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Future regulatory regime for cryptoassets – consultation
Payments and Fintech
HM Treasury
1 Horse Guards Road
SW1A 2HQ

Submitted via: cryptoasset.consultation@hmtreasury.gov.uk

Subject: Response to consultation on future regulatory regime for cryptoassets

To Whom It May Concern:

The Stellar Development Foundation (SDF) is pleased to submit a response to HM Treasury's consultation and call for evidence on the future financial services regulatory regime for cryptoassets in the United Kingdom. This response addresses specific questions raised in the consultation paper related to sustainability and sets out our high-level views on regulation of the digital assets sector, particularly on stablecoins. We appreciate the opportunity to inform the important work of HM Treasury to create a framework for cryptoasset regulation.

Overview of SDF and the Stellar Network

By way of background, SDF is a U.S.-based nonstock, nonprofit organization that contributes to the development and growth of the Stellar network and the "Stellar ecosystem" – the individuals, developers, and businesses who build on or interact with Stellar. Stellar is an open-source blockchain network that connects the world's financial infrastructure. Founded in 2014, SDF helps maintain Stellar's codebase, supports the technical and business communities building on the network, and serves as a speaking partner with policymakers, regulators, and institutions. Our mission is to create equitable access to the global financial system, using the Stellar network to unlock the world's economic potential through blockchain technology.

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From a technology standpoint, Stellar is a publicly available, decentralized, fast, scalable, and sustainable network for financial products and services. It is both a cross-currency transaction system and a platform for digital asset issuance that offers unique asset issuer controls. The Stellar network does not privilege any form of currency or digital asset over another: instead, it provides the ability to efficiently and reliably trade any kind of value in a transparent and efficient way. Financial institutions and fintechs worldwide issue assets and settle payments on the Stellar network, which has grown to more than 44 million payments in Q4 2022. As of February 2023, over 10 billion operations have been processed on the Stellar network.

The Stellar network brings together digital assets and traditional finance. As an open, interoperable payments platform, Stellar has an engaged developer community and strong documentation and software tools that support integration and connection to the network. The core protocol is complemented by ecosystem protocols (SEPs) that facilitate interoperability between financial entities connected to blockchain infrastructure and the traditional banking system. Through these SEPs, the Stellar ecosystem is unique in focusing on connections between traditional financial markets and decentralized finance. For example, MoneyGram International in 2022 announced MoneyGram Access, a first-of-its-kind global on/off-ramp service for digital wallets utilizing the Stellar network. With the launch of this program, users of digital wallets integrated with MoneyGram can now move seamlessly from cash to digital assets to cash again–all without requiring a bank account or credit card. MoneyGram International agents, as the designated on- and off-ramps, perform required compliance screening, ensuring that strong know-your-customer mechanisms remain in place. MoneyGram Access creates an important bridge between digital assets and cash, demonstrating that blockchain can–and should be–interoperable with traditional financial infrastructure.

Humanitarian Aid Use Case

In collaboration with leading international aid organizations, the SDF supported the deployment of Stellar Aid Assist (SAA) in December 2022. Stellar Aid Assist is a disbursement system powered by the Stellar network to help humanitarian aid organizations deliver urgently-needed cash assistance to vulnerable populations quickly and transparently. Stellar

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Aid Assist enhances aid organizations' existing cash assistance efforts by leveraging digital wallets and a digital asset, such as the USD Coin (USDC). The use of a digital dollar provides a stable store of value and gives individuals the ability to exchange for local currency anywhere in the world through the MoneyGram network or other available off-ramps. Individuals remotely receive the digital dollars and hold them securely over time in a digital wallet, giving aid organizations an alternative to physical cash or traditional financial payment rails. It does not require a bank account, debit card, or credit card and provides recipients with a more secure place to hold and transport funds until cash is needed. SDF provides technical assistance for organizations to implement the free SAA software, which can be used in additional geographies.

With 1.4 billion people unbanked worldwide[1] and more than 103 million people forcibly displaced,[2] SAA presents a critical new option for individuals who have historically been limited by the accessibility and portability challenges of traditional payment methods, like cash and local currency bank transfers. Aid recipients can manage their funds entirely on their phone, wherever they go, and are not bound to a specific geographic location. Additionally, the use of the Stellar public blockchain provides greater transparency for aid organizations and their donors through the traceability and auditability of funds.

