

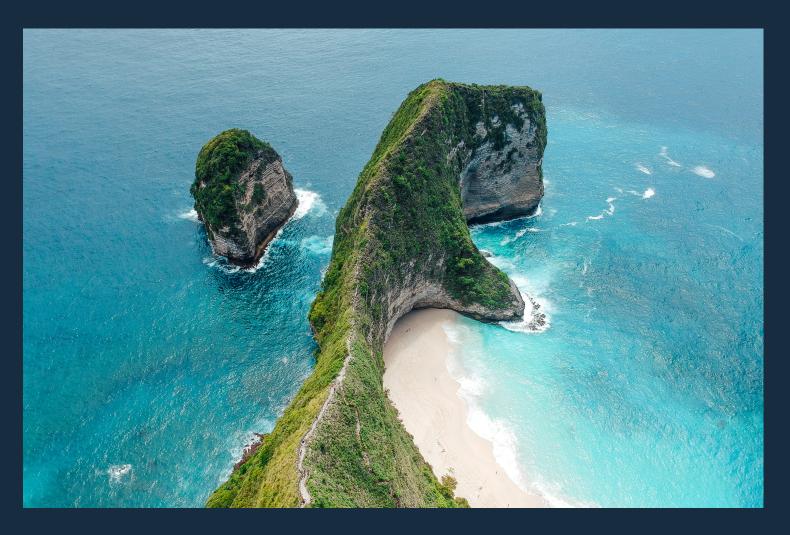
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RECALLING THE ORIGIN AND CONSTRUCTION OF MARITIME CITIES!



The rapid development of cities has led to the majority of Japanese residents settling in floating cities on the sea. Since the construction of the first floating city on the sea, significant progress has been made in this field of technology. Currently, more than half of Japanese residents have moved into floating cities on the sea, and according to feedback from residents, they all feel that the stay experience is very good. Next, we will briefly review the origin and development process of floating cities on the sea.



The Kikutake Classic Ocean City project, designed between 1958 and 1963, was the first and most influential proposal to construct "giant buildings" in the sea after the dissolution of CIAM (ArchEyes, 2020).

In 2023, in response to rising sea levels and numerous climate and environmental issues, Japan is leading a new way of life by building a revolutionary floating city called "Dao Yuan City" (Fahrenheit Magazine, 2023). Establish an independent and climate adaptive ocean city, known as NEW OCEAN, capable of accommodating approximately 40000 people.

This floating city with a diameter of 1.58 kilometers and a circumference of about 4 kilometers will become the center of innovation and sustainable development. Dogen City is a sustainable floating city concept from N-Ark (Stewart, 2023). In 2030, the first floating city on the sea - Dogen City - was built here!

DOGEN CITY FUNCTIONS





ANNUAL POWER GENERATION | 年間発電量

🖮 22,265,000kW

ANNUAL WATER CONSUMPTION | 中間生活用水量

ANNUAL GARBAGE DISPOSAL | 年間ゴミ処理量

同 3.288t

ANNUAL FOOD PRODUCTION | 年間食料生産量

12 6,862t

In Japan, the scale of Dogen City, a maritime city, has gradually expanded and has long been a Xintiandi for Japanese residents.

Japanese residents live in spacious and comfortable water houses with good environments, fresh air, and advanced medical facilities. Each resident living here wears a wristband on their hand. The wristband collects and analyzes people's daily physical condition, and transmits this information to the medical center inside the sphere, facilitating communication with medical personnel and understanding their physical condition. Here, people's health and safety are further guaranteed.

In the coastal city, the reporter interviewed residents Mr. and Mrs. Kobayashi, who were among the first residents of Dogen City. Mrs. Kobayashi excitedly told me, "We have found our ideal home here. Every morning, we can see the endless sea, feel the fresh sea breeze, and feel particularly happy."

Mr. Xiaolin added, "Moreover, the living conditions and medical equipment here are very advanced. The government has equipped each resident with a wristband. This wristband is particularly intelligent, and thanks to it, I was able to detect physical abnormalities in the past few years and communicate with doctors for treatment promptly. Moreover, our work and life have become more convenient and comfortable."



