# Chiho-Tiande

## Largest Metal Scrap Recycler in China

***To summarize…***

- Chiho-Tiande Group is the largest vertically integrated mixed metal scrap recycler in China.
- World's largest listed metal recycler Sims Metal Management owns 16% of the group
- By the end of 2013, the group processing capacity will expand substantially.
- The group's processing facilities are recognized as Designated Processing Units by MEP
- Potential to be a consolidator in the China metal recycling industry
- Current share price is below the initial investment cost of Sims at HK$4.50.

**Investment case.** Founded in 1999 and listed on the HKEx in July 2010, Chiho-Tiande Group is the largest vertically integrated mixed metal scrap recycler in China. The group's processing facilities which located in Taizhou, the "Capital for Metals Recycling in China" and Ningbo Metals Recycling Park, the hub of scrap metal logistic, are recognized as Designated Processing Units by MEP. Since 1Q 2012, Sims Metal Management, world's largest listed metal recycler, has been one of the major shareholders of the group. We expect the group to leverage on Sims' global network, strong resources base and technology to expand its operation. Further, having Sims as shareholder is a strong recognition of the group's competitiveness and strong market position. Capacity expansion will be the major driver of the group's earnings. We expect by the end of 2013, the group's processing capacity will expand substantially. Further, to expand its sources of raw materials and revenue, the group is expanding into the electronic appliances recycling.

**Biggest in China.** China represents the world largest importer of copper scrap under HS Code 7404 and accounts for over two thirds of the global reported imports of 8.2m tones in 2008, and based on China Customs data, the group was the largest importer of copper based scrap under HS Code 7404 in China in 2009.

**Capacity expansion plan.** As of the end of 2011, the group's processing capacity of mixed metal scrap and ferrous scrap was 615,000 tones and 275,000 tones, respectively. By the end of 2013, we project the group total processing capacity will increase substantially. The additional processing capacities are expected to be provided by the three new ventures which are under development: the Shanghai JV, the Hong Kong processing base and the venture in Yantai, Northeastern China.

**Supported by the State.** Recycle metals has been another important source of metal. In 2010, recycled ferrous metal scrap accounted for 24.8% of the total ferrous output. Nevertheless, compared with the developed states where recycled ferrous metal scrap accounted for about 50% of their total ferrous consumption, recycled ferrous metal scrap consumption in China is still low. In contrast to the production of metal from primary resources such as minerals and ore deposits, production of recycled metal is more environmental friendly. By estimation, the recycling process of each ton of copper consumed 1,054 Kg less energy and 395 cubic meter of water, and discharge 380 tones less solid waste and 0.137 tons less of $CO_2$ emission, compared to the production of copper out of ore deposits. Besides, recycling industry help preserve the valuable mineral and energy resources. Hence, the PRC government has been supportive to the development of recycling industry.

| | |
|---|---|
| **Ticker** | **0976 HK** |
| **Rating** | **Not Rated** |
| Price (HK$) | 4.05 |
| Target Price (HK$) | - |
| 12m Price Range (HK$) | 3.69-6.44 |
| Market cap. (US$m) | 542.2 |
| Daily t/o (US$m) | 0.1 |
| Free float (%) | 25.3 |

***Financial summary***

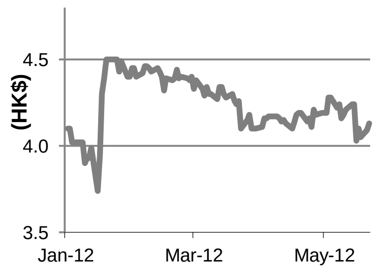
| **Year to Dec** | **09A** | **10A** | **11A** |
|---|---|---|---|
| Turnover (RMBm) | 2,339.2 | 5,931.6 | 9,815.5 |
| Net Profit (RMBm) | 419.7 | 352.8 | 152.1 |
| EPS (RMB) | 0.56 | 0.41 | 0.15 |
| P/E (x) | - | 11.3 | 27.0 |
| P/B (x) | - | 2.9 | 2.1 |
| EV/EBITDA (x) | - | 12.8 | 21.1 |
| Yield (%) | - | 1.9 | 0.9 |
| ROE (%) | 203.2 | 34.8 | 8.3 |
| ROCE (%) | - | 34.8 | 8.3 |
| N. Gear. (%) | 234.9 | 84.7 | 109.4 |

*Source: SBI E2*

| | **12F** | **13F** | **14F** |
|---|---|---|---|
| Consensus EPS (RMB) | 0.62 | 0.94 | - |
| Previous earnings (RMBm) | - | - | - |
| Previous EPS (RMB) | - | - | - |

