THE CHINESE ARE LEAVING US IN THE DUST!

AN INTERNET SURVEY OF RECENT CHINESE ACHEIVEMENTS.

BY JIM GORDON.

RECENT CHINESE ACHEIVEMENTS IN -

1. RAILROADS
2. DAMS
3. PORTS
4. BRIDGES
5. ROADS
6. AIRPORTS
7. AIRCRAFT
8. SPACE
9. MISCELLANEOUS STATISTICS

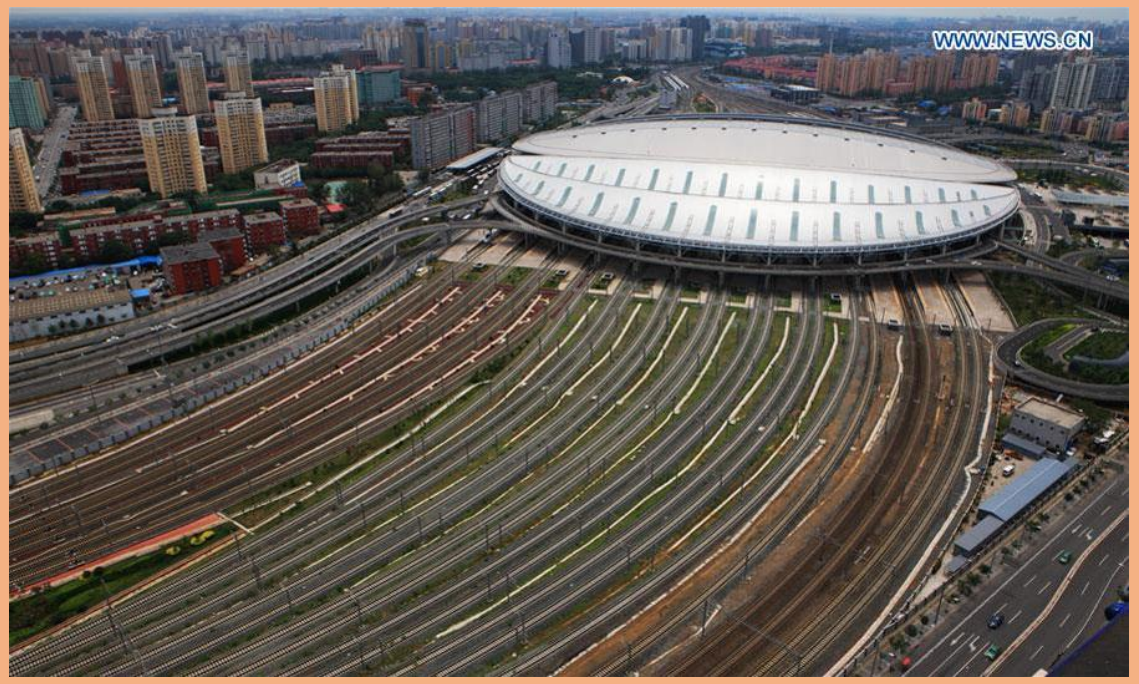
1 - RAILWAYS

HIGH SPEED TRAINS

IN THE LAST TWO DECADES CHINA HAS ADDED MORE HIGH SPEED TRAIN TRACK THAN ALL THE REST OF THE WORLD REACHING 25,000KM IN 2017.

China high speed trains, also known as bullet or fast trains, can reach a top speed of 350 km/h (217 mph). Over 2,800 pairs of bullet trains run daily connecting over 550 cities in China and covering 33 of the country's 34 provinces.

CHINESE SHANGHAI MAGLEV TRAIN CONNECTING AIRPORT TO CITY. MAX SPEED – 431 KPH.



RAILWAY STATIONS AND BULLET TRAIN.

RAILWAY CONSTRUCTION MACHINE

The SLJ900/32, made by the Beijing Wowjoint Machinery Company, is a 580 ton, 300 foot long and 24 foot wide mega machine that looks more like a train than a crane Instead of using a stationary or crawler crane to lift the girder of a bridge from the ground and drop it into its place, the SLJ900/32 drives the girder onto the previously placed girder, slowly extends its arms to the next support platform, pushes the girder towards the front of the machine and then lowers it into place.

AND WHAT OF THE FUTURE?

MAP SHOWING CONSTRUCTION PLAN TO LINK CHINA WITH EUROPE

Highest railway in the world.

The Qinghai–Tibet railway, is a high-elevation railway that connects Xining, Qinghai Province, to Lhasa, Tibet Autonomous Region of China. The length of the railway is 1,956 km. Construction of the 815 km section between Xining and Golmud was completed by 1984. Cars are pressurised.

2 - HYDROPOWER

CHINA HAS THE THREE HIGHEST DAMS IN THE WORLD.

The tallest dam in the world is the Jinping-I Dam, also known as the Laxiwa Dam and the Xiaowan dam is an arch dam in China at 305 m (1,001 ft) high.

Construction on the dam was started in January of 2002. This hydroelectric arch dam, on the River Lancany in South West China. Each power-generating unit will have a 700 MW capacity.

BAIHETAN DAM – HEIGHT 289.0m.

UNDER CONSTRUCTION

COMPLETION 2021.

16 turbines
Total capacity 16,000 MW

The Xiluodu Dam is the third highest dam in the world. It is an arch dam on the Jinsha River, i.e. the upper course of the Yangtze in China. It is located near the town of Xiluodu in Yongshan County of Yunnan Province but the dam straddles into Leibo County of Sichuan Province on the opposite side of the river

Height: 286 m. Opened: July 2013.

CHINA HAS THE LARGEST POWERPLANT IN THE WORLD. THREE GORGES AT 22,500 MW

China Institute for Water Resources and Hydropower Research (IWHR)

Over the years, IWHR has organized a large number of national key scientific and technological projects and undertaken research works on key technological topics of almost all major water resources and hydropower projects in China. IWHR has also carried out a wide range of professional services at home and abroad including technical consultancy, evaluation and technical services.

They have translated all western specifications, textbooks and major papers on hydro. They have developed computer programs for the detailed design of all major structures required in a hydro development.

Total number of engineers and scientists – over 10,000.

FULL FACE TUNNEL BORING MACHINE DEVELOPED IN CHINA.

DIAMETER = 8.03M.

