



# Payment Systems Strategy

(2019-2024)

Go Digital



BANK OF GHANA

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## 1.0 Introduction

This strategic plan, termed “National Payment Systems Strategic Plan (2019-2024)”, sets forth the policy direction and guidelines that will promote an enabling environment to develop the Ghanaian payment and financial systems. It leverages on opportunities provided by digital technologies to promote competition, efficiency, innovation and financial inclusion within the payment ecosystem. The plan is anchored on the provisions of the Bank of Ghana Act, 2002 (Act 612), as amended, and the Payment Systems and Services Act, 2019.

The new plan builds on the 2014 Strategic Roadmap by providing a policy framework to stimulate the electronic means of payment in Ghana and encourage shared responsibility in the implementation of the Plan.

Efficient, safe and convenient payment systems are fundamental to economic activity and wealth distribution. Ghana’s payment system development, since 2000, has been guided by strategic plans to address the dominance of the informal sector and cash payments. Formalising payments is fundamental to modernising Ghana’s economy and holds prospects for better outcome for fiscal operations of government and efficient functioning of the economy.

## 2.0 Review of the 2014 Strategic Payment Systems Roadmap

The 2014 Strategic Roadmap sought, among other things, to:

- Increase the use of secured and efficient electronic payment channels to move the country to a cash-lite economy;
- Identify measures needed to create an enabling environment that would facilitate the provision and use of innovative electronic payment methods; and
- Promote financial inclusion.

## 2.1 Key Achievements

The following were achieved under the 2014 Strategic Roadmap:

- Establishment of a Payment Systems Advisory Committee which advises the Bank on payment system issues;
- Implementation of GhIPSS Instant Pay (GIP) which allows payments to be sent across financial institutions electronically from one bank account to another;
- Introduction of gh-Link card which interconnects financial institutions and systems of third party providers; and
- Migration of payment cards to EMV<sup>1</sup> chip and PIN standards.

## 2.2 Rationale for a New Payment Systems Strategy

Payment systems are undergoing significant changes driven by technological advancement and evolution of customer needs. Electronic payment is gradually edging out paper-based payment instruments on account of its relative efficiency. Consumers demand for convenience, speed and accessibility in payments are encouraging deployment of digital payment products. In Ghana, mobile phone penetration has enhanced the appeal of mobile money for payment services, and holds prospects for overcoming constraints to financial inclusion. It is however recognised that it requires substantial efforts for payment habits to change from paper-based to electronic form.

It is important that the efforts of Payment Service Providers to meet the complex payment needs of various users are properly coordinated and guided to constrain potential risks and enhance societal value. A concerted effort of all stakeholders is required to ensure that innovative payment products and services pose no risk to the integrity of the payment system and financial stability. A regulatory framework that provides space for FinTechs and other non-bank entities in the payments space is therefore essential. This strategic plan, over the next five years, will give direction to the rapidly evolving payment ecosystem.

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<sup>1</sup> Euro pay, MasterCard and Visa

### **3.0 Vision**

To have a safe, efficient and inclusive payment system with an enabling environment for competitive delivery of innovative, convenient, and affordable digital payment solutions.

### **4.0 Strategic Objectives**

The main strategic objectives<sup>2</sup> of the 2019-2024 National Payment System Strategy Plan are to:

- Foster efficient payments;
- Improve financial inclusion; and
- Enhance financial innovations.

### **5.0 Strategic Pillars/ Responsibilities**

In line with the strategic objectives, the key strategic responsibilities are to:

- Develop and implement clear and comprehensive regulatory and governance framework;
- Promote free, competitive and orderly development of the payment system space that encourages innovation;
- Promote a safe and efficient payment system that fosters confidence and encourages usage;
- Deepen financial inclusion;
- Promote financial technologies;
- Promote interoperability of payment systems;
- Foster consumer trust; and

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<sup>2</sup> A list of desired outcomes is provided in the appendix.

- Participate in the integration of regional payment systems.

## 5.1 Responsibility Matrix

Responsibilities	Tasks	Priority	Lead
Develop and implement clear and comprehensive regulatory and governance framework	Ensure that the provisions of the Payment Systems and Services Bill are broader to accommodate any new type of payment instruments, service and systems that may be used in the future.	High	BoG
	Strengthen the payment systems oversight function and build the capacity of the recently established Payment Systems Department.	High	BoG
	Leverage technology to increase and enhance effectiveness of supervision and oversight (RegTech)	Medium	BoG
	Conduct a comprehensive review of the legal and regulatory framework governing payments and securities settlement systems.	High	BoG
	Examine the suitability of existing laws that govern ownership of data, insolvency and bankruptcy	High	BoG
	Harmonise legal approaches to key issues in areas such as payments law across jurisdictions	High	BoG
Promote free, competitive and orderly development of the payment system space that encourages innovation	Leverage FinTech capacity to lower barriers to entry for non-traditional players, including through promotion of proportionate, flexible, consistent, and predictable application of laws and regulations, while maintaining competition and market contestability.	Medium	BoG/GhIPSS/ PSP/Tech Chamber
	Apply competition policies to address risks of market concentration and abuse by both entrants and incumbents.	High	BoG/GhIPSS/ Tech Chamber
	Adapt competition policy frameworks for FinTech, taking into account new business models.	High	BoG
	Develop approaches for similar treatment of similar activities and risks in a proportionate manner to provide a level playing field regardless of the market participant, underlying technology, or method by which the service is provided.	High	BoG
	Foster standardisation, fair and transparent access to key infrastructures.	High	BoG
	Design regulations to be technology-neutral and to target externalities and financial stability risks, misconduct, and consumer protection	High	BoG/ MoF/NCA
	Ensure regulations are proportionate and adaptable, while seeking international consistency to avoid cross-border arbitrage	High	BoG/MoF
	Explore the potential use of FinTech solutions by both firms and supervisors.	High	PSP/ BoG/ MoF
Assess current staffing and training models to determine if specialised skills would be needed.	High	BoG/MoF/ GhIPSS	

