

# Shuifa Group Co., Ltd.

## Initial Issuer Report

### Summary

Issuer Rating	A
Outlook	Stable
Location	China
Industry	Local Government Financing Vehicle
Date	31 December 2021

Lianhe Ratings Global Limited (“Lianhe Global”) has assigned ‘A’ global scale Long-term Issuer Credit Rating with Stable Outlook to Shuifa Group Co., Ltd. (“Shuifa” or “the company”).

### Summary

The Issuer Credit Rating reflects a high possibility that the Shandong provincial government would provide strong support to Shuifa if needed, in light of its majority ownership of Shuifa, Shuifa’s strategic position as the sole provincial level, the major water supply and water-related project development platform in Shandong Province and the strong linkage between the Shandong provincial government and Shuifa including management supervision, strategic alignment, and ongoing operational and financial support. In addition, the Shandong provincial government may face significant negative impact on its reputation and business and financing activities should Shuifa encounter any operational or financial difficulties.

The Stable Outlook reflects our expectation that Shuifa’s strategic importance will remain intact while the Shandong provincial government will continue to ensure Shuifa’s stable operation.

### Key Figures of Shandong and Shuifa

(RMB billion)	2019	2020
<b>Shandong</b>		
GDP	7,106.8	7,312.9
GDP growth rate (%)	5.5	3.6
Budgetary revenue	652.7	656.0
Government fund	895.2	727.9
Transfer payment	296.7	363.2
Budgetary expenditure	1,073.7	1,253.2
<b>Shuifa</b>		
Assets	107.1	141.8
Equity	26.3	31.4
Revenue	21.3	45.2

Source: Shandong provincial government, Finance Bureau of Shandong, Shuifa and Lianhe Global’s calculations

### Rating Rationale

**Strong Linkage with the Shandong Provincial Government:** At end-September 2021, the State-owned Assets Supervision and Administration (“SASAC”) of Shandong Province held 70% stake in Shuifa while Shandong Guo Hui Investment Co., Ltd. and Shandong Social Security Fund Council held 20% and 10%, respectively. Shuifa’s linkage with the local government is strong as it is majority-owned by the Shandong provincial government. The controlling shareholder and actual controller is the SASAC of Shandong Province which is under the Shandong provincial government.

**Strategic Importance of Shuifa to Shandong Provincial Government:** Shuifa is the largest provincial level LGFV platform for water supply and water-related development projects with a dominant market position in Shandong Province. Shuifa’s water supply segment mainly focuses on southwestern cities in Shandong Province like Weifang, Jining, Heze, Liaocheng, Laiwu, etc. Shuifa is also the largest raw water supplier in Shandong province, with a designated daily water supply of 4.07 million cubic meters in 2020. Securing a safe and stable water supply to Shandong is also a national priority, considering Shandong is one of China’s most populous provinces, with more than 100 million residents. Shandong’s GDP of RMB7,312.9 billion in 2020 was the third largest in China, representing 7.2% of China’s GDP. While Shuifa’s operation segment focuses on water supply and water-related development projects, it has increasing contributions from certain commercial segments in clean energy, modern agriculture, real estate development, etc. which would constrain its strategic positioning in Shandong vis-à-vis traditional LGFVs which focus on providing public goods and services.

**Strong Government Supervision and Strategic Alignment:** The Shandong provincial government has strong control and supervision over Shuifa, including control of the board of directors and the supervisory committee, and approvals of senior manager appointments and major operating and financing plans. Shuifa’s strategic planning and development have

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### Applicable Criteria

China Local Government Financing  
 Vehicle Criteria (16 July 2018)

been aligned with the provincial government's economic and national policies. In addition, the government assigns auditors to audit Shuifa's financial and operating data on a periodic basis.

**Ongoing Government Support:** Shuifa has been receiving supports from the local government for its business operation, including capital injections, government subsidies, and allocation of land resources or assets. Shuifa's registered capital was RMB5.2 billion at end-September 2021. Shuifa has consistently received financial subsidies from the local government mainly for supporting projects related to public infrastructure or special projects. Shuifa received a total of RMB1.3 billion of government subsidies between 2018 and 3Q2021. We believe Shuifa is likely to continue to receive government support in times of operational and/or financial subsidies.

