SUSTAINABLE FINANCIAL INNOVATION

Ideation Event

Highlights

• We have 12 years left to limit global warming to 1.5°C, according to the UN Intergovernmental Panel on Climate Change (IPCC). Any temperature increase above this level will be catastrophic for humanity and nature, with an increase in extreme heatwaves, severe drought and flood damage (among other impacts) leading to major economic and social consequences. These include migration, pressure on healthcare provision, loss of livelihoods and disruption to food supplies.

• Transforming finance is an important element of getting to grips with climate change. New data and technologies in finance present opportunities to create new tools that support the transition to a lower-carbon economy, but they also bring risks of greater inequality and the undermining of sustainability.

• To explore these opportunities and risks, the Finance Innovation Lab held an ideation event in Bristol in October 2018. Using a participatory process and design thinking principles, attendees worked together to generate and test new ideas in response to the design challenge: how might we support Bristol’s citizens to flourish through living sustainably by innovating financial services?

• Ideas included an online tool that supports new local businesses to write a business plan; an app that enables founders of retrofit businesses to identify funding sources and access support; an online decision tree that helps founders of small ethical businesses to find appropriate start-up funding; a card scheme to access sustainable transport and associated services at a discount; and a community-based fund to build electric vehicle charging points.
Background

On 30 October 2018, the Finance Innovation Lab (the Lab) and City Finance Labs brought together 32 experts from finance, business, civil society, academia and policy to co-create new ideas for channelling finance to sustainability-focused projects in the Bristol area. Using a participatory process and design thinking principles, participants worked together to generate and begin to test new ideas about how financial innovation can promote local, inclusive sustainable development.

The event formed part of a series the Lab ran across the UK, supported by Barrow Cadbury Trust, to generate new ideas that harness the power of data in finance to help tackle our most pressing social and environmental challenges. City Finance Labs, an initiative of Climate Safe Lending, was set up with the aim of building accelerators for new and innovative financing institutions in specific municipalities where those institutions will help cities achieve a sustainable transition. Bristol was identified as a ‘pilot lab’ due to its strong existing network of sustainable finance practitioners and the city’s leading ambitions to transition to a carbon neutral economy. A full list of the workshop participants is provided in the Appendix.

Finance and sustainability

Urgent action is required if we are to avoid the worst effects of climate change, with the IPCC estimating we have just 12 years left to limit global warming to 1.5°C. A review of over 70 peer-reviewed studies by Carbon Brief projected a range of damaging impacts from a 2°C rise, including:

- The sea level will rise 56cm by the end of the century, affecting more than 10m people across the world
- Extreme heatwaves will affect over a third of the global population at least once every five years
- Europe will experience a 62% increase in wildfire damage
- Almost 200m people will be exposed to severe drought
- Flood damage losses will cost $11.7tn per year globally
- The economic impact of river flooding will increase by 1,219% in the UK
- 62m Europeans will experience water scarcity
- On average, 140 people in London will die from extreme summer heat every year.

These changes will bring major economic and social consequences, including migration from flood and drought areas, pressure on healthcare provision, loss of livelihoods and disruption to food supplies.

Aware of the risks to their citizens, cities across the world are looking at what they can do to become more resilient. Bristol is a city with ambitions to become a global sustainability leader, and it is working on a number of fronts, that include: a 50-year Resilience Strategy, with the goal that “by 2066 Bristol is a flourishing, welcoming city which inspires confidence in local and global investors, and our success is shared by all”; the One City Plan, a strategy for Inclusive and Sustainable Economic Growth; and City Leap Prospectus – a call from Bristol City Council for partners to help it deliver a low-carbon energy infrastructure.

Despite this citywide ambition and positive policy context, workshop participants agreed that there is still much more to do, with finance-related issues presenting key barriers to action. For example, there is a funding gap for the physical infrastructure required to protect the inhabitants and businesses located on Spike Island in the River Avon, either through a flood wall or relocation. We heard that inertia and a lack of confidence, skills and ownership are holding the City Council back from taking on and developing recommendations about how to finance such infrastructure.

