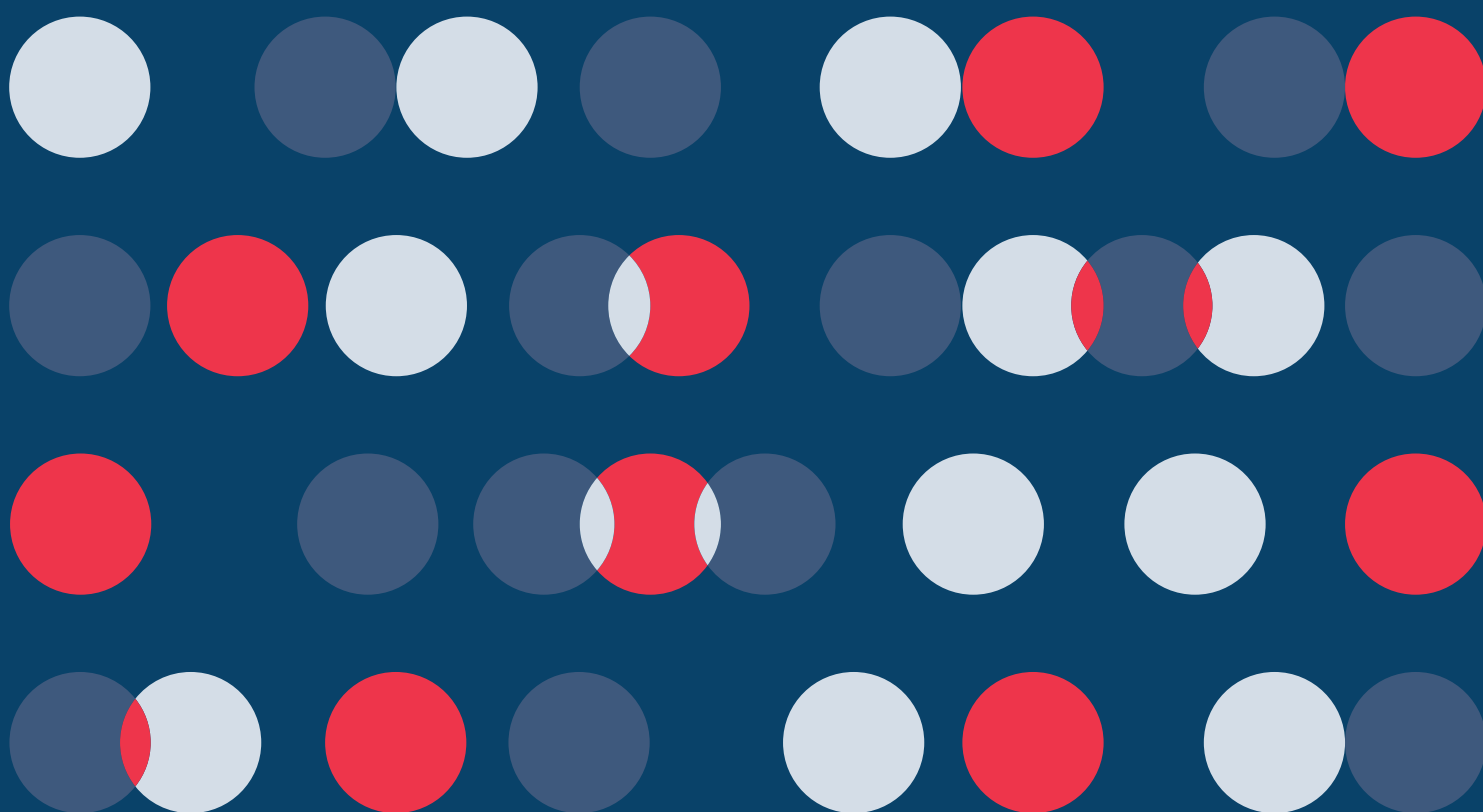


April 2020

RESEARCH REPORT

QIANHAI MERCANTILE EXCHANGE'S UNIQUE ROLE
IN THE COMMODITIES MARKET IN MAINLAND CHINA



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SUMMARY

Currently, the international commodities markets show a marked trend of globalisation. In Mainland China, many of the commodity raw materials and industrial products that are closely linked to industries in the real economy involve significant volumes of imports and exports. This has given rise to an urgent need for a truly market-oriented and internationalised commodity trading platform. Qianhai Mercantile Exchange (QME) strives to establish a regulated and transparent nation-wide spot trading platform for commodities in a systematic and organised manner, so as to facilitate the orderly development of the spot market. QME will also innovate and explore new business models to solve the financing problems faced by commodity enterprises, and attempt to progressively set up a Renminbi (RMB) pricing centre for global commodities in phases through connecting Mainland China with the world.

1. BACKGROUND OF ESTABLISHING QME

China's status as the world's leading trader and consumer of commodities is not matched by a proportionate pricing power and influence in the global market. One of the important reasons is that the development of the commodities market in Mainland China has inclined towards commodity futures and other derivatives which have a speculative nature, neglecting the spot commodities market which truly serves the real economy, resulting in the latter's severe underdevelopment and apparent shortcomings. Lacking an exchange which is supposed to perform the major functions of spot trading, delivery, physical settlement, supply-chain finance and other market functions closely related to the real economy, the Mainland is unable to capitalise on its industry demand and large consumption such that the pricing power for major commodities currently rests mainly in established western exchanges such as those in London, New York and Chicago. Furthermore, without a reliable nation-wide spot commodity exchange, infrastructure services that meet financial risk control requirements and industry standards and specifications are not available. The lack of such services coupled with the high financing and logistics costs in the manufacturing industry and spot market results in a large number of enterprises, especially small and medium-sized enterprises (SMEs) and traders, facing the problem of not being able to obtain effective financial support. In the light of these issues, there is an urgent need to speed up the construction of a regularised and transparent national commodity spot trading market in Mainland China, whether for the purpose of competing for pricing power or serving the enterprises, to provide participants in the upstream, mid-stream and downstream of the industry chain and institutional participants with benchmark prices that reflect the fundamental supply and demand of physical goods. Henceforth, a complete, multi-level and mature modern commodities market system can be formed jointly with the futures market and other derivatives markets.

