

A sustainable payment ecosystem as a driver for green and digital transition

EU policy recommendations to help accelerate the decarbonisation of the digital payments sector.

Our vision

Helping to achieve the twin transition is everyone's business. Recent years have witnessed a significant uptake in the adoption of digital payments across European society. This trend has empowered consumers and shops owners to benefit from seamless and secure payment transactions while concurrently mitigating the environmental footprint of the payment industry.

Increasing the sustainability of the payments industry can also materially minimise the environmental impacts of essential sectors, such as transportation and retail.

Yet the lack of a Europe-wide harmonized approach to digital payments is creating a significant barrier. To explore how the digital payments industry can further increase its contribution to the net zero transition, we commissioned Oxford Economics to conduct a comparative study based on two Life Cycle Analyses; one of the digital payment system; and one of the cash payment system in three Euro countries¹. Germany, Italy, and Finland which were selected to represent varying degrees of digital payment maturity.

The findings from this study informed the policy recommendations below, which are set out across three pillars to reflect the broad nature of the digital payments ecosystem. We firmly believe that the following policy measures are key to enabling a significant reduction in the carbon footprint of the payments sector:

- 1) **Facilitate the development of sustainable payment infrastructures** – through increased use of electronic payments, supporting SMEs in accepting digital payments and reducing the environmental impact of cash payments.
- 2) **Making digital infrastructure more sustainable** – by increasing the lifespan, and recycling, of payment cards and terminals, promoting card-free payment solutions and enhancing the energy efficiency of data centres and cloud infrastructure.
- 3) **Facilitating green behaviour by businesses and consumers** – through public awareness campaigns focused on the social and environmental benefits of digital payments to incentivise the most environmentally friendly payment options.

The implementation of these policy recommendations will require concerted and joint action by the different industry players involved in a digital transaction, from terminal manufacturers, payment service providers, and banks, up to policymakers and consumers.

¹ See the complete study on EDPIA website [here](#).

Introduction

There is a wide acknowledgement that the uptake of digital payments has benefitted merchants, consumers, and society at large². Digital payments are essential not only to make the economy function³, increase financial transparency, and help reduce tax evasion, corruption, and crime⁴, they also significantly reduce the environmental impact of payments.

The below sets out in more detail the EDPIA's policy recommendations to reduce the impact of cash payments and make digital payments more sustainable, while ensuring European citizens and businesses are incentivised to choose the most environmentally friendly payment option.

Policy recommendations

Given that the EU is moving towards a digital economy⁵, accomplishing this also requires that governments and policymakers reform their policies and create initiatives that promote the usage and acceptance of sustainable and secure payment methods.

However, only a few Member States have so far presented national initiatives to promote the use of digital payments and there is no Europe-wide harmonized approach. Therefore, EDPIA encourages regulators to take a more direct role and develop initiatives to actively promote sustainable digital payments, most notably ones targeted at SME take-up of digital means of payments.

1) Moving towards digital payments

There is a huge potential in reducing the carbon footprint of citizens and businesses by moving towards digital payments. In fact, despite the rapid increase in digital payments, overall cash was still the most frequently used payment method at the physical point of sale terminal (POS) in the euro area in 2022 and was used in 59% of transactions. In 14 out of 19 Euro countries cash is still the most predominant form of payment⁶. Moving towards digital payments represents a huge potential in reducing the carbon footprint of citizens and businesses.

However, given that the transition to digital payments will ultimately lead to a reduction in cash payments, and de facto a reduced use of cash payment infrastructures (e.g. ATMs), the environmental impact of cash payments will increase as a higher share of the infrastructure will be assigned to one average cash transaction. As shown in our study, in Finland, few cash payments are made, which lead to a higher share of the installed infrastructure being assigned to one average cash transaction compared to Italy where the number of cash payments remains rather high.

² European Commission, Retail Payments Strategy for the EU, <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0592>

³ World Bank Report, The opportunities of digitizing payments, <https://documents1.worldbank.org/curated/en/188451468336589650/pdf/903050WP0REPLACEMENT0Box385358B00PUBLIC0.pdf>

⁴ International Monetary Fund, Working Paper: Tax evasion from cross-border fraud: does digitalization make a difference?, <https://www.imf.org/-/media/Files/Publications/WP/2020/English/wpia2020245-print-pdf.ashx>

⁵ European Commission, Decision establishing the Digital Decade Policy Programme 2030, <https://eur-lex.europa.eu/eli/dec/2022/2481/oj>

⁶ European Central Bank (2022): "[Study on the payment attitudes of consumers in the euro area \(SPACE\) – 2022](#)", Frankfurt am Main: European Central Bank.

