



香港印刷業商會

THE HONG KONG PRINTERS ASSOCIATION



Economic Resilience in Global Supply Chain

Pressures and Trends for the Printing Industry in China

Richard Lim
Chief Operations Officer
6 July 2021



Hung Hing Printing Group Limited

Hung Hing Printing Group at a glance 2020



- 70+ years of history in printing and packaging
- A major exporter of children's & novelties books, as well as trade and picture books.
- More than 55% of the Group's business is exported, major markets being USA (60%), UK & Europe (30%) and Asia Pacific (10%).
- 45% of the Group's business is in domestic China composing of packaging printing, paper trading and corrugated packaging.

Facilities of Hung Hing Printing Group



Hong Kong

- Relocated to Tai Po Industrial Estate in 1989.
- Corporate headquarters.
- 2 production lines for conventional books.
- 340 full time staff/ workers.

Shenzhen

- Printing and manufacturing of folding cartons, children's book, conventional books, litho lam and corrugated containers.
- Awarded ISO9001; ISO 14001 and ICTI-COBP certifications.
- 2800-5000 full time workers of which 1400-3400 hand assembled related.

Zhongshan

- Printing and manufacturing of folding cartons, litho lam and corrugated containers.
- Awarded ISO9001; ISO 14001 & BRC/IOP certifications.
- 890 full time workers.

Wuxi

- Printing and manufacturing of folding cartons, litho lam and corrugated containers.
- Awarded ISO9001; ISO 14001 & BRC/IOP certifications.
- 500-800 full time workers of which 200-450 hand assembled related.

Heshan

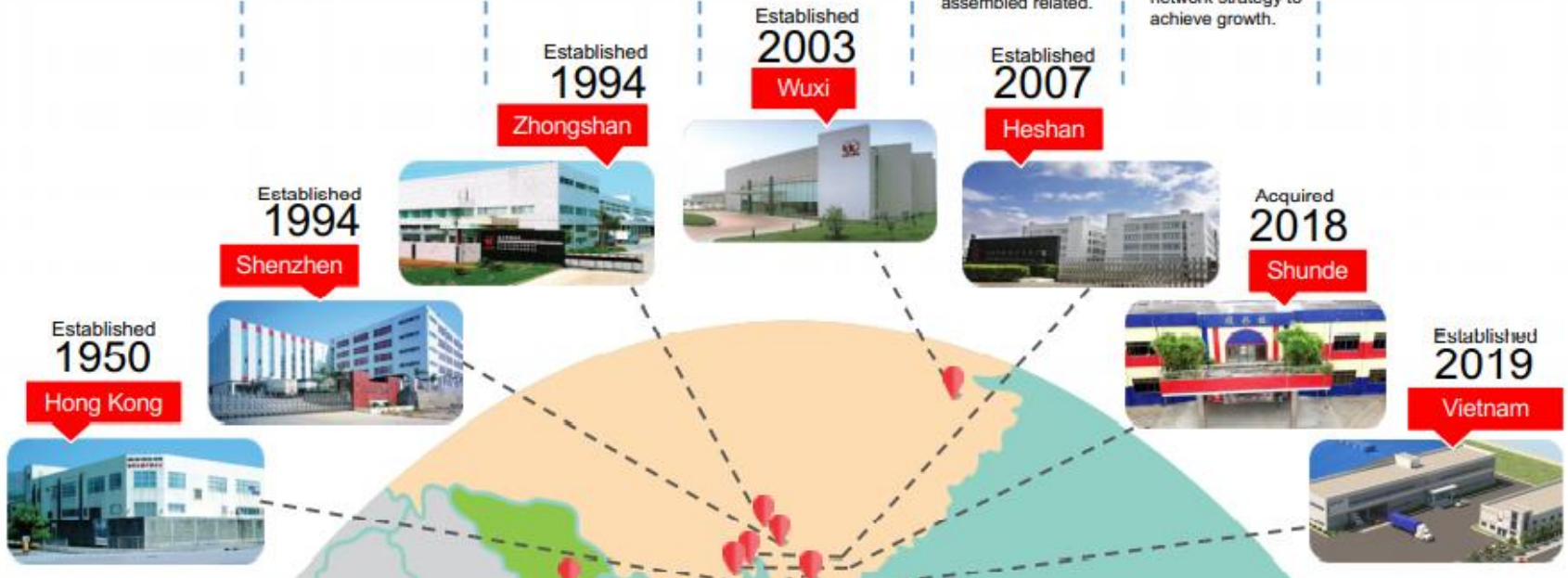
- Established in 2007 for printing children's and conventional books.
- Awarded ISO9001; ISO 14001; ICTI-COBP & BRC/IOP certifications; M&S Eco-factory.
- 2200-4000 full time workers of which 1400- 3000 hand assembled related.

