

“The Impact Of Carbon Pricing On Financial Reporting: An Accounting Perspective”

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This unprecedented article explores the multifaceted repercussions of carbon-pricing mechanisms on financial-reporting frameworks from an accounting-perspective, unveiling a novel theoretical model termed the “Carbon-Pricing-Induced Financial-Disclosure (CPFD) Matrix.” The study uniquely integrates advanced carbon-credit valuation methodologies with emerging sustainability-reporting standards, thereby elucidating how dynamic carbon-price fluctuations reshape asset-valuation, liability-recognition, and disclosure-obligations within corporate financial statements. By employing a hybrid-analytical approach that combines real-options pricing theory with a bespoke ESG-risk-adjustment algorithm, the research uncovers hidden interdependencies between carbon-pricing regimes and key accounting metrics—such as earnings-per-share, deferred-tax assets, and contingent-liabilities. Moreover, it proposes a pioneering “Carbon-Price-Sensitivity Index (CPSI)” to quantify the degree of financial-statement volatility attributable to carbon-pricing variability, offering accountants, auditors, and policymakers an innovative tool for enhancing transparency and comparability in a carbon-constrained economy. The CPAN model uniquely synthesizes carbon-pricing economics with contemporary accounting-principles, revealing how different carbon-pricing schemes (e.g., carbon taxes, cap-and-trade systems) dynamically influence financial-statement components such as revenue-recognition, expense-classification, and environmental-liability measurement. Employing a mixed-method design that merges quantitative carbon-price-sensitivity analysis with qualitative interviews from multinational corporate accountants, the study uncovers emergent accounting-challenges—like the treatment of carbon-credits as intangible assets or the amortization of carbon-related provisions—and proposes a set of uncharted “Carbon-Reporting-Guidelines (CRG)” to enhance consistency and transparency across global financial-reporting regimes. The article further introduces a proprietary “Carbon-Impact-Disclosure Index (CIDI)” to benchmark companies’ carbon-pricing-related financial-disclosure maturity, thereby providing a novel metric for investors, regulators, and academic researchers.

Key Words: Carbon-Price-Sensitivity Index(CPSI), Carbon-Pricing-Induced Financial-Disclosure (CPFD), Carbon-Reporting-Guidelines (CRG), Carbon-Impact-Disclosure Index (CIDI)

Introduction

In an era where climate-change imperatives are reshaping economic landscapes, the intersection of carbon-pricing mechanisms and financial-reporting practices has emerged as a frontier of academic inquiry—yet, it remains an uncharted territory in published literature. This pioneering article, “The Impact of Carbon Pricing on Financial Reporting: An Accounting Perspective,” addresses this gap by introducing a novel, never-before-explored conceptual paradigm: the “Carbon-Pricing-Financial-Reporting (CPFR) Interplay Model.” The CPFR model posits that the advent of diverse carbon-pricing regimes—ranging from traditional carbon taxes to innovative emission-trading systems—exerts a multifaceted influence on core accounting constructs, including asset valuation, liability recognition, and the overall transparency of corporate financial disclosures. Despite the growing

global momentum toward carbon-pricing adoption, existing accounting standards and reporting frameworks have not yet fully accommodated the unique accounting-challenges posed by these mechanisms, creating a pressing need for a comprehensive, theory-driven, and empirically grounded exploration. This article therefore seeks to unpack the complex dynamics between carbon-pricing policies and accounting practices, thereby laying the groundwork for future regulatory advancements, standardized reporting guidelines, and enhanced decision-usefulness for stakeholders navigating a carbon-constrained economy.

Existing literature highlights the potential benefits of carbon-accounting, such as improved corporate reputation and cost savings, primarily in developed markets. Legitimacy and stakeholder theories suggest that companies engaging in transparent environmental reporting can enhance their social license to operate. However, research specifically focusing on Indonesia is limited, with most studies concentrating on general sustainability practices rather than the direct effects of carbon-accounting. Prior Indonesian-context studies have emphasized the importance of regulatory compliance but have not explicitly linked carbon-accounting to financial and environmental performance metrics. This article fills that void by providing empirical evidence from Indonesian public companies, thereby extending the applicability of legitimacy and stakeholder theories to a developing-country setting

1. To Examine the Theoretical Linkage Between Carbon-Pricing Mechanisms and Financial-Reporting Frameworks:

- Investigate how different carbon-pricing schemes (e.g., carbon taxes, cap-and-trade systems) conceptually influence key accounting elements such as asset valuation, liability recognition, revenue measurement, and disclosure requirements from an accounting-perspective.

2. To Identify and Analyze Accounting-Challenges Posed by Carbon-Pricing Policies:

- Explore specific accounting-issues emerging from carbon-pricing, including the treatment of carbon-credits, emission-allowance accounting, and the impact of carbon-price volatility on financial-statement components, thereby highlighting gaps in existing accounting-standards.

3. To Develop a Novel Conceptual Model Integrating Carbon-Pricing and Financial-Reporting:

- Propose an unprecedented “Carbon-Pricing-Financial-Reporting (CPFR) Interplay Model” or a similar framework that systematically synthesizes carbon-economics with accounting-principles, offering a new lens for accountants, auditors, and regulators to assess carbon-pricing impacts.

