

City

Pay

City Pay White Paper

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Executive summary

“When the last tree has been cut down, the last fish caught, the last river poisoned, only then will we realize that one cannot eat money.”

Alanis Obomsawin, c 1972¹

This paper summarises City Pay’s vision of experimenting with and challenging the current economic system. It is written for an audience with an interest in the ideology behind City Pay.

¹ OSBORNE, R. (1972). Who is the chairman of this meeting? a collection of essays edited by Ralph Osborne. Toronto, Newin Pub. Co.

City Pay's experimentation takes the form of tokens marking environmental and social value. Its challenge derives from developing a closed-loop payments service, through which City Pay can generate funds to support not only the token functionality but also others' work in the non-profit sector by diverting transactions away from the global firms who currently dominate and profit from the payments industry.

Why does City Pay feel the need to challenge the status quo and experiment in this way? Because it is clear that the economic focus on growth, consumption and profit is exacerbating inequality (at both local and global scales) and is the cause of the ongoing degradation of our environment in ways that threaten the future existence of our own and many other species. If society wants to adopt a different system then it will need to be created from the grassroots. It is inconceivable that such a system change will come from the top down, as those holding the power in the current system have no motive to erode their own power advantage. **Bottom up solutions are therefore required, and as such City Pay sees this work as foundational.**

Much of the work currently being undertaken by groups around the world seeking to address these environmental and social issues is happening within the framework of the current system. For example, financial penalties and incentives, such as carbon markets, are being used as ways to change certain behaviours. However, because these penalties and incentives are all framed within the current paradigm of markets, finance, productivity and profitability, they do little to change the participant's intrinsic motivation. The value system through which they hope to inspire people is a human construct, namely financial value, the growth of which can only create financial capital. Financial capital in itself, in the context of the planetary biosphere, is meaningless. **People need to be inspired to create social capital and environmental capital**, as well as potentially a variety of other allied capitals, such as **skills, knowledge, health and creativity**.

City Pay seeks to introduce people to a mindset of considering their ability to grow social capital and regenerate environmental capital. A variety of tokens will be developed to **count things that money doesn't count**, and people will be encouraged to value token metrics not because they increase their financial capital, but because they are meaningful measures of progress in their own right. The aim is to make the platform fun and engaging, like a game, challenging participants to grow their personal impact scores. The platform will create a way to celebrate our collective efforts, and **tell a good news story about the art of the possible** through collective data, imagery and stories. This is in direct contrast to the current paradigm, which simultaneously encourages escapism (for example, advertisements promising we'll be happy if we just buy this thing, and even happier if it's promoted as 'green'), whilst reinforcing a fear-mongering narrative of the many crises we face today.

City Pay will host a **closed-loop payments system**. By offering a user experience to match challenger banks, but without the reliance on third party systems (such as the networks operated by VISA and Mastercard), City Pay can recapture the transaction fees that currently leak out to existing payments operators. Instead, City Pay will offer a high value, low cost, non-profit payment option that has the potential to generate surpluses to fund both the City Pay tokens infrastructure and a range of other community, voluntary sector and social enterprise initiatives.

Some have said that these should be seen as two separate projects, as they operate within different paradigms, and have different goals. To a certain extent this is true. However, City Pay sees them both as vital elements of the overall project. **The payments system alone cannot help with the fundamental concerns about our economic model. The token system alone would have no self-generated income** (within the current concepts of financial operations). But more importantly, everybody currently uses money, so this is where City Pay needs to operate, creating an easy onboarding value proposition that can then engage people in the wider token project. **Without meeting people where they currently operate, City Pay cannot take people on a journey** through which they can experience new conceptions of value.

Systemic perspectives

The financial economy is often seen as a system in its own right, sitting somewhat separate from the environmental and social systems. The reality is of course that the economy sits within the social system, which itself sits within the environmental system. Without the planet and its ecosystem, humanity would not exist. Without humanity, no economic system would have developed.

The way in which the economic system interrelates with social and environmental systems is highly complex. There are myriad causes, effects, tipping points, positive and negative feedback loops, not to mention external events such as solar flares, that should constantly remind us of the inherent dependencies between economic, social and environmental systems. However, over time we have developed a financial system based on money and markets that serves to create a simplified view of the economic system, making it seem that the economic system is independent of the wider systems in which it sits, and that it is predictable and controllable by economists and governments. The goal of that economic system is generally to grow GDP or GNP, and economists and governments do their best to achieve that goal.

However, as Donella Meadows and Diana Wright² explain, **“If you define the goal of a society as GNP, that society will do its best to produce GNP. It will not produce welfare, equity, justice, or efficiency unless you define a goal and regularly measure and report the state of welfare, equity, justice, or efficiency”**.

At the start of 2021, an independent report commissioned by the UK government and undertaken by Sir Partha Dasgupta looking at the ‘Economics of Biodiversity’³ was published. Dasgupta ends with this statement: **“To detach Nature from economic reasoning is to imply that we consider ourselves to be external to Nature. The fault is not in economics; it lies in the way we have chosen to practise it.”**

The UK government commissioned the report in 2019, recognising that any long term plan to address sustainability must consider how the economic system needs to change. The review highlights some key findings:

² MEADOWS, D. H., & WRIGHT, D. (2015). Thinking in systems: A Primer. Chelsea Green Publishing.