Shunde

- Printing and manufacturing of folding cartons, litho lam, corrugated containers and corrugated board.
- A strong market position in the production of corrugated and cases.
- Multi-location network strategy to achieve growth.

Vietnam

- Established in 2019
- Printing and manufacturing of book and packaging.
- Land area 35,000sq. Meter
- Factory + office 15,200sq. Meter





Economic Resilience in Global Supply Chain

Economic Resilience in Global Supply Chain



Pressures and Trends for the Printing Industry in China

- The manufacturing industry faces many challenges in general, especially during COVID and possibly post-COVID period.

CNBC

Satellite images show backlog of containers awaiting export at Port of Yantian after Covid outbreak

The backlog of containers stacking up at the Port of Yantian, the world's fourth-largest container port, can be seen from space as a Covid-19 ...

A satellite image showing a large port area with a significant backlog of containers and ships, illustrating the impact of the COVID-19 outbreak on global shipping.

Wall Street Journal

Fresh Covid-19 Outbreaks in Asia Disrupt Global Shipping, Chip Supply Chain

Outbreak at one of the world's busiest ports leads to global shipping ... in chip supply chain worsen global shortage. Shenzhen's

A photograph showing a large stack of colorful shipping containers, illustrating the global shipping and supply chain challenges.

NBC News

India's Covid crisis has ripple effects for garment industry worldwide

Williams-Sonoma, Inc., which owns West Elm and Pottery Barn, also reports it has "elevated" backorders from production issues in

A photograph showing workers in a garment factory, illustrating the ripple effects of the COVID-19 crisis on the garment industry.

Reuters

Supply chain bottlenecks amid roaring demand slow U.S. ...

... commodities prices and difficulties in transporting products across industries. ... A reading above 50 indicates expansion in manufacturing, which accounts ... expansion of the COVID-19 vaccination program to all

A photograph showing a worker in a factory setting, illustrating supply chain bottlenecks and manufacturing challenges.

Pressures and Trends for the Printing Industry in China



Three major areas of discussion:

- Paper sources and supply situation
- China's demographic, labor and its future impact
- Environment sustainability – opportunities & challenges