Dogen City will offer healthcare and medical tourism combining foodstuffs produced by seawater agriculture and aquaculture complexes, cuisines, and seawater thermal springs. It will also host natural disaster victims and climate refugees and provide advanced education.

 m 0.1

Telemedicine

Realization of a disease-free society through telemedicine based on living area data.



 $^{m}02$

Medical Edge Computing

Medical Innovation through Edge Computing.



 $^{m}03$

Medical Tourism

Medical Foods and Cuisine Nurtured in Maritime Cities.



~04

Food Is Medicine

Culinary experiences and food production that embody medical cuisine.



-05

Natural Disaster Solution

Evacuation site function for natural disasters such as earthquakes, floods, and tsunamis



~06

Climate Refugees Solutions

Acceptance of Climate Refugees and Human Resource Development through Advanced Education.



Whether it's work or entertainment, one can find satisfaction in a maritime city. High-speed water trains shuttle between cities, allowing people to easily and quickly reach their destinations. Within cities, bicycles, electric bikes, and walking are the main modes of transportation, enabling people to live healthier lives.

At the same time, maritime cities also pay attention to environmental protection and sustainable development. Cities utilize renewable resources such as seawater and solar energy to achieve energy self-sufficiency and establish a sound marine ecological protection system, protecting the diversity of marine organisms and the stability of ecosystems.

In maritime cities, people live in a green, intelligent, and healthy environment. Cities not only focus on the material life of residents but also pay more attention to their spiritual and cultural needs. The plan from a hundred years ago has finally been realized and improved, becoming a dream paradise for humanity to pursue a better life. People live a happy, healthy, and prosperous life here, harmoniously coexisting with nature and facing future challenges and opportunities together.

THE IMPORTANCE OF ESTABLISHING "THE LINE" IN ADDRESSING SAUDI ARABIA'S CHALLENGES



Saudi Arabia, located in an arid location, has formidable obstacles arising from climate change, population expansion, and reliance on resources. Saudi Arabia has suggested the creation of "The Line," an innovative urban planning project designed to tackle these difficulties in a sustainable manner. This study explores the climate change problems, population growth pressures, and resource dependence concerns that Saudi Arabia is now experiencing. It emphasises the urgent need to construct "The Line" as a practical and effective solution.



CLIMATE CHANGE CHALLENGES

The desert and high-temperature environment of Saudi Arabia presents notable socio-economic concerns. Climate change intensifies severe weather phenomena, droughts, and the increase in sea levels, posing a danger to socio-economic progress. Prolonged droughts and high temperatures have caused a decrease in agricultural output and land degradation, which has had a negative influence on both food security and ecological balance (Al-Khlaifat & Al-Mansour, 2021).

"The Line" presents a pioneering resolution to the climatic difficulties faced by Saudi Arabia. The primary objective of "The Line" is to decrease energy consumption and carbon emissions by incorporating green technology and intelligent systems. This initiative also seeks to encourage the use of renewable energy sources and mitigate the effects of climate change. Urban planning encompasses several factors such as the construction of energy-efficient buildings, the implementation of intelligent transportation systems, and the establishment of renewable energy facilities. These measures together aim to reduce carbon emissions and improve the overall ecological condition.

DEMOGRAPHIC EXPANSION CHALLENGES

The rapid increase in population in Saudi Arabia has expedited the process of urbanisation, resulting in significant strain on the current cities and resources. The growth of urban areas and the growing need for infrastructure worsen social and economic difficulties. Inadequate urban planning and land use practices throughout the process of urbanisation are factors that lead to socioeconomic inequality and poverty (Al-Sulami, 2019).

The establishment of "The Line" offers a chance for the implementation of sustainable urban development in Saudi Arabia. By optimising the layouts of cities and constructing infrastructure more efficiently, we can effectively handle population expansion while simultaneously lowering resource use. The integration of urban design with ecological conservation and social equality objectives enables a happy cohabitation between people and environment.

