basmati rice's export growth is also driven by increasing demand in countries such as the Middle East, Europe, and the United States.

TABLE 2: EXPORT OF BASMATI RICE

Year	Quantity Exported in Tons	YoY Change (%)	Export Value in Billion USD	YoY Change (%)
2021-22	3943717	NA	3.54	NA
2022-23	4561211	15.66	4.79	35.34
2023-24	5242182	14.93	5.84	22.05

Source: Director General of Commercial Intelligence & Statistics, Government of India, August 2024

- **Decline in Exports of Non-Basmati Rice:** In stark contrast to the increasing trend of basmati rice exports, the export of non-basmati rice (classified under commodity code A4) has significantly declined in FY 2023-24, largely owing to the export ban on non-basmati rice imposed by the Indian government in July 2023.
- **Decline in Export Quantity and Export Value:** Non-basmati rice exports fell by 37.52% in quantity terms compared to FY 2022-23.In terms of export value, the decline was 28.05%, indicating a substantial reduction in revenue generated from non-basmati rice exports.

  This drop led to a fall in A4's share in the total export value basket from 1.41% in FY 2022-23 to 1.05% in FY 2023-24. The export ban was part of the Indian government's strategy to maintain domestic supply and control rising prices, especially after unpredictable weather patterns and supply chain disruptions. However, this policy had a direct impact on India's export earnings and global supply, especially in regions heavily reliant on India's non-basmati rice exports, such as Africa and Southeast Asia.
- **Comparison Between Basmati and Non-Basmati Rice Exports:** In quantity terms, non-basmati rice exports have traditionally been much higher than basmati rice exports due to the more widespread cultivation and consumption of non-basmati rice varieties globally. In FY 2023-24, non-basmati rice exports stood at 111.16 lakh tonnes, while Basmati rice exports reached 52.42 lakh tonnes.

  Despite the larger volume of non-basmati rice exports, basmati rice commands higher export value per tonne, contributing more to India's overall export revenue in terms of percentage share. This highlights the premium positioning of basmati rice in global markets.
- **Total Export Share and Domestic Production:** The combined export of both basmati and non-basmati rice in FY 2023-24 was 163.58 lakh tonnes, which accounted for 11.94% of India's total domestic production. This nearly 12% export share underscores India's substantial role in the global rice market, despite domestic challenges and government interventions. The reduction in non-basmati rice exports in FY 2023-24, however, shows the direct effect of policy on export capabilities.

INDIA'S OPPOSITION TO AGRICULTURAL SUBSIDY CAPS

Another critical issue has been India's ongoing resistance to limits on agricultural subsidies, particularly those classified under Amber Box measures. India has argued that domestic subsidies are necessary for the survival of small and marginal farmers.

TABLE 3: DOMESTIC SUBSIDY COMPARISON

Year	Value of Rice Production (In Billions USD)	Subsidy (In Billions USD)	Subsidy (%)	Domestic Subsidy Ceiling (%)
2018-19	43.67	5.00	12.00	10
2019-20	46.00	6.32	15.22	10
2020-21	45.60	6.90	15.16	10
2021-22	49.61	7.55	13.73	10
2022-23	52.81	6.39	11.46	10

Source: World Trade Organisation

The rice subsidy issue at the World Trade Organization (WTO) presents a complex scenario, balancing the welfare of India's farmers with its obligations under global trade rules. For the marketing year 2022-23, India invoked the WTO's "peace clause" for the fifth consecutive year after breaching the prescribed 10% domestic support ceiling for rice subsidies. Table 3 shows that India provided USD 6.39 billion in subsidies for rice production valued at USD 52.8 billion, resulting in a 12% subsidy rate, exceeding the WTO's limit.

The invocation of the **Peace Clause**, established during the 2013 Bali Ministerial Conference, allows India to avoid legal challenges from other WTO members for surpassing this ceiling. This clause is designed to offer protection to developing countries that breach subsidy limits while addressing critical domestic food security needs.

POLICY IMPLICATIONS AND THE WAY FORWARD

The rice export ban on non-basmati rice, implemented to stabilize domestic prices and ensure food security, has caused a significant reduction in export revenue. While basmati rice exports have compensated to some extent due to their higher value, the policy has affected:

i. The reduction in India's non-basmati rice exports has tightened global rice supply, leading to price fluctuations in key importing regions.

ii. A decline in non-basmati exports implies a decrease in the foreign exchange reserves that India accumulates from agricultural exports.

iii. The introduction of a Minimum Export Price (MEP) for non-basmati rice at USD 490 per tonne, post-lifting of the ban, is expected to moderate export volumes while ensuring that domestic demand and prices remain stable.

- **Farmer Welfare and Food Security:** India's defence at the WTO emphasized that its subsidies and public stockholding of rice are primarily aimed at supporting domestic food security. Through the Minimum Support Price (MSP) system, the government procures food grains, including rice, at a fixed price to ensure stable incomes for farmers. These stocks are then distributed to nearly 80 million vulnerable citizens under the Public Distribution System (PDS), ensuring food security for the poor.
- **Impact on Farmers:** The subsidies provided to rice farmers are vital for their welfare. Small and marginal farmers, who form the majority in India, rely on government support to sustain their livelihoods amid volatile agricultural markets and fluctuating global prices. Without such subsidies, many farmers would face financial distress, leading to potential increases in rural poverty and migration. The public procurement system also ensures farmers receive guaranteed prices for their crops, reducing their exposure to market risks.
- **Global Trade Challenges:** India's repeated breaches of the subsidy limits have drawn criticism from developed nations, which argue that the MSP-backed procurement system distorts international trade. These countries claim that the excess domestic support gives Indian farmers an unfair advantage, potentially leading to lower prices in global markets.India counters this by advocating for a revision of the outdated WTO formula for calculating subsidy caps, which is based on reference prices from 1986-88. India argues that these figures no longer reflect current market realities, inflating the perceived level of domestic support.

CONCLUSION

The policy-driven decline in non-basmati rice exports highlights the trade-offs between domestic food security and international trade revenues. India must carefully balance these priorities to maintain its position as a major global rice exporter while addressing domestic needs. The introduction of the MEP is an effort to strike that balance, and future export trends will depend on how effectively this policy is implemented.India has been pushing for a "permanent solution" to the issue of public stockholding and food subsidies, especially in light of the growing importance of ensuring food security for its population and achievement of Sustainable Development Goals.

The government's stand is that domestic food security needs should take precedence over rigid global trade norms, particularly in a developing economy where agricultural livelihoods are fragile.The subsidies are essential for supporting India's vast agrarian economy and ensuring food security for millions. However, India must continue to work diplomatically within the WTO to secure a fair and updated framework that addresses the unique needs of developing nations while preventing distortions in global trade. MA

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CMAs AS CORPORATE PARTNERS IN FORENSIC ACCOUNTING: CHALLENGES AND OPPORTUNITIES

Abstract

As corporate landscapes face rising financial complexities and fraud risks, Cost and Management Accountants (CMAs) are increasingly pivotal in forensic accounting. This article explores the expanding role of CMAs as corporate partners in forensic investigations, emphasizing their expertise in data analysis, internal controls, and compliance. With their unique skills, CMAs support organizations in detecting, preventing, and resolving financial misconduct, enhancing transparency and corporate governance.

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Introduction

In today's rapidly evolving corporate landscape, organizations undergo incessant scrutiny and face complex challenges like the risk of fraud and financial misconduct, as also the sheer complexity of regulatory compliance. The role of forensic accounting has expanded significantly in contemporary times as businesses now seek proven expertise to prevent, detect, investigate and rectify financial anomalies. Cost and Management Accountants (CMAs), are uniquely positioned to take on the role of corporate partners as forensic professionals, given their strong financial expertise and analytical competencies.

This article explores the pivotal contribution of CMAs in the field of forensic accounting, highlighting their ability and agility to safeguard organizational interests, mitigate risks, and ensure financial transparency.

The Rise of Forensic Accounting in Corporate Governance

Forensic accounting has become an integral part of corporate governance in response to increasing instances of fraud and financial irregularities. Corporate scandals and complex financial crimes have underscored the need for specialized professionals capable of analysing financial data, ensuring compliance with laws, and offering insights into the prevention of economic crimes.

Forensic accountants work in diverse areas, including litigation support, fraud investigations, corruption risk assessments, and cyber security. With their ability to understand complex financial structures and analyse cost and revenue streams, CMAs are equipped with the skills necessary for investigating financial discrepancies and ensuring the accuracy of financial statements.

CMAs as Forensic Professionals

CMAs bring a judicious blend of financial expertise, strategic insights, and a thorough understanding of business processes to the forensic accounting domain. Their training in management accounting, cost control, and financial reporting provides them with a unique perspective on financial performance, helping them detect many a subtle irregularity.

1. **Financial Investigations and Fraud Detection** CMAs can play a pivotal role in fraud detection and forensic investigations. Their ability to analyse financial transactions, trace revenue flows, and review expense allocations enables them to identify fraudulent activities, such as embezzlement, asset misappropriation, or accounting manipulation. Their expertise in cost management also helps assess potential fraud risks associated with pricing, procurement, and inventory management.
2. **Risk Management and Internal Controls** Forensic professionals identify gaps in internal control systems. CMAs, with their detailed understanding of operational efficiencies, can assess the robustness of financial controls and suggest key improvements. By doing so, they help prevent fraudulent practices, ensure the organization complies with regulations, and foster an ethical business environment.
3. **Litigation Support and Expert Witness Testimony** CMAs are increasingly being called upon to provide litigation support in legal disputes involving financial matters. In cases of fraud or financial misreporting, CMAs offer expert testimony based on their forensic analysis of financial statements. Their insights help legal teams build compelling arguments and quickly resolve sticky disputes involving complex financial data.
4. **Cyber Forensics and Data Analytics** With the rise of digital transactions and cybercrime, forensic professionals must also focus on cyber forensics. CMAs, armed with knowledge in data analytics, can analyse large datasets for patterns, anomalies, and inconsistencies. This capability is critical in investigating financial cybercrimes, such as identity theft, hacking, or online fraud.

