The Greencoin project

A guideline for the implementation strategy

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Greencoin currency model

This guideline presents the Greencoin initiative, a comprehensive project designed to incentivize and reward environmentally friendly actions. By analysing the various components of Greencoin, the report aims to provide a replicable framework for other communities seeking to promote sustainable practices.

The guideline is based on the results of the project's data analysis, user feedback and the opinions of city authorities. It is aimed at citizens, urban educators, city representatives and departments, the general scientific community and European city governments. It presents the results of the project and possible ways to apply it in different cities.

1 year of testing

3 system versions

2 months of public piloting

10 000 actions taken

770 400 earned coins

21 partners

Value and currency flow

The Greencoin model is an innovative concept for an alternative local currency designed to incentivize eco-friendly behaviour. It aims to empower individuals to adopt sustainable practices in their daily lives by rewarding them with virtual coins (tokens) for their pro-environmental actions. Let's delve deeper into this innovative approach to promoting a greener lifestyle.
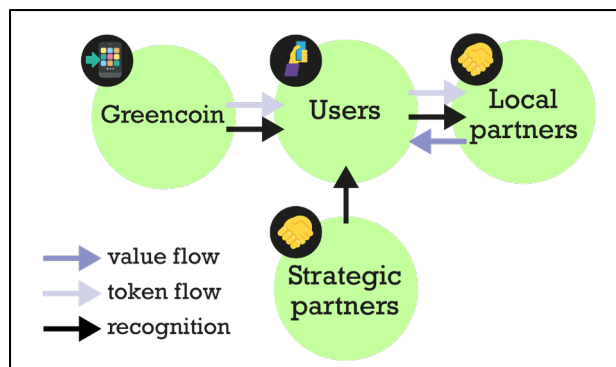
There are four key players in the Greencoin concept:

👉 **Strategic Partners:** These large organisations provide resources and recognition to the Greencoin network, boosting the visibility of local partners.

👉 **Local Partners:** These are local businesses offering sustainable products, services, and rewards redeemable with Greencoins earned by users.

👉 **Users:** Individuals who participate in sustainable activities and earn Greencoins for their efforts. These coins can then be exchanged for rewards from local partners.

👉 **Greencoin Managers:** They oversee the system, manage the Greencoin network, and ensure its smooth operation.

Test&Learn Greencoin phase in numbers

1 year
of testing
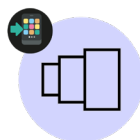
3 system
versions

2 months
of public piloting

Users earn recognition for sustainable choices and gain access to rewards from local businesses. Local Partners increase their customer base and receive recognition through the Greencoin network. Strategic Partners contribute to sustainability efforts and enhance their brand image by supporting the initiative. Overall, Greencoin creates a positive cycle where everyone benefits by promoting sustainable practices and supporting local businesses.

Actors involved

The Greencoin concept can successfully include many different organisations as partners. These partners can be local and regional government (can provide funding, manage the program, and let people pay using Greencoin), environmental formal and informal groups (can provide knowledge and services), sustainable businesses (can offer products and services as rewards), schools and universities (can use Greencoin to reward students for sustainable behaviour), community groups, and other organisations.

The involved entities can play different roles in Greencoin system:

Originator: Conceptualises the local currency model, manages and develops its implementation.

Manager: Coordinates overall project operations and manages the app content and list of rewards in contact with partners.

System Administrator: Responsible for an application's smooth operation, plays a crucial role in three key areas: application health, security, and data management.

Strategic Partner: Offers recognition, know-how, and promotion. Refers to well-known partners, recognized and trusted by the public.

Local Partner - Earning Point: Provide
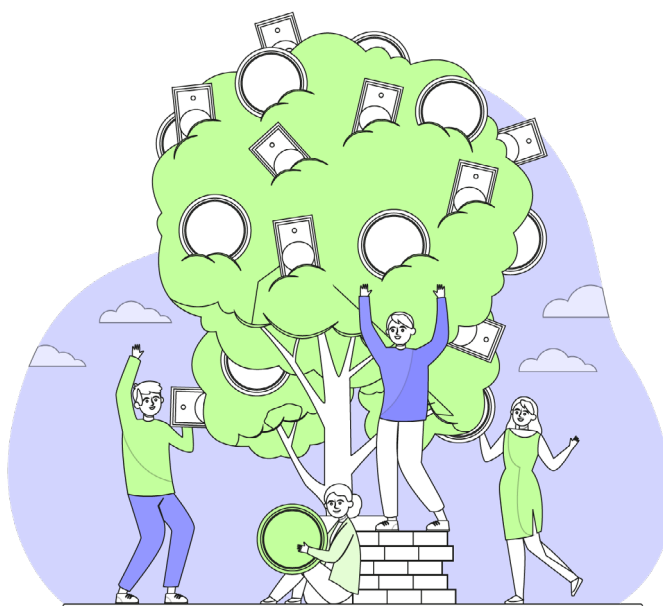
locations for residents to earn local currency units through specific activities supporting circular economy (e.g. fixing shoes or bike).

Local Partner - Redemption Point: Offers specific goods, services, and discounts as rewards in the Greencoin system, available to purchase with tokens.

Sponsor: Provides initial funding to establish and run the local currency model and/or financial support for the development and operation of the local currency model.

There are other additional ways of support, including recruiting other businesses to participate, hosting events, and promoting the local currency model within their business. From local governments to schools and businesses, everyone can contribute to Greencoin's success. Whether it is offering discounts, promoting the program, or simply using Greencoin, there are many ways to support a more sustainable future.

Benefits

Greencoin: A boon for local sustainability, inclusion, and engagement

The Greencoin model offers a multi-pronged approach to support local sustainability efforts, empower marginalised communities, and foster resident engagement.

Test&Learn Greencoin phase in numbers

10 000 actions taken

7 500 kilometres on sustainable transport means

3 local events conducted

Greencoin supports local sustainability policies

The currency rewards residents for adopting sustainable practices aligned with local policies, like waste reduction or recycling, promoting wider adoption of such practices. The other important feature is data collection. Tracking resident activity 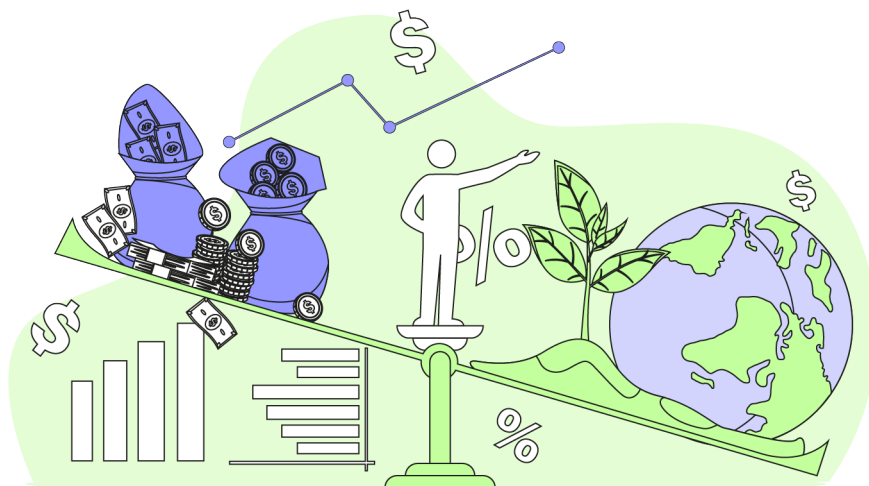through Greencoin activities and transactions can provide valuable data for policymakers, helping them gauge the effectiveness of sustainability initiatives and tailor future programs.
Benefits of Greencoin for the environment and circular economy:

Reduces waste: Greencoin incentivises behaviours that reduce waste generation, such as repairing items instead of throwing them away. This helps to conserve resources and reduce the amount of waste sent to landfills and incinerators.

Promotes recycling and reuse: Greencoin encourages the recycling and reuse of materials by rewarding users for returning waste and offering vouchers for products made from recycled materials. This helps to close the loop on resource use and reduce the need for virgin materials.

Encourages sustainable consumption: Greencoin raises awareness about sustainable consumption choices by rewarding users for eco-friendly behaviours like using public transport and avoiding single-use plastics. This can lead to a shift in consumer preferences towards more sustainable products and services.

Extends products' lifecycles: Greencoin incentivizes the repair and reuse of products, which extends their lifecycles and reduces the need for new products to be manufactured. This conserves resources and reduces the environmental impact associated with production.

Promotes local businesses: Greencoin can be used to support local businesses that offer sustainable products and services. This can help strengthen local economies and create jobs.

Increases resource efficiency: Greencoin encourages the efficient use of resources by rewarding users for behaviours that reduce waste and conserve resources. This can lead to a more sustainable and resilient economy.

The currency can be also used as a tool to empower marginalised people and prevent marginalisation of people at risk of exclusion. Tokens earned can be used to purchase essential goods and services from participating local businesses, potentially improving access to resources for marginalised communities. Greencoin can provide marginalised individuals with the opportunity to earn virtual currency through participating in sustainable activities (e.g. waste separation, using public transport), contributing to community projects and initiatives. Earned Greencoins can be used to purchase products and services from local businesses, access educational resources or participate in skill-building workshops.

Using Greencoin, partners can have an impact on citizens' engagement in their city and neighbourhood. The gamified elements of earning and spending Greencoins can increase resident participation and make sustainable actions more engaging. The Greencoin platform can serve as a communication channel between residents and local authorities, facilitating feedback exchange and fostering a sense of community ownership over sustainability goals.

By combining incentives, data collection, and resident engagement, Greencoin holds promise for creating a more sustainable and inclusive future for local communities.

Greencoin: A win-win for local sustainable businesses

Local businesses offering sustainable products, services, and discounts through the Greencoin application can reap several significant benefits: enhance their image, promote themselves, and increase their recognition among customers and local businesses.

Greencoin gives a chance to enhance brand image and reputation. Partnering with a sustainability initiative like Greencoin positions businesses as environmentally conscious, attracting a wider customer base increasingly interested in supporting eco-friendly practices. This association

with sustainability can enhance brand image and reputation, leading to positive word-of-mouth marketing and increased customer loyalty.

The system enables targeted marketing and promotion. The Greencoin platform provides a unique opportunity to reach a specific target audience – individuals actively engaged in sustainable living. By offering Greencoin discounts and promotions, businesses can effectively reach their ideal customers, leading to increased brand awareness and targeted marketing efforts.

Greencoin for business entails a potential to increase sales and customer engagement. Offering discounts and promotions in Greencoin

incentivizes residents to choose sustainable options, potentially boosting sales and customer engagement. This can lead to a positive feedback loop, where increased customer traffic due to Greencoin promotions fosters a stronger customer base for the business.

Local partnership enables knowledge sharing and collaboration. The Greencoin network can facilitate communication and collaboration among local businesses participating in the program. This horizontal networking allows for knowledge sharing, resource exchange, and potential partnerships, fostering a supportive and collaborative local sustainable business community.

In summary, the Greencoin model presents a valuable opportunity for local businesses to contribute to sustainability efforts while gaining economic and marketing advantages. By leveraging the platform's unique features, businesses

can enhance their brand image, reach their target audience, and potentially increase sales and customer engagement, creating a win-win situation for all stakeholders involved.

Thus, this guideline introduces the Greencoin initiative, a comprehensive project aimed at incentivizing and rewarding environmentally friendly actions. Through an in-depth analysis of various Greencoin components, the report offers a replicable framework for other communities striving to advocate sustainable practices. The novelty of this description lies in its detailed examination of Greencoin's facets, ranging from its system structure to the benefits for users and local businesses. Moreover, it outlines the involvement of various stakeholders in the project and potential applications across different cities. Greencoin fosters a positive cycle where sustainable practices promotion and local business support lead to mutual benefits.

