

A market for measured and verified impact

ImpactScope White Paper v2.0

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1 Introduction

At ImpactScope we believe the coming decade will see a major paradigm shift in how impact is funded, created and verified. Our thesis is that the confluence of Blockchain Technology (BCT), web3 primitives and Artificial Intelligence (AI) will spawn new toolkits for verifying impact and new financial models which will turn impact outcomes into liquid, tradable digital instruments.

"Transitioning social impact into an asset sets the stage for more social-sector business opportunities and financial products to emerge, just as they have in the carbon offset market."

Phyllis Kurlander Costanza

Co-founder of OutcomesX, Harvard Business Review

According to Global Impact Investing Network (GIIN) the **size** of the global impact investing market in 2024 will be more than USD 1 trillion. Other **forecasts** suggest a market size of USD \$4.5 trillion by 2030. These high figures are controversial because originally the phrase "impact investing" was coined to describe an investment approach and not an asset class. Secondly, the term "impact investing" is in danger of becoming an overly broad catch-all term for investments which seek to limit negative externalities. True impact investing, on the other hand, requires "intentionality".

"Most organizations can look at their portfolio and find areas that are creating social impact; without the distinction of 'intention', the discussion becomes watered down and nothing new."

Renat Heuberger

CEO and Deputy Chairman, South Pole Carbon

Despite differences in opinion about which types of investment and commercial activities should be allowed to fall within the definition of impact investing, there is little doubt that positive impact outcomes are on their way to becoming an established asset class. From green bonds to sustainable infrastructure investments, from plastic recycling credits to affordable housing funds, the achievement of environmental and social objectives can offer attractive financial returns.

However, if we believe that the creation of positive impact outcomes can be a distinctive asset class, or moreover a liquid asset class, then it is not enough to merely establish intentionality. There needs to be consensus on what constitutes value. Such a consensus is impossible without effective tools and processes to standardise the verification, measurement and monitoring of impact performance over time.

1.1 The Impact Measurement Data Gap

According to the [Annual Impact Investor Survey](#), published by the GIIN, the primary challenge facing the sector continues to be "impact measurement", with 82% of respondents listing it as the greatest challenge. In the same survey, the Top 3 concerns mentioned by all respondents were: a) impact washing, b) inability to demonstrate impact results, and c) inability to compare impact results with peers. In other words, the challenge is with measuring, proving, and reporting impact, as confirmed in a [recent study](#) from the SBTi (Science Based Target initiative).

Moreover, in its 2019 publication "*Social Impact Investment: The Impact Imperative for Sustainable Development*", the OECD provided a roadmap of recommendations in four specific "action areas". As can be seen in Fig. 1, the OECD report places significant emphasis on the need for **"innovating new approaches and addressing data gaps"**.

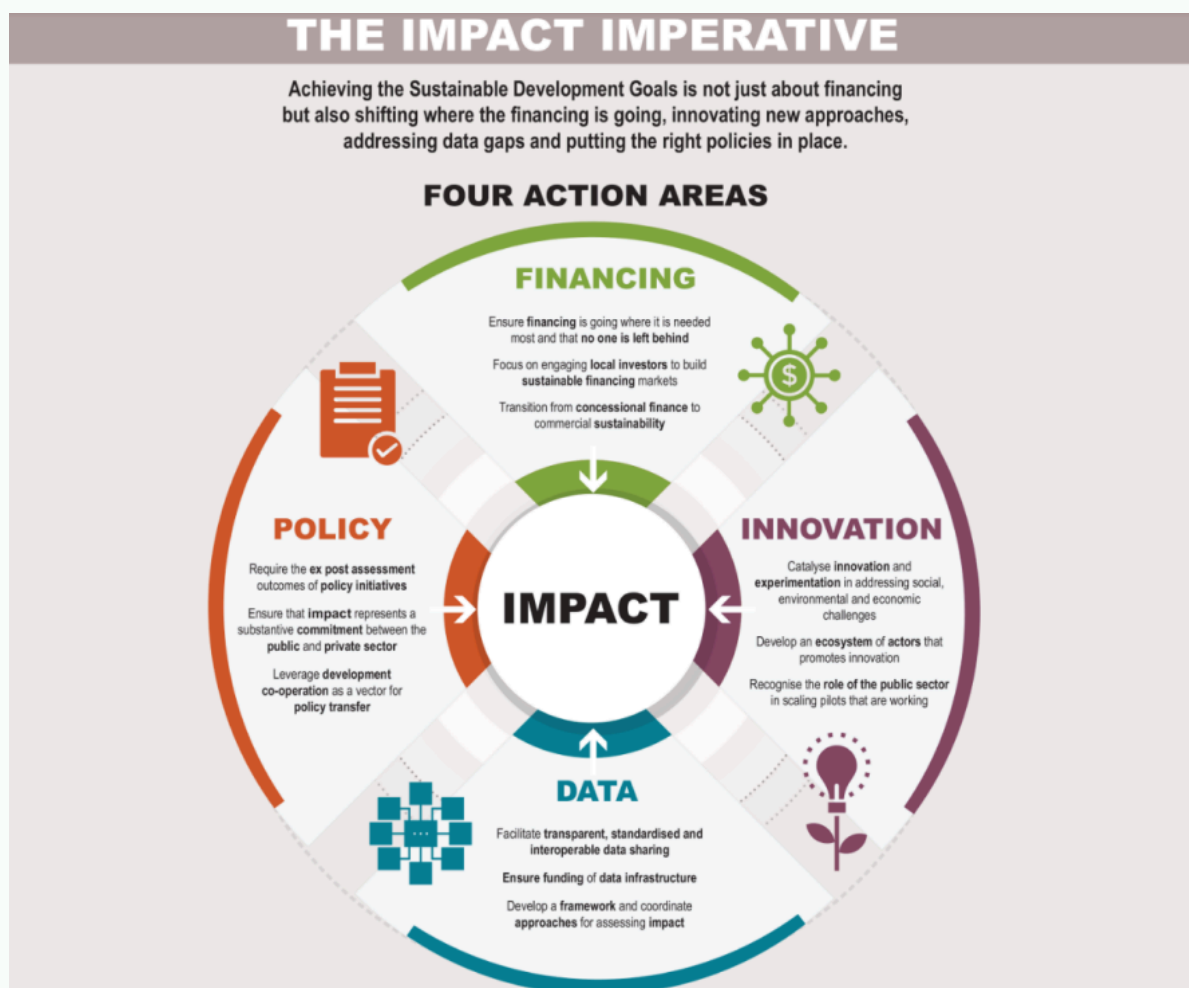


Fig 1. The Impact Imperative - Four Action Areas (OECD)

ImpactScope is revolutionising the impact sector through the seamless integration of BCT and web3 primitives. Our guiding thesis focuses on empowering impact-focused organisations with a dedicated suite of tools for impact outcome monetization, as well as measurement, reporting, and verification (MRV). By leveraging BCT's inherent transparency, traceability, and trust guarantees, our infrastructure facilitates accurate, real-time, and transparent MRV functions, overcoming the primary challenge of substandard MRV faced by the impact sector. This approach not only addresses this challenge but also ushers in a new era where verified impact outcomes become a tangible asset class.

Beyond the fringes of financial returns, impact investments transcend profit-driven motives, encompassing a diverse range of organisations -

both for - and not-for-profit - united in the common goal of enhancing societal and environmental well-being. The SDG Impact Standards emphasise the importance of strategy, management, transparency, and governance in shaping impactful outcomes. Additionally, due to new ESG reporting [requirements](#), a further 50,000 companies in the EU in 2024 will incur an additional EUR 4.1 billion in [compliance costs](#), highlighting the growing necessity for robust measurement and reporting mechanisms. Globally, a significant number of similar sustainability reporting requirements are being implemented.

In response to these challenges, ImpactScope takes a proactive approach by bringing verified impact outcomes on-chain. Through the marriage of web3 MRV tools and tokenomics engineering models, we create new possibilities for the monetization of verified impact outcomes. This transformative step underscores the intrinsic value of impact, positioning verified impact outcomes as a distinct asset class. ImpactScope's approach not only aligns with the principles laid out in the GIIN framework of intentionality, additionality, and robust impact measurement, but also eyes a potential 17% reduction in the anticipated additional ESG compliance costs.

1.2 The Virtuous Impact Cycle

ImpactScope's Virtuous Impact Cycle stands as a compass and a testament to our commitment to sustainable, long-term value creation. It illustrates the positive feedback loop that necessitates a holistic approach to impact throughout its lifecycle. At the core of this cycle are MRV tools, serving as the backbone for the equitable distribution of value derived from impactful outcomes. This virtuous cycle encompasses the entire journey of impact creation, from initial funding to ultimate delivery. By embracing these tools, ImpactScope fosters a dynamic ecosystem where impact begets value, and value circulates to fuel future impact creation.