Unfortunately, the current financial system is not set up to make it easy for councils and other actors to fund the transition to a lower-carbon economy. For example, bank mandates are often set centrally in London, leaving little room to consider local, strategic considerations in conjunction with local councils. Another challenge is that many transition projects have a risk/return profile that does not fit the business model and risk appetite of most financial institutions (i.e. higher risk, lower and longer-term return).
The experience of the local solar energy sector also provided important lessons about the need to engage citizens if finance is to be sustainable and long-term. Investment in UK solar energy had been high for several years due to tax breaks such as the Enterprise Investment Scheme, the availability of debt funding, and government subsidies for renewable energy. However, investment has now fallen away, as a result of the sudden winding down of subsidies, and participants felt that the exclusion of local people from the development and benefits of solar projects had made the decision to end subsidies more politically acceptable.

**Innovation opportunities**

Banks and other financial institutions have always held a wealth of information about our money and spending habits. But in recent years, developments in technology and behavioural science have made it dramatically easier to collect data, move it about and make sense of it, in the context of an increasingly digital economy. For example, artificial intelligence (AI) is already used to automate a wide range of decisions and activities, such as trading and financial advice, while digital platforms offer new ways of managing and exchanging data. Recent changes to financial regulation, including the Payments System Directive 2 (PSD2) and Open Banking, are also catalysing the use of data in finance.

This data revolution potentially offers new opportunities to create a range of finance-related tools that could support the transition to a sustainable and prosperous economy. For example:

- By connecting up information about our finances with environmental impact data, we can make better decisions about how to spend in ways that reduce our carbon footprint, and make investments that minimise exposure to carbon risk and fill the renewable energy funding gap
- The use of digital infrastructure can reduce the costs of providing new services and open up access to a broader range of users – such as crowdfunding platforms that enable retail investors to support community renewable energy projects with small amounts of money.

However, data-driven innovation could also lead to greater economic inequality and work against sustainability. For example:

- Without careful attention to training data and customers’ non-financial preferences, AI-driven investment apps are likely to provide robo-advice on the basis of price alone (neglecting factors such as sustainability or social justice)
- Bitcoin and many other cryptocurrencies use vast amounts of energy in the process of ‘mining’ the coins (by performing highly complex calculations that use high levels of processing power and electricity)
- Many fintech solutions are designed for wealthier people, seen as a more profitable customer segment.

What distinguishes financial innovations that, in contrast, have the potential to contribute to greater local and regional sustainability? At the workshop, participants heard from four speakers who shared their experiences of how financial innovation is already helping to deliver shared, sustainable prosperity:

- **Bristol Pound**: Diana Finch presented the Bristol Pound, a local complementary currency which was launched in Bristol in 2012. The Bristol Pound aims to encourage people to spend their money with local, independent businesses in Bristol and the former County of Avon.
- **Bath & West Community Energy**: Nicolette Boater presented Bath & West Community Energy, a not-for-profit, community-owned renewable energy company that has used bank debt and community fundraisers to install 12 MW of solar generating capacity since 2010 – enough to power 4,000 homes. The company has distributed more than £145,000 to local community projects acting on carbon reduction and fuel poverty.
- **Avon Mutual**: Jules Peck presented Avon Mutual, a new initiative to establish a customer-owned high street bank dedicated to serving Bristol, Bath, Gloucestershire, Wiltshire and North Somerset. It is set to be the third of a new UK-wide network of 18 regional community banks. The banks will be focused on serving the needs of the local real economy and will aim to work with other local anchor institutions (such as local authorities) to support sustainable and inclusive prosperity.
- **Tumelo**: Georgia Stewart from Tumelo explained how their new app is helping young people turn their limited savings into personalised investment portfolios that align with their values. Users are able to select the amount of money they wish to invest and their risk appetite, as well as the impact objectives they wish to support, such as climate change, workplace equality or global health. The app then recommends an investment portfolio that reflects these preferences.
The design challenge