Test&Learn Greencoin phase in numbers

10 business partners

426 vouchers from business partners

770 400 coins earned

Recommendations

1. Execute a process of product design:

Involve various actors in the project, including strategic partners, local businesses, users, government entities, and NGOs. Each plays a crucial role in the ecosystem's success.

Design a reward system that incentivizes sustainable behaviours aligned with local environmental policies and community needs.

2. Consider the project as a multilateral agreement of actors:

Initiate partnerships with well-recognized organisations that offer resources, visibility, and expertise to strengthen the program's credibility.

Include potential partners representing local businesses that offer sustainable products, services, and discounts to create a win-win situation for businesses and residents.

Acknowledge the importance of involving residents in program development and activities. Gamification elements can further enhance engagement.

3. Consider the currency as a tool for different purposes:

Local sustainability promotion by encouraging pro-environmental behaviours like recycling and reuse, sustainable transport or consumption practices.

Promoting social inclusion and equity by providing opportunities for marginalised groups to participate in and benefit from the program.

4. Remember that the tool is flexible and can be tailored and developed to different specific contexts:

Design a scenario that can be adapted to address the specific needs of different communities and has the potential to be scaled up in the future.

Continuously monitor program performance through data collection and user feedback. Utilise this information to make adjustments and improvements over time.

Summary of new insights:

The recommendations offer a fresh approach and an innovative one to implement the Greencoin initiative. By emphasising the involvement of diverse stakeholders, designing a tailored reward system, and fostering multilateral partnerships, the guidelines offer a novel perspective on promoting sustainable behaviours. Moreover, the emphasis on using the currency as a versatile tool for both environmental promotion and social inclusion introduces a new dimension to the project, sparking excitement and inspiration. Finally, the emphasis on flexibility and continuous monitoring underscores a dynamic and adaptive approach, bringing new insights into program development and scalability and further fuelling the innovative spirit of the initiative.

photos by Monika Krzemińska

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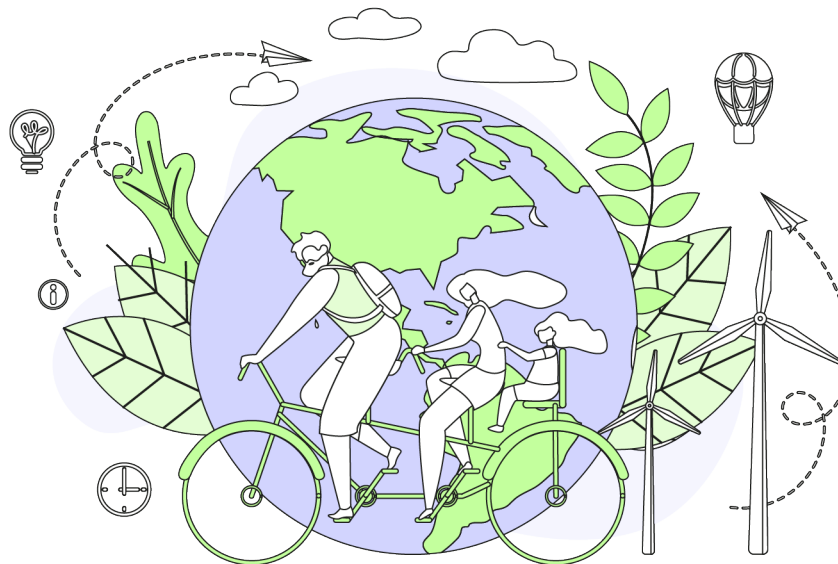
Identification, selection and quantification of pro-environmental activities

Research methods

The process of defining key pro-environmental activities in the local context was a multistage process, including literature review, meetings with stakeholders and analysis.

Literature review

The Greencoin team reviewed existing studies, reports, and policies to understand environmental challenges in cities globally and the types of actions addressing them. This method provided a broad perspective on urban environmental issues and potential solutions.

Stakeholder engagement

Interviews and surveys were conducted with city officials, environmental activists, NGOs, and specialists in the city. This approach gathered local insights into specific environmental problems faced by those communities.

SWOT Analysis

Researchers used SWOT analysis to evaluate potential pro-environmental actions identified through literature review and stakeholder engagement. This method considered the Strengths, Weaknesses, Opportunities, and Threats of each action, ensuring a comprehensive understanding of their potential benefits, drawbacks, and feasibility.

Modelling

To quantify the value of pro-environmental actions, the Greencoin project utilised a comprehensive framework that employs a multi-layered approach to quantifying actions.

By combining these methods, the Greencoin project gathered data from various sources to create a data-driven approach for selecting the most effective and socially feasible pro-environmental actions for their mobile application.

List of pro-environmental activities

For future uses of Greencoin it is important to list all the pro-environmental activities which should be considered while designing the system. The Greencoin team listed them, and divided them into the following categories: mobility, energy, waste and recycling, food and consumption, eco-challenges, eco-participation, and shopping. Below, we present several actions for each category:

Mobility: Walking, cycling, driving hybrid vehicles, taking public transport, flight-free month, and car sharing.

Energy: Using household appliances of lower rating, switching to green energy (e.g. solar), telework (reducing daily travel), disconnecting unused items, lower the temperature of water when washing dishes, reduce the utility time of air-conditionings by one hour, turn the heating down, switch to a green energy provider, install solar panels, and having a contract for renewable energy with an energy provider.

Waste and recycling: Composting organic waste, recycling and garbage sorting at home, compressing garbage before throwing, donating items to second-hand stores, buying second-hand items (e.g. clothes and furniture), sharing surplus food via online platforms (e.g. Too Good To Go), collect and exchange refundable bottles, refilling water bottles, bringing empty bottles to a recycling bin, collecting and recycling used paper, buying beverages and other liquids in returnable bottles, buying food items with less packaging, and repairing items instead of throwing them away.

Food and consumption: Having a vegan meal, consuming vegetarian food, reducing waste, buying recyclable products, buying eco-labelled products, buying food from local food markets, consuming local products, choosing vegetarian meals, choosing meat from open-pasture raised animals, and buying meat-free lunch.

Eco-challenge: Donations to support climate action, educate others on climate change, promote research on climate change, voting for green policy, boycotting companies with an unecological background, and having pointed out non-ecological behaviour to someone.
Eco-participation: Turning lights off when going out, printing as little as possible, consuming local products, bringing own shopping bag when shopping, mobile payment, shortening shower time, and using unwrapped vegetables.

Shopping: Buying energy-efficient appliances, buying domestically grown wooden furniture, and buying recycled paper products such as toilet paper or tissues.

Identification, selection and quantification of pro-environmental activities

A very wide range of provided lists of pro-environmental actions illustrates why a universal Greencoin system wouldn't be optimal. The local context plays a crucial role in maximising its effectiveness. Different cities face unique environmental issues. For example, a coastal city might prioritise actions that reduce plastic use and promote beach cleanups, while a landlocked city might focus on encouraging cycling and public transport. Thus we propose the process of tailoring the system to the local context, like we did during our project.

Tailoring to local context

The Greencoin system should be adaptable to address specific challenges. Moreover, Greencoin should incentivize actions that are feasible for the residents. This means that some actions (e.g. switching to renewable energy or using public transport) should not be included in places where these are not available options. Generally, Greencoin should be suited to community needs and habits. The supported behaviours should correspond with local values to be effective. Greencoin should reward actions that are in line with existing habits and encourage a gradual shift to more sustainable practices, rather than trying to introduce a philosophy that is inconsistent with residents' attitudes.

The process of tailoring includes the following steps: academic refinement, stakeholder consultation, action prioritisation, validation methods, and stakeholder collaboration. Academic refinement refers to the initial step where researchers narrow down the broad list using predetermined criteria. Firstly, researchers establish a set of criteria to evaluate the initial list of actions. On the basis of Greencoin experience, we recommend the following criteria:

Measurability: the criterion of measurability necessitates that the environmental actions chosen must be suitable for quantitative evaluation to determine their outcomes. The Greencoin application enables verification on the basis of GPS tracking, self-reporting via photos, and QR code scanning (real-world service is needed).

Accuracy: the validation methods selected for the purpose of verifying the implementation and efficacy of environmental actions must ensure precision and reliability.

Accessibility: the accessibility of the validation methods is crucial for ensuring practicality and ease of implementation, as well as facilitating verification of environmental actions.

Reliability: in order to ensure the accuracy and consistency of results, it is imperative that the chosen validation methods exhibit a high degree of reliability.

Based on the chosen criteria, each action on the initial list should be analysed. Actions that don't meet a certain threshold for most criteria are likely to be removed from further consideration. Researchers might consult existing academic studies and data to support their decisions. For instance, studies of the effectiveness of different waste reduction strategies could inform which actions to include in the shortlist.

Stakeholder consultation: a crucial step tailoring the Greencoin pro-environmental action list is to gather various groups with a vested interest in the project to discuss and refine the approach. City representatives, NGOs, academics and other potential stakeholders should be invited. During the meeting, a short-list of actions should be presented. Following this, the most pressing environmental challenges faced by the specific city should be discussed. Based on the identified needs, stakeholders should collaboratively prioritise actions that are viable, supported in local society, and effective.

Validation methods refer to techniques used to verify the completion or effectiveness of the chosen pro-environmental actions. These methods ensure the integrity of the system and provide data to assess the program's impact. Validation methods confirm that users are genuinely performing the actions they claim for Greencoin rewards and help measure the environmental impact of those actions.

Stakeholder collaboration should be part of the project as an on-going process of communication, engagement, and partnership between various groups involved in the project's success. This collaboration should go beyond the initial tailoring of pro-environmental actions and is essential for the system's long-term effectiveness. This part will be described in Chapter 4: Partnership Formation.

Quantification

The Greencoin project's comprehensive framework for quantifying pro-environmental actions represents an innovative approach in the fields of smart cities and circular economies. The methodology involved developing models to assess the impacts of different actions, taking into account factors such as the potential for acceptance among the public. This led to the development of a scoring system that evaluates actions based on their environmental, social, and economic impact.

Detailed description of the quantification method can be found in our scientific report. Generally, the Greencoin project's conversion system is a landmark approach that encourages sustainable behaviour through a rewards mechanism that is fair and equitable. This system revolutionises the way environmentally friendly actions are rewarded, providing a diverse selection of sustainable products and services. It embodies the principles of valuing nature for both fairness and long-term sustainability.

The methodology behind this system is based on an estimated incentive approach, where points are assigned to different pro-environmental actions based on a combination of factors:

Environmental impact: Potential for positive environmental outcomes like reduced CO_2 emissions.

Social impact: Public acceptance and potential for community engagement.

Individual effort: The level of effort required for the user to perform the action.

Actions with a greater positive impact across these factors receive more points. This prioritises actions that deliver the most environmental benefit while considering social aspects and user effort. The process of determining the financial worth of Greencoins earned from ecological activities involves converting the amount of time dedicated to each activity into virtual coins, which is then matched with the hourly labour cost. This calculation allows us to infer the monetary worth of a single Greencoin.

Once the value of each Greencoin is determined, we can calculate the minimum number of points that users must collect in order to obtain the products provided by project partners. In essence, the Greencoins earned from one hour of sustainable actions, such as walking, cycling, or using public transport, are compared to an hourly wage. This allows for the conversion of Greencoins into a tangible currency equivalent. The approach guarantees an equitable conversion rate between the amount of time and effort dedicated to eco-friendly actions and the availability of sustainable products within the Greencoin system.

Recommendations

Based on the Greencoin project's experience, here are key recommendations for future projects to maximise their effectiveness:

1. Local context is crucial:

A one-size-fits-all Greencoin system would not work. Different cities face unique environmental challenges. The project should be adaptable to address these specific issues.