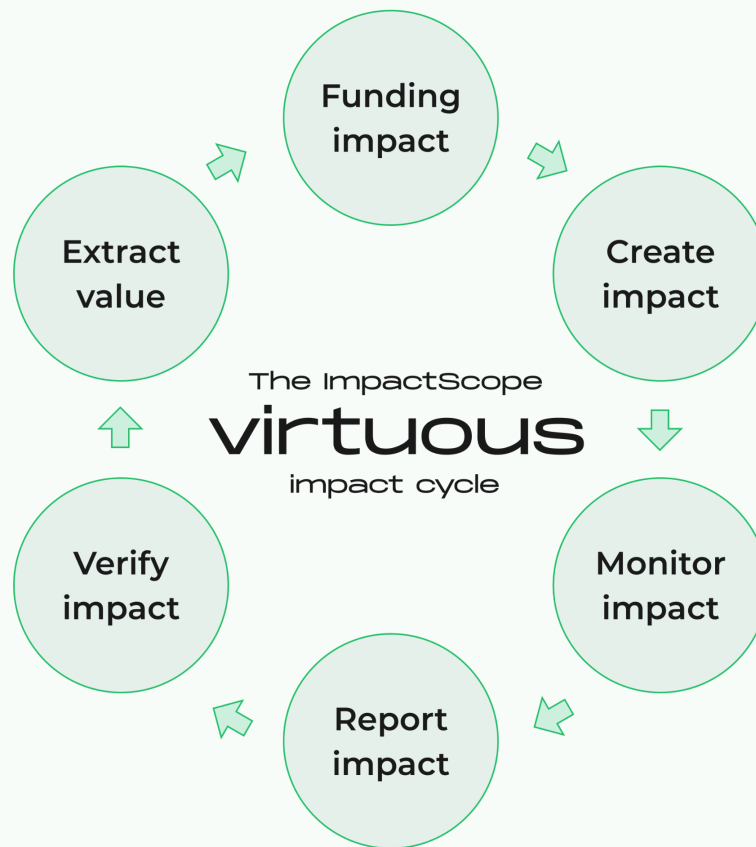


Fig 2. The ImpactScope Virtuous Impact Cycle

1.3 Impact Marketplace

In pursuing our mission of tokenizing the value of verified impact outcomes, the ImpactScope Impact Marketplace takes centre stage. The marketplace and its native governance token, which are described extensively in the last section of this document, enable any kind of impact to be delivered and attested to. The marketplace operates in tandem with the principles outlined by the SDG Impact Standards, by adopting a two-tiered architecture. This framework strategically segregates functions throughout the Virtuous Impact Cycle, ensuring a comprehensive and structured approach to monetization, management, transparency, and governance. The community network effects within the platform foster an environment conducive to sustainable and provable impact creation. Furthermore, the community is actively invited and even encouraged to

contribute to the toolkit, standards, and frameworks that underpin the marketplace. In doing so, the marketplace is a launchpad for long-term value creation and the cultivation of a robust ecosystem that prioritises high-quality impact verification.

1.4 Sustainable AI - How can blockchain help?

Much like any newly introduced technology, AI's impact is not inherently positive or negative. Much depends on how the technology is used. With this in mind, in early 2023 ImpactScope embarked on a journey to research and understand the potential impact of AI as it relates to our domain of knowledge: Blockchain and sustainability. As such – under the aegis of the Sustainability Working Group of the Crypto Valley Association – the report [Sustainable AI: How can blockchain help?](#) was published in July 2023.

Co-authored by ImpactScope's Chief Sustainability Officer, Michele Soavi, the report explores the intricate relationship between AI and Blockchain technology within the transversal subject of sustainability. The report is based on the review of the topic conducted at the beginning of 2023, a survey proposed to the members of the Crypto Valley Association as well as an analysis of its members involved in different ways at the intersection of AI, Blockchain and Sustainability. Ultimately, the report provides a framework – based on the acronym RESTART (Restrainability, Effectiveness, Security, Transparency, Accessibility, Representativity and Trust) – to narrow down to the most important ethical and sustainability principles and values when it comes to AI development and usage.

2 Verifying Impact Claims — ImpactScope's Greenwashing Identifier

Following our research studying the intersection of AI, Blockchain and sustainability, ImpactScope began exploring concrete use cases for technological implementations at their intersection. This led to the development of Greenwashing Identifier (GWI), an AI and Blockchain-powered tool to identify greenwashing instances. The tool helps financial supervisory authorities, asset managers and companies in general, to efficiently monitor and analyse corporate communications, saving thousands of hours annually and ensuring compliance with evolving regulatory standards. Integrated alongside our web3 toolkit, GWI operates as a proactive solution by scrutinising reports and transactions. It generates on-chain greenwashing reports, creating an immutable record for heightened transparency.

In an era where sustainability and corporate responsibility are paramount, greenwashing — the act of misleading consumers about the environmental practices of a company or the environmental benefits of a product — is an alarming concern. On the one hand, corporations face increasing pressure to showcase their green initiatives, incentivising them to exaggerate or misrepresent their eco-friendly practices. This deceives consumers and undermines genuine efforts to combat climate change and protect our planet. On the other hand, an increasing number of regulations are being implemented to deal with greenwashing, coupled with a global increase of sustainability reporting requirements. To tackle this issue, ImpactScope participated in a 3-month Sandbox TechSprint organised by the [Global Finance Innovation Network](#) (GFIN) and the [UK Financial Conduct Authority](#) (FCA). The objective was to develop a tool that would help financial regulators and international institutions more effectively tackle or mitigate the risks of greenwashing in financial services.

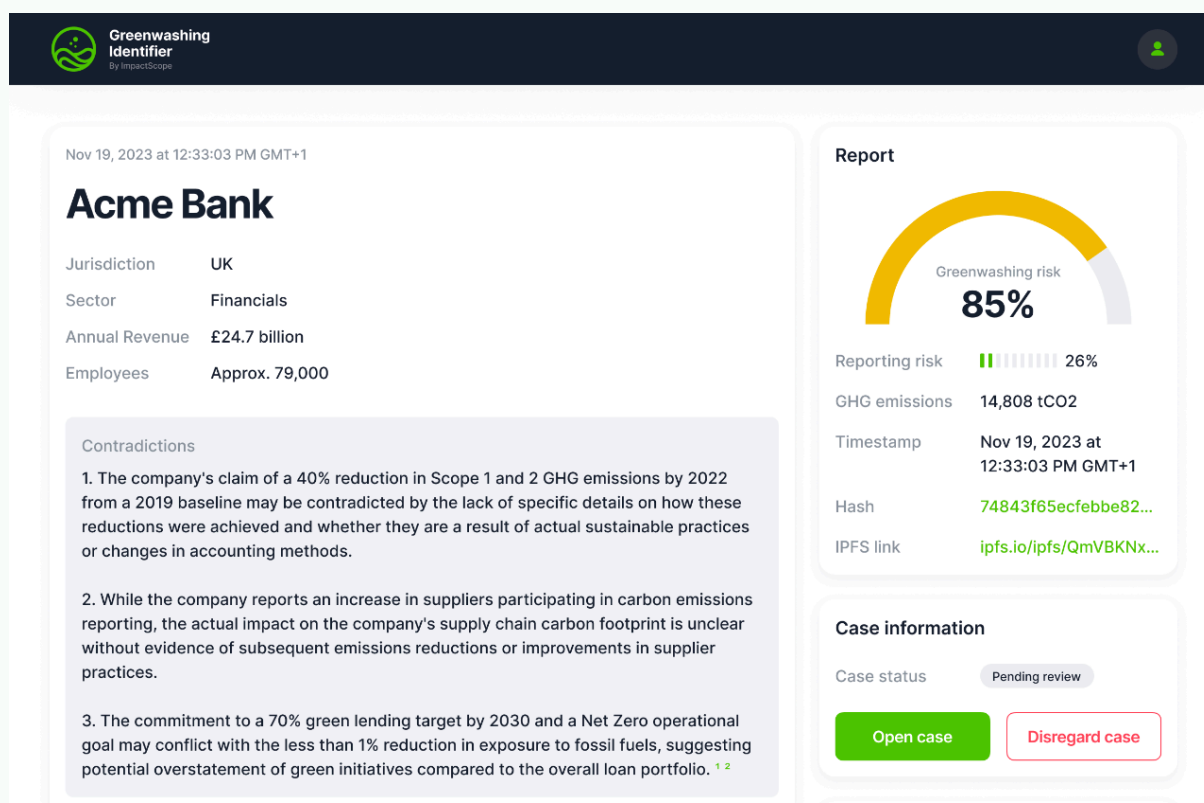


Fig 3. Example of a GWI greenwashing report

During the TechSprint, ImpactScope collaborated with the [Malta Financial Services Authority](#), the [Central Bank of Bahrain](#) and the [World Bank](#) to develop GWI. At the end of the TechSprint, during Demo Day, GWI won the Eureka Prize for “the most original adaptation of a technology”¹.

“ImpactScope has applied some very sophisticated machine learning NLP models. They have solved an incredibly difficult problem by synthesising different information sets, tagging them in a structured way, which means that information is very readily accessible.”

GFIN TechSprint Demo Day Jury

¹<https://www.fca.org.uk/news/news-stories/fca-reveals-gfin-greenwashing-techsprint-winners>

2.1 Blockchain complementing AI

Under the hood, GWI is powered by the successful marriage of two innovative technologies: AI is used to identify potential greenwashing instances. Meanwhile, blockchain technology is leveraged to “preserve the scene of the crime”, so to speak.

