



The Path of Sustainable Development of Paper Machine Enterprises under the Background of Carbon Peaking and Carbon Neutrality

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SQIC

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Background and Inspiration

75TH UNITED NATIONS GENERAL ASSEMBLY



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President Xi Jinping announced China will aim to control CO₂ emission to its peak level before 2030 and achieve carbon neutrality before 2060 to respond the climate change and accelerate transition to low carbon development and green world.

The Inspiration of Enterprises Carbon Emission Control



- Policy Support
- Business Sustainability
- Brand Image & Competitiveness
- Impact on Production Cost
- International Cooperation
- New Lead of Technology

About Shanghai Qingliang Industry (SQIC)

- Founded in 1998 in Shanghai
- Provided Over 240 Sets of Paper Machines Globally
- Leader Supplier of TM, PM and SPM in the SEA Market
- The Most Orders Implementer Since 2020 in China
- An Embracer of Green Transition and Sustainable Development



SQIC's Fleet



HOLISTIC PM, TM, SPM DESIGN, MANUFACTURING and RELATED SERVICES PROVIDER FOR DOMESTIC OR OVERSEAS USERS

Acceleration of Transition

PAST
TRADITIONAL MACHINE
SUPPLIER

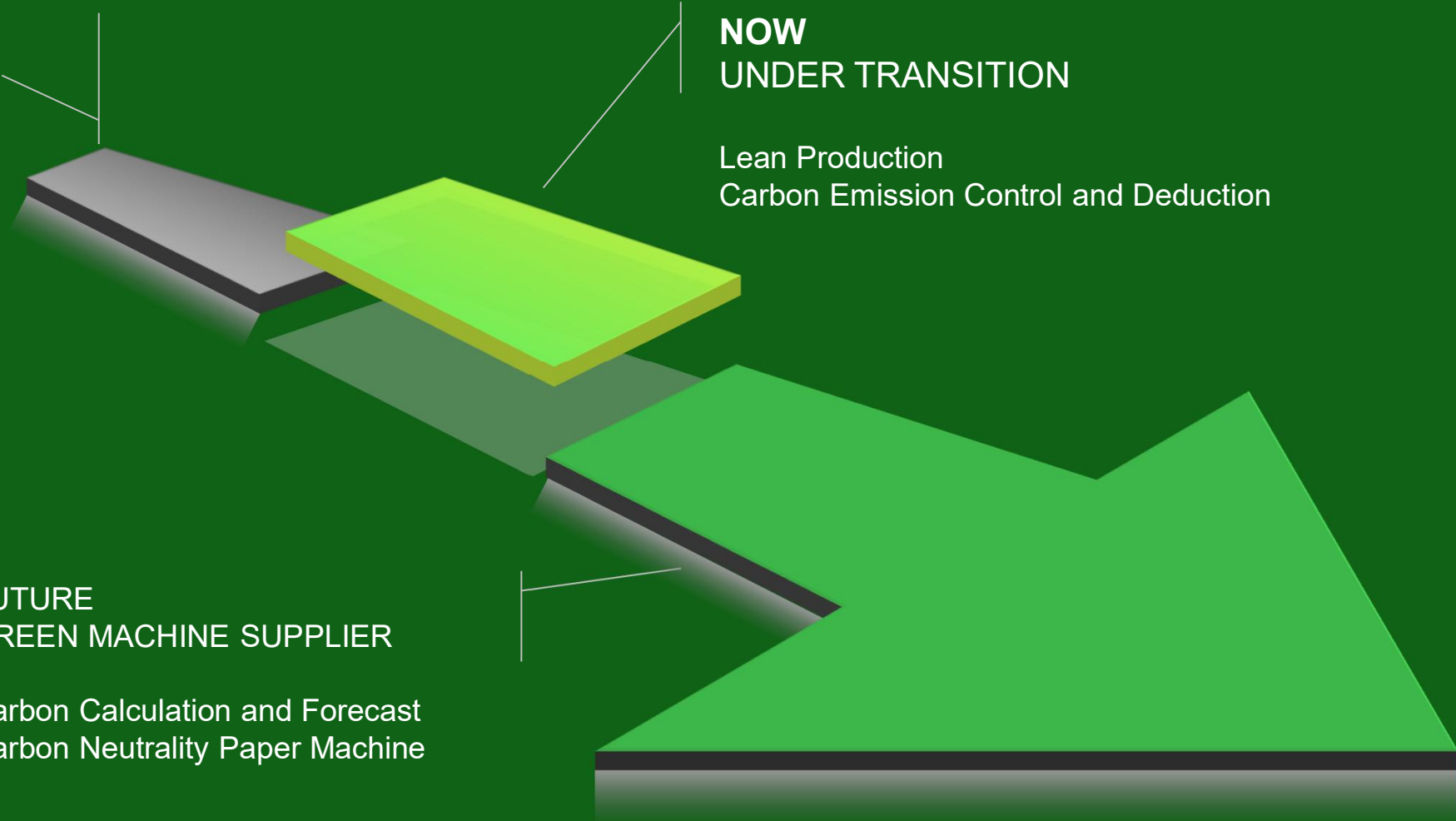
Extensive Production
Uncontrolled Carbon Emission