In this context, we propose some recommendations to encourage the transition towards digital payments while reducing the environmental impact of cash payments, which will always remain a payment option, even if its use is set to decline considerably over time.

Our recommendations:

- **Encouraging the development of electronic payment infrastructure:** Governments should invest in and promote the development of digital payment infrastructure, such as mobile payment systems, online banking, and electronic fund transfer systems. This will make digital payments more accessible and convenient for consumers and businesses.
 - **Policyholders:** The Commission should enable Member States to finance electronic payments infrastructure via EU funds supporting digital transition such as Horizon Europe⁷.
- **Increasing the focus of EU funding on supporting SME's in accepting digital payments.** This will result in tangible benefits to overall level of digitalization and increased economic benefits for national and European economy.
 - **Policyholders:** The Commission should enable Member States to support the digitalization of businesses via EU Funds such as the Digital Europe Programme⁸.
- **Ensuring tax benefits for SMEs in accepting digital payments and subsidizing merchant costs for terminals.** On the one hand, this will create the right incentives to opt for digital payments, and on the other hand, it could provide a little financial help to start-ups.
 - **Policyholders:** The Commission should issue further recommendation for Member States to provide incentives to adopt digital payments methods. This would complement the EU Communication on 2030 Digital Compass⁹ which aims to have 90% of SMEs reaching a basic level of digital intensity by using digital technologies at enterprise level.
 - **Policyholders and industry:** This could also be supported by a public/private project such as the Cashless Poland Program¹⁰, which supports entrepreneurs to accept cashless payments by providing them free terminals without commissions during the first year.
- **Reducing environmental impact of cash payments by enabling cash withdrawals in shops.** As cash payment will always be an option, this initiative has the potential to reduce the need for Automated Teller Machines (ATMs) as this does not require any additional physical infrastructure for shops.

⁷ European Commission, Horizon Europe, https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

⁸ European Commission, The Digital Europe Programme, <https://digital-strategy.ec.europa.eu/en/activities/digital-programme>

⁹ European Commission, 2030 Digital Compass: the European Digital Decade, https://eur-lex.europa.eu/resource.html?uri=cellar:12e835e2-81af-11eb-9ac9-01aa75ed71a1.0001.02/DOC_1&format=PDF

¹⁰ The Cashless Poland Program, The Cashless Poland Program, <https://pep.pl/en/the-cashless-poland-program/#:~:text=What%20is%20Cashless%20Poland%20Program%3F%20t%20is%20a.settlement%20agents%20and%20Mastercard%20and%20Visa%20payment%20organizations.>

- **Policymakers:** The revised Payment Services Directive¹¹ and Payment Services Regulation¹² (PSD3/PSR) should ensure the possibility for retailers to provide cash withdrawal services without a purchase.
- **Industry:** Payment services providers should support cash withdrawal services in shops.

2) Making digital infrastructure more sustainable

Our study showed that cash POS payments likely impact the climate, environment, and human health more than digital POS payments. Still, the digital payments industry needs to constantly explore how to further minimise the environmental impact of the payment sector. Policymakers should support incentivised transitioning towards carbon net-zero across all value chains in payment. This implies to be more energy efficient, to use more renewable energies for operation, production, transportation, etc. and then leverage on circularity principles to minimise the use of materials across the lifecycle.

From the production and recycling of payment cards and terminals to the energy consumption of data centres and the use of digital receipts, there are many promising areas where the industry together with regulators and policymakers have the capacity to further minimize the impact of digital payments on the environment.

Moreover, Member States have already efficient tools to regulate and supervise payment systems to ensure their security, efficiency, and reliability. This includes establishing rules for electronic transactions, data protection, and consumer rights. In this context, we can also consider control by Member States of the impact of payment systems on the environment.

Furthermore, the introduction of permanent EU methods of monitoring can contribute to ensuring the digital transition is progressing at the European level, such as with an EU annual study on the environmental impact of digital payments.

