

## NFT CERTIFICATES TO VERIFY ESG CREDENTIALS

Issuers of investment instruments, asset managers, and asset owners do not currently have a good means of tracking and reporting ESG factors; however, certifications from third parties, whether regulators, standards organizations, or non-profits provide a potential solution, and public-blockchain NFTs can provide an immutable, easily verifiable record.

## The challenge of ESG and impact investing

While Environmental, Social, and Governance (“ESG”) factors in investing are gaining prominence, there are several key challenges that are preventing its broader adoption.<sup>1</sup> A central challenge is aligning the underlying ESG factors with stated investment goals. Many ESG factors are difficult to measure or industry-specific leading to the possibility of greenwashing.



“It is important that investors have consistent and comparable disclosures about asset managers’ ESG strategies so they can understand what data underlies funds’ claims and choose the right investments for them.”

- Gary Gensler, SEC chair



While regulators in certain markets seek to clarify standards, investors more broadly are still unsure how to measure ESG and reduce the risk of greenwashing. Prominent ESG related KPIs are generic, which means they do not consider specifics of the industry of the company being invested. This situation incentivizes a shell-game like approach where companies attracting ESG investments focus on managing the metric, ignoring all other impacts. To take a rough example, a company could be carbon neutral while still having excessive water and land use, working with disreputable suppliers, and treating its workforce poorly. As long as they focus on the areas that ESG reports and ratings evaluate, they’ll be able to “greenwash” their reputation.

## Certifications: Allow nonprofits to lead the analysis

Multiple market driven solutions, such as non-profits, industry associations, or even regulators have been creating certifications focusing on specific aspects of ESG. Much like how ISO standards allow manufacturers to certify specifications, a trusted third party can conduct an assessment in its domain and issue a certificate to provide assurance. Investors or purchasers only need to trust the issuing organization and that the certificate itself is valid.

There are numerous certifying organizations in the market today with a variety of different foci - while some ESG related metrics are broadly applicable, others will be specific to certain industries or economic activities, and a decentralized field of organizations provide targeted expertise.

Currently, there is no central way to track or verify authenticity of certificates: organizations commonly issue a PDF document to the recipient and list the credential on their website. There is no scalable model that encourages broad certificate use, and no way to verify the history.

### Examples of certifying organizations and their scope

- LEED (for environmental sustainability in buildings)
- Ellen MacArthur Foundation (for circularity in product lifecycle)
- Roundtable on Sustainable Palm Oil (industry association focusing on palm oil production)
- B-Corp (broad ESG encompassing employee benefits and charitable giving to supply chain practices and input materials)
- WEF report
- UL certification
- EU carbon directive

## Our view: Blockchain infrastructure can support the solution

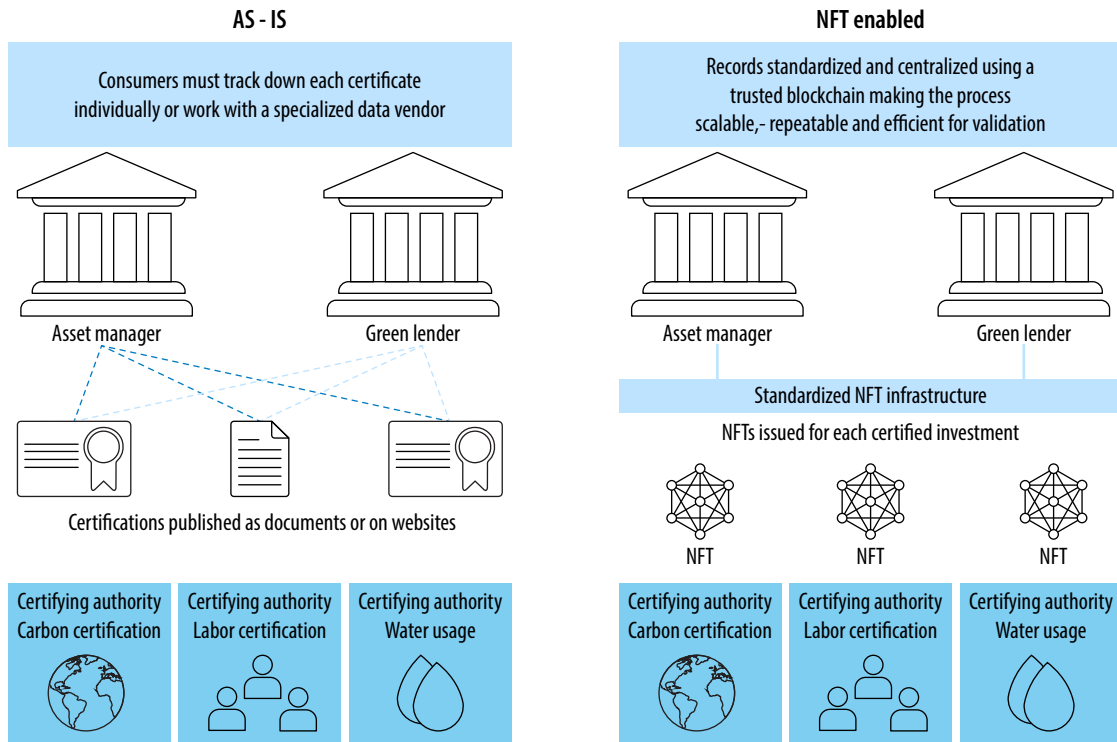
Non-Fungible Tokens (“NFTs”) provide a unique, publicly verifiable, means of verifying a specific piece of data. Organizations issuing certificates would mint NFTs that will serve as an immutable record of the credential on a public blockchain. The key value of this approach is to remove the challenges involved in storing, distributing, comparing, and verifying certificates, so that market participants can instead focus on deciding which certificate issuers plan to use.