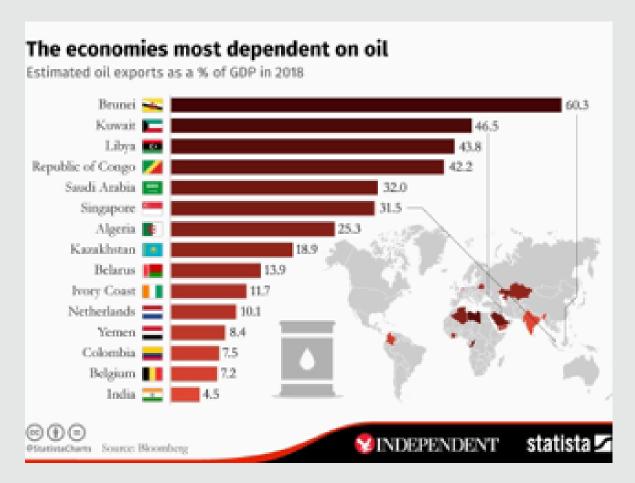
RESOURCE DEPENDENCY

The strong dependence of Saudi Arabia on oil resources poses dangers of resource depletion and energy instability. Economic vulnerabilities stem from over reliance on oil, rendering the economy highly susceptible to swings in worldwide oil prices. It is crucial for long-term sustainability to diversify the economy away from oil (Al-Rashidi & Ayoub, 2018).

"The Line" provides a means to achieve economic diversification and sustainability.
"The Line" seeks to diminish dependence on oil by bringing advanced and inventive businesses, so promoting economic structural advancements and changes. The integration of urban planning with technology innovation and industrial development fosters the growth of new industries such as smart manufacturing, digital economy, and green energy.



CONCLUSION



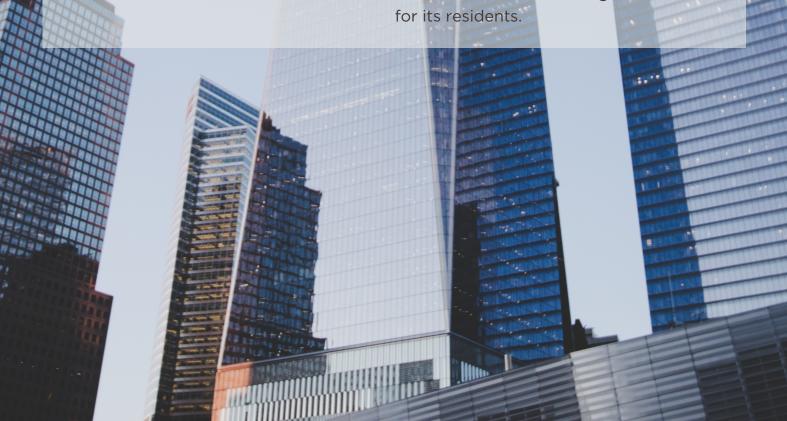
Given the climate change problems, population growth constraints, and resource dependence concerns that Saudi Arabia is now confronting, it is crucial to construct "The Line". "The Line" tackles these difficulties and supports economic diversification and environmental conservation by using inventive urban design and sustainable development ideas. The creation of "The Line" showcases Saudi Arabia's dedication to leading the way in sustainable solutions and actively participating in global sustainable development initiatives.