Recommendations on Stablecoins

SDF strongly supports HMT's plans to bring stablecoins into the UK regulatory perimeter. Developing a clear regulatory framework for stablecoins will drive further innovation and competition, and will promote consumer protections. Regulations should ensure appropriate risk management of stablecoin arrangements, including the following requirements:

- Stablecoin reserves should be:
  - held in the same currency as the token;

[1] The World Bank Group, The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19, 2022

[2] The United Nations Refugee Agency, Refugee Data Finder

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   - subject to independent third-party attestation that is made publicly available on a regular basis; and
   - at least 100% backed by fiat money or a combination of fiat money and high-quality liquid assets, such as short-term government bonds, held in regulated banks and financial institutions.
- Stablecoin issuers should:
   - provide a clear guarantee of 1:1 redeemability and
   - be subject to disclosure and transparency requirements, including disclosure of redemption rights and reserve composition.
- Stablecoin minting and burning should be automated, to the greatest extent possible, to reflect reserve holdings.

<u>Responses to Consultation Questions</u>

What reliable indicators are useful and / or available to estimate the environmental impact of cryptoassets or the consensus mechanism which they rely on (e.g. energy usage and / or associated emission metrics, or other disclosures)?

Many blockchain protocols are considering environmental, social and governance (ESG) issues in their efforts to innovate. Not all blockchain protocols are the same; they may vary in their purposes and levels of environmental impact. A key component of these protocols is the consensus mechanism, which is the defined approach to validate transactions and prevent malicious activity. Each consensus mechanism has advantages and disadvantages regarding decentralization, security, and scalability. Adjustments to these – often competing – attributes can unlock opportunities to make the respective blockchain more sustainable.

To help navigate this complex landscape, SDF in 2022 enlisted PricewaterhouseCoopers (PwC) to develop an assessment framework (the Blockchain Sustainability Framework) that allows organizations to evaluate their environmental footprint as they look to take advantage of this emerging technology. In its report, PwC assessed the electricity consumption and emissions of the Stellar network, which uses a consensus mechanism that is not Proof of Work or Proof of Stake but Proof of Agreement (PoA). PwC's report determined that the energy consumption of PoA is significantly lower than consensus mechanisms used by other blockchain protocols. The research concluded that the Stellar network uses:

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- An estimated 481,324 kWh of energy per year, equivalent to the CO2 emissions from 40.5 homes' annual electricity use.
- 0.00032 kWh of energy per transaction, equivalent to 0.017 smartphones charged.
- 173,243 kg of CO2 in estimated emissions per year, equivalent to the greenhouse gas emissions from 33.7 homes' annual electricity use.
- 0.00011 kg of CO2 emissions per transaction, equivalent to 0.013 smartphones charged.

What methodologies could be used to calculate these indicators (on a unit-by-unit or holdings basis)? Are any reliable proxies available?

The Blockchain Sustainability Framework can help inform stakeholders of potential environmental impacts. The framework measures the cumulative environmental footprint of blockchain operations, factoring in electricity use, greenhouse gas emissions, e-waste, embodied carbon and differences in consensus mechanisms, and provides:

- Environmental impact methodology to quantify blockchain's footprint.
- Comparative assessments using a common framework to evaluate blockchains with a sustainability lens.
- Blockchain simulation modelling to project future impacts as networks scale.

The World Economic Forum (WEF) Crypto Impact Sustainability Accelerator (CISA)–of which SDF is a member–has also created a comprehensive mapping of the energy consumption of blockchain networks. The goals of WEF CISA are to accelerate progress around ESG targets for the crypto ecosystem, bridge gaps in understanding between public and private sectors, and share a cohesive narrative that highlights how the digital assets sector can lead in contributions to ESG. Under the WEF CISA initiative, SDF worked together with the industry to map the energy consumption of different blockchain protocols and its consensus mechanisms and developed recommendations on how to create comprehensive impact analyses.[3]

[3] World Economic Forum, Crypto Impact Sustainability Accelerator, Guidelines for Improving Blockchain's Environmental, Social and Economic Impact, 2023

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While the environmental pillar within ESG is important, SDF encourages HM Treasury and other UK authorities to take a holistic look at ESG, one that considers how blockchain can bolster social and governance initiatives in addition to environmental ones. SDF supports the development of methodologies and frameworks that can help stakeholders assess the social and governance impacts of blockchain protocols and better understand the role this technology can play in advancing ESG efforts. In the case of the Stellar network, for instance, entities in the ecosystem are promoting social impact and good governance by creating new avenues for underserved communities to access the global financial system and to send and receive money, unlocking new payment corridors that promote competition, and developing products and solutions that increase accountability and transparency, among others.

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SDF appreciates the opportunity to respond to the consultation and would be pleased to provide additional information that HM Treasury might find useful.

Sincerely,

Candace Kelly
Chief Legal Officer & Head of Global Policy and Government Affairs
Stellar Development Foundation