Currently, the international commodities markets show a marked trend of globalisation. In Mainland China, many of the commodity raw materials and industrial products that are closely linked to industries in the real economy involve significant volumes of imports and exports. This has given rise to an urgent need for a truly market-oriented and internationalised commodity trading platform in Mainland China. After its acquisition of the London Metal Exchange (LME) in 2012, Hong Kong Exchanges and Clearing Limited (HKEX) started in April 2016 the preparation work for the project of setting up Qianhai Mercantile Exchange (QME) in Qianhai Cooperation Zone in Shenzhen. This initiative was taken as an integral part of the HKEX Group's global commodities market plan and in response to the actual needs of the Mainland market and real industries for a nation-wide spot commodities platform. On 11 October 2016, the Office of the Shenzhen Municipal People's Government for Financial Development Services issued the "Letter on Approval of the Establishment of QME in Shenzhen" to the project initiator and the major shareholder, HKEX Group (with HKEX Investment (China) Limited being the investor), and Shenzhen Qianhai Financial Holdings Company Limited ("Qianhai Financial Holdings") which provided funds on behalf of the Shenzhen Municipal Government, stating its agreement to the establishment of QME jointly by these two companies.

After more than four years of exploration and planning, QME has confirmed its development plan of starting from spot commodities and proceeding onto serving the real economy. Setting a foothold in the Qianhai Economic Zone which is designated as the first to run pilot programmes, QME will be engaged in innovations and explorations of its business to remedy the shortcomings of the Mainland spot commodities market, so as to provide enterprises in the real industry chain with modern supply-chain infrastructure and public services across the border such as commodity storage, delivery and settlement services. Leveraging on cutting-edge technologies such as Internet of Things (IoT), intelligent recognition and blockchain, it is hoped that a standardised asset system connecting the financial system and the real entities can be built. In collaboration with LME, a subsidiary of the HKEX Group that has been a crucial USD pricing centre in the global commodities market, QME would develop itself in

phases into an important RMB pricing centre in the global commodities market, thereby supporting the implementation of the national strategies of RMB internationalisation and developing China into a major manufacturing power.

2. POSITIONING AND GOALS OF QME

2.1 Restructuring the Mainland commodities market and establishing a spot price benchmark

Since the development of the spot market lags far behind the futures market, currently most of the spot prices of commodities in the Mainland that are related to real industry chains are inevitably needed to be set with reference to the futures prices. However, the price generation mechanism in the futures market is different from that in the spot market since the Mainland commodity futures market is often dominated by speculative funds, with a lot of retail investors jumping on the bandwagon, resulting in price fluctuations that deviate from the fundamentals of the market and fail to truly reflect the market equilibrium in the real economy. They also fail to meet the demands of enterprises in the upstream, mid-stream and downstream of the industry chain for spot commodity pricing in the actual production and operation processes. For this reason, there is an urgent need for a mechanism to generate benchmark prices founded on real spot trading activities. Through price discovery in the spot market, the supply and demand of entities in the upstream and downstream can be effectively modulated, and at the same time the derivatives markets such as commodity futures and options can be provided with an anchor price based on the fundamentals of the real economy. Following this logic and the regular path of commodities market development, QME, as a spot commodity exchange serving enterprises in the real economy and institutional customers, will start from serving the industries by setting benchmark spot prices based on real economic and actual trade activities, so as to offer effective support to enterprises in the industry chain by meeting their needs for open and transparent trading prices. This will provide more efficient and market-oriented management and modulating tools for the supply-side reform of specific industries (such as non-ferrous metals, iron and steel, coal, etc.) in the Mainland.

2.2 Creating a standardised asset system to solve the financing difficulties faced by enterprises

The Mainland market has long been facing the issue of a disconnection between the financial sector and enterprises in the real economy. On the one hand, a large number of enterprises, especially SMEs, face difficulties and high costs in obtaining financing. On the other hand, banks and financial institutions cannot find good-quality and safe targets for their investments, resulting in a substantial shortage of investment assets. The Mainland's real industry base guarantees a large circulation volume of underlying spot assets in the market, which is supposed to be a favorable condition for the development of trade finance and supply-chain finance based on movable assets and cargo rights. However, such an advantage has not been leveraged on. One of the main reasons is the lack of spot price benchmarks for commodities, which prevents banks and financial institutions from effectively assessing the value of assets in the process of conducting trade finance and supply-chain finance businesses. Another reason is the lack of protection for spot commodity assets in terms of their authenticity, security and liquidity. As most of the underlying assets are traded over the counter (OTC) and exist in non-standardised forms, they fail to meet the risk control requirements of banks and financial institutions in relation to their circulation including trading,

storage and settlement. This situation from time to time gives rise to incidents like the “Qingdao Port” incident¹ and “steel trade crisis”².

In addition to supporting the formation of spot price benchmarks for commodities based on actual transactions, QME will also strive to create an innovative warehousing technology system, applying the latest technologies such as IoT, intelligent recognition, and blockchain to various aspects of physical transactions such as trading, settlement, storage and logistics. Through technology empowerment and system integration, the entire life cycle of spot commodities will become transparent and traceable, and the essential platform functions will be better utilised, so that the infrastructure and public services that are urgently needed for building a standardised asset system can be provided to the industry in a truly market-oriented way. The important advantage of a spot exchange in the market is that it can serve as an impartial party acceptable to all stakeholders to help build technology-empowered systems in collaboration with factories and leading producers, processors, traders, and end-consumer enterprises as well as warehouses, logistic companies, insurance companies, banks and financial institutions. By creating a highly credible asset system that meets unified management standards and technical standards and that has “blockchain warehouse warrants” as the carrier, spot commodities traditionally traded in the market can be turned into good-quality, safe and liquid short-term assets that can directly penetrate to the bottom layer. This will open up important channels for banks and financial institutions to provide funding support under reliable risk-controlled conditions to enterprises, especially SMEs and traders who have difficulties in obtaining financing under the traditional credit system. This will enable enterprises to focus on technology research and development as well as frequent upgrades of products, and thereby enhancing the overall competitiveness of the manufacturing industry in Mainland China. On the other hand, enterprises will be able to take advantage of the warehouse warrant system developed and endorsed by a credible spot exchange to significantly increase their production turnover and capital utilisation efficiency, and to ensure a continuous supply to banks and financial institutions of the underlying assets that can be securitised based on real economic and actual trade activities. This is especially vital in the context of the current financial deleveraging campaign and the newly promulgated asset management rules.