NOW
UNDER TRANSITION

Lean Production
Carbon Emission Control and Deduction

FUTURE
GREEN MACHINE SUPPLIER

Carbon Calculation and Forecast
Carbon Neutrality Paper Machine



Lean Production and Carbon Emission Control



Carbon Emission Controlled Paper Making Line

Capacity Superior PM

The first Made in China 6600mm/1000m/min FPM was produced by Qingliang, put into production in 2022.

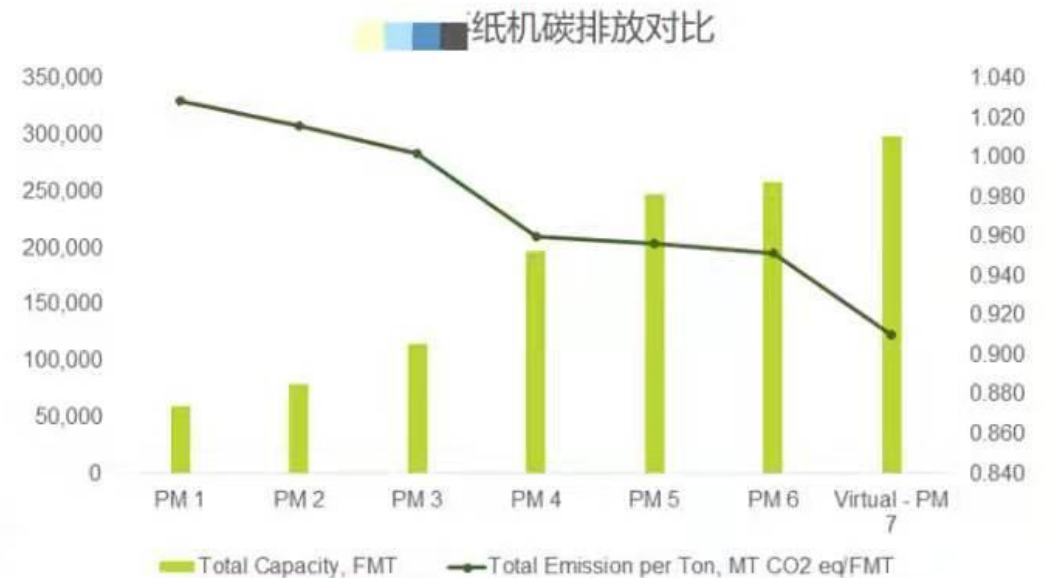


Capacity-Consumption Balanced TM

2850mm/3500mm series TM makes customers hit target capacity yet with more competitive production consumption.

Extended Equipment Life Cycle

Adopting new cutting-edge technology and advanced designing logic to extend existing equipment life cycle





Innovation and Products

Finite Element Analysis (FEA)

■ 变形云图c

Deformation nephogram c



■ 此时零部件的最大变形为**0.344**，发生在辊体中间位置

At this time, the maximum safety factor of parts is 0.344, occurs in the middle of the roll body.