³ DASGUPTA, P. (2021). Economics of Biodiversity: The Dasgupta Review.

- We must rebalance our demands on the biosphere in line with its capacity to service those demands
- It is the fact that our demands have outstripped the biosphere's capacity that is causing not only obvious effects such as global warming and pollution, but less obvious effects such as the emergence of new zoonotic diseases (e.g. COVID-19)
- Gross Domestic Product is thus not fit for purpose as a measure of economic health
- The degradation of the biosphere needs to be accounted for, much like the depreciation of a fixed asset.

Dasgupta is not alone in identifying the link between our current economic system and the increasingly perilous situation of life on earth. Kate Raworth developed the '**doughnut economic**'⁴ model, which suggests a simple graphic to explain what the purpose of a sustainable economy must be: to meet people's basic needs (with unmet needs denoted by the hole in the middle of the doughnut), but without exceeding the boundaries of the planet's capacities (denoted by the outer edge of the doughnut).

Raworth suggests that developed countries are addicted to economic growth, and contrasts this with systems in nature that stop growing when they reach maturity. Nations that are not yet managing to meet the needs of the people, in areas such as access to water, food, shelter, education and health care, may well need to continue to grow their economies. But for countries that are already rich, continued growth just leads to greater breaches of the planetary boundaries. There is thus a need for richer nations to develop new sorts of mature economies that are not reliant on growth.

Many others are also working on **post growth**⁵ or **degrowth**⁶ approaches, and academic work in this area is gaining in acceptance and reputation. However, what is still lacking are real world experiments to create mechanisms to enable us to develop the systems-change society needs.

Changing societal norms and economic systems is not simple. The current growth-focused economic system has developed over centuries. It is difficult for economists and businesses alike to imagine an economy that is not focused on developing new markets for products, that does not rely on mass production and low wages to create profit, and that is not funded on the premise of creating a return on investment. **It is meanwhile extremely difficult for individuals to operate outside the current economic system.** Citizens are socialised into, and largely identified and trapped by, the economic roles in which they find themselves. They are obliged to seek labour (unless poor health or similar precludes this) to enable them to cover the costs of meeting their needs through a complex market system. They do not have the luxury of refusing a job on the basis of ethical or environmental concerns. Meanwhile in the current low wage economy, it is hard for most people to make ethical purchasing decisions, as more sustainable options tend to be marketed as expensive premium products. Every time we, as individuals or organisations, buy or

⁴ RAWORTH, K. (2018). *Doughnut Economics*. Random House UK.

⁵ DALY, H. E. (2010). *Beyond growth: the economics of sustainable development*. Boston, Mass, Beacon Press.

⁶ D'ALISA, G., DEMARIA, F., & KALLIS, G. (2015). *Degrowth: a vocabulary for a new era*. <https://doi.org/10.4324/9780203796146>.

sell goods or services (including our own labour), we are currently unwittingly endorsing and strengthening the current economic system.

This then is the goal of City Pay: to start to experiment with ways to change our economic thinking beyond the current system. The starting point is to experiment with tokens that can count, recognise and value more pro-social and pro-environmental choices, and through those tokens, to enable stories that can create tipping points that allow new social norms to develop.

The actors in our economic system are individuals and organisations, so City Pay's interventions will be aimed at them.

Our premise is that if our wider environmental and social impacts are made visible, City Pay could start to create a different framing for how people and organisations make decisions. City Pay could start to frame personal and organisational success not through our financial performance, but through our performance against a wider set of values.

The function of the tokens is to create awareness of the wider impacts of our choices on the social and environmental systems on which we all depend. The economic system that will emerge from people and organisations taking decisions based on wider impact rather than financial performance will be more socially and environmentally responsible.

Behavioural economics

What causes people to behave in certain ways? And how can we change people's behaviour? After all, if everyone behaved differently, we could make significant progress towards addressing the various current environmental and social crises.

Often these questions are answered very simplistically. **It is generally assumed that we behave mainly out of self-interest.** As a result, it is often thought that we can change behaviours if we ensure the changes are in people's self-interest. For example, in October 2015, the UK government introduced a charge for single use plastic bags. Initially all seemed to be going well, as single use plastic bag demand dropped. Many supermarkets embraced the policy, and introduced more expensive 'bag for life' bags. The concept behind these bags is that they could be reused until they broke, and would then be replaced free of charge by the supermarket, making them better value than a single use bag. However these bags are heavier and thus use more plastic, and people have not been reusing them as envisaged, the result being that more plastic packaging waste is now being caused by supermarkets, according to research by Greenpeace.⁷

Various studies have similarly shown that **financial rewards are not effective at creating prosocial behaviours.** For example, one study comparing low financial, high financial and

⁷ GREENPEACE 2021, *Checking out on plastics III*, viewed 8/10/2021, <<https://www.greenpeace.org.uk/wp-content/uploads/2021/01/Checking-Out-on-Plastics-III-FINAL.pdf>>

non-financial rewards showed clearly that non-financial rewards (specifically when no volunteer agreement had been committed to) actually worked best in encouraging prosocial behaviour⁸.