2.3 Establishing a RMB pricing centre for global commodities by connecting Mainland China with the world

As far as commodities are concerned, the biggest strength of the Mainland market is the volume of spot trading and consumption generated by the physical industry base, rather than the over-speculative commodity futures market with a short development history. Therefore, in order to maximise the Mainland's influence on pricing in the global commodities market, the best strategy will be to emphasise the strengths and evade the weaknesses. This means that the Mainland shall truly manifest its power and influence on pricing in the global commodities market and on strategic resources through exporting its benchmark spot prices, which are formed on an internationally-recognised spot exchange and essentially based on real transactions conducted by Mainland enterprises in the upstream and downstream of the industry chain. Through such power and influence on pricing, Mainland enterprises can gain

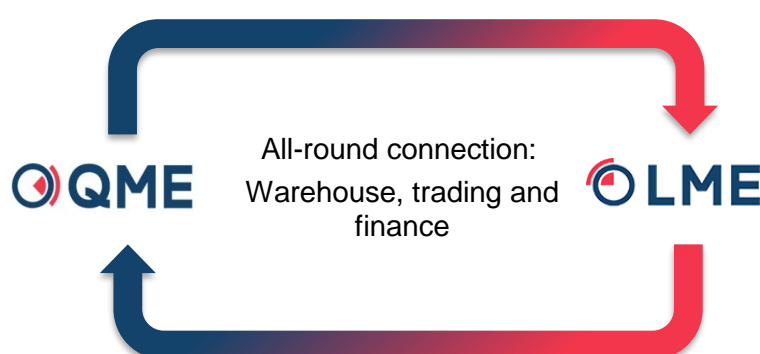
¹ In early June 2014, a large-scale commodity financing fraud case that took place in Qingdao Port was unveiled. The company, Dezheng Resources, was investigated for pledging the same batch of metals as collateral for multiple bank loans. The case involved many banks. Source: “Qingdao Port Financing Fraud” (《青島港融資詐騙案》), Baidu Encyclopedia (<https://baike.baidu.com>), viewed on 9 February 2020.

² Since 2012 when the capital chain of the steel trading industry in East China suddenly broke apart, large-scale credit defaults and trade defaults have occurred among steel trading companies. Many steel trading companies went bankrupt due to poor management while many others were sued, dealing a heavy blow to the entire steel trade industry. This incident is called the “steel trade crisis” by the industry. Source: “Supreme Judge: Looking at the loopholes in collateral management from the steel trade crisis” (《最高法院：從鋼貿危機看擔保品管理的漏洞》), Caixin website (<http://opinion.caixin.com/2015-06-15/100819271.html>), viewed on 15 June 2015.

bargaining advantages and tangible benefits in the process of obtaining upstream spot raw materials in key sectors from overseas.

As the sole legal-entity exchange of the HKEX Group operating in Mainland China and a spot trading platform for commodities, QME is well qualified and uniquely positioned to connect the Mainland and overseas commodities markets. It can leverage on the well-established institutional systems, rules and successful operational experience of LME under the Group, take advantage of Hong Kong's unique status as an international financial centre and draw on the technological innovation capabilities of the Guangdong-Hong Kong-Macao Greater Bay Area ("Greater Bay Area"), especially Shenzhen. In this way, it can better serve the physical industry hinterland in Mainland China while connecting the resource markets along the "Belt and Road", so that an RMB pricing centre for global commodities can gradually be set up in phases to magnify the integrated effect of QME and LME. (See Figure 1.)

Figure 1. Connection between LME and QME



(1) Connection of warehouses

This serves to create a warehouse warrant system mutually recognised by LME and QME based on the QME warehouse warrant system, and through which to engage in interactions with LME in matters concerning warehousing, brand certification and warehouse management systems, etc. This will solve the long-standing difficulty resulting from the failure of having LME-authorized warehouses in the Mainland to effectively meet enterprises' needs.

(2) Connection of trading

This serves to facilitate customers' cross-market trading and delivery based on the warehouse warrants mutual-recognition system, so as to reduce the hedging costs and market hedging risks of Mainland enterprises, and enhance the status of the RMB as an international settlement currency.

(3) Financial connection

Leveraged on the advantages of the exchange trading platform, two-way capital flows can be opened up on the pre-conditions of a closed-loop and quota system. Limited opening of China's capital account will be explored, so as to facilitate the provision of comprehensive financial support by financial institutions in the entire process of cross-border trade.

Based on cross-border factor market trade and by fully relying on the comprehensive financial licensing system and industrial and institutional customer resources possessed by the HKEX Group in overseas markets, QME will create a new highland for the opening-up of the Mainland market. It will strive to provide the world with benchmark prices for spot commodities denominated and settled in RMB, where the prices are formed in the

Mainland based on the demand and supply of Mainland enterprises and real transactions. It will work towards making these benchmark prices become the actual benchmark settlement prices for commodities traded on developed derivatives markets such as those in Hong Kong and London. Through the transmission of spot market prices, the pace of gaining RMB pricing power for commodities in global markets could be effectively accelerated.

3. BUSINESS DEVELOPMENT OF QME

3.1 Trading business

3.1.1 Spot listing

QME commenced business on 19 October 2018 with spot commodity quotations and trading. Under the spot trading mode, participants publish supply and demand information, including the type, specification, quality, quantity and price of the products to be traded, in accordance with the relevant business rules of QME and enter into transactions with participants who accept their quoted information and conditions. Once the transaction is concluded, a delivery contract will be generated, followed by the delivery process. The spot commodity quotations are divided into sale quotations and purchase quotations according to the trading direction, and into warehouse warrant quotations and margin deposit quotations according to the form of performance deposit. Margin deposit quotations are further divided into two types — fixed-deposit quotations and floating-deposit quotations.

Trading by spot quotations is a complete spot transaction process which is characterised by the participants' publication of sales or purchase information and selection of counterparties for transactions according to their own wishes. It is a process not involving any centralised matching. Secondly, each transaction involves physical delivery and the issuance of an invoice, the absence of either one will constitute a default in delivery. Lastly, only corporate entities on the real economy are allowed to participate in the spot trading of listed products and natural persons are excluded.