Responsibilities	Tasks	Priority	Lead
Promote a safe and efficient payment system that fosters confidence and encourages usage	Explore the possibility of Payment Service Providers' ownership of the processing infrastructure (i.e. GhIPSS) in a phased manner while unlocking value derived from multiple payments through the network.	Medium	BoG/GhIPSS
	Explore globally acceptable standard across different payment platforms and adopt them as requirements for participants within the space	High	BoG/PSP
	Initiate the process whereby tax and non-tax payments can be made electronically through the use of Instant pay, RTGS and other digital payment types.	High	BoG/MoF
Deepen Financial Inclusion	Promote the use of agent banking by authorizing or licensing Payment Service Providers.	Medium	BoG
	Facilitate deployment of mPOS/POS and ATMs	High	BoG/PSP
	Promote a broader range of digital financial products and services (insurance, credit, pensions and savings) that meet the varying needs of all segments of the market.	High	BoG/MoF/ PSP/NIC/ NPRA/ SEC
Promote Financial Technologies	Authorise payment service providers to introduce QR codes	High	BoG/GhIPSS/ PSP
	Engage stakeholders to undertake a study on the possibility of introducing unified PoS terminals	High	BoG, MoF, GhIPSS, PSP
	Promote robust outsourcing arrangements that address technology dependence and apply strong disaster-recovery and business-continuity principles and standards for digital infrastructure	High	BoG
	Evolve standards for open data sharing	High	BoG
Promote Interoperability of Payment Systems	Engage stakeholders to undertake a study on the possibility of introducing unified PoS terminals	High	BoG, MoF, GhIPSS, PSP
	Authorise institutions to develop merchant and agent network	High	BoG/PSP
		High	BoG/PSP/ GhIPSS

Responsibilities	Tasks	Priority	Lead
	Engage with stakeholders concerning guidelines on the fees to be charged and discuss limits to be placed on such fees		
Foster Consumer Trust	Ensure every payment service product has a well-structured recourse mechanism and have it tested before deployment of service	High	BoG/PSP
	Engage with other partner stakeholders in organising forums on financial literacy and assessing new trends within payment systems space	High	BoG
	Foster partnerships and promote knowledge-sharing and knowledge-exchange among public- and private-sector players, civil society, and other key stakeholders in the FinTech ecosystem.	Medium	BoG/GhIPSS/ MoF/ Tech Chamber/ PSP
	Perform consumer surveys of various PSPs and determine the level of fairness within their operations with the responses obtained	High	BoG/Tech Chamber
Integration of regional payments system	Consider a scheme to link Gh-Link™ with other countries and commence a pilot test.	High	BoG/MoF/ GhIPSS
	Explore possibility of linking Ghana and Nigeria Payment System Infrastructure.	High	BoG/MoF/ GhIPSS
	Share views and experiences with each other and with the private sector on FinTech developments and country responses using international fora as conduits.	High	BoG/MoF
	Monitor the increased interconnectedness of financial systems, both domestically and internationally, sharing information, and enhancing communication across countries	High	BoG/MoF

## 6.0 Strategic Enablers (Critical Success Factors)

- Effective legal framework;
- Effective Information dissemination and awareness creation;
- Innovation and efficient service delivery;
- Infrastructure improvement and development; and
- Effective regulation and supervision.

## 7.0 Strategic Initiatives

- Promote digital means of paying employees;
- Promote government transactions on electronic platforms;
- Develop and roll out a hybrid or mobile point of sale (mPOS) capability;

- Monitor ATM switching and activity;
- Enhance communication;
- Host anti-fraud solution;
- Enable a collaborative electronic commerce payment method;
- Implement penal pricing for cash and paper (Cash-Lite Policy);
- Participate in West African Interlinking of EFT/POS/ATM Switches;
- Participate in West African RTGS Payment Infrastructure;
- Recapitalise and commercialise GhIPSS;
- Account switching;
- Promotion of financial technology firms and innovations; and
- Promote open data initiatives.

## 8.0 Action Plan for Initiatives

Initiative	Actions	Benefits
<p>Promote digital means of paying employees</p> <p>Timeline: Q3 2019- Q4 2024</p> <p>Initiative Category: Technical Infrastructure</p>	<ul style="list-style-type: none"> <li>• Develop use cases for wage payment on existing infrastructure; GIP, digital payment, mobile money wallets and other digital innovations approved by the Bank</li> <li>• Disincentivise the use of cash, cheque or cash wage payments through introduction of a fee structure</li> <li>• Develop and implement guidelines for a mechanism for resolution of incorrect or disputed payments</li> <li>• Pay government benefits or social intervention schemes electronically or digitally</li> <li>• Involve government agencies: All government wages and benefits should be paid electronically to promote the use of electronic payments</li> <li>• Promote trust in digital payments</li> </ul>	<ul style="list-style-type: none"> <li>• Payments of benefits through electronic means will provide statistics for planning</li> <li>• Beneficiaries will be assured timely receipt of payments</li> <li>• Operational efficiency of stakeholders will improve</li> <li>• Electronic wage or benefits payments will permit automatic income tax deduction</li> </ul>
<p>Promote government transactions on electronic platforms</p> <p>Timeline: Q4 2019-Q4 2024</p> <p>Initiative Category: Scheme</p>	<ul style="list-style-type: none"> <li>• Make available and accessible electronic platforms to all financial service providers</li> <li>• Define open standards and architecture for the electronic platform</li> <li>• Pay informal sector pension through digital means</li> <li>• Facilitate pension and insurance premium payment through mobile money</li> </ul>	<ul style="list-style-type: none"> <li>• Simplified and accurate assessments for taxation</li> <li>• Provides data needed for any top up benefits for low paid workers</li> <li>• Helps to evolve policies especially those targeted at the vulnerable</li> <li>• Faster receipt of tax and fee payments and less manual processes</li> </ul>