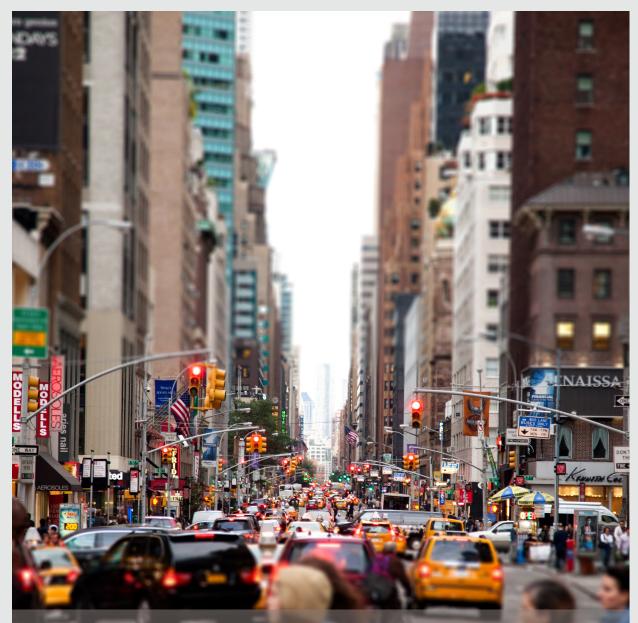


Building the New York of the Future

The ambitious PlaNYC initiative in New York City attempts to solve the problems that municipalities are currently facing and to create a more wealthy, sustainable, and livable future. This article will provide a thorough analysis of the objectives, history, and successes as well as difficulties encountered throughout the implementation of PlaNYC. As one of the world's largest cities, New York, is confronted with a number of issues, including the strain of an expanding population, heavy traffic, air pollution, and climate change. The New York City government introduced the PlaNYC initiative in 2007 to address these issues. The program's goal is to use a sustainable development strategy to enhance the city's social, economic, and environmental circumstances.

The PlaNYC plan was born out of the vision of New York Mayor Michael Bloomberg. In its first version, released in 2007, the plan set out a series of goals and measures covering everything from reducing carbon emissions to improving the public transport system. Through this plan, the New York City government seeks to achieve its goal of reducing the city's carbon emissions by 30 percent by 2030 and to improve the city's environmental quality and the quality of life for its residents. The PlaNYC plan includes more than 100 specific goals and initiatives covering all aspects of the city's development. These include expanding green space, improving transportation systems, increasing energy efficiency in buildings, reducing waste generation, and improving water management. Through these goals and initiatives, the New York City government seeks to achieve sustainable urban development and create a more livable living environment for its residents.





Several achievements have been made in New York City since the PlaNYC initiative began. Some of the improvements made to the city include the expansion of green space, the improvement of the public transportation system, and the energy efficiency of the structures. Nonetheless, the PlaNYC initiative has encountered several obstacles, including inadequate financial support and inadequate enforcement of policies. Thus, in order to meet more sustainable development targets, the New York City administration must step up its support of the program.

The administration of New York City launched the PlaNYC program as a significant effort to address a number of issues and provide a strong basis for the city's sustainable growth. Even though the plan's execution will not be easy, the NYC government must persevere and use creativity to accomplish the objectives outlined in the plan and breathe fresh life into the city's future growth.

Over the past decades, urban planning has been the focus of close attention by many city governments and community groups. Among them, New York City's PlaNYC (Plan for a Sustainable New York City) is considered one of the most ambitious urban planning projects in the world. Through PlaNYC, New York City set a series of ambitious goals, including reducing carbon emissions, increasing public transport, improving air pollution and protecting natural resources.

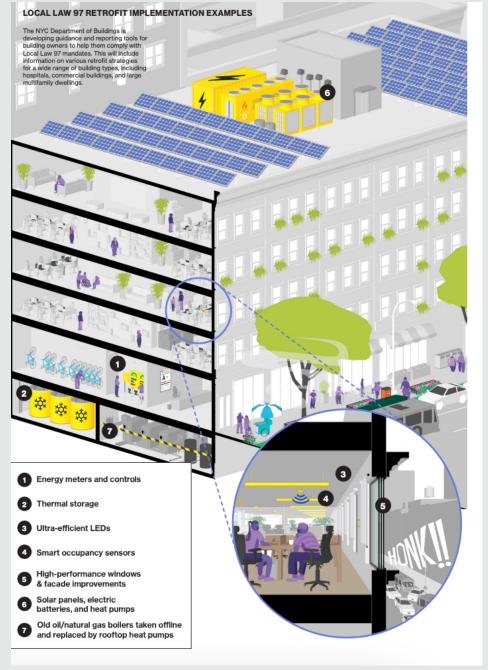
But what changes will come to New York City when PlaNYC is completed? This question has attracted widespread attention from the public and experts alike.

