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Sustainable Digital Payments: Measuring Carbon Emissions in the Payments Chain

Foreword

The Payments Association's ESG Working Group Leads

The Payments Association's ESG Working Group is proud to present the first stage of its initiative to reduce carbon emissions in digital payments.

"We want to support firms across the payments industry by developing consistent and standardised mechanisms and processes to measure, manage and ultimately reduce the carbon emissions in the digital payments processing value chain."

This ambitious project stems from the belief that the payments industry must play a pivotal role in promoting global sustainability and proving we can transform sustainability challenges into opportunities for growth and value creation.

Through the collaboration of the payments community, we have commenced work on this long-term project by first gathering best practice information from members who have already embarked on this journey. We hope this report will encourage members to kickstart their own initiatives to both measure and reduce carbon emissions from payments. Building industry momentum will be key to achieving sustainability. Once the momentum is there, we want the payments community to develop a standard that enables integrity in carbon emissions measurements, increasing trust in the industry. Ultimately, we want to initiate important industry dialogue on reducing the carbon footprint of payments.

We are proud to be part of an industry that is voluntarily progressing with carbon emissions management. This work has begun in advance of legal direction or international competition, reflecting the positive intention and trailblazing culture of those involved. We want to ensure the industry and world we leave behind enables future generations to thrive.

It is important that this document reflects the industry position and creates conversations with intent. We encourage every organisation in the payments community, both domestically and internationally, to adopt the best practices and begin the journey to managing and reducing carbon emissions. We want to foster a thriving debate and discussion on carbon emissions, so we seek your feedback as well as our overarching aim. If you have thoughts and ideas, please share them with us. It is exciting to be a part of this journey, and we look forward to leveraging our collective power to make a significant difference.

Imran Ali, Payments Consulting Director at KPMG and Charlie Bronks, Group Head of Sustainability at Crown Agents Bank – Co-Leads of the ESG Working Group

Executive Summary

The Payments Association's ESG Working Group has initiated this project to develop a collaborative approach to measuring carbon emissions in the digital payments value chain, working towards more sustainable digital payments.

This initiative will position the industry as a leader, proactively investing resources to progress environmental sustainability through collaboration among payments firms. The ambition is for the payments industry to develop a standardised approach for emissions measurement and management, establishing a path to enable firms to start and progress their reduction journey.

Key Objectives:

Endorse a Standardised Carbon Emissions Management Approach:
Encourage the development of a framework for consistently measuring carbon emissions across the digital payments processing value chain to ensure data integrity and comparability.

Promote Industry Collaboration:
Encourage cooperation among industry stakeholders to share best practices, drive collective progress in emissions reduction and prove industry integrity.

Influence Regulatory Development:
Proactively shape future regulations by demonstrating the industry's commitment to progress in sustainability and emissions management.

Connect Sustainability Goals and Commercial Viability:
Promote the commercial efficiencies, innovations and benefits linked to setting and acting on strong sustainability goals.

Background

Two years ago, the ESG Working Group was established at The Payments Association (TPA) to define what ESG means for the industry.

The aim has been to develop consensus and levelled agreement between members. Ultimately, the group is geared to be well ahead of any legislative requirements and positioned to guide and influence regulatory change. Whilst there is currently no prescriptive legislation forcing ESG requirements into the payments industry, three key pieces of legislation are shaping the requirements for managing and reporting emissions in the UK payments sector.

Firstly, the Net Zero Act[1] is a landmark piece of legislation in the UK, committing the country to achieving net zero greenhouse gas emissions by 2050. This means the UK aims to balance the amount of greenhouse gases emitted with the amount removed from the atmosphere, reducing net emissions to zero. This target is legally binding, with interim targets to ensure progress is consistent. Payments businesses in the UK, like all others, must comply with the new regulations to measure and manage emissions across the supply chain.

The Sustainability Disclosure Requirements[3] (SDR) regime is the UK's flagship policy to drive decision-useful information on sustainability across the economy. SDR will consist of sectoral requirements introduced by relevant regulators and Government departments, underpinned by an overarching framework to promote consistent disclosure throughout the value chain. Overall, the SDR framework aims to create a more sustainable and transparent business environment, which can drive positive change but also requires businesses to adapt and innovate.