In other words, snapshots are taken of the elements (inconsistencies, contradictions, unsubstantiated claims) that led to the identification of a greenwashing instance in the first place. These snapshots are recorded on Interplanetary File System (IPFS), a decentralised file storage network. In each case the IPFS source location address is linked to an individual hash address on a blockchain. During the development of the GWI MVP Ethereum’s Sepolia testnet was used for this purpose. However, for the first commercial release of GWI, ImpactScope is currently evaluating a number of potential chain options, both public and permissioned.

2.2 AI: Qualitative and Quantitative Analysis

In essence, the AI module compares company documentation (e.g. financial reports, sustainability reports, social media) and external data sources (carbon offset databases, environmental performance databases) to examine whether contradictions, unsubstantiated claims, exaggerations or potential inconsistencies exist among the different data sources. For example, does a company refer to a product or themselves by using the terms “net zero” and “carbon neutral” interchangeably, when in fact the two terms mean very different things? Does an investment fund allocate 20% of its advertising budget to market a green bond which accounts for less than 1% of its assets under management? The outcome of the analysis is a qualitative report in which the identified potential greenwashing instances are explained in detail.

The qualitative section of the greenwashing report is complemented by a quantitative analysis to provide a scoring system for comparability. For this purpose, greenwashing risk, reporting risk and CO2 risk are calculated. The GWI scoring system is based on the assessment of the quality of corporate communications based on objective elements. Has the sustainability report been audited? Has the audit opinion identified any issues? Does the

company report on their total CO2 emissions? Does the company report disclose intensity measures for CO2 emissions? How is the environmental performance of a company evaluated from a public database (e.g. [Net Zero Tracker](#))? Does a company claim to be offsetting their CO2 emissions but they do not appear on any relevant carbon offsetting registry? All such elements represent the basis for the scoring system allowing a benchmark among different companies and sectors.

GWl leverages a comprehensive dataset, including corporate filings, ESG documents from approximately 5,800 companies, and around 138,000 unique reports. This vast repository, combined with 150 million tagged sentences and 74 ESG issue-specific classifiers, enables GWl to offer precise and reliable greenwashing detection. To support our requirements, ImpactScope partnered with [InsigAI](#) - the only AI-focused UK-listed company - to obtain the tagged dataset. The tagging was necessary to filter out the different data sources and focus the AI analysis only on content concerning environmental elements and was performed by selecting phrases which contain keywords such as “Scope 3”, “science-based target”, “baseline year”, “interim target”, “carbon intensity”, etc.

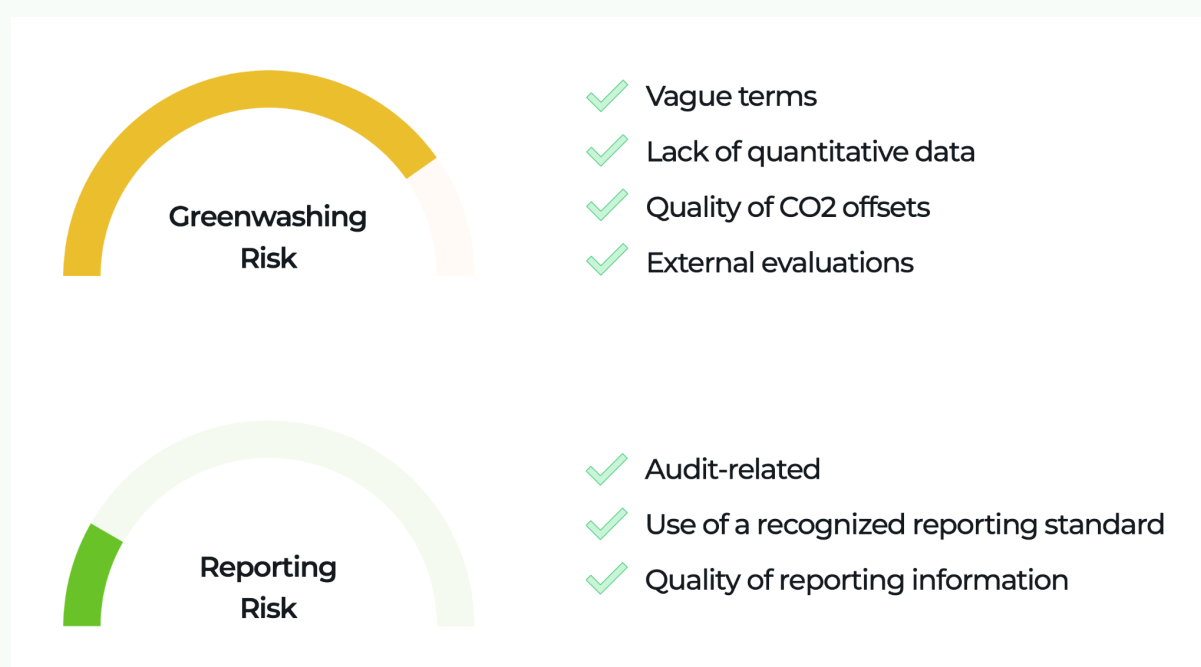


Fig 4. Example of Indicators of Greenwashing and Reporting Risk

GWl is an entirely web-based application and as such does not require any installation of executable files. The tool can be fully adapted for different types of regulations (e.g. [CSRD](#), [EU Green Taxonomy](#)) or objectives, such as those arising from internal policies. At present, the most relevant use cases are a.) financial regulators, who need a tool to quickly analyse large numbers of companies under their jurisdiction, and b.) regulated asset managers, who need to identify potential cases of greenwashing in their portfolio companies. Similarly, GWl can be used internally by corporate entities to continually monitor all types of reporting, social media and company communications to check for potential occurrences of greenwashing before such content is made public.

3 Measuring, Verifying, and Reporting Impact

Decentralisation, trustlessness, traceability and immutability are key characteristics of BCT. When these same attributes are applied to the verification and measurement of impact the results are tools and interfaces which monitor and report impact metrics in a transparent and continuous fashion. This leads to more credibility and transparency than traditional impact reporting outputs, which are too static, too intermittent and centrally reported.

3.1 Proof-of-Impact Dynamic NFTs

To meet the demand for credible impact MRV, ImpactScope developed the first of its MRV tools: Proof-of-Impact Dynamic NFTs (dNFT). These dynamic, non-fungible tokens offer an innovative way to monitor, display, and report on impactful activities. These dNFTs serve as a real-time, tamper-proof record, bridging the gap between BCT and sustainable impact measurement, with the potential to make impact reporting more engaging and gamifiable. Furthermore, dNFTs are tradeable on secondary markets, a critical requirement in turning impact outcomes into financial instruments.

In practice, the benefits of dNFTs include:

1. Accurate and automated reporting:

Through integration with oracles, such as smart metres, data is automatically recorded on-chain. Smart contracts are used to verify data, enabling the issuance of dynamic NFTs. This process ensures accuracy, automation, and transparency in impact reporting.

2. Display of monitored data:

dNFTs offer an accessible and informative format for representing monitored data. This enhances the understanding and engagement of stakeholders, moving beyond conventional and limited reporting practices.

3. ESG indicator integrations:

The flexibility of dNFTs means that the metadata can be used to reflect ever changing ESG indicators and categories, including CO2 emissions, renewable energy production, and air quality, thereby bolstering sustainability reporting practices.

4. Marketplace for dNFTs:

dNFTs go beyond traditional impact certificates, and can be used as a stand-alone fundraising tool.