**High Financials Leverage:** Shuifa's financial leverage (total liabilities to assets) was high but relatively steady at around 75% in the recent three years. Shuifa mainly relies on external financing to support its capital expenditure. In view of its projects under construction and development, we expect Shuifa's capital expenditure needs to continue. Shuifa had a total bank credit line of RMB100.4 billion of which approximately RMB48.6 billion was available at end-September 2021. The available bond issuance quota was RMB17.7 billion with available cash of RMB9.3 billion compared to its debt to be due within one year of c. RMB29.4 billion at end-September 2021.

**Economy and Fiscal Strength Underpin Shandong:** Shandong's GDP was RMB7,312.9 billion in 2020 and RMB6,043.9 billion in the third quarter of 2021, representing year-over-year growth of 3.6% and 9.9%, respectively. Shandong's economic growth was mainly fuelled by the growth of the secondary and tertiary industries in the past few years. These two sectors realized the added value of RMB2,859.3 billion and RMB3,919.7 billion, in 2020, respectively. Shandong's 2020 full-year GDP amount was ranked third in China, placing it ahead of Zhejiang but behind Jiangsu and Guangdong. GDP per capita was stable at between c. RMB70,000 and RMB76,300 in the recent years.

### Rating Sensitivities

We would consider downgrading Shuifa's rating if (1) there is perceived weakening in support from the Shandong provincial government, particularly due to its reduced strategic importance with diminished government functions, or (2) there is a significant reduction of the Shandong provincial government's ownership of Shuifa, or (3) there is a downgrade in our internal credit assessment on the Shandong provincial government.

We would consider upgrading Shuifa's rating if (1) there is strengthened support from the Shandong provincial government, or (2) there is an upgrade in our internal credit assessment on the Shandong provincial government.

## Operating Environment

### Stable economy with sustained growth for Shandong

Shandong is a coastal province of China and is part of the East China region. Shandong is the world's sixth-most populous subnational entity with 101.5 million residents, and China's second most populous province after Guangdong Province. It has a land area of 157,100 square kilometres and an urbanization rate of 68% in 2020, according to the 7<sup>th</sup> National Census.

Shandong realized RMB7,312.9 billion in GDP in 2020 and RMB6,043.9 billion in the first three quarters of 2021, representing year-over-year growth of 3.6% and 9.9%, respectively. Shandong's economic growth was mainly fuelled by the growth of the secondary and tertiary industries in the past few years. These two sectors realized added value of RMB2,859.3 billion and RMB3,919.7 billion in 2020, respectively. Shandong's 2020 full-year GDP amount was ranked third in China placing it ahead of Zhejiang but behind Jiangsu and Guangdong. GDP per capita was stable at between c. RMB70,000 and RMB76,300 level in the recent years.

#### Shandong's GDP and Fixed Asset Investment

(RMB billion)	2018	2019	2020	9M2021
GDP	7,647.0	7,106.8	7,312.9	6,043.9
-Primary industry (%)	6.5	7.2	7.3	6.8
-Secondary industry (%)	44.0	39.8	39.1	39.2
-Tertiary industry (%)	49.5	53.0	53.6	54.0
GDP growth rate (%)	6.4	5.5	3.6	9.9*
Fixed asset investment	5,646.0	5,598.5	5,800.1	-
Fixed asset investment growth rate (%)	4.1	-8.4	3.6	8.7
Residential Population (million)	100.47	100.70	101.53	-

Source: Shandong provincial government's website and Lianhe Global's calculation

\* Year-over-year growth rate

### Moderate Fiscal Condition of Shandong

Shandong's fiscal strength maintained steady growth in the past three years. Its budgetary revenue grew by 0.65% and 0.51% in 2019 and 2020, respectively. However, tax revenue as a percentage of budgetary revenue declined from c. 75% to 72% at the same time, mainly because of implementation of various government policies, including tax cuts, interest cuts and the response to the pandemic. The revenue from government-managed fund increased in 2020, mainly due to a 9.3% increase in land use rights revenue. Shandong's budget deficit increased significantly from -55.8% to -91.0% during 2018 to 2020 as a result of increasing budgetary expenditure. Shandong's government debt increased from RMB1,312.8 billion at end-2019 to RMB1,659.2 billion at end-2020, mainly due to the increased in special debt. The fiscal debt ratio (total government debt outstanding / aggregate revenue) also increased from 70.8% to 94.1% in 2020.