For the participatory element of the workshop, attendees worked together to generate and test new ideas in response to the following design challenge:

*How might we support Bristol’s citizens to flourish through living sustainably by innovating financial services?*

Lived experience

Designing the future of finance to work better for people and planet cannot be done in the abstract. Instead, it is essential that the lived experience of those who are currently underserved by our financial system are placed at the heart of any new ideas, ideally through direct co-creation throughout the design process. For the purposes of this time-limited workshop, participants were invited to reflect on fictional case studies, based on real life examples, to develop a deeper understanding of and empathy with those they were seeking to serve.

Case studies

**Tracy:** The first we knew about it was a very threatening letter at the start of January saying... pay £5,000 or we’re going to cut you off. That was the only thing we had... I mean how can somebody run up that amount of electric bill ...and not be red flagged before that?

Once we managed to get hold of someone to talk to we soon realised just how serious the situation was. The attitude was ‘you owe us this... and we’re not listening... and if you don’t do it then we’ll cut you off’. We were totally stuck. Without power, we couldn’t run the bakery, and the supplier wasn’t willing to accept that there’d been a mistake - or even a repayment plan. Ultimately, we had to shut the bakery we’d run for over 10 years – all because of a faulty direct debit payment the year before.

**Rose:** When my old banger finally went bang, I thought about getting an electric car. But when the time came, the reality was I had to think about the costs. They say it’ll be cheaper in the long run if you run an EV but I couldn’t afford the upfront extra costs of the car, insurance etc. I know there’s plans to put more charge points round the city but I wasn’t sure if they would be in convenient places for where I live and work either. I don’t see people near me driving them.

**George:** I’m not sure we would have been inspired to try and set up our retrofit business if we hadn’t been based in Bristol. What with the council’s green ambitions and the growing number of sustainability initiatives, I can really imagine the business thriving and contributing to the city within just a few years. Our major challenge for now though is accessing enough finance to get us going. We know there’s potential to work with grant providers too. I’m trying to get my head round all the future funding opportunities, the timelines and phasing for those, and how to turn this into a convincing business plan for someone to back us.

**Dale:** We’ve done some terrific work at the council. There’s lots to celebrate. The City is pioneering for its commitment to become carbon neutral and approach to resilience. But we have to remember that the challenge is also huge. It’s scary to think that all we’ve done doesn’t go far enough.

The flood mitigation project I led is an interesting example. It’s not top of mind for the public, but we know we need to be thinking this far forward now.

Without a clear public mandate – and a lack of understanding, skills and confidence to do finance differently within the council – we’re trapped in the old ways of thinking about how to raise finance for urgent new infrastructure.
Ideas generated

Working in groups, participants were asked to tailor the design challenge to one of the case studies and then work together to generate new ideas for financial innovation that would help address the problem in the case study. Five new ideas were generated:

1. **OptiBris**

   **Case study:** George
   **Design challenge:** How might we provide timely, targeted and specific business development advice to local businesses delivering a positive environmental impact?

   **OptiBris** is an online business model optimisation tool that generates a template business plan as users complete a questionnaire.

   **The problem:** Entrepreneurs, like George, lack experience in writing business plans and knowledge of the funding sources available that could help them develop their businesses.

   **The solution:** OptiBris generates a template business plan as users provide answers to an automated questionnaire. It also offers resources such as online tools or networks to help users complete each stage. It could generate revenue by charging only businesses that succeed, or charging for additional in-person support, or making charges on the finance businesses raise as a result. OptiBris would result in better quality business plans that help entrepreneurs to raise funds, and it would lower barriers to entry by reducing start-up costs. The next steps would be to research which tools already exist, consolidate current knowledge and networks, build these into the OptiBris offering, and map out some of the barriers along the journey.