***Price performance***

| **Year to Dec** | **1m** | **3m** | **12m** |
|---|---|---|---|
| Relative to HSI (%) | (5.9) | 2.9 | (25.5) |
| Actual price changes (%) | (1.2) | (2.9) | (36.3) |




*Source: Bloomberg*

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**SWOT Analysis**

Strength

1) In terms of mixed metal scrap approved import volume, the group has been the largest scrap metal recycler in China.
2) The group can leverage on Sims' global network, strong resources base and technology. Having Sims as a major shareholder is also recognition to the group's competitiveness and market position.
3) The group's two well established production facilities are strategically located in Taizhou, the "Capital for Metals Recycling in China" and Ningbo Metals Recycling Park, which is hub of scrap metal logistic.
4) Thanks to the low labor in China, the group is hiring a workforce of more than 4,000 labors to extract metal constituents. Since some of the extraction processes are performed manually, the group can extract more metal constituents from mixed-metal scrap at lower costs, compared to its peers in North American and Europe, who relied on machinery.
5) The group has more than 300 suppliers over the world.
6) The group's processing facilities are recognized as Designated Processing Units by Ministry of Environmental Protection (MEP). Only Designated Processing Units are allowed to be engaged in the recycling and importing of mixed metal scrap.
7) The group's business model is highly vertical integrated. It has foundries for the manufacturing of copper rod and wire as well as aluminum-alloy ingots

Weakness

1.) China remains the single largest market of the group.
2.) The group is operating on high leverage.
3.) The group's sources of income are not diversified enough, with sales of copper scrap and copper wires accounted for 65.5% of its total sales in FY11A.
4.) The group relies on overseas supplies for raw materials.

Opportunity

1.) The group is expanding its production capacities and geographic coverage, to cater with growing demand.
2.) The group is expanding into electronics recycling.
3.) Consolidation in the industry will provide M&A opportunities for the group.
4.) Supportive government policies and more regulated market in China create a favorable operating environment for the group.
5.) Improvement in logistics network in China for mixed metal scrap will expand the group procurement channel domestically, shortening the delivery of its raw materials.
6.) Supplies of the group's raw materials domestically are expected to increase, due to the increase in obsolete machinery, electrical appliances and automobile in China.

Threat

1.) Competition from established players, both recyclers and smelters and small, non-licensed players .
2.) Fluctuation in commodities prices, in particular copper prices. The group's profitability is highly sensitive to commodities prices. Nevertheless, its hedging measures will mitigate some of the impact from fluctuation in commodities prices on its profitability.
3.) Slow down in global economy growth led to sluggish demand for metals.
4.) Supplies of mixed metal scrap in Europe and US are likely to decrease, due to sluggish economy.

**Biggest in China.** China represents the world largest importer of copper scrap under HS Code 7404 (refers to copper waste and scrap under The Harmonized Commodity Description and Coding Systems developed by World Customs Organization), and accounts for over two thirds of the global reported imports of 8.2m tones in 2008, and based on China Customs data, the group was the largest importer of copper based scrap under HS Code 7404 in China in 2009.

Further, based on data provided by Environmental Bureau of China; CRU Strategies and China National Resources Recycling Association, in terms of mixed metal scrap approved import volume, the group was the largest importer of mixed metal scrap in 2009, and its approved import volume surpassed the second largest metal recycler by 83%.

In 2011, in terms of the total import volume as approved by the MEP in China, the group was the largest importer of mixed metal scrap used for recycling, reuse and processing in 2011. Its Taizhou facilities was also ranked by the Zhejiang Environmental Protection Bureau in 2001 at the top 15% among the Designated Processing Units for imported hardware and electrical appliance scrap, electric wire and cable scrap, as well as motor scrap in Zhejiang Province.

**Capacity expansion plan.** As of the end of 2011, the group's processing capacity of mixed metal scrap and ferrous scrap was 615,000 tones and 275,000 tones, respectively. The group is expanding its processing capacities by development of three new ventures: the Shanghai JV, the processing base in Hong Kong and the venture in Yantai, Northeastern China.

In 2011, the group formed a 51:49 metal recycling joint venture in Shanghai with Shanghai Lu Yong. It is expected that by the end of 2013, the processing capacity at the JV will reach 500,000 tones per annum. Registered capital of the JV is RMB31m., and capital contribution from the group is RMB15.8m (take in the form of cash and/or equipment).