#### Shandong's Fiscal Condition

(RMB million)	2018	2019	2020
Budgetary revenue	648.5	652.7	656.0
Budgetary revenue growth rate (%)	6.3	0.6	0.5
Tax revenue	489.8	484.9	475.8
Tax revenue (% of budgetary revenue)	75.52	74.30	72.53
Government fund income	600.1	895.2	727.9
Transfer payment	286.9	296.7	363.2

<b>Aggregate revenue</b>	1,541.3	1,853.6	1,762.6
Budgetary expenditure	1,009.9	1,073.7	1,253.2
Budget deficit <sup>1</sup> (%)	-55.8	-64.5	-91.0

<sup>1</sup> Budget deficit = (1-budgetary expenditure / budgetary revenue) \* 100%

Source: Finance Bureau of Shandong and Lianhe Global's calculations

## Ownership Structure and Profile

### Majority Ownership with Strong Government Supervision

Shuifa Group Co., Ltd. was founded in 2009 and registered with the Shandong Market Supervision and Administration Bureau. Its headquarters is in Jinan City, Shandong Province. At end-September 2021, the company's registered capital and paid-in capital were both RMB5.206 billion. The SASAC of Shandong Province, Shandong Guo Hui Investment Co., Ltd. and Shandong Social Security Fund Council held 70%, 20% and 10% of the company's shares, respectively, at end-September 2021. The controlling shareholder and actual controller is SASAC of Shandong Province.

The company's business covers four major sectors: water conservancy development, modern agriculture, environmental protection and clean energy. The company has developed three provincial platforms for water, agriculture, and environmental protection and also a clean energy industry cluster. The government coordinates with the company on its water utility projects, including budget planning, project constructions and financing related issues. The company owns a number of listed companies such as Shuifa Gas (stock code: 603318) and Shuifa Xingye Energy (stock code: 00750.hk) and Xingye New Materials (stock code: 08073.hk), with business covering all around China and some countries under the "Belt and Road" initiatives.

Shuifa has continually received capital injections from the Shandong provincial government during 2018 to 2021 to support its ongoing business operation and project development. At end-September 2021, the company's headquarters has 9 functional departments and 4 business divisions. There were 24 first-level subsidiaries within the scope of the company's consolidation. At end-September 2021, the company's total consolidated asset was RMB152.5 billion and the owners' equity was RMB36.1 billion, including minority shareholders' equity of RMB19.9 billion. In the first three quarters of 2021, the company achieved an operating income of RMB49.2 billion and total profit of RMB931.6 million. At present, Shuifa has 48 high-tech enterprises, 22 provincial-level R&D platforms and multiple R&D institutions. As a result, the R&D expenses and the number of patents are expected to continue to increase.

## Strategic Importance and Government Linkage

### Strategic importance of Shuifa to Shandong Provincial Government

Shuifa is the largest provincial level LGFV platform for water supply and water-related development projects with a dominant market position in Shandong Province. Shuifa's water supply segment mainly focuses on southwestern cities in Shandong Province like Weifang, Jining, Heze, Liaocheng, Laiwu, etc. Shuifa is the largest raw water supplier in Shandong province, with a designated daily water supply of 4.07 million cubic meters in 2020. Securing a safe and stable water supply to Shandong is also a national priority, considering Shandong is one of China's most populous provinces, with more than 100 million residents. Shandong's GDP of RMB7,312.9 billion in 2020 was the third-largest in China, representing 7.2% of

China's GDP. While Shuifa's operation segment focuses on water supply and water-related development projects, it has increasing contributions from certain commercial segments in clean energy, modern agriculture, real estate development, etc. which would constrain its strategic positioning in Shandong vis-à-vis traditional LGFVs which focus on providing public goods and services.

We believe that the Shandong provincial government is willing to extend support to Shuifa in view of its important strategic role as the major water supply and project development entity to support the local economic development. Shuifa is the flagship water supply and project development with a dominating market position supporting the industries and population in Shandong. As Shuifa has dominating market position in the water supply and water-related project development, Shuifa's role is difficult to replace in a short period of time considering its expertise, size and projects under construction.

### **Strong Linkage with Shandong Provincial Government**

The Shandong provincial government has strong control and supervision over Shuifa, including control of the board of directors and the supervisory committee, and approvals of senior manager appointments and major operating and financing plans. Shandong's strategic planning and development have been aligned with the provincial government's economic and national policies. In addition, the government assigns auditor to audit Shuifa's financial and operating data on a periodic basis.

