Tomorrow's Affairs
Analysis of today
Assessment of tomorrow

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Is China's “Electro-State” a sustainable model?

Another great transformation is underway in China. The world's factory is fast becoming its first electro-state, with an economy increasingly built on clean energy, AI, advanced manufacturing, and control of key strategic materials.

This new model is full of promise, though it faces major challenges.

China has established itself as the world's undisputed leader in clean-tech manufacturing. It now controls roughly 60% of all solar, wind, and battery-equipment manufacturing capacity, and over 80% of global solar-module output.

The scale of these activities has contributed to a sharp decline in costs, with solar-module prices, for example, falling by around 80% in the past decade.

Reinforcing this dominance, China has also gained a stranglehold over rare-earth minerals – vital to the manufacture of a wide range of high-tech products, such as electric vehicles, wind turbines, and AI-enabled sensors.

Today, China controls over 40-50% of global rare-earth reserves and almost 70% of rare-earth production and refinement.

Meanwhile, China's massive investments in strengthening its innovation capacity, particularly in AI, are paying off.

China now boasts more than half the world's AI researchers and some 70% of its AI patents, and has cracked the top ten in global innovation indices, such as that produced by the World Intellectual Property Organization.

All of this amounts to an astonishing feat of long-term strategic positioning.

Every element of the unfolding global economic transition – from the supply of key inputs to the manufacture of high-tech goods to the design and financing of new industrial and energy systems – now depends significantly on China.

Whether you are the United States seeking access to rare earths, or a developing economy in need of clean-energy infrastructure, you turn to China.

A serious vulnerability

At least that is the plan. As powerful as China may seem as a leading exporter of critical minerals and technologies, its position perpetuates the dependence on external demand from which it has been trying to escape.

At a time when rising protectionism and national-security concerns are reshaping global supply chains – often away from Chinese suppliers – this may turn out to be a serious vulnerability.

China's looming demographic crisis compounds the risks. The working-age population is shrinking, the old-age dependency ratio is rising, and the fertility rate has fallen to well below replacement levels.

With fewer workers, income and consumption growth may slow, undercutting the government's efforts to shift the economy to a consumption-led growth model.

Recent housing-sector developments do not help matters. In recent decades, real-estate prices soared in China, owing to factors like rapid urbanization, local governments' dependence on land sales for revenue, and robust growth expectations.

> A combination of weak demand, overcapacity, and high leverage has caused China's real-estate sector to tumble

Housing thus became the primary engine whereby Chinese households increased their wealth.

But a combination of weak demand,

overcapacity, and high leverage has caused China's real-estate sector to tumble, destroying household wealth and eroding consumer confidence.

The decline in prices may have resulted in more than CN¥3 trillion ($424 billion) in foregone household spending since 2021.

Add to that slowing productivity growth and high youth unemployment (around 17.5% for people aged 16-24), and China's middle class may struggle to serve as the consumer base and innovation engine the country needs.

An inflection point

China has thus reached an inflection point. It has built the machinery of an innovative, low-carbon industrial economy – one that could lead the global net-zero transition and the unfolding AI revolution.

But if this electro-state is to be sustainable, China must make progress in three critical areas.

First, productivity must increase, not through more robots or factories, but through continued innovation, skills-building, effective management, and service-sector upgrading.

Research-and-development intensity matters here: a 10% increase in R&D expenditure as a share of GDP could deliver a 7% boost to manufacturing productivity.

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Second, China must find ways to accelerate the economy's rebalancing toward domestic demand.

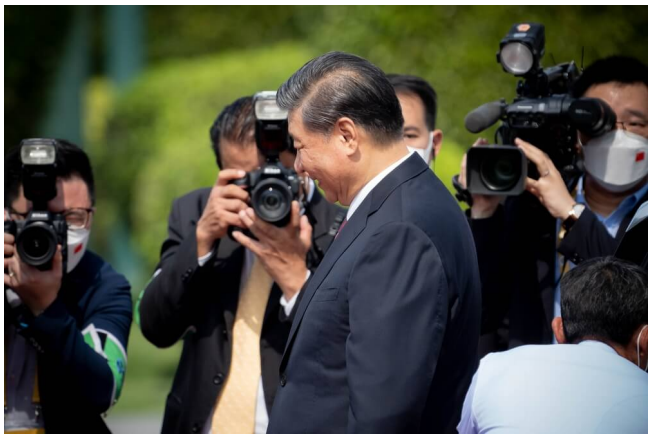
To this end, efforts must be made to bolster household incomes and wealth, consumer confidence, and job creation, such as by fostering service industries – including care activities (elder-care, health) – and shifting labor from manufacturing and real estate into consumption-oriented sectors.

Lastly, China must manage external dependencies wisely. While greater self-reliance is essential, so are strategic partnerships, predictable trade relationships, and transparent frameworks for cooperation.

Leverage over other countries

Whatever happens next, the implications for the rest of the world will be far-reaching.

On the upside, China's transformation is lowering the cost of renewables, expanding the supply of clean tech, and delivering new infrastructure investment across Asia and Africa.



China's techno-industrial advancement will always be viewed through a geostrategic lens - Xi Jinping

Already, China is playing a critical role in helping developing economies to leap-frog fossil fuel-based systems.

But China's "electro-state" strategy also gives it considerable leverage over other countries, which, as its recent imposition of export restrictions on rare-earth minerals showed, it may weaponize.

China's techno-industrial advancement will always be viewed through a geostrategic lens.

As the country tightens its grip on raw

materials and high-tech manufacturing, others must decide whether to double down on cooperation with China, diversify their supply chains away from it, or risk being locked out altogether.

For Hong Kong and the wider Asia-Pacific, the message is clear: the era of low-cost manufacturing arbitrage is ending, and AI, green infrastructure, and digital hardware are the new frontiers of economic growth and prosperity.

With China positioning itself as a supplier, designer, and powerhouse of this new economy, countries across Asia and beyond will need to adapt, engaging with China, hedging against bottlenecks, and re-working their own industrial models.

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