We have taken the decision therefore that City Pay tokens will not offer financial incentives. Tokens for social and environmental activity will not drive discounts, and will not be exchangeable for sterling.

When it comes to looking at why we behave as we do, the reasons are far more complex than just self interest. We can think of behaviour as the part of an iceberg that sticks out of the water. What determines a person's behaviours is the bulk under the water. This bulk consists of a complex system of social norms, personal beliefs, and the material circumstances that shape what is possible. **For behaviours to change, we need to influence individual beliefs, social norms and identities, and the material sphere** (such as infrastructure). It is only by working holistically at the individual, social and material levels that we can really change how people think and act. This approach has been developed in the ISM Tool⁹. For example, if we want to get a senior executive to switch from driving to work to travelling by bus, we need to address their current belief that travelling by car is more prestigious and fun, we need to ensure that their peers in the office will not see them as (and thus make them feel) less successful, *and* we need to deliver a bus service that is convenient and reliable.

The power of social norms in behaviour change has been demonstrated in several studies. For example, in a hotel based research project, different versions of a poster requesting that guests reuse their towels to minimise environmental impact were tested. The study found that the more a poster created a sense of shared identity for the guest with a stated norm, the greater the incidence of compliant behaviour.¹⁰

It is clear that for the City Pay tokens to be effective, they must be used to create positive social norms and narratives that encourage people to aspire to behave differently. **Social reputation and trust are currencies that have become increasingly important to people as we have moved to online platforms for both our social and our economic life.** Facebook 'likes', Twitter retweets and Instagram followers are important to many people, both in business and personal spheres, and across many (though not all) age groups. Meanwhile, consumers and traders rely on ratings on market platforms such as Uber and Ebay to give them confidence in the strangers with whom they are trading.

Another way in which online platforms have changed our behaviour is through games. Gaming may seem to be trivial, but **increasingly games are being developed to help people develop positive skills and behaviours.** In one recent study, a smartphone game was found to improve

⁸ ASHRAF, N, BANDIERA, O & KELSEY JACK, B. 2012. *No Margin, No Mission? A Field Experiment on Incentives for Pro-Social Tasks*. CEPR Discussion Paper No. DP8834, Available at SSRN: <https://ssrn.com/abstract=2013825>

⁹ DARNTON, A & HORNE, J. 2013 *Influencing Behaviours: Moving Beyond the Individual*, viewed 13/10/2021, <<https://www.nourishscotland.org/wp-content/uploads/2018/06/ISM-framework-.pdf>>

¹⁰ GOLDSTEIN, N, CIALDINI, R & GRISKEVICIUS, V. 2008. *A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels*. *Journal of Consumer Research*, 35(3), pp.472-482.

physical activity levels in people with type 2 diabetes¹¹. City Pay also has much to learn from the way Duolingo has popularised language learning. The platform provides accessible teaching, such that it is frequently used by refugees settling in a new country, who may find it difficult to access other forms of tuition¹². Meanwhile, many institutions accept Duolingo test results as evidence of ability in the local language (including 69 UK universities¹³), empowering people who might otherwise not be able to provide the required proof of achievement. Duolingo allows participants to collect many different types of points and badges, and to choose whether to share their progress with friends. It also encourages regular practice with a daily streak count, and has leaderboards for those who are driven by competition rather than just personal performance. This variety of scoring methods means that people with different motivations can all be incentivised through the same game, which perhaps explains its success.

City Pay will build on these gamification and reputation building approaches, providing an accessible and fun interface that encourages prosocial and pro-environmental activity, whilst optionally allowing people to share their progress. Meanwhile, **activity data collated (anonymously) at community and city levels will help to create positive norms that can be celebrated through infographics and stories**, in turn further encouraging the adoption of new behaviours.

Experiential learnings

The team developing City Pay is the team that for more than ten years designed and managed the Bristol Pound local currency. The currency achieved international kudos for its work and built deep community links and trust. It grew rapidly to be the largest UK local currency, had digital and paper forms from the outset, and was the first local currency that could be used to pay local taxes. It ran successfully for nearly a decade. However, it was not able to generate sufficient funds to cover its costs as a viable business entity, largely because of its inability to scale up sufficiently. The last paper notes expired in 2021, and the scheme is now finished.

Whilst City Pay is not a local currency and has a completely different theory of change, there are some key learnings to be taken from the local currency project.

The first learning concerns marketing and tone of voice. Bristol Pound **talked in academic and activist terms**, exhorting people to change how they spent their money, based on theories such as the local multiplier effect. For most people, these economic concepts were elusive. Even for those who did feel it was probably a 'good' thing to shop more locally and support independent businesses, the rather strident communications sometimes sounded judgemental. Nobody likes to be made to feel bad, so this tone of voice tended to alienate people.