Overdesign is avoided to reduce unnecessary material usage

Energy Efficient Technology: Advanced Eco Drive Units

Use IE4 and IE5 Motor

3-5% power consumption decreased

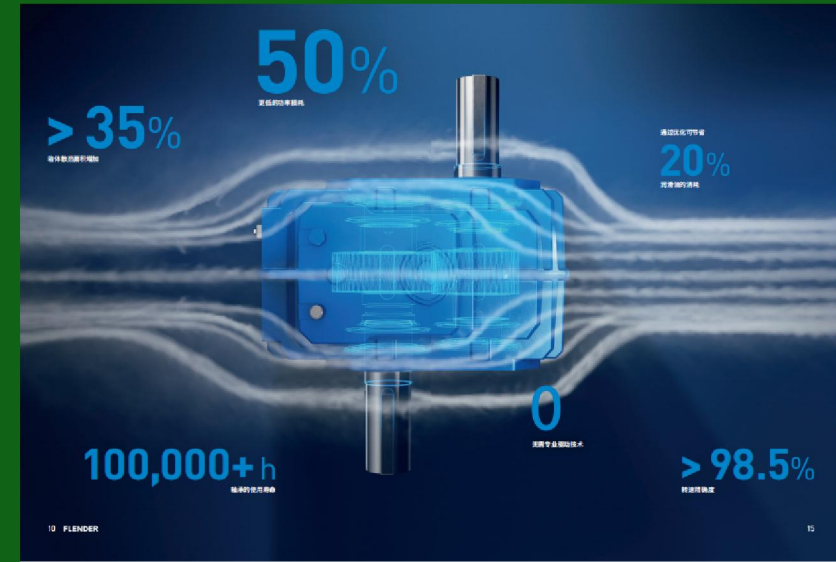
Use Permanent Magnet Direct Drive Technology

10% power consumption decreased

Power Efficiency: Flender One

35% heat radiation surface increased

20% lubrication oil usage decreased



Energy Efficient Technology: Steam Boost Thermal Pump

- Stable Paper Making at Low Steam Pressure
- High Power Efficiency
- Longer Life Time





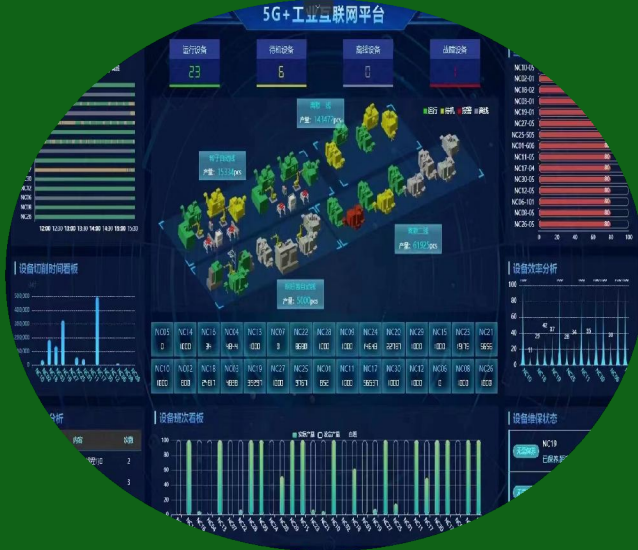
Carbon Emission Deduction

SQIC Values Carbon Emission Deduction as Major Corporation Strategy



- Set Carbon Emission Deduction Management Targets
- Make Carbon Emission Deduction Management Plans
- Implement Carbon Emission Deduction Plans
- Check Carbon Emission Deduction Plans Fulfillment