Finally, for regulated banks, PRA SS3/19[2] requires a strategic approach to managing financial risks from climate change (informed by long-term scenario analysis), embedding these considerations into governance arrangements and integrating climate risk into existing financial risk management practices. This work must culminate in a public disclosure.

Overall, there is increasing scrutiny and expectations to measure carbon emissions across all industries. In the UK, the Net Zero Act is driving significant changes across all sectors, encouraging businesses to innovate and adapt to a more sustainable future. The payments industry is not immune to this, and the faster action can begin, the better-positioned entities will be to influence change rather than be directed by it.

Maja Trajanoska
Member of Sustainability Center of Excellence
Netcetera

"Netcetera recognises the importance of sustainability and that the actions we take at the company level, our engagement with various stakeholders, and how our products are made all have an impact. Through collaboration with The Payments Association and other member companies, we can collectively achieve better results in advancing sustainability actions and goals.

Having a standardised direction supporting a general understanding of how to measure emissions in the payments domain can serve as a reference and a starting point for communicating about product carbon emissions and setting a roadmap for reduction."

https://thepaymentsassociation.org/working-groups/esg/

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Situation Analysis

Why should we measure the carbon emissions in the digital payments processing value chain?

Measurement of carbon emissions is no longer a fringe business activity. It is increasingly expected or required that organisations both measure and manage carbon emissions across Scope 1, 2 and 3. Scope 1 emissions are greenhouse gases that an organisation emits from sources it owns or controls directly. Scope 2 emissions are indirect, deriving from an organisation's purchase of electricity, steam, heat, or cooling. An organisation's Scope 3 emissions, also known as its life cycle emissions, are those that arise across the value chain, both upstream and downstream[4]. Managing includes setting carbon reduction targets and taking the required action to meet them. Although there is no explicit legal requirement to measure emissions in the digital payments processing supply chain, every ESG-engaged company seeks to understand their entire operating footprint.

Katy Zack
Head of Sustainability
Griffin

"Measuring our carbon footprint was an educational process for the whole company. To get the data we needed, we put together a cross-disciplinary team from our people, finance, operations, IT and risk guilds, contributing data and insights on our business. We had a 90% response rate for our employee survey to understand the impact of home working, commuting and travel. This initial engagement kick-started thinking about our environmental impact across the whole company. Once we calculated our carbon footprint, we could identify our impact hotspots and start figuring out how we can reduce our emissions. The process itself — and the interest and participation it created — helped cement our commitment to sustainability, making sustainability not just the responsibility of one team or individual but everyone."

A key goal of this work is to ensure the industry collaborates across the digital payments value chains to develop a standard that ensures there is consistency in the emissions measurement process. Without this, there may be disparate methods of data collection or processing, producing different results that are unable to be compared or related. In this scenario, the integrity of reporting would be lost, ultimately decreasing the value of the work. By developing this framework, a roadmap is established to begin this journey.

Some large banks, including Lloyds and NatWest, have commenced work in this space and discuss progress openly. **Companies not beginning to assess their footprint could soon be at a competitive disadvantage in tendering for business.** Many procurement contracts from large businesses or public entities have designated criteria weighted to ESG, and even specifically carbon reduction, requirements. Buyers of services want to know that you are meeting regulatory requirements, what additional work is being done across ESG, and how this can contribute to the goals they have. The weighting for ESG criteria is becoming increasingly material in determining successful applicants when assessing comparable commodities. This project aims to support all business sizes with a desire and dedication to a sustainable future to begin the journey.

Measuring the carbon emissions of the digital payments processing value chain enables the industry to influence business strategy, including how and what payments are offered to customers. With the influence and scale these opportunities present for migration to different methods or reduction of emissions for specific payment types, there is a significant opportunity to make an impact which is amplified through growth and scale. This is an opening to think differently about payments and identify new opportunities.

Sarah Dees
CEO
My EU Pay

"At My EU Pay, we aim to move money from A to B in the safest and fastest way, with the best outcome for the customer. As an industry, we impact so many aspects of the global economy; there is no business without payments. So, not doing something in this space means we are remiss in our responsibility to calculate and reduce global emissions. We want to be sustainability champions, but to date, we have not known where to begin on this sustainability journey. We are a small firm, limited by resources compared to larger, more established companies. Currently, I understand the regulations, but there is consistent change and progression across the regulatory landscape worldwide. We support this project's aim to provide an overview of how to begin and what good first steps look like. Once we have the foundational understanding, we will grow into this opportunity."