Prioritise actions that are feasible for residents based on local infrastructure and availability (e.g. public transport). Align Greencoin with existing community needs and habits for better adoption.

Incentivize a gradual shift towards sustainable practices rather than a radical change.

2. Key steps of the tailoring process:

Academic refinement: narrowing down the list using specific criteria like measurability, accuracy, accessibility, and reliability.

Stakeholder consultation: Collaboration between city representatives, NGOs, and academics to discuss and refine the shortlisted actions and identify the most pressing local environmental challenges.

Continued stakeholder collaboration: for the project's long-term success, contact with stakeholders should go beyond the initial action selection and ongoing communication and partnership should be fostered.

photos by Monika Krzemińska

3

Selecting rewards

Assessment framework

In the Greencoin system we are proposing the integration of circular economy concepts into a reward mechanism, allowing the individuals performing pro-environmental actions to use, promote, and be aware of products generated by the circular economy community.

The assessment framework lays out a product classification system to identify different types of products and presents them in a consistent manner. The framework includes an assessment process, which considers environmental, social, and economic impacts of products throughout their lifecycle. The framework established the basis of a weighting system to prioritise the importance of different sustainability factors, and a scoring system to quantify the overall sustainability of a product, as a starting point for establishing a product sustainability rating score.

It is important to distinguish between sustainable products and green consumerism. The products seeking to protect the environment during production, use, and end-of-life stages are commonly referred to as sustainable, green, eco, or eco-friendly. As such types of products offer potential benefits to public health and the environment, a portion of sustainability-oriented companies and consumers have exhibited a growing preference for them over time. Green consumerism (GC) is a movement that emphasises environmentally friendly practices throughout a product's lifecycle production, consumption and end-of-life.

Products, meaning the goods and the services integrated in the currency system, are classified as:

👉 **Consumer products:** convenience products, shopping products, specialty products, and unsought products.

👉 **Industrial products:** capital goods, raw materials, component parts, major equipment, accessory equipment, operating supplies, and services.

The Greencoin team developed the product assessment system to weight rewards. The criteria under which products were weighted are related to the circularity, climate impact, livelihood, wellbeing, and purpose. To score the product, we estimated how closely a product adheres and contributes to the responsible consumption, accounting for the sustainable product attributes.

The product (good or service) was described by the stakeholder offering this during a marketplace integration survey. This step along with the proposed quantification will be a milestone for different local authorities to select and support the green products as rewards for the pro-environmental actions.

In order to quantify rewards, a questionnaire based on a conceptual framework was developed. The following aspects were examined: materials efficiency, transport efficiency, inclusion, hazardous materials, energy efficiency or fuel efficiency, pollution prevention and reduction, package sustainability, recyclability with biodegradability, lifetime extension.
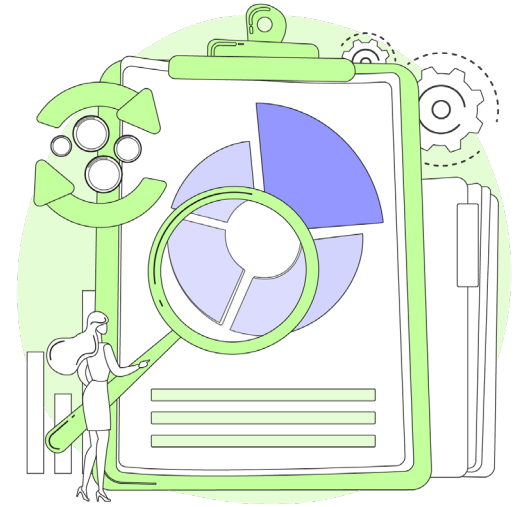
Process of selecting products

After preparing the assessment method and general framework, we approached partners to begin the process of selecting products. Firstly, project partners were invited to propose rewards that aligned with the project's sustainability mission. This was part of the negotiation process, which is described in Chapter 4. When partners proposed their products, we assessed them on the basis of interviews. We used a questionnaire to interview representatives of the partners.. The assessment was qualitative, meaning that it focused on descriptions and qualities rather than numbers or specific criteria.
Surprisingly, no products were rejected. We believe the pre-selection by partners was sufficient. Nevertheless, we recommend using an assessment method to potentially explain rejections to partners in the future, to preserve delicate partnerships and project image.

Recommendations

Based on the Greencoin project's experience, here are the key recommendations for future projects to strengthen product selection and assessment:

1. Standardise the pre-selection process:

While partner pre-selection worked well, a standardised method can improve transparency and efficiency.

Develop clear guidelines for partners about the types of products that align with the project's sustainability mission (circular economy principles, social responsibility, etc.).

Consider creating a pre-screening questionnaire for partners to assess initial product suitability before full evaluation.

2. Refine the product assessment framework:

Our framework provides a good foundation, but consider incorporating criteria that are specific for local context and values.

3. Transparency and communication:

Clearly communicate the product assessment criteria and scoring system to partners.

In summary, Chapter 3 introduces a novel approach to selecting rewards within the Greencoin system, focusing on integrating circular economy principles into the reward mechanism. The assessment framework establishes a systematic process for evaluating products based on their environmental, social, and economic impacts throughout their lifecycle. What sets this approach apart is its emphasis on distinguishing between sustainable products and green consumerism, ensuring that rewards genuinely align with the project's sustainability mission. Furthermore, the chapter outlines a transparent product selection process, emphasising the importance of clear communication and standardisation to strengthen partnerships and project integrity.

In business, this approach offers a unique opportunity to align rewards with sustainable practices while promoting products that contribute positively to the environment and society. By integrating circular economy concepts into the reward mechanism, businesses can enhance their brand image and drive consumer preference toward products that prioritise sustainability. The emphasis on transparency and communication further fosters trust between project partners, improving collaboration and ultimately contributing to the initiative's success in promoting sustainable business practices.

photos by Monika Krzemińska

4

Partnership formation

Recognizing needs: good practices

To recognize the needs of local stakeholders, we developed a multi-faceted approach, which enabled us to identify the best partners, build trust, and co-create solutions. We used our academic experience and business methods, and developed unique interactive workshops as well. We started with a literature review. We delved into academic research on partnership formation, stakeholder analysis, and community engagement in similar projects. We reached for business methods, especially market research and value proposition analysis. We conducted surveys and focus groups to understand the local context, stakeholder landscape, and potential partner motivations. This provided us with real-world data and helped us tailor our approach.

We defined and articulated the value proposition of partnering with our project, clearly highlighting the benefits to various stakeholders. Last but not least, we designed workshops that went beyond traditional presentations. We incorporated interactive elements, group discussions, and co-creation activities to foster collaboration and understand partner needs more deeply. This created a space for empathy and a deeper understanding of the stakeholders' perspectives.

In the following, we explore key practices for effectively recognizing local context and stakeholder needs, fostering strong partnerships, and ultimately, achieving positive change.
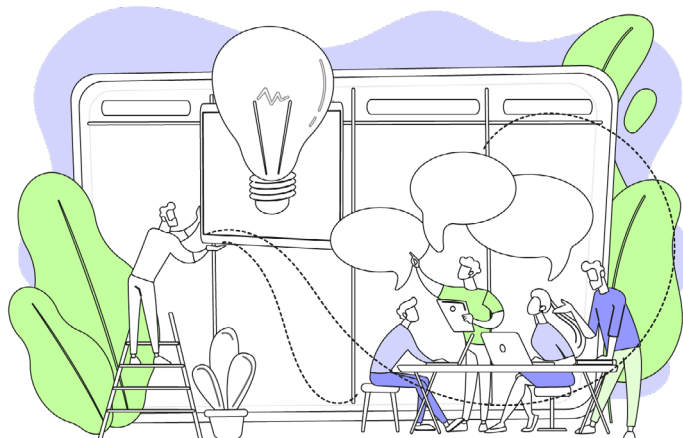
Test&Learn Greencoin phase in numbers

Workshop for 40 stakeholders

31 individual meetings

9 personas built & analysed

Firstly, **sound desk research is at the outset of studying needs**, as it provides a foundation of knowledge about the local context and stakeholder landscape. This saves time and resources by avoiding reinventing the wheel and allows for a more informed and targeted approach to stakeholder engagement. Desk research generates foundational knowledge about the local context and stakeholder needs before engaging directly. It is worthwhile to analyse local policies, documents, and official communication channels of relevant institutions (government, NGOs, sustainability initiatives).

Secondly, **choosing the right partners is essential for project success.** Partners with strong public trust, a history of engagement in relevant issues, and openness to innovation bring credibility and expertise. Their existing networks and willingness to co-create solutions can significantly enhance project reach and impact.

Prioritise partners with:

Public trust: Established reputation and positive community standing.

Engagement: Demonstrated history of active involvement in relevant issues.

Pro-environmental activity: Aligned values and commitment to sustainability efforts.

Openness to innovation: Willingness to explore new approaches and adapt existing practices.

Grassroots contacts: Ability to connect with and mobilise local communities.

Last but not least, **co-creating solutions with partners offers several advantages.** It ensures initiatives directly address the actual problems and needs faced by the local community. Partners who actively participate in shaping the project feel a sense of ownership, promoting their commitment and engagement. Finally, co-creation strengthens collaboration and builds trust, fostering long-term partnerships that sustain the project's impact.

To build potential partner engagement, use different methods. **Tailored workshops enable gathering insights from multiple stakeholders simultaneously,** facilitating knowledge sharing and collective brainstorming. If a workshop is designed around specific issues and stakeholder groups, it ensures that discussions are relevant and productive. Finally, workshops encourage collaboration and build stronger connections among stakeholders.

Individual meetings facilitate deeper understanding of individual partner needs and perspectives. They allow for in-depth exploration of individual stakeholder needs and perspectives, fostering personalised understanding. Individual conversation creates space for open and honest discussions, strengthening trust and fostering long-term relationships as well as enabling

to gather nuanced information that can be used to tailor solutions and engagement strategies.

Different types of informal communication establish a relaxed atmosphere, encouraging open dialogue and fostering personal connections. It provides opportunities for an ongoing information exchange and relationship building throughout the project lifecycle. Moreover, it enables capturing insights beyond formal settings, potentially revealing valuable perspectives and concerns.

By applying these practices, a deeper understanding of the local context and stakeholder needs can be gained, fostering collaboration and co-creation of effective and sustainable solutions.

The insights gathered through individual meetings and workshops with diverse groups of interest are invaluable for crafting targeted and effective value propositions. This is how to analyse this data to create compelling proposals for different audiences:

Building Personas: Utilise data from interviews, questionnaires, and discussions to identify key characteristics, needs, motivations, and challenges of different stakeholder groups. Develop detailed personas representing each group of interest. Include demographics, behavioural patterns, goals, frustrations („pains"), and aspirations („gains").

Analysing Pains and Gains: Analyse participant responses to understand the specific challenges and frustrations faced by each persona (their „pains"). Consider asking „5 Whys" to delve deeper into the root causes of these pain points. Identify the desired outcomes, aspirations, and benefits each persona seeks (their „gains"). Understand what motivates their actions and what success looks like for them.

Value proposition: Propose value proposition for each personas. Propose a value proposition for each person. Try to find common pain points that can be addressed when designing the product.

Business Model Canvas: Based on the identified pains and gains, use the Business Model Canvas framework to map out the value proposition for the most important target groups, channels, relations, etc. The developed model should be compared and discussed with other similar solutions. A crucial step in developing a successful strategy for Greencoin involves a thorough analysis of the competitive landscape. This includes examining both local solutions addressing similar pain points and broader IT solutions targeting the same user group.