Paper Sources and Supply Situation

About Paper - Global Paper Production



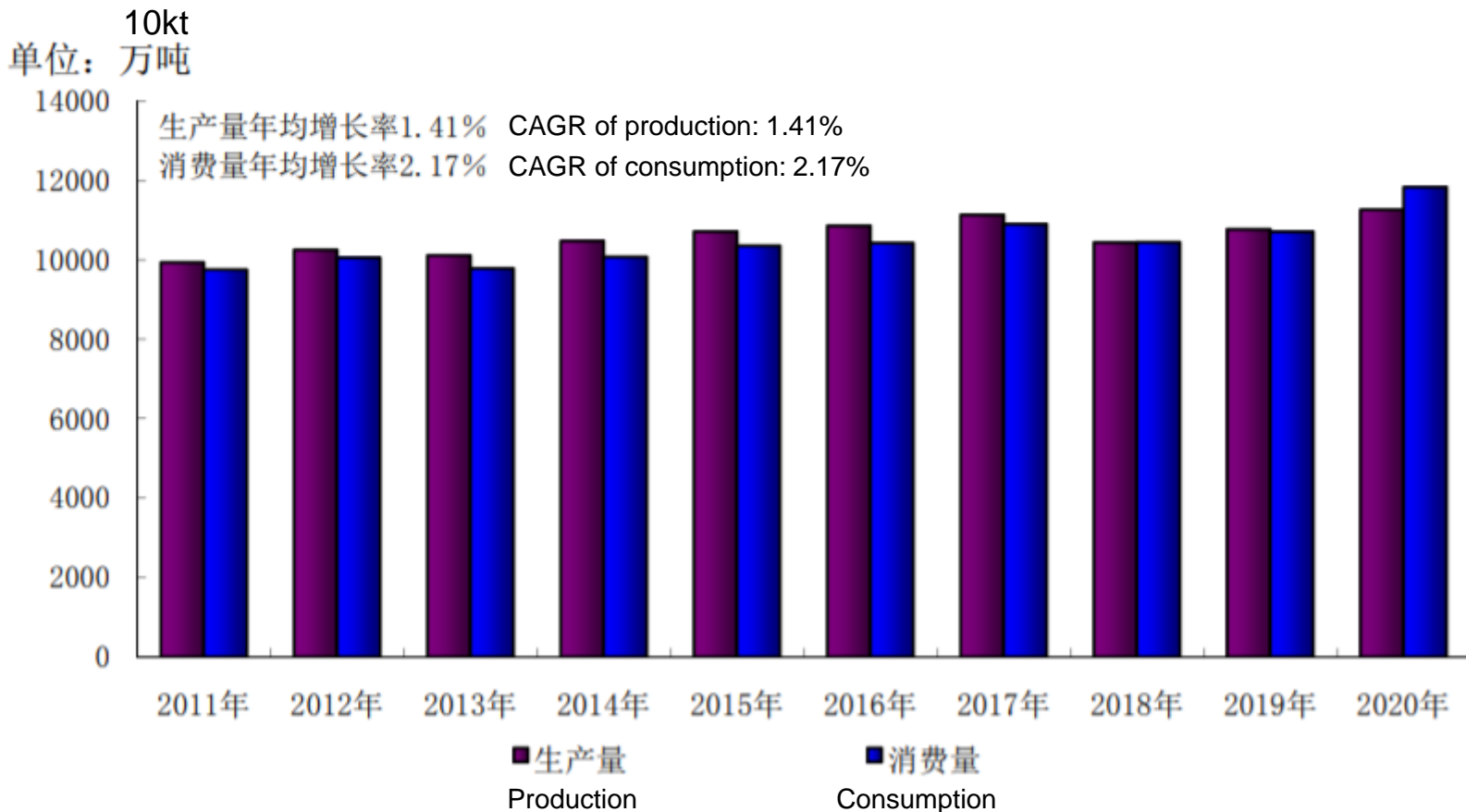
- China is the largest paper producer in the world, currently produces about 110million metric tons/year.
 - The USA rank 2nd with about 72 million metric tons/year.
 - Global paper production at 420 million metric tons/year.
- ➔ Paper production in Asia dominates, with 47% market share.



About Paper - China Paper Production



China paper and cardboard production and consumption 2011-2020



About Paper



Grades of paper

- Declining in newsprint, etc.
- Huge increase in packaging type paper, such as corrugated paper and paperboard – due to e-commerce
- Printing and writing paper is the 2nd most produced grade



About Paper



Not enough pulp in China

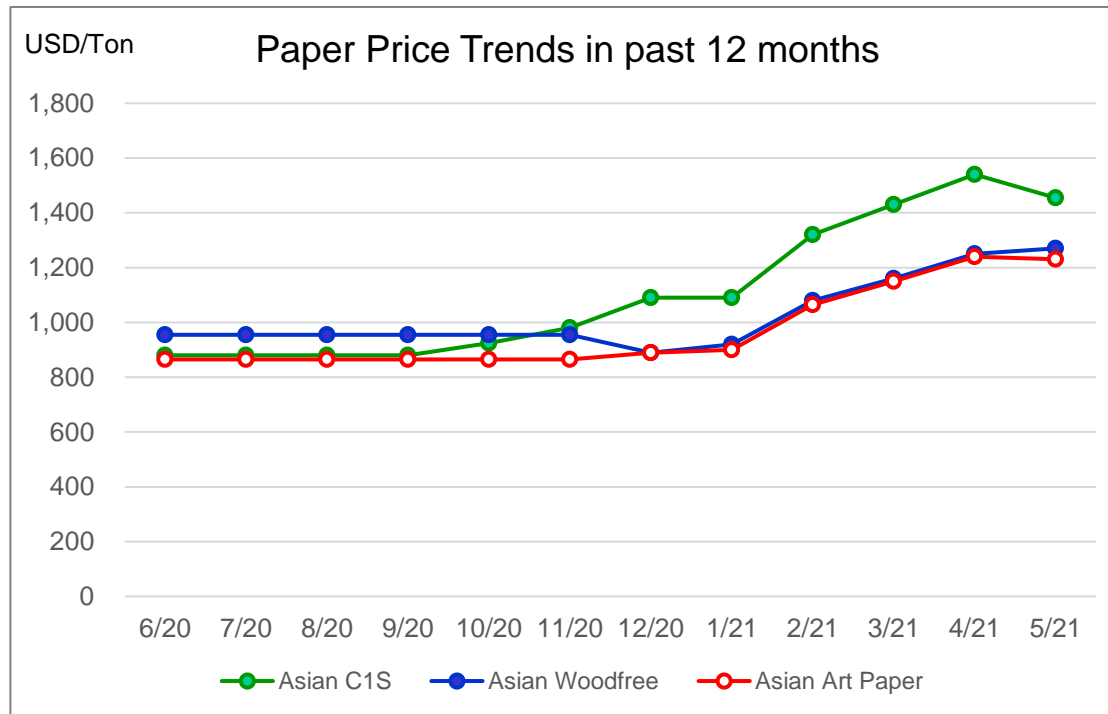
- Large percentage of FSC pulp is imported
- Ban on importation of recycled waste paper
- Supply gaps resulting in wild price fluctuations