SQIC Values Carbon Emission Deduction as Major Corporation Strategy



Optimized Production Process

Reduced Waste on Energy and Consumables

Extend Life of Equipment

1. ERP/PDM/OA/TOWER: Comprehensive Digitalized Project Management

2. Smart Workshop+Consumables Management

3. Enhanced Product Life Cycle Management

SQIC Values Carbon Emission Deduction as Major Corporation Strategy

Smart Again-Manufacturing Service

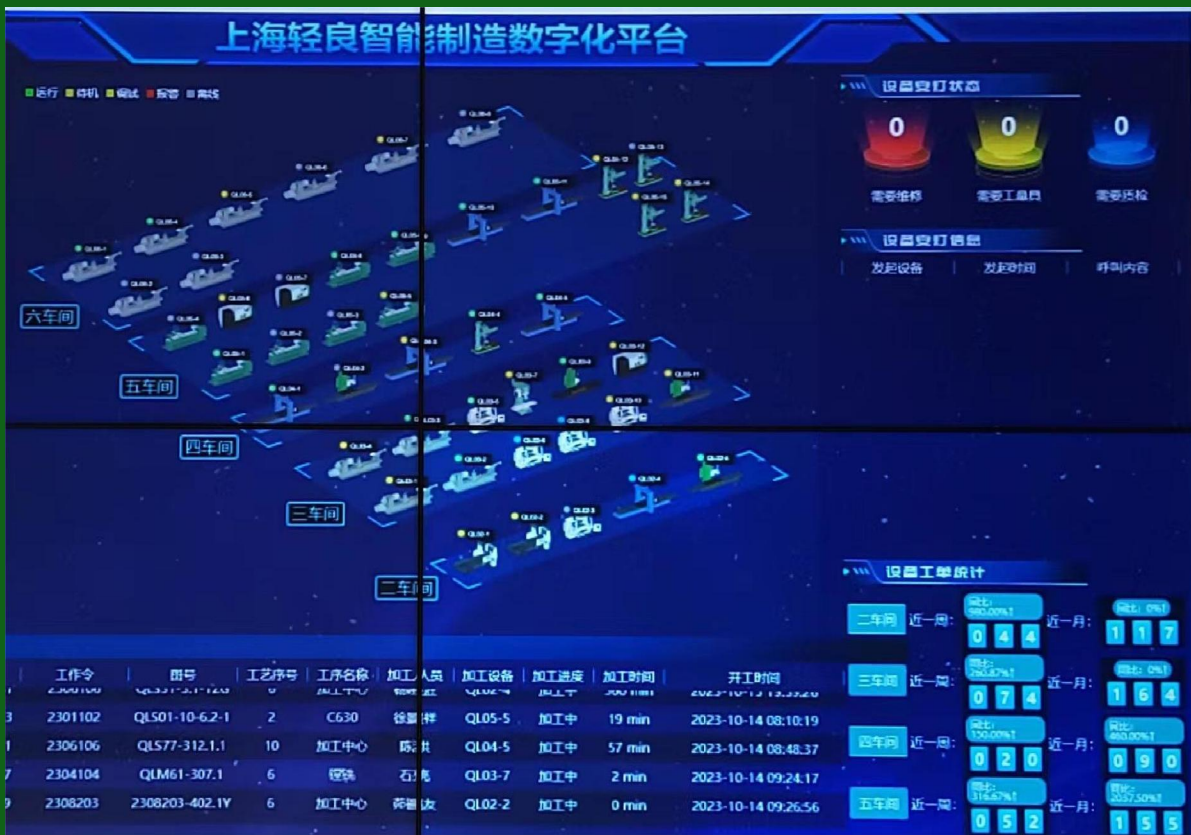


- Use @ptitude Observer system to predict endurance limit of equipment
- Find out the best recovery/repair timing and intervene early
- Unplanned shut down rate dropped dramatically
- Extend equipment life cycle

The image features a dense, vibrant green background of fern fronds. A vertical stripe of a darker, more uniform green color runs down the center of the image. Overlaid on this stripe is the text "A Glimpse of Future" in a white, bold, sans-serif font.