In 2011, the group acquired an industrial site located at the Yuen Long Industrial Estate, New Territory, Hong Kong, with a total area of 385,735 sq. ft. and three buildings erected thereon at all-in consideration of HK$148m (HK$108m for leasehold interest and HK$48m as administrative fee payable to Hong Kong Science and Technology Parks Corporation, the lessor of the property). The group is developing the site into an integrated processing facility capable of processing mixed metal scrap and electronics recycling, under a seven years developing plan with total capital expenditure estimated to be HK$697.6m. The new facilities in Hong Kong not only expand the group's conventional recycling capacity, but also expand the group's scope of business into electronics recycling.

In 2011, the group entered into the investment agreement with Yantai Committee for the purpose of developing and operating an integrated processing facility for recycling, processing and sales of imported mixed metal scrap in the Development Zone in Yantai City, China. The group will establish a project company for the development of the metal scrap recycling project with annual capacity of 500,000 tones per annum, and a registered capital of US$40m will be injected into the project company within one year from the date of its establishment. Total investment of the project is expected to be about US$100m. Yantai Committee is a governmental authority established by the government of Municipal People's Government of Shandong Province of the PRC which is responsible for managing and promoting businesses and investment activities in the Yantai Economy Technology Development Zone of the Yantai City of the Shandong Province, the PRC.

**Team up with the giant.** In January of this year, Delco and HWH, the two major shareholders of the group, sold about 104.2m shares and 62.5m shares , respectively, to Sims Metal Management (Sims) at HK$4.50 each. Following the transaction, Sims owns 166.7m shares of the group, representing 16% of its issued share capital. Meanwhile, Delco and HWH's stakes in the company dropped to 22.1% and 30%, respectively. Following the completion of the S&P transaction, Delco granted Sims an option to acquire additional 20.8m shares at HK$6.0 from Delco.

Further, in March of this year, the group raised HK$815.8m via the issue of a 3-year, 4% CB with exercise price of HK$6.00 to Sims (HK$315.6m or 52.6m shares after conversation), Delco (HK$312.6m, or 52.1m shares after conversation) and HWH (HK$187.6m, or 31.3m shares after conversation). As part of the CB issue, the group also issued warrants with exercise price of HK$6.0 each to Sims (4.9m shares), Delco (4.8m shares) and HWH (2.9m shares). Delco and HWH have transferred their warrants to Sims without any consideration. Should all the aforementioned CBs, options and warrants converted, Sims will own 21.2% of the group, while HWH , Delco, Green Elite ( 50:50 investment holding company which holds 60m group shares owned by Delco and HWH) and Chairman Fang (also the ultimate beneficiary of HWH) stakes in the company will be diluted to about 22%, 29%, 5% and 0.7%, respectively.

Sims Metal Management (www.simsmm.com) is the world's largest listed metal recycler with approximately 260 facilities and 5,700 employees globally. Sims' core businesses are metal recycling and recycling solutions. Sims Metal Management generated approximately 90 percent of its revenue from operations in North America, the United Kingdom, Continental Europe, New Zealand and Asia. The company is listed on the Australian Securities Exchange and its ADRs are listed on the NYEX. Sim's global reach and customer network, advanced technologies and solutions in the metals and electronics recycling industry together with its strong global resources will add substantial value to the group. Through Sims global network, the group can secure the supply of raw materials, and reach new customers overseas and have access to advanced recycling technology. Having Sims as significant minority shareholder is also a strong recognition of the group's competitiveness and leading market position in China. Such recognition will enhance the group's position in the recycling industry; differentiate the group among its competitors in China.

**Recognized as Designated Processing Units.** The group's processing facilities are recognized as a Designated Processing Units by the Ministry of Environmental Protection of the PRC (MEP). Only Designated Processing Units approved by the MEP are allowed to be engaged in the recycling of imported hardware and electrical appliance scrap, electric wire and cable scrap and motor scrap, and import the aforementioned scrap.

Assessment system on Designated Processing Unit requires entities to pass the annual assessment conducted by the municipal-level and provincial-level environmental protection authorities entrusted by MEP. According to the assessment criteria issued by the MEP, the provincial-level environmental protection authorities shall assess entities on a total of 37 items in 7 aspects, including scrap management filing conditions, on-site inspection of the imported scrap that can be used as raw materials, products and non-recyclable scrap, production sites, management personnel and staff, machinery and equipment, organization and management system, as well as environmental protection management measures. Entities which fail to reach a total score of 80 will be denied of the qualification as a Designated Processing Unit whereas those existing Designated Processing Units which are far below standard are at the verge of elimination.