About Paper



- Asia paper price has increased 35% to 65% in the last 12 months.





China's Demographics, Labour and its Future Impact

China's Demographic, Labor and its Future Impact



China's challenges in the labor market

- Declining workforce
- Migrant worker
- Structural change in the economy
- Worker demographics
- More choices



China's Demographic, Labor and its Future Impact



“The average annual growth rate was 0.53% over the past 10 years, down from a rate of 0.57% between 2000 and 2010 - bringing the population to 1.41bn.”



China's Demographic, Labor and its Future Impact

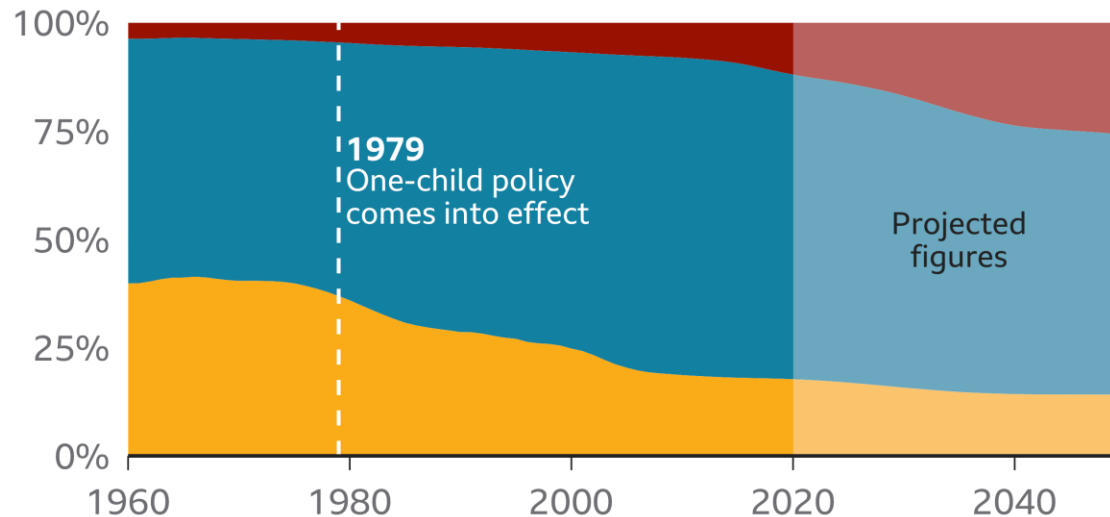


China's working-age population, aged 16 - 59, has declined by 40 million as compared to the last census in 2010 (880 million).