3 - MARINE PORTS

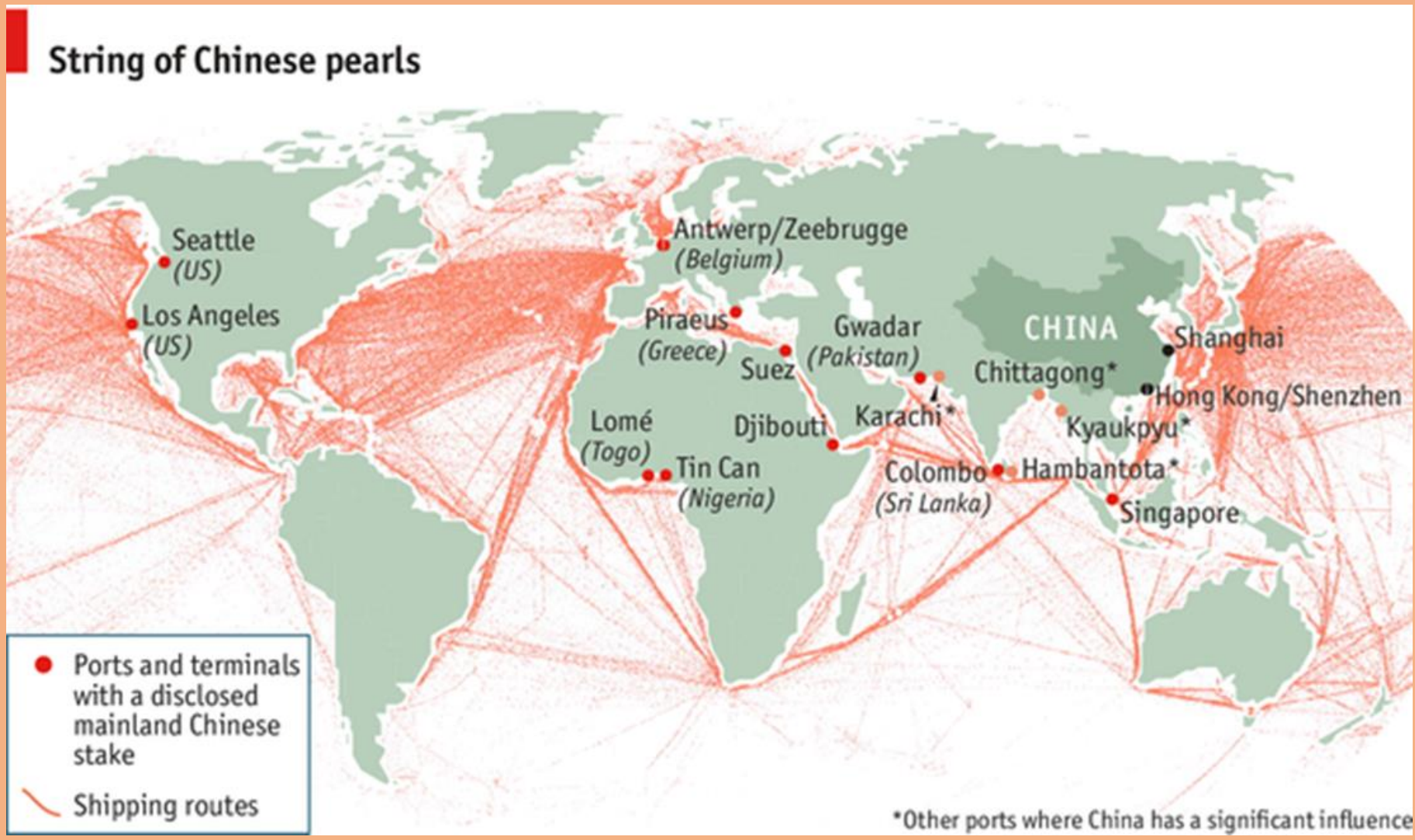
SHIPPING PORTS

CHINA IS PURCHASING A FINANCIAL INTEREST IN FOREIGH PORTS INCLUDING EUROPE AND THE UNITES STATES

CHINA IS BUILDING SUPERPORTS IN MANY THIRD WORLD COUNTRIES

THREE ARE FULLY OWNED, CONSTRUCTED WITH CHINESE LABOR AND OPERATED BY CHINA.

GWADAR, PAKISTAN; HAMBANTOTA, SRI LANKA AND PIRAEUS, GREECE.


String of Chinese pearls
Seattle
(US)
Los Angeles
(US)
Antwerp/Zeebrugge
(Belgium)
Piraeus
(Greece)
Suez
Gwadar
(Pakistan)
CHINA
Shanghai
Chittagong*
Hong Kong/Shenzhen
Karachi*
Kyaukpyu*
Lomé
(Togo)
Djibouti
Tin Can
(Nigeria)
Colombo
(Sri Lanka)
Hambantota*
Singapore
Ports and terminals with a disclosed mainland Chinese stake
Shipping routes
*Other ports where China has a significant influence

GWADAR PORT PAKISTAN

HAMBANTOTA PORT SRI LANKA

Sri Lanka formally handed over commercial activities in its main southern port to a Chinese company on and received US$292 million out of a US$1.12 billion deal.

PIRAEUS GREECE

The Chinese company Cosco in the decade since it took over the port of Piraeus has remade it into the second-largest in the Mediterranean with ambitious plans to do more, as China seeks to increase investments in the country.

CHINA FINANCIAL INTERESTS IN WORLD PORTS.

EUROPE - Cosco & China Merchants Port Holdings have stakes of 25% to 100% in terminals & ports in Rotterdam, Antwerp, Zeebrugge, Dunkirk, Le Havre, Nantes, Bilbao, Genoa, Malta, Piraeus & Istanbul.

USA - Chinese government-owned companies control terminals in the Port of Los Angeles and other West Coast ports, as well as both ends of the Panama Canal. Terminal Link deal in 2013 gave China Merchants Holdings International ownership of terminals in more than 10 US ports, including Houston and Miami.

AFRICA - The network of Chinese-built ports and infrastructure along Africa's east, west, and southern coasts has positioned China to become a major player in Africa's maritime space. Djibouti's Doraleh Multipurpose Port—built by the state-backed China Merchants Group to handle bulk cargo, containers, and oil shipments.

4 - BRIDGES

CHINESE BRIDGES.