¹¹ HÖCHSMANN C, INFANGER D, KLENK C, KÖNIGSTEIN K, WALZ SP, & SCHMIDT-TRUCKSÄSS A. 2019. *Effectiveness of a Behavior Change Technique-Based Smartphone Game to Improve Intrinsic Motivation and Physical Activity Adherence in Patients With Type 2 Diabetes: Randomized Controlled Trial*. JMIR Serious Games 2019;7(1):e11444

¹² WEI, K. 2020. *How Duolingo helps refugees* <<https://borgenproject.org/duolingo-helps-refugees/>>

¹³ <<https://englishtest.duolingo.com/institutions>> viewed 14/10/2021

The messaging worked well in the early stages. **For those already thinking in similar ways, it did exactly what it said on the tin.** For them, the concept of a local currency was immediately welcomed, and the membership grew very quickly in the first three years as these already converted people joined. However, once they had signed up, it was very difficult to convert others to the cause. **There was no easy value proposition for either individuals or businesses.** The behaviour changes being requested generally made life more difficult and expensive for people, for example having to pay higher prices for artisan products at independent businesses, or having to travel further to find a participating business. **Unwittingly, we had created an intervention that was only accessible to people who were already like-minded on economic matters, and who had sufficient time and financial resources to join in the requested activity** of supporting independent stores.

The key first learning is therefore that **City Pay must have messaging and a value proposition that is easily accessible to everyone.** Only that way can City Pay onboard enough people to operate at a scale that both enables a viable business model and creates demonstrable impact.

The second learning derives from the experience of working with businesses. Bristol Pound initially onboarded most of its business members on the basis that the scheme would be driving new business to them. **There was an expectation they would then use the currency they earned in their supply chains,** both by encouraging local suppliers to join the Bristol Pound network, and by changing suppliers where these were outside the local area.

But Bristol Pound did not correctly anticipate the businesses' perspectives:

- 1,600 users of a currency sounds like a lot of people to a local currency movement, but it is not enough to drive up turnover across 650 businesses, especially when many of those 1,600 were already supporting local independent businesses.
- If a business's supply chain is good and relationships with those suppliers are strong, why would any business introduce risk by 'fixing' something that isn't broken?
- The added complications of using the currency were in effect extra costs that businesses were not compensated for, given the fact their turnover wasn't increased by through the currency, eg:
 - Additional training requirements for customer-facing staff, covering the numerous methods of payment, and how to enter these on the till system
 - More bookkeeping resource needed to reconcile bank accounts and manage cashflow
 - Complexity of accounts payable systems, flagging up Bristol Pound members for a special (and more labour intensive) payment method

As a result of these issues, many businesses did not change their supply chains, meaning that the **expected increases in velocity were only partially achieved.** In addition, over time, as **businesses counted the costs of their involvement for little or no return,** many stopped engaging with the currency.

The second learning is therefore that **City Pay must be both easy and attractive to businesses.** City Pay will offer businesses a unique 'corporate social responsibility' (CSR) marketing

opportunity, and simplicity with regard to money management and payment processing. Furthermore, City Pay will not expect businesses to take on extra risk or disrupt their business as usual.

A final learning comes from the technical and regulatory environment in which Bristol Pound operated. Back in 2010 when the digital money infrastructure for Bristol Pound was being developed, the options in terms of regulation were limited. As a result the digital currency was hosted by the Great Western Credit Union (GWCU) (formerly Bristol Credit Union or BCU) as its regulatory partner. However, as the then BCU was itself quite small and with limited funds to invest in new technology, the resulting tech architecture was clunky and administratively costly. **This meant that within three years, Bristol Pound had gone from being seen as cutting edge (as people in Bristol could pay with their phones for the first time), to failing to meet user expectations.** An example of a complaint was a person whose expectation was that they would be able to download the app and upload funds in a 10 minute timeframe, whilst in a queue in a shop. The reality was that in many cases it would take more like 10 days for people to be fully onboarded and have access to funds in their new account.

Meanwhile, **a further complication of the regulation was that Bristol Pound CIC had no access to the Bristol Pound digital transaction data**, as this data was controlled by the BCU through their regulatory framework. This made any ongoing management of the currency system impossible. For example, it would have been useful to proactively contact businesses who were not spending their Bristol Pound balances to offer brokerage services and thus help to develop new localised supply chains. Meanwhile, being able to identify key nodes in the network would have made it possible to make introductions to new businesses joining the network, and quickly link them into existing supply chains. Finally, Bristol Pound would have been able to celebrate and promote the most active businesses, building a series of positive news stories about how effective the currency was at localising supply chains.

The learning here is that **City Pay must be future focused**, horizon scanning for upcoming tech solutions and **benchmarking on user experience**. City Pay must also **keep abreast of regulatory changes**, especially as these develop around blockchain and crypto technologies, ensuring readiness to adapt to the changing external environment.

Key functionality for City Pay

It is perhaps useful at this point to explain what City Pay will be: what it will offer in terms of functionality and user experience.

Individuals will be able to create **individual accounts**, on which they can have a variety of wallets showing both the money they hold and the various token schemes they may have signed up to.

Businesses, community organisations and even individual activists can create **group accounts** that they can administer, creating a profile, events and polls. They can accept followers and authorise higher levels of relationship (such as designating voting members).