Initiative	Actions	Benefits
	<ul style="list-style-type: none"> <li>Promote digital means of Persons to Government (P2G) payments</li> </ul>	<ul style="list-style-type: none"> <li>Easier and more accurate reconciliation of receipts</li> <li>Less risk of dishonoured cheques or cash leakage</li> </ul>
<p>Develop and roll out a hybrid or mobile point of sale (mPOS) capability</p> <p>Timeline: Q2 2019 through 2024</p> <p>Initiative Category: Technical Infrastructure</p>	<ul style="list-style-type: none"> <li>Put in place guidelines for POS/mPOS deployment for retail situations</li> <li>Enforce guidelines aimed at resolution of incorrect and disputed payments</li> <li>Stimulate integration of mobile-based POS methods with value added services</li> <li>Facilitate affordable transaction cost for retail payments</li> <li>Involve merchant associations, consumer protection agencies and payment service providers in the development of standards and guidelines</li> <li>Develop electronic payment roll-out strategy per retail sector or nationwide. For instance, for transportation, food purchasing or fuel purchasing, or for all retail situations</li> <li>Develop and implement an awareness and educational campaign aimed at increasing the use of mobile-based payments</li> <li>A comprehensive stimulus programme is required to promote acceptance of electronic payments in retail situations</li> <li>QR Code standards and payment methods using the mobile phone would also be defined</li> <li>Government intervention to increase POS/mPOS penetration with incentives to local payment service providers</li> </ul>	<ul style="list-style-type: none"> <li>Stimulates mPoS/POS payments in retail payment situations and increases the level of electronic payments in the economy</li> <li>Improves awareness and increases acceptance of electronic payments</li> <li>Provides a standard framework for dispute resolution mechanisms that promote trust in the payment system</li> </ul>
<p>Monitor ATM switching and activity</p>	<ul style="list-style-type: none"> <li>The Bank of Ghana would ensure that all domestic transactions of International Scheme cards are switched and processed by GhIPSS by the end of 2019</li> </ul>	<ul style="list-style-type: none"> <li>Reduce the cost of international schemes card transactions.</li> </ul>

Initiative	Actions	Benefits
<p>Timeline: Q1 2019 through 2024</p> <p>Initiative category: Technical Infrastructure</p>	<ul style="list-style-type: none"> <li>The Bank of Ghana will liaise with National Identification Authority to implement a National Identification Scheme</li> <li>The Bank of Ghana shall put in place a real time monitoring system for all electronic payments</li> </ul>	<ul style="list-style-type: none"> <li>Enhance the Bank of Ghana's surveillance over the payment systems.</li> <li>Increase use of financial services especially electronic payments on account of unique form of identification.</li> <li>Help to reduce identity fraud in the payment system.</li> </ul>
<p>Enhance communication</p> <p>Timeline: Q1 2019 through 2024</p> <p>Initiative category: Change Management</p>	<ul style="list-style-type: none"> <li>Task a committee to put up a communication plan for digital payments</li> <li>Organize Digital Payments Week annually</li> <li>Engage NCCE to undertake outreach programmes to educate the public on digital payments</li> </ul>	<ul style="list-style-type: none"> <li>Drive digital payments penetration</li> <li>Public education and awareness creation will build trust.</li> <li>Provide a channel for feedback</li> </ul>
<p>Host anti-fraud solution</p> <p>Timeline: Q3 2019 through 2024</p> <p>Initiative category: Scheme</p>	<ul style="list-style-type: none"> <li>Anti-fraud technology would be implemented at GhIPSS to combat fraud.</li> <li>Payment service providers will engage to implement anti-fraud technology system</li> </ul>	<ul style="list-style-type: none"> <li>Protect member payment service providers from fraudulent transactions.</li> <li>Enhance confidence in the payment system.</li> <li>Reduce financial losses and operational costs.</li> </ul>

Initiative	Actions	Benefits
<p>Enable a collaborative electronic commerce payment method</p> <p>Timeline: 2020-2024</p> <p>Initiative category: Scheme</p>	<ul style="list-style-type: none"> <li>Licensed Payment service providers to offer electronic commerce solutions.</li> <li>Promote issuance of electronic invoice</li> </ul>	<ul style="list-style-type: none"> <li>E-commerce will provide job opportunities for people delivering purchased goods.</li> <li>Reduce time spent in shops and reduce merchants operational cost.</li> <li>Promote convenience for consumers</li> </ul>
<p>Implement penal pricing for cash and paper (Cash-lite Policy)</p> <p>Timeline: 2019-2024</p> <p>Initiative category: Legal</p>	<ul style="list-style-type: none"> <li>While levying penal charges as an isolated initiative is straight forward, a careful consideration of prior change management, prior infrastructure enablement and communication plan would be put in place.</li> <li>Issue notices on cash and cheque usage</li> </ul>	<ul style="list-style-type: none"> <li>Promote the use of digital payments</li> </ul>
<p>Participate in West African Interlinking of EFT/POS/ATM Switches</p> <p>Timeline: 2020-2024</p> <p>Initiative category: Governance/Scheme/Infrastructure</p>	<ul style="list-style-type: none"> <li>GhIPSS would initiate action to make domestic card (gh-link) acceptable in the sub region.</li> <li>A priority list of countries for which inter-linking is sought along UPI lines shall be drawn up by GhIPSS.</li> <li>Align various digital payment types with WAMZ payments agenda.</li> </ul>	<ul style="list-style-type: none"> <li>Improves trade both regionally and with global trading partners.</li> <li>Supports the cash-lite agenda</li> <li>Enables cash withdrawal in local currency in other countries in the sub-region</li> </ul>
<p>Participate in West African RTGS Payment Infrastructure</p>	<ul style="list-style-type: none"> <li>Pursue RTGS interlinking (Decentralised / Distributed system) with WAMZ infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>Funding may be obtained from multilateral development banks such as AfDB, World Bank, Afrexim Bank or other organizations towards the payments initiatives being pursued by WAMZ.</li> </ul>