China's population by age group

Proportion of total population (1960-2050)

0-14 years 15-64 65+



Source: The World Bank



China's Demographic, Labor and its Future Impact



Solutions

- High-tech, high productivity factories
- Automation and robotics
- 97 robots / 10,000 workers in China vs 200 robots / 10,000 workers in developed countries





Environment Sustainability – Opportunities & Challenges

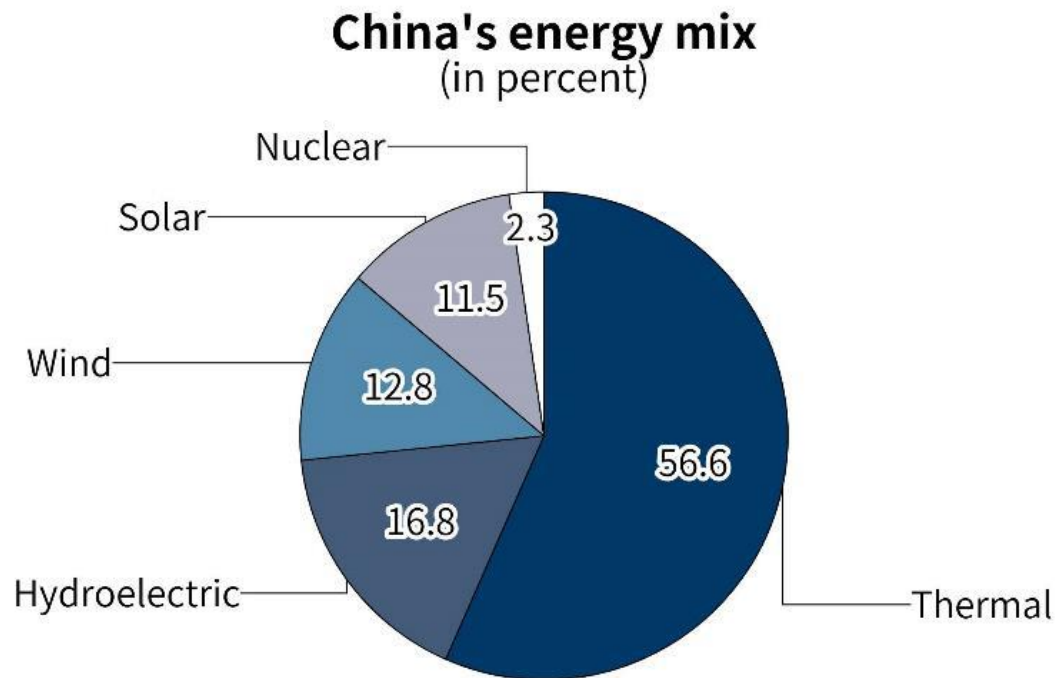
Environment Sustainability – Opportunities & Challenges

China pushes hard towards environmental-friendly energy

- Paper mills changing from coal energy source to natural gas
- More incentives to install solar power for enterprises
- Cutting back on coal/thermal plants
- In principle, no new thermal plants will be commission after carbon-zero declaration
- Some push towards nuclear power
- Some power shortages in peak months beginning to happen



Environment Sustainability – Opportunities & Challenges



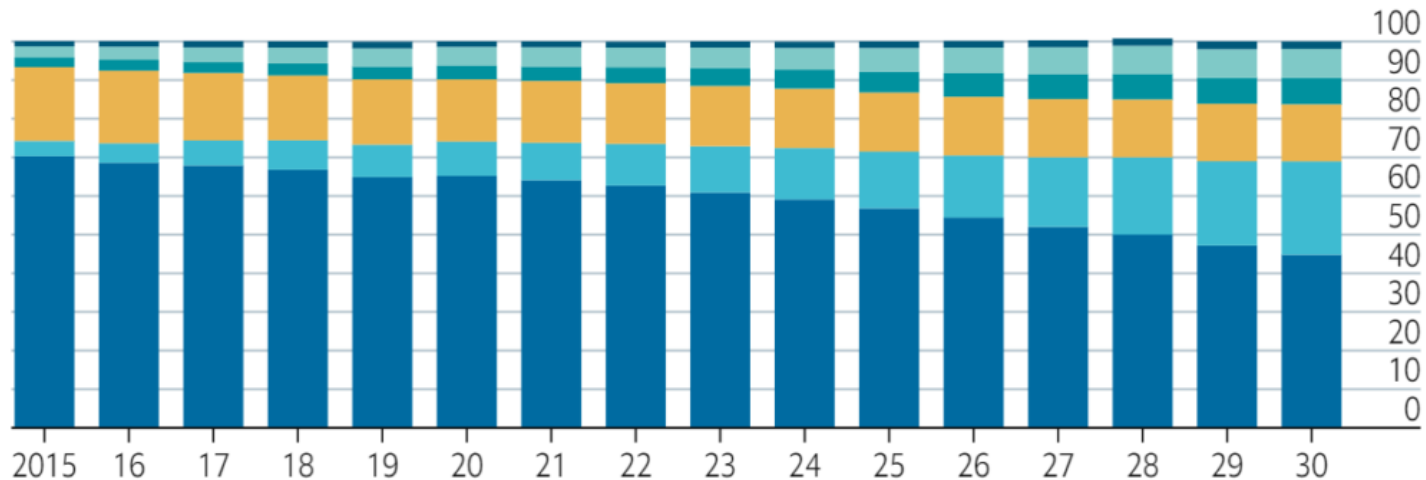
Notes: For 2020, based on generating capacity
Source: China's National Energy Administration