- The Xihoumen Bridge in Zhejiang province, the second-longest suspension bridge span
- The Sutong Bridge in Jiangsu province, the second-longest cable-stayed span
- The Sidu River Bridge, the highest bridge in the world
- Chaotianmen Bridge, the longest arch bridge span
- Hong Kong-Zhuhai bridge, the world's longest sea crossing

Xihoumen Bridge – span 1,650m. Built - 2009

Sutong Bridge – span 1,088m. Built 2008

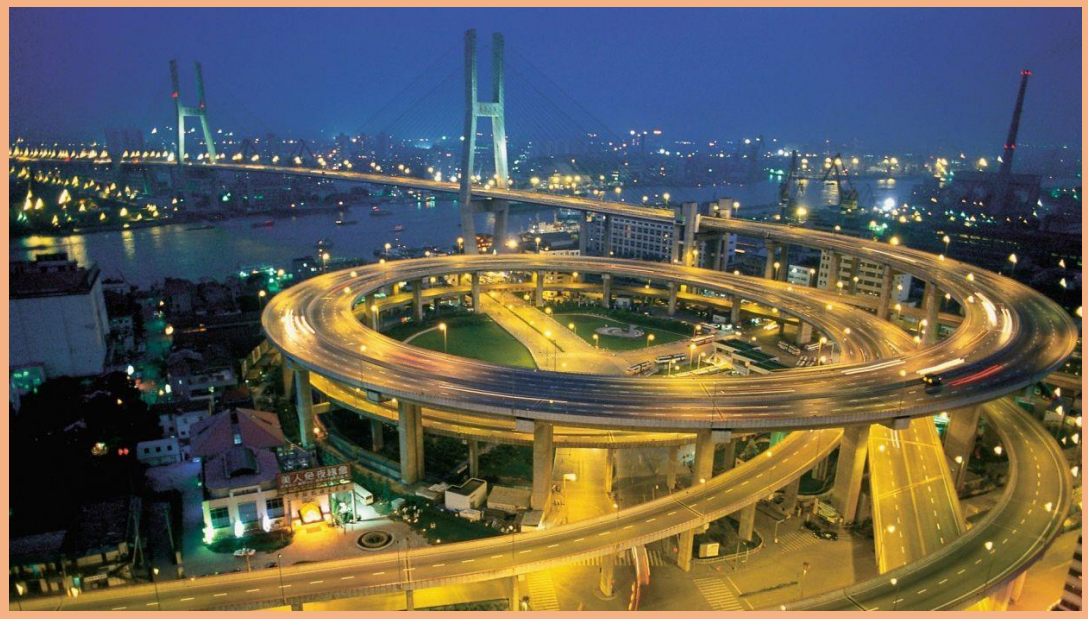
Sidu bridge. Span 1,530m Height above canyon floor 496m. Built 2009

Chaotianmen bridge. Span 522m. Built 2009.

Hong Kong-Zuhai bridge. Length 55km. Built 2018

5 - ROADS

ROADS – INTERCHANGES.

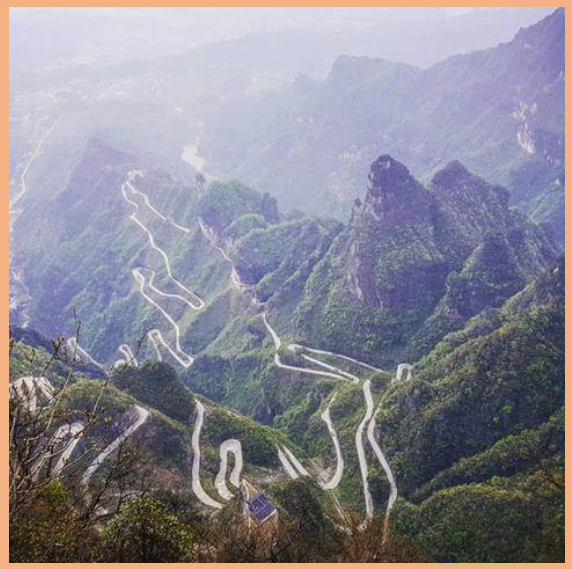


HIGHWAYS

Vehicles are seen stuck in a traffic jam near a toll station as people return home at the end of a week-long national day holiday, in Beijing, China, October 6, 2015. 42 LANES!

Do not ever complain about being stuck on a Canadian Highway!

CHINA'S MOST DANGEROUS ROADS



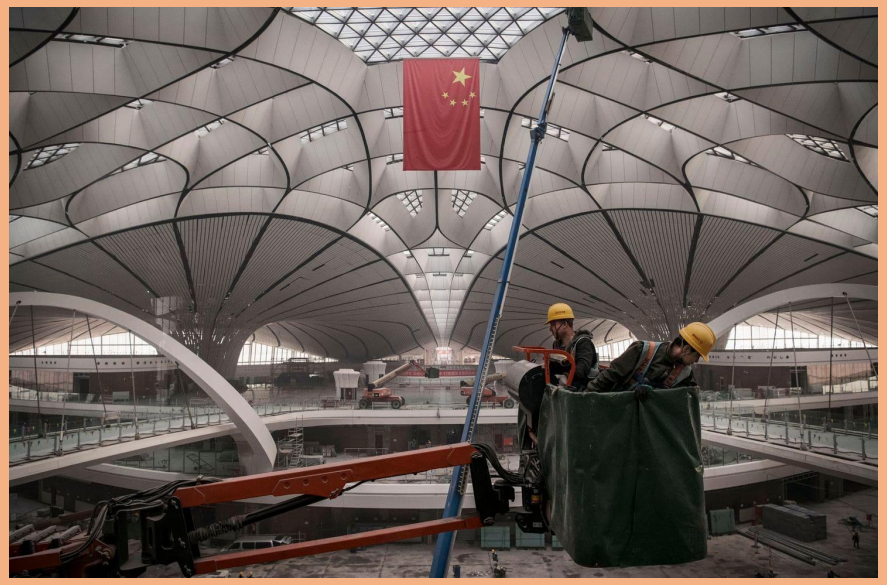
HIGHWAYS

China has 130,000 km of highways, the most in the world. China now has over 130,000 kilometers of highways nationwide, according to an official census on the country's expressways. That's enough to go around the globe more than three times. Every year since 2011, another 10,000 kilometers has been added to the network.