Payment and token interactions can be individual to individual, group to group, individual to group and group to individual.

There will also be **messaging** on the platform. Initially this will be primarily for groups, to enable them to communicate with individuals, both en masse and individually, assuming they are connected appropriately to the group.

Different tokens will operate in radically different ways. For example, a gratitude token could be passed at will from one account to another, but only once. The value of that token may degrade over time. A voting token may be issued by a group to those who meet its criteria, and that voting token can be used repeatedly, until such time as the group deems that the criteria for voting are no longer met. An item token might represent a real world item that is being shared or passed around; its value might increase the more it is shared.

Payments will be able to be both 'push' and 'pull'. Use cases for push payments might include a person paying back a friend for some shopping, or a business paying another business to settle an invoice. 'Pull' payments would be primarily for customer payments to businesses, analogous to the way that card and phone based retail payments currently work.

Individual and group profiles may look different depending on token activity. For example, it may be that when an account is first set up, the profile background is plain. As tokens are gained, given or increase in value, the profile background may represent this graphically. For example, a bike may appear and get more graphically impressive if the individual increases their cycling activity; a garden may appear if they are involved in food growing or regenerative ecological projects; smiling people may appear if they are involved in helping out in community projects. Meanwhile, some tokens may appear as badges on a profile, showing skills or celebrating high achievements.

There will also be options to view graphical representations of the wider token data. For example, one could potentially search for cycling and compare this month to last month across Bristol - if there was increased cycling activity, this would be clearly visible. Or one could search for gratitude tokens in a particular community and be presented with graphics that showed the proportion of gratitude for shopping, childcare, gardening, DIY or befriending.

Token operations

Money can be thought of as a special kind of token: a token that represents purchasing power within the market economy. The problem is that the financial market economy externalises the very systems on which its prosperity depends - namely the environment's capacity to provide resources and neutralise waste, and society's capacity to both create labour and consume products. Constant and continued growth in GDP, still the aim of most countries on the planet, is:

- using the planet's resources in unsustainable ways,
- creating wastes (eg CO₂) at levels that the planet's systems cannot process,

- failing to create meaningful work for many, and
- distributing products for consumption unfairly and in ways that, for example, simultaneously create obesity in some areas and famine in others.

Economists' models for centuries have 'assumed' that the earth is limitless, that parents will have the time and resources to care for and socialise their children, and that people will not require support for long after they are no longer economically productive. We now know that these assumptions are not valid. However, because these wider concerns are not reflected in the things we count - namely money - it is very difficult to shift the economic culture to start to consider these wider assets of environmental and human wellbeing.

What City Pay is developing is a series of tokens that can count various activities that impact positively on environmental and social capital. One could describe these tokens as non-money - a series of units that count flows of value other than financial value. The tokens thus enable a different way of thinking about the 'side' effects of the economic system, rather than focusing on markets, financial performance and gain.

It is the aim of City Pay to allow the token schemes to be co-created in the longer term. The list of potential use cases is limitless. As such, it is impossible in this paper to anticipate all token types. However to enable initial research and engagement, a basic range of tokens will be developed that can be tested and built upon. The following exemplars are ideas being developed for the first few years of the project:

- **Voting token.** All organisations with group accounts will be able to create a voting token (including the implementation of City Pay that the individual is joining, eg Bristol Pay). This will enable voting on polls for people that the organisation has accepted as voting members. Voting tokens offer a way for organisations to better understand the wishes of the community they serve, as well as countering feelings of powerlessness amongst community members.
- **Thanks.** A community token scheme to recognise acts of kindness. For example, one might give a token to a friend for helping in the garden, or to a neighbour for lending their power drill, or just popping by for a chat. This could be seen as similar to local exchange trading systems (LETS¹⁴) but with a regular universal top up of tokens, so that everyone can thank people and get their needs met, even if they are not able to contribute helpful actions themselves. This token type will evidence and encourage increased social capital. Outcomes could include reducing isolation, and reducing demand on statutory services by avoiding crises. Transacted thanks tokens will degrade over time, so that an average holding gives an indication of how active people are in their local communities.
- **Items.** Item tokens will be linked to specific real world items. For example, one might create an item token for a tent or a tile cutter, which are items that tend to spend more time being stored than used. Availability can be updated by the item owner. When an item is borrowed, the temporary custodian can be updated. When an item is gifted, the owner can be updated. Each change to custodian or owner could increase the value of the token.

¹⁴ <<https://www.letslinkuk.net/>>

Item transactions might be linked to other transactions, for example payments or Thanks. There are three key outcomes from these tokens. First, sharing and gifting items can reduce unnecessary purchasing of items (which would otherwise result in scope 3 CO2 emissions and virgin material use). Second, it will help those needing specific high cost items to borrow or get them at low cost or for free, helping to reduce financial pressures on those in financial need. Third, it will build social capital through these personal interactions of trust and generosity.