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Opportunities as a result of calculating emissions in the digital payments processing value chain

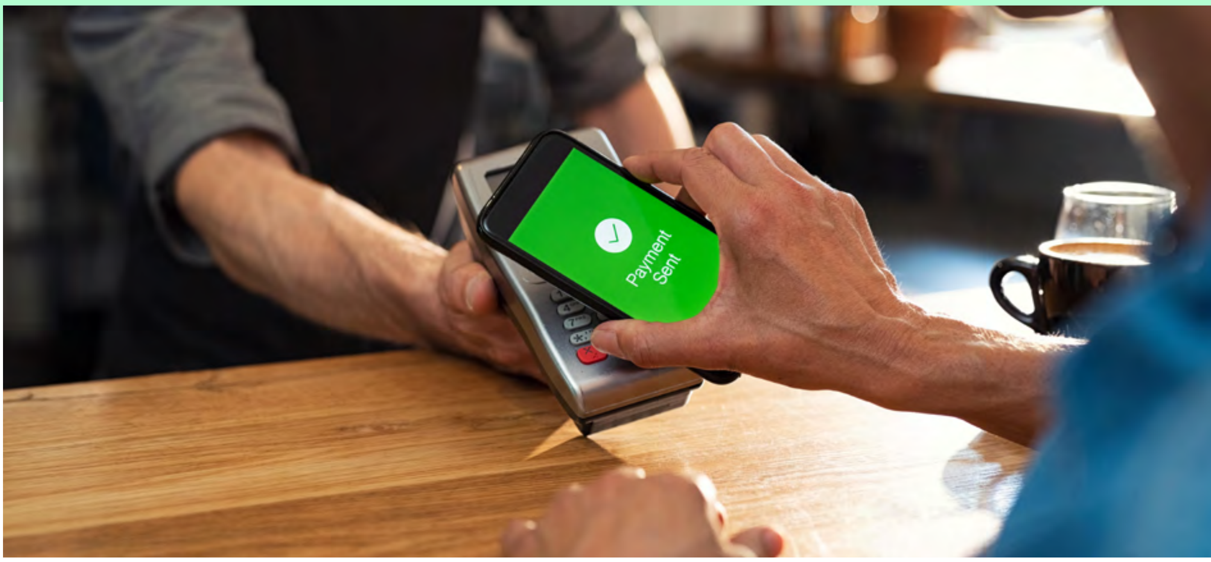
One significant opportunity from measuring carbon emissions in the digital payments processing value chain will be to grow shareholder value over the long term. It is generally agreed that what drives the carbon footprint in the industry, namely technology, people, office space, travel, transport, and data storage servers (including cloud servers), links to efficiency in the process. Assessing the value chain through a lens that is not financial provides a different perspective. It will not only enable a positive benefit to the environment through emissions management and, ultimately, actual reduction but also an improvement in efficiency or better customer outcomes, driving improved shareholder value.

Understanding the emissions footprint within the industry will provide one of the greatest opportunities to reflect and assess how and why we do business using the methods currently employed. A summary of key benefits of this project for the industry and members are:

- Grow long-term shareholder value
- Increase the competitiveness of market offering
- Drive new forms of thought innovation and action in the industry
- Move the needle on climate impact
- Improve the resilience of the value chain
- Industry collaboration
- Take action to improve the long-term strength of the industry
- Act before anticipated regulatory requirements
- A different perspective to
  - Assess business operations
  - Increase efficiency
  - Improve customer outcomes

Marten Möller
Impact and Partnerships Manager
Algbra

"The actual carbon emissions output between different individual payments processing options will be small on a per-transaction basis. However, if we understand the impact of different cloud centres and processes, making a single change to a more efficient system would have a significant total impact. Creating and maximising impact as The Payments Association rather than individual entities, results in an impact at scale. Many businesses will not have the internal resources to complete this project alone. At an industry level where the scale is so vast, little wins can have extraordinary impact."



Challenges of calculating emissions in the digital payments processing value chain

There is an inertia to overcome at the beginning of this journey; the catalyst for this is investment across finance, time and human resources. Entities may have to overcome a knowledge gap requiring an upskill (investment in learning) within the company or hire/outsource this knowledge (requiring some financial budget). The Payments Association will provide any available support, but each member will need to invest in their team to ensure this project has longevity and is actioned appropriately.