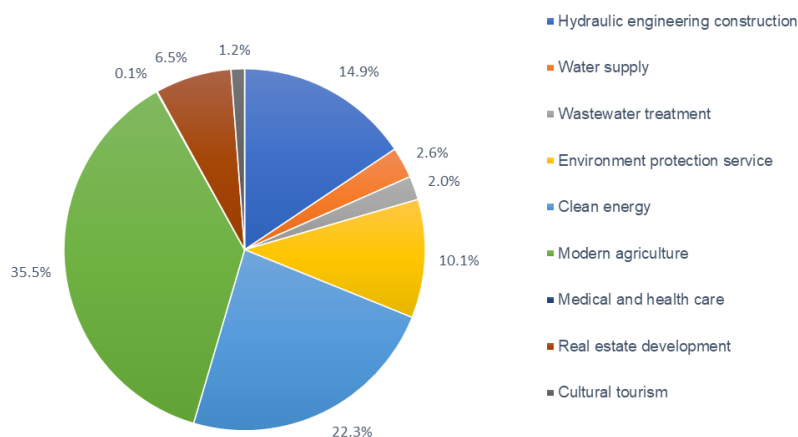
### **Ongoing government support including capital and asset injections and financial subsidies**

Shuifa has been receiving supports from the local government for its business operation, including capital injections, government subsidies, and allocation of land resources or assets. Shuifa has consistently received financial subsidies from the local government mainly for supporting projects related to public infrastructure or special projects. Shuifa received a total of RMB1.3 billion of government subsidies between 2018 and 3Q2021. We believe Shuifa is likely to continue to receive government support in times of operational and/or financial subsidies.

### **Business Profile**

Shuifa primarily constructs, owns, and operates large-scale water utility projects, including the Huangshui East Transfer project, which diverts water from the Yellow River toward the eastern Shandong peninsula, and the Plain Reservoir project, which secures clean and stable water supply to the province. It's water supply business covers many southwestern cities and counties in Shandong Province. This segment is relatively capital intensive and it is not likely to develop the projects without the government's support given the quasi-public-welfare business nature.

**Revenue Breakdown**  
 Total revenue: RMB 49.1 billion for 9M2021



Source: Shuifa and Lianhe Global's calculation

## Water Business

### Hydraulic engineering construction

Shuifa's hydraulic engineering construction business is mainly operated by its first-tier subsidiaries Shuifa Construction Co., Ltd. [水发建设有限责任公司] and Water Development Design Group Co., Ltd. [水发设计集团有限公司]. All projects were obtained through public bidding at end-September 2021. Constructions are carried out in two ways: self-operated or joint-operated, the latter means partial or the whole project is subcontracted to local construction companies. Contracts with large amount will always be the company's self-operated projects while relatively small sized contracts will be constructed in the form of joint ventures. Self-operated projects account for c. 90.0% of all contracted projects. Majority of Shuifa's projects signed are related to Shandong province. Those outside Shandong Province are mainly located in Anhui, Jiangsu, Sichuan, Jiangxi and other provinces. In terms of cash collection, Shuifa will prepay part of the total payment according to the contract and project progress during the construction phases, which varies according to the contract signed. The settlement method is mainly based on the contract terms and the project progress on a monthly or quarterly basis. The settlement method is mainly in cash, or by bank acceptance bills in a few cases.

The revenue from hydraulic engineering construction was RMB4.0 billion, RMB5.2 billion and RMB8.4 billion for 2018, 2019, and 2020, respectively, accounting for 36.6%, 24.4% and 18.6% of the total revenue. It reached RMB7.3 billion for the first nine months of 2021, accounting for 14.9% of the total revenue. The outbreak of COVID-19 has more or less affected the operation of the projects under construction, as the stoppages led to the increased indirect costs. As a result, the gross margin of this sector has been decreasing since 2019.

