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# **ВОПРОСЫ ИСТОРИИ, АРХЕОЛОГИИ, ПОЛИТИЧЕСКИХ НАУК И РЕГИОНОВЕДЕНИЯ**

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## CHINESE INNOVATIONS IN INFRASTRUCTURE

This article examines the solutions which China uses to become a modern, green, self-efficient country. In order to make China more eco-friendly, more comfortable, and safe for living, authorities extend the length of roads, increase the number of parks, popularize electric cars and hydrogen-powered vehicles, and implement new technologies in constructing “vertical forests” and “city forests”. The situation with air pollution is critical and needs resolving immediately. The government attracts talented people from all over the globe to build a prosperous society for Chinese citizens and citizens along “One Belt, One Road”.

**Keywords:** infrastructure, hydrogen-powered, vertical forest, forest city, “One Belt, One Road”.

The Chinese government seeks to make cities safer, cleaner, greener, more energy efficient, smart, and comfortable for living. Government initiatives as well as support inspire local and foreign entrepreneurs.

In 2008, the State Council issued a plan called “Four Vertical and Four Horizontal”. With the realization of the plan, the total railway expansion is expected to reach 120,000 kilometers, including 16,000 kilometers of high-speed railways by 2020. The 2020 goal was reached in 2015. Nevertheless, the demand for railways is still growing. As a result, China upgraded the goal in 2015, planning to form an “eight vertical and eight horizontal” rail network that runs 175,000 kilometers, including 38,000 kilometers of high-speed rail by 2025 [1]. Road infrastructure development is a necessary tool to narrow the gap between China’s cities, increase labor productivity, ensure industrial growth, and develop regions. Building road infrastructure enables small cities’ dwellers to have a prestigious, well-paid job in major metropolises by commuting fast and saving money on renting expensive flats or rooms near their jobs.

In addition, Chinese authorities care not only about speed records and convenience, but also about the environment. One way of reducing harmful emissions is using trams powered by hydrogen fuel cells. The first commercially-operated hydrogen-powered tram in the world was produced by the China Railway Rolling Stock Corporation (CRRC) Tangshan Co., Ltd. The tram emits no pollutants, only water [2]. Obviously, it has a huge positive impact on developing green cities. According to the city development plan, in Wuhan, the capital of the central China’s Hubei province, a “hydrogen city” will be erected as a result of advancement in the hydrogen energy. The city will build up to 20 hydrogen fueling stations from 2018 to 2020 to support about 3,000

hydrogen fuel cell powered vehicles. Therefore, Wuhan is scheduled to become a world hydrogen city by 2025, with 3 to 5 world leading hydrogen enterprises and 30 to 100 hydrogen fueling stations [3].

The next crucial issue is carbon dioxide emissions from cars. Fortunately, electric cars are now popular among Chinese people. The government encourages citizens to buy these vehicles, providing free parking spaces. China's State Grid has planned to establish an electric vehicle (EV) network of 120,000 public charging piles for electric cars by 2020. The network will cover the Beijing-Tianjin-Hebei-Shandong and Yangtze River Delta cities, and major cities in other regions. In 2017, the State Grid EV Service Company installed charging piles in 10,000 parking spots in some old residential communities in Beijing and Shanghai [4]. With China becoming more and more open, global leaders penetrate into the Chinese market, invest tremendous sums, and build plants. The US automaker Tesla is reported to hold talks with Shanghai to construct a factory, and the company is "deeply committed to the Chinese market". [5] Moreover, Ford recently announced a joint venture with Anhui Zotye Automobile to produce and sell electric cars in China, planning to make 15 models by 2025 [5].

"Green" transformation is under way. In the country dozens of mines have been halted in order to make the air more clear. Such a situation is clearly seen in the coal-rich province of Shanxi in North China. However, it gives the authorities and enterprises the opportunity to substitute the energy from coal by using solar cells or gas. Thus, Taiyuan replaced all its 8,000-plus cabs with electric ones becoming the first city in China to eliminate fuel cabs. To cut emissions further it is planned to add 1,000 electric buses [6].

Local authorities encouraged to spread more greenery around the cities, build parks, incorporate efficient storm water management, and enhance biodiversity. They attract talented people with glorious ideas to implement them in China. One of the brilliant examples is an architect from Milan Stefano Boeri Architetti. His Master Plan for a new green city that fights against air pollution is now under construction in China in Nanjing, Liuzhou, Shanghai, and Shenzhen.

Nanjing Green Towers, promoted by Nanjing Yang Zi State-owned National Investment Group Co.Ltd, will be the first Vertical Forest built in Asia this year. The project aims at constructing high-rise urban buildings completely covered by trees and plants. This coexistence of architecture and nature in modern metropolises gives more space both for people and greenery [7]. In addition, the Forest City that is going to be built in the mountainous area of the Guanxi province in Liuzhou seems an amazing project. The city will combine all the characteristics of an energy self-sufficient urban construction hosting 30,000 people in a residential area with houses, hotels, hospitals, and 2 schools

entirely covered by trees and plants. It allows absorbing almost 10,000 tons of carbon dioxide and 57 tons of pollutants per year and producing approximately 900 tons of oxygen. This residential area will be connected with Liuzhou through a fast rail line for electric cars [8]. Such an innovative settlement is important for today's busy China as it combines efficiency and convenience. Moreover, it uses renewable energy, increases biodiversity, and, as a result, reduces air pollution, which is critical nowadays. Hence, replication of such infrastructure is crucial and must be implemented in other areas with high-pollution rates. The way it fights with overheating in cities and clearing the air can help to fight with climate change and create a successful model for our planet's future.

In addition, the Chinese President Xi Jinping promotes "One Belt, One Road" initiative stimulating mutually beneficial economic, cultural, and human interconnectedness between countries in Asia, Africa, and Europe accompanied by sustainable development and improvements for physical, logistical, and digital infrastructure. The initiative will also boost science and technology across the region, for example, through creating smart cities [9]. China is planning to provide assistance to Indonesia by building, developing, and working with urban transport, urban water supply and sanitation, solid waste management, slum upgrading, drainage, in the case of floods and other natural disasters, and affordable housing [10]. In Georgia, it is planned to construct tunnels and bridges over rivers and valleys [11]. Moreover, in India the Chinese are going to use innovative technologies in constructing, upgrading, and maintaining roads and structures as an experiment [12].

Therefore, China is striving for new effective models of cities, developing road infrastructure, and residential areas, it is trying to reduce harmful emissions and inspire the world to build prosperous future.

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## **CHALLENGES FACING THE UN: INTERNATIONAL TERRORISM**

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International terrorism is a threat for the humanity and a global challenge for the United Nations, since it is the core of the modern world and the only organization which is able to solve many international problems. The article examines measures taken by the UN to combat international terrorism. The author examines the international UN conventions. It has been proved that international terrorism can only be dealt with thanks to the joint operations of the entire international community by ratifying international conventions, suppressing attempts to use terrorism as a source of enrichment and developing new methods of struggle.

**Keywords:** UN, convention, fight against international terrorism, terrorist act.

19<sup>th</sup> September, 2017 the Secretary General of the UN Antonio Guterres in his speech at the 72<sup>nd</sup> session of the General Assembly called seven the most dangerous challenges for the humanity. He began with the words "Our world is in trouble ". Among the main threats he marked: the nuclear peril, a global