# Resilient Infrastructure, Sustainable Industrialization, and Technological Innovation

Resilient infrastructure, sustainable industrialization, and technological innovation are the bedrock of economic growth, social cohesion and climate resilience. Recognized as UN Sustainable Development Goal 9 (SDG 9), these pillars are essential for more than just economic stability; they represent the vital intersection of social equity and ecological integrity.

Recent global shocks have slowed economic progress and destabilized traditional industrial systems. Yet, amidst this volatility, artificial intelligence (AI) and digital production have scaled at a record pace, fundamentally redefining industrial production. Today, these technologies are the primary engines of economic recovery, essential for countries seeking structural transformation and sustainable, high-quality development.

As one of the world's most densely populated and economically vibrant regions, the Lancang-Mekong region benefits from strategic geographical connectivity, rich resource endowments, strong industrial capacity, and favourable demographic structures. It stands at the forefront of efforts to advance sustainable industrialisation, strengthen regional connectivity, and deepen cooperation in science and technology. In recent years, the region has maintained solid growth momentum, with economic expansion exceeding the global average. Investment among the six Lancang-Mekong countries has continued to increase, while both physical and institutional connectivity have improved through sustained infrastructure development.

Key projects such as cross-border power grids have made tangible progress. Hydropower and new energy initiatives have formed growing industrial clusters. Meanwhile, industrial relocation has accelerated, with sectors including electronics, automobiles, agricultural processing, and green energy equipment increasingly concentrated across the region, facilitating cooperation along industrial and supply chains.

Despite these advances, the region still faces persistent challenges. These include inadequate infrastructure provision, slow energy transition within industrial systems, limited digital transformation and AI application capacity, insufficient supply chain

integration, and underdeveloped mechanisms for cross-sectoral and cross-departmental human resource collaboration. Addressing these challenges collectively constitutes a defining task for the six Lancang-Mekong countries in the present era.

Against this backdrop, the youth of the Lancang-Mekong region are called to engage with issues of resilient infrastructure, sustainable industrialization, and technological innovation. Through a spirit of openness, creativity, and collaboration, they can help build shared understanding, exchange ideas, and explore a "Lancang-Mekong Approach" that harmonizes economic efficiency with social equity and green development.

## Sub Themes

***Resilient Infrastructure: the Joint Construction of Long-Term Resilient and Sustainable Systems (Track 1)***

Infrastructure reduces production costs, generates employment, and facilitates regional trade, serving as the foundation of modern economies. In recent years, investment in infrastructure across the Lancang-Mekong region has increased significantly. Major projects – including the accelerated development of the China-Thailand High-Speed Railway, the China-Laos Railway, Cambodia's Phnom Penh-Sihanoukville Expressway, and Hanoi Metro Line 2 in Viet Nam – have been successfully implemented. These initiatives have provided critical support for disaster response, industrial efficiency enhancement, and regional connectivity.

Nevertheless, the region continues to face challenges related to insufficient resilience and sustainability in infrastructure development. These weaknesses undermine countries' capacities to respond to sudden disasters and constrain the stable development of industries. To address these gaps, the following questions should be considered.

**Question 1:** How can disaster risks and climate adaption strategies be systematically assessed in the planning of transport, energy, water conservancy, and communications infrastructure to ensure long term resilience from the inception?

**Question 2:** How can standardisation and digital management be advanced during infrastructure renewal and expansion to strengthen monitoring, early warning, and emergency response capabilities?

**Question 3:** How can infrastructure layouts between urban and rural areas and across regions be optimised so that remote communities and vulnerable groups gain equitable access to safe and reliable services?

**Question 4:** How can the Lancang-Mekong cooperation mechanisms be leveraged to promote the development of interconnected infrastructure?

***Green Transition: the Advancement of Energy Reform and Low Carbon Industry (Track 2)***

*The Global Tipping Points Report 2025* warns that as global warming exceeds 1.5 degrees Celsius, the world is approaching multiple catastrophic climate thresholds. In this context, green transition has become an urgent shared responsibility. Lancang-Mekong countries have undertaken tangible steps. Vietnam's Can Tho waste-to-energy project offers an environmentally sound solution; Thailand has accelerated its rooftop solar reform; and China has continued to deepen cooperation with regional partners on energy transition, with a large number of clean energy projects benefiting local communities.

Despite these efforts, the share of renewable energy in the Lancang-Mekong region remains relatively low, and the overall industrial system is still characterised by high energy consumption and high emissions. Therefore, the following issues require further reflection.

**Question 1:** How can the share of renewable energy be increased and regional energy systems made cleaner and more efficient through accountability mechanisms and technological innovation?

**Question 2:** How can cleaner production processes be designed through institutional and technological innovation, building on existing industrial foundations and resource advantages?