### Water supply

Shuifa is one of the principal investment and financing platforms carrying out water supply business on behalf of Shandong Province. It is the sole water supply company in the southwestern region of Shandong Province. Shuifa has the franchise agreements with the local governments, which are usually demonstrated in the cooperation agreements when

signing the contracts. The business predominantly comprises supplying water to industrial enterprises and residential, which is mainly operated by its subsidiaries Shuifa Zhongxing Group Co., Ltd. [水发众兴集团有限公司], Shandong Shuifa Tianyuan Water Group Co., Ltd. [山东水发天源水务集团有限公司] and Shandong Shuikong Development Group Co., Ltd. [山东水控发展集团有限公司]. The industrial water supply accounts for c. 60.0% of the total which the purchase price is determined by the market. While the water supply for residential accounts for the remaining which the purchase price is based on the government-guided price. The price of industrial water is usually higher than that of residential as a result of Shuifa's strong position in the negotiation process owing to the nature of monopoly in water supply. The difference between market price and government-guided price will be subsidized by the local governments, which is from general public budget expenditure, representing a controllable risk management.

Most of the reservoir projects that are currently undertaken by Shuifa will also generate revenue in the future, as Shuifa will subsequently obtain the right to access water from the reservoirs and the franchise for raw water supply in the corresponding areas. Therefore, with the completion of the reservoirs, Shuifa's water supply revenue will likely increase.

The revenue from water supply was RMB1.1 billion, RMB1.4 billion and RMB1.8 billion for 2018, 2019, and 2020, respectively, accounting for 10.1%, 6.5% and 4.0% of the total revenue. It reached RMB1.3 billion for the first nine months of 2021, accounting for 2.6% of the total revenue. The water supply segment is not affected by any externalities given the stable demand as public utilities. In recent years, the segment's performance has been relatively stable with low volatility and steady cash inflow for the company.

### **Wastewater treatment**

Shuifa has 32 wastewater treatment plants in operation across various cities including Shandong, Shanxi, Fujian, Jilin, Anhui, etc. at end-September 2021 after setting up this sector in 2014. The annual wastewater treatment capacity reaches 424 million tons with 80.0% capacity utilization rate in 2020.

The revenue of wastewater treatment sector was RMB0.4 billion, RMB0.5 billion and RMB1.1 billion in 2018-2020, respectively, accounting for 3.2%, 2.6% and 2.4% of the total. It reached RMB1.0 billion for the first nine months of 2021, accounting for 2.0% of the total. The increasing revenue results from the up-to-standard capacity and efficiency of its plants, increased revenue from wastewater treatment construction as well as Shuifa's enhanced M&A efforts. The wastewater treatment sector has a relatively strong regional exclusive advantage, which also helps the company to evolve its corresponding business.

### **Environment Protection Service**

Shuifa's environmental protection service comprises water pollution prevention, solid waste treatment as well as air pollution control. This segment is relatively new and has begun to generate revenue since 2019. The revenue generated from this segment was RMB839 million and RMB2.9 billion respectively in the past two years, which accounted for 3.9% and 6.6% of the total revenue in 2019 and 2020. For the first nine months of 2021, revenue generated from this segment increased to RMB5.0 billion and accounted for 10.1% of the total revenue.

### **Clean Energy**

Shuifa has been continuously exploring new areas based on the development of water business in recent years. The clean energy segment, as one of these new areas, has gradually formed into scale since 2017, becoming an important supplement to the company's operating income amid the broad environment where China vigorously calls for energy conservation and emission reduction. It has successfully entered into fields including photovoltaic power generation, urban gas business, biomass cogeneration, hydropower generation and central heating through mergers and acquisitions. The company sells the electricity generated from the clean energy segment to State Grid which provides stable revenue for the company in return.

The clean energy business is mainly operated by a number of subsidiaries such as China Shuifa Singye Energy Holdings Limited (0750.HK) [中国水发兴业能源集团有限公司], which Shuifa acquired in May 2019, Dalian Energas Gas-System Co., Ltd. [大连派思燃气系统股份有限公司], which Shuifa acquired at end-2018 to expand its business into natural gas related operations, and Shuifa Zhongxing Group as well.

The revenue generated from clean energy segment was RMB1.7 billion, RMB4.3 billion and RMB14.1 billion respectively in the past three years. The proportion of revenue was 15.3%, 20.3%, 31.3% for 2018, 2019, and 2020, respectively. For the first nine months of 2021, the revenue generated from this segment was RMB11.0 billion, accounting for 22.3% of the total revenue.