Secondly, bridging actors across the value chains of the various digital payments methods can be challenging, requiring time to develop and grow partnerships with others in the industry to gain greater understanding.

Thirdly, there may be challenges in sourcing accurate data and information; it may take time and investment to get information that wasn't previously captured or communicated appropriately established and systems in place to ensure this is executed.

Consistency of data will be a fundamental challenge as the industry aims to complete action collectively that has not previously been undertaken on this scale, or with as many stakeholders.

This report aims to mitigate this challenge and provide guidance on how to begin. As with any new venture, there will be foreseen and unforeseen challenges diverting progress. However, this project has a clear mission and goal with invested stakeholders willing to take action to improve the resilience and value of the industry.

Case Study: Lloyds Banking Group

Chris Bowsher
Senior Business Architect
Lloyds Banking Group

It took Lloyds 15 months to establish their initial data points across physical and electronic payments. We recognised that there needs to be a consistent standard approach across payments firms or they will risk collecting very different results, which could generate scepticism from the UK population.

Key challenges:

Volume of possible data points: The volume of possible data points internally and externally could make the job of measuring CO_2 full-time and never-ending, so choices had to be made on how much data to capture, record and use, with detailed assumptions recorded.

Balancing the impact of physical payments vs. accessibility of service (Access to Cash): Branch closures reduce the high operational emissions footprint but place greater reliance on third parties to reduce their carbon emissions, so a mechanism to report and track key suppliers will be critical to long-term CO_2 reduction plans across the payments industry. We have also had to be very careful when communicating individual payment footprints to not accelerate the decline of cash and cheques where CO_2 values are much higher.

Inconsistency in measurements: Many payment organisations' supply chains can and will involve the same entities, e.g. Payment Schemes, wholesale cash businesses, etc. Although measurements of these entities should remain consistent, we cannot guarantee this as payments businesses may employ different reasoning and methodology. Contradictory measurements will only exacerbate confusion and scepticism, meaning we cannot create a significant impact.

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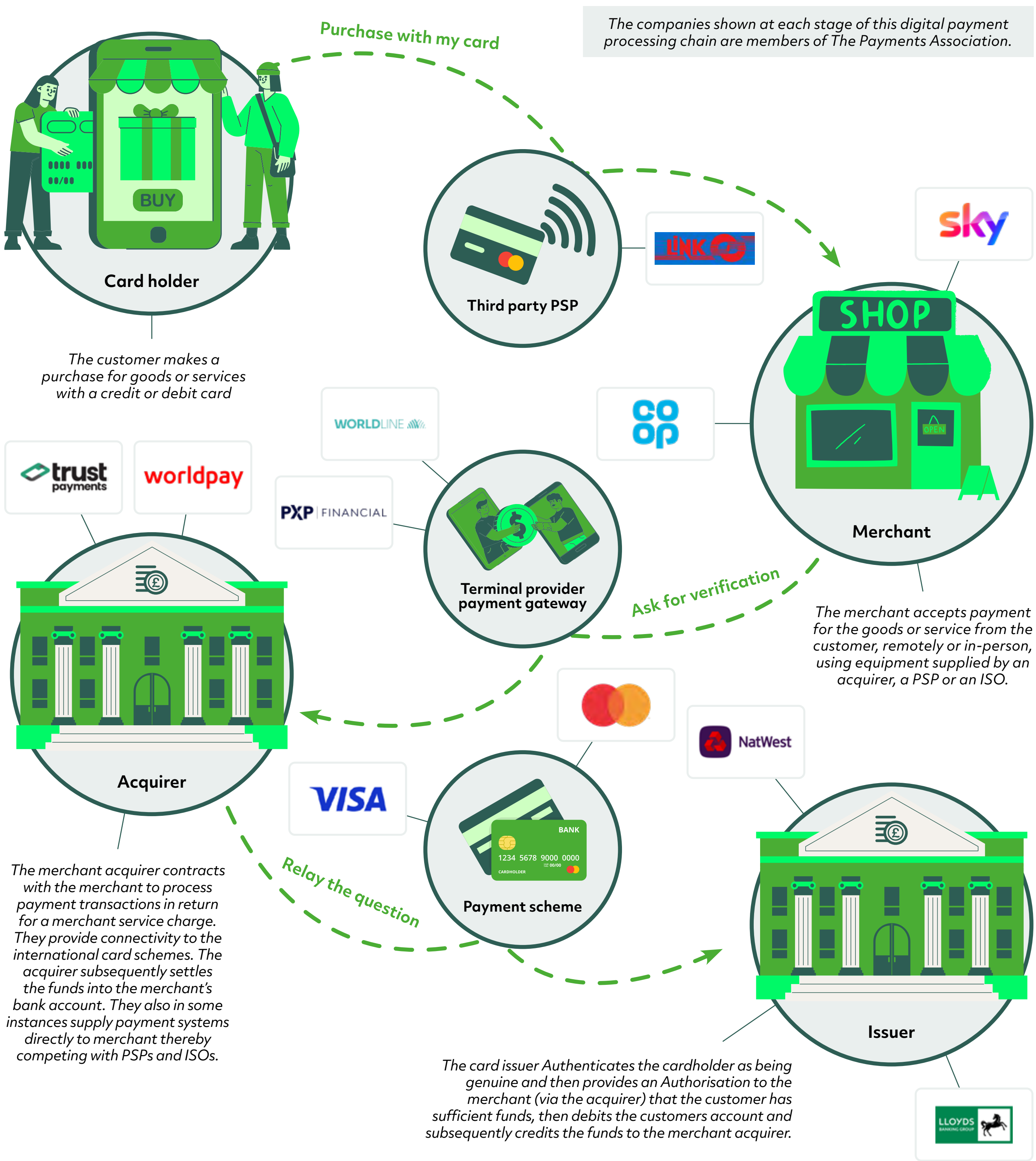
Scope Infographic