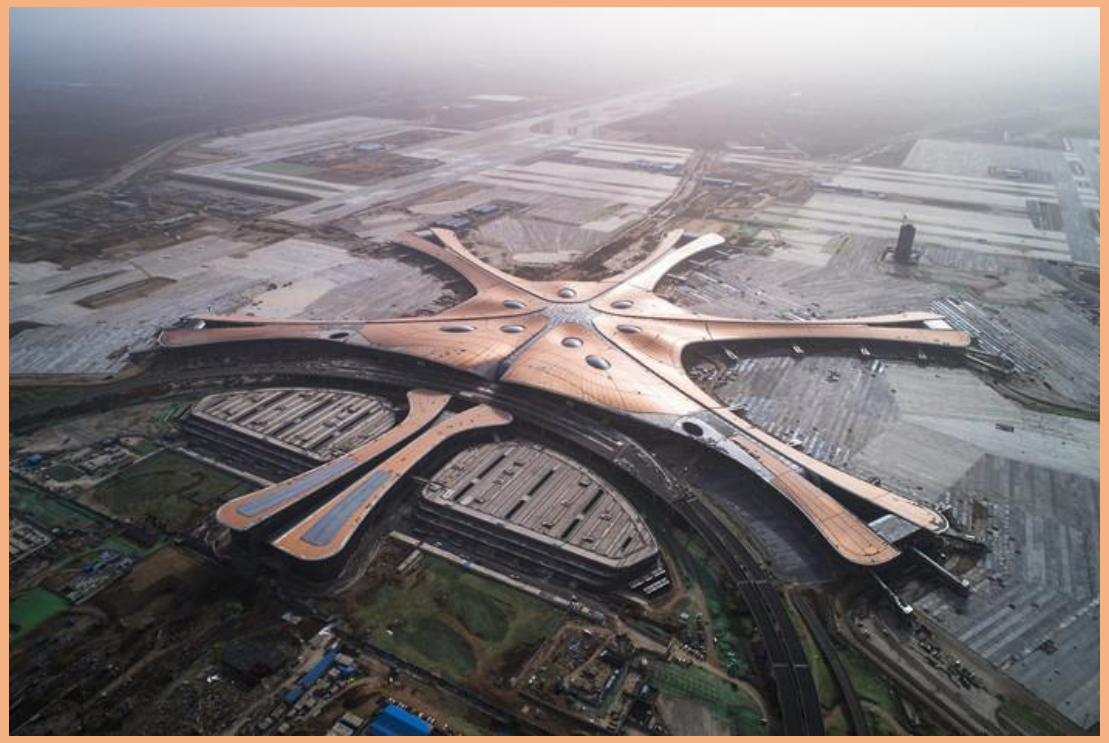
CHINA NATIONAL HIGHWAY SYSTEM

6 - AIRPORTS AND AIRCRAFT

AIRPORTS EXISTING AND UNDER CONSTRUCTION



A construction crew works on the main terminal for the Beijing Daxing International Airport, which is expected to be one of the busiest airports in the world. Open Sept. 2019



DAXING AIRPORT UNDER CONSTRUCTION

HONG KONG AIRPORT

Number of passengers in 2015: 68 million. Year-on-year Increase: 8.1 percent

China opens futuristic airport terminal.

Shenzhen Bao’an new airport terminal.

Opened 2013

FUTURE PLANS

- The Civil Aviation Administration of China (CAAC) aims to construct 216 new airports by 2035 to meet the growing demands for air travel.
- China had a total of 234 civil airports at the end of October, and this number is likely to hit 450 by 2035. This is part of China's ambition to become an aviation power, reported Reuters.
- Data shows that demand for passenger air transportation in China will surpass the US by 2035, representing almost one-quarter of the world's total flights.
- Airports in China managed 552 million travellers last year, which is expected to grow to 720 million by 2020.

RAPID CONSTRUCTION OF HOTELS

A Chinese construction company is claiming to be the world's fastest builder after erecting a 57-storey skyscraper in 19 working days in central China. Broad Sustainable Building, a prefab construction firm, put up the rectangular, glass and steel Mini Sky City in the Hunan provincial capital of Changsha, assembling three floors a day using a modular method. The company now has ambitions to assemble the world's tallest skyscraper, at 220 floors, in only three months. For a time-lapse video – see

https://www.youtube.com/watch?v=13auaDMfMAQ

AIRCRAFT

China's first home-grown large amphibious aircraft AG600 taxies on a runway at the airport in Zhuhai, south China's Guangdong Province, Dec 22, 2017

With a wingspan of 38.8 metres (127 feet) and powered by four turboprop engines, the aircraft is capable of carrying 50 people and can stay airborne for 12 hours.

MILITARY AIRCRAFT

China's indigenous third-generation Jian-10 (Fighter-10) makes its debut in Beijing January 5, 2007. The airplane is manufactured by the China Aviation Industry Corporation.

The Chengdu J-20 (Chinese: 歼-20; pinyin: *Jiān-Èrshí*), also known as *Mighty Dragon*, is a single-seat, twinjet, all-weather, stealth fifth generation fighter aircraft.

HYPERSONIC AIRCRAFT

On June 12th, 2019, China announced that it has successfully tested its first cutting-edge hypersonic aircraft which could carry nuclear warheads and penetrate any current generation anti-missile defence systems. The Xingkong-2 or Starry Sky-2, was launched in a target range located in Northwest China on Friday last, the state-run China Academy of Aerospace Aerodynamics (CAAA) said in a statement.

AIRCRAFT CARRIERS

China's second aircraft carrier is under construction in the coastal city of Dalian, Liaoning province,

The new carrier has been designed in China and will have a displacement of 50,000 metric tons, a conventional power system, and will carry domestically developed J-15 fighter jets and other ship-borne aircraft.

AIRCRAFT CARRIER – FUTURE PLANS.

China has to put an end to its old practice of following others countries' footsteps, and is now conducting research into a 180,000-ton double hull aircraft carrier because compared with a monohull aircraft carrier, it has exceptional advantages. It will have a huge capacity, capable of carrying 125 J-20 fighter jets enough to destroy any existing aircraft carrier in the world. The double hull carrier will have two identical runways for simultaneous taking off and landing. October 2013. A nuclear submarine servicing port will be included between the hulls, allowing unseen servicing.

CHINA IN SPACE

Tiangong-2

Tiangong-2 was launched in September 2016 to test advanced life support and refueling and resupply capabilities via the crewed Shenzhou-11 and uncrewed Tianzhou-1 cargo missions, in preparation for constructing a large, modular space station in low Earth orbit.

The 10.4-meter-long spacecraft hosted two astronauts, Jing Haipeng and Chen Dong, for the vast majority of the 33-day Shenzhou-11 mission, which remains China's longest human spaceflight mission.

Tiangong-1 was China's first prototype space station. It orbited Earth from September 2011 to April 2018, serving as both a manned laboratory and an experimental testbed to demonstrate orbital rendezvous and docking capabilities during its two years of active operational life.

Tiangong 3

The Tiangong 3 space station project is scheduled to begin in 2018, which is part of China's ambitious space program. To support the installation of this station, Beijing has implemented an entire ecosystem, including the Long March 7 rocket, the Tianzhou cargo spaceship and the Shenzhou capsule, which has now largely proved its worth.

The central module called Tian He will be the first to be launched, from next year. It will serve as a place of life and work. Two scientific laboratories of about fifteen meters each will then be grafted to the station to form a pressurized volume of about 25% of that of the ISS. Once finalized, Tiangong 3 will be able to accommodate three Tikonauts for long-term stays in orbit.