**Question 3:** How can green finance and policy incentive mechanisms be used to guide enterprises toward energy-efficient, low-carbon, and sustainable production technologies?

**Question 4:** How can the transformation and utilization of green energy be advanced alongside industrial development, in order to balance economic growth with energy

conservation and emissions reduction?

***Digital Technology: the Acceleration of Digital Transformation and Artificial Intelligence Application (Track 3)***

Digital technologies and artificial intelligence are the new engines for enhancing productivity, optimising resource allocation, and enabling real-time decision making. They have become increasingly important drivers of industrial upgrading and governance modernisation. Lancang-Mekong countries have actively pursued digital transformation and AI applications. Thailand has advanced industrial upgrading through its "Thailand 4.0" strategy; Vietnam has accelerated digital infrastructure development, with 5G coverage approaching 40 percent, alongside the implementation of multiple data centre and artificial intelligence projects. Currently, digital technologies have been gradually applied in agriculture, traffic management, and manufacturing, demonstrating considerable potential in improving efficiency and expanding access to public services.

However, the region still faces notable gaps in the depth of digital transformation, AI application capacity, and accumulation of core technologies. The following questions serve as a roadmap for addressing these challenges.

**Question 1:** Under conditions of constrained energy supply, how can AI, the industrial internet, and data platforms be used to promote digital upgrading in the industrial sector, enabling traditional industries to achieve low-cost and high-efficiency transformation?

**Question 2:** Given disparities in technological foundations among Lancang-Mekong countries, how can application-oriented digital pathways that meet local industrial needs be developed to prevent the further widening of the digital divide?

**Question 3:** How can digital skills and AI literacy be popularized in contexts of limited educational resources, particularly for small and medium enterprises, remote areas, and vulnerable groups?

***Supply Chains and Regional Cooperation: the Construction of a Stable and Resilient System (Track 4)***

Supply chains link production, circulation, and markets, with their stability directly affecting regional industrial security and development quality. In recent years, cooperation among Lancang-Mekong countries has intensified. *The Regional*

*Comprehensive Economic Partnership (RCEP)*, which entered into force in 2022, significantly enhanced trade and investment facilitation and accelerated regional supply chain integration. In the same year, the *China-Cambodia Free Trade Agreement* took effect, marking a milestone in bilateral economic and trade cooperation. Additionally, industrial parks and special economic zones in Thailand, Cambodia, and Laos have promoted cross-border industrial clustering and strengthened supply chain complementarity.

Nonetheless, the regional supply chain remains structurally limited, with weak coordination mechanisms and high dependence on external markets or single nodes. Accordingly, the following questions should be considered.

**Question 1:** Under conditions of complex regional mechanism and institutional congestion, how can institutional coordination and infrastructure connectivity be optimised to reduce logistics and transaction costs and improve supply chain efficiency?

**Question 2:** In a volatile external environment, how can regional division of labour be better coordinated to strengthen supply chain resilience and shock resistance?

**Question 3:** In the context of increasing industrial convergence, how can free trade agreements and cooperation zones support the extension of supply chains into higher value-added segments and facilitate joint upgrading?

***Human Resources and Cross Regional Collaboration: the Capacity Building for Collaborative Governance and Sustainable Development (International Organization Track)***

Established in 1996 and transformed into an intergovernmental organisation in 2007, **Mekong Institute** has long supported the Lancang-Mekong cooperation mechanism. Its member countries include China, Cambodia, Laos, Myanmar, Thailand, and Vietnam. The Institute focuses on labour force development, sustainable agriculture, trade and investment facilitation, and environmental and energy cooperation. Through policy dialogues, human resource training, joint research, and field studies, it provides platforms for exchanges and cooperation among governments, enterprises, and research institutions, contributing to regional integration and sustainable development.

Human resource development is essential to deepening cooperation and strengthening regional governance capacity. With support from partners such as the Lancang-Mekong

Cooperation Special Fund Projects, the Mekong Institute has advanced transnational capacity building through training programmes, joint research, policy seminars, and practical projects. These initiatives have enhanced professional skills and cooperation in infrastructure, industrial development, and technological innovation.

Nevertheless, the region continues to face challenges including uneven educational foundations, underdeveloped transnational talent mechanisms, and weak alignment between training and development needs. The following questions should be considered.

**Question 1:** How can international vocational education and training cooperation be strengthened to support key regional industrial chains and supply skilled personnel for manufacturing and infrastructure?

**Question 2:** How can international organisations such as the Mekong Institute foster collaboration among governments, academia, and industry by embedding training and capacity building within concrete projects, forming a positive interaction between human resource training, policy practice and industrial application?

**Question 3:** How can mutually recognised vocational certification standards and cross-border labour management mechanisms be designed to improve regional talent mobility and coordination?