Green Silk Road in Action
Brazil–China Powershoring for Decarbonization, Industrial Upgrading and Sustainable Growth

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The Global Context

Geopolitics, Climate and the New Geography of Production

- Decarbonization is reshaping global industry and trade
- Supply chains face **energy, regulatory and geopolitical pressures**
- Carbon policies, CBAM and sustainability standards are changing competitiveness
- Clean energy access is becoming the **key location factor for industry**

The geography of energy will increasingly shape the geography of industry.

The Concept of Powershoring

What is Powershoring?

Powershoring is the relocation of **energy-intensive production to regions with abundant renewable energy and environmental compliance advantages**.

- Focus on **energy availability and carbon footprint**
- Particularly relevant for **hard-to-abate sectors**
- Different from nearshoring, reshoring or friendshoring

Relevant sectors include:

- Steel, Aluminium, Fertilizers, Green chemicals, Synthetic fuels, Sustainable aviation fuels

These sectors are major candidates for relocation because of their high energy intensity.

Why Powershoring Matters

A Platform for Global Decarbonization

Powershoring creates three simultaneous benefits:

1. **Lower global emissions**
2. **Lower production costs for energy-intensive sectors**
3. **More resilient supply chains**

Global logic:

Energy-rich regions → production
Industrial economies → technology & demand

Brazil’s Strategic Advantages

Brazil: A Natural Hub for Clean Production

Brazil offers unique structural conditions:

- Electricity matrix ~ **90% renewable**
- Large **renewable expansion pipeline**
- Massive **biomass potential**
- Abundant **fresh water**
- Stable access to ports and shipping lanes

Additional strategic assets:

- Large availability of **land,** Advanced **biofuel industry,** Emerging **hydrogen projects**

Natural Capital for the Energy Transition

Brazil's Natural Capital Endowment

Brazil holds strategic resources needed for the green economy:

- Biomass
- Biodiversity
- Forest
- Water
- Renewable energy resources
- Critical minerals (nickel, lithium, graphite, rare earths, others)

These resources can support **low-carbon industrial ecosystems**.

China’s Role in the Green Transition

China: Scale, Technology and Industrial Leadership

China is central to the global green transition:

- Largest investor in renewable energy
- Leader in clean technology manufacturing
- Strong engineering and industrial ecosystems
- Global leader in solar, batteries and EV supply chains

China also faces a major challenge:

Decarbonizing large industrial sectors while sustaining growth.

Complementarity Between Brazil and China

A Powerful Economic Complementarity

Brazil: Clean energy, Natural capital, Sustainable fuels, Space for industrial expansion

China: Technology, Industrial scale, Capital, Global supply chain integration

Together they can create **low-carbon industrial corridors**.

Green Corridors Concept

Brazil–China Green Industrial Corridors

Green corridors connect:

Renewable energy hubs → green industry → global markets

Example locations in Brazil: Pecém (Ceará), Suape (Pernambuco), Açu (Rio de Janeiro), Rio Grande (RS), Itaqui (Maranhão)

These locations combine:

Ports + energy + industrial land + export processing zones →low tax, low bureaucracy, utilities, security, environment licenses

Key Sector Opportunity: Sustainable Aviation Fuel (SAF) - example

SAF represents a major opportunity:

Drivers: Aviation decarbonization targets, Rapidly growing global demand, Abundant feedstock in Brazil

Brazil:

- Biomass
- Sugarcane and corn ethanol
- Agricultural residues

China:

- Aviation market scale
- Technology and capital

Key Sector Opportunity: e-Methanol - example

Green methanol can support: Maritime decarbonization, Green chemicals, Energy storage

Brazil advantages:

- Renewable electricity
- Biomass carbon sources
- Ports and shipping infrastructure

Chinese firms could invest in:

- Production plants
- Electrolyzers
- Maritime fuel supply chains.

Other Powershoring Opportunities

Additional sectors:

- Green steel
- Green aluminum
- Green fertilizers
- Green hydrogen derivatives
- Synthetic fuels
- Pulp & bio-materials
- Green chemical

Investment Models for Chinese Firms

Three possible strategies:

1. Production for third markets

Brazil → Europe
Brazil → Asia
Brazil → global maritime fuels

2. Production for China

Brazil produces green inputs
Exports to Chinese industry

Examples: green steel inputs, green chemicals, SAF components

3. Hybrid model

Brazil production hub
China industrial processing hub

Benefits

For China:

- Accelerated, cheaper decarbonization
- Green supply chains
- Lower compliance risks
- Global market access

For Brazil:

- Industrial upgrading
- Investment inflows
- New export industries

For the world:

- Faster, cheaper decarbonization

Conclusion - Green Silk Road in Action

Brazil–China cooperation can:

- Accelerate and reduce the cost of global decarbonization
- Build resilient green supply chains, launch green corridors in scale
- Promote sustainable industrial growth

Powershoring offers a pragmatic platform for ecological civilization and economic development

Final message: The future of green industry will depend not only on technology, but on geography — and Brazil and China can shape that geography together and benefit the world – Macao can help bridge and develop this agenda

Thank You

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Brazil–China Green Industrial Corridor

Powershoring Strategy: A Global Green Value Chain