Long March 9 rocket

The Long March 9 rocket will be a three-stage rocket equipped with two to four powder boosters. A prototype engine to equip the first floor of the rocket is about to be built. This first floor will burn kerosene and liquid oxygen, like the Saturn 5. The second and third floors of the Chinese launcher will be powered by hydrogen.
China wants to make the first flight of the Long March 9 in 2028, and wants to make a first manned flight to the moon in the 2030s. Between 2028 and 2033, three launchers would be able to equal or exceed the performance of the Saturn 5 : the NASA's SLS capable of placing 130 tons in low orbit, the Long March 9 capable of placing 140 tons, and the SpaceX BFR capable of placing 150 tons in low orbit.

Cyber warfare by China

U.S. and NATO command and control systems are themselves open to compromise because of vulnerabilities in the satellite systems carrying mission-critical data. Cyber attacks on satellites "have the potential to wreak havoc on strategic weapons systems and undermine deterrence by creating uncertainty and confusion,"

The enemy here is not Iran—it does not have the sophistication, it is China and Russia. And the implications are serious, with "the critical dependency on space resulting in new cyber risks that disproportionately affect mission assurance." Tensions with both Russia and China are intensifying. A report for the Joint Chiefs found that the U.S. is failing to deal with Russia's growing influence on the world, and this presents a national security risk. Meanwhile, the offensive cyber strategy adopted by China and its state-sponsored hackers has been a constant backdrop to the trade and security conflict underway.

DOWNING SATTELITES

On February 5, 2018, China used a long-range missile interceptor, tentatively identified as the DN-3, to destroy a target missile in space. This isn't the first time the nation has managed it; in 2010, China used a midcourse interceptor, likely another DN-3, to destroy a target missile in the exoatmosphere, or roughly 62 miles above the earth's surface. That 2010 test made China the second country in the world, after the United States, to develop hit-to-kill, exoatmospheric missile defense capability. The upper stage of the DN-3, includes the rocket motor stage and the shrouded interceptor, which maneuvers itself into the path of the incoming missile. Note the dark apertures on the rim of the nosecone. Those are electro-optical and infrared sensors for guiding the upper stage in the stratosphere and into space.

7 - MISCELLANEOUS STATISTICS

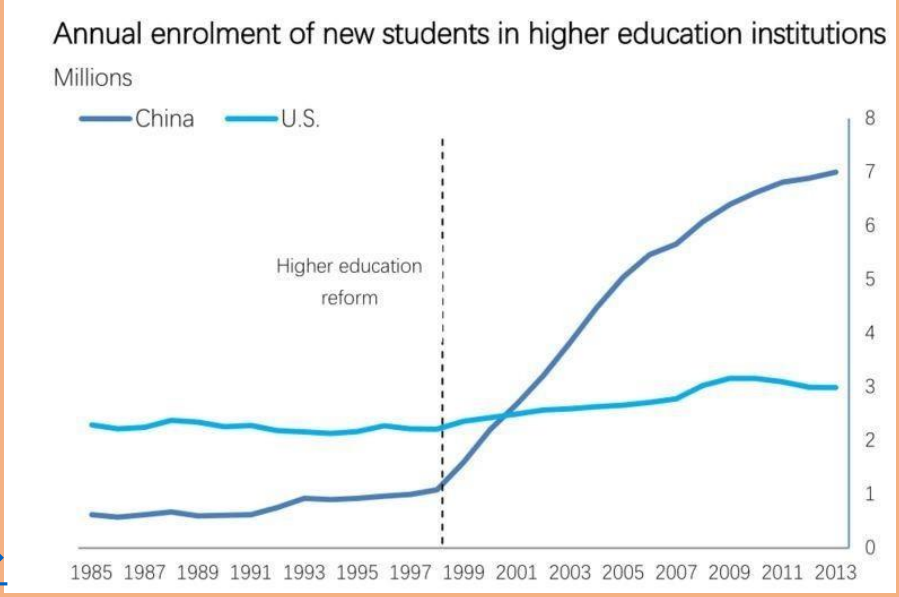
- **PATENTS.**

The United States has had at least 10,000 triadic patents granted every year since 1990. ... According to the World Intellectual Property Organization (WIPO). Chinese applications for PCT patents increased from 782 in 2000 to 48,899 in 2017, overtaking Japan for the first time, and far more than in the USA.

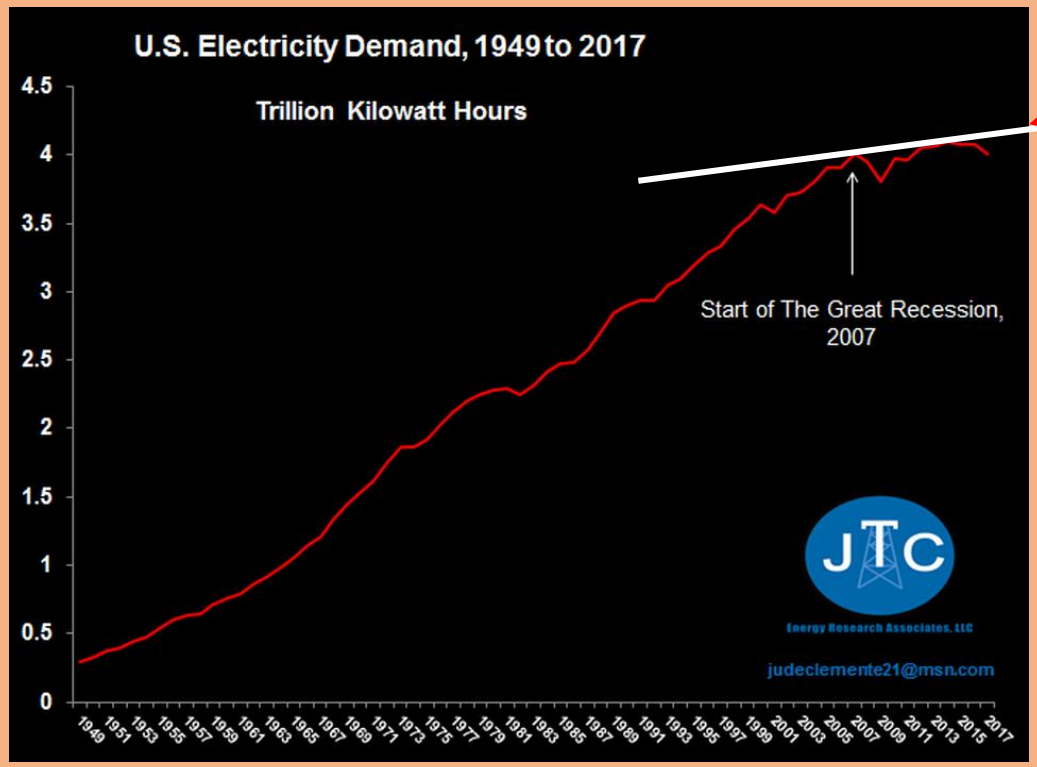
- **ENGINEERING GRADUATES.**

Based on data published in April 13th, 2017,China now produces more than twice as many graduates a year as the US. Higher education in china has boomed in the last decade.