3.1.2 Warehouse warrants and commodities traded

Trading by spot quotations covers commodities with standard warehouse warrants and those without.

A standard warehouse warrant is a warehouse warrant issued by a designated delivery institution in accordance with the procedures prescribed by QME, involving goods of a quality that conforms to the QME regulations. Standard warehouse warrants exist in the warehouse warrant management system in electronic form but not paper form. The electronic warehouse warrant issued by the designated delivery institution through the QME warehouse warrant management system is the only legal proof of the right to take delivery of the goods stated thereon. Standard warehouse warrants are divided into warehouse standard warrants and producer standard warrants, the former referring to the delivery certificates issued in accordance with QME's requirements and procedures by the designated delivery warehouses and the latter, by the designated producer warehouses.

Products without warehouse warrants refer to products that do not possess standard warehouse warrants as mentioned above nor the electronic warehouse warrants issued by the designated delivery institutions of QME.

3.1.3 Settlement and delivery

Settlement refers to the transfer of payment and the relevant bills after the conclusion of a transaction agreement between participants. Settlement can be done online or offline. In the case of online settlement, payment and receipt of the settlement amount shall be done through transfer of funds in the participants' settlement accounts. The purchaser shall ensure that there are sufficient funds in its corresponding settlement account at the time of settlement, failing to do so will constitute a default of delivery which will be dealt with according to the relevant rules. In the case of offline settlement, the participants will handle the transfer of settlement payments through their respective bank accounts using various settlement tools, and complete the offline transfer of legitimate invoices according to the contract terms. For offline settlement, the purchaser needs to upload a picture of the payment receipt, and the seller needs to upload a picture of the legitimate invoice that complies with the contract terms, onto the QME system within the time specified by QME. QME reserves the right to inquire with relevant institutions about such settlement.

Commodity delivery can be done online or offline. Under online delivery mode, both parties to a transaction complete the transfer of the rights to the goods at a specified time or within a specified period by the transfer of standard warehouse warrants through the QME system. Under offline delivery mode, both parties to the transaction arrange for the delivery of commodities without warehouse warrants to complete the transfer of the rights to the goods at a specified time or within a specified period.

After a spot trading transaction is concluded, the purchaser and the seller will enter the stage of settlement and delivery. Both parties shall discharge their settlement and delivery obligations within a prescribed period, including submitting warehouse warrants or arranging delivery, making payments, delivering and inspecting warehouse warrants or commodities, issuing or checking invoices, etc.; otherwise it will constitute a default of delivery.

3.2 Warehouse technology

3.2.1 Arrangement of certified warehouses

QME strives to make an overall arrangement of certified warehouses nationwide. With the actual needs of the industry in mind, QME provides qualified services to the industry through standardised certified warehouses and works on enhancing the logistics efficiency of the warehouses. As of December 2019, the number of QME certified warehouses nationwide has reached 13, covering a variety of industry chains, including alumina, aluminium billets, aluminium ingots, copper rods and copper cathod, providing industrial customers with comprehensive warehouse and trading services.

3.2.2 Digital upgrade in warehouses

Warehousing institutions are carriers of commodity storage rights. So, in order to provide a guarantee on the authenticity and exclusivity of the storage right of the goods, IoT sensor device can be deployed in warehouses. The IoT sensor device shall be managed by the unified management platform on cloud, so as to ensure that its identification information is reliable, its testing data is normal and the collected data is not tampered with. These devices can then form a trusted sensor network. With such a trustworthy IoT solution, commodities can be continuously monitored with the use of technology so as to reduce uncertainties caused by manual supervision and to boost confidence in the credit status of the warehouses.

With the use of a secure industry gateway connecting the sensors of the storage institutions with the cloud IoT management platform, the confidentiality and reliability of the data link

can be ensured. The underlying encryption mechanism will also ensure the security of the sensor data transmitted on the Internet, effectively lowering the cost and entry threshold of the deployment of sensors by the storage institutions while guaranteeing the stable operation of the system.

The IoT management platform uses an assembled device registration method whereby the fingerprint information will be recorded when the device is registered for the first time and at every subsequent operation including stoppage of supervision, replacement, upgrade, etc. to ensure secure access of the device. At the same time, the IoT platform provides a well-established user management and access authorization management system and arranges different sensors for different batches of commodities. It only allows stakeholders to access the relevant sensor data and provides a more complete data analysis algorithm to ensure the effectiveness and credibility of the sensors in continuously monitoring the commodities.

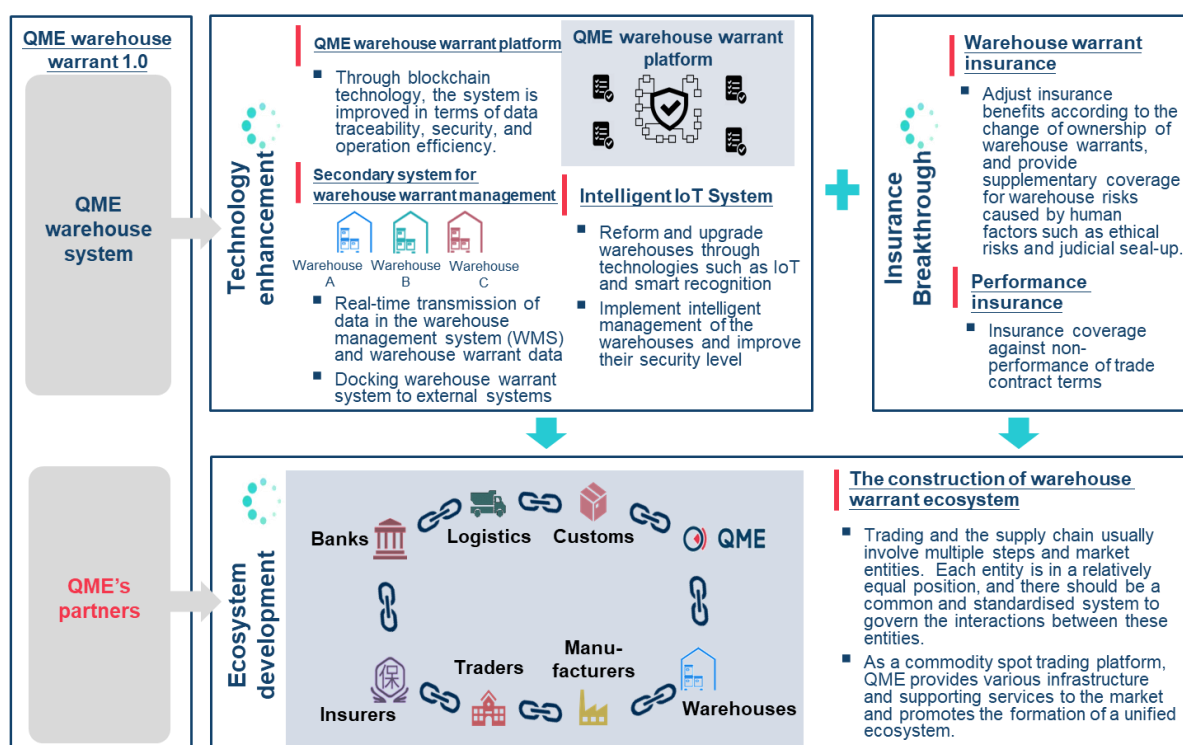
To cater for internal management needs, the management platform will store historical sensor data or forward real-time videos at the request of the stakeholders. The IoT platform guarantees the performance and capacity of the system and allows many devices to be shared on the network at a lower cost. The management platform, on the other hand, enables customers to customise the sensor alarm thresholds and risk control standards. With the use of machines to implement monitoring rules, human intervention is minimised, thereby reducing the risks incurred by manual operation and enhancing the credibility of the storage ecology.