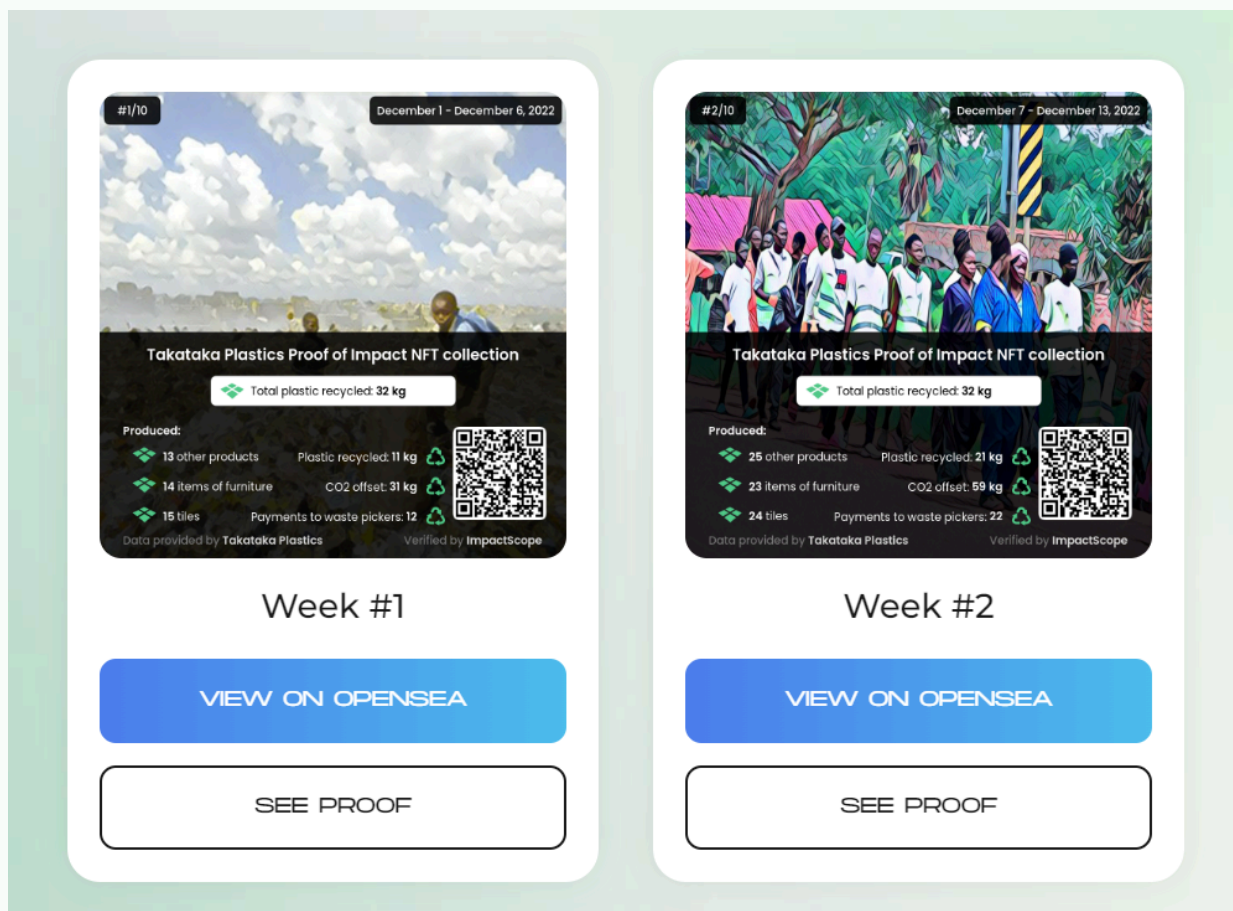


Fig 5. Example of Proof-of-Impact dNFTs minted for a circular economy plastic recycling enterprise.

3.2 Impact Dashboards

Web3 impact dashboards can serve as important interfaces for various entities such as social enterprises, impact-focused companies, carbon project developers, and offset purchasers, providing a means to monitor and benchmark the impact generated by both themselves and specific initiatives. While each web3-enabled impact dashboard is distinct, they all share the necessity of being connected to on-chain data sources, whether directly through oracles or indirectly via dNFTs. This connectivity allows for the comparison of performance metrics across diverse projects and aids in impact measurement decision-making processes for companies. Functioning as a platform for engagement, these dashboards play a crucial role in continuously measuring positive social and environmental outcomes for stakeholders. By enabling viewers to compare the performance of different impact projects against established benchmarks based on the GIIN methodology, the Impact Dashboard concretely bridges the gap between the amount invested and the impact created, thereby addressing the MRV data gap in impact investing.

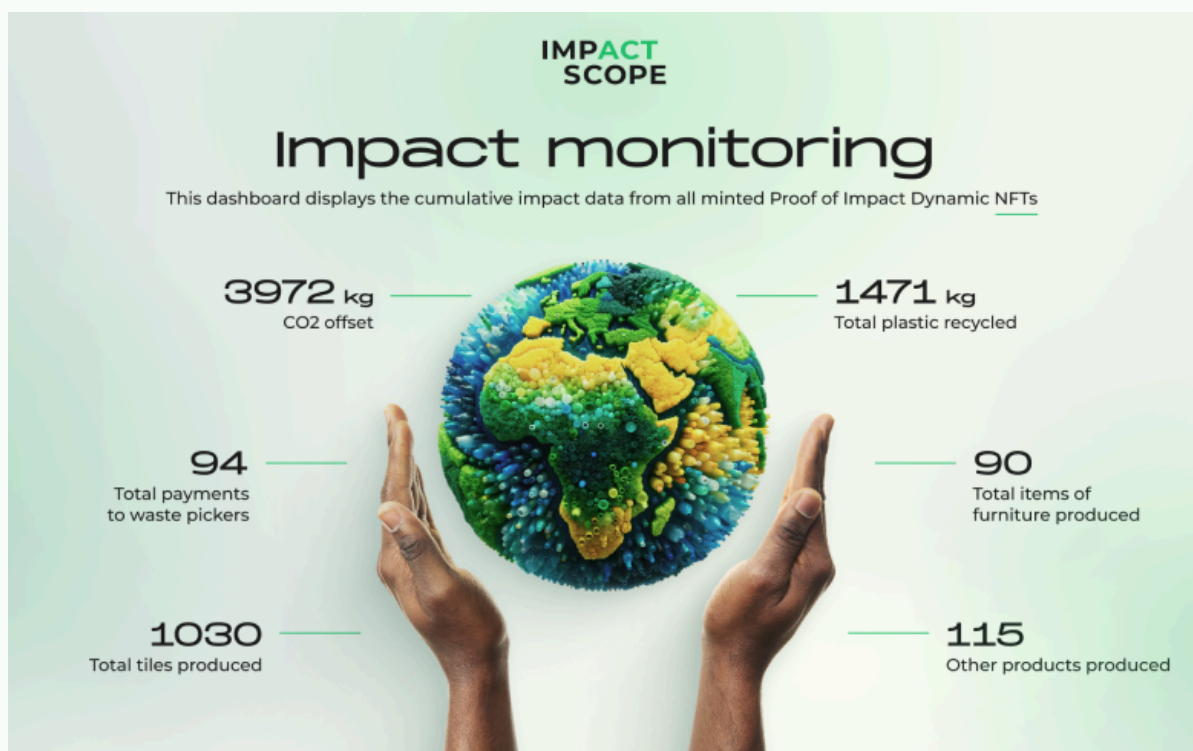


Fig 6. Impact Dashboard for a recycling project

3.3 Use case: Siemens & Impact Oracles

With annual revenue of EUR 78 billion, and 312,000 employees worldwide, German conglomerate, [Siemens](#), is recognised as one of the leading global technology companies, with divisions across automation, building technology, healthcare and transport.

One quarter of Siemens' revenue comes from its Smart Infrastructure operations. Over the last decade Siemens has grown into one of the world's largest Energy Services Companies (ESCOs). By taking a holistic view of both energy and infrastructure needs, Siemens offers public and private sector operators guaranteed performance-based solutions in the form of Energy Savings Performance Contracts (ESPCs). These contracts allow operators of hospitals, airports, universities and energy-intensive manufacturing plants to use future savings to fund infrastructure improvement programs, while turning capex costs into opex items.

Like many other ESCOs, Siemens faces challenges in meeting the increasing criteria and requirements of ESG reporting, both for themselves and their ESPC clients. To compound this, existing tools fall short, particularly with the growing complexity of reporting due to the exponential growth in IoT devices in buildings and consequent data production.

As a global finalist in the 2023 Siemens Tokenize the Energy Transition Challenge, in collaboration with Siemens, ImpactScope implemented a web3-enabled energy data and verification system, based on Proof-of-Impact dNFTs and an impact dashboard connected to impact oracles.

For Siemens, the integration of Smart Grid energy metres and energy monitoring software served as oracles, providing the necessary data for verification of energy efficiency. The main goal was to achieve accurate, automated, and transparent ESG reporting. ImpactScope's innovative approach involved leveraging dNFTs as a foundational element to ensure tamper-proof and automated monitoring and verification of energy data. Integration with energy metre oracles enabled data to be automatically

recorded on-chain, and smart contracts were employed to verify this data, leading to the issuance of dynamic NFTs.

These dynamic NFTs, acting as real-time, tamper-proof records, showcased energy efficiency and savings along with corresponding impact metrics. ImpactScope showed Siemens how to utilise these dNFTs to certify and verify energy savings, track and verify carbon emissions, and create digital twins reflecting energy performance in real-time. ImpactScope's system also enabled easy sharing of energy performance data, while providing transparent, tamper-proof data storage.

The Impact Dashboard played a pivotal role in the solution by serving as an interface for various stakeholders. Additionally, impact oracles were employed to pull data through an API, thus altering the appearance of the dNFTs. The metadata, displayed data, and visual characteristics of the dNFTs changed regularly as impact metrics were updated.