   **Feedback:** Participants liked that OptiBris tackles a real problem among SMEs and is easy to use, while the absence of upfront charges lowers barriers to entry. They had questions about how to make people aware of the service and the viability of the revenue model. They also suggested that OptiBris could be adapted to calculate social and environmental impacts, and were concerned that using conventional finance and business practices would simply replicate existing sustainability problems. The use of automation raised concerns that information relevant to the local context could be excluded, and participants stressed the importance of developing the tool in collaboration with funders, potential users, and other local actors, such as the City Council.

2. **Growr**

   **Case study:** George
   **Design challenge:** How might we create a roadmap for business growth for George?

   **Growr** is an online aggregation app for founders of retrofit businesses to identify funding sources and resources to help write a business plan.

   **The problem:** George needs to spend a lot of time finding funders and securing investment to make his business viable.

   **The solution:** The Growr app would enable users to search for funding and support opportunities, identify resources to help them write their business plan, and connect them (online and through meet-ups) to professional networks including tax advisers and consultants. It would aim to generate a revenue stream that could be shared with local communities, and the service could be extended into a public portal for the retrofitting of streets and other common areas.

   **Feedback:** While some participants thought it was useful to create such an app that offered holistic support for a specific ecosystem (retrofitting businesses), others also questioned whether Growr’s offering was too complex and wide-ranging to be both simple and easy to update, and whether it should focus on a broader range of businesses. As with OptiBris, questions arose about how to make people aware of the tool, and how to build a sustainable revenue model and cover development costs. Participants also queried whether the underlying problem for entrepreneurs like George is in fact a lack of suitable funding for their businesses, rather than a lack of information about it. Looking forward, participants would like to see the app developed together with the local business community, incubators, the Bristol Energy Network, banks and the City Council.
3. Comparethefunders.com

Case study: George
Design challenge: How might we provide access to fit-for-purpose business finance for George?

*Comparethefunders.com* is a website with a decision tree to help founders of small ethical businesses to find start-up funding.

**The problem:** George is disempowered by a lack of financial knowledge to research and choose funding options.

**The solution:** Comparethefunders.com contains a decision tree to introduce commercial, benefit-based and grant funding options, with jargon-free commentary that assumes no financial knowledge. Users could log on with or without an adviser. A TripAdvisor-style feature would allow users to comment on the options used, putting some power back in the hands of entrepreneurs. It would focus only on social entrepreneurs and would improve competition and financial knowledge among SMEs.

**Feedback:** Participants liked that Comparethefunders.com breaks down the fear of finance with a simple decision tree structure and no jargon. It responds to users' circumstances and covers a range of options including grants, benefits and loans. Participants thought the feedback element could improve transparency and competition, by ensuring that users can share good and bad experiences with others, although careful management would be required to avoid malicious reviews and liability problems. There were outstanding questions about how the decision tree would work, the ownership and revenue model, and whether other similar services already exist. Some participants suggested the website could be developed to provide business plan support, offer advice through chatbots, and automate funding applications. Participants thought the idea would ideally be further developed together with grant providers, ethical lenders, credit unions, social entrepreneurs, local business advisors, market comparison tools, Bristol Capital Partnership, Bristol Council, Local Enterprise Partnerships (LEPs), central government, and Citizens Advice.

4. Move Bristol

Case study: Rose
Design challenge: How might we enhance the range of sustainable mobility solutions available to Rose?

*Move Bristol* is a card scheme to access sustainable transport and associated services at a discount.

**The problem:** Rose has little access to sustainable forms of transport.

**The solution:** The Move Bristol card scheme would provide discounted access to transport services such as a community-led bike shop, bike club, electro-voltaic (EV) car club, green buses and taxis. Revenue would come from subscriptions and membership fees from transport providers, and the scheme could be scaled up by distributing the cards through employers as a staff benefit. Transport providers could be supported to raise the investment required to participate in the scheme through community investment tax reliefs, backed by Bristol City Council. Move Bristol should lead to more trips by sustainable transport, reduced congestion, and a faster switch to more sustainable vehicle fleets. It would enable data collection to show the gaps in sustainable transport provision, help to support community initiatives and ensure fairer access to transport.