3.2.3 Warehouse warrants 2.0 open ecosystem

QME promotes the creation of an open ecosystem of warehouse warrants 2.0, under which the warehousing and logistics systems can firstly be upgraded with the aid of technology, and secondly be connected with the banking and insurance systems to provide the basis for a closed-loop business model. With the help of blockchain technology, this ecosystem can solve two problems. The first problem concerns the recognition of QME's own data. The second relates to the validity of IoT device information and its own security. At the same time, the construction of a common platform will allow cross-validation of multi-party data.

The main purpose of the setup of the intelligent IoT for warehouses is to enhance information accuracy and the assurance of the authenticity and security of goods, so that by way of technology empowerment, the need for recognising the credibility of individual warehouses can be gradually reduced. The setup of the blockchain warehouse warrant platform could promote the transparency of the information concerning the generation and transfer of assets that go with warehouse warrants as well as the circulation of the production factors, thereby reducing the barriers and costs arising in the factors' circulation. On top of the above technology empowerment measures, QME has also undertaken insurance on warehouse warrants to offer further protection in respect of information accuracy and the authenticity and security of goods. These efforts are helpful for participants with higher risk requirements, such as financial institutions, in containing tail risk.

Figure 2. Warehouse warrant 2.0 open ecosystem of QME



IoT and blockchain technologies provide a solid foundation for the construction of the platform and offer technical support for hundreds of thousands of real enterprise nodes and trading enterprise nodes. The IoT platform needs to be open and able to work with and be compatible with various sensor networks, so as to generate structured data output results. It also needs to make available the efficient provision of sensor data such as videos as well as a storage system with a large capacity. The blockchain platform, on the other hand, supports large-capacity node coverage with a view to ensure the security and privacy protection of digital assets.

The warehouse warrant 2.0 open ecosystem will reform the traditional way of factors circulation and accelerate the development of a digital platform economy. On the one hand, it promotes the connection between industry and financial institutions while facilitating the use of financial capital in serving the real economy and reducing the overall financing costs of the entire industry chain. On the other hand, it promotes resources allocation in the industry chain that relies on the competition in respect of production capacity and the pricing mechanism, and fosters the establishment of a real-time production resources allocation model while redistributing the revenue from the industry chain based on the platform ecology. The ultimate goal is to lay the foundation for the operation of sizable platform economics for China's manufacturing industry, thereby to foster the high-quality development of the industry.

3.3 Financing services

3.3.1 Financing difficulties faced by customers in the commodities industry

The difficulty for the real economy, represented by SMEs and micro enterprises, in obtaining financing coupled with high financing costs is a major problem that hinders the macroeconomic development of Mainland China. This is also a long-term problem faced by the commodities industry which is the basis of the real economy. Due to the regulatory restriction of separate business operation, Mainland commercial banks can only be engaged in the business of a single physical commodity type — precious metals. As for the

other types of commodity, Mainland commercial banks have not yet started providing financial services and proprietary trading in a large scale. Compared with overseas counterparts, the breadth and depth of Mainland commercial banks' participation in the commodity market needs to be further developed.

In the face of practical issues such as insufficient credit of the commodity entities, non-standardised underlying assets, lack of infrastructural facilities and complicated operations, mainstream financial institutions represented by banks have never really appeared at the scene of the commodities industry. As a result, the commodities market with a scale of tens of trillions of RMB is unable to obtain sufficient financing services from conventional financial institutions, and suffers from the persistently high financing costs.

3.3.2 Solutions provided by QME

The commodities industry needs to transform its mindset to get rid of the concept of “user community” and to focus on the commodities themselves rather than on the parties involved. In this way, a large number of high-quality and secure underlying assets generated from real economic activities and with an actual trade background can be pledged to obtain financing, ultimately providing effective liquidity support for SMEs. To this end, QME could provide the following modes of financing and the related platform:

(1) Producer warrant financing

Producer warrants contain credit elements and are delivery certificates issued by designated delivery warehouses. QME and banks cooperating with it have docked the various functional sections of the trading system with the banking system and realised simultaneous exchange of information. This enables the use of QME's electronic warehouse warrants as the trusted target assets to perform various functions such as online application for financing, online pledging, online drawdown of loan and online management. The first producer warrant financing business was launched in September 2019.