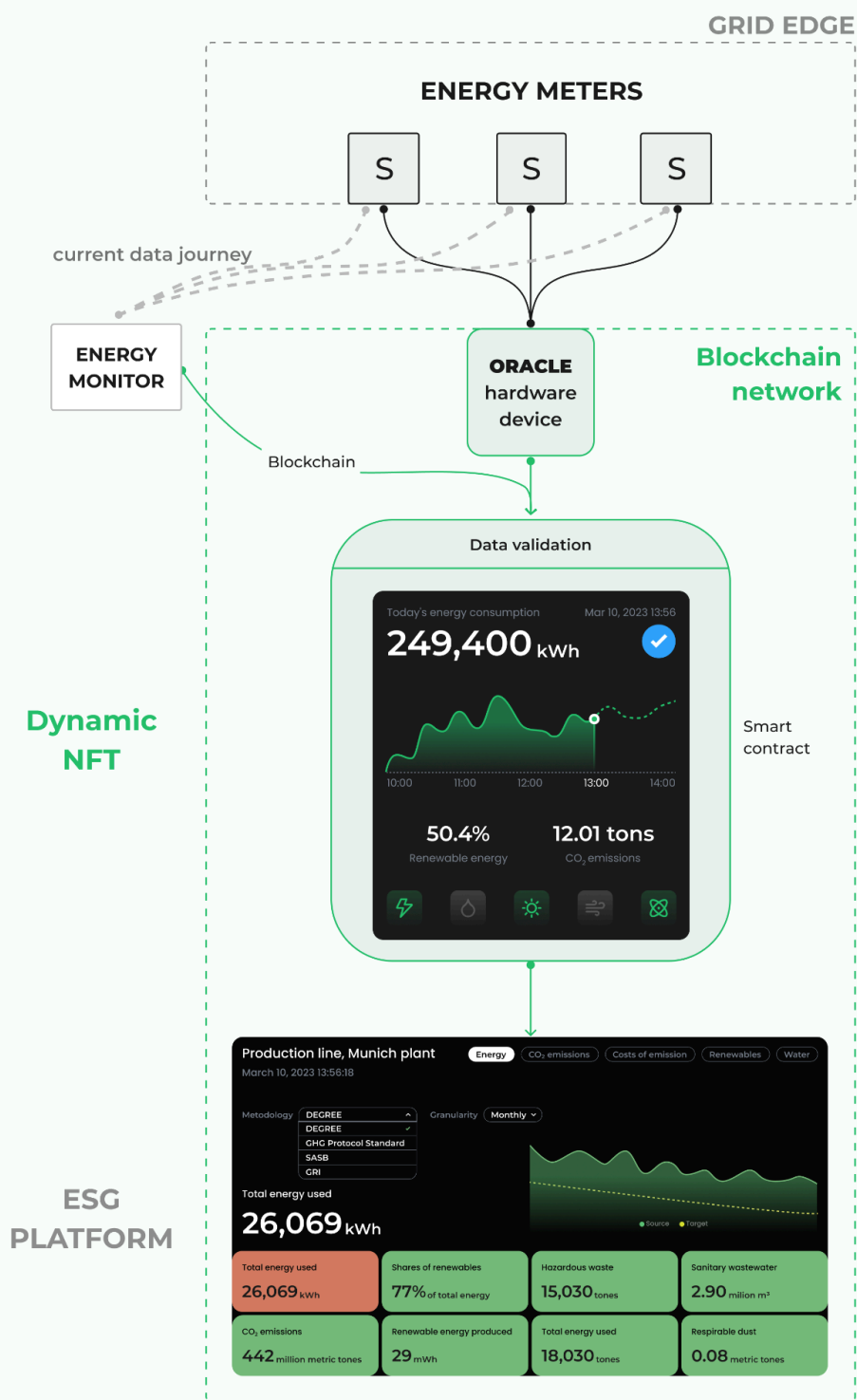


Fig 7. The architecture and UI of the solution developed for Siemens

ImpactScope's proposed solution represented a transformative shift from the challenges posed by current centralised storage and manual processes to the advantages offered by these novel dMRV tools. The decentralised storage, automated processes through smart contracts, and the transparency and immutability of data provided by dNFTs significantly reduced errors, inconsistencies, and long-term costs associated with ESG compliance. ImpactScope demonstrated how the integration of these novel MRV tools not only met Siemens' immediate needs for accurate ESG reporting but also positioned ImpactScope at the forefront of sustainable and transparent energy practices, contributing to the acceleration of the green energy transition. This innovative solution ensured compliance with emerging regulatory requirements while demonstrating a commitment to reduced costs, data integrity, and real-time monitoring.

4 Marketplace for Verified Impact Outcomes

4.1 Social Outcomes Contracts

Social Outcomes Contracts (SOCs), also known as Social Impact Bonds or Development Impact Bonds (even though they are not bonds in the traditional sense of the word) are **performance-linked** investment products designed to achieve social interventions in areas such as affordable housing, youth unemployment, homelessness, recidivism, etc. Increasingly, local governments, philanthropic organisations and international development bodies are turning to SOC structures in order to shift the financing risks involved in creating impact outcomes away from themselves and onto third-party private investors. A typical SOC structure involves 3+1 parties: 1.) the Impact Commissioner; 2.) the Private Investor; 3) the Impact Creating Consortium (service providers), and the +1 is usually an Impact Verifier.

Many of the earliest examples of SOC structures in action were in the area of reducing recidivism. When reoffence rates are high, especially amongst first-time released prisoners, the direct and indirect costs to local governments and local communities are also high. High reoffence rates mean more future taxpayer funds are needed for payments to prison officers and prison accommodation construction. There will also be higher crime rates, more damage to life and property, higher cost of insurance, a less attractive business environment and more social discord.

Social Finance pioneered the world's first social impact bond in 2010 to reduce reoffending among short-sentenced prisoners leaving Peterborough prison in northern England. Criminal Justice was chosen due to the high reoffending rates (around 60%) among this group, with unclear statutory responsibility for their post-release support, leading to a cycle of re-entry into prison.

The socio-economic value that can be achieved in cutting reoffence rates significantly can be an order of magnitude higher than the direct savings

from reduced prison maintenance costs. In this scenario the local government (the Impact Commissioner / Impact Funder) is motivated to pay more for a **de-risked outcome**. In a SOC structure, instead of contracting with various service providers, who may or may not be successful in reducing reoffence rates, the Impact Commissioner contracts with private investors, who will only be paid if and when the agreed impact outcome has been achieved. In this structure the performance risk is borne by the private investors (foundations, impact investment funds, SPVs) and not by the local government.

From the perspective of the investors, they expect to hire a consortium of for-profit and nonprofit service providers in order to achieve the impact outcome. The investors calculate that the cost of creating the outcome will be less than the value of their contract with the local government, thus providing them an above-market return on their investment. Breakthroughs in reducing reoffence rates typically take years to realise and often require close cooperation between rehabilitation experts, professional mentors, affordable housing providers, mental health services, and specialist work placement programs. If the investors' calculations are wrong or if the service providers fail to deliver the required impact outcomes there is no financial risk to the local government.

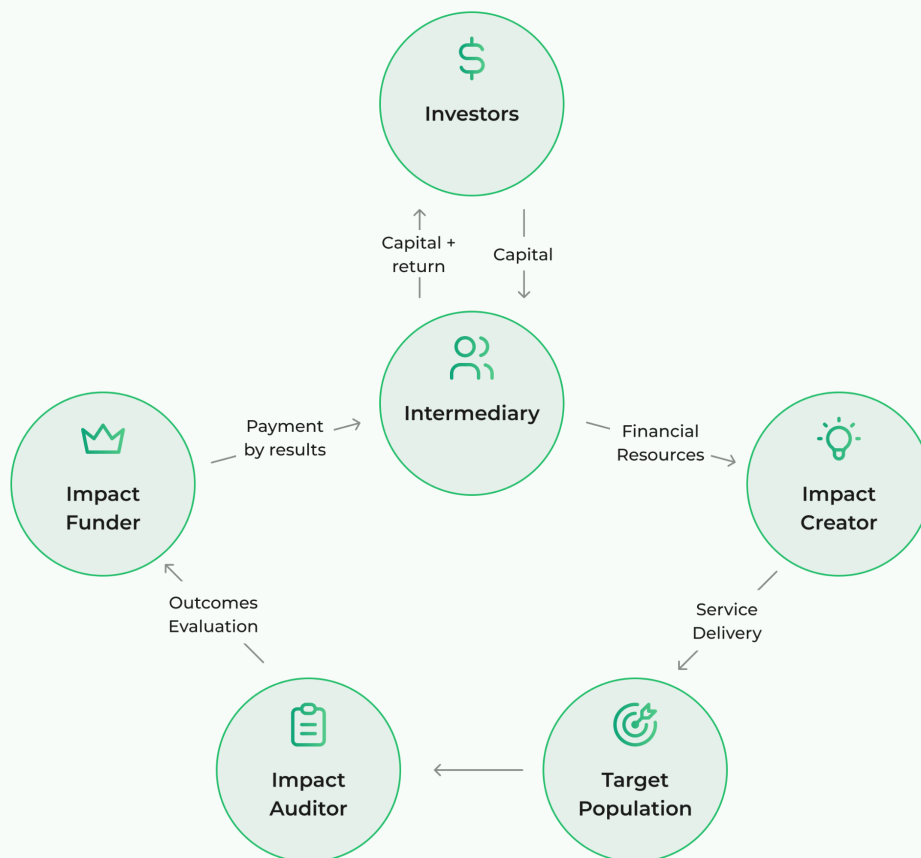


Fig 8. The standard flow of resources and activities for a SOC

4.2 Impact Bounties

The ImpactScope Impact Marketplace is at the forefront of leveraging web3 tools to reimagine and enhance the traditional Social Outcomes Contract model. The reincarnation takes the form of an Impact Bounty, a concept that not only retains the essence of “payment for results” contracts, but also introduces several innovative features that align the interests of all stakeholders servicing the Impact Bounty around the unifying goal of delivering tangible impact for the ultimate beneficiaries.