### **Modern Agriculture**

Shuifa's modern agriculture segment has gradually formed a complete industrial chain/ecosystem since its set-up in 2014. It is mainly operated by its subsidiaries Shuifa Agricultural Development Co., Ltd. [水发农业发展有限公司] and Shuikong Development Group [水控发展集团] with a focus on high-efficiency, high-end agricultural development and professional agricultural production services. The company acquired Xinjiang Haoxing Agricultural Development (Group) Co., Ltd. [新疆昊星农业发展(集团)有限公司] and established Xinjiang Shuikong National Cotton Technology Co., Ltd. [新疆水控国棉科技有限公司] to carry out cotton trading business in 2019. From then on, the company's modern agricultural sector's income has been primarily relying on cotton trading.

The modern agriculture segment revenue was RMB0.61 billion, RMB5.45 billion and RMB12.88 billion in 2018, 2019 and 2020, respectively, accounting for 5.5%, 25.5%, 28.5% of the total revenue, respectively. It increased to RMB17.5 billion for the first nine months of 2021, accounting for 35.5% of the total revenue. The rapid growth rate was caused by the acquisition and inclusion of the cotton trading segment. However, gross profit margin for the agriculture segment is relatively tepid compared with Shuifa's other business segments.

### **Cultural Tourism**

#### **Medical and health care**

The revenue from medical and health care segment was RMB940.6 million, RMB598.9 million and RMB24.9 million for 2018, 2019, and 2020, respectively. For the first nine months of 2021, the revenue generated from the medical services was RMB34.7 million. The large drop in this segment's revenue was mainly due to the disposal of hospital facilities assets. Since 2019, the scale of medical and health care business has been declining year by year



as the company intends to concentrate on its main business and gradually withdraw from medical and health care segment.

### Real estate development

Shuifa engages in the development and sales of residential properties in China and provides property management services for such properties. Revenue generated from this segment was RMB1.7 billion, RMB1.8 billion and RMB2.4 billion in the past three years, accounted for 15.7%, 8.4% and 5.3% of Shuifa's total revenue, respectively. The company plans to exit this segment gradually.

### Cultural tourism

The cultural and tourism segment has begun to generate revenue gradually since 2018. The revenue generated was RMB320 million, RMB888 million and RMB150 million respectively in the past three years. It decreased significantly in 2020 mainly due to the negative impact from the COVID-19 pandemic. For the first nine months of 2021, the revenue generated from the segment recovered to RMB565 million.

### Other Businesses

Shuifa also engages in other ancillary business activities, including equity investment, purchases and sales of goods and the provision of services relating to hydraulic consultation, hydraulic design, supervision of hydraulic works and heating and power supply pipeline connection. However, these businesses only accounted for a small percentage of Shuifa's total revenue.

## Financial Profile

### Balance Sheet Structure and Quality

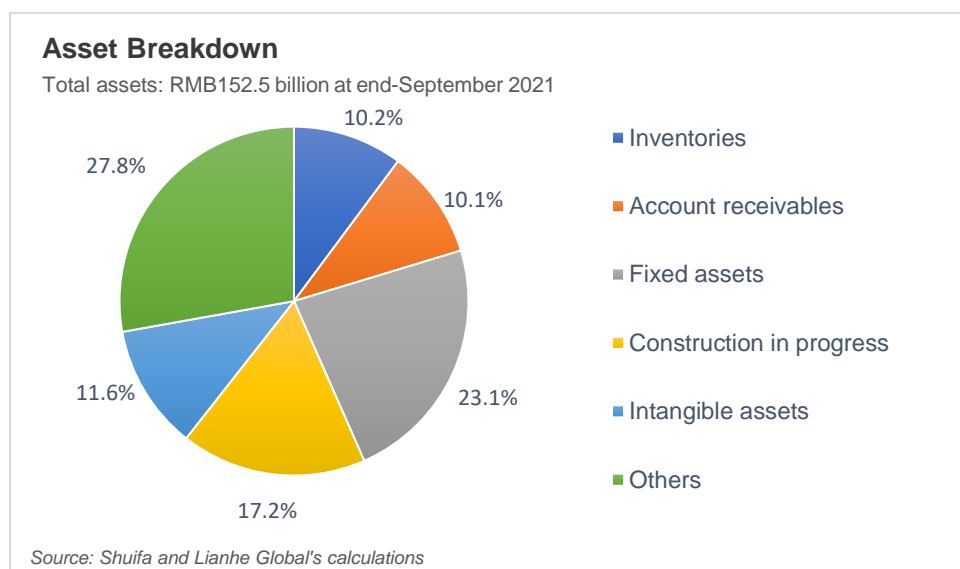
Balance Sheet Structure and Quality					
(RMB million)	2018	2019	2020	3Q2021	3Q2021 (Adjusted*)
Total Asset	75,989	107,135	141,774	152,461	152,461
Equity	19,304	26,307	31,431	36,086	31,752
Debt	34,807	52,880	67,826	72,115	76,449
Debt / (Debt + Equity) (%)	64.3	66.8	68.3	66.7	70.7
LT Debt	24,965	38,407	45,128	43,025	47,359
LT Debt / (LT Debt + Equity) (%)	56.4	59.4	59.0	54.4	59.9