The digital payments processing value chain is not a one size fits all model. The first step for an entity to measure emissions in their process value chainis to define the payments types in use, and the scope, then identify where you and other entities connect. Below is an example of a digital payment, specifically a card payment, demonstrating the part of the process from card holder to issuer. Carbon emissions can accrue in various ways at each step of the payments chain.



Actions

The following is a simplified list of actions to educate and guide you to begin your emissions management and reduction journey:

1. **Define the digital payment value chains in use** by mapping the key stages in your business's payments process.
2. **Identify emissions sources** at each stage of the payments process, and assess the scope. The GHG Protocol for scopes and emissions across the value chain is a useful resource to understand what general emissions are to be considered. It is also vital to note cloud and computer processing are key emissions sources in the many digital payments processing value chains.
3. **Identify key stakeholders** within your digital payments processing value chains, for this process to be successful, it is likely to require significant collaboration and in many circumstances data sharing.
4. **Collect data** from energy bills, cloud dashboards, employee contributions and value chain stakeholders. This step may initially uncover key data gaps that require investment to collate a more complete view of total emissions in your digital payments processing value chain.
5. **Calculate an estimation of the value chain's carbon footprint** (using an existing carbon calculator) and identify material sources. This will eventually need to be considered for all payments methods at play.
6. **Set a baseline** as a reference point for tracking progress over time.
7. **Develop a road map** for action to decrease the emissions footprint in your payments processing value chains, this should begin with implementing quick wins such as optimising cloud usage or data centre optimisation.
8. **Migrate from project to business as usual** to ensure measurement and management continues beyond the project span to add long-term value to entity and industry.

Sherree Schaefer
Chief People & Culture Officer
Pay.UK

"In our role as the UK's independent retail payment system operator, Pay.UK works with the wider payments ecosystem to ensure that the payment systems and services we run remain robust, resilient, and relevant – this has been driving our own sustainability efforts. Our research into what sustainability in payments looks like has identified the actions we need to take together with the ecosystem to make a real and lasting impact. This report provides a clear framework for how the payments industry can drive benefits for the people and businesses that rely on payments every single day."

Recommendations: CR&A

Eric Zie
Digital Sustainability Advisor
CR&A

Eric Zie has recommended a multifaceted approach to better understand and manage the environmental impact of digital payments that can be taken to establish this carbon framework:

Life Cycle Assessment (LCA):

A thorough assessment of the environmental impact of digital payment systems, which encompasses the energy utilisation of data centres and end-user devices, is necessary, from production to disposal. A recent study by the IEA estimated that data centres alone are now responsible for 2% of global electricity consumption.