Furthermore, approvals must be obtained from the relevant authorities in respect of import of hardware and electrical appliance scrap, electric wire and cable scrap and motor scrap every year. According to the assessed annual production capacity and the actual production of each of the Designated Processing Units, the provincial-level environmental protection authorities designate the annual approved volume for the Designated Processing Unit.

**More regulated industry.** In order to eliminate small and weak recyclers and regulate the market landscape, the PRC government has imposed measures to control the number of Designated Processing Units. Under the government's measures, certain areas have been designated by government bodies as trial areas under “Zone Management”. Within the trial areas under “Zone Management”, the number of Designated Processing Units may increase appropriately. Outside the trial areas under “Zone Management”, in principle, there will be no increase in the number of Designated Processing Units. Further, additional designated processing units will be granted to entities only by eliminating existing Designated Processing Units which the MEP has found to be underperforming. In our view, the measures imposed by the government will trigger consolidation in the industry. Ultimately, small, informal, or inefficient recycling facilities will be eliminated or being acquired and only the established recyclers recognized as Designated Processing Unit will stay in the game. Given the group strong market position, it has the potential to be a consolidator in the industry by acquiring other smaller players.

**Supported by the State.** Recycle metals have been another important source of metal. In 2010, recycled ferrous metal scrap accounted for 24.8% of the total ferrous output. Nevertheless, compared with the developed states where recycled ferrous metal scrap accounted for about 50% of their total ferrous consumption, recycled ferrous metal scrap consumption in China is still low. In contrast to the production of metal from primary resources such as minerals and ore deposits, production of recycled metal is more environmental friendly. By estimation, the recycling process of each ton of copper consumed 1,054 Kg less energy and 395 cubic meter less of water, and discharge 380 tones less solid waste and 0.137 tons less of $CO_2$ emission, compared to the production of copper out of ore deposits. Besides the recycling industry help preserve the valuable mineral and energy resources. Thus, the PRC government has been supportive to the development of recycling industry.

On 29 August 2008, the Recycling Economy Promotion Law of the PRC (the “Recycling Economy Law”) was approved in the fourth meeting of the 11th National People’s Congress Standing Committee of the PRC, which regulates the waste reduction, recycling and reuse of resources in production, circulation and consumption processes. Its ultimate objective is to maximize the economic, social and environmental interests with a lower development cost.

The Recycling Economy Law introduces several specific incentive measures, mainly:
1.) Special funds set up by the government to support the R&D, pilot projects and promotion of technology and products of the recycling economy;
2.) Financial support arranged by the government and the relevant authorities for the self-motivated research, pilot application and industrialized development of the major technology projects of the recycling economy;
3.) Coordination mechanism and the financial assistance of the relevant authorities for the introduction, assimilation, absorption and innovation of major technologies and equipment;
4.) Tax preferences granted by the State to industrial activities conducive to promoting recycling economy development;
5.) Priority in credit loans provided by the financial institutions as for the projects in compliance with the State's industry policy and conducive to the conservation of energy, water, land, and materials or to the comprehensive utilization of resources.

According to the State development plan, the government aim to increase the production outputs of recycled ferrous metal to 12m tons per annum by 2015. Further, the government will nourish the development of ferrous recyclers with annual capacity of more than 50,000 tones per annum. Government will also support the production capacity expansion of ferrous recycler in different regions:

Table 1. State development plan in regions and targeted production outputs of recycled ferrious metal

| Region | # of copper recycle facilities | Targed annual production capacity (tones p.a.) |
|---|---|---|
| Deltas of the Yangtze and Zhujiang rivers, Bohai bay area and Sichuan area | 6-8 | 200,000 |
| Northern, Middlet, Northeastern part of the country and delta of Yellow River | 10 | 50,000-100,000 |
| Northwestern | 2 | 50,000 |
| **Region** | **# of aluminum recycle facilities** | **Targed annual production capacity (tones p.a.)** |
| Deltas of the Yangtze and Zhujiang rivers, Bohai bay area and Sichuan area | 8 to 10 | 200,000 |
| Northern, Middlet, Northeastern part of the country and delta of Yellow River | 15 | 50,000 - 100,000 |
| Northwestern | 3 | 50,000 |

*Source: SBI E2*

The government will also support 5 metal recycling parks to expand their respective capacity to 1m tones per annum, and 10 metal recycling parks to expand their respective capacity to 0.5m tones per annum. Further, the government will support the development of 5 metal scrap exchanges with respective annual trading volume of 0.6m tones and 10 metal scrap exchanges with respective annual trading volume of 0.4m tones per annum.