A Glimpse of Future

A Glimpse of Future



Use Virtual Workshop Technology to Conduct Carbon Calculation and Forecast

Carbon Footprint Management

Active Participant of Carbon Neutrality Programs

Carbon Footprint Management

- Show Preference in Green Suppliers
- Extend and Expand Green Supply Chain
- Cooperatively Develop Model of Carbon Emission in Paper Making Industry



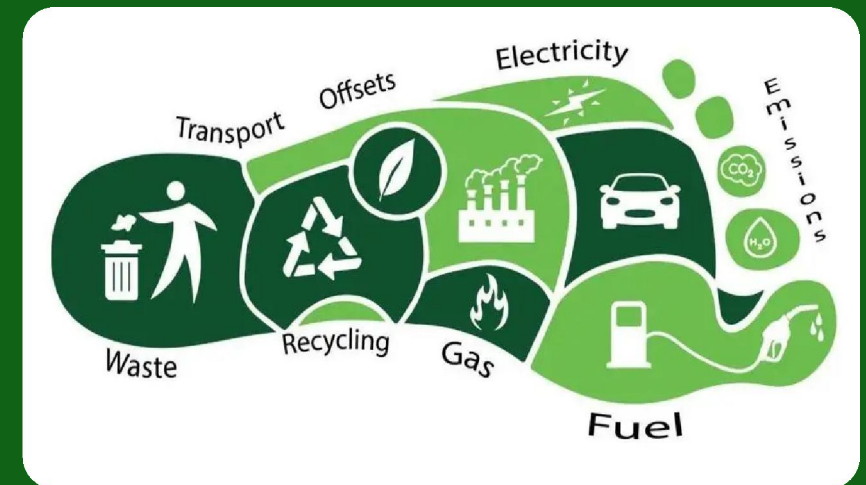
Screenshot of the eFootprint web application interface showing a Life Cycle Assessment (LCA) model for '原生木浆' (Virgin Wood Pulp).

Navigation: 原生木浆 > 目标与范围定义 > 生命周期模型 > LCA结果 > 模型文档与评审

名称	数量	单位	类别	数据库	操作
蒸汽	0t		能源	CLCD-China-0.8	🗑️
电力	0kWh		能源	CLCD-China-Public-0.8	🗑️
水	0t		能源	CLCD-China-ECER-0.8	🗑️
过氧化氢	0t		原材料/物料	CLCD-China-ECER-0.8	🗑️
醋酸	0t		原材料/物料	CLCD-China-ECER-0.8	🗑️
草类、芦苇等	0kg		原材料/物料	Ecoinvent-3.1	🗑️
烧碱	0t		原材料/物料	CLCD-China-ECER-0.8	🗑️
木片	0t		原材料/物料	实景过程数据	🗑️
稳定剂	0t		原材料/物料	Ecoinvent-3.1	🗑️
DTPA	0t		原材料/物料	Ecoinvent-3.1	🗑️
煤炭	1kg		原材料/物料	CLCD-China-ECER-0.8	🗑️

输出表 (3)

输出名称	数量	输出类型	下游过程	操作
氯气[排放到大气(未指定类型)]	0t	环境排放	----	🗑️
硫化氢[排放到大气(未指定类型)]	0t	环境排放	----	🗑️
废水	0t	待处置废物	实景过程数据	🗑️



SQIC's Carbon Neutrality Action Roadmap

- In 2025, SQIC will finish carbon calculation in whole production process.
- In 2030, SQIC will reach target of carbon neutrality in whole production process.
- In 2035, SQIC will supply the TM satisfied carbon neutrality standard.
- In 2040, SQIC will supply the PM satisfied carbon neutrality standard.



SQIC Actively Participated in Carbon Neutrality Programs

- Founder Member of China Paper Association 'Dual Carbon Strategy' Development Center
- Purchase Carbon Sink from Shanghai Environment And Energy Exchange
- Build Long Term Relationship with Forestry Enterprises to Neutralize Carbon from Production Activity



A photograph of a green plant branch with several large, oval-shaped leaves, positioned on the left side of the slide. The leaves are vibrant green and have prominent veins. The background is a light gray gradient.

Thanks For Watching!

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