- **Business badges.** These will be badges that businesses can display to show their credentials as an ethical business. They will be initially awarded by a short, simple questionnaire focusing on business ethics that all businesses wanting to join the platform will be invited to complete. There will be a right for City Pay to assign or withdraw these tokens as needed, for example based on whistle-blowing by community members. The aim of these tokens is to create an easy way for businesses to start thinking about their wider purpose and responsibility. It does not seek to replace audited standards such as B Corps, Living Wage Foundation, TISC or environmental kitemarks. On the contrary, the questionnaire can encourage businesses to develop their accreditations and can help promote those accreditations.
- **Take away container points (TACs).** These would be likely to be launched alongside the payments functionality. They would be a way to thank people for taking reusable containers (that they have set up as items on the platform) when buying take away drinks and food. When paying with City Pay, the shop would award your container a point.
- **Volunteer points.** Similar to Thanks tokens, these would recognise voluntary work done through community organisations. They would potentially help not only people to celebrate their volunteering, but also help community organisations to report on volunteering activity.
- **Skill badges.** Linked to volunteer points but also extending to work placements and internships, these badges could recognise experience of particular types of work, which could help with future employability. They could also help drive interest in particular areas of expertise that will help deliver city priorities - for example, cooking skills, gardening skills, cycling proficiency, first aid and de-escalation training.
- **Green miles.** These could be awarded based on GPS data that uses models to determine whether someone is walking, cycling, on a scooter / e-bike, bus, car or train. Such a system has already been developed in Lahti in Finland. This would engage people in switching to low carbon transport, normalising low carbon transport and celebrating progress towards a low carbon transport future. This token would be potentially useful for businesses as well as individuals.
- **Utility points.** Utility companies have a shared interest in reducing resource use whilst addressing the needs of households in poverty. City Pay is already working with Resource West, a working group of utility companies serving Bristol, with a view to developing gamified approaches to increasing engagement and positively changing behaviour.
- **Carbon points.** This would be a longer term aim, through which people are given a budget (via a UBI) of carbon points which they gradually use throughout the month / year. This would require significant cooperation and work from other parties, such as stickers on goods, GPS data to determine transport choices (with inferred flights / ferries when

phones suddenly turn back on in a completely different location). Carbon points would not be able to be traded.

- **Land points.** GPS data can already be used to assign primary forest tree cover vs secondary forest vs built environment vs desert etc. This data could potentially be linked to Land Registry records to create a way of tracking year on year whether land owners are regenerating or degrading the land they own. At a UK scale, it could be showing the overall environmental capital of the country, and seeing whether we are in reality improving that environmental capital.

Payment operations

With the advent of Electronic Money Institution (EMI) regulation, there is an opportunity to create a low cost closed loop payment solution that can also have a positive social impact by making digital money available to those who are currently unserved by mainstream banks.

Within EMI regulations, there are different possible approaches to anti money laundering (AML) and know your customer (KYC) processes. For accounts with low balances and transaction values, there is a reduced requirement for KYC, and KYC can scale as the transaction levels increase.

Many people working on social justice in finance are demanding that cash be safeguarded and bemoan the ongoing shift towards a cashless society, fearing the growing exclusion of those outside the banking system. However, many are trapped in a cash economy which does not best serve their own interests. Frequently people assume that digital exclusion (i.e. not having access to internet-enabled devices) and bank exclusion overlap. Whilst there is some overlap, there are many who have access to digital money thanks to having a bank account, plus a debit and/or credit card, but who don't have internet-enabled devices. For these people, addressing digital exclusion is certainly important, as more bureaucratic functions happen online. However **there are many who have smartphones but who do not have a bank account**. Affected people include immigrants, and those who have been declared bankrupt. It is these people who can be helped with City Pay.

People trapped in the cash economy face many disadvantages. Firstly, they face a 'poverty premium'. For example, they cannot shop around online for the cheapest products, as online shopping requires digital money. Secondly, they are at risk of financial abuse, as they are frequently unable to manage their own money. For example, most employers pay wages directly into a bank account. If an employee doesn't have an account in their own name, the wages will have to be paid into an account in someone else's name. The alternative is to limit oneself to jobs that pay in cash. These are frequently casual in nature, and are sometimes in the grey or black economy. In these types of work, the worker is unprotected by employment law, will be unlikely to receive sick or holiday pay, and will not be building up their National Insurance contributions, limiting their access to various benefits into the future.

As well as creating accessible digital money, the aim of the City Pay payments system is to **challenge the existing payment providers, who extract money from the local economy through their transaction charges.** Estimations of the total annual cost of transaction fees for digital payments in Bristol can be made in a variety of ways. Whether starting with GVA (gross value added), retail statistics or with contactless payment statistics, the figure estimated as leaving the local economy is between £40m and £90m per annum. The key issue is that **when transacting through an open payments system, there are many third party operators, whose costs have to be met** through a variety of charging models. These third parties include not only the companies providing card readers or online shop payment services (such as Zettle, Stripe or Worldpay), but VISA and Mastercard who operate the networks through which the cardholder's account is debited and the business's account is credited. Whilst costs per transaction have come down in recent years, the overall growth in payments means that more and more money is being lost to every city's economy every year. Charges are also unlikely to come down much further, because of the inherent costs of running the infrastructure, in particular through fraud.