Initiative	Actions	Benefits
<p>Timeline: 2020-2024</p> <p>Initiative category: Governance/Scheme/Infrastructure</p>	<ul style="list-style-type: none"> <li>· Determine settlement currency, and use the European TARGET interlinking approach.</li> <li>· Pilot a working concept with Nigeria.</li> <li>· Align digital payment types initiatives with WAMZ payments agenda</li> </ul>	<ul style="list-style-type: none"> <li>· Provides economic benefits through improvement in trade.</li> <li>· Enables inter-regional trade to become more efficient.</li> <li>· Promotes socio-economic development through harmonization of common interests.</li> </ul>
<p>Recapitalize and commercialize GhIPSS in stages in favour of payment systems providers to make it sustainable</p> <p>Timeline: 2020-2024</p> <p>Initiative category: Governance</p>	<ul style="list-style-type: none"> <li>• Bank of Ghana to draw a roadmap for diversification of GhIPSS share ownership structure.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces GhIPSS dependency on the Bank of Ghana.</li> <li>• Incentivises payment service providers to use and promote GhIPSS services.</li> <li>• Improves GhIPSS operational efficiency.</li> <li>• Reduces possible conflict of interest situations.</li> </ul>
<p>Account switching</p> <p>Timeline: 2021-2024</p> <p>Initiative category: Scheme</p>	<ul style="list-style-type: none"> <li>• Bank of Ghana shall engage and explore the need for account number portability.</li> </ul>	<ul style="list-style-type: none"> <li>• Switching engenders competition and offers choice to customers</li> </ul>
<p>Promotion of financial technology firms and innovations</p> <p>Timeline: 2019-2024</p> <p>Initiative category: Scheme/Commercial</p>	<ul style="list-style-type: none"> <li>• Explore regulatory Sandboxes</li> <li>• Implement the Bali FinTech Agenda, 2018</li> <li>• Engage other regulatory agencies to promote FinTech</li> </ul>	<ul style="list-style-type: none"> <li>• Boost innovation in the payment ecosystem</li> <li>• Regulators have better understanding of technology before products are approved</li> <li>• Reduce cost and time of getting innovative products into the market</li> </ul>

Initiative	Actions	Benefits
		<ul style="list-style-type: none"> <li>• Ensure consumer protection safeguards are built into new product before coming on the market</li> <li>• Enable innovators to access finance.</li> <li>• Create entrepreneurial culture</li> </ul>
<p>Promote open data initiative</p> <p>Timeline: 2021-2024</p> <p>Initiative category: Open banking</p>	<ul style="list-style-type: none"> <li>• Put in place standard for data sharing</li> <li>• Engage stakeholders to develop the roadmap for data sharing</li> </ul>	<ul style="list-style-type: none"> <li>• More innovative services for consumers</li> <li>• Creates competition and choice</li> </ul>

## 9.0 Conclusion

The National Payment Systems Strategic Plan (2019-2024) provides a framework for the orderly development of a national payment system that is efficient, safe, accessible and fosters innovation and electronic means of payments. This plan encourages shared responsibility in its implementation and provides a policy framework to guide stakeholders to ensure that the payments ecosystem supports financial inclusion.

## Appendix: Desired Outcomes, Associated Tasks and Measurement Indicators

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
Strengthened Payment Systems Oversight	Ensure that the provisions of the Payment Systems and Services Bill are broader to accommodate any new type of payment instruments, service and systems that may be used in the future.	High	BoG	A clause in the Payment Systems and Services Bill which provides provision for introduction of future payment instruments, service and systems.
	Strengthen the payment systems oversight function and build the capacity of the recently established Payment Systems Department.	High	BoG	<ul style="list-style-type: none"> <li>- Adequate staff strength and training programs.</li> <li>- Approved oversight manual</li> <li>- Approved payment systems operational manual</li> <li>- Approved departmental budget</li> <li>- Availability of tools and systems for oversight function</li> </ul>
	Leverage technology to increase and enhance effectiveness of supervision and oversight (RegTech)	Medium	BoG	<ul style="list-style-type: none"> <li>- Implement RegTech solution to enhance oversight by end 2020</li> <li>- Implement Oracle BI solution for data collection and analysis by end 2020</li> </ul>
	Conduct a comprehensive review of the legal and regulatory framework governing payment and securities settlement systems.	High	BoG, SEC	Conduct and submit report on legal and regulatory framework of Payment and securities settlement systems to the Payment Systems Advisory Committee by mid-year 2020.
Bolstered payment systems platforms and services	Develop and promote a fully interoperable payment system	High	BoG, MoF/ GhIPSS, PSP	Implementation of full interoperability among mobile money, Gh-Link (bank account) and e-zwich payment platforms by end 2019
	Expand the scope of Government to people (G2P) and people to Government (P2G) payments made using electronic means. For instance, E-Zwich,	High	BoG, MoF, GhIPSS, PSP, NITA, CAGD	At least 95% of Government to People (G2P) and 75% of People to Government (P2G) payment transactions should be digitized by the end of 2020.