See chart →



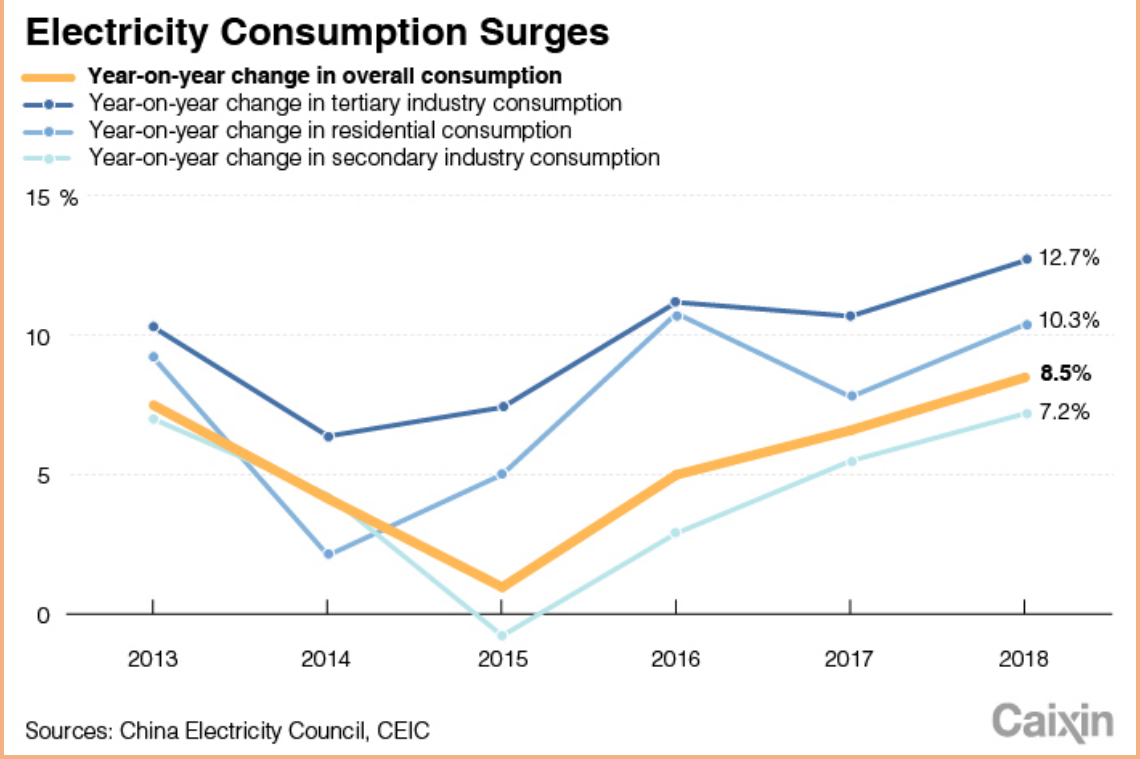
USA ELECTRICITY DEMAND 1949 - 2017



USA GROWTH RATE HAS SLOWED TO 1.OO4 PER ANUM, WHICH IS = 0.4% PER ANNUM.

CANADIAN GROWTH RATE IS CURRENTLY STATIC AT 0% PER ANNUM.
FORECAST IS 1%?

CHINESE ELECTRICITY GROWTH

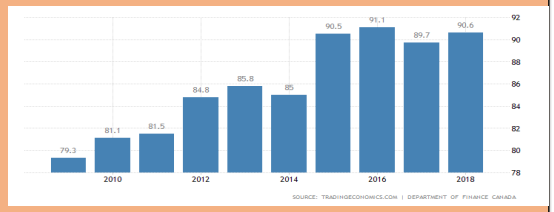


CHINA GROWTH RATE AVERAGES 8.5% PER ANNUM, OR 21 TIMES USA GROWTH RATE.

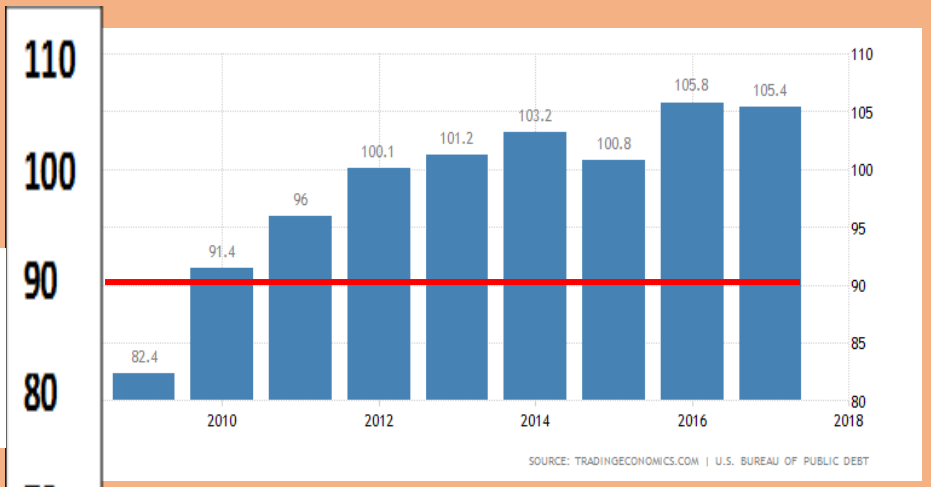
In 2017, it had the largest installed electricity generation by coal capacity in the world with 1,080,000 MW. 259,000 MW of new coal capacity is being built, equal to the total coal capacity of plants in the USA.