The Impact Bounty, as the linchpin of the entire marketplace, departs from the traditional SOC model by decentralising the financing of impact delivery. In contrast to the conventional SOC model where Impact Creators must secure funding before initiating an impact project, the web3 model allows financial resources to be drawn from a community-governed treasury.

This approach not only expedites impact creation by eliminating delays associated with traditional intermediary-based funding but also provides a decentralised and transparent system. Furthermore, this departure from the traditional SOC model shields Impact Funders from the risk of non-delivery by Impact Creators. Taken together, the efficiency gained from this automated approach directly translates into quicker and more reliable impact delivery to the ultimate beneficiaries of bounties, overcoming a longstanding challenge in the conventional SOC model.

Crucially, the web3 model aligns the incentives of Impact Stewards (token holders), who govern the treasury, with those of Impact Funders. Any failure in impact delivery directly affects the treasury and the value of the Impact Stewards' tokens, compelling them to carefully select Impact Creators. This alignment of incentives promotes a higher likelihood of successful outcomes, fostering a robust and accountable ecosystem.

In summary, this transformative approach enables faster, more cost-effective, and reliably proven impact delivery to the on-the-ground beneficiaries, marking a significant step forward in the evolution of web3-powered impact investing and social interventions.

In this scenario an Impact Funder, an international NGO, aims to finance the construction of 87 new public toilets in a low-income suburb of a fast-growing city in northern Tanzania. The Impact Funder calculates the social-economic and health benefits and sets an Impact Bounty reward.

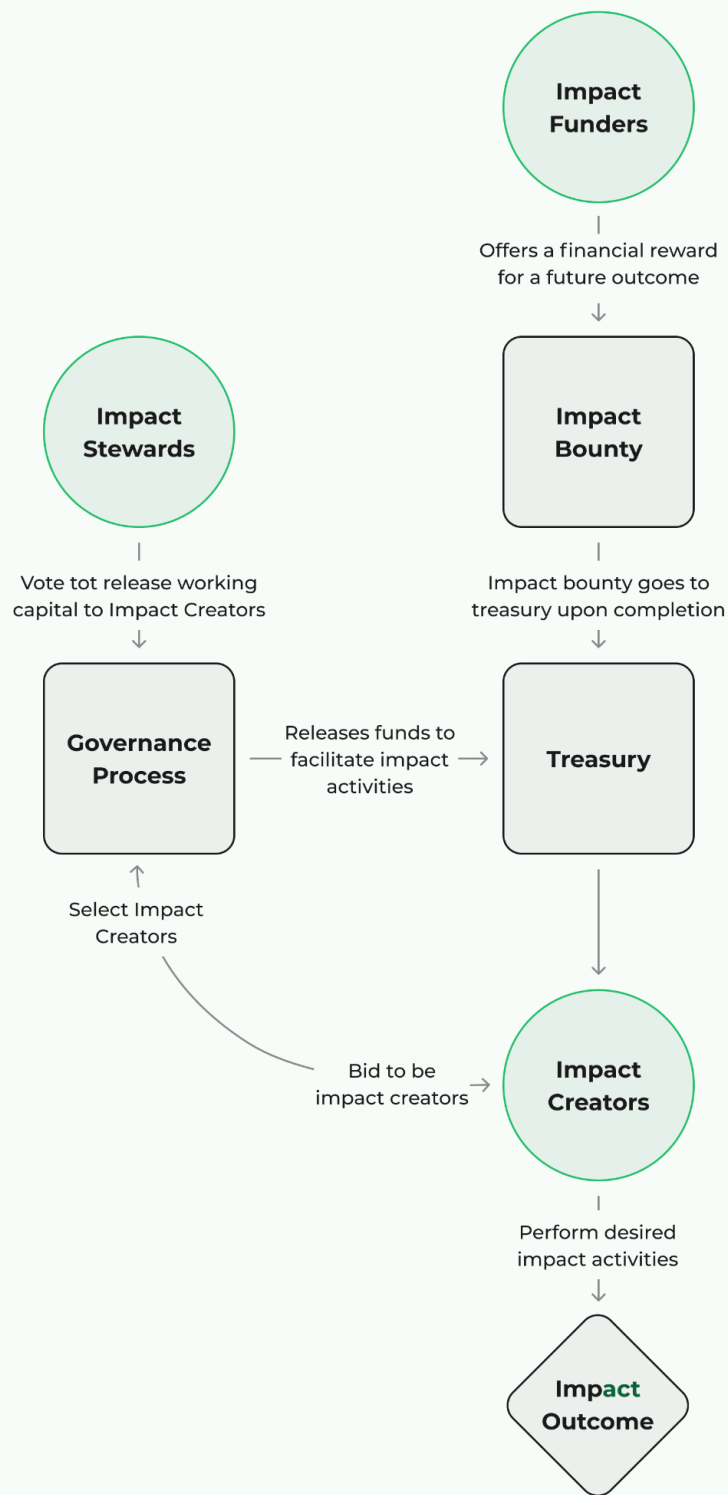


Fig 9. The flow of resources and activities of the ImpactScope Impact Marketplace

4.3 The Convergence of Monetization and Impact Verification

In today's rapidly evolving digital landscape, the seamless integration of web3 capabilities with impact outcomes is within reach. ImpactScope's solution, rooted in the principles of decentralised finance and web3 primitives, addresses some of the most pressing challenges in the sustainability space, chief among these is the monetization of positive impact and the transparent verification of impact outcomes.

The marketplace ultimately connects two layers. The first is the **impact monetization layer**: a system tailored to facilitate and optimise the flow of funds to create impact. The monetization layer finds synergy between web3 capabilities and traditional financing mechanisms, ensuring that funds can be directed effectively in the creation of real-world impact. Complementary to the monetization layer is the **verification layer**: this layer ensures that the capital allocated by the platform to create impact translates into tangible results. By leveraging novel MRV tools, the verification layer offers real-time, transparent, tamper-proof, and verifiable records of impact outcomes.

The Impact Funder envisions a positive social and health impact value of \$600,000 over two years. To achieve this, 87 public toilets must be built to a high standard within six months, with 90% of them well maintained over the two-year life of the intervention.