**Operation overview**

**Production facilities.** The group is engaged in metal recycling, foundry business and wholesaling of metal scrap. Currently, the group has two processing facilities located in Taizhou and Ningbo Metals Recycling Park. Taizhou is named as the “Capital for Metals Recycling in China” by the China Nonferrous Metals Industry Association where many of the major Mixed Metal Scrap recycling companies are located. Established in 2001, the Ningbo Metals Recycling Park is designed as a hub of scrap metal logistic center, where scrap raw materials can be transported from the port and cleared by the custom clearance facilities situated within the recycling park.

Taizhou and Ningbo sites are adjacent to road networks such as the Yong-Tai-Wen highway and the Shang-San highway, which connect the group’s manufacturing facilities to major cities in the Yangtze River Delta, such as Hangzhou and Shanghai, where many of the group’s customers are located. The groups also take advantage of proximity to the Taizhou port and the Beilun port in Ningbo, which are located only approximately 20 km and 50 km from the group’s respective facilities, for import of raw materials. As of the end of FY11A, the group had 703 employees. In addition, the group hired approximately 4,300 separation and selection workers through local contractors.

**Recycling:** The group procures metal scrap such as motor scrap, electric wire and cable scrap, and then extracts the metal constituents such as copper scrap, steel scrap, aluminum scrap and iron scrap from them. The extracted metal constituents then would be categorized, package and sold to metal manufacturers, which will further refine and process the metal scrap for a variety of applications used in the metallurgy, machinery and electrical industries. Some of the extracted metal constituents, such as copper and aluminum scrap would serve as input of the group’s foundry.

**Foundry.** Using the copper and aluminum scraps supplied by the recycling business as major raw materials, the group manufactures and sells aluminum-alloy ingots and copper rods. Aluminum-alloy ingots produced by the group are in accordance with the Japanese Industry Standards, such as standards ADC 12, 10 and 6, and a small portion of its aluminum-alloy ingots are produced upon customers’ specified requirements. Copper rods and copper wires are produced upon customer’s requirements.

**Wholesaling.** The group also engaged in the wholesaling business, which involve the trading of non-processed metal scrap.

**Products category**

Burnt copper: Extracted from the stators of motor scrap. It is a high-quality copper scrap with copper content of approximately 97-98%. It is used to produce copper wires and copper belts, the major components of electricity wires and cables.

Cleaned raw copper: Separated from the stators of motor scrap with copper content of approximately 94-95%. It is a raw material for the production of brass wires, high-precision brass strips, and red copper, which are the inputs for the production of home electrical appliances and machinery accessories.

Raw copper: Extracted from electricity wire scrap, with copper content of approximately 92%. It is used to produce copper ingots.

Medium-sized steel scrap: A high-quality steel scrap extracted from outer steel shells of motor scrap. It is one of the inputs of steel smelting industry.

Motor steel scrap: Processed from the scrap silicon steel sheets and stators of motor scrap, and consumed by steel smelting industry.

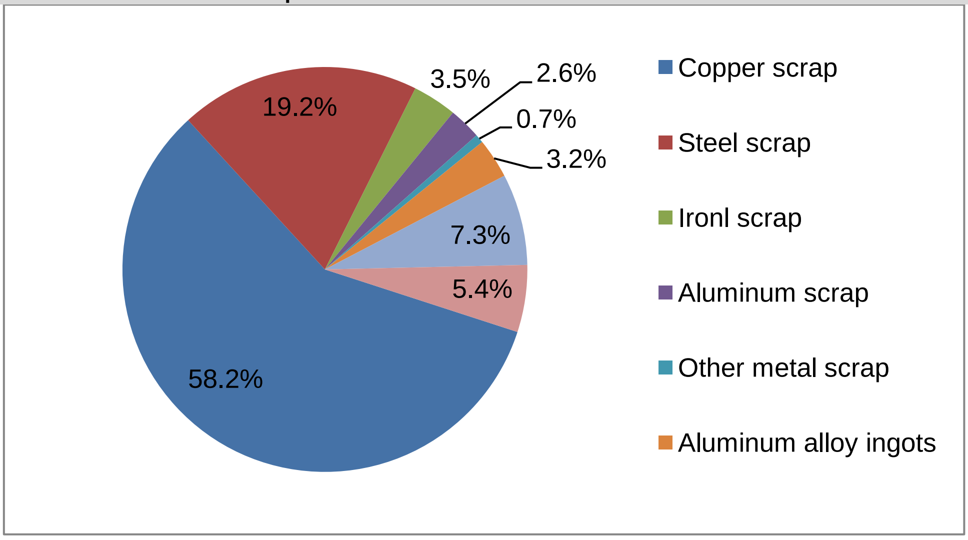
Used aluminum scrap: Extracted from the outer aluminum shells of motor scrap, used aluminum scrap is raw material of aluminum-alloy ingots. It is also an input in the manufacturing of automobile, motor parts and machinery accessories.