Note: \* Adjusted numbers and ratios reflect the perpetual debts reallocating to long-term debts and total debts from equity

Source: Shuifa, Shuifa's financial reports and Lianhe Global's calculations

Shuifa's total asset showed a continuous growth trend in the past few years, with growth rates of 41.0%, 32.3% and 21.7% in 2019, 2020 and 3Q2021, respectively. The asset increase in 2020 was mainly due to the increase in account receivables and fixed assets. The asset structure was relatively stable, which mainly consists of fixed assets (23%), construction in progress (17%), intangible assets (12%) and inventories (10%) at end-September 2021. The fixed assets mainly include PP&E, mechanical equipment, and transportation instruments, which showed continuous growth trend. It increased to RMB21.1 billion, RMB31.4 billion and RMB35.2 billion at end-2019, end-2020 and end-September 2021, representing an increase of 65.3%, 48.5% and 12.1%, respectively. The inventories

mainly include development costs, commodity stocks and raw materials, which changed by 103.6%, -19.1% and 11.4% to RMB17.2 billion, RMB13.9 billion and RMB15.5 billion at end-2019, end-2020 and end-September 2021, respectively. As for the intangible assets, they were relatively stable, the biggest proportion was land use rights and farmland management rights, accounting for c. 67% of the total intangible assets. The account receivables accounted for c. 26% of its current assets, and the amount from the State Grid Electric Power Company in Heilongjiang, Shandong and Gansu accounted for the majority.



Shuifa's financial leverage (total liabilities to assets) has been relatively steady at around 75% in the recent three years. The total liabilities increased by 24.0% to RMB116.4 billion at end-September 2021, mainly due to the increase in current portion of its non-current liabilities of 101.0% during the same period. Shuifa issued c. RMB1.2 billion of perpetual bond in 2021. The total issued perpetual bond reached RMB4.33 billion at end-September 2021, representing an year-on-year increase of 55.6%. The equity structure remained largely unchanged at end-September 2021. Shuifa relies on external financing to support its capital expenditure. In view of its projects under construction and future projects to be development, we expect Shuifa's capital expenditure to increase in the next 12-24 months.

## Operation and Profitability

### Operation and Profitability

(RMB million)	2018		2019		2020		9M2021	
	Revenue	GM(%)	Revenue	GM(%)	Revenue	GM(%)	Revenue	GM(%)
Hydraulic Engineering	4,046.2	21.7	5,203.3	19.6	8,389.3	14.1	7,300.5	16.0
Water Supply	1,121.8	47.7	1,396.4	47.6	1,798.8	48.2	1,296.5	46.7
Wastewater Treatment	353.9	35.8	543.7	31.8	1,069.3	31.2	991.8	30.5
Environmental	-	-	838.9	5.9	2,968.1	7.8	4,952.4	5.3
Clean Energy	1,694.4	31.2	4,327.9	18.9	14,132.0	15.8	10,964.3	16.6
Modern Agriculture	605.0	10.4	5,449.4	4.0	12,875.2	4.9	17,459.1	4.0
Cultural Tourism	320.3	26.4	888.3	24.1	149.8	26.3	565.1	19.6
Medical	940.6	14.6	598.9	10.1	25.0	14.5	34.7	37.3
Real Estate	1,733.5	27.1	1,791.6	23.4	2,378.9	23.0	3,192.9	14.3
Others	252.1	45.2	299.5	27.6	1,442.7	38.9	2,419.5	34.0
<b>Total</b>	<b>11,067.7</b>	<b>26.5</b>	<b>21,337.8</b>	<b>17.4</b>	<b>45,229.3</b>	<b>14.7</b>	<b>49,176.9</b>	<b>12.7</b>