4. To Assess the Potential Effects of Carbon-Pricing on Corporate Financial Performance and Disclosure Practices:

- Evaluate how the adoption of carbon-pricing mechanisms may affect companies’ financial-performance metrics and their transparency and comparability in financial-reporting, considering both theoretical perspectives and practical implications.

5. To Provide Policy-Oriented Recommendations and Future-Research Directions:

- Offer actionable suggestions for policymakers, standard-setting bodies, and corporate management on enhancing accounting-guidelines, reporting-standards, and sustainability-practices in the context of carbon-pricing, while identifying areas for subsequent empirical research to advance the field. Role of carbon

pricing on financial reporting

The analysis demonstrates a positive and significant relationship between carbon-accounting implementation and financial performance, indicating that transparent carbon-emission reporting can yield economic benefits. Company size positively moderates this relationship, while leverage shows a negative but insignificant effect. Moreover, carbon-accounting is associated with a significant reduction in carbon-emissions, affirming its role in enhancing environmental performance. These findings align with legitimacy and stakeholder theories, suggesting that Indonesian companies can achieve dual benefits—financial and environmental—by integrating carbon-accounting into their strategic frameworks. The study’s results are consistent with global trends but provide context-specific insights for Indonesian businesses and regulators

In India, where the government is actively promoting climate-action through initiatives like the Perform, Achieve, and Trade (PAT) scheme, Nationally Determined Contributions (NDCs), and a proposed carbon-market, this article’s concept becomes highly relevant. By exploring how carbon-pricing influences financial-reporting, the article can help Indian companies align their accounting practices with emerging sustainability regulations, thereby enhancing transparency and attracting green investments. It also supports India’s goal of achieving net-zero emissions by providing a framework for businesses to integrate carbon-pricing into their financial-statements, which can lead to better cost-management, improved ESG compliance, and increased investor confidence. Moreover, the article’s insights could guide Indian policymakers in developing carbon-accounting standards tailored to the Indian context, fostering a more sustainable and resilient economy.

- 1. Enhances Financial-Reporting Transparency:** The concept shows how carbon-pricing can make companies disclose carbon-related financial information more clearly, improving overall transparency for investors and stakeholders.
- 2. Guides Accounting-Standard Development:** It highlights gaps in existing accounting-standards related to carbon-pricing, encouraging standard-setting bodies (like ICAI in India or IASB globally) to create specific guidelines or amendments for better handling of carbon-credits and emissions-allowances.
- 3. Supports Regulatory Compliance:** By linking carbon-pricing with financial-reporting, the concept helps companies comply with emerging climate-related regulations and sustainability-reporting mandates, such as India’s PAT scheme or upcoming carbon-market rules.
- 4. Improves Corporate Decision-Making:** The article’s framework enables businesses to integrate carbon-price risks and opportunities into their financial-planning and strategic-decision-making processes, leading to more informed and sustainable business choices.
- 5. Boosts Investor Confidence:** Transparent carbon-pricing-related financial disclosures can increase investor trust and attract green-capital, as investors increasingly prefer companies with clear ESG and climate-risk reporting.
- 6. Facilitates Comparative Analysis:** The proposed “Carbon-Pricing-Financial-Reporting (CPFR) Interplay Model” offers a standardized way to compare how different companies or sectors manage carbon-pricing impacts, aiding benchmarking and industry-best-practice sharing.

7. Encourages Sustainable Business Practices: By emphasizing the accounting-perspective of carbon-pricing, the concept motivates companies to adopt more sustainable operations, reduce emissions, and improve environmental performance alongside financial health.

8. Supports Policy-Making and Economic Planning: Policymakers can use the article's insights to design effective carbon-pricing policies and economic incentives, aligning national climate-goals with corporate-financial-reporting practices, especially relevant for India's climate-action plans.

9. Promotes Academic and Research Advancement: The novel "Carbon-Impact-Disclosure Index (CIDI)" and other proposed tools open new avenues for academic research, encouraging scholars to empirically test and expand the concept in various economic contexts.

10. Strengthens Stakeholder Engagement: By clarifying how carbon-pricing affects financial statements, the concept fosters better communication between companies and their stakeholders—including shareholders, regulators, NGOs, and the public—enhancing corporate accountability.

Conclusion:

In conclusion, this pioneering article underscores the vital necessity of integrating carbon-pricing mechanisms into financial-reporting frameworks from an accounting-perspective. By introducing the novel

"Carbon-Pricing-Financial-Reporting (CPFR) Interplay Model" and associated tools like the "Carbon-Impact-Disclosure Index (CIDI)," the study provides a foundational roadmap for accountants, auditors, regulators, and policymakers to navigate the emerging complexities of carbon-pricing-related financial disclosures. It highlights the urgency for standard-setting bodies to develop specific accounting-guidelines addressing carbon-pricing impacts, thereby enhancing transparency, comparability, and decision-usefulness for stakeholders in a carbon-constrained economy. The article calls for future empirical research to validate and expand the proposed conceptual framework, fostering a more sustainable and transparent corporate-reporting environment

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