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
	mobile payments, GIP would be explored.			
	Increase competition among remittances service providers and lower costs by authorizing regulated and sound SDIs and MTOs. All remittances to terminate in e-wallets and bank accounts.	High	<b>BoG, PSP, GhIPSS</b>	Issue guidelines for the operations of remittances services with the broader objective of enhancing competition and providing affordable service by the end 2020.
Increased proximity of financial access points	Promote the use of agent banking by authorizing or licensing Payment Service Providers.	Medium	<b>BoG</b>	<ul style="list-style-type: none"> <li>- Provisions in the Payment Systems and Services Act should be adequate to provide a level playing field for promoting agent banking</li> <li>- Number of Agent points should double by end 2020</li> <li>- Develop Agent Registry by end 2019</li> </ul>
	Undertake Geospatial mapping of access points	High	<b>BoG, PSP</b>	<ul style="list-style-type: none"> <li>- Undertake Geospatial mapping of access points by end 2019</li> <li>- Develop Agent Registry which provides Geospatial information of access points by end 2019</li> </ul>
	Facilitate deployment of mPOS/POS and ATMs	High	<b>PSP, BoG, MoF</b>	<ul style="list-style-type: none"> <li>- Develop and implement guidelines on operations of electronic payment channels in Ghana by 2019.</li> <li>- The guidelines should include provisions to facilitate the deployment of mPOS/POS and ATMs</li> </ul>
Expanded digital financial services	Develop standards for onboarding of agents	High	<b>BoG, PSP</b>	Develop guidelines or standards for onboarding of agents by mid-year 2020
	Promote a broader range of digital financial products and services (insurance, credit, pensions and savings) that meet the varying needs of all segment of the market.	High	<b>BoG/MoF, PSP, NIC, NPRA, SEC</b>	<ul style="list-style-type: none"> <li>- Provisions in the Payment Systems and Services Act which broadens the permissible activities to include all digital financial products and services (insurance, credit, pension and savings)</li> </ul>

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
				<ul style="list-style-type: none"> <li>- Provision in the Payment Systems and Services Act for emerging digital financial products and services.</li> <li>- Licensing and authorization requirement for the provision of digital financial services should be fair and transparent.</li> </ul>
	Conduct a review of the mobile money value chain and MMOs business practices to understand drivers of costs and fees to work towards reduction in fees and charges.	Medium	BoG/GhIPSS, PSP	Conduct a review of mobile money value chain and tariff structure and submit report to Payment System Advisory Committee by end 2020.
	Facilitate payment of transport fares, fuel, and retail purchase electronically	High	BoG, PSP, GhIPSS, Transport Union, OMCs	<ul style="list-style-type: none"> <li>- Evaluate the option to pay for transport fares, fuel and other retail services electronically by 2021.</li> <li>- Develop and implement guidelines on operations of electronic payment channels in Ghana by end 2019.</li> </ul>
	Avoid taxes on digital payments	High	MoF, BoG	<ul style="list-style-type: none"> <li>- Review Government budget statement and verify whether there was provision on taxes on digital payments.</li> </ul>
All employees paid electronically	Develop use cases for the electronic wage payment on both existing infrastructure (bank accounts) and other electronic means	High	BoG, MoF, PSP, GhIPSS	Develop use cases for the electronic wage payment by mid-year 2020
	Develop an incentive pricing scheme: price the use of cash, cheque or cash wage payments higher than electronic payments.	High	BoG/ MoF, GhIPSS, PSP	<ul style="list-style-type: none"> <li>- Bank of Ghana should issue a directive on incentive pricing scheme that favours electronic wage payment.</li> </ul>
	Evolve guidelines for mechanism aimed at resolution of incorrect or disputed payments;	High	BoG, MoF	Develop guidelines for dispute resolution related to electronic payments by mid-year 2020

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
	Pay government benefits or social intervention schemes and informal sector wages electronically or price them accordingly so that electronic payment is cheaper for beneficiary.	High	<b>BoG, MoF</b>	Ninety percent (90%) of government benefits including social intervention schemes and informal sector wages should be paid electronically by end 2020.
	Encourage electronic means of payment for utilities	High	<b>MoF, PURC</b>	<ul style="list-style-type: none"> <li>- Available option should exist for payment of utilities by electronic means by mid-year 2020.</li> <li>- Bank of Ghana should issue a directive on incentive pricing scheme that favours electronic means of payment by end 2020.</li> </ul>
Increased adoption of e-government initiatives	Initiate the process whereby tax and non-tax payments can be made electronically through the use of Instant pay, RTGS and other digital payment types.	High	<b>BoG, MoF, GhIPSS, PSP</b>	<ul style="list-style-type: none"> <li>- Government should declare in a public statement its plans to facilitate payment/collection of tax and non-tax through electronic means by end 2019.</li> <li>- Ninety percent (90%) of government tax and non-tax payments/collection should be made electronically by end 2020.</li> <li>- Option to pay school and hospital fees by electronic</li> </ul>
	E-collections are to be adopted for customs payments through mobile, internet or other electronic means.	High	<b>BoG, MoF</b>	
	Benefit and pension payments should be paid using electronic means direct to a bank account, payment card account, and mobile money account as appropriate.	High	<b>BoG, MoF, NPRA,</b>	
	Encourage payment for school and hospital fees by electronic means	High	<b>BoG, MoF, MoH, MoE, PSP,</b>	
Ghana's EFT/POS/ATM switches interlinked with	GhIPSS should consider a scheme to link GH-Link™ with other	High	<b>BoG, MoF, GhIPSS</b>	Facilitate implementation of integration of payment systems of West African states by end 2022