Advantages of CMAs as Forensic Professionals

1. **Holistic Financial Insights:** CMAs possess a comprehensive understanding of both financial and managerial accounting. Their ability to interpret financial statements alongside cost and performance data allows them to take a broader approach to forensic analysis.
2. **Strategic Business Understanding:** CMAs' knowledge extends beyond accounting to encompass broader business strategies. This allows them to not only detect financial fraud but also understand the impact of such fraud on organizational growth, profitability, and sustainability.
3. **Regulatory Knowledge:** CMAs are well-versed in local and international accounting standards, making them ideal forensic experts in cross-border investigations. Their familiarity with tax laws, corporate regulations, and financial compliance further strengthens their role as trusted advisors.

Future of Forensic Accounting: A Promising Career Avenue for CMAs

As businesses become more digitized and the regulatory environment continues to evolve, the demand for forensic accounting services will only multiply at a furious pace. With an increasing focus on corporate transparency, ethics, and sustainability, forensic professionals will be called upon to ensure that businesses comply with both legal standards and stakeholder expectations.

For CMAs, this presents an opportunity to diversify their roles as corporate partners. Their expertise in cost management, financial analysis, and business strategy makes them well poised to lead forensic investigations, enhance internal controls, and provide strategic guidance to corporate managements and governing boards.

Conclusion

CMAs, with their strong analytical skills and deep understanding of financial systems, are well-positioned to take on the role of forensic professionals in the corporate world. Their ability to detect, investigate, and prevent financial frauds can significantly contribute to enhancing organizational integrity and transparency.

As the need for forensic accounting grows, CMAs will continue to evolve as critical partners in maintaining financial discipline, protecting organizational assets, and ensuring compliance with the ever-increasing complexity of corporate governance.

This article positions CMAs as essential forensic partners in corporate environments, emphasizing their vital role in detecting and preventing fraud. MA

Source

1. *AICPA & CIMA (USA) Forensic & Valuation Services Conference*

DEMYSTIFYING SUB-MODULE OF PROFITABILITY ANALYSIS IN CONTROLLING MODULE OF ERP SAP S4 HANA

Abstract

SAP AG, located in Dusseldorf, Germany, is the market leader in ERP systems. It has a very versatile and dynamic Cost and Management accounting module called 'Controlling'. This module comprises a sub-module called 'Profitability Analysis', which is also called Controlling-Profitability Analysis, abbreviated as CO-PA. This is the only sub-module which enables us to match revenue versus cost not only at product and customer level, but also across various parameters/dimensions/characteristics. Having undertaken end-to-end solutioning of Controlling Module including Profitability Analysis for about 30 domestic and international MNCs, I found that most client representatives consider this high-utility module an enigma as they find its scope and specifics rather overwhelming. Hence, there is a clear need to conduct focused workshops for clients to help them understand the solution so that they can support customization efforts to tweak the solution according to their business needs, management vision and mission, and MIS requirements. I share my experience through this article to demystify this sub-module of cost and management accounting such that readers can gain a holistic understanding of the solution fundamentals, and a peek into the advanced features.

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In the cost and management accounting module of SAP which is generally and appropriately called the Controlling Module (CO), we have got a wonderful sub-module called Profitability Analysis (CO-PA). This module helps the enterprise, not only to know the customer and product profitability but also profitability across several marketing segments/dimensions like Country, Region, Division, Customer group, Material Group, Profit Centers, different user defined business verticals and so on.

Types of Profitability Analysis:

There are two types of profitability analysis. The first one, costing based PA, which is the original one, when we say CO-PA, it denotes costing-based CO-PA only. Later, one more type, the Account based PA was introduced.

Source: SAP Library

In the case of Costing-based PA, the revenue and cost elements are grouped into Value fields and follows costing-based valuation approach. These value fields are mapped to either one or multiple GL Accounts, Sales condition types, standard cost components and variance categories. In the case of account-based CO-PA, it is organized based on revenue and cost elements and account-based valuation approach. It is said that it is reconciled with financial accounting, but it is not so because account-based PA is also based on Cost of sales Accounting. It is called Account based not finance based, which means we need to reconcile based on the GL Accounts not against the regular Income Statement. The major GL accounts in this case are Revenue GL accounts and COGM/COGS GL Accounts which gives us Contribution Margin 1 or Gross Margin. Earlier, this account-based PA is seldom implemented and, even if it is implemented but seldom used at all in ERP SAP.

Further, as mentioned earlier, both the methods follow cost of sales accounting unlike the Indian financial accounting which follows the period accounting. The cost of sales accounting is based on a functional approach, dividing the expenses into Production Expenses being the direct overhead, Sales and Corporate expenses which are indirect overhead. For instance, Depreciation and Manpower Expenses incurred at the manufacturing plant goes into the Products as part of Cost of Goods Manufactured (COGM) whereas those expenses incurred towards Sales, Marketing, Corporate, Bank charges and Interest as indirect expenses which will be allocated based on revenue to get the customer, product and other dimensions profitability up to profit before tax. Another major distinction is that profitability analysis is done only on the goods sold to third parties. Whereas the period accounting is based on the period without applying a functional approach to the expenses incurred and it also takes on the unrealized profit in the production but in unsold inventory. In view of this, the reconciliation with the regular income statement will be a little tedious and complicated. Moreover, we do not get financial figures in terms of EBITDA and EBIT in the profitability Analysis and PA goes by Contribution Analysis by adhering more to the concept of Marginal costing model.

Combined CO-PA:

In addition to these two types of PA, we have one more 'Combined PA'(cPA) which has limited scope and is being supported in S/4 HANA. I have not had the opportunity to implement this 'Combined PA'.

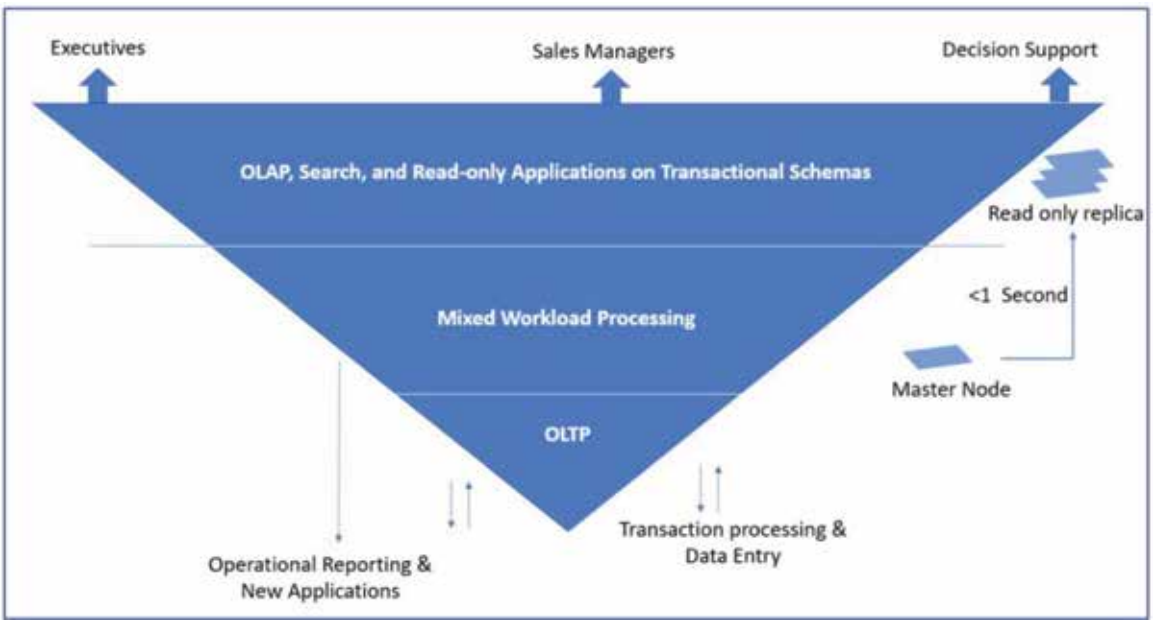
As per the SAP's Online Service System note No. 2344093 - cPA: Combined profitability analysis - implementation guide, SAP AG has informed that it combines the flexibility of the costing-based approach with the adjustability of the account-based type by updating the G/L posting lines that are relevant for the P&L statement in a single document in addition to the costing-based value field view. This means that it is possible to analyze the update of a profit-related transaction (such as the invoicing of a customer or consumption through delivery) both in the structure of a contribution margin scheme divided into value fields and in the form of the accounts to which posting takes place in financial accounting.

Margin Analysis:

With the advent of the next generation SAP ERP S/4 HANA, the emphasis has been rightfully shifted to Account based COPA. SAP started its journey to fully integrate COPA into General Ledger with SFIN 1.0 in the year 2015 towards its goal of true real time reporting and streamlined closing process. The account-based CO-PA has been further strengthened and rechristened as 'Margin Analysis" with one big table ACDOCA called Universal Journal which encompasses all the financial related data in one place.

Initially this Simplified CO-PA did not have all the functionalities similar to what we found in the case Cost based CO-PA. Now, with the series of releases from 2015 onwards, almost all functionalities have been brought in to 'Margin Analysis' as we see in the latest release of 2020. Moreover, with the support of Universal Journal, in Account based CO-PA which is rechristened as 'Margin Analysis', is having drilldown by characteristics from income statement and balance sheet statement as well. This functionality is further enhanced with the advent of 'FIORI APP' which is a User Interface App which can be accessed through browsing in Mobile, iPad and Laptop.

S/4 HANA is the latest release of SAP Core ERP application and in that HANA is a proprietary in-memory database of SAP which is used as back-end database for S/4 HANA Core ERP application. While developing SAP S/4 HANA, SAP has rearchitected the database structures, particularly FICO database tables and simplified the solution by closely integrating financial and controlling modules (FICO) of SAP. In this, there are two vital and significant changes which are: (1) Several separate tables of FICO in earlier version of ECC6 were combined and made into a single table for planning (ACDOCP) and actual (ACDOCA).(2) Chart of accounts in financial accounting and Cost elements master data in Controlling have been merged and S/4 HANA secondary cost elements are part of the chart of accounts with additional attributes. The main attribute being the cost element category which can be changed immediately in S/4 Hana unlike in ECC6 where we were needed to wait up to year end.



Source: Figure 2.14 –The In-Memory Revolution –How SAP HANA enables Business of the Future by Hasso Plattner & BrendLuker

With these changes in S/4 Hana, SAP recommends Account based COPA which is rebranded as 'Margin Analysis' for brown field implementation during migration as well for green field implementation. With the series of releases starting from 2015 onwards, almost all functionalities have been brought into

'Margin Analysis' with the latest release of 2020 which were available only in cost-based COPA.