Source: Shuifa, Shuifa's financial reports and Lianhe Global's calculations

Shuifa's businesses mainly consist of water conservancy, clean energy generation and supply, modern agriculture, environmental protection and renewable resources etc. The

main revenue source is modern agriculture, followed by clean energy. Shuifa's total revenue was RMB45.2 billion in 2020, representing a year-on-year increase of 112.0% compared with 2019, mainly due to the increase in revenue from clean energy to RMB14.1 billion from RMB4.3 billion and modern agriculture to RMB12.9 billion from RMB5.4 billion. Income generated from clean energy and modern agriculture accounted for c. 31.3% and 28.5% of Shuifa's total revenue in 2020. Shuifa's revenue for the first nine months of 2021 was approximately RMB49.2 billion, representing an increase of 144.1% compared with the corresponding period in 2020.

Shuifa's gross margin showed a downward trend in recent years. The gross margin of commodity trading was only 4.9% in 2020, mainly due to the low margin nature of the commodity trading business. The gross margin of water project construction fluctuated between 21.7% in 2018 to 14.1% in 2020. The gross margin of the clean energy segment fluctuated between 31.2% in 2018 to 15.8% in 2020 as the government subsidies phased out gradually which has been partially offset by increasing efficiency. The company expects the gross margin to stay relatively stable for the clean energy segment.

## Cash Flow

Cash Flow (RMB million)	2018	2019	2020	9M2021
Cash Inflows from Operation	25,345	31,140	56,145	51,930
Cash Outflows from Operation	28,344	31,037	54,530	48,785
<b>Net CF from Operation</b>	<b>-2,998</b>	<b>103</b>	<b>1,614</b>	<b>3,144</b>
Cash Inflows from Investment	1,488	1,624	4,870	1,969
Cash Outflows from Investment	7,824	13,400	18,179	10,371
<b>Net CF from Investment</b>	<b>-6,336</b>	<b>-11,777</b>	<b>-13,309</b>	<b>-8,403</b>
Cash Inflows from Financing	21,695	42,439	57,351	39,604
Capital Contribution	1,589	4,593	3,750	2,448
Borrowings	16,071	33,845	42,622	31,679
Others	4,034	4,001	10,979	5,478
Cash Outflows from Financing	11,038	27,849	45,793	37,414
<b>Net CF from Financing</b>	<b>10,657</b>	<b>14,590</b>	<b>11,558</b>	<b>2,190</b>
Net Increase in Cash and cash equivalent	1,325	2,922	-147	-3,023

Source: Shuifa's financial reports

Shuifa's net cash flow from operation keeps increasing in the past few years as a result of increasing revenue and realization of receivables. However, it has also been growing cash outflow from investing activities, primarily due to the capital expenditure for projects under development and investment in subsidiaries. Shuifa's net cash flow from financing has been largely positive since 2018, of which borrowings and corporate bond issuance made up the majority. The company relies on it to finance and support its capital expenditure.

## Debt Servicing Capability

Debt Servicing Capability (RMB billion)	2018	2019	2020	3Q2021
ST Debt	9,598	14,222	22,418	29,370
LT Debt	31,050	47,272	59,003	57,760
Total Debt	40,642	61,514	81,421	87,130*
EBITDA	1,827	2,559	6,712	-
Total Debt over EBITDA (x)	22.2	24.0	12.1	-
EBITDA over Interest (x)	1.0	0.9	2.3	-
Total Debt over Net CF from Operation (x)	-13.6	592.3	50.4	20.8
Net CF from Operation over Interest (x)	-1.6	0.0	0.6	0.9

*Source: Shuifa, Shuifa's financial reports and Lianhe Global's calculations*

*\*Note: Minor discrepancy exists due to rounding and exchange rate difference*

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Shuifa's total debt increased by 7.0% to RMB87.1 billion at end-September 2021 from RMB81.4 billion at end-2020, mainly due to the increase in current portion of its non-current liabilities to RMB17.4 billion at end-September 2021 from RMB11.4 billion at end-2020. The short-term and long-term debt ratio remained relatively stable at end-September 2021, which was 33.7% and 66.3% respectively.

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