First, the completed PlaNYC will bring significant environmental improvements to New York City. By reducing vehicle emissions, improving waste disposal and increasing energy efficiency, New York City will see a cleaner, healthier environment. This will have a positive impact on the quality of life of residents and help reduce the adverse effects of environmental pollution on human health.

Urban planning has drawn a lot of attention from local governments and community organizations in recent years. Plan for a Sustainable New York City, or PlaNYC, is one of the most comprehensive urban planning initiatives in the world. It is located in New York City. A number of lofty objectives were established by New York City via PlaNYC, including lowering carbon emissions, expanding public transportation, enhancing air quality, and safeguarding the environment.

OBJECTIVE	GOAL	INITIATIVE	ACTION
Protecting Us From Climate Threats	EXTREME HEAT	1 Maximize access to indoor cooling	 Develop a maximum summer indoor temperature policy to protect all New Yorkers from extreme indoor heat by 2030 Include mandatory cooling
		-	requirements for new construction by 2025 • Reform the Home Energy Assistance Program to cover equipment and energy costs for cooling
		2 Cool our built environment	 Install 1 million square feet of cool roofs annually invest in pools and swim safety programs in environmental justice communities
		3 Achieve a 30% tree canopy cover	 Expand the Tree Risk Management Program, and in 2023, establish the Climber and Pruner Training Program plot. Ensure that all new buildings meet the City's street tree planting requirements through improved enforcement by 2035. Incentifize New Yorkers to steward green spaces by 2031. Maximize tree preservation and planting opportunities, including in areas with challenging site conditions, by 2033.
	FLOODING	Create a new leadership structure for coastal flood resilience in 2023, headed by DEP	Create a new leadership structure for coastal flood resilience in 2023, headed by the Department of Environmental Protection
		Implement a multilayered strategy for flood resilience	• Develop minimum Boot preliabros standards for shoreline assets by 2020; • Continue to design and construct world-clear neighborhood scale coasial protection projection and partner with brilled States. Anny 200 or Elipspeers (LESCOE) New York & Rev ways feare & Tributiers Fearibility Study (NYNAMS) process • Develop a stormwater flooding adaptation jain by 2024 to establish a colyvale flood protection target for stormwater study (NYNAMS) processed to the control of the control
		Launch a voluntary housing mobility and land acquisition program to provide housing counseling and facilitate future land acquisition with Federal and State funds	 Enable the City to engage with interested residents and acquire difficult to protect flood-vulnerable properties that can support flood control, nature areas, or parklands
	BUILDINGS	3 Support building owners in complying with Local Law 97 emissions reduction goals by 2030	Develop financing tools and innovative mechanisms to accelerate Local Law 97 compliance by 2030 Develop trainings and certifications to support Local Law 97 compliance and implement resilience retrofits by 2024 Expand NYC Accelerator by 2024
		8 Decarbonize affordable housing	Install window heat pumps in 10,000 NYCHA units and unlock Federal funding for further upgrades and efficiency investments by 2030 Implement HPD design guidelines to address energy efficiency, sustainability, and resilience retrofits by 2026
		9 Pursue fossil fuel free City operations	Phase out City capital spending on fossil fuel equipment and infrastructure
		199 Reduce localized air pollution in NYC	Develop a new air quality monitoring program by 2024
		11 Reduce the carbon footprint of the construction industry by 2033	 Implement performance-based standards for low-carbon materials and equipment by 2025 Expand ConstructNYC in 2023
	CLEAN & RELIABLE ENERGY	Maximize climate infrastructure on City-owned property	 Evaluate all City roofs undergoing repair work for climate infrastructure installation by 2025 Install solar energy, electric building infrastructure, green roofs, or other renewable energy on all viable City-owned property by 2035
		3 Connect NYC to clean electricity resources	Actively support the development, access, and interconnection of large-scale renewable energy projects like offshore wind and hydropower
		Assist building and homeowners with clean energy projects and solar installation	• Launch Public Solar program for one- to four-family low-income homeowners in environmental justice communities by 2025. • Advocate to the State to continue and expand the solar tax abatement program for NVC residents. • Advocate for enactment of the City of Yes for Carbon Neutrality Citywide Text Amendment in 2023 to expand renewable energy generation in the city.