Iron scrap: It is processed from the outer shell of motor scrap, and consumed by steel smelting industry.

Aluminum-alloy ingots: The group's aluminum-alloy ingots is made out of aluminum scrap supplied by the group's recycling division or sourced externally.

Copper rods and wires: The group's copper rods and wires are produced out of copper scrap produced by the group's recycling division

**Table 2. Allocation of revenue from different products in FY11A**




*Source: SBI E2*

**Recycling process.** The group recycling business includes processing of motor scrap and wire/cable scrap. When Motor scrap arrived at the group's production facility, it is sorted and inspected, then separated by machinery and labor manually. The machinery and technology adopted by the group's production are self-developed, including oxy-acetylene cutting machine, cutting machine, and copper wire drawing machines. Such machineries facilitate workers to separate the mixed metal scrap in a more efficient manner with less human resources.

Following separation, recovered metals are sorted and graded either by machine or hand, or both, and stored as inventory for sale. A small proportion of the remaining scrap which cannot be further processed will be disposed by independent contracted service providers.

Electric wire or cable scrap comprises the metal wire, insulator and protective layer. In the separation process of electric wire and cable scrap, machines like the wire stripper and copper granule machine will be used to remove the outer layer of the electric wire and cable scrap and then further separate the metal parts. The plastic insulator will be collected, washed and packaged for sale.

Three of the components that are recovered from the breaking down, demolition and separation of the armature component of motor scrap are silicon steel sheets, axles and bearings. Silicon steel sheets considered suitable will be remanufactured into stator cores, while axles and bearings will be sold without further processing.

**Production process of the foundry business.** The production process of foundry business is more capital intensive compared to metal recycling business. It involves the use of a furnace to conduct melting, refining and casting. Skilled workers are also involved in the operation of the furnace as well. Products of the group's foundry business are aluminum-alloy ingots and copper rods and wires.

**The production of aluminum-alloyingots.** The production of aluminum-alloy ingots involve selection, washing, drying, melting, refining, casting, water cooling and packaging. The principal raw material used is aluminum scrap recovered from the upstream recycling process, which may contain a small amount of impurities. Selected raw materials are washed before melted in the incinerator, then flow into the refining furnace. Extract essence is subsequently added into the refining furnace to extract the aluminum components. Various alloy components are also adjusted to achieve the required specifications. The alloy components are continuously tested and adjusted to ensure that their composition meets the standard set by the group and clients' requirements. Liquid aluminum-alloy will then flow into the molds for casting. After cooling by water, the aluminum-alloy ingots will be packaged for sale. The hot water generated from the cooling process is channeled to the sewage treatment centre in the Taizhou Metals Recycling Park for processing and discharge.

**Production of copper rods and wires.** The production of copper rods and wires involve baling pressing, feeding, melting, oxidizing, restoring, cold casting and rolling, drawing and packaging. The principal raw material used for the production of copper rods and wires are copper scraps recovered from recycling, which may contain a small amount of impurities. Copper raw materials are manually selected out of the copper scrap, then press into blocks for feeding and melted in the open hearth, subsequently. After oxidizing and restoring, liquid copper will then flow into chutes and be processed into copper rods with diameter of 8mm in continuous casting and rolling machines. The copper rods are then drawn into various specifications of copper wire (including those with diameter of 3mm) by drawing machines in accordance with the requirements of the customers. The hot water generated from the cooling process is channeled to the sewage treatment centre in the Taizhou Metals Recycling Park for processing and discharge.