Important characteristics:

There are already fixed characteristics which form part of the Profitability Analysis by default, particularly those that are organizational objects. But in addition to that we should bring in some important characteristics like Material group, Material type, billing type, customer group, sales group, Sales Office, etc. This will support us in reporting. For instance, in the case of material type, we can distinguish between manufactured product and trading product. Almost all businesses will sell their manufactured products and bought out items as well. In that case, we get cost component split in the case of manufactured product unlike trading material. By filtering the material type in the report, we can have meaningful report, or otherwise it will come cluttered.

Matching with regular Income statement:

In my experience, most organizations are not using this wonderful sub module after its implementation, mainly because it will not match with the financial income statement and requires reconciliation with financial accounting. The core finance user community wants to have only the single version of their financials to all the stakeholders both externally and internally. Consequently, they stop using this highly useful sub-module which alone gives the matching concept between revenue and cost of sales in the whole of ERP SAP. Although CO-PA is for internal reporting only, the finance user community is still not confident enough to use it for analyzing profitability. Let us discuss in this article how best we can tweak and use this wonderful, dynamic and exciting sub-module in the day to day running of the business through SAP S/4 Hana.

Business Verticals:

This is a very important item in making the reporting useful to the management. Normally, we will be using the concept of Profit center to work as companies within a company and it helps to know ROI on capital investment in each of the profit center to judge the profitability of the Divisions against each other. But in COPA in addition to this, there are business segments which cut across the business divisions which we call business verticals or SBU(Strategic Business Unit). For instance, we can see separate product groups which will address different industries and different OEMs. For this by using user defined Characteristics in COPA, we can get different combinations. For instance, with the help of characteristics like Material group and customer group, we can easily consolidate and compile different business verticals to know the profitability at each of the business verticals and comparing in between them.

Equivalent Unit of Measurement:

This is one of the most important parameters for arriving at the product and customer profitability at uniform unit of measurement irrespective of the packaging in which the goods are sold. When the industry makes their sales, they need to pack their products in different packages, say, Pak, Cartoon, Pellet, Nos and so on according to the customers and the mode of delivery. In all these, core product is the same, and it should be measured into KG/KL/MT so that we can be able to bring in uniformity in the unit of measure to know the right quantity-based profitability analysis in both the types of CO-PA.

In Cost-based COPA, we can create separate value field or use the same sales quantity value field for populating the uniform UOM by way of an enhancement wherein the custom functionality is added to the standard program. In 'Margin Analysis' also, the SAP AG has brought in the enhancement by way of BaDI(Business Add-in) to populate one of the three additional quantity fields which are made available in controlling tables and the universal table.

Unabsorbed residual costs in Production Cost Centers:

Even after allocating all the expenses incurred in service cost centers of the plant to Production Cost Centers, at times all the directly posted and allocated cost in Production Cost Centers will not be absorbed into the Production Orders through revaluation of the production orders. For instance, if the Production Cost Center which is assigned to one Machine or multiple machines which is down due to

breakdown or sometimes the Machines are idle for want of orders, the cost will not be absorbed to the products. This unabsorbed cost must be charged to the P & L account by allocating to all the invoices based on revenue or any other appropriate basis. In this case, we can go for specific allocation segments within the allocation cycle for business vertical wise with segregated groups of Production cost centers at Plant level.

Allocation of Indirect Overheads and Finance Charges incurred at HO:

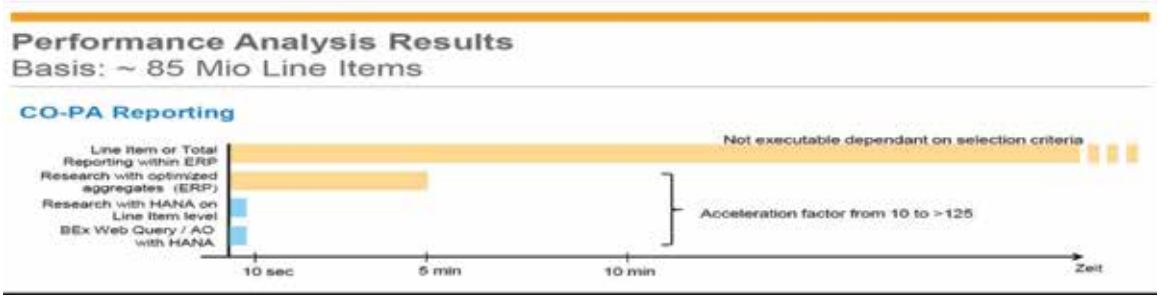
We need to allocate all other indirect expenses incurred towards Sales, Marketing, Logistics, Admin, Corporate, Bank Charges, Interest to all the invoices for the month by taking minimum characteristics as company code, customer, Product and plant as receivers which in effect will derive all customer and product profile characteristics. We can also do selective sender Cost Centers to allocate the cost pertains to the business verticals so that the expenses incurred towards those business verticals, we can create a greater number of segments in the allocation cycle. We can use the single value field in cost-based CO-PA and single or group of Cost/ Revenue elements in Account based COPA/Margin Analysis as tracing factor/basis, if we need to allocate based on some statistical key figures which is also possible by uploading statistical records at the selective dimensions into COPA. Further, in order to take the uploaded statistical records are further made granular by applying the actual billings records which are available at customer, product level and other dimensions level, through top-down distribution.

This versatile functionality of top-down distribution is available in all the types of CO-PA, and it supports in distributing the values from one characteristic to multiple characteristics. This helps in allocation at micro level for better fine tuning and to get more granular data at reporting.

Reporting:

With the advent of S/4 Hana, SAP has rolled out the COPA Accelerator and this has improved the performance of COPA line-item report through transaction code KE24 and Reports through KE30.

Before CO-PA Accelerator, a line item or total reporting of around 85-million-line items was not executable. Earlier aggregation did allow data access for drill-down and further analysis, but with limitations. Now, with the introduction of Accelerator, the response time is shortened to <10 sec but also the financial and controlling month end closing drastically reduced vide graphical representation below.



Source: How SAP HANA accelerates Profitability Analysis (CO-PA) business processes at SAP- By Mr.Mattthias Wild Product and Topic Expert, SAP

Conclusion:

Even though SAP advices switching over, if not used earlier and to continue using account-based COPA which is rebranded as 'Margin Analysis' mandatorily, there is no advice from SAP that we should not use cost-based COPA or combined COPA additionally. Clients can use any one of the cost-based COPA, either traditional one or the combined COPA in addition to 'Margin Analysis', without any hassle whatsoever.

Cost based COPA supports uploading the profitability records of its sister concerns which

are running in other non-SAP environments to arrive at the overall profitability of the conglomerate. Another major advantage is that of reposting of COPA documents of invoices which have gone wrong without cancelling the invoices. There's one more key advantage. When the concern has activated Actual costing, by running the Actual Costing Cockpit, we get the actual cost of the manufactured products by rolling up the production variances. This actual costing not only actualizes both the consumption and inventory but in addition, we can revalue the already posted invoices with actual cost of the products sold through a functionality of revaluation which is available only in cost-based COPA. This functionality cannot be extended to 'Margin Analysis' as the Cost of Sales is posted at the time goods issue.

> Cost based COPA supports uploading the profitability records of its sister concerns which are running in other non-SAP environments to arrive at the overall profitability of the conglomerate

We hereby conclude that clients can either go with both the types of COPA or only with 'Margin Analysis', in line with their needs and preferences. MA

References:

1. *SAP AG Library*
2. *OSS note No. 2344093-cPA: Combined profitability analysis -implementation guide*
3. *COPA – Before & After S/4 HANA-By Srinivasan M K of Aevitas IT*
4. *How SAP HANA accelerates Profitability Analysis (CO-PA) business processes at SAP- By Mr.Mattthias Wild, Product and Topic Expert, SAP*

Academic Excellence

Congratulations!!!

Our heartiest congratulations to CMA (Dr.) Paresh Shah, Ph.D. (finance)., D. Litt., and Accredited Management Teacher and Researcher, Author of Oxford (UK), Wiley (USA), Lambert (Germany) and International Awardee being appointed as an Expert of the subject Management and Business Studies, for various Academic and Research Activities of the Shobhit University, Meerut, Shobhit Institute of Engineering & Technology:(NAAC Accredited Grade 'A' - Deemed - to - be - University)'s : Board of Studies, Research Degree Committees, Board of Examiners etc. for a period of two years w.e.f. October 4, 2024.

On February 3, 2024, he had been certified by the London Book of World Records by bestowing Certificate of World Record. This certificate of World Record is based on recommendation by European Union. It is an Appreciation of Creation of the Development of Accounting with Modem Approach of Accounting (MAA), i.e., Accounting without Debit and Credit by equation theory, covering All Spheres of Bookkeeping and Accountancy for Legal, as well as Managerial Purposes (Post-Doctoral Extended Research).

We wish CMA (Dr.) Paresh Shah, the very best for all his future endeavours.

Down The Memory Lane

November, 2014

Release of Knowledge Study on 'Leveraging Jan Dhan Yojana - A Viable Option for Sustainable Development of Women Entrepreneurship' in association with Assocham on November 26, 2014 in New Delhi. Mrs. Sushma Paul Berlia, President, Apeejay Stya & Svran Group and Chairperson, Economic Affairs Council, Assocham, Shri U.S Paliwal, Executive Director, RBI, Smt Usha Ananthasubramanian, CMD, Bharatiya Mahila Bank, Shri S.C Agarwal, Chairman, National Council on Microfinance Assocham, CMA Manas Kumar Thakur, Chairman of Research, Innovation and Journal Committee seen on the dais

The Institute in association with the Confederation of Indian Industry (CII) conducted a seminar entitled 'Cost Effectiveness through Cost Audit' on November 18, 2014 at Haldia, West Bengal. Shri A K Dey, Chairman, CII Haldia Zonal Council & Vice President and Location Head, Electro Steel Casting Ltd, Haldia, CMA Dr.Debtosh Dey, Director, Ripley & Company Ltd, Ms. Gargi Mitra, Head of State, CII, CMA Manas Kumar Thakur, Council Member, CMA Bibekananda Mukhopadhyay, Regional Council Member, and CMA Himadri Roy, Consulting Associate, SVG & Associates were among the dignitaries present on the dais.