By **operating in a closed system, City Pay avoids these third party costs.** Every individual and business using the system will have an account on the system, such that every transaction is completed within the system itself. As the system grows, there is an increasing ability to make a surplus on transaction charges, even whilst saving businesses money, thanks to most of the costs being fixed. These surpluses not only provide the funding to develop the token operations, but also can **generate funds for a range of purpose driven organisations in the voluntary, community and social enterprise (VCSE) sector.**

The aim for City Pay is to operate at scale, capturing as high a percentage of digital transactions as possible in a locality as possible. **City Pay will charge a rate below the market average, saving businesses money,** whilst generating funds for the VCSE sector.

A further problem with the current trends in digital payments is the increasing availability of payments data to some of the largest corporates on the planet. With many switching to phone-based payments through apps such as Apple Pay and Google Pay, and with the growth of surveillance capitalism as described by Shoshana Zuboff¹⁵, there is a concern that now or in the future, data will be mined for profit. City Pay is **committed to ensuring users' data are never sold or used to create marketing profiles that generate advertising income** and drive our increasingly unsustainable consumption habits.

City Pay has the goal of signing up 20% of the residents in each locality where it operates, as well as onboarding the majority of retail and hospitality outlets, including the biggest chains. **The value proposition for businesses is straightforward: by offering City Pay, a business is automatically evidencing and enhancing its social value,** as it will be supporting the funding of the VCSE sector. The call to action is similarly simple **for individuals: pay with City Pay and support the community organisations your community relies on.**

At the time of writing, EMI regulation excludes blockchain and similar technologies, however this is expected to change rapidly over the coming two years as plans for a Bank of England digital

¹⁵ ZUBOFF, S. (2019). *The Age of Surveillance Capitalism*. Hachette Book Group.

currency are developed. As a result, City Pay is tech-agnostic at the current time, and has decided it is prudent to wait a year before working in earnest on the payment solution.

It is also worth noting that during the pandemic, many businesses especially in the hospitality sector have significantly changed their processes. Many now use proprietary apps for both ordering and payment. This has a significant impact on the adoption of a new payment method, as City Pay's client is in effect the app company, rather than the hospitality outlet. Again, this is a good reason to delay working on the payment functionality, until it is clearer the extent to which the sector will return to pre-Covid norms, and to what extent app companies will be keen to investigate new payment options, especially if distributed ledger currencies become included in EMI regulation, at which point there would be an opportunity to be a market leader in offering new data-enabled services alongside payments.

Governance and legal forms

As will be already apparent to the reader, City Pay is purpose driven. It aims to provide ethical payment services alongside an engagement tool that supports a significant societal culture change. The values behind this work centre on empowerment. For that empowerment to be real, it is not sufficient to have voting tokens on the platform. Rather, the legal form must place control at the locus of the individual and the community.

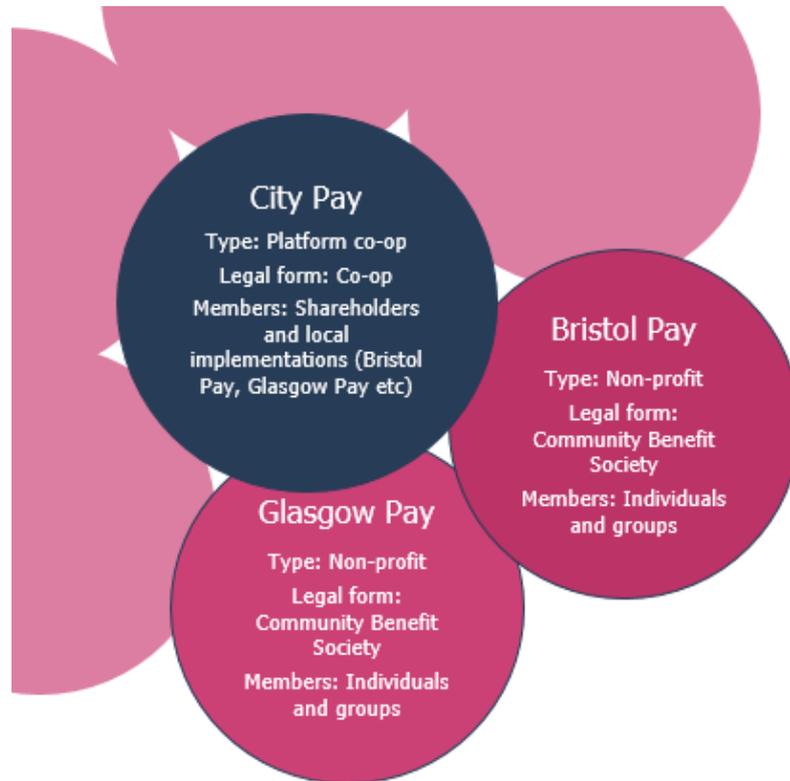
There are several conundrums to be resolved through the legal structure:

- City Pay needs investment to get off the ground, but must not cede control to investors who may prioritise their return on investment over the purposes of City Pay. A legal form that enables both equity and loan investment is needed, but shareholders must not have voting power based on the size of stake.
- Decisions over the platform development must serve the purposes of the people in the cities where it operates. Local implementations should therefore be voting members of the City Pay legal form.
- Local citizens and organisations must have power over how the City Pay platform operates locally, for example in relation to what tokens are developed and how surpluses are distributed. This suggests that each local implementation should be governed by local people.
- Local implementations must be able to designate surpluses as restricted funds through an asset lock.