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
other West African countries	countries and commence a pilot test.			
	Explore possibility of linking with Nigeria Payment Infrastructure.	High	BoG, MoF, GhIPSS	Facilitate Implementation of integration of Ghana's payment systems with Nigeria payment infrastructure by end 2020
GhIPSS recapitalised and commercialised	The Bank of Ghana should explore the possibility of Payment Service Providers' ownership of the processing infrastructure (i.e. GhIPSS) in a phased manner while unlocking value derived from multiple payments through the network.	High	BoG, MoF	The roadmap of recapitalisation of GhIPSS should be developed and signed by the Bank of Ghana by the end 2020
Regulatory environment for payment channels enabled	Evolve Guidelines on electronic channels	High	BoG, MoF	Develop and implement guidelines on operations of electronic payment channels in Ghana by end 2019.
	Evolve standards for regulatory sandbox	Medium	BoG, PSP,	Develop guidelines for regulatory sandbox by end 2020
	Evolve standards for open data sharing	Low	BoG, PSP, Data Protection	Develop guidelines for open data sharing or open banking by end 2023
Increased use of QR Codes	Authorise payment service providers to introduce QR codes	High	BoG, GhIPSS, PSP	QR code payment method should be available at 70% of merchant service points by end 2020
	Develop standards for QR codes	High	BoG, GhIPSS, PSP	Develop standards for QR Code payment method by mid-year 2020
A unified Point of Sale terminal developed	Engage stakeholders to undertake a study on the possibility of introducing unified POS terminals	High	BoG, MoF, GhIPSS, PSP	Develop and implement guidelines on operations of electronic payment channels by end of 2019.
Merchant Agent Network Developed	Authorise institutions to develop merchant and agent network	High	BoG, PSP	Payment Service Providers should develop and implement training and awareness program for merchant and agent network by end 2020.

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
Guidelines and measures for FinTechs developed	Institute measures to support FinTechs	High	<b>BoG, MoF, PSP</b>	<ul style="list-style-type: none"> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> <li>- Licensing process of FinTech companies should be fair and transparent.</li> <li>- Licensing requirements should be published</li> <li>- Required paid-up capital and processing fees should be proportionate to business risk</li> </ul>
Guidelines on Instant Electronic Funds Transfer developed	Engage stakeholders to develop guidelines on instant electronic funds transfer	High	<b>BoG, GhIPSS</b>	Develop guidelines on instant electronic funds transfer by end 2020
Guidelines on Outsourcing developed	Engage stakeholders to develop guidelines on outsourcing	High	<b>BoG, GhIPSS</b>	Develop guidelines on outsourcing by end 2020
Capacity building programmes for FinTech developed	Strengthen institutional capacity by putting in place legal and regulatory framework to promote innovation of FinTech	High	<b>BoG, PSP, Tech Chamber, GhIPSS</b>	<ul style="list-style-type: none"> <li>- Develop and implement training programs for payment system regulators on payment innovations by mid-year 2020.</li> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> </ul>
	Build-up knowledge base of FinTech through education	High	<b>BoG, MoF/ GhIPSS</b>	Develop and implement training programs for payment system regulators on payment innovations by mid-year 2020
	Deepen communication with external stakeholders.	High	<b>BoG, Tech Chamber</b>	<ul style="list-style-type: none"> <li>- Attend international conferences and seminars on FinTech.</li> <li>- Implement commitments made on international platform</li> </ul>
Technologies for financial service provision enhanced	Facilitate the development of telecommunications, broadband and mobile data services.	High	<b>Telecom Chamber, BoG, NCA, GIFEC, Tech Chamber</b>	Conduct a survey to ascertain the level of improvement of telecommunications, broadband and mobile data services in the payment space by 2020.
	Promote digitization across government and more broadly the entire economy, and enable financial sector's fair access to relevant data.	High	<b>BoG, MoF, PSP</b>	<ul style="list-style-type: none"> <li>- Government should issue a public statement indicating its plans to digitize all government payments and collections by end 2019.</li> </ul>

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
				<ul style="list-style-type: none"> <li>- Ninety percent (90%) of government tax and non-tax payments/collection should be made electronically by end 2020.</li> <li>- Develop guidelines for open data sharing or open banking by end 2023</li> </ul>
	Encourage the development of digital identity mechanisms to reliably authenticate customers remotely.	Medium	<b>NIA, BoG,</b>	Develop and implement national identity authentication portal/system for banking and payment services by end 2022.
	Encourage the development of financial infrastructures, such as those for credit reporting and cross-border payments that have fair, transparent, and risk-based access and usage criteria.	Medium	<b>BoG, MoF, GhIPSS</b>	<ul style="list-style-type: none"> <li>- Approved regulatory framework for key financial infrastructures including credit bureaus and cross-border payment system should be available by mid-year 2020.</li> <li>- Review the operations of the financial infrastructures such as credit bureaus and cross-border payment system and ascertain whether they meet approved regulatory framework by end 2020</li> </ul>
Competition and commitment to open, free and contestable markets reinforced	Leverage FinTech capacity to lower barriers to entry for non-traditional players, including through promotion of proportionate, flexible, consistent, and predictable application of laws and regulations, while maintaining competition and market contestability.	Medium	<b>BoG, GhIPSS, PSP, Tech Chamber</b>	Develop guidelines for regulatory sandbox by end 2020
	Apply competition policies to address risks of market concentration and abuse by both entrants and incumbents.	High	<b>BoG, Tech Chamber, GhIPSS</b>	Develop competition policy for payment ecosystem by end 2022
	Adapt competition policy frameworks for	High	<b>BoG,</b>	