Impact Monetization Layer

Impact Verification Layer

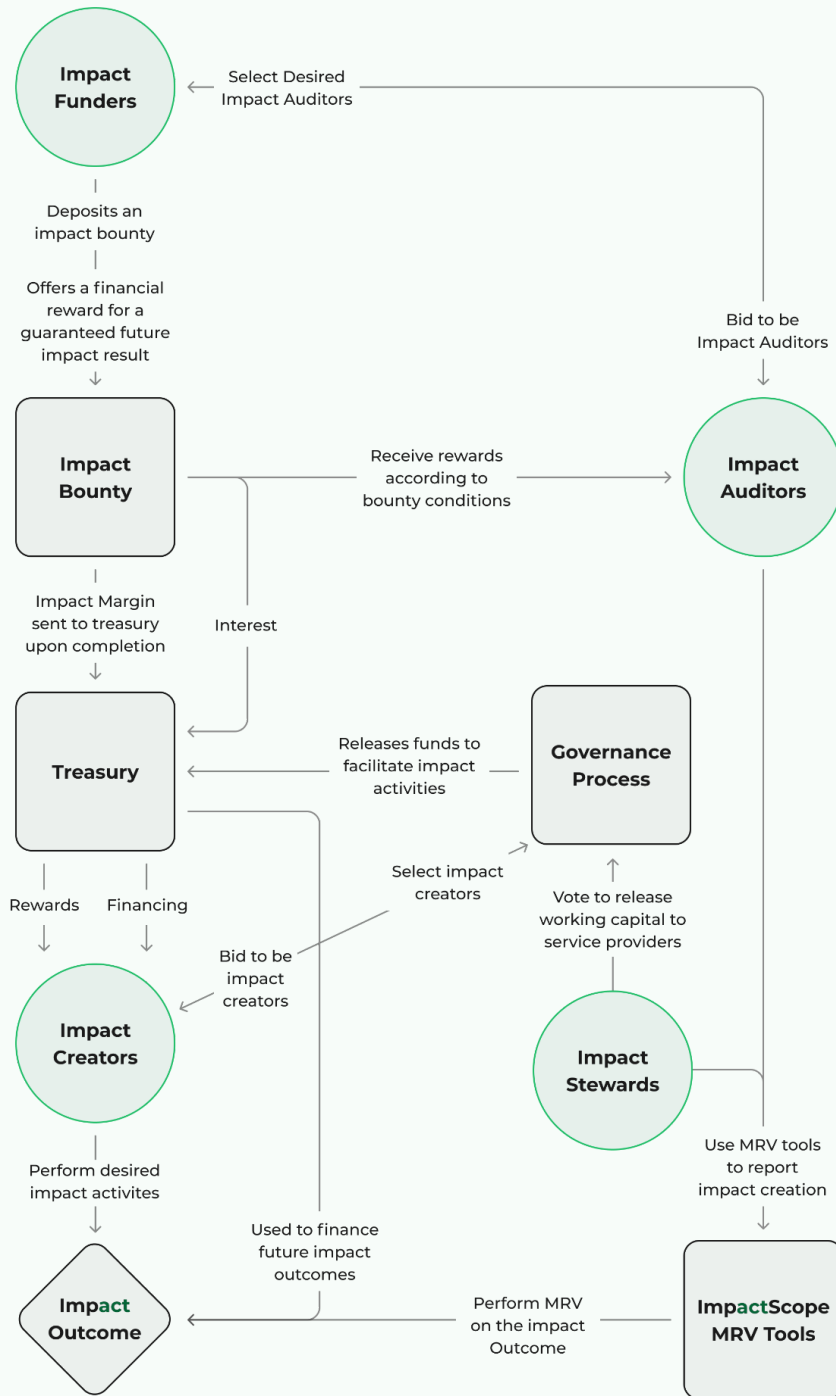


Fig 10. Impact Monetization and Impact Verification Layers

The impact creation journey starts with the Impact Funders. An Impact Funder can be any entity which wishes to define and fund a verified impact outcome. The first Impact Funders to use the platform will be foundations, international NGOs, local governments and commercial entities with a budget for impact creation. The Impact Marketplace is sector-agnostic. It can cater to outcomes in any social and environmental area, from healthcare to education, from biodiversity to plastic recycling, from sanitation to economic empowerment, from crime prevention to affordable housing. Impact Funders commit to the creation of impact by setting up an Impact Bounty.

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4.4 Impact Bounty Deposits and Smart Contract Parameters

Bounties can be deposited in a variety of forms, from stabletokens to fiat to other tokens. The stable value of bounties ensures that payouts can always be made, given the desired impact outcomes are achieved. Impact Funders are protected from the risk of partial or no delivery of impact, as the treasury absorbs any losses. At bounty initiation, the Impact Funder can clearly and flexibly define the terms of the bounty. These parameters include: 1) the duration over which the desired outcome must be achieved, 2) whether the bounty is a lump-sum payout or partial payouts are given as the impact outcome is incrementally achieved, 3) the desired impact auditor(s), and 4) a deadline for the return of the Impact Bounty if no Impact Creator is selected by that point.

At the core of every impact project execution are the entities responsible for bringing that impact to life - the Impact Creators who conceptualise and implement the initiatives in line with the terms of the Impact Bounty. These Impact Creators engage in the marketplace by bidding on open Bounties. However, it is not the Impact Funders that the Impact Creators

need to impress and convince, but rather the Impact Stewards, who are the governance token holders and the guardians of the treasury. This is because funding for impact creation comes from the treasury, not from the Impact Funders directly.

As part of this engagement, Impact Creators showcase to Impact Stewards why their profile and experience suits the specific Impact Bounty and why they should be selected over other Impact Creators bidding for the same Impact Bounty. The separation of the Impact Funder from the keyholders of the Impact Treasury is a unique and powerful feature of the ImpactScope Impact Marketplace.

Empowered by the resources from the Impact Treasury, Impact Creators generate tangible impact that is subsequently verified by Impact Auditors and Impact Stewards through a combination of professional and crowdsourced services, respectively. This approach allows for the delivery and attestation of any kind of impact.

4.5 Decentralised Impact Financing & Verification

There is no requirement for a centralised intermediary to manage the flow of financial resources from Impact Funders to Impact Creators. The web3 model enables this process to be community governed. Fundamentally, the role of Impact Stewards is to serve as the bridge between the funds allocated (residing in the treasury) and the impact realised by the platform. Upon Impact Funders posting the requisite capital for a desired Impact Outcome, Impact Stewards participate in a multiphase informal-to-formal governance process. A final vote determines whether to release working capital from the treasury to facilitate the activities of chosen Impact Creators and Impact Auditors. The interests of Impact Stewards are closely aligned with those of the Impact Funders, as ultimately the treasury grows by the impact margin and the interest earned on the capital provided by Impact Funders during the bounty lifetime.

As aforementioned, evaluating the success of impact creation is challenging due to the difficulty of quantifying **social** and **environmental** impact. In traditional SOC, the measurement and verification of the impact outcomes are carried out by an independent evaluator. Therefore, as part of this web3 reincarnation of the traditional SOC model, Impact

Auditors and Impact Stewards use the dMRV toolkit (where possible) for real-time, transparent impact measurement, verification, and reporting. Where feasible, Impact Stewards can earn token rewards for verifying impact delivered by Impact Creators. While Impact Auditors fundamentally serve the same role, these stakeholders are distinguished in that auditors are on-the-ground verification partners, ensuring that the actions of Impact Creators are aligned with the success parameters defined by Impact Funders.

After assessing multiple bids, the Impact Stewards selected an Impact Creator. The project was completed on time and without unplanned additional costs. The progress and outcomes were verified by the independent impact auditors selected by the Impact Funder. The \$600,000 Impact Bounty is now released. Achieving the Impact Outcome cost the treasury \$400,000. So first \$400,000 left the treasury in order to create the Impact Outcome and after the outcome was verified \$600,000 was released from escrow and entered the treasury. The result is a net gain of \$200,000 for the treasury.

4.6 Forecasting Revenue & Impact Treasury Evolution

Several key assumptions were made in order to forecast the marketplace revenue. The primary revenue stream of the marketplace is from Impact Bounties. The treasury captures 100% of achieved impact margins, with the potential for future governance by Impact Stewards to alter this proportion. As the marketplace demonstrates success in facilitating impact delivery, the assumption is that the duration and number of bounties will increase over time.

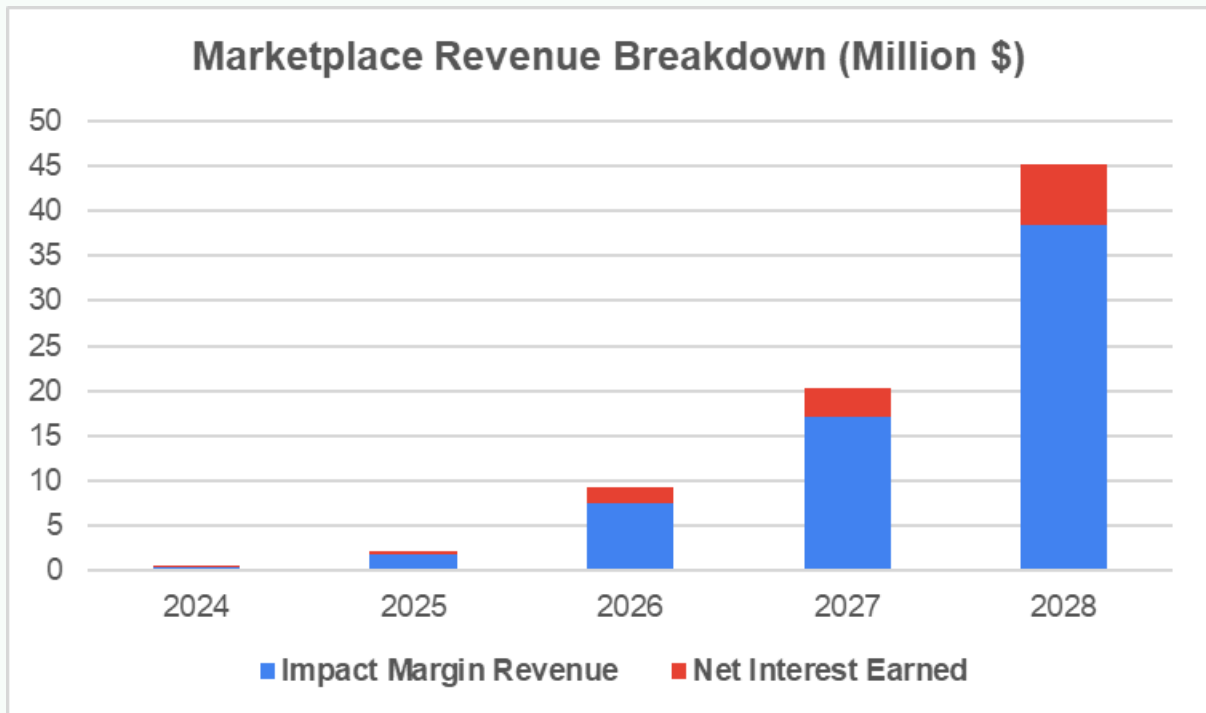


Fig 11. Revenues Forecast for the Impact Marketplace

The marketplace generates several additional treasury inflows. The second largest inflow is from the interest earned following the conversion of bounties deposited in fiat into stablecoins. Yield is earned to compensate for the opportunity cost of idle capital. The model anticipates rising interest rates in the short term, and declining rates in the short-medium term. All the interest earned on escrowed bounties during the bounty lifetime enters the treasury, less any deductibles payable, such as when a bounty is partially completed. Impact Auditors are also charged a fee to access impact auditing engagements. Together, all these elements determine the overall marketplace revenue forecast.