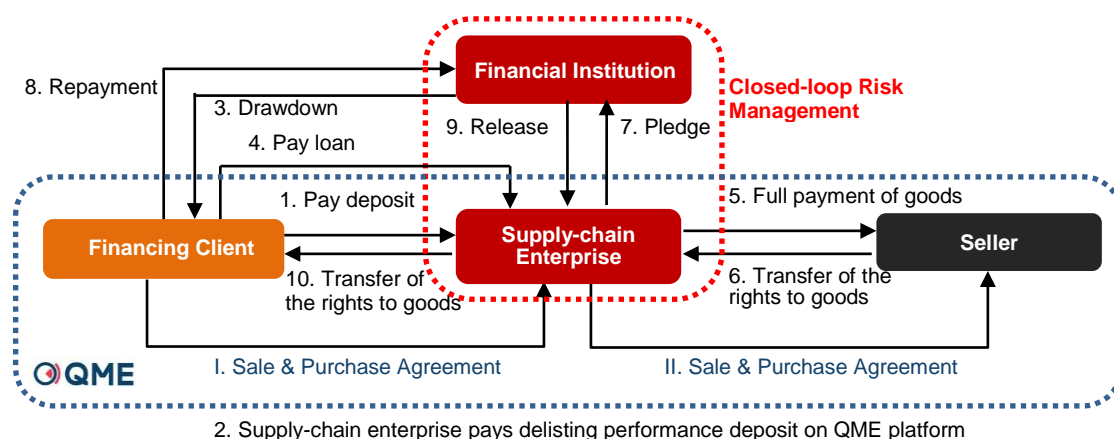
(2) Warehouse warrant financing

As opposed to traditional bank financing business which usually imposes qualification requirements on the borrower, warehouse warrant financing is more concerned about the underlying asset of the transaction, i.e. QME's standard warehouse warrants. With warehouse warrant financing, the threshold for access to financing is substantially lowered through various means to manage different types of risk including market risk, operational risk and liquidity risk. The first warehouse warrant financing business was launched in January 2020.

(3) Supply-chain financing

This is a way of providing a series of online financing services to clients through supply-chain enterprises based on the procurement intentions of clients and corporate sellers. Financial institutions and supply-chain enterprises jointly form a closed loop for risk control, and use warehouse warrant assets to contain risks.

Figure 3. Schematic view of the supply-chain financing model



(4) Construction of financial infrastructures capable of mass production of standardised assets

With the original intention of “setting a foothold in spot market while serving the real economy”, QME has always been dedicated to the construction of financial infrastructures. In the capacity of an exchange and by employing technologies such as IoT, QME managed to convert the initially non-standardised OTC goods into standardised electronic warehouse warrant assets, laying the groundwork for financial institutions’ supply-chain financing business based on the logic of “controlling goods” while providing a core foundation for risk control.

In the next step, QME will continue to cooperate with industry participants such as technology companies, banks, insurance companies, real-economy entities, and warehousing institutions, to further develop a standardised commodity digital asset ecosystem with the aid of technologies like blockchain, intelligent recognition and IoT, and dismantle the last barrier for the interconnection of “capital and assets”.

3.4 Connecting Mainland China with the world — Commodity Connect

On 26 November 2019, Alibaba returned to Hong Kong for listing. To this end, HKEX has made groundbreaking reforms of its listing regime. These include allowing the listing of companies with a weighted voting rights structure and permitting Chinese companies that have already listed overseas to choose Hong Kong as the place for secondary listing. With the focuses of “China Anchored and Globally Connected”, HKEX is committed to becoming a global exchange for Mainland Chinese customers to explore the global market and international customers to access the Chinese market, thereby supporting the strategy of internationalisation of the Mainland market.

Stock Connect has been running smoothly for over five years. In order to further connect “Chinese goods” with “global capital” and to leverage on China’s advantageous position as a the world’s factory and a supply-chain production centre, HKEX has also sought to achieve mutual market access in the area of commodities which is one of the three core pillars (equity securities, fixed-income and currency products, and commodities) of its multi-asset strategy. This gives rise to the “BBC” development strategy, namely “Buy one” (i.e. acquiring LME), “Build one” (i.e. building QME), and “Connect” (i.e. connecting China with the world).

Thanks to the policy support offered by the *Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area*, QME is expected to be able to explore the development

of a Commodity Connect, and become a commodity spot trading platform serving domestic and overseas customers.

3.4.1 Unique competitiveness of QME

(1) Geographical advantages

QME is situated in Qianhai, Shenzhen, the forefront region of reforms and liberalisation in the new era. With the backing of the special economic zone, the pilot demonstration zone and the Greater Bay Area, Qianhai enjoys the combined policy benefits of all three and of being the first to undertake trial runs of major reforms. It is able to magnify the comparative advantages of Shenzhen and Hong Kong and strengthen the international competitiveness of Guangdong, Hong Kong and Macau, paving the way for China's steady development into a strong country in the world.

Institutional setups stimulate innovations which inject vitality into the market. Qianhai has an excellent environment and conditions favorable for institutional breakthroughs and innovations. Situated in Qianhai, QME can explore innovative business models for a commodity exchange in the best and fastest way.

(2) HKEX as its shareholder provides relatively strong international attributes

The pricing power on commodities has long been monopolised by western developed countries, in which the commodity trading markets have played a vital role. Examples are NYMEX³ for crude oil, LME for non-ferrous metals, and LBMA⁴ for gold. Due to China's controls over its capital account, most enterprises in Mainland China cannot directly participate in transactions on overseas exchanges. This is an important factor leading to its giving away of the pricing power. Besides, due to political and cultural reasons, the official Mainland exchanges, the composition of their participants and the prices so formed have all failed to gain full recognition from the international market. In view of this, a commodity trading market that is attractive to both Mainland and overseas participants and is able to form a mutually recognised trading price, is an essential infrastructure and a prerequisite for China to obtain international commodity pricing power. In this regard, QME has relatively strong potential in obtaining such recognition from the international market, given its uniqueness in respect of its HKEX genes which imbues QME with stronger international attributes and elements.