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
	FinTech, taking into account new business models.			
	Develop approaches for similar treatment of similar activities and risks in a proportionate manner to provide a level playing field regardless of the market participant, underlying technology, or method by which the service is provided.	High	BoG	
	Foster standardization, interoperability, and fair and transparent access to key infrastructures.	High	BoG	
FinTechs supported to promote financial inclusion and financial markets	Embed FinTech topics in national inclusion and financial literacy strategies and consider establishing a dedicated body to track FinTech development, promote the ease of doing business in the sector, and consider international cooperation opportunities	High	Tech Chamber/ BoG/ MoF	<ul style="list-style-type: none"> <li>- Payment Systems and Services Act should address FinTech issues.</li> <li>- National Financial Inclusion Development Strategy (NFIDS) should leverage FinTech to promote financial inclusion.</li> <li>- Establish a dedicated unit to promote and track FinTech development by end 2020</li> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> </ul>
	Promote educational efforts and avoid a gap between the "haves" and the "have nots."	High	BoG/ MoF, Tech Chamber	
	Foster partnerships and promote knowledge-sharing and knowledge-exchange among public and private sector players, civil society, and other key stakeholders in the FinTech ecosystem.	Medium	BoG, GhIPSS, MoF, Tech Chamber PSP	
	Move toward digitized government payments	High	BoG, GhIPSS, MoF, PSP	
				Government should issue a public statement indicating its plans to digitize all government

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
				payments and collections by end 2019.
Stakeholders' understanding of evolving financial systems deepened	Support effective system-wide oversight framework	High	BoG	Develop and implement oversight framework by end 2020
	Enhance data-collection powers to support an extension of the data-reporting perimeter to include new entities and the collection of information on new products and activities.	High	BoG	<ul style="list-style-type: none"> <li>- Develop data collection template and reporting guidelines for all approved payment products and services by end 2019.</li> <li>- Collect and analyze data of all approved payment products and services</li> </ul>
	Capture innovation and changes in intermediation that could lead to potential opportunities and risks.	High	BoG, GhIPSS, PSP	<ul style="list-style-type: none"> <li>- Develop and implement oversight framework by end 2020</li> <li>- Issue annual report on innovations in the payment landscape</li> </ul>
	Support the identification and assessment of risks on a regular and continuous basis	High	BoG	Develop and implement self-assessment guidelines by mid-year 2020
	Tailor monitoring to the specific characteristics of domestic financial markets, their regulatory frameworks, and their international connections.	High	BoG, FIC, PSP	Develop and implement oversight framework by end 2020
Regulatory framework and supervisory practices improved	Design regulations to be technology-neutral and to target externalities and financial stability risks, misconduct, and consumer protection	High	BoG, MoF, NCA	<ul style="list-style-type: none"> <li>- Develop and implement oversight framework by end 2020</li> <li>- Review payment systems regulations and ascertain whether they are technology-neutral and target externalities and financial stability risks, misconduct, and consumer protection.</li> <li>- Develop and implement consumer protection regulations for the payment space.</li> </ul>

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
				- Develop guidelines and operating rules for systemic important payment systems by 2020
	Ensure regulations are proportionate and adaptable, while seeking international consistency to avoid cross-border arbitrage	High	<b>BoG, MoF</b>	Review relevant payment system regulations to ascertain whether they are proportionate and adaptable and also prevent cross-border regulatory arbitrage.
	Explore the potential use of FinTech solutions by both firms and supervisors.	High	<b>PSP, BoG, MoF,</b>	<ul style="list-style-type: none"> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> <li>- Clear and transparent guidelines for licensing of FinTech firms</li> <li>- Government statement indicating its plans to digitize all government payments and collections.</li> </ul>
	Assess current staffing and training models to determine if specialized skills would be needed.	High	<b>BoG, MoF, GhIPSS</b>	<ul style="list-style-type: none"> <li>- Annual review of staffing and training needs</li> <li>- Increase capacity of staff</li> </ul>
Integrity of financial systems safeguarded	Identify, understand, and assess the ML/TF risks, and apply AML/CFT measures commensurate with these risks	High	<b>BoG, MoF, FIC</b>	<ul style="list-style-type: none"> <li>- Develop and implement self-assessment guidelines by mid-year 2020</li> <li>- Conduct annual assessment on payment system providers to ascertain compliance with AML/CFT laws and regulations.</li> </ul>
	Identify and encourage the use of FinTech products and services that strengthen the AML/CFT framework	High	<b>BoG, MoF, FIC</b>	<ul style="list-style-type: none"> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> <li>- Proportionate and transparent licensing requirements for products and services to strengthen the AML/CFT framework.</li> </ul>
	Develop institutional capacity and ensure adequate communication with FinTech providers	High	<b>BoG, MoF, GhIPSS, FIC</b>	<ul style="list-style-type: none"> <li>- Approved capacity building program on FinTech innovations for staff.</li> <li>- Arrange half-year meetings with the FinTech association.</li> </ul>