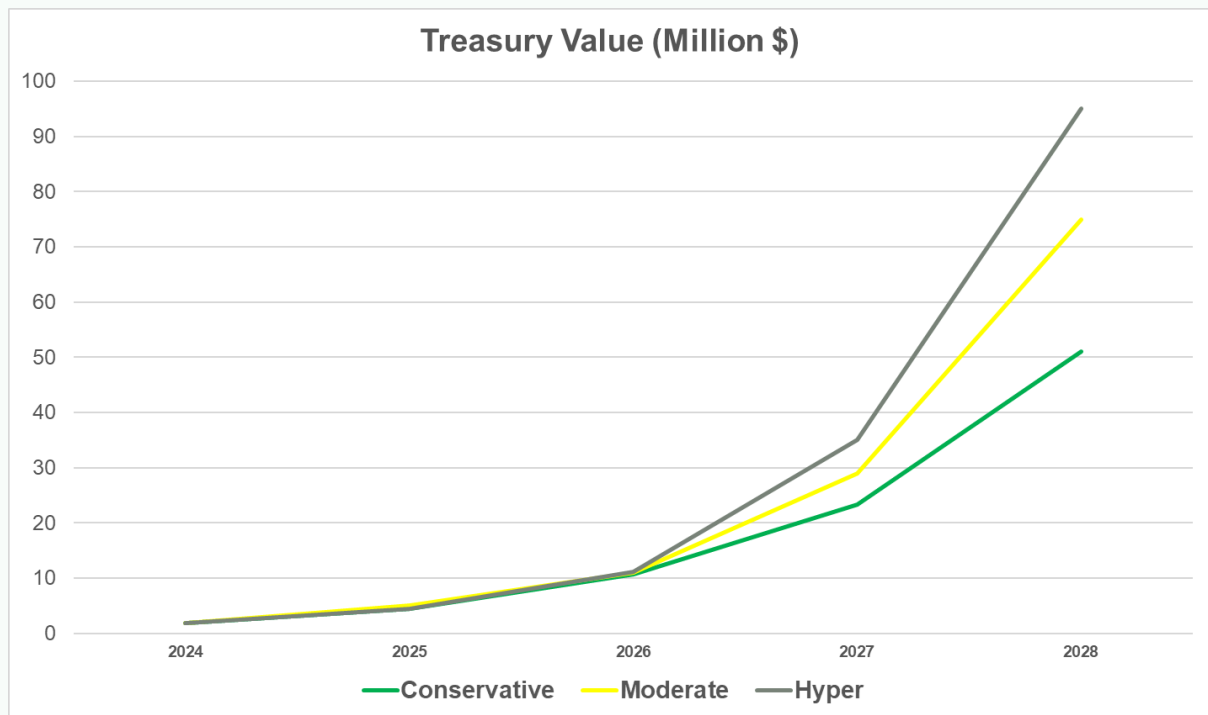


Fig 12. Treasury Evolution forecasting

A critical assumption guiding all forecasts is that the treasury will initially be bootstrapped with half of the token pre-sale fundraise amount. Forecasts confirm that the value of the treasury is projected to grow (vested reserve tokens in the first two years are excluded), as revenue from the marketplace strengthens the treasury.

To protect platform stakeholders, as well as the vitality of the treasury, as part of the risk-management strategy, a substantial portion of the treasury is allocated to interest-bearing vehicles. Some percentage of marketplace revenue is used to purchase \$IMPACT tokens on the open market when needed to ensure that the treasury maintains a targeted distribution of native to stable tokens. These non-native financial vehicles will have different durations and compounding periods for maximum liquidity and safety.

The evolution of the treasury is closely integrated with the token appreciation scenarios, especially the proportion of revenue used to purchase \$IMPACT on the open market. The value of the treasury is projected under conservative, moderate, and hyper appreciation scenarios

of the token price, and the ultimate value of the treasury is derived by summing marketplace revenue, interest earned, and scenario-specific token appreciation

$$P_t = \frac{Float_{Aggregate} * (\frac{Revenue_{Year}}{1-\alpha}) * Growth_{Rate}}{((Total_{Supply} * Aggregate_{Sum} * Goodwill) + IPO_{Price}) * AdjustmentFactor}$$

In forecasting the price of \$IMPACT at any given time, several key variables are important. First, *FloatAggregate*, representing the number of tokens in circulation after having factored in lockups and held proportions. This variable is crucial for capturing the available supply dynamics that influence token price changes, and is closely related to the *TotalSupply* variable set at 1 billion. Furthermore, to capture market dynamics, Alpha is used to capture the sensitivity of token price to changes in the strength of the treasury, and is between 0 and 1. Alpha captures the cyclical but non-linear feedback loop between treasury value and token price, and is grounded on the assumption that this relationship will be more sensitive during bull markets compared to periods of dejected market sentiment.

A catch-all term augments this integration of market sentiment in the price forecasts. *Goodwill* introduces a psychological element to the model, hoping to reflect market perception in token pricing. Goodwill is expected to be more favourable during bull markets.

GrowthRate captures three distinct price appreciation scenarios (conservative, moderate, and hyper), which enables a more flexible model with projections based on different expectations of market dynamics.

Overall, these variables combine to form a comprehensive and flexible model for forecasting token prices, while trying to account for the success of the marketplace as well as more speculative factors that might impact token price.

FloatAggregate = the number of tokens that are circulating after accounting for any kind of lockup and the proportion of supply that is just held

Alpha (sensitivity) = the responsiveness of token price to a change in the strength of the treasury - because we assume a cyclical but non-linear feedback loop between treasury value and token price, we capture this in the form of the variable alpha, a sensitivity factor (ranges between 0 and 1). We furthermore assume that in bull markets, this sensitivity is higher than when in bear markets.

Goodwill = a catch-all term for market sentiment (which we assume to be more positive during bull markets)

RevenueYear = the forecasted revenue of the marketplace

GrowthRate = captures the 3 different price appreciation scenarios scenarios: conservative (30% YoY), moderate (70% YoY), and hyper (190% YoY)

TotalSupply = 1 billion

AggregateSum = the amount of tokens released in a given year

Target = an expected token price based off the GrowthRate if we did not control for any broader market factors like bear market, interest rates, tokens vesting and being released on the open market, etc.

IpoPrice = 0.025

Adjustment Factor^{*211}

4.7 \$IMPACT as a facilitator & the DAO wrapper

The \$IMPACT token assumes dual roles within the platform. First and foremost, it serves as the governance glue, fostering collaboration among Impact Funders, Impact Stewards, and Impact Auditors to collectively facilitate, measure, verify, and report on impact outcomes. Second, the token captures and reflects the value of the impact generated by the community. Fifty per cent of token pre-sale proceeds effectively seed the treasury. Token holders are both guardians of the treasury as well as the treasury's initial source of funding.

² The above formula contains an adjustment factor to provide for easier scenario modelling.

As a collective, the tokenholders self-organise in a manner similar to a DAO, or from a legal perspective their activities in many respects mirror the attributes of a [Swiss association](#) (*verein*). Tokens represent decision making rights but they also represent claims on a portion of funds in the treasury. At inception there are no barriers to proposals which may call for funds to be extracted from the treasury. However, such proposals are subject to [quadratic voting](#) and [conviction voting](#), to make it more difficult and more expensive for malicious actors to divert large portions of treasury funds away from impact creation. As the marketplace gains traction, the token's benefits can extend beyond a mere transactional medium, offering incentives and potential composability with other protocols, enriching the user experience and maximising impact.

Embedded in the platform's architecture is a token-based governance model that absolves Impact Funders from administrative burdens during the bounties' lifetime. This ensures a decentralised, inclusive, and value-driven approach to achieving verifiable impact outcomes. Aligned with the Virtuous Impact Cycle, token-based governance enables the community to co-own ecosystem value and strategically direct protocol funding.

Impact Stewards, acting as the governance glue and “operators” of the marketplace, wield ultimate decision-making power over the treasury. Their control ensures that funded Impact Bounties align with the overarching goals of the marketplace. The governance mechanism aligns economic and social interests, fostering the Virtuous Impact cycle to promote the development of innovative dMRV mechanisms that ultimately improve the delivery and verification of impact outcomes. The \$IMPACT token serves as the conduit between demand and supply, accumulating revenue and fees from the various services offered on the marketplace.

The token's core value proposition is intimately tied to the treasury, which, in turn, is influenced by marketplace activity. Extensive forecasts, considering various broader market environments, were conducted to estimate the token's price evolution over a 5-year post-ICO horizon. While acknowledging the inherent limitations of forecasting models, especially over such a long period of time, there is critical importance to understanding how the treasury might evolve under diverse market conditions, as its evolution has real world implications. In any scenario

however, ImpactScope guarantees the bootstrapping of the treasury with \$1.25m in stabletokens, ensuring available capital for the earliest impact bounties. The complex fee and value redistribution mechanism underpinning the marketplace ensures rewards for all participants, nurturing the long-term growth of the treasury to support future impact delivery.

The marketplace is ultimately a dynamic ecosystem where impact begets value, and value circulates (with the \$IMPACT token inheriting this valuable impact) to fuel continuous impact creation.

DISCLAIMER

This paper is for general information purposes only. It does not constitute investment advice or a recommendation or solicitation to buy or sell any investment and should not be used in the evaluation of the merits of making any investment decision. The opinions reflected herein are subject to change without being updated.

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