November, 2004

Mr.Rajnikant Patil, Chief Executive Officer, BSE addressing the National Seminar on "Capital Markets in India" conducted by the Goa Chapter in association with Dept of Commerce, Goa University on 17 November, 2004.

Seen from left to right are Prof. B. Ramesh-HoD Commerce Dept., Goa University, Dr. M.T. Raju-Professor Indian Institute of Capital Markets, Mr. Ravi Varanasi-Asst. Vice President, NSE, and Rammohan Menon, Chairman, Goa Chapter

Down The Memory Lane

November, 1994

H.Vidyasankar, General Manager, Finance-cum-Company Secretary, Rubfila International Limited, speaking on pre-issue management at Cochin Chapter on November 11, 1994

Prof. V.R Iyer, President, ICWAI, addressing the valedictory session of DPE-ICWAI programme on Management Audit and Performance Optimisation in Public Sector Enterprises on November 1994

November, 1984

ADB President M. Fujioka delivers keynote address. Others in picture: W. SyCip-IFAC President, R. May-IFAC Deputy President and M. Mould- World Bank at the Asia and Pacific Accounting Education for Development Conference held in Manila in November 1984

CAPA EXCOM convenes in Manila on November 14, 1984

November, 1974

The Bangalore Chapter of Cost Accountants had presented a "ROLLING SHIELD DEBATE" for SIRC in 1973-74 for presenting the same to the successful debator sponsored by Oral Coaching Centre Chapter in the region at National College, Bangalore on November 24, 1974. The subject for the competition was "COST ACCOUNTANT'S CONTRIBUTION TO ECONOMIC DEVELOPMENT OF THE COUNTRY"

Source: Extracted from the various issues of The Management Accountant Journal

NEWS FROM THE INSTITUTE

EASTERN INDIA REGIONAL COUNCIL

BHUBANESWAR CHAPTER

Bhubaneswar Chapter Celebrates Swachhata Hi Seva 2024

On October 1st, 2024, the Chapter organized a plantation drive titled "Ek Ped Maa Ki Naam" at its premises. This initiative aimed to foster environmental consciousness and community involvement in sustainable practices.

Swachhata Awareness drive

To commemorate Mahatma Gandhi's birthday and align with the 'Swachhata Hi Seva' initiative, the Chapter organized a comprehensive cleanliness drive on October 2, 2024. On the same day, the Chapter honored its housekeeping staff for their invaluable contributions to maintaining a clean and hygienic environment. The Chairman, Vice-Chairman, and Secretary of the Chapter presented tokens of appreciation to the workers, recognizing their dedication. As part of the Swachhata Hi Seva Campaign 2024, the Chapter's Chairman and staff took the 'SwachhatakiBhaagidari' pledge, reaffirming their commitment to a cleaner and more sustainable future.

Ten Days Intensive Training Program

The Chapter held a 10-day Intensive Training Program (IOTP) for final students from October 1st to 6th, 2024. Topics covered included financial management, communication skills, legal and tax compliance, digital finance, and career development. Industry experts, including Dr. Mrutyunjay Suar and CMA Sudhakrishna Maiti, addressed the students. The program concluded with a valedictory ceremony and certificate distribution.

Meeting with Minister of Law, Works and Excise, Government of Odisha

On October 6, 2024, a delegation from the Chapter met with Shri Pruthviraj Harichandan, the Hon'ble Minister of Law, Works and Excise, Government of Odisha. The delegation included CMA Damodar Mishra, Secretary of ICMAI-EIRC, CMA Niranjan Mishra, Former Council Member of ICMAI, CMA Ramesh Chandra Patra, Chairman, CMA Barada Prasan Nayak, Secretary, and CMA Ajay Kumar Samal, Managing Committee Member.

Panel discussion on "Vivad Se Vishwas Scheme-2024"

The Chapter organized a panel discussion on the "Vivad Se Vishwas Scheme-2024" on October 20, 2024. The event featured a distinguished panel of experts, including Shri Rahul Karna, IRS, Principal Chief Commissioner of Income Tax, Odisha, and CMA Niranjan Swain, a renowned tax consultant. The discussion provided valuable insights into the scheme's provisions and its implications for taxpayers. Over 120 members and students actively participated in the event.

Glimpses of Eastern India Regional Council

Bhubaneswar Chapter

Bhubaneswar Chapter

NORTHERN INDIA REGIONAL COUNCIL

JAIPUR CHAPTER

Inauguration and Valedictory of Industry-Oriented Training Program

The Chapter successfully conducted a 10-day Industry-Oriented Training Program for CMA Final students. The program was inaugurated on October 5, 2024, by Shri Naveen Jain, IAS, Secretary Revenue, Government of Rajasthan. The valedictory session, held on October 19, 2024, was graced by Shri Sandeep Verma, IAS, CMD, Rajasthan State Warehousing Corporation. Certificates were awarded to all 125 participants upon completion of the program.

Meeting with Principal Chief Commissioner of Income Tax, Rajasthan

A delegation from the Chapter met with IRS Naresh Kumar Balodia, Principal Chief Commissioner of Income Tax, Rajasthan, on October 9, 2024. The delegation, comprising CMA(Dr.) Deepak Kumar Khandelwal (Chairman), CMA Deepanshu Pareek (Joint Secretary), CMA Harendra Kumar Pareek (Treasurer & Immediate Past Chairman), and CMA S.N. Mittal (Vice-Chairman, NIRC), discussed the issue of Notice of Empanelment of Cost Accountants under Section 142(2A) in Rajasthan.

Meeting with Secretary, Cooperative and Registrar Cooperative Societies, Rajasthan

A delegation from the Chapter met with IAS Manju Nagpal, Secretary, Cooperative and Registrar Cooperative Societies, Rajasthan, on October 9, 2024. The delegation, comprising CMA (Dr.) Deepak Kumar Khandelwal (Chairman), CMA Deepanshu Pareek (Joint Secretary), CMA Harendra Kumar Pareek (Treasurer & Immediate Past Chairman), CMA S.N. Mittal (Vice-Chairman, NIRC), and CMA Rakesh Yadav (Secretary, NIRC), discussed the inclusion of Cost Accountants in Rajasthan State Cooperative Societies Audit and other assignments.

Meeting with Joint Registrar (Audit) Cooperative Societies, Rajasthan

A delegation from the Chapter met with Shri Bhawar Singh Bajiya, Joint Registrar (Audit), Cooperative Societies, Rajasthan, on October 9, 2024. The delegation, comprising CMA (Dr.) Deepak Kumar Khandelwal (Chairman), CMA Deepanshu Pareek (Joint Secretary), CMA Harendra Kumar Pareek (Treasurer & Immediate Past Chairman), CMA S.N. Mittal (Vice-Chairman, NIRC), and CMA Rakesh Yadav (Secretary, NIRC), discussed the inclusion of Cost Accountants in Rajasthan State Cooperative Societies Audit and other assignments.

Glimpses of Northern India Regional Council

Jaipur Chapter

Jaipur Chapter

SOUTHERN INDIA REGIONAL COUNCIL

Industry Oriented Training Program (IOTP)

A 10-day IOTP was held at SIRC Premises from September 23rd to October 4th, 2024, for final-year students preparing for the December 2024 exams. Around 200 students attended sessions on accounting, taxation, compliance, and soft skills.

Cost Conclave 2024

The Kerala Chapters of ICMAI, in collaboration with the Southern India Regional Council (SIRC) of ICMAI and hosted by the ICMAI Trivandrum Chapter, organized the "Cost Conclave" on 05.10.2024 and 06.10.2024. The event offered a unique blend of technical sessions, networking opportunities, and leisure activities.

Campus Placement Program

A Campus Placement Program was held at SIRC from October 7th to 9th, 2024, for qualified Cost Accountants from the June 2024 term. Leading PSUs, MNCs, and private companies participated, offering opportunities to around 400 candidates. A pre-placement orientation program was conducted from September 9th to 19th, 2024, to prepare candidates for interviews and placements. Over 100 candidates secured job offers through this program.

Ayudha Pooja at SIRC

The Southern India Regional Council (SIRC) celebrated Ayudha Pooja on October 10th, 2024, honoring tools and instruments. The event included traditional prayers and rituals, led by CMA TCA Srinivasa Prasad, Vice President of ICMAI. He distributed gift packets to faculty and staff, recognizing their contributions.

Professional Development Meeting

SIRC hosted a Professional Development Meeting on October 25th, 2024, focusing on the latest GST developments. CMA M. Saravana Prabhu, a GST expert, delivered an insightful session, highlighting practical implications for businesses and professionals.

Training Program with IIT Madras

SIRC, in collaboration with IIT Madras, organized a two-day training program for administrative staff on October 25th and 26th, 2024.

RANIPET-VELLORE CHAPTER

Professional Development Program

The Chapter organized a Professional Development Program on Saturday, October 26, 2024. The session featured a comprehensive presentation by CMA Yuvaraj P., a practicing Cost Accountant from Vellore, on the theme of Entrepreneur Development. CMA Yuvaraj P. provided valuable insights on various aspects of entrepreneurship, including legal requirements, key steps, and strategies for business growth and profitability. He also addressed practical concerns such as finding the right contacts, estimating investment needs, and navigating the early stages of business.

BENGALURU CHAPTER

SWACHHATA HI SEVA 2024

In October 2024, the Chapter engaged in a variety of events and initiatives to advance its mission and engage with the community. The month began with the "Swachhata Hi Seva 2024" campaign on October 1st, emphasizing cleanliness at the Chapter premises and underscoring social responsibility.

On October 5th, students from the Chapter achieved significant recognition, winning the Rolling Trophy at the 'COSMA FEST' in Coimbatore, which was celebrated on October 10th with a Dasara Pooja and a felicitation ceremony for the victorious students.

Joint Programme with ICMAI Registered Valuers

A significant highlight was the Valuation Day celebration held on October 18th, conducted in partnership with the ICMAI Registered Valuers Organization and Bangalore Valuers Association. The event, themed "Valuation - A Key Lever for Building Viksit Bharat" featured prominent speakers, including Mr. Kulwant Singh, Executive Director of the Insolvency and Bankruptcy Board of India (IBBI), as Chief Guest, and Debajyoti Ray Chaudhuri, MD and CEO of NESL, as the Guest of Honor. This event was moderated by CMA (Dr.) S.K. Gupta, Managing Director of the ICMAI Registered Valuers Organization, and it emphasized the crucial role of valuation in India's economic development. The program was also graced by the president of Bangalore Valuers Association CMA (CA) Ravindranath, CCM (ICMAI) CMA Suresh R G, Chairman SIRC (ICMAI) CMA Vishwanath Bhat, PD Chairman of SIRC (ICMAI)

CMA Girish K, Chairman BCCA CMA Abhijeet S Jain, Secretary BCCA CMA Rajesh Devi Reddy, Treasurer & PF Chairman BCCA CMA Santosh Kalburgi.