Improving Our Quality of Life	GREEN SPACE	Create an accessible and connected network of open spaces	Connect over 300 miles of traits and make 12,000 acres of natural areas accessible to all New Yorkers Create over 10 acres of new open space and safe connections between parks as part of the greenway network expansion
		® Improve the health of our forested areas	 Restore and steward 1,000 acres of forests across 10 sites, planting more than 30,000 native trees and shrubs
	WATERWAYS	Reduce combined sewer overflows by more than 4 billion gallons per year by 2045 to improve water quality	Deliver the Long-Term Control Plans by 2045 Expand the implementation of the NYC Green Infrastructure Program, the largest of its kind in the nation Capture stormwater at the source through the Unified Stormwater Rule
		Develop a strategy to end the discharge of untreated sewage into the New York Harbor by 2060	Develop a strategy to end the discharge of untreated sewage into the New York Harbor by 2060
		mprove the health and ecological function of wetlands	 Restore wetlands for flood risk reduction, conservation, and open space benefits
	TRANSPORTATION	Get polluting trucks off NYC streets	Pilot the East Coast's first low-ensision zone centered on environmental justice through incentives and other methods End unleavful truck idling Create shared charging depots by 2030 to support the transition to delectric trucks Encelerate adoption of cargo bikes for deliveries by 2026 Reactivate the marine highway by 2025 to move freight of trucks and onto vasterways
		Prioritize public transit, walking, and biking first	Bring New Yorkers back to the transit system to achieve a sustainable mode share of 80% by 2050 mplement congestion pricing and use it to promote environmental justice of Transform our streets and public spaces under the leadership of the Chief Public Realm Officer of Implement our ambitious bike, pedestria, and Vision Zero intrastructure agenda of horrease sidewisk cleaniness by expanding waste on.
		Ensure every New Yorker can access a bike or scooter	 Create the next generation of bike lanes and facilities so every New Yorker can travel safely and efficiently Create thousands of secure public bike parking spots, starting in 2025 Expand dockless e-scooter and e-bike share systems
		Help New Yorkers who must drive to drive electric	■ Ensure every New Yorker is no more than 2.5 miles from an electric vehicle fast-charging hub by 2035 ■ Mandate private parking garages and lots make electric vehicle charging available by 2030 ■ Transition taxis and for-hire vehicles to electric vehicles ■ Electrify school buses by 2035
	FOOD	8 Reduce emissions of City agency food purchases 33% by 2030	Reduce emissions of City agency food purchases 33% by 2030
		Promote reduction in institutional food-related emissions 25% by 2030	Promote reduction in institutional food-related emissions 25% by 2030
		Reduce emissions from commercial cooking	 Require retrofitting of charbrollers by 2027 Develop an NYC Restaurant Accelerator Program to assist businesses with compliance
		Support NYC's watershed farmers in expanding sustainability practices and food production	 Advance agricultural best management practices to improve GHG reduction and carbon sequestration Create an incentive program to support farmers in the NYC watershed who expand agricultural production of fruits and vegetables
Building the Green Economic Engine	GREEN ECONOMY	28 Launch new climate education and training programs for public schools	 Integrate climate education in public school classrooms across all subjects and grade levels Launch new Career Connected Learning Programs f public school students dedicated to green job training and placement
		Grow NYC's green workforce	Position New Yorkers for fulfilling green economy careers @ Cultivate the offshore wind sector to provide residents with opportunities for economic mobility @ Establish a Green Economy Advisory Council in 2023 @ Activate NYC's climate resource hubs and natural areas for workforce development
		Support entrepreneurship and industry innovation	• Launch new partmenthios and projects in 2023 to support the growth of sustainability-focused biotechnology and materials innovation. • Launch an expand climate technology innovation, commercialization, and scaling opportunities across local industries. • Launch portal to connect public agencie with private startups and investors by 2024. • Provide resources to attract international investments in climate technologies
	WASTE & CIRCULAR	3 Collect organic materials and turn into energy and reusable assets	 Launch citywide curbside organics collection by 2024 Expand commercial organics separation requirements to all food businesses by 2026 Leverage existing Department of Environmental Protection infrastructure to process collected organics into blogas and compost within the city as