CHINA AND USA DEFICIT/GDP

CANADA CURRENT MAXIMUM 91.1%

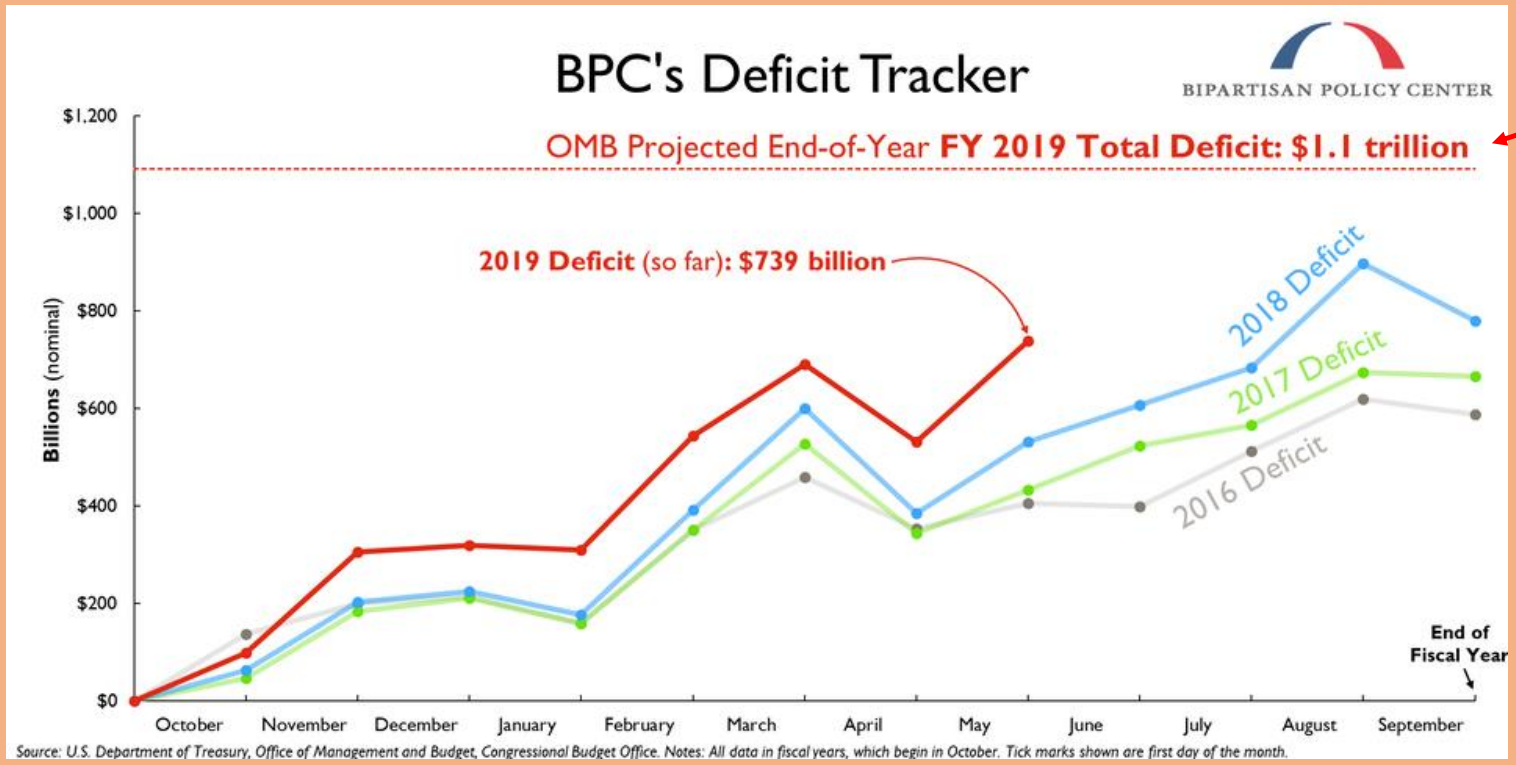


CHINA CURRENT MAXIMUM 47.5%



USA CURRENT MAXIMUM 106.4%

USA DEFICIT GROWTH

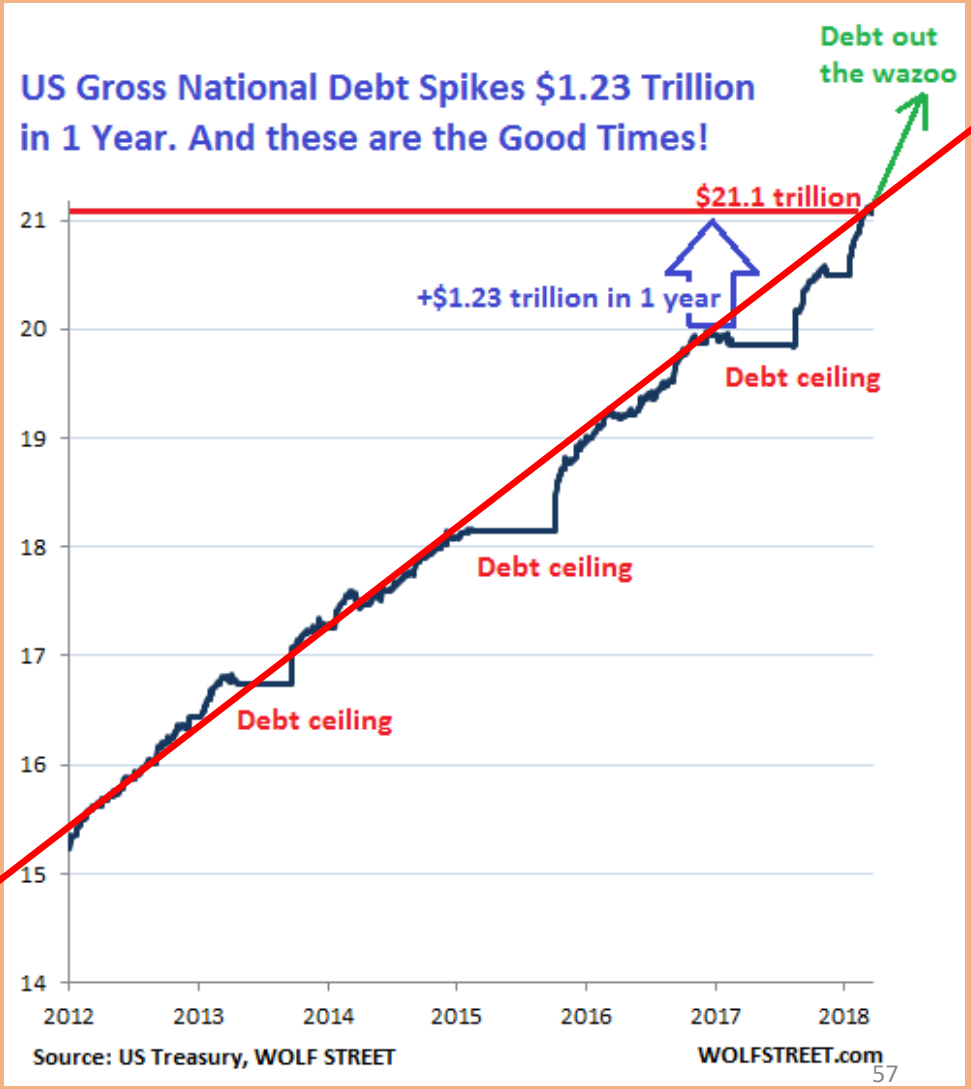


CURRENT
1.1 TRILLION