(3) Echoing with LME to build an international commodity distribution centre

After several years of development, great progress has been made to the construction of free trade zones and traditional bonded zones in Mainland China. However, they still lag far behind the traditional commodity trading and distribution centres in countries such as Singapore and Dubai. One major reason, aside from geographic location and taxation, is that the Mainland lacks an internationalised commodity exchange like Singapore Exchange ("SGX") or the Dubai Mercantile Exchange. There is also a lack of delivery of the rights to goods derived from transactions concluded on spot exchanges and OTC transactions, and hence a lack of incentive for Mainland and overseas institutions to transport and store physical goods in bonded zones in the Mainland. If QME conducts cross-border business through Commodity Connect by linking with LME which is also a subsidiary of HKEX, it will be able to appeal to more Mainland and overseas institutions and draw in more cross-border funds and physical goods, driving up the vibrancy of overall import and export trade and the volume of trade. This would facilitate the establishment of a global and regional commodity trade distribution centre. In addition, QME also provides geographical convenience for

³ New York Mercantile Exchange.

⁴ London Bullion Market Association.

Mainland enterprises to engage in cross-border commodity hedging transactions without being subject to fluctuations in international commodity prices and facilitates physical delivery, thereby effectively helping companies reduce the management costs of offshore companies and physical asset logistics costs.

3.4.2 Introduction of Commodity Connect

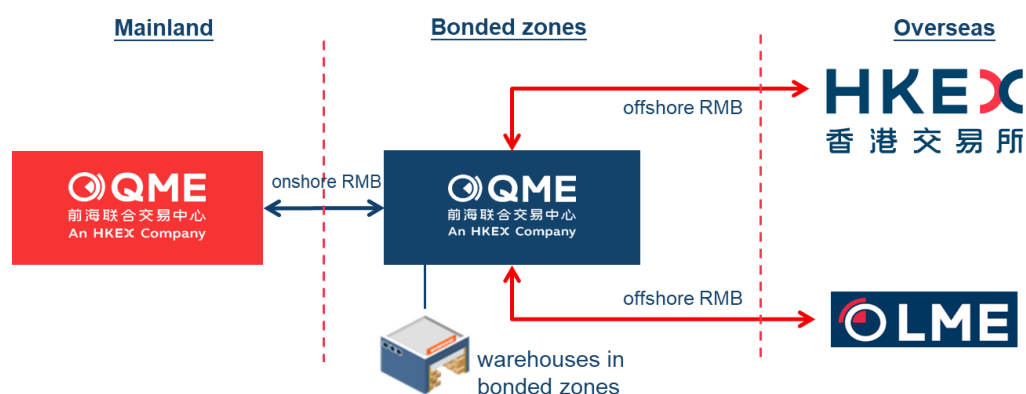
The internationalisation of exchanges will not only increase the influence of Mainland China on the commodities market, but will also provide a prerequisite for seizing the pricing power. In order to encourage the Mainland to actively participate in and gradually integrate into the international commodities market, QME plans to proceed with the Commodity Connect initiative with reference to Stock Connect and Bond Connect, subject to approval by the authorities.

(1) Trading model

Under Commodity Connect, transactions will be conducted in a two-way manner — “Coming-In” and “Going-Out”, to provide mutual market access between the Mainland and overseas.

- **“Coming-In”**— Overseas customers at HKEX and LME trading Mainland products on QME through existing overseas trading channels.
- **“Going-Out”** — QME’s Mainland customers trading designated products on HKEX and LME through the mutual market access mechanism, subject to quota imposed, thereby satisfying their needs for cross-border hedging.

Figure 4. Two-way transaction model — Coming-In and Going-Out

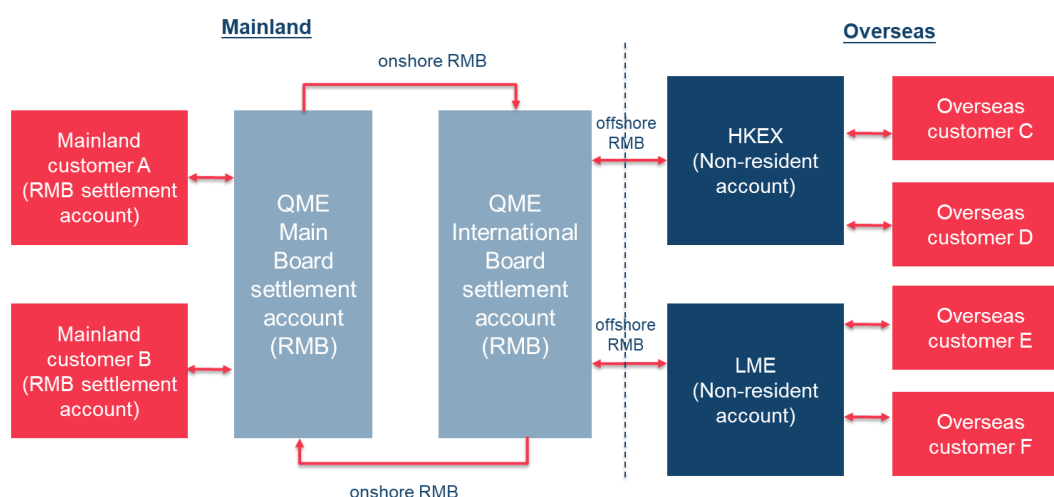


(2) Fund settlement plan

Cross-border funds are managed in accordance with the “closed-loop and quota” principle to ensure closed and safe operation of funds and to reduce capital risks.

- **Closed-loop**: Drawing reference from the implementation of Stock Connect, the exchange will be the party responsible for settlement of cross-border funds. The account system will be set up in accordance with the system applicable to existing accounts in the People’s Bank of China to ensure closed operation of funds.
- **Quota**: Separate quotas are set for daily bilateral cross-border capital flows to limit daily net inflow of funds from overseas investors and daily net outflow of funds by domestic investors.

Figure 5. The “closed-loop and quota” principle



3.4.3 Significance of Commodity Connect

After the successful launch of Stock Connect and the Bond Connect primary market information platform, the opening-up of the Mainland commodities market will become especially meaningful. Launching Commodity Connect firstly at QME will enable the practical exploration of a new model for serving the real economy, paving the way for the implementation of the national strategies of RMB internationalisation and developing China into a major manufacturing power.

(1) Solidify the Greater Bay Area's position at the forefront of all-round financial innovations in Mainland China

Shenzhen currently does not have a nation-wide influential commodity trading platform. The development of Commodity Connect will therefore be conducive to further solidifying the Greater Bay Area's position at the forefront of all-round financial innovations. An active commodity trading platform will not only bring continuous economic benefits and employment opportunities to Qianhai and Shenzhen, but also comprehensively drive the development and prosperity of multiple industries in the Greater Bay Area including trade, logistics, finance and business services.