**Sourcing of raw materials.** Due to less mature metal scrap collection network in China, the group import raw materials such as motor scrap and electric wire and cable scrap from overseas suppliers rather than sourcing them domestically. The group has been maintaining a sourcing network consistent of over 300 suppliers around the world. Most of the group's suppliers are mixed metal scrap traders and collectors located in North America and Europe. They source obsolete materials, industrial off-cuts or other post consumer recyclables from factories or households. They also source Mixed Metal Scrap which cannot be further separated by heavy machineries from metal recyclers in North America and Europe. The group does not commit any long-term contracts or continuing supply contracts with any of its suppliers. Prices of metal scraps are determined upon the Buyers and sellers, based on quotations on the exchanges such as LME. The group's procurements are based on CFR, which include costs of raw materials and freight for import into China. The title to the goods passes from its suppliers to the group as soon as the goods are loaded on the deck of the ship at the port for shipment.

For its foundry business, the group use internally generated metal constituents: aluminum scrap and copper scrap for the production of aluminum-alloy ingots and copper rods and wires. The group adjusts the level of internally-supplied raw materials for its foundry business based on respective market demand for aluminum or copper scrap and aluminum-alloy ingots as well as copper rods and wires.

**Customers.** Customers for the group's recycled metal products and foundry products include metallurgy processors, copper wire manufacturers, electrical appliance producers, raw material suppliers and smelters in China. They utilize recycled metals as raw material for cost containment from savings in energy and mineral resources consumption. These cost advantages, and the long lead-time for construction of new primary smelting facilities, have generally resulted in sustained demand for recycled metal products. The group's wholesale business customers are typically metal scrap processors who are unable to secure metal scrap directly from suppliers. The group matches the buyers and sellers, and provides logistic services arrangement for both parties.

**Product pricing policies.** The PRC government does not impose any restriction on the pricing of the group's products. Prices for the products are generally based on prevailing market rates, which are differ by region in China and are subject to market cycles that are influenced by many factors, including worldwide demand, and availability of raw materials. The group's sales are principally denominated and settled in RMB. The group's pricing team takes into account a number of factors when determining product price range, include (1) prices quoted on the LME, (2) prices quoted on the SHFE, and (3) local prices in Taizhou or Ningbo (4) production costs, (5) target profits, (6) product prices of the group's competitors and (7) inventory level and credit policy for different customers.

**Risk management.** In order to minimize the adverse impact on the group's profitability and inventory level from adverse commodity price trend, the group has formulated and adopted risk management/hedging policy:

1.) To mitigate commodity price risk and to secure profitability and product ASP, the group trade metal future in organized markets. It sells futures contracts to lock in profit and buy future contracts to enhance cash flow positions. The futures contracts that may be used in hedging activities by the group include 1 to 12-month (but typically 3-month) copper, steel rebar and aluminum contracts traded on the SHFE as well as 3-month copper, aluminum and steel (Far East) futures contracts on the LME. No cut-loss limits will be set as the group buy or sell futures contracts for the purposes of hedging. The group will only undertake real hedges and will not maintain any long-long or short-short positions. The quantities of futures contracts to buy or sell are pegged to a limit of not more than 50% of the actual physical inventories held at the relevant time.
2.) Finance department will be responsible for reviewing and monitoring risk exposure on a daily basis.
3.) Inventory turnover days are maintained within a threshold of not more than 90 days.
4.) The Board of the group evaluates risk management procedures in respect of commodity prices at the on-going basis and meets on quarterly basis to review and discuss exposure level and the corresponding procurement and inventory. The group also hired an independent accountancy firm to perform annual review on its internal control, inventory management and commodity risk management procedures to ensure compliance with its hedging policy.

**Commodities price is major factor.** The group's profitability is highly sensitive to the change in metal prices. Inasmuch as its production cycle last for around 90 days (most of the time are for the shipping of its inventory), it procures its raw materials three months in advance. In the situation that price of commodities are higher than respective procurement costs in three months ago, the group make profit. Other way around, the group incurs a loss. In addition, even though the inventories were procured three months ago, the group books its inventory at net realizable value, which is based on current price. When the prevailing market price of inventory is lower than its cost, the group has to make a provision against the drop in value of its inventory. Such provision is booked in COGS and will drag down the group's blended margin. Nevertheless, when the market price of inventory are higher than its cost, there will be no write back of provision, and gain of such will be released by margin enhancement and higher operating cash flow. For example, the group's earnings for FY11A plunged 67% YoY to HK$116.3m and its blended margin contracted by 5bps, as commodities prices dropped significantly in 4Q 2011. Among all, copper price is the most important factor which affects the group's profitability, as sales of copper scrap accounted for more than half of the group's total revenue. Since the group procures most of its raw materials overseas, the change in foreign exchanges will inevitably affect its bottom line too.