Use the insights gained from the competitive analysis to develop an overall strategy. This includes refining the value proposition, tailoring the marketing approach and identifying potential partnerships or collaborations.
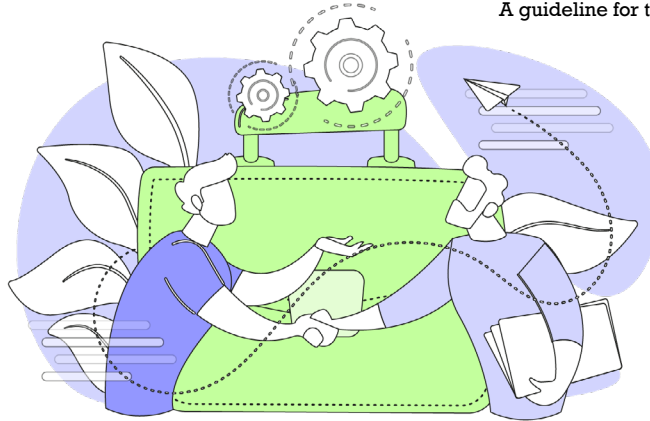
Establishing Partnerships: Negotiation Process

Building successful partnerships is crucial for Greencoin's growth, but negotiating terms of cooperation can be a complex process. It requires careful planning, adaptation to different partner types, and ensuring a win-win situation for all actors involved. This guide is a result of our experience and it outlines the key steps to navigate this process effectively, acknowledging its potential challenges as well as opportunities. As Greencoin, we successfully cooperated with 21 partners for 2 years (1 year of negotiations and preparation, 1 year of testing). We organised local events and enabled horizontal cooperation.

While the process outlined below offers a valuable framework for negotiating a partnership with Greencoin, it is critical to recognize the significant investment we have made as a team in developing a partnership for the currency:

Time commitment: Negotiating effectively often involves multiple rounds of communication, revisions, and approvals, which extends the timeline.

Resource requirements: Dedicating personnel with the necessary skills and experience to manage partner negotiations, agreement drafting, and ongoing communication requires significant resources.

Expertise is key: Having individuals that are experienced in facilitating cooperation and negotiations can significantly increase the success rate of securing beneficial partnerships. Their expertise streamlines the process, ensures mutually advantageous agreements, and navigates potential complexities.

Undertaking this task independently is a valuable experience that builds the know-how of implementers, but it should be appropriate to the skills and resources of the organisation. If an organisation lacks the internal resources to effectively manage the negotiation process, consider subcontracting to a qualified firm specialising in partnership development and negotiation. Moreover, in the process of building partnerships, it is crucial to be somewhat embedded in the local context, so if we are external implementers,

the inclusion of local actors in the consortium, such as NGOs or local governments, is a very important stage of building cooperation.

Benefits of subcontracting:

👉 **Expertise:** Leverage the skills and experience of professionals adept at negotiation and partner development.

👉 **Efficiency:** Minimise the time and resources required internally, allowing the team to focus on core competencies.

👉 **Cost-Effectiveness:** Subcontracting can be a cost-effective solution, especially for complex negotiations or when internal resources are limited.

Ultimately, the decision to manage negotiations internally or subcontract should be based on a careful assessment of the organisation's capabilities and resource constraints. By acknowledging the time and resource commitment involved, and exploring options like subcontracting when necessary, Greencoin can ensure efficient and successful partnership establishment.

Negotiating terms with Greencoin involves a structured approach. First, a general agreement template is prepared, tailored to different partner types like strategic partners or local businesses offering redemption or earning opportunities. The process then adapts to partner size, with dedicated meetings for larger entities and streamlined agreements for smaller ones. Face-to-face interactions are prioritised to build trust and understand each other's vision, ensuring that the final agreement benefits both Greencoin and its partners. Below we describe the process of the terms negotiations step-by-step.

Firstly start the preparations, which should be mostly focused on preparing general conditions. Develop a general template agreement outlining the rights and responsibilities of Greencoin and its partners.

This template can be adapted for different partner types:

👉 **Strategic partners:** Focus on long-term collaboration, joint marketing initiatives, and broader strategic goals.

👉 **Local partners - redemption points:** Define terms for accepting Greencoin for products or services and exchanging them for traditional currency.

👉 **Local partners - earning points:** Specify activities that users can perform with these partners to earn Greencoin.

During the negotiation process with strategic partners expect dedicated departments for negotiations, allowing for more complex, detailed agreements and face-to-face meetings to build trust and understanding. Smaller local partners need more flexibility, their resource limitations have to be taken into account. Consider streamlined agreements and potentially virtual meetings.

Organise a minimum of one face-to-face meeting. This fosters trust, facilitates open communication, and helps understand each other's vision for the cooperation. Direct communication provides valuable insights, facilitating a more nuanced understanding of the partner's perspective and potential concerns. In-person meetings allow for collaborative problem-solving, leading to more efficient and creative solutions.

Use emails and phone calls for handling logistical details, scheduling meetings, and exchanging documents, minimising time commitment and resources needed. Emails serve as clear records of agreements and discussions, reducing the risk of misunderstandings and facilitating future reference. Compared to face-to-face meetings, phone calls

and emails are more cost-effective, particularly for discussions on minor revisions.

Ensure the system benefits both sides. Greencoin should strive to meet partner needs while utilising their resources effectively. Prepare materials demonstrating Greencoin's commitment to promoting partners. This includes information about their initiatives, activities, and events for potential inclusion in the Greencoin ecosystem. Clearly define the rights and responsibilities of both parties regarding: promotion, agreement duration, withdrawal terms, content exchange, project schedule, voucher exchange terms (if applicable).

Once the agreements are finalised, celebrate the partnerships with a joint kick-off event for all participating entities. This fosters a sense of community and collaboration. Welcome new partners who are joining later during networking events or similar gatherings.

By following these steps, it is possible to effectively negotiate and establish beneficial partnerships that will contribute to the program's success and create a win-win situation for all parties involved.

Test&Learn Greencoin phase in numbers
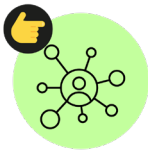
3 networking events organised

9 common events

14 joint promotional activities

Regular networking meetings

We scheduled regular in-person meetings to facilitate knowledge exchange, progress updates, and brainstorming sessions. We encouraged partners to share their expertise and

Ongoing evaluation and networking

Building a strong partnership with Greencoin goes beyond the initial negotiation phase. To ensure continued success and mutual benefit, ongoing evaluation and networking efforts are key. This is how a thriving ecosystem of partners has been successfully cultivated at Greencoin:

resources, identifying opportunities for collaboration within the Greencoin project or on side-line initiatives. This fostered a collaborative environment where partners leveraged each other's strengths, ultimately strengthening the overall cooperation.

We encouraged partners to share information about their own initiatives, such as public events for residents, conferences, panel discussions, or meetings with other relevant parties. It created opportunities for partners to participate in each other's initiatives. This cross-promotion broadens reach, leverages diverse resources, and strengthens the overall impact of the Greencoin project.

The benefits of ongoing evaluation and networking include enhanced collaboration, innovation and sustainability of partnership. Regular communication and shared knowledge lead to deeper collaboration, which can maximise the impact of the local currency and its partners. By leveraging diverse expertise and resources, partners had the opportunity to spark new ideas and drive innovation within the Greencoin ecosystem. Ongoing evaluation and adaptation ensured that partnerships remained mutually beneficial and stable.

One of the challenges that we encountered in our project was maintaining engagement throughout the project lifecycle. This was due to various factors such as personal changes, undertaking other initiatives as well as changing organisational goals. If key personnel who were initially involved in the project have left their organisations or been assigned to other projects, we were losing continuity, and newcomers showed lower commitment. Also changes in goals and priorities were apparent in some organisations. As a result, partners were involved in other initiatives that competed for their time and resources, making it difficult for them to fully commit to the project. It is worth mentioning that some large partners, especially strategic partners, had cumbersome decision-making processes that slowed down the progress of cooperation, which was demotivating for both sides.

Recommendations

Based on the Greencoin project's experience, here are recommendations for building strong partnerships:

1. To understand needs and context, do desk research and stakeholder selection:

Conduct thorough research to understand the local context, stakeholder landscape, and existing initiatives before engaging directly.

Prioritise partners with strong public trust, relevant experience, openness to innovation, and connections to the local community.

2. Get potential partners involved in the creation process:

Involve partners in shaping the project to ensure that solutions address actual needs and foster ownership and commitment.

Organise workshops with specific themes and diverse stakeholders to gather insights, share knowledge, and brainstorm collaboratively.

3. Develop a well-tailored value proposition:

Analyse data from interactions to create detailed personas representing stakeholder groups with their needs, motivations, and challenges.

Identify stakeholder pain points (challenges and frustrations) and desired outcomes (aspirations and benefits) through data analysis.

Craft targeted value propositions for each stakeholder group, addressing their specific pains and offering solutions to achieve their gains.

4. Negotiate partnership conditions individually:

Develop a negotiation process with general agreement templates adapted for different partner types (strategic partners, local businesses). Be flexible for varying partner sizes and prioritise face-to-face meetings for trust building and mutual understanding.

5. Foster collaborative culture:

Schedule regular meetings specifically designed for knowledge exchange, progress updates, and brainstorming sessions.

Summary:

In summary, Chapter 4 provides a comprehensive overview of partnership formation within the Greencoin initiative, emphasising the importance of recognizing local needs and fostering solid collaborations. Its multifaceted methodology sets this approach apart, incorporating academic research, business methods, and interactive workshops to understand stakeholder motivations and co-create solutions. By prioritising partners with public trust, engagement in relevant issues, and openness to innovation, Greencoin ensures credibility and expertise within its network. Additionally, the emphasis on co-creating solutions ensures that initiatives directly address local challenges, fostering a sense of ownership and commitment among partners.

In the realm of business, this approach offers significant benefits. By recognizing the needs of local stakeholders and forming solid partnerships, companies can gain credibility, access expertise, and leverage resources more effectively. The emphasis on co-creation fosters a collaborative culture, driving innovation and ensuring that solutions are tailored to meet specific needs. Furthermore, ongoing evaluation and networking efforts contribute to the sustainability of partnerships, maximising their impact and fostering long-term success. Chapter 4 provides valuable insights and recommendations for businesses seeking to establish meaningful partnerships and drive positive change within their communities.

MOST WIEDZY

photos by Hanna Obracht-Prondzyńska,
Hanne Cecilie Geirbo,
Ari K.M. Tarigan
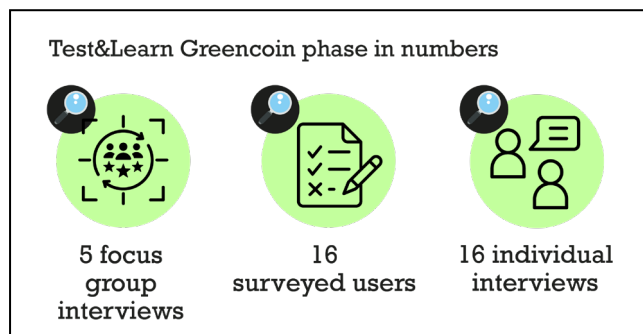
5

User-centric design

Recognizing needs

During the Greencoin testing we employed various methods to understand user needs, including conducting surveys, focus groups, and interviews, followed by data analysis to identify trends and user segments. Finally, continuous user engagement through feedback channels and testing helped us to monitor evolving needs and refine the platform accordingly.

On the basis of our experience, we recommend various methods of user needs recognition, including both quantitative and qualitative methods. The most important thing is to define the most relevant group of users - the early adopters, which means the group of people that are deeply engaged, and ready to explore and share information about the project. The early adopters group can be a group of people easy to get contact with thanks to partners network and/or a group of people who are deeply interested in the topic of sustainability. To find this group, search for opportunities within partnerships, and look for formal and informal groups united around the topic of sustainability or similar issues.