(2) Enhance the overall standard of the Mainland commodity trading market

As a commodity trading platform under HKEX Group, QME has rich experience in operating an exchange and the support of a complete exchange system. It has the exchange brand name and market credibility that would be widely accepted by various industries. It is also a truly market-oriented and internationalised business entity. By establishing and operating an open, transparent and efficient trading platform, QME can leverage fully on its own trading, settlement and risk management capabilities to explore the setup of a regularised Mainland commodity trading market system, so as to elevate the overall standard of the commodity trading market in Mainland China.

(3) Further accelerate the internationalisation of RMB

The internationalisation of the RMB has always been an important strategic objective of Mainland China. One of the main problems hindering the internationalisation of the RMB is the lack of stable RMB asset investment channels in offshore markets. Being an important component of traditional asset allocation, commodities are ideal target assets for RMB internationalisation and for exploring the opening-up of China's capital account. A cross-border commodity trading platform, once established, will not only

become an important channel for offshore RMB asset allocation, but also provide RMB-denominated transaction price which can serve as an important benchmark for the offline pricing of long-term orders, thereby being conducive to RMB internationalisation.

3.5 Derivatives and export of prices

In the commodity derivatives market, apart from directly generating relevant prices through trading and delivery of physical goods, there are other forms of price formation, such as iron ore swaps and futures on SGX, iron ore swaps on the Shanghai Clearing House, cash-settled Brent crude oil futures on Chicago Mercantile Exchange (CME), etc. The settlement prices used for these products are determined with reference to other benchmark prices which can be roughly divided into the following three categories: prices collected by information consulting companies through enquiries ("Enquiry Price"), prices generated by commodity transactions on other exchanges ("Adopted Price") and prices derived from other commodities on the same exchange ("Exchange Price").

After the long-term negotiated price mechanism of the iron ore market lost its effect in 2008, Platts launched the Platts Iron Ore Index (IODEX or IOBZ00) in April 2008 and began to promote it to countries around the world. In April 2009, SGX was the first exchange to launch iron ore swap contract based on the Steel Index (TSI). In May 2009, the London Clearing House (LCH) started providing settlement for iron ore swaps. Around a year later in June 2010, CME also followed suit by joining the iron ore swap trading and clearing services industry. So far, current trading information reflects that SGX's iron ore swaps and futures products are the most successful. This is mainly due to Singapore's status as an international commodity trade and risk management centre. Enjoying pioneer advantages, SGX's iron ore swap business gradually attracted more and more steel mills, traders and mining companies to set up branches in Singapore. According to the statistics of the Singapore's Accounting and Corporate Regulatory Authority for the year 2014, around 200 of the said branches were set up by metals and mining companies from Mainland China.

The growth in the trading volume of the Singapore iron ore market occurred around 2012. At that time, the price of iron ore kept falling from US\$180 to US\$80 per lot, alerting many enterprises of the importance of using derivatives to manage risks, prompting them to launch their iron ore derivatives business. This explains why iron ore trade has turned active since around 2012.

3.5.1 Establishing commodity price indices in Mainland China

Evidenced by the high percentage share of Mainland China's demand in the total global demand for various commodities, Mainland China's demand has dominated the global commodities market. Yet, all along, this dominant position has not turned into a proportionate pricing power in the international commodities market, leaving the Mainland stricken by huge cost burden amid global commodity price fluctuations.

As opposed to existing futures exchanges in the Mainland, QME holds on to the initial intention of "setting a foothold in spot market while serving the real economy" and dedicated to creating an innovative trading platform and ecosystem to continuously provide customers with benchmark spot prices and to setting up a commodity spot trading platform serving both Mainland and overseas customers. By serving the real economy and industrial customers and restructuring the Mainland commodities market, credible spot commodity benchmark prices can be formed and "China prices" for commodities can then be realised.

3.5.2 Derivatives issued and listed overseas

Based on the “China prices” formed by the actual spot commodity transactions in the Mainland, QME can make full use of its natural advantages and launch derivatives based on the QME spot prices with the help of HKEX and LME under the same corporate group. In this way, foreign investors can conveniently invest in Mainland commodities directly in Hong Kong and London.

Drawing on successful international experience, QME may launch a variety of RMB-denominated cash-settled products including options, futures and swaps on LME or HKEX based on the spot prices formed on its platform as benchmarks through direct authorisation. Through cooperation with information consulting agencies, QME may also enable the incorporation of its prices, with a certain weighting, into the benchmark prices of overseas cash-settled derivatives.

3.5.3 Promote offshore RMB settlement prices for Hong Kong and London commodities

Despite the rapidly growing total economic value of Mainland China, the integration of the RMB into the global financial system is still at an initial stage. Major international financial centres including Hong Kong, London and Singapore are optimistic about the opportunities brought about by the accelerated integration of RMB assets into international financial markets in the future, and are competing to build an offshore RMB centre. As in the case of Stock Connect and Bond Connect, an introduction of “China prices” in Hong Kong and London based on QME spot prices, together with the realisation of Commodity Connect between the Mainland and overseas markets, will provide more offshore RMB investment channels to attract overseas investors to invest in the Mainland market through Commodity Connect. This will promote the formation of offshore RMB settlement prices for commodities in Hong Kong and London while providing more investment tools for offshore RMB funds.

4. CONCLUSION

As a spot commodity trading platform jointly invested by HKEX and Qianhai Financial Holdings, QME aims at breaking the restrictions imposed by administrative and historical reasons in Qianhai, the most special zone and innovation hub, and truly implementing the policy guidelines on “being the first to run pilot programs” and trying out institutional innovations. It is hoped that by seizing the major unprecedented opportunity offered by developing the Greater Bay Area and pilot demonstration zone, the scope and depth of Shenzhen-Hong Kong cooperation would be expanded and the setup of important financial infrastructure in Qianhai could be accelerated, contributing to the building-up of a key Shenzhen-Hong Kong cooperation project. Through the formation of spot price benchmarks, the establishment of standardised asset systems, and the connection of the Mainland and overseas markets, the supply-side problems, financing difficulties and the lack of pricing power could be addressed and the vision of a new model serving the real economy may become a reality.

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