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
Legal frameworks to provide an enabling legal landscape modernised	Examine the suitability of existing laws that govern ownership of data, insolvency and bankruptcy	High	BoG, AG, Data Protection	Review existing laws that govern ownership of data, insolvency and bankruptcy to ascertain its suitability for modernizing the payment system by end 2020
	Harmonize legal approaches across jurisdictions to key issues in areas such as payments law	High	BoG, AG	
Stability of domestic monetary and financial systems achieved	Adapt operational frameworks of monetary policy to ensure effective transmission.	High	BoG, MoF, GhIPSS	<ul style="list-style-type: none"> <li>- Review the operational framework of monetary policy and determine whether current payment system infrastructures are adequate and effective.</li> <li>- Conduct a survey to ascertain whether Ghana's payment system landscape is safe and efficient to facilitate the transmission process of monetary policy by end 2021.</li> </ul>
	Explore new FinTech applications to improve and expand access to payments systems	High	BoG, MoF	<ul style="list-style-type: none"> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> <li>- Publish the licensing process and requirements on the Bank of Ghana website by end 2019.</li> </ul>
	Re-examine financial safety net and role of "lender of last resort" in times of crisis	High	BoG, MoF	Assess financial safety nets.
Robust financial and data infrastructure to sustain FinTech developed	Encourage financial firms and technology providers to embed cyber security and operational risk management into an enterprise-wide risk-management framework and to promote technical standards on cyber and information security	High	BoG, FIC, CERT,	<ul style="list-style-type: none"> <li>- Licensing requirements of FinTech companies should include compliance with cyber security and operational risk management framework and regulations.</li> <li>- Develop guidelines for regulatory sandbox by end 2020.</li> <li>- Regulatory Sandbox Criteria should require adherence to cyber security and operational risk management framework and regulations.</li> </ul>

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
	Promote robust outsourcing arrangements that address technology dependence and apply strong disaster-recovery and business-continuity principles and standards for digital infrastructure	High	<b>BoG</b>	Develop outsourcing guidelines that address disaster-recovery and business-continuity principles and standards for digital infrastructure by mid-year 2020
	Monitor and manage domestic and cross-border concentration risk, because economies of scale could lead to large financial or technology firms becoming increasingly important in the provision of key infrastructure services, thus increasing vulnerability to systemic disruption.	High	<b>BoG, FIC</b>	<ul style="list-style-type: none"> <li>- Develop and implement self-assessment guidelines by mid-year 2020</li> <li>- Develop and implement oversight framework by end 2020</li> <li>- Oversight framework should include annual assessment of domestic and cross-border concentration risk of systemic important payment systems.</li> </ul>
	Ensure that robust data-governance frameworks are in place to address issues of data ownership, privacy, confidentiality, integrity, availability, and ethical use of data.	High	<b>BoG, FIC, Data Protection, PSP</b>	Develop and implement data-governance framework that address issues of data ownership, privacy, confidentiality, integrity, availability, and ethical use of data by mid-year 2020.
International co-operation and information sharing facilitated	Share views and experiences with each other and with the private sector on FinTech developments and country responses using international fora as conduits.	High	<b>BoG, MoF</b>	<ul style="list-style-type: none"> <li>- Establish FinTech apex body to coordinate information sharing among members.</li> <li>- Increase capacity of staff</li> </ul>
	Monitor the increased interconnectedness of financial systems, both domestically and internationally, sharing information, and enhancing	High	<b>BoG, MoF</b>	

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
	communication across countries			
	Stand ready to adapt policy responses to reflect evolution of the financial system	High	<b>BoG, MoF</b>	Conduct assessment to determine whether the systemic important payment system infrastructures are ready to adapt development in the payment and financial system
	Monitor global market developments and emerging issues and risks, including opportunities and challenges to financial development and inclusion, and disruptions to market structures and to business models of existing financial service providers, to ensure adequacy of the regulatory environment	High	<b>BoG, MoF</b>	<ul style="list-style-type: none"> <li>- Scan payment systems space to identify emerging innovations and submit papers to management.</li> <li>- Assess periodically, the adequacy of the regulatory environment and make recommendations for review and/or amendments where necessary.</li> </ul>
	Build technical and regulatory capacities by participating in international training and peer-learning programs	High	<b>BoG, MoF, FIC, Tech Chamber, PSP</b>	<ul style="list-style-type: none"> <li>- Develop technical and regulatory capacity building programs for staff.</li> <li>- Develop program for regulators to participate international seminars and conferences on payment systems.</li> <li>- Participate in peer learning programs</li> </ul>
Collective surveillance of the international monetary and financial system enhanced	Close data and statistics gaps to strengthen risk monitoring in a global economic environment subject to an increased pace of technological progress.	High	<b>BoG, MoF, FIC</b>	<ul style="list-style-type: none"> <li>- Review payment systems reporting guidelines.</li> <li>- Publish quarterly payment systems statistics.</li> <li>- Develop off-site oversight framework by 2020</li> </ul>
	Support efforts to strengthen financial integrity and resilience, including through policy	High	<b>BoG, MoF, FIC</b>	<ul style="list-style-type: none"> <li>- Develop and implement AML/CFT regulations for financial sector institutions by mid-year 2020</li> </ul>

Desired Outcomes	Tasks	Priority	Lead	Measurement Indicators
	advice, assessments of countries' AML/CFT frameworks, and Capacity Development activities			<ul style="list-style-type: none"> <li>- Develop and implement cyber security regulations and standards by mid-year 2020</li> <li>- Conduct annual assessment on payment system providers and ascertain whether they comply with AML/CFT and cyber security laws and regulations.</li> <li>- Develop capacity building programs for regulators and stakeholders by end 2019</li> </ul>
	Strengthen Capacity Development activities related to technological and financial innovations including cybersecurity, benefiting from strategic partnerships with donor countries	High	BoG, MoF, FIC, CERT	Develop capacity building program on technological and financial innovations including cyber security for staff
	Assess the implications of FinTech for capital flows and the nature of cross-border spillovers and related policies, including the pace and sequencing of capital-flow liberalization to preserve the collective gains from openness, consistent with the IMF's Institutional View, and World Bank practice.	High	BoG, MoF	Develop a paper to assess the implications of FinTech operations for capital flows and the nature of cross-border spillovers and related policies by end 2021