Environment Sustainability – Opportunities & Challenges

China's big push towards environmental-friendly energy

China power generation mix
(% share by source)

- Coal
- Non-Hydro Renewables
- Hydro
- Gas
- Nuclear
- Others



Source: The Economist Intelligence Unit.

Environment Sustainability – Opportunities & Challenges



China aims at “carbon neutral” by 2060

- President Xi pledged to bring China's emissions to a peak before 2030 and make the country "carbon neutral" by 2060.
- China will strictly limit the increase in coal consumption over the 14th five-year plan period (2021-2025) and phase it down in the 15th five-year plan period (2026-2030).

Environment Sustainability – Opportunities & Challenges



China controls stringently on:

- Greenhouse Gas (GHG)
- Volatile Organic Compound (VOC)



Environment Sustainability – Opportunities & Challenges



China's control on emission:

- Shenzhen government established a carbon trade program and set reduction targets for companies for GHG.
- Classifies conventional printing machines, UV machines, silkscreen machines as VOC emission machines.
- <10% VOC emission machines will need to have centralized exhaustion system, air must be treated before emit to atmosphere.
- City government will impose production stoppages once VOC emission level have exceeded targets.

Environment Sustainability – Opportunities & Challenges



How the printing industry controls emissions:

- Process Ink – changed from solvent based to soy-based inks
- Varnish – change to aqueous / water-based
- UV Varnish – reduce usage or change to Isopropanol to prepare UV varnish
- Glue – change to water-based glues
- Ink – prevent wastages by installing central ink distribution system

Summary



Everyone plays their part

- In Hung Hing, we reduced VOC emission from 75,200kg (2016) to 24,600 kg (2020).
- Since we joined the Shenzhen government carbon trade program, our Shenzhen factory has been close to or exceed the carbon emissions target.

Hung Hing Printing Group	2016 Audited	2017 Audited	2018 Audited	2019 Audited	2020 Unaudited
Emission index ⁴	0.652	0.628	0.604	0.549	0.531
Emission Target TCO ₂ e	24,936	26,465	22,882	18,211	16,354
Actual emission TCO ₂ e	22,960	22,940	20,430	18,799	16,388
Quota Surplus	1,976	3,525	2,452	-588	-34

⁴ Ton of CO₂ equivalent emission per 10,000RMB value added production

Summary

Everyone plays their part

- Hung Hing has completed the installation of a total of 1,484 solar panels on the rooftop of our Hong Kong headquarters recently.
- The current total generating capacity of the system is 527 kWp, which can produce 562,000 kWh of solar power per year.
- The reduction of carbon dioxide emissions¹ is equivalent to 48,600 trees planted² or is about one-third of our annual electricity consumption in 2020.

1. According to CLP bill - Average CO₂ emission per unit of electricity billed in 2019 is 0.51kg.

2. @5.89 kg per tree <http://urbanforestrynetwork.org/benefits/air%20quality.htm>





Conclusion

Conclusion



- Paper prices will continue to maintain at a higher level compared to 2-3 years ago – widen choices to include non-FSC requirements.
- Cheap labor will become more scarce – re-design books with less hand labor aspect or possible with semi-automation and higher print run.
- Environment – trending towards VOC-less production, cutting back on post-press finishes such as UV, PP lamination, silkscreen varnishes. Also moving into sustainable materials, away from plastics to paper, in packaging as well as toy products.



Thank you