Test&Learn Greencoin phase in numbers

5 focus
group
interviews

16
surveyed users

16 individual
interviews

Partners, especially those involved in sustainability initiatives, can recommend individuals or groups with a keen interest in Greencoin's mission. Sustainability enthusiasts can also be found by identifying online forums, social media groups, or local organisations focused on environmental sustainability.

Discuss potential early adopter groups with partners to gain diverse perspectives and insights. Generate a comprehensive list of potential early adopter groups based on the input from partners and own research. Evaluate each shortlisted group using a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis to identify the most suitable option. This helps assess the group's potential to effectively engage with Greencoin and disseminate information about the project.

Based on the SWOT analysis select the group with the most favourable combination of strengths, weaknesses, opportunities, and threats. Consider factors like:

Outreach: Ability to reach a large and relevant audience.

Engagement level: Enthusiasm and willingness to explore and share information about Greencoin.

Accessibility: Ease of establishing communication and collaboration with the group.

Once the most important groups have been identified, an analysis of their needs can begin. We found the following methods useful and informative: surveys, focus groups and individual interviews. By combining quantitative research with qualitative methods such as focus groups, a comprehensive understanding can be gained. Quantitative data provides the „what" (general trends), while qualitative research reveals the „why" (underlying reasons and motivations).

Focus groups are a valuable research tool that allows to gain deep insights into a specific group of people. They provide a platform for exploring behaviours, attitudes, pains and gains, dreams and aims, and points of contact.

Behaviours: How does this group act within their everyday context? What are their typical actions and patterns?

Attitudes: What are their attitudes toward specific topics, concepts and ideas? What do they think about the general concept?

Pains and gains: What are the challenges and frustrations (pains) faced by this group? What are their desires and aspirations (gains)?

Dreams and aims: What are the hopes and ambitions of this group? What motivates them?

Points of contact: Where do the needs of this group intersect with the potential solutions offered by the project (Greencoin)?

Focus groups offer rich qualitative data about user perceptions and opinions on a specific topic. Discover what they think and feel about Greencoin, its value proposition and potential areas for improvement. Using techniques like projective methods, participants can be encouraged to analyse the behaviour of hypothetical representatives in their group. This helps them delve deeper into their own thoughts and reactions.

Quantitative research plays a crucial role in understanding general public opinion and trends. While it may not provide the in-depth insights of qualitative methods like focus groups, it offers significant value in the planning stages of your research initiatives. Surveys and questionnaires allow to gather data from a large number of respondents, providing a broader and more generalizable picture of public opinion. Quantitative research helps to identify general trends and patterns in attitudes and behaviours.

Before launching expensive quantitative research, conduct thorough desk research. Existing studies, reports, and government data can provide valuable insights and potentially answer the research questions. Quantitative research can be expensive, particularly when collecting data from a large sample size. Careful planning and utilising existing resources can help manage costs. Clearly define the research objectives. Quantitative research is well-suited for addressing specific questions or examining broad trends. It is less effective for exploring complex motivations and underlying beliefs.

Individual interviews are a powerful tool for gathering insightful feedback during the testing phase of Greencoin's development. The one-on-one setting allows participants to provide honest and candid feedback without the potential influence

User-centric design
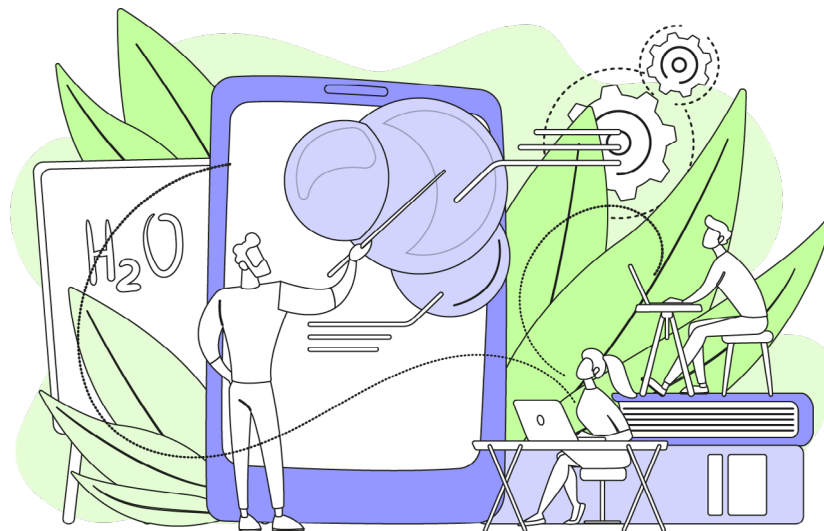
of group dynamics that is present in focus groups. This ensures that Greencoin receives unfiltered user opinions and perspectives. Interviewers can guide users through the prototype, observing their interactions and prompting them to verbalise their thoughts and challenges. This helps identify specific usability issues, navigation difficulties, and areas for improvement. Beyond identifying issues, individual interviews provide an opportunity to understand the „why" behind user behaviour. Interviewers can delve into participants' motivations, preferences, and thought processes, uncovering underlying insights that may not be readily apparent in other testing methods.

Individual interviews are useful at the early stages of implementing the tool. Individual interviews help identify major usability issues and understand core user needs. Also, when testing specific features or functionalities, individual interviews allow for focused exploration of user interactions and feedback. When trying to delve deeper into the „why" behind user behaviour and gather detailed feedback on specific aspects of the prototype, individual interviews are a valuable tool.

Utilising mixed methods like surveys, focus groups, and individual interviews enables Greencoin to gather a comprehensive picture of user needs. Quantitative methods like surveys offer broad trends and general opinions, while qualitative methods like interviews and focus groups provide rich insights into motivations, pain points, and individual perspectives. **This multi-faceted approach yields a deeper understanding of user needs, ultimately leading to the development of solutions that resonate with the target audience.**

Channels

Greencoin can foster a thriving user community through a variety of communication channels, like organising events, sending newsletters, sharing content within the app, and taking care of the support quality.

To welcome early adopters, it is worth organising a kick-off event or workshop. Organise an engaging event to introduce Greencoin, showcase its benefits, and express appreciation for early adopters' involvement. This sets a positive tone for the ongoing collaboration.

Secondly, it is important to ensure that the communication is sustained. Regularly sending informative emails can keep early adopters informed about project developments, new features, and opportunities to share their feedback. This fosters a sense of connection and value.

Test&Learn Greencoin phase in numbers

142 quizzes
released

102
social media
posts

183 news
and
notifications

The application has interactive app features which should be fully used to build a sense of community. Short, engaging quizzes within the app can be used to gather user opinions on features, identify potential areas for improvement and draw attention to sustainability issues. Sending targeted notifications about revevant updates, local events and exciting opportunities within the Greencoin ecosystem, keeps users stay tuned. It can also highlight important changes within the app, such as new vouchers, partners, or community events, to keep users informed and engaged.

We strongly recommend co-organising events for local communities. It is worthwhile to partner with local organisations and groups to host events focused on sustainability initiatives. These can include clean-up drives, urban gardening projects, or swap meets (clothing, toys, electronics). This strengthens community bonds, increases local brand recognition, and attracts new potential users.

The party responsible for the IT system should simplify support. Provide clear and accessible options for users to report bugs, ask questions, or seek assistance. This could include a direct contact form within the app or a dedicated email address. Implement a user-friendly form for reporting bugs or requesting support. This simplifies the process and ensures efficient resolution of user issues.

Greencoin managers should act as a bridge between partners and users. This includes ensuring clear communication channels for inquiries related to voucher exchange, point earning opportunities, and other partner-related aspects of the platform. This fosters seamless interactions and a positive user experience.

Benefits for users

Greencoin offers users a compelling combination of individual rewards, community building, and recognition for their contributions to sustainability. Here is an overview of the benefits users can enjoy:
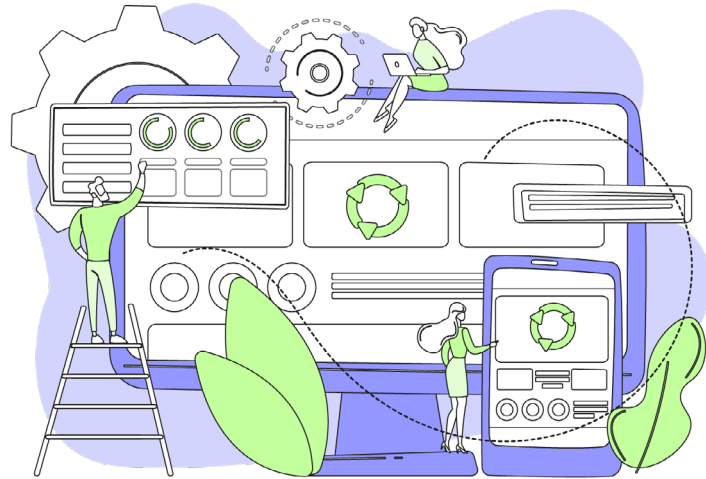
1. Rewarding sustainable choices:

Earning Greencoins: Users are incentivized to adopt sustainable practices by earning Greencoins for actions like recycling, using reusable bags, or choosing eco-friendly transport. This motivates them to integrate these behaviours into their daily lives.

Redeeming rewards: Greencoins can be redeemed for various rewards, such as discounts at participating businesses, entry to exclusive events, or attractive products and services. This tangible benefit reinforces positive behaviour change.

2. Fostering community building:

Connecting with like-minded individuals: Greencoin facilitates connections with other users who share a commitment to sustainability. This gives them a sense that they are working as a group and that their joint efforts are meaningful, which is reflected in the statistics.

Collaborative initiatives: Through the platform, users can participate in community-driven initiatives like local clean-up drives or educational workshops. This fosters a sense of collective action and strengthens the community bond.

3. Recognizing sustainable behaviours:

Personal satisfaction: Knowing that their efforts are contributing to a positive environmental impact provides users with a sense of personal satisfaction and purpose. This intrinsic motivation strengthens their commitment to sustainability.

By providing these combined benefits, Greencoin goes beyond simply rewarding actions. It creates a supportive and engaging environment that empowers individuals to make a real difference through their everyday choices. This fosters a sense of community and collective responsibility, ultimately driving positive change towards a more sustainable future. Moreover, Greencoin can help reduce inequalities and support people in difficult situations.

User-centric design

Recommendations

Based on Greencoin's user engagement strategies, here are the key recommendations for similar projects aiming to promote sustainable behaviours using local currency or similar solutions.

1. Rewarding sustainable choices:

Design a clear system where users earn points, badges, or virtual currency for adopting sustainable practices. Focus on everyday actions that are easily integrated into user routines (e.g. recycling, using reusable bags, and choosing public transport).

Provide a variety of attractive rewards to cater to different user preferences. This could include discounts at local businesses, exclusive event entries, or access to desirable products and services.

2. Fostering community building:

Facilitate user participation in community-driven projects like clean-up drives, educational workshops, or volunteering opportunities.

Highlight the collective impact users actions have, fostering a sense of shared responsibility and community spirit.

3. Recognizing sustainable behaviours:

Emphasise the positive environmental impact users contribute to through their actions. Showcase user achievements in a way that fosters personal satisfaction and purpose, leading to a stronger commitment to sustainability.

In summary, Chapter 5 focuses on user-centric design. Greencoin employs various methods to understand user needs, such as surveys, focus groups, and interviews. A distinguishing feature is identifying early adopter groups - individuals interested and engaged in sustainable development topics. When selecting partners and designing solutions, their needs and preferences are considered. Combining quantitative and qualitative research with mixed methods allows a more comprehensive understanding of user needs.