Standards-based Measurement:

We require a quantitative measurement that compares the carbon footprint of digital payment transactions to traditional methods. This encompasses the energy consumed during the software development process and the technical infrastructure that facilitates the transmission, storage, and processing of digital payments. The Greenhouse Gas Protocol's ICT Sector Guidance and the new ISO 21031 can serve as the foundation for the consistent application of rigour in digital impact measurement.

Sustainability Standards:

In order to guarantee sustainability standards, it is imperative to establish and implement green certifications that also encourage environmentally favourable practices in digital payment systems. In order to achieve climate objectives, the Green Digital Finance Alliance promotes the integration of sustainability into digital finance.

Policy and Regulation:

The government is responsible for advocating for policies and regulations that promote the development and adoption of green technologies in the digital payments sector. For instance, the Digital Finance Package of the European Union comprises initiatives that prioritise sustainability in financial services.

Resources

The resources below are a starting point to bridge a knowledge gap that may exist. These documents outline the frameworks for calculating emissions (PCAF, ISO 21031), legal requirements (FCA's SDR) and best practice guidelines (UN's Principles for Responsible Banking). It is not necessary to be an expert across any of these areas to begin the journey.

- PCAF's Global GHG Accounting and Reporting Standard for the Financial Industry
- FCA's Sustainability Disclosure Requirements (SDR) and investment labels
- UN's Principles for Responsible Banking
- Greenhouse Gas Protocol ICT sector guidance, ISO 21031

Conclusion

While there is currently no legal obligation forcing businesses to measure and manage emissions, the growing opportunities for innovation, readiness to meet anticipated compliance standards and regulations, and operational efficiency should serve as motivation across the payments industry to engage. A unified, industry-wide approach will ensure consistency and integrity in reporting, safeguarding the credibility of efforts to reduce carbon footprints.

By working collectively, businesses in the payment's ecosystem can shape the future of sustainable digital payments and carve out a leadership role in the green economy. The progress made by the ESG Working Group demonstrates the potential for achieving significant positive environmental outcomes and business opportunities, growing resilient and transparent digital payments processing value chains that can meet global sustainability goals. We hope this sustainable digital payments report is a catalyst for collaboration and action to build a more resilient industry to face the next 25 years of business and helps to grow the required task force to collectively better serve the environment on a changing planet.

Sources

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2. https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2019/ss319
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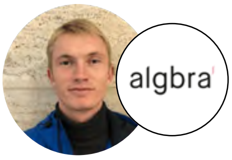

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ESG Working Group

The Payments Association's ESG Working Group brings together thought leaders from across our payments community to allow the whole industry to better understand, and act on, the business imperative for having an Environmental, Social and Governance strategy.

Our Working Group hopes to be a meaningful stepping-stone and accelerator to enable ESG to become business as usual for all members of The Payments Association and beyond.

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About The Payments Association

The Payments Association is the largest community in payments. Founded in the UK in 2008, the association now operates communities in the UK, EU and Asia, helping almost 300 companies enhance their commercial interests, solve societal problems such as financial exclusion and evaluate new opportunities for innovation in payments.

Our purpose is to empower the most influential community in payments, where the connections, collaboration and learning shape an industry that works for all.

We operate as an independent representative for the industry and its interests, and drive collaboration within the payments sector in order to bring about meaningful change and innovation. We work closely with industry stakeholders such as the Bank of England, the FCA, HM Treasury, the Payment Systems Regulator, Pay.UK, UK Finance and Innovate Finance.

Through our comprehensive programme of activities for members and with guidance from an independent Advisory Board of leading payments CEOs, we facilitate the connections and build the bridges that join the ecosystem together and make it stronger.

These activities include a programme of monthly digital and face-to-face events including our annual conference PAY360 and awards dinner, CEO roundtables and training activities.

We run seven stakeholder working Project groups: Cross-Border, Digital Currencies, ESG, Financial Crime, Inclusion, Open Banking and Regulatory. The volunteers within these groups represent the collective view of The Payments Association members at industry critical moments and work together to drive innovation in these areas.

We conduct exclusive industry research. This research is not legal advice. It is made available to our members through our Insights knowledge base to challenge and support their understanding of industry issues. This includes whitepapers, insightful interviews and tips from the industry's most successful CEOs.

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