Inauguration Ceremony of PG Studies

On October 16th, the Chapter played a prominent role in the Inauguration Ceremony of the Postgraduate Studies Programme at SVYASA School of Advanced Studies, where the Chapter's Chairman, CMA Abhijeet S. Jain, served as the Chief Guest. This initiative supported awareness of the CMA profession among future business and accounting professionals, underscoring its relevance in strategic decision making and financial management.

VISAKHAPATNAM CHAPTER

Professional Development Program on Just-in-Time Inventory Management

The Chapter organized a Professional Development Program on "Just-in-Time Inventory Management - A Tool of CMA" on September 21, 2024. The session featured a keynote address by Shri P M Balaji, Joint Director of IIAM Vizag Business School, former Vice President of Toshiba Japan, and Independent Director of BEXCS Worldwide Inc, Philippines. The program was attended by CMA U Lakshmana Rao (Chairman VCCA), CMA Ramalinga Reddy G. (Vice-Chairman VCCA), CMA V Shanti Sireesha (Secretary VCCA), CMA M Himabindu (Treasurer VCCA), and other CMA members.

COIMBATORE CHAPTER

COSMA FEST 2024 CONDUCTED BY THE COIMBATORE CHAPTER

The Chapter in association with Hindustan College of Arts and Science organized a regional-level COSMA FEST 2024 on October 5, 2024. Over 1000 students from various institutions participated in 10 events, including managerial and sports competitions. The event was inaugurated by Dr. E. Balagurusamy, Advisor to the Governor of Jharkhand, and featured a keynote address by CMA Vishwanath R Bhat, Chairman of the Southern India Regional Council of ICMAI. The valedictory session was presided over by CMA T.C.A. Srinivasa Prasad, Vice President of the Institute, with Dr. B. Thiagarajan, Registrar of IIT Palakkad, as the Chief Guest. The event concluded with a prize distribution ceremony, with the overall championship being shared by Bengaluru Chapter students and PSG College of Arts and Science students.

TRIVANDRUM CHAPTER

Professional Development Programme

The Chapter organized a physical professional development program on September 1, 2024. The program focused on the "Quintessence of Reverse Charge Mechanism under GST" and was delivered by CMA B V Subramaniam, a renowned practicing Cost Accountant.

Workshop on TAX AUDIT

The Chapter conducted a two-day workshop on Tax Audit on September 7th and 8th, 2024, at Hotel Cordial Sopanam. The workshop was led by CMA Ajith Sivadas, a seasoned professional with expertise in various fields. The session was inaugurated by CMA Praveen Kumar, Secretary of the Southern India Regional Council of ICMAI.

THRISSUR CHAPTER

10 DAYS INDUSTRY ORIENTED TRAINING PROGRAMME FOR FINAL STUDENTS AT THRISSUR CHAPTER.

The Chapter organized a 10-day Industry-Oriented Training Program (IOTP) for Final students from September 21st to October 22nd, 2024. The program featured expert sessions from renowned industry practitioners, including CMA R Vishwanath Bhat, CMA K Gomathi Sankar, and CMA Vijay Kiran Agastya.

DISHA EXPO 2024 -CAREER AWARENESS PROGRAMME

The Chapter, in collaboration with other Kerala Chapters (Palakkad, Kozhikode-Malappuram, Kottayam, Cochin, and Trivandrum), participated in Disha Expo 2024, a career awareness program organized by the Kerala Government's General Education Department. The event took place from October 4th to 8th, 2024, at Thekkinkadu Ground, Thrissur.

Glimpses of Southern India Regional Council

Southern India Regional Council

Southern India Regional Council

Ranipet-Vellore Chapter

Bengaluru Chapter

Visakhapatnam Chapter

Coimbatore Chapter

Trivandrum Chapter

Thrissur Chapter

WESTERN INDIA REGIONAL COUNCIL

NAVI MUMBAI CHAPTER

Webinar Overview: Green Hydrogen and Its Impact

The Chapter hosted a webinar on September 29, 2024, to explore the potential of Green Hydrogen. CMA Vaidyanathan Iyer, the speaker, delved into the types of hydrogen, their extraction methods, and the government's initiatives to promote Green Hydrogen.

SURAT SOUTH GUJARAT CHAPTER

PRIZE DISTRIBUTION FUNCTION FOR FOUNDATION-INTERMEDIATE-FINAL JUNE 2024 TERM RESULT

The Chapter held a prize distribution function on October 3, 2024, at SRK Hall, Nanpura, Surat. Distinguished Guests were CMA Amit Apte (Past President), CMA Neeraj Joshi (Council Member), CMA Mihir Vyas (WIRC Vice-Chairman), and CMA Nanty Shah (WIRC Honorary Secretary)

VARIOUS SCHOOL, COLLEGE & ORGANISATION VISIT

The Chapter under the leadership of CMA Bharat Savani (Immediate Past Chairman), embarked on a mission to promote awareness about the CMA course. During September and October 2024, the chapter visited numerous schools, colleges, and educational institutions to disseminate information about the course. These institutions included J B Knowledge Institute, Eklavya Classes, Patel Classes, Noble Classes, Divyaprabhat Classes, Sadhna School, M & J Patel School, Shreyash Vidhyalaya, JB Carp School, Parth Classes, Vachannamrut Classes, Vedant Classes, PP Savani School, Ankur Vidhyalaya, Prerna School, MTB College, Aspire School, and L P Savani School.

COURTESY VISIT AT MLA OFFICE

CMA Bharat Savani (Immediate Past Chairman) of the Surat South Gujarat Chapter visited the office of MLA Shri Purnesh Modi on October 9, 2024, as a courtesy visit.

COURTESY VISIT AT DEO OFFICE

CMA Bharat Savani (Immediate Past Chairman) and CMA Kishor Vaghela (Vice Chairman) of the Surat South Gujarat Chapter visited the DEO office on October 10, 2024. They met with Shri Bhagirath Parmar, DEO, to extend a courtesy visit and raise awareness about the CMA course.

COURTESY VISIT AT SGCCI OFFICE

On October 10, 2024, a delegation from the Chapter comprising CMA Kailash C Gupta (Chairman), CMA Bharat Savani (Immediate Past Chairman), and CMA Mahesh Bhalala (MC Member), visited the Southern Gujarat Chamber of Commerce & Industries (SGCCI) office in Surat. The delegation met with Shri Vijaykumar Mevawala, President of SGCCI, to extend a courtesy visit and discuss the career opportunities offered by the CMA course.

COURTESY VISIT AT SHRI CHHOTUBHAI PATILSIR OFFICE

On October 10, 2024, CMA Kailash C Gupta (Chairman) and CMA Bharat Savani (Immediate Past Chairman) of the Chapter visited the office of Shri Chhotubhai Patil, a PAC Member of the Ministry of Railways, in Surat. The purpose of the visit was to extend a courtesy call and raise awareness about the career opportunities offered by the CMA course.

COURTESY VISIT AT VNSGU OFFICE

On October 10, 2024, a delegation from the Chapter comprising CMA Kailash C Gupta (Chairman), CMA Bharat Savani (Immediate Past Chairman), and CMA Mahesh Bhalala (MC Member), visited Veer Narmad South Gujarat University in Surat. The delegation met with Shri Kishorsinh Chavdasi, Vice-Chancellor of VNSGU, to extend a courtesy visit and discuss the career opportunities offered by the CMA course.

PUNE CHAPTER

Swachhata Hi Sewa (SHS) 2024 Campaign

On October 2, 2024, the Chapter celebrated Swachhata Hi Sewa 2024. The event included a cleanliness drive at CMA Bhavan, recognizing sanitation workers, tree planting, and raising awareness about the Swachh Bharat Mission. The chapter honored Mahatma Gandhi's legacy and emphasized the importance of cleanliness and environmental sustainability.

CPE on Topic - Role and opportunities for CMA in Banking Sector

The Chapter and The Cosmos Co-Op Bank Ltd. co-hosted a Continuing Professional Education (CPE) program on October 10, 2024. Speaker for the program was CMA Keshav Thakar for technical session. Members for Panel discussion were CA Jayant Barve, Director and Mrs.Arti Dhole, Jt.Managing Director of Cosmos Co-op Bank, CMA Shripad Bedarkar, President, WMTPA, CMA Jagdish Moghe ,Manager

F &A , Elantas Bank Ltd.

Mental Health Awareness Booth

The Chapter organized a Mental Health Awareness Booth at CMA Bhavan on October 23, 2024. Certified Mental Health Counselor Ms. Rasika Agalave interacted with students, emphasizing the importance of mental well-being and providing tips for stress management and study techniques.

CPE on "Critical aspects of GSTR 9 and 9C"

The Chapter organized a CPE session on "Critical Aspects of GSTR 9 and 9C" on October 25, 2024. The event featured presentations by CMA Dipak Joshi and CMA Rahul Chincholkar, and a keynote address by Chief Guest CMA (Dr.) Sanjay R. Bhargave. The session delved into the complexities of GSTR 9 and 9C, emphasizing the importance of critical analysis and understanding recent regulatory changes.

INDORE DEWAS CHAPTER

SWACHHATA HI SEVA 2024

The Chapter actively participated in the Swachhata Hi Seva Campaign 2024 on October 2, 2024. Members, students, and staff joined forces to clean the chapter premises and surrounding areas. Chapter leaders, including CMA Rahul Jain, CMA Pankaj Kumar Raizada, CMA Yash Vagrecha, CMA Uddhav Aage, and CMA Rajat Gupta, were present to support the cause.

STUDENTS FELICITATION AND CPE PROGRAM

The Chapter honored its 23 successful students from the June 2024 exams on October 19, 2024. The event, held at Hotel Apna Avenue, featured guest speakers CMA Vivek Kumar Singh and CMA Rajesh Agrawal. Singh highlighted the role of CMAs in shaping business strategy, while Agrawal discussed CSR, social audits, and related career opportunities. Chapter Chairman CMA Neeraj Maheshwari and other committee members were also present.