Furthermore, Greencoin actively engages the community through diverse communication channels, from organising events to supporting technical assistance. As a result, users are rewarded for making sustainable choices, building a community, and receiving recognition for their contributions to sustainable development. Consequently, Greencoin transcends traditional reward systems, creating a supportive and engaging environment that drives positive change toward a more sustainable future. A user-centric approach allows businesses to understand customer preferences and needs better, leading to improved product and service alignment and building customer loyalty. Building a community around the brand and rewarding users for their sustainable choices can also increase customer engagement and loyalty.
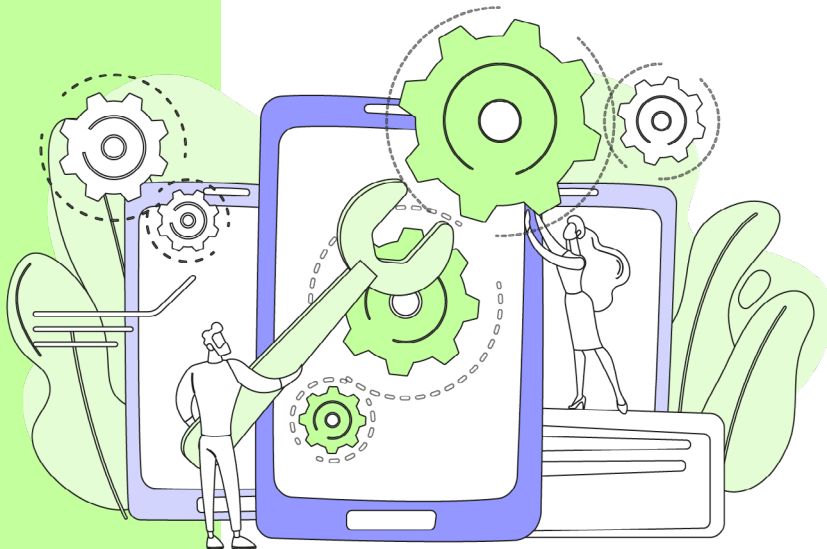
photos by Hanne Cecilie Geirbo,
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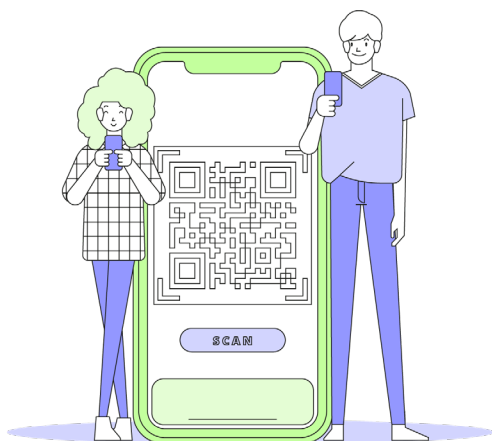
6

Mobile application functionalities

Introduction

The application's functionalities support the fundamentally simple process of producing virtual coins and exchanging them for prizes. The user „produces" virtual coins in his account through sustainable behaviour, which the application tracks and verifies (automatically or with the help of other users). Earned coins can be exchanged for coupons (for products and services). Coupons (vouchers) are redeemed at Partners.

Functionalities that introduce elements of gamification are built around the basic functionalities.

The functionality ensures great flexibility of the system. The codes can be used to serve stationary actors (e.g. on a sticker at a circular economy partner) or to organise events. The QR code may have different values and may constitute an additional currency circulation among groups that do not use the application (e.g. school students).
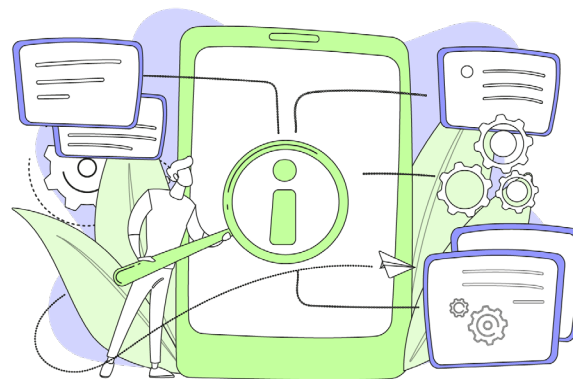
GPS position tracking

By tracking a resident's position, they can earn points for using alternative means of transport.

Principles of operation:

The user starts tracking the trip in the Greencoin app. The app tracks the user's position and uses GPS to determine their speed and route. For using alternative means of transport, such as bicycle, public transport or hiking, the user receives virtual coins. The number of coins depends on the distance covered by a given means of transport. The app can introduce speed- and distance limits to prevent abuse.

The app's GPS tracking feature is a great way to promote sustainable transport, save money and promote a healthy lifestyle.

Scanning QR codes

A resident visits a local circular economy partner (e.g. shoemaker, cheap clothing store) or takes part in an event (e.g. cleaning the neighbourhood), scans the QR code at the owner/organiser and receives virtual coins.

QR code scanning functionality in the application:

1. A resident visits a local partner or takes part in an event.

2. Scans the QR code placed by the event organiser.

3. The Greencoin app verifies the QR code and awards the user a certain number of virtual coins.

QR codes are generated in the Administrator panel. Their value can be specified, the purpose described and a limit introduced on the number of times the code can be used. QR codes can be printed on various types of media: ordinary cards, stickers, local „banknotes", and T-shirts. QR codes can also be sent (e.g. by email) or shown in virtual form (on a tablet or phone).

Education and quiz

The quiz allows to share knowledge with residents. Residents will receive virtual coins for correctly completing the quiz.

Learning and quiz functionality in the Greencoin app:

The user selects the topic he wants to read. Local and sustainability-related content is available. Educational content may include articles and infographics. After reading the educational content, the user can take the quiz. After completing the quiz, the user receives information about the number of correct answers. For correctly completing the quiz, the user receives a certain number of virtual coins.

Self-reporting and verification

The activities performed by the user are verified by other residents based on the photos taken by him, thanks to which we can reward various types of activities. The user shows his activities by taking before- and after photos using the app. Other users can verify the behaviour by determining from photos whether sustainable action actually occurred.

Principles of operation:

The user performs pro-ecological activities, e.g. cleans the park, plants a tree or gives up plastic containers, based on the attached instructions (generated by the Administrator). The user takes before- and after photos of an action using the app. Other users can check the photos and the description of the activity and then vote on whether the activity was performed correctly. Based on user votes, the action is verified and the user who performed it receives virtual coins.
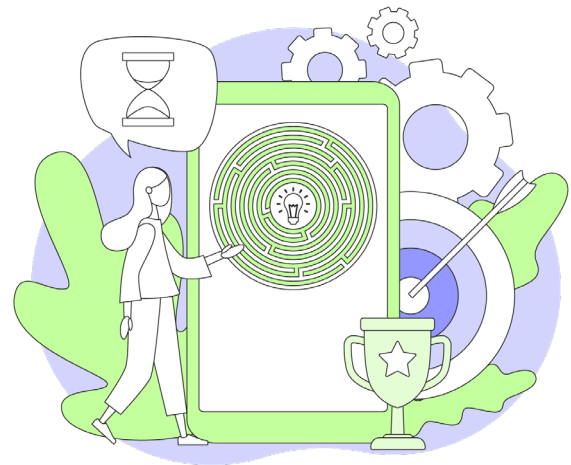
The functionality, like scanning QR codes, ensures flexibility of the applied solutions. Self-reporting allows to track behaviours that are in the private and professional sphere and are difficult to examine for outsiders.

Voucher and wallet

A Greencoin voucher is a digital document entitling the user to receive a discount on a product or service offered by a program partner. Vouchers may be available in various categories, e.g. gastronomy, entertainment, transport, shopping, and may have different values and expiration dates.

The voucher wallet is a place in the Greencoin application where the user can store their vouchers. The wallet displays a list of all user vouchers, along with their value, expiration date, and description. The user can present the voucher to be redeemed at the program partner and deactivated at the collection point.

Store

Using the application, the user collects virtual coins for participating in various pro-ecological activities, e.g. cleaning the city, using public transport, or completing quizzes. These coins can be exchanged for vouchers.
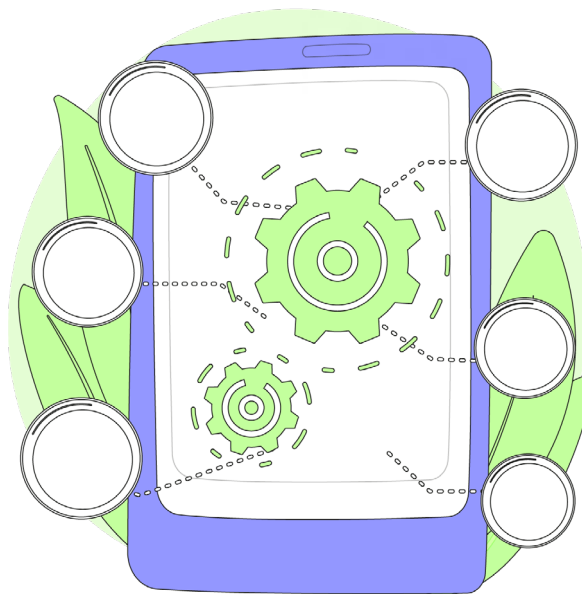
Action:

In the Greencoin app store, the user can browse available products, services and discount vouchers offered by program partners. The user can purchase the selected product or service for virtual coins. After purchase, the user receives a voucher for a product, service or discount that can be used with a program partner. The application displays the current status of his virtual wallet. The partner issues a product or service or charges a discount after the user presents the voucher in the application.

Partner map

The map module displays a city map with selected program partners. After clicking on the partner's icon, the user can see detailed information about him, such as address, contact details, business description, products and services offered in the application.
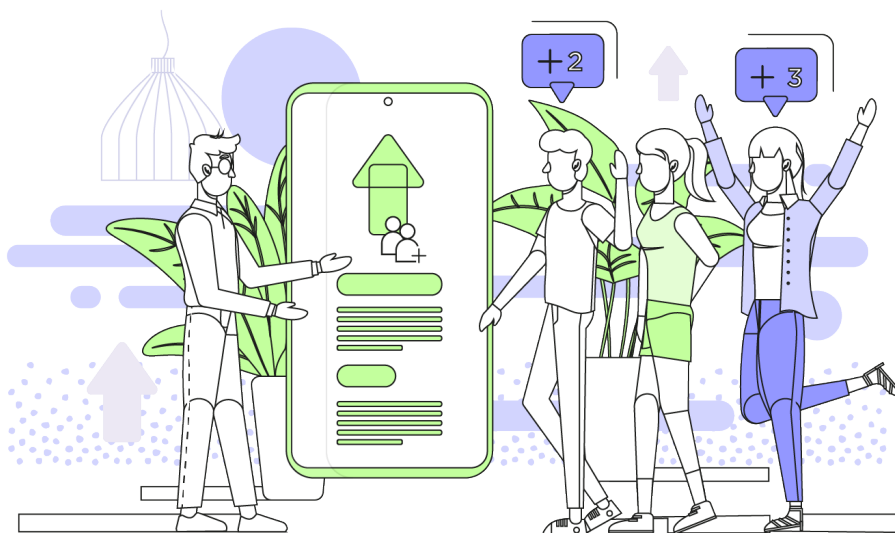
such as saving water, giving up plastic packaging, and using sustainable transport. The challenges last over time and assume the regularity of certain actions (e.g. the user will take a reusable container for shopping 10 times a month). Users receive virtual coins for completing challenges.

Statistics: Users can track their statistics, e.g. virtual coins earned, kilometres travelled, or challenges undertaken. They can also see overall statistics and collective impact on the planet (e.g. CO_2 saved).