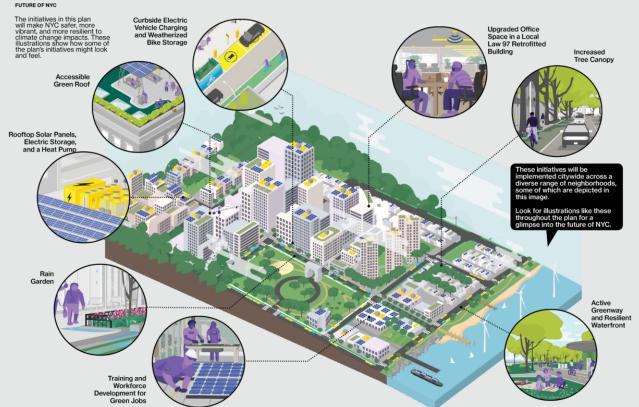
In addition, a completed PlaNYC will strengthen community cohesion and social equity. Through measures such as improving the public transport system, increasing housing affordability, and enhancing neighborhood greening, PlaNYC will create a more inclusive and equitable urban environment. This will help reduce social inequalities and promote social cohesion.



However, PlaNYC may also face some challenges once it is completed. For example, building sustainable infrastructure may require huge capital commitments, which may put financial pressure on governments and businesses. In addition, some communities may be concerned that new planning measures will result in their interests being compromised or marginalised.

In summary, the completion of PlaNYC will bring many positive changes to New York City, including environmental improvements, economic growth, and social equity. However, achieving these goals may require a concerted effort by government, businesses and the community to address the challenges that may arise and to ensure that sustainable urban development is realized.

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One of PlaNYC's core philosophies is to promote ecological balance and sustainability in the city. Through large-scale greening projects, water management and reduction of carbon emissions, New York City has become a global model for environmental advocates. A hundred years later, in New York, country parks are integrated into the cityscape, green roofs have become the norm, and the supply of clean energy is stable and reliable, allowing residents to enjoy fresh air and a pleasant living environment.

With the rapid development of technology, PlaNYC also plays a key role in the construction of smart cities. Over the past hundred years, New York City has continued to promote technological innovation, and technological applications such as intelligent transportation systems, urban data centres, and drone delivery services have become a regular part of the city's operations. In New York after a hundred years, artificial intelligence and big data analytics help city management, people experience the city culture immersively

through virtual reality technology, and life has become more convenient and efficient.

Another important goal of PlaNYC construction is to achieve social inclusion and equitable development. For over a century, city administrators have been committed to addressing social issues such as poverty, improving education, and increasing employment rates in an effort to narrow the gap between different communities. A hundred years later, New York has more balanced educational resources, extensive healthcare protection coverage, a comprehensive social welfare system, and every citizen enjoys equal opportunities and a life of dignity.

The success of PlaNYC has also contributed to New York City's cultural diversity and thriving creative industries. Over the past 100 years, New York has become a global centre for cultural and creative industries, attracting talent and investment from around the world. One hundred years later, New York is a more vibrant place for cultural exchange and artistic creativity, and it has become a major engine for stimulating global innovation.

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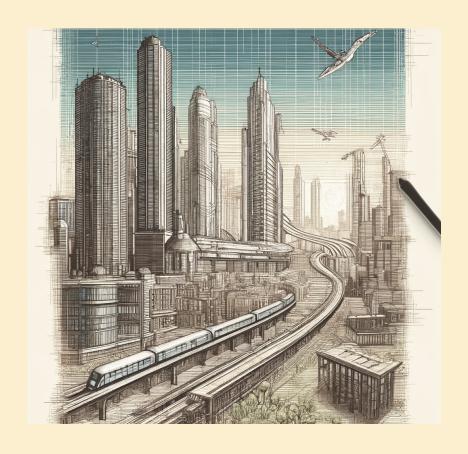
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