Building an NFT certification infrastructure will require trust from various key market players. A central entity, such as a clearinghouse or exchange, would be in the best position to lead the creation of this infrastructure, as they already interface with investment markets as a facilitator of transactions. One or more major industry participants could also serve this function working together. In addition to managing the infrastructure, the facilitator should be in a position of trust and help drive adoption.

To power the infrastructure, a low cost (preferably proof-of-stake based) public blockchain would be an ideal fit. Note that certificates would be immutable once issued, so in this conception there would be no way to “revoke” a certificate when a recipient later goes out of compliance. This decision is by design to provide assurance and trust, and certificates should be designed to have an “expiration” date in most cases, requiring recipients to re-prove their adherence to standards when the time comes for renewal.

## Benefits of NFT Certificates

- Immutable, public record of a certificate; investors, lenders or supply chain participants can be assured that their reliance on certifications is recorded & traceable.
- Consistent standard across all certification types and organizations
- Easily available to all stakeholders; even retail investors could efficiently verify that the assets in the financial products they hold are certified.
- Allows for industry-led, voluntary adoption of ESG standards ahead of industry consensus.
- Scalable



## Benefits of NFT-based digital certificates

There are several key benefits of using Blockchain based technology to solve this problem, over a traditional central data repository.

- **Publicly available:** Anyone can verify any certificate at any time, even the average retail investor should be able to take advantage of this system, without an expensive subscription or limitation to certain major institutions.
- **Immutable:** There is no question that an issued certificate is valid, the focus of any trust discussion can instead be on the certificate issuer. This infrastructure creates a marketplace where different issuers can compete, encouraging rising standards and careful audits so as not to lose trust.
- **Open:** All of the data related to certificates is available, which allows for advanced capabilities such as querying what percentage fund holdings are certified, or investigating how many certificates an organization is issuing. These capabilities are mandated by the technology choice, beyond a deliberate decision to include them.
- **Standardized:** By having a uniform infrastructure for tracking certifications that can handle a wide variety of issuers, certified companies, and users, information becomes scalable and more readily usable. This advantage is most evident when comparing to the current method where certifications are hosted on private issuer websites, requiring advanced web scraping to obtain aggregated data.

# Conclusion

At its core, we need to reduce the variables that investors need to “trust” in order to comfortably understand how ESG factors are implemented. While certifications are not a panacea, this solution allows investors to focus on specific credential issuers. There’s no need to get updated feeds from

each certifying organization or worry that certificates may be invalid. They also don’t need to rely on generalized standards that mismatch with actual business activity (leaving the risk of greenwashing in place). This infrastructure allows investors and benchmark creators to focus on their value-added analysis with the confidence of relying on independent certification.