Rankings: Users can compete with each other in overall- and group rankings.

Groups: Users can create groups, e.g. at school, at work, and in the neighbourhood.
News: The application can display news about local initiatives for the local community or environmental protection, e.g. organised park cleaning or competitions for the best ecological project.

Challenges, achievements, groups, statistics and news

The application contains additional functionalities that diversify gamification.

Challenges: Users can take part in various challenges, including activities

Summary

In summary, Chapter 6 introduces the functionalities of the mobile application for Greencoin, focusing on facilitating the process of earning virtual coins through sustainable behaviour and exchanging them for rewards. Key innovations include integrating gamification elements to enhance user engagement and flexibility in the application's functionalities.

Noteworthy functionalities include:

- **QR Code Scanning:** Users earn virtual coins by scanning QR codes at local partners or events, promoting engagement with circular economy initiatives.

- **GPS Position Tracking:** Users receive coins for alternative means of transport, encouraging sustainable travel habits.

- **Education and Quiz:** Users gain coins for completing quizzes on sustainability topics, promoting knowledge-sharing and learning.

- **Self-reporting and Verification:** Users can earn coins by performing eco-friendly actions verified by other users through photo submissions, enhancing community involvement.

- **Store:** Users can exchange earned coins for vouchers offering discounts on products or services from program partners, promoting sustainable consumption.

- **Voucher and Wallet:** The application includes a digital wallet for storing and redeeming vouchers received through coin exchange.

- **Partner Map:** A map displays program partners, allowing users to access detailed information about each partner's offerings.

- **Challenges, Achievements, Groups, Statistics, and News:** Additional gamification features such as challenges, rankings, and news updates enhance user engagement and community participation.

These functionalities represent innovative approaches to incentivizing sustainable behaviour and fostering community engagement. They offer valuable opportunities for businesses to align with sustainability goals and enhance customer loyalty.
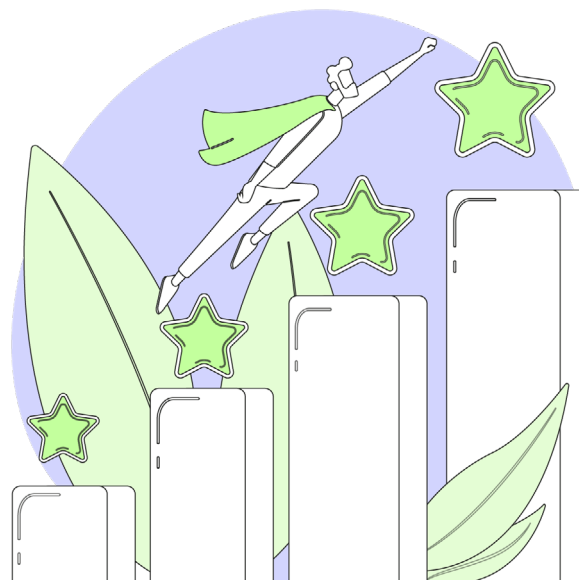
photos by Monika Krzemińska

7

Future scenarios

Greencoin as a local governance tool

Greencoin can be used as a local government tool to promote sustainable behaviour and local initiatives. Residents can be rewarded by virtual coins for specific behaviour which directly answer local policies. Moreover, their local activity (such as taking part in initiatives, events, and volunteering) can also be rewarded. In order to encourage people, the local government can use a part of its budget to provide attractive rewards, such as vouchers in the app. Local governments can also test the possibility of giving people a chance to pay certain local fees via virtual coins. This circuit can empower local businesses and build local communities for a sustainable future.

The Greencoin model gives opportunity to adapt it with local policies, encouraging residents to adopt sustainable practices such as recycling, using public transport or participating in energy-saving initiatives. This directly connects individual actions with local sustainability goals. Rewarding residents for participating in local sustainability initiatives, events, or volunteering efforts will foster community engagement and reinforce positive behaviours.

As a public actor, the government can allocate a portion of the local government budget to offer compelling rewards for desired sustainable behaviours. These rewards could be vouchers at local businesses, discounts on local services, or even entry to exclusive events. This incentivizes participation and motivates residents to actively contribute. Local governments can also test local payments in alternative currency and explore the possibility of allowing residents to partially pay local charges (e.g., parking fees or library fines) in virtual coins. This pilot program could test the feasibility and gauge its effectiveness in promoting local currency adoption.

Overall, Greencoin offers a unique opportunity for local governments to:

Promote sustainable practices: Encourage residents to adopt behaviours aligned with local environmental and sustainability goals.

Increase community engagement: Foster resident participation in local initiatives and events through recognition and rewards.

Support local businesses: Empower local businesses by increasing their visibility and encouraging residents to support them.

Build a sustainable future: Contribute to the development of a more sustainable and resilient local community.

Greencoin as a tool for engaging school students

Greencoin can be adapted for schools using a combination of physical and digital elements to create a fun and engaging way to teach students about sustainability and responsible living.

Physical banknotes can be designed and printed with QR codes on them. These banknotes represent „virtual Greencoins" earned within the app. Teachers can manage a dedicated Greencoin app account to gather points earned by students in a virtual wallet to see their progress.

Students can earn Greencoins for adopting positive environmental practices like:

Saving water and energy in the classroom.

Using reusable water bottles and lunch containers.

Properly segregating waste.

Participating in school clean-up drives or community cleanups.

Competition and collaboration: friendly competition between classes can be encouraged to see who can earn the most Greencoins during the week, month, or semester.

Cooperation within classes: students within a class could work together to achieve specific goals and earn Greencoins as a team. This fosters teamwork and a sense of collective responsibility.
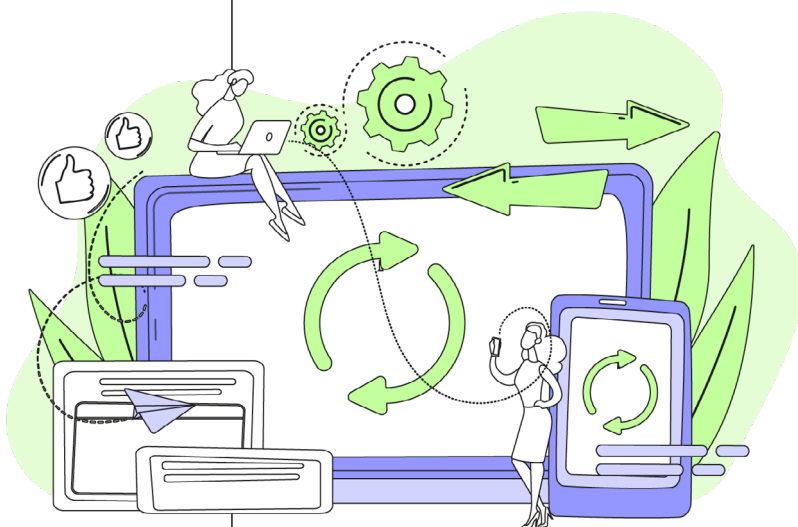
At the end of a designated period (e.g. semester or year), students can redeem their virtual Greencoins within the app for various rewards:

👉 Educational field trips (e.g. trip to a conservation area or recycling center)

👉 Fun activities for the class (e.g. movie day, game day)

👉 Sustainable school supplies (e.g. plantable pencils, seed paper)

Benefits:

👉 Learning by doing: Greencoin gamifies sustainability, making it fun and engaging for students.

👉 Positive reinforcement: Earning Greencoins motivates students to adopt sustainable behaviours.

👉 Healthy competition: Class competitions foster a sense of friendly rivalry and encourage participation.

👉 Teamwork and collaboration: Earning points collaboratively encourages students to work together towards a common goal.

👉 Real-world impact: Students learn the value of responsible living and its impact on their environment.

👉 Civic responsibility: Greencoin instils a sense of civic responsibility and community involvement.

By implementing the Greencoin model in schools, educators can create a stimulating learning environment that empowers students to become responsible citizens and environmental stewards.
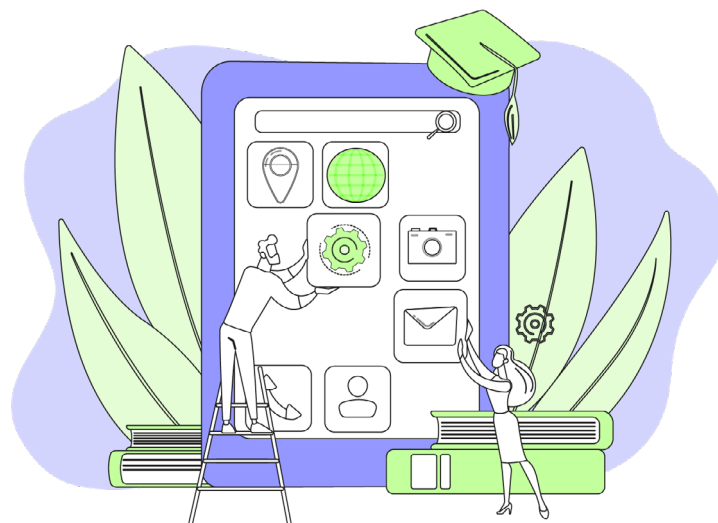
Greencoin as a time bank

Greencoin can facilitate a **mutually beneficial model for inter-neighbourhood assistance** using the time banking model. Individuals with specific skills and knowledge can offer their time and expertise to help others through the Greencoin app (as vouchers). This could include tutoring, animation for children, or specialised advice in various fields.

Some kind of local activity centre is needed to manage and coordinate assistance requests and offerings. Individuals willing to help can announce their services by creating „vouchers" within the app. These vouchers can specify the offered service, duration, and cost in Greencoins. Individuals needing assistance can browse available vouchers and „purchase" them using their virtual Greencoins. This purchase confirms their request and reserves the helper's time. After completing the agreed-upon service (e.g. tutoring session), the helper can scan a QR code provided by the coordinator. This action verifies the service completion and credits the helper's account with the corresponding Greencoins.

Benefits:

👉 **Community Support:** Facilitates a platform for individuals to offer and receive assistance within their neighbourhoods, fostering a sense of community and solidarity.

👉 **Skill sharing:** Allows individuals to share their expertise and earn recognition for their skills.

👉 **Accessibility:** Makes specialised help accessible to those who may not otherwise be able to afford it.

👉 **Sustainable model:** The use of virtual coins incentivizes participation and ensures a fair exchange of value.

Greencoin as a tool supporting circular economy

Greencoin can be utilised to create a **circular economy model** that incentivizes residents to donate, repair, and reuse unwanted items, promoting sustainability and resource conservation.

Residents can earn Greencoins by **donating unwanted but functional or repairable items** (toys, electronics, etc.) at **collection points**. The Greencoin app facilitates the donation process, allowing users to **scan a QR code** at the collection point to confirm their donation. Upon successful donation, the app automatically credits the user's account with a specified number of Greencoins based on the item's type and estimated value.

Individuals can **browse available items** in the collection point and users can choose to **pick up items for free** from collection points. If the picked-up item requires repairs, individuals can **fix it themselves** and earn additional Greencoins by providing fixed or upcycled products into the Greencoin shop.