BARODA CHAPTER

Industry Oriented Training Program (IOTP) for CMA Final Students to be appeared in December, 24 Exam.

The Chapter organized an Industry Oriented Training Program (IOTP) from October 10th to 19th, 2024, to support students preparing for the December 2024 final exams. The program provided valuable insights and practical knowledge from ten industry professionals, equipping students with the skills and knowledge necessary for success in their careers.

MS-Office Training for CMA Intermediate Students to be appeared in December, 24 Exam.

The Chapter is conducting online MS Office training for students preparing for the December 2024 Intermediate exams. This training program aims to equip students with essential computer skills, enhancing their overall preparedness for professional and academic pursuits.

Activity Of Placement & Training

The Chapter has been actively organizing various placements and training programs to benefit its members and students. These initiatives aim to enhance employability and provide valuable professional development opportunities.

AURANGABAD CHAPTER

CEP on How to conduct Research and preparation for PhD

The Chapter conducted a CEP on How to conduct Research and preparation for PhD. CMA (Dr.) Umesh Ruparel, Advocate High Court was the speaker. Chairman of Aurangabad Chapter CMA Salman Pathan welcomed the speaker CMA (Dr.) Umesh Ruparel by presenting a bouquet and Vice Chairman and Chairman of PD Committee CMA Babasaheb Shinde introduced him. The session was led by CMA (Dr.) Umesh Ruparel, who provided valuable insights into the challenges and opportunities associated with pursuing a PhD. Senior member CMA Jayant Galande, CMA Abhishek Bhalerao and other members were present on this occasion.

AHMEDABAD CHAPTER

Industrial Visit

The Chapter organized an industrial visit to Amul's Chocolate and Dairy Plants in Anand on October 1, 2024. This visit, part of the Industry Oriented Training Program (IOTP), offered final-year students a firsthand look at the manufacturing process, from raw materials to finished products. Experts at the plant guided students through the process and answered their questions.

Gandhi Jayanti Celebration

The Chapter actively participated in the 'Swachhata

Hi Seva (SHS) 2024' campaign on October 2, 2024. Led by CMA Mitesh Prajapati, the Secretary, and a large number of students, the chapter organized a tree plantation drive to commemorate Mahatma Gandhi's birth anniversary and contribute to a cleaner and greener environment.

Volleyball Tournament

The Chapter successfully organized the CMA Volleyball Tournament 2024 on October 6, 2024, at Gujarat Vidhyapith, Ahmedabad. Eight teams participated in the tournament, which was inaugurated by CMA Uttam Bhandari (Chairman), CMA Mitesh Prajapati (Secretary), and CMA Sunil Tejwani (Chairman, Sports Committee).

Campus Placement

The Chapter organized a campus placement drive for June 2024 CMA graduates. Leading companies like Vodafone Idea, Sharp &Tannan, Cadmach Machinery, Cadila Pharma, Vinay Industries, Empathic Consulting, and Rohan Dyes participated, providing recruitment opportunities to talented CMAs. Chapter officials, including the Chairman, Secretary, Treasurer, and committee members, were present to facilitate the event.

Felicitation Function of Foundation, Inter & Final Pass out Students

The Chapter organized a felicitation ceremony at the H.T. Parekh Convention Centre to honor its students who successfully cleared the June 2024 Foundation, Intermediate, and Final examinations. The event was graced by CMA Ghanshyam G. Trivedi, Director of Xphere Group of Companies, as the Chief Guest. He delivered an inspiring speech, motivating students and highlighting career opportunities for CMAs in various sectors. The chapter honoured its top performers, including the recipient of the H.C. Shah Gold Medal for the highest rank in the Final exam and the CMA Hiranand Savlani Gold Medal for the highest marks in Strategic Cost Management (Final) and Intermediate exams.

Dhanteras Pooja

The Chapter celebrated the auspicious festival of Diwali by organizing a Dhanteras Pooja at the chapter office on October 29, 2024.

PIMPRI-CHINCHWAD-AKURDI CHAPTER

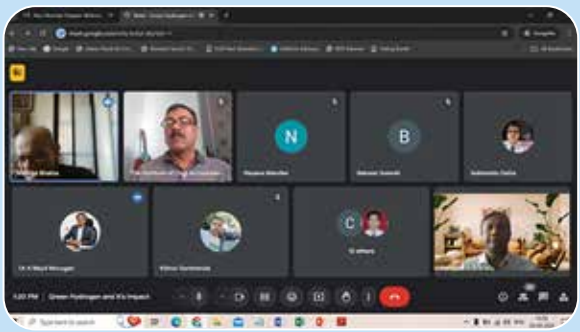
The Navratri Pulse – Nine Waves of Transformation

A highly anticipated webinar series, "The Navratri Pulse - Nine Waves of Transformation," was conducted, marking an inspiring initiative to highlight women's contributions to Science, Technology, Engineering, and Mathematics (STEM) from 3rd October to 11th October 2024 on virtual platform. Many eminent speakers participated in the programme.

Industry Visit

The Chapter organized an industry visit to Tedra Automotive Solutions Pvt. Ltd., a leading company specializing in automated car park systems on 19th October 2024. It provided a deep understanding of how automation and innovation are reshaping industries like automotive parking. Students gained valuable insights into the operational challenges and solutions employed in high-tech industries.

Glimpses of Western India Regional Council



Navi Mumbai Chapter

Surat South Gujarat Chapter

Surat South Gujarat Chapter

Pune Chapter

Pune Chapter

Indore Dewas Chapter

Baroda Chapter

Aurangabad Chapter

Ahmedabad Chapter

Pimpri-Chinchwad-Akurdi Chapter

Direct & Indirect Tax Updates - October 2024

DIRECT TAXES

- **Notification No. 106/2024 Dated 1st October 2024:** In pursuance of sub-clause (ii) of clause (a) of sub-section (1) of section 138 of the Incometax Act, 1961, the Central Government hereby specifies 'Principal Secretary to Government & Chairman, Odisha Computer Application Centre (OCAC), Department of Electronics & Information Technology (E&IT), Government of Odisha' for the purposes of identifying genuine beneficiaries for social welfare schemes of Government of Odisha.
- **Notification No. 107/2024 Dated 11th October 2024:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'State Load Despatch Centre Unscheduled Interchange Fund- West Bengal State Electricity Transmission Company Limited (PAN: AAIAS0980J), constituted under the Electricity Act, 2003 (36 of 2003) in respect of the following specified income arising to that trust, namely: (a) Residual money in the unscheduled interchange pool balance account (b) Income incidental to or related to unscheduled interchange and (c) Interest on fixed deposits and auto-sweep accounts. This notification shall be effective subject to the conditions that the State Load Despatch Centre Unscheduled Interchange Fund-West Bengal State Electricity Transmission Company Limited (PAN: AAIAS0980J)- (a) shall not engage in any commercial activity (b) activities and the nature of the specified income shall remain unchanged throughout the financial years and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of section 139 of the Income-tax Act, 1961.
- **Notification No. 108/2024 Dated 11th October 2024:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'Gujarat Water Supply and Sewerage Board', Gandhinagar (PAN: AAALG5041P), a Board constituted by the Government of Gujarat in respect of the following specified income arising to that Board, namely: (a) Grant received from Government, Local Bodies and Other Government Agencies (b) Centage at rates prescribed by the Gujarat Water Supply and Sewerage Board Act, 1978/Government of Gujarat (c) Water charges (tariff fixed by the Government of Gujarat) collected from local bodies/village panchayats/ industries (d) Receipts from Pension and gratuity contribution (e) Other incomes such as investigation charges, Hire Charges, Sale of Tender Schedule and Rent received under the Gujarat Water Supply and Sewerage Board Act, 1978 and (f) Interest earned on bank deposits.

  This notification shall be effective subject to the conditions that Water Supply and Sewerage Board, Gandhinagar (a) shall not engage in any commercial activity; (b) activities and the nature of the specified income shall remain unchanged throughout the financial years; and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of section 139 of the Income-tax Act, 1961.
- **Notification No. 109/2024 Dated 11th October 2024:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'Real Estate Regulatory Authority, New Delhi (PAN AAALR1691Q)' an Authority constituted under sub-section (1) of Section 20 of the Real Estate (Regulation and Development) Act, 2016 (16 of 2016), in respect of the following specified income arising to that Authority, namely: (a) Amount received as Grant-in-aid or loan/advance from Government (b) Fee/penalty received from builders/developers, agents or any other stakeholders as per the provisions of the Real Estate (Regulation and Development) Act, 2016 and (c) Interest earned on (a) & (b) above.

  This notification shall be effective subject to the conditions that the 'Real Estate Regulatory Authority, New Delhi (a) shall not engage in any commercial activity (b) activities and the nature of the specified income shall remain unchanged throughout the financial years and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of Section 139 of the Income-tax Act, 1961.
- **Notification No. 110/2024 Dated 11th October 2024:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'District Legal Service Authority' as specified in the Schedule to this notification, constituted by Government of Haryana for every District in the State of Haryana in exercise of powers conferred by sub-section (1) of section 9 of the Legal Services Authorities Act, 1987 (Central Act No. 39 of 1987), as a 'class of body' in respect of the following specified income arising to that body, namely: (a) Grants received from the Punjab and Haryana High Court, Central Authority i.e. National Legal Services Authority and State Authority i.e. Haryana State Legal Services Authority for the purposes of the Legal Services Authorities Act, 1987 (b) Grants or donation received from the Central Government or the State Government of Haryana for the purpose of the Legal Services Authorities Act, 1987 (c) Amount received under the order of the Court (d) Fee received as recruitment application fee; and (e) Interest earned on bank deposits.

  This notification shall be effective subject to the conditions that each of the District Legal Service Authority- (a) shall not engage in any commercial activity; (b) activities and the nature of the specified income shall remain unchanged throughout the financial years; and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of section 139 of the Income-tax Act, 1961.
- **Notification No. 111/2024 Dated 15th October 2024:** In exercise of the powers conferred by section 295 read with sub-clauses (i), (ii), (iii), (iv), (v) and (vi) of clause (ac) of sub-section (1) of section 12A, first and second provisos to clause (23C) of section 10, clauses (i), (ii), (iii) and (iv) of the first proviso to sub-section (5) of section 80G of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the following rules further

to amend the Incometax Rules, 1962. In the Income-tax Rules, 1962, in Appendix-II, in Form No. 10A, in the heading, the figure, letter and word "2C or " shall be omitted. In Form No. 10AB, in the heading, the figure, letter and word "2C or " shall be omitted.