To resolve these, the following legal structure is envisaged:

- City Pay is expected to operate as a platform co-op, using a co-operative legal form recognising multiple stakeholder classes of members, including shareholders and local implementations.
- Local implementations of the platform will operate as their own legal entities, under a franchise-type agreement with City Pay. It is proposed that these be Community Benefit Societies (CBS), again with potentially different classes of members, such as individuals

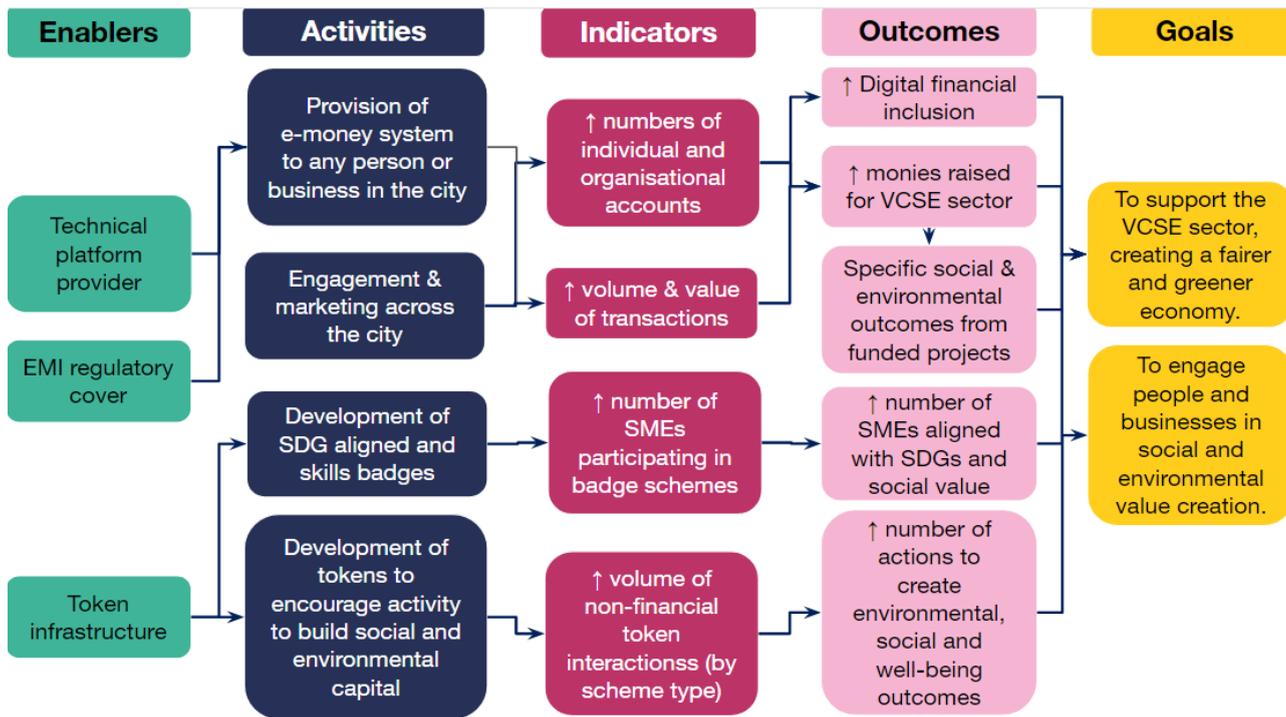
and groups. There is a potential to sell community shares as one method of raising income initially as local implementations get off the ground. Equally as a CBS can have an asset lock and exists to serve the interests of the members, there will be the potential to raise income from charitable grants.



Roadmap

	2022	2023	2024
Onboard funding partners	✓		
Onboard pilot projects	✓		
Develop tokens MVP	✓		
Beta test tokens MVP	✓	✓	
Onboard second city		✓	
Develop payments functionality		✓	
Beta test payments functionality		✓	
Full launch			✓
Onboard third city			✓
Onboard first national chainstore			✓

Theory of Change schema



Conclusion

City Pay has a bold aim of creating systemic change at an economic level, enabling people and organisations to take a wider view of value than purely financial.

It will offer a non-profit payment platform that can operate at scale, addressing issues of digital financial inclusion as well as creating surpluses that provide funds for the voluntary sector and support the development of social enterprises.

It will also create a range of innovative tokens that count and celebrate social and environmental value rather than financial value. The tokens will build on gamification and social reputation approaches commonly used in social media and trading platforms, but will use these techniques to create positive outcomes for people and planet, rather than to drive up profits. In effect, they create a tech-for-good research opportunity that has the potential to create deep changes in societal culture and the economy that emerges from that.

At the current time, City Pay is seeking funding to build the MVP that has been designed, as well as research opportunities to test out the ability of tokens to effect societal change.

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