**Feedback:** Participants supported the idea of a community asset that incentivises consumers and businesses to make sustainable transport choices, while generating better City-level transport insights. There were concerns about how to scale up the scheme with enough users and transport providers, and how to fund initial investment as well as ongoing discounts or subsidies. It could be difficult to set the discount, especially if there is resistance from incumbent transport providers. Practical issues included how to include vulnerable members of society and what to do in areas with few sustainable transport options. The idea would ideally be developed together with Bristol City Council, local taxi companies, EV providers, private car owners, YoBike, Sustrans, the Office for Low Emission Vehicles, and local bike shops.
5. Mont-E

**Case study:** Rose  
**Design challenge:** How might we solve the infrastructure problem for Rose?

*Mont-E* is a community-based fund to build electric vehicle charging points.

**The problem:** Rose is put off buying an EV by the lack of charge points and high upfront cost.

**The solution:** Mont-E (named after the Montpelier area of Bristol) would offer 0% loans to communities to build charge points outside people’s houses. It would use a revolving loan fund, financed by ring-fenced contributions from businesses with private parking places, and supplemented by community foundations, the City Council, West of England Combined Authority (WECA), LEPs and any institution with a mission around mobility infrastructure or low carbon development. Individuals could apply to their community to add charging points close to their street or home. The community group would charge a 10% mark-up on the electricity supplied, and then distribute the profits equally between repayments to the revolving loan fund and disbursing profits to the community. People wanting to charge their car could be incentivised to use the charging points through a discount on parking charges, which would lower the cost of EV ownership and encourage more people to buy EVs.

**Feedback:** Participants supported the zero-interest loan and the innovative revolving loan fund model, as well as the ability to tackle two problems at once (parking and charging) in order to scale up EV adoption. Participants also liked how the scheme would return profits to the community, give people more control over local infrastructure, and build community spirit.

The idea also raised many questions:

- In terms of financing, questions included how to ensure there would be enough capital for the revolving loan fund, how to incentivise more capital, and whether the funding model is too complex.
- In terms of operations, participants asked how the scheme would work in places where parking is free, who supplies the electricity, who runs and owns the asset, how the project would be scaled, and how the incentives could be calibrated to ensure an inclusive roll-out.
- In terms of local impact, participants asked how businesses would respond to the charges, whether the scheme could lead to too many charging points or poor distribution, whether it would lead to increased EV traffic, and how it would be integrated into city traffic and transport strategies.

Local residents would need to be consulted on the ownership of land and charging equipment, what should happen when other EV users park outside their house, and the ideal design and location of charge points. The project would ideally be delivered together with the City Council, Living Streets, Sustrans, local businesses, EV manufacturers, financial institutions, private parking companies, neighbourhood groups and utilities.

**What happens next?**

The Sustainable Financial Innovation workshop generated a range of ideas to meet community needs in Bristol and contribute towards the transition to a carbon neutral economy. Many of the ideas highlighted the knowledge gap around access to sources of funding, rather than providing new sources of funding themselves, while acknowledging that there may also be genuine gaps in the financing available for locally focused, appropriate investment in sustainable solutions.

Following this event, and two others held in Edinburgh and London, in 2019 the Lab plans to hold a data sprint to build on one of two underlying themes that emerged from across the three events, each challenging fundamental assumptions about how data is used in finance and offering exciting opportunities for innovation that serves people and planet: **data pooling** and **forward-looking data**. To find out more and express your interest in taking part, please email our Head of Programmes, Marloes Nicholls, via marloes@financeinnovationlab.org.
### Appendix – Participant list

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