Repaired items are then made **available for purchase** within the Greencoin app's virtual store. Users can browse and purchase these items using their earned Greencoins, promoting resource reuse and reducing reliance on new, manufactured goods.
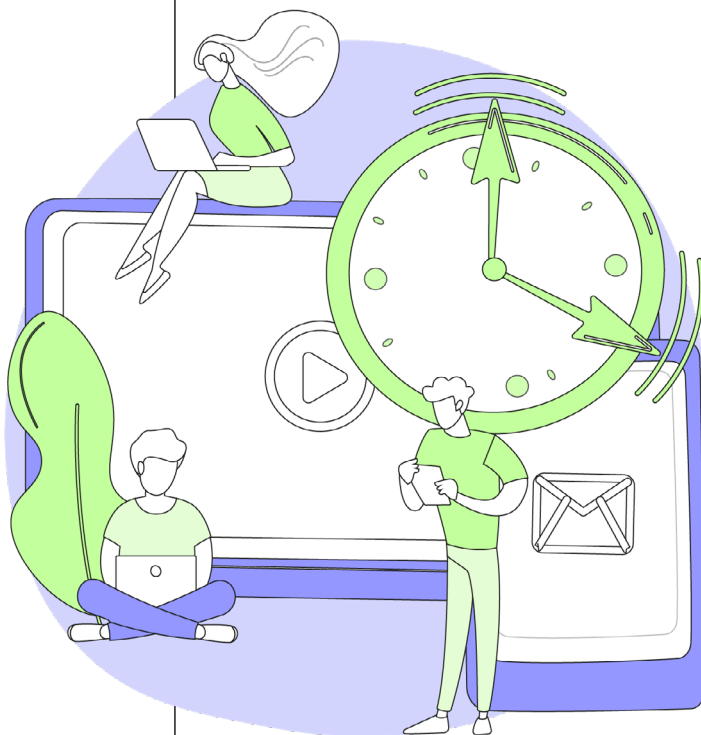
Benefits:

👉 **Promotes sustainability:** Encourages a circular economy by extending the life cycle of products and reducing waste.

👉 **Incentivizes resource reuse:** Motivates residents to donate and pick up pre-owned items instead of
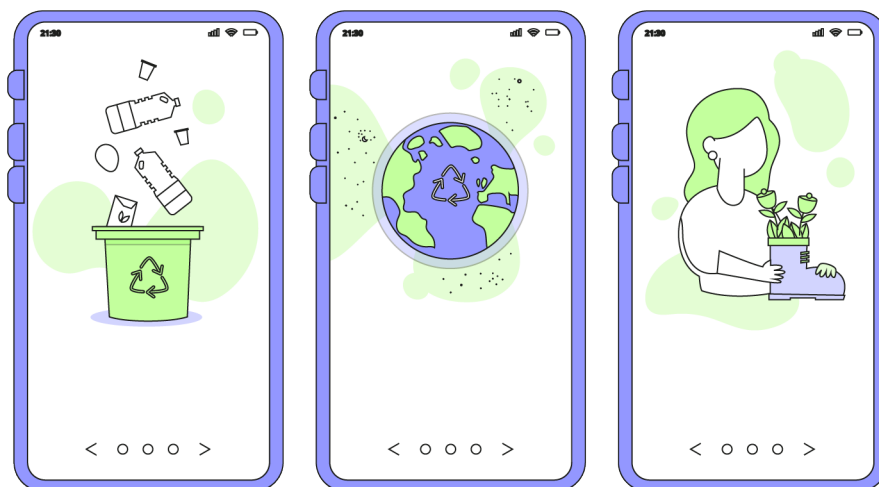
buying new ones.

👉 **Rewards repair skills:** Empowers individuals with repair skills and offers them a way to earn Greencoins.

👉 **Cost-effective alternative:** Provides access to potentially useful items for free or at a lower cost compared to new ones.

👉 **Community building:** Fosters a sense of community by encouraging resource sharing and collaboration.

Potential managers of Greencoin

Greencoin can be managed by different actors and used for different aims. It is important to emphasise that the application we propose is only a tool. How it will be used depends on the manager's vision and intentions. As an open source tool, it can be developed into an application that supports unsustainable behaviour. **This is not the intention of the tool's developers, but it should be emphasised that a misapplied local currency can be used for greenwashing, for example.** Nevertheless, every kind of organisation can use it:

1. Local government:

Local governments are deeply invested in promoting local sustainability and community engagement. Greencoin directly supports these goals by incentivizing residents towards environmentally friendly behaviours aligned with local policies (such as waste reduction and recycling). Moreover, local governments often have the resources needed to manage a Greencoin program effectively. This includes managing the app

infrastructure, overseeing system administration, and potentially integrating Greencoin as a local payment option. Also, residents are likely to trust a local government-managed Greencoin program, fostering wider participation and program success.

2. Public company:

Public companies possess the financial resources to potentially invest in advanced Greencoin features, app development, and broader marketing campaigns. Additionally, public companies with sustainability initiatives can leverage their existing expertise to manage the program effectively. A public company managing Greencoin can gain positive brand association by promoting sustainability and community engagement. This can enhance their public image and attract customers who value these initiatives.

3. Private company:

Private companies, particularly those focused on sustainability or technology, can bring innovation and efficiency to Greencoin management. They can be agile in adapting the program to market trends and user needs. Private companies possess strong marketing expertise that can be valuable in promoting Greencoin to a wider audience and attracting new users and businesses. This can lead to faster program growth.

4. School or university:

Schools and universities can utilise Greencoin as a valuable educational tool to teach students about environmental responsibility and sustainable practices. Students can earn Greencoin for eco-friendly actions on campus, reinforcing these behaviours. Schools and universities can act as Greencoin program Originators (designing the local model) and reach out to local businesses to become Greencoin partners. This fosters community engagement and collaboration.

5. Local sustainable cooperative:

Local cooperatives, with their inherent focus on community benefit and collaboration, are ideally suited to manage Greencoin. They ensure that the program prioritises the needs of local residents and businesses, fostering a strong sense of community ownership. Local cooperatives often have established networks within the community, which facilitates partnerships with local businesses to offer Greencoin rewards and redemption options.

In terms of financing, Greencoin can be supported by different actors. Local governments with sustainability goals can provide grants to use it to promote local environmental initiatives or support marginalised people. Companies committed to sustainability can sponsor Greencoin as part of their CSR initiatives. This could demonstrate their environmental commitment and attract customers who value such practices. Greencoin could implement minimal fees for partners who benefit from promotion as a sustainable organisation to cover operational costs associated with system maintenance and administration. However, these

fees should be carefully designed to avoid discouraging partner participation.

In summary, Chapter 7 explores future scenarios for Greencoin, presenting innovative applications across various sectors and emphasising its potential as a tool for local governance, education, community building, sustainable economy, and management by different entities.
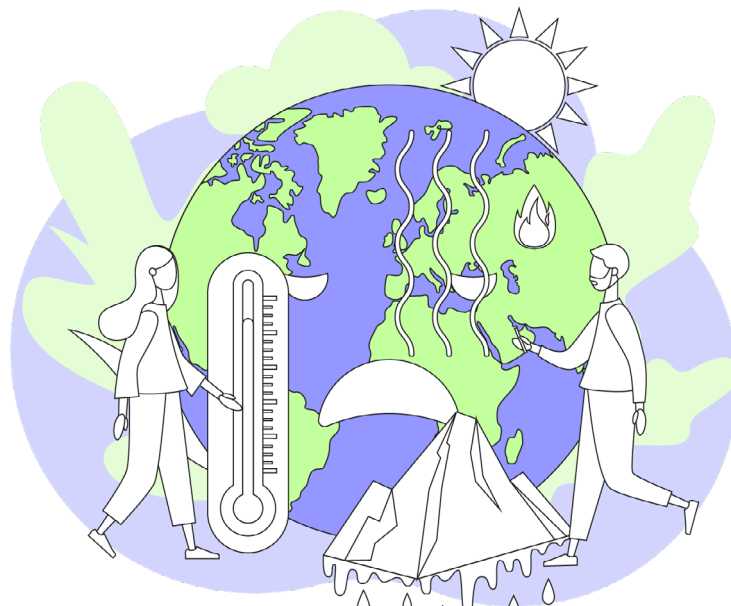
Key Innovations and Business Relevance: Greencoin as a Local Governance Tool: Greencoin can incentivize residents to adopt sustainable behaviours aligned with local policies, promoting community engagement and supporting local businesses. This offers local governments an effective tool to achieve sustainability goals, increase community involvement, and foster economic growth.

Greencoin for School Engagement: Implementing Greencoin in schools fosters environmental education through gamification, incentivizing students to adopt sustainable behaviours. This promotes eco-conscious habits and cultivates teamwork, competition, and civic responsibility among students, offering businesses opportunities to support educational initiatives and promote their brands to young consumers.

Greencoin as a Time Bank: Utilising Greencoin as a time banking model enables individuals to exchange services within their community, fostering a culture of mutual assistance and skill-sharing. This allows businesses to support community initiatives, showcase expertise, and contribute to local development.

Greencoin Supporting Circular Economy: Greencoin facilitates a circular economy model by incentivizing residents to donate, repair, and reuse items, reducing waste and promoting sustainable consumption practices. Businesses can participate by offering repair services, providing sustainable products, or supporting donation initiatives, aligning with consumer preferences for eco-friendly brands.

Potential Greencoin Managers: Greencoin can be managed by various entities such as local governments, public companies, private companies, schools/universities, or local sustainable cooperatives, each with unique capabilities and objectives. By supporting Greencoin initiatives through sponsorship, partnership, or participation, businesses can enhance their corporate social responsibility (CSR) efforts and brand image while contributing to community development and showcasing their commitment to sustainability and community building. Overall, Greencoin offers versatile applications across different sectors, providing businesses with opportunities to align with sustainability goals, engage with local communities, and promote responsible practices, ultimately contributing to a more sustainable and resilient future.

photos by Monika Krzemińska

Summary

Greencoin incentivizes individuals to adopt everyday sustainable practices like recycling, using reusable bags, and choosing eco-friendly transport. By earning rewards for these actions, users are more likely to integrate them into their daily routines, reducing their environmental footprint. Greencoin fosters a sense of community and shared responsibility for the environment. Users collaborate on initiatives like clean-ups and educational workshops, witnessing the positive impact their combined efforts create. This motivates them to continue contributing and inspires others to join the movement.

The app features educational content about sustainable practices and the environmental impact of user choices. This empowers individuals to make informed decisions and become more environmentally conscious. Partnering with local eco-friendly businesses creates a win-win situation. By encouraging residents to patronise these businesses, Greencoin stimulates the local green economy and creates new customer bases. This benefits local businesses and promotes a more sustainable marketplace within the community.

Greencoin's model can be adapted to different contexts and communities, promoting sustainability on a larger scale. As the project grows and user data accumulates, it can provide valuable insights into behaviour change and the effectiveness of different sustainability initiatives.

Overall, Greencoin tackles environmental challenges by directly influencing individual behaviour, fostering collective action, and promoting sustainable practices. This multi-pronged approach can potentially create significant positive change for the environment. By spreading the Greencoin idea, the project's positive impact extends beyond individual cities. It fosters a network of collaboration, knowledge sharing, and collective action towards a more sustainable future for all.

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Community Engagement: Greencoin fosters community engagement by incentivizing sustainable behaviours and promoting collaboration on environmental initiatives. Businesses can capitalise on this by actively participating in community events and initiatives, enhancing their brand image and building customer loyalty.

Green Economy Promotion: Partnering with Greencoin allows businesses to tap into the growing market of eco-conscious consumers. By offering rewards and incentives through the platform, businesses can attract new customers and distinguish themselves as environmentally responsible entities, thereby contributing to the growth of the green economy.

Data-driven Decision-Making: As Greencoin accumulates user data, businesses can leverage this information to gain insights into consumer behaviour and preferences regarding sustainability. This data can inform product development, marketing strategies, and sustainability initiatives, enabling businesses to better meet the evolving needs of environmentally conscious consumers.

Scalable Sustainability Solutions: Greencoin's adaptable model can be scaled to different communities and contexts, presenting opportunities for businesses to expand their sustainability efforts beyond local markets. By aligning with Greencoin initiatives in various regions, businesses can amplify their environmental impact and contribute to broader sustainability goals on a global scale.