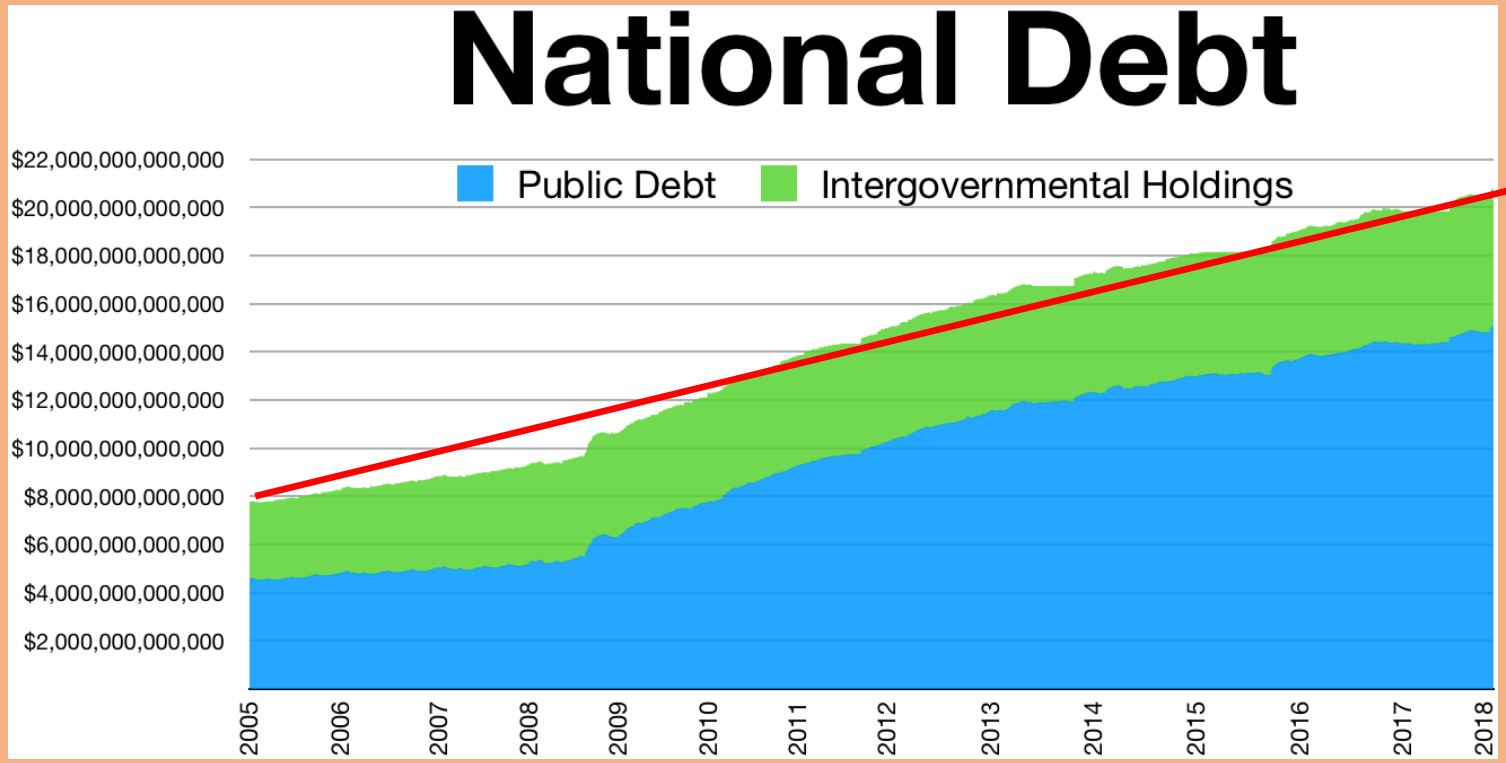
TOTAL USA NATIONAL DEBT

NOW 21.1 TRILLION AND WITH ANNUAL DEFICITS OVER 1 TRILLION, GROWTH WILL BE DISATROUS!

GROWTH RATE STEADY AT ABOUT 1.2 TRILLION PER YEAR



TOTAL CHINA NATIONAL DEBT

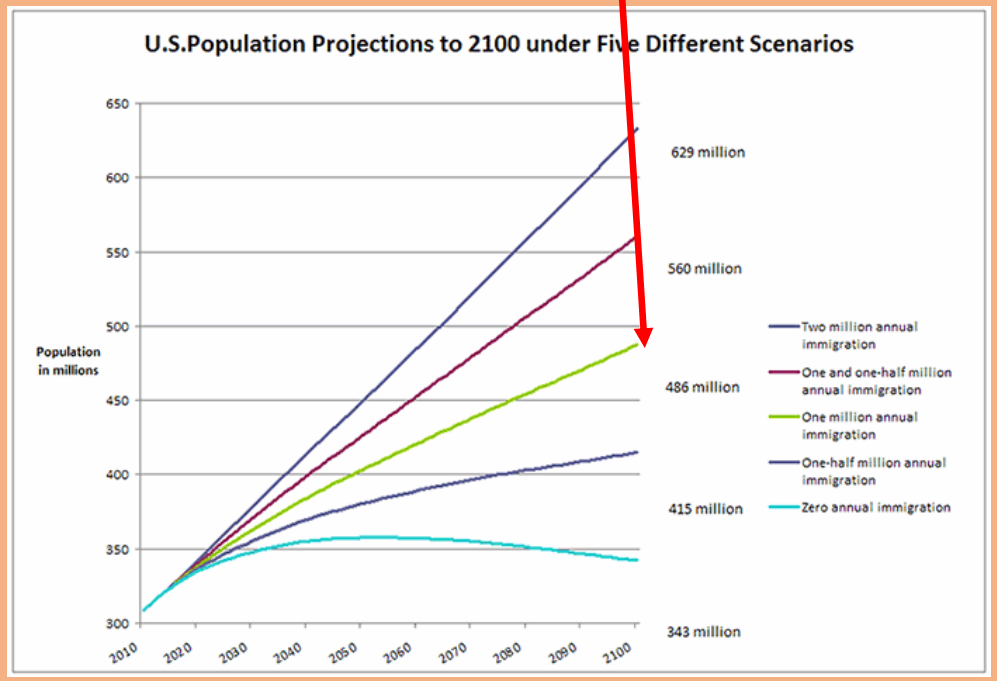