# Appendix

## Roles for participants

<b>Certificate Issuers</b> Non-profits, regulators	<p>Evaluate companies on business activities and determine if they are eligible to be certified, either proactively or based on an application. Issues certificates to the blockchain and provides a level of trust for their specific area of expertise.</p> <p><i>Example: The Ellen MacArthur Foundation evaluates products on their alignment to a circular economy; the ability to extend lifespan and to re-use resources that created the products.</i></p>
<b>Certificate Recipients</b> Corporates, municipals, specific projects seeking financing	<p>Apply for and receive certificates from issuers. Provides data to certificate issuers for audit and tracking, and once certificates are issued, can use them for marketing, reporting, or raising capital.</p> <p><i>Example: A consumer goods firm requesting certification that its products and plans for future development align with goals of a circular economy.</i></p>
<b>Central Facilitator</b> Central clearinghouse or capital markets firm, or association of market participants	<p>Creates smart contract and oversees process, setting standards for certificates to be recognized. Focuses on the overall certificate ecosystem, including assurance that certificates are searchable and trustworthy.</p>
<b>Users</b> Investors, customers, and other stakeholders who want to trust a given company / investment is ESG positive	<p>Receives the benefit of a quick, efficient, trustworthy, free, and public means of getting assurance on relevant ESG metrics.</p> <p><b>Asset Manager:</b> Creates financial products such as mutual funds that allow asset owners to invest in certain strategies, including ESG strategies. Needs a way to quickly evaluate many companies in order to make investment and voting decisions. The firm needs to provide trust to asset owners that it is managing funds in line with the promised strategy.</p> <p><i>Example: A major firm launches an ESG Circularity fund that primarily invests in companies aligned with a circular economy.</i></p> <p><b>Asset Owner:</b> is the person/entity investing money. Includes major investors like pension funds or endowments, and retail investors. Their desire for ESG may be driven by personal values, risk control, or even a hope that their investments will impact financing a long-term transition to sustainability. Currently, they must trust the asset manager who manages their funds, that the funds are being invested as described, with only major asset owners or regulators being able to meaningfully oversee investment activities.</p> <p><i>Example: A retail investor decides to invest some of their savings in their retirement account to an ESG Circularity Fund, as they believe circularity is an important consideration in the future of consumer products and wishes to see traceability on ESG based investment decisions.</i></p>

## Reference:

1. <https://www.bloomberg.com/company/press/esg-may-surpass-41-trillion-assets-in-2022-but-not-without-challenges-finds-bloomberg-intelligence/>

## About the Authors



### **Bharat M. Gupta**

*Senior Principal, Financial Services,*

*Crypto Advisory Services*

*Infosys Consulting*

Bharat is a business transformation leader and management consultant with more than 20 years of experience helping clients solve problems, develop strategy, define solutions, build ground-up software delivery organizations and deliver measurable value across financial services (banking, capital markets and cards & payments), telecom, insurance, and healthcare.



### **Todd Roazen**

*Principal*

*ESG Advisory Services*

*Infosys Consulting*

Todd has comprehensive experience in the asset management industry helping firms optimize back-office functions, integrate ESG analysis and implement best practices from software design into business systems. Todd is passionate about improving how the finance industry operates and integrating the capabilities of emerging technologies to solve complex challenges. Todd has a JD and MBA from Northeastern University in Boston.



### **Sharath Nair**

*Principal*

*Infosys Consulting*

Sharath is a management consultant and technologist with extensive experience in the financial services space (payments, banking, and capital markets) within systematically important FIs. Sharath has worked with and led cross-functional teams that created new lines of revenue, implemented digital banking strategies, created target operating model design/strategy all while paying cognizance to regulatory mandates. Sharath is passionate about and has expressed thought leadership in the use of emerging technology to further the causes of sustainability (ESG), ethical use of AI, and outcome based healthcare. Sharath has an MBA from Warwick Business School, UK (ex. term at Chicago Booth, USA).



For more information, contact [askus@infosys.com](mailto:askus@infosys.com)

© 2023 Infosys Limited, Bengaluru, India. All Rights Reserved. Infosys believes the information in this document is accurate as of its publication date; such information is subject to change without notice. Infosys acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. Except as expressly permitted, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior permission of Infosys Limited and/ or any named intellectual property rights holders under this document.