**Production cycle.** Sales of recycled metal scraps are conducted on a cash-on-delivery basis. Meanwhile, the group generally grants a credit period of 30 to 90 days for customers who purchase aluminum-alloy ingots and 7 to 10 days for customers who purchase copper rods and wires, depending on their credit standing, Overseas wholesale business customers will pay the group by documents against payment or telegraphic transfer upon shipment of the wholesale products, whilst its PRC customers are typically granted a 1 to 2 months credit period. On the other hand, the group's suppliers do not grant any credit term to the group. Since sales of metal scrap accounted for 84.2% of the group sales, the group's account receivable turnover was 8 days in FY11A (6 days in FY10A). On the other hand, the group's payable turnover for FY11A was 9 days (8 days in FY10A). The inventory turnover days for FY11A was 108 days, as generally it takes more than a month or two for the delivery of the raw materials. The average production cycle of the group for FY11A was about four months, same as FY10A.

**Financial position.** As of the end of FY11A, the group had 1.) HK$590.9m of cash in hand; 2) HK$2,651.7m short term debt; and 3) inventory of HK$3,219.2m. In our view, the group used the short term loan from bank to finance its inventory replenishment. Majority of the group's inventories are metals, which are highly liquid due to the persistent demand in China, implying the solvency of the group is high. Following the issuance of CBs in March, the group raised HK$815.8m, sufficient for its capacities expansion plan. Further, should the detachable warrant exercised by Sims, the group will raise an additional HK$75.8m. The group's auditor is Deloitte Touche Tohmatsu.

**Table 3. Financial Overview**

| HK$m | FY07A | FY08A | FY09A | FY10A | FY11A |
|---|---|---|---|---|---|
| Revenue | 1,798.3 | 2,505.2 | 2,339.2 | 5,931.6 | 9,815.5 |
| Gross profit | 114.9 | (234.8) | 554.4 | 569.9 | 452.6 |
| GPM (%) | 6.4 | (9.4) | 23.7 | 9.6 | 4.6 |
| Net profit | 83.0 | (200.1) | 419.7 | 352.6 | 116.3 |
| Net profit margin | 4.6 | (8.0) | 17.9 | 5.9 | 1.2 |

*Source: SBI E2*

**Fund raising exercise.** July 2010: the group listed on the Main board of HKEx by issuing 250m new shares at HK$2.43 each, represented 25% of the total issued share capital back then and raised HK$581.5m.

April 2011: The group raised HK$385.7m via the top-up placement of 60m shares at HK$6.60 each.

March 2012: The group raised HK$815.8m via the issuance of CBs (3-year terms, 4%, HK$6.00) to its major shareholders.

**Table 4. Peers Valuation Table.**

| Name | Tkr & Exch | Mkt Cap | P/B | P/E | BEst P/E:2012 | BEst P/E:2013 | ROE:2010 | ROE:2011 | GM:2011 | GM:2010 | PM:2011 | PM:2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHIHO-TIANDE GROUP LTD | 976 HK | 4,228.8 | 2.1 | 27.1 | 7.7 | 5.4 | 34.8 | 8.3 | 4.6 | 9.6 | 1.5 | 5.9 |
| CHINA METAL RECYCLING | 773 HK | 7,030.5 | 1.2 | 3.9 | 3.6 | 2.9 | 23.4 | 34.1 | 4.0 | 5.5 | 3.6 | 3.9 |
| HENAN YUGUANG GOLD&LEAD CO-A | 600531 CH | 6,626.0 | 3.0 | 79.4 | 29.5 | 23.7 | 10.9 | 4.9 | 2.9 | 4.6 | 0.8 | 1.9 |
| SHANGHAI ZHEZHONG CONSTRUC-A | 002346 CH | 2,078.4 | 1.9 | 31.8 | | | 6.9 | 6.5 | 22.9 | 23.6 | 13.3 | 14.3 |
| ANHUI JINGCHENG COPPER -A | 002171 CH | 4,043.4 | 5.1 | | | 19.4 | 13.0 | 3.6 | 2.7 | 5.2 | 0.7 | 2.8 |
| TONGLING NONFERROUS METALS-A | 000630 CH | 32,803.1 | 2.7 | 19.2 | 17.1 | 13.7 | 14.4 | 17.0 | 4.7 | 4.5 | 2.0 | 1.7 |
| Average | | 4,801.4 | 2.6 | 35.6 | 13.6 | 12.8 | 17.8 | 11.5 | 7.4 | 9.7 | 4.0 | 5.8 |

*Source: SBI E2*

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