Our recommendations:

- **Making sure all players in the value chain, including data centres and cloud infrastructure, become more and more energy efficient** as the white paper shows that the main environmental impact on the operation phase of digital payments is primarily driven by data centres.
 - **Policymakers:** Commission should support incentivised transitioning towards more energy efficient technologies in data centres to enable the achievement of Green Deal objectives for payment service providers having IT/data centres within their value chain. This could be done via existing instruments such as the EU Code of Conduct on Data Centre Energy Efficiency¹³ or the EU Taxonomy¹⁴ (which could encourage investments to make data centres more efficient and sustainable) as well as the Science Based Targets Initiatives (SBTI).

¹¹ EU Official Journal, European Commission PSD3 proposal, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023PC0366>

¹² EU Official Journal, European Commission, PSR proposal, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023PC0367>

¹³ European Commission, EU Code of Conduct on Data Centre Energy Efficiency, <https://e3p.jrc.ec.europa.eu/communities/data-centres-code-conduct>

¹⁴ EU Official Journal, EU Taxonomy, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852>

- **Increasing the lifespan of payments cards and terminals.** In this context, EDPIA is supportive of EU initiatives such as the EU Directive¹⁵ promoting the repair of goods ('Right to Repair') and the Commission's proposal for setting eco-design requirements for sustainable products¹⁶ and creating a Digital Product Passport which will provide information about products' environmental sustainability. However, it is crucial that the eco-design standards apply with respect to security and technical neutrality.
 - **Policy makers:** EU legislators should ensure these Directives lead to the most harmonised application of the rules across Member States in order to ensure an adequate level playing field and incentives for cards and terminals producers.
 - **Industry:** Payment services providers should ensure they provide terminals and payment cards that meet the stated objectives.
- **Continuing efforts to recycle payment cards and terminals.** EDPIA welcomes the recycling targets under the EU Waste Framework Directive¹⁷ and the Directive¹⁸ on Waste from Electrical and Electronic Equipment.
 - **Policy makers:** the Commission should ensure that the objectives and targets set out in these Directives reflect market developments, particularly with regard to new means of payment.
- **Promoting card-free solutions** such as contactless payments, QR codes and person-to-person (P2P) payments. This may also include providing the pin code to customers online, rather than sending the codes in a paper envelope separate from the envelope containing the card, as it is mainly the case today. Nevertheless, the solutions should respect the principles of digital inclusion, in particular for vulnerable groups such as persons with disabilities and older persons.
 - **Policy makers:** the Commission could issue a recommendation for Member States to promote the use of card-free solutions at national level.
- **Promoting the use of digital receipts over paper receipts across Europe.** Such as in France where the systematic printing of paper receipt has been banned since 1st January 2023¹⁹. However, to date there is no uniformed approach across Member States.
 - **Policy makers:** European Commission to develop an EU recommendation for Member States to support an approach to digitise the end-to-end payment service, including paper receipts.
 - **Policy makers and industry:** to educate consumers on the impact of paper tickets and help them making a conscious choice.

¹⁵ EU Parliament, Inter-institutional agreement on Right to Repair proposal,

https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/IMCO/AG/2024/02-22/1296871EN.pdf

¹⁶ EU Official Journal, European Commission proposal for eco-design: https://eur-lex.europa.eu/resource.html?uri=cellar:bb8539b7-b1b5-11ec-9d96-01aa75ed71a1.0001.02/DOC_1&format=PDF

¹⁷ EU Official Journal, EU Waste Framework Directive, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705>

¹⁸ EU Official Journal, EU Directive on Waste from Electrical and Electronic Equipment, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02012L0019-20180704>

¹⁹ Euronews, France to end non-essential printing of paper receipts, <https://www.euronews.com/green/2023/08/01/france-to-end-non-essential-printing-of-paper-receipts>

3) Supporting businesses and consumers green behaviours

While moving from cash to digital payments and making digital payment infrastructures more sustainable is vital, the transition towards a sustainable payment ecosystem will only take place if the end-users (citizens and businesses) decide to opt for the most environmentally friendly payment options.

To do this, there must be awareness among citizens in order to change consumer attitudes and behaviour towards electronic payments, making choices while being aware of the environmental impact of the different payment options available to them.

Our recommendation:

- **Running public awareness campaigns** with the aim to educate citizens about the positive social and environmental benefits of digital payments and the (negative) ones associated with cash transactions.
 - ***Policymakers and industry:*** Member States should cooperate with all the actors from the payment ecosystem to develop education campaigns targeted at citizens, in particular vulnerable people such as older persons in order to improve digital inclusion.