- **Notification No. 112/2024 Dated 15th October 2024:** In exercise of the powers conferred by section 295 read with section 192 of the Income-tax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the following rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962, (a) in rule 21AA, (i) in the marginal heading, for the word, figures and brackets "section 89(1)", the word and figures "section 89" shall be substituted (ii) for the words, brackets and figures "sub-section (1) of section 89", the word and figures "section 89" shall be substituted

  (b) for rule 26B, the following rule shall be substituted, namely : "26B. Statement of particulars of income under heads of income other than "Salaries" or details of tax deducted at source or tax collected at source. The assessee may submit to the person responsible for making payment under sub-section (1) of section 192.
- **Notification No. 114/2024 Dated 16th October 2024:** In exercise of the powers conferred by section 295 read with section 206C of the Incometax Act, 1961 (43 of 1961), the Central Board of Direct Taxes hereby makes the following rules further to amend the Income-tax Rules, 1962. In the Income-tax Rules, 1962, (a) in rule 31AA, in sub-rule (4) (i) in clause (vi), (A) in sub-clause (b), for the words "fourth proviso", the words "fifth proviso" shall be substituted (B) in sub-clause (c), for the words "fifth proviso", the words "sixth proviso" shall be substituted (ii) in clause (vii), for the word, figures and letter "section 206C." occurring at the end, the word, figures and letter "section 206C;" shall be substituted (iii) after clause (vii), the following clause shall be inserted: (viii) furnish particulars of amount received or debited on which tax was not collected or tax was collected at a lower rate in view of any notification issued under sub-section (12) of section 206C.

  (b) in rule 37-I, (i) in sub-rule (1), after the words "has been collected", the brackets and words "(hereinafter referred to as the collectee)" shall be inserted (ii) after sub-rule (1), the following sub-rule shall be inserted, namely: "(1A) (a) Where under any provisions of the Act, the income of the collectee is assessable in the hands of any person other than the collectee, the credit for the tax collected at source, shall be given to such other person and not to the collectee.
- **Notification No. 115/2024 Dated 16th October 2024:** In exercise of the powers conferred by sub-section (12) of section 206C of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby specifies that no collection of tax shall be made under sub-section (1F) of section 206C of the said Act on any payment received from the Reserve Bank of India.
- **Notification No. 116/2024 Dated 18th October 2024:** In exercise of the powers conferred by the third proviso to sub-section (2) of section 92C of the Income-tax Act, 1961 (43 of 1961)(hereafter referred to as the said Act) read with the proviso to sub-rule (7) of rule 10CA of the Income-tax Rules, 1962, the Central Government hereby notifies that where the variation between the arm's length price determined under section 92C of the said Act and the price at which the international transaction or specified domestic transaction has actually been undertaken does not exceed (i) one per cent of the latter in respect of wholesale trading and (ii) three per cent of the latter in all other cases the price at which the international transaction or specified domestic transaction has actually been undertaken shall be deemed to be the arm's length price for the assessment year 2024-2025.
- **Notification No. 117/2024 Dated 18th October 2024:** In exercise of the powers conferred by clause (46) of section 10 of the Income-tax Act, 1961 (43 of 1961), the Central Government hereby notifies for the purposes of the said clause, 'West Bengal Pollution Control Board' (PAN AAALW0078N), a board constituted by the Government of West Bengal in respect of the following specified income arising to that body, namely: (a) consent fees or no objection certificate fees (b) analysis fees on air quality and water quality or noise level survey fees (c) authorisation fees (d) cess reimbursement and cess appeal fees (e) reimbursement of the expenses received from the Central Pollution Control Board towards National Air Monitoring Program, the Monitoring of Indian National Aquatic resources and like schemes (f) sale of books relating to environmental law, regulations, important judicial orders and environmental issues where no profit element is involved and the activity is not commercial in nature (g) interest on deposits (h) public hearing fees (i) vehicle emission monitoring test fees (j) fees received for processing by State Environmental Impact Assessment Authority (k) fees collected for training conducted by the Environmental Training Institute of the Board where no profit element is involved and the activity is not commercial in nature (l) fees received under the Right to Information Act, 2005 (22 of 2005) and appeal fees (m) interest on loans and advances given to staff of the Board; (n) pollution cost or forfeiture of bank guarantee due to non-compliance; and (o) miscellaneous income including sale of old or scrap items, tender fees and other matters relating thereto, where no profit element is involved.

  This notification shall be effective subject to the conditions that West Bengal Pollution Control Board (a) shall not engage in any commercial activity; (b) activities and the nature of the specified income shall remain unchanged throughout the financial years; and (c) shall file return of income in accordance with the provision of clause (g) of sub-section (4C) of section 139 of the Income-tax Act, 1961.
- **Circular No. 11 /2024 Dated 1st October 2024:** Order authorizing Income-tax authorities to admit an application or claim for refund and carry forward of loss and set off thereof under section 119(2)(b) of the Income-tax Act, 1961.
- **Circular No. 12 /2024 Dated 13th October 2024:** Guidance Note 1/2024 on provisions of the Direct Tax Vivad se Vishwas Scheme, 2024.
- **Circular No. 13 /2024 Dated 26th October 2024:** Extension of due date for furnishing return of income for the Assessment Year 2024-25. The Central Board of Direct Taxes (CBDT), in exercise of its powers under section 119 of the Income-tax. Act, 1961 ('the Act'),

extends the due date of furnishing of Return of Income under sub-section (1) of section 139 of the Act for the Assessment Year 2024-25 in the case of assessees referred to in clause (a) of Explanation 2 to sub-section (1) of section 13 9 of the Act, which is 3 1'1 October, 2024 to 15th November, 2024.

- **Circular No. 14 /2024 Dated 30th October 2024:** Condonation of delay under clause (b) of sub-section (2) of section 119 of the Income-tax Act, 1961 for returns of income claiming deduction u/s BOP of the Act for Assessment Year 2023-24. In order to mitigate the genuine hardship to the assessees, the Board, in exercise of its powers conferred under section 119 of the Act, hereby extends the applicability of Circular No.13/2023 dated 26.07.2023 to the AY 2023-24, subject to the conditions stipulated therein.

INDIRECT TAXES

GST

- **Notification No. 20/2024 – Central Tax Dated 8th October 2024:** Seeks to make amendments (Second Amendment 2024) to the CGST Rules, 2017. In exercise of the powers conferred by section 164 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Central Government, on the recommendations of the Council, hereby makes the following rules further to amend the Central Goods and Services Tax Rules, 2017. In the Central Goods and Services Tax Rules, 2017 (hereinafter referred to as the said rules), in rule 36, in sub-rule (3), after the words "suppression of facts", the words and figures "under section 74" shall be inserted.
- **Notification No. 21/2024 – Central Tax Dated 8th October 2024:** Seeks to notify date under sub-section (1) of Section 128A of CGST Act. In exercise of the powers conferred by sub-section (1) of section 128A of the Central Goods and Services Tax Act, 2017 (12 of 2017) (the said Act), the Central Government, on the recommendations of the Council, hereby notifies the respective date specified in Column (3) of the Table below, as the date upto which payment for the tax payable as per the notice, or statement, or the order referred to in clause (a) or clause (b) or clause (c) of the said section, as the case may be, can be made by the class of registered person specified in the corresponding entry in column (2) of the said Table.
- **Notification No. 22/2024 – Central Tax Dated 8th October 2024:** Seeks to notify the special procedure under section 148 of the CGST Act for rectification of demand orders issued for contravention of section 16(4) of the said Act.
- **Notification No. 23/2024 – Central Tax Dated 8th October 2024:** In exercise of the powers conferred by section 128 of the Central Goods and Services Tax Act, 2017 (12 of 2017) (hereafter in this notification referred to as the said Act), and in supersession of the notification of the Government of India in the Ministry of Finance (Department of Revenue), Central Board of Indirect Taxes and Customs published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i) vide number G.S.R. 366(E), dated the 1 June, 2021 (No.22/2021-Central Tax), except as respects things done or omitted to be done before such supersession, the Central Government, on the recommendations of the Council, hereby waives the amount of late fee payable under section 47 of the said Act by any registered person, required to deduct tax at source under the provisions of section 51 of the said Act, for failure to furnish the return in FORM GSTR-7 for the month of June, 2021 onwards, by the due date, which is in excess of an amount of twenty-five rupees for every day during which such failure continues. Provided that the total amount of late fee payable under section 47 of the said Act by such registered person for failure to furnish the return in FORM GSTR-7 for the month of June, 2021 onwards, by the due date, shall stand waived which is in excess of an amount of one thousand rupees. Provided further that the total amount of late fee payable under section 47 of the said Act by the registered person, who fails to furnish the return in FORM GSTR-7 for a month by the due date, where the total amount of central tax deducted at source in the said month is nil, shall stand waived.
- **Notification No. 24/2024 – Central Tax Dated 9th October 2024:** In exercise of the powers conferred by sub-section (2) of section 23 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Central Government, on the recommendations of the Council, hereby makes the following amendments in the notification of the Government of India, Ministry of Finance (Department of Revenue) No. 5/2017- Central Tax, published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i) vide number G.S.R. 607(E), dated the 19th June, 2017. In the said notification, after the opening paragraph, the following proviso shall be inserted, namely : "Provided that nothing contained in this notification shall apply to any person engaged in the supply of metal scrap, falling under Chapters 72 to 81 in the first schedule to the Customs Tariff Act, 1975 (51 of 1975)."
- **Notification No. 25/2024 – Central Tax Dated 9th October 2024:** In exercise of the powers conferred by sub-section (3) of section 1 read with section 51 of the Central Goods and Services Tax Act, 2017 (12 of 2017), hereafter in this notification referred to as the said Act, the Central Government, on the recommendations of the Council, hereby makes the following further amendment in the notification of the Government of India in the Ministry of Finance, Department of Revenue No. 50/2018-Central Tax, published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i) vide number G.S.R 868 (E), dated 13th September, 2018. In the said notification

  (i) after clause (c) and before the first proviso, the following clause shall be inserted, "(d) any registered person receiving supplies of metal scrap falling under Chapters 72 to 81 in the First Schedule to the Customs Tariff Act, 1975 (51 of 1975), from other registered person"

  (ii) for the third proviso, the following proviso shall be substituted, namely "Provided also that nothing in this notification shall apply to the supply of goods or services or both, which takes place between one person to another person specified under clauses (a), (b), (c) and (d) of sub-section (1) of Section 51 of the said Act, except the person referred to in clause (d) of this notification".
- **Circular No.234/28/2024-GST Dated 11th October 2024:** Clarifications regarding applicability of GST on

certain services. (a) Applicability of GST on the service of affiliation provided by universities to colleges (b) Applicability of GST on the service of affiliation provided by Central and State education all boards or Councils, or other similar bodies, to schools (c) Applicability of GST on the Directorate General of Civil Aviation (DGCA)approved flying training courses conducted by Flying Training Organizations approved by the DGCA (d) Regularizing payment of GST on transport of passengers by helicopter (e) Whether incidental/ancillary services such as loading/unloading, packing, unpacking, transshipment, temporary warehousing etc., provided in relation to transportation of goods by road is to be treated as part of Goods Transport Agency service, being composite supply, or these services are to be treated as separate independent supplies (f) Regularizing payment of GST on import of services by an establishment of a foreign airlines company from a related person or any of its establishment outside India, when made without consideration (g) Applicability of GST on Preferential Location Charges (PLC) collected along with consideration for sale/transfer of residential/commercial properties (h) Regularizing payment of GST on certain support services provided by an electricity transmission or distribution utility (i) Regularizing payment of GST on services of film distributors or sub-distributors who act on a principal basis to acquire and distribute films

- **Circular No.235/29/2024-GST Dated 11th October 2024:** Clarification regarding GST rates & classification (goods) based on the recommendations of the GST Council in its 54th meeting held on 9th September 2024. (a) Clarification regarding GST rate on Extruded/ Expanded Savoury food products (b) Clarification regarding GST rate on Roof Mounted Package Unit (RMPU)Air Conditioning Machines for Railways (c) Clarification regarding GST rate on Car and Motor cycle seats
- **Circular No.236/30/2024-GST Dated 11th October 2024:** Clarification regarding the scope of "as is / as is, where is basis" mentioned in the GST Circulars issued on the basis of recommendation of the GST Council in its meetings
- **Circular No.237/31/2024-GST Dated 15th October 2024:** Clarifying the issues regarding implementation of provisions of sub-section (5) and sub-section (6) in section 16 of CGST Act,2017
- **Circular No.238/32/2024-GST Dated 15th October 2024:** Clarification of various doubts related to Section 128A of the CGST Act, 2017

CUSTOMS

- Notification No. 46/2024-Customs Dated 22nd October 2024: In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby makes the following further amendments in the notification of the Government of India in the Ministry of Finance (Department of Revenue), No. 27/2011-Customs, dated the 1stMarch, 2011, published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide number G.S.R. 153(E), dated the 1st March, 2011. In the said notification, in the TABLE

  (a). against S. No.6A., in column (4), for the entry, the entry "nil" shall be substituted (b) against S. No. 6B., in column (4), for the entry, the entry "nil" shall be substituted (c) against S. No. 6C., in column (4), for the entry, the entry "nil" shall be substituted.
- Circular No.21/2024-Customs Dated 30th October 2024: Mandatory additional qualifiers in import/export declarations in respect of Synthetic or Reconstructed Diamonds w.e.f 01.12.2024

CENTRAL EXCISE

- **Notification No. 26/2024-Central Excise Dated 24th October 2024:** In exercise of the powers conferred by section 3C of the Central Excise Act, 1944 (1 of 1944), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby makes the following amendments in the Fourth Schedule to the said Act. In the said Act, in the Fourth Schedule, under the heading "MINERAL PRODUCTS", in Chapter 27,- (i)for the SUPPLEMENTARY NOTES, the following Supplementary Notes shall be substituted: (1) In this Chapter, reference to any standard of the Bureau of Indian Standards refers to the last published version of that standard. Illustration: IS 1459 refers to IS 1459: 2018 and not to IS 1459: 1974. (2) For the purposes of tariff item 2710 19 33, the term "Blended Aviation turbine fuel" means any Aviation turbine fuel containing by weight 70% or more of Petroleum Oils or Oils obtained from Bituminous Minerals, blended with Synthesized Hydrocarbons conforming to Indian Standards Specification of Bureau of Indian Standards IS 17081:2019

  In the table, under the sub-heading 2710 19, after tariff item 2710 19 32 and the entries relating thereto, the following shall be inserted:

  "2710 19 33----Blended Aviation turbine fuelkg.14%"
- **Notification No. 27/2024-Central Excise Dated 28th October 2024:** Seeks to amend No. 11/2017-Central Excise, dated the 30th June,2017 so as to align it with amended Fourth Schedule to Central Excise Act,1944. In the said notification, in the Table, after Sl. No. 7B and the entries relating thereto, the following Sl. Nos. and entries shall be inserted:

7C	27101933	Blended Aviation Turbine Fuel drawn by the selected airline operators or cargo operators for the regional connectivity scheme flights from Regional Connectivity Scheme (RCS) -Ude Deshka Aam Nagrik (UDAN) airport or heliport or waterdrome	2%
7D	27101933	Blended Aviation Turbine Fuel	11%

Sources:
incometax.gov.in, cbic.gov.in

RESEARCH BULLETIN

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CALL FOR PAPER

Research Bulletin, Vol. 50 No. III October 2024 (ISSN 2230 9241)

Call for Research Papers/Articles

We invite you to contribute research paper/ article for "Research Bulletin", a peer-reviewed Quarterly Journal of The Institute of Cost Accountants of India. The aim of this bulletin is to share innovative achievements and practical experiences from diverse domains of management, from researchers, practitioners, academicians and professionals. This bulletin is dedicated to publishing high quality research papers providing meaningful insights into the management content both in Indian as well as global context.

Guidelines to submit full Paper

- Soft Copy of the full paper should be submitted in double space, 12 font size, Times New Roman, keeping a margin of 1 inch in four sides, MS Word (.doc) format.
- Each paper should be preferably within 5000 words including all.
- An abstract of not more than 150 words should be attached.
- The cover page should contain the title of the paper, author's name, designation, official address, contact phone numbers, e-mail address.

Papers are invited on the following topics, but not limited to:

1. *Finance for MSMEs in India: Sources and Challenges*
2. *Viksit Bharat@2047*
3. *Gender Equality and Women Empowerment*
4. *Sustainable and Socially Responsible Business Practices*
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6. *Capital Markets in India*
7. *Banking & Insurance*
8. *Green Entrepreneurship and Circular Economy*
9. *Startups and Sustainable Development Goals (SDGs)*
10. *CSR*
11. *Corporate Governance*
12. *Insurtech and Regtech*
13. *Blockchain and Decentralized Finance (DeFi)*
14. *GST*
15. *Building Resilient Cooperatives*

Papers must be received within
30th November, 2024
in the following email id:
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THE MANAGEMENT ACCOUNTANT

PAPERS INVITED

Cover Stories on the topics given below are invited for ***'The Management Accountant'*** for the four forthcoming months

December 2024	Theme	Viksit Bharat 2047: Transform India to Developed Nation	Subtopics
January 2025	Theme	Banking in India - Today & Tomorrow	Subtopics
February 2025	Theme	Agriculture hold the key for Self-Sustainability in India	Subtopics
March 2025	Theme	Empowered Women - Foundation of a robust society	Subtopics

December 2024 — Subtopics

- Strategic plan to achieve Viksit Bharat 2047
- Envision India after 100 years of Independence
- Viksit Bharat - Ensuring Farmer Welfare
- Viksit Bharat - New Momentum for Nari Shakti
- Viksit Bharat - Empowering India's young professionals
- Viksit Bharat - Honouring the marginalized
- Viksit Bharat - Northeast - A Growth Engine
- Infra at speed and scale
- Environment and Sustainability
- Nuclear Energy - A transformative energy source of Viksit Bharat
- Budget 2024-25 - Highlights to achieve Viksit Bharat 2047

January 2025 — Subtopics

- UPI - A way forward for cashless Banking
- Portfolio management - A new segment of Banking
- Banking with the Advent of ML and AI
- Infrastructure Financing: Role of Banks and ways to address them
- Peer to peer lending a new paradigm for retail loans
- Reform, enhance the effectiveness of auditing process
- Bank merger - Impact on credit growth
- MSME credit assessment model for PSBs
- RRBs heading for new face off through IPO
- Neo Banking
- Role of CMAs in Due Diligence Audit, Risk Based Internal Audit and Stock Audit

February 2025 — Subtopics

- Sustainable Agriculture as a Primary Model of Production
- Smart Farming and Sustainable Agriculture
- Impacts of E-Commerce on Agriculture
- Agrifinancing and Crop Insurance
- Financial Literacy and its impact on sustainable practices
- The cost-effectiveness of eco-friendly farming
- Cost-benefit analysis of adopting agri-tech solutions
- Financial models for agricultural startups and cooperatives
- The evolving role of CMAs in a changing agricultural landscape
- Contribution of Agricultural Sector in Viksit Bharat

March 2025 — Subtopics

- Education as a Catalyst for Women's Empowerment
- Women in Leadership: Paving the Way for Change economic Empowerment: Fueling Community Development
- Health and Well-being: Empowered Women, Healthier Families
- Grassroots Movements: Women's Role in Social Change
- Gender Equality and Social Justice: An Interconnected Journey
- Innovation and Entrepreneurship: Women Leading the Way Cultural Shifts: Redefining Women's Roles in Society
- The Impact of Policy on Women's Rights and Opportunities
- Building Networks: The Power of Mentorship for Women

The above subtopics are only suggestive and hence the articles may not be limited to them only.

Articles on the above topics are invited from readers and authors along with scanned copies of their recent passport size photograph and scanned copy of declaration stating that the articles are their own original and have not been considered for anywhere else. Please send your articles by e-mail to editor@icmai.in latest by the 1st week of the previous month.

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A4) Private Sector - Small	B4) City Gas Distribution
A5) Private Sector - Micro	B5) Retail & E-commerce/Hospitality & Tourism/Healthcare
A6) Public Sector - Mega	B6) Infrastructure and Construction
A7) Public Sector - Large	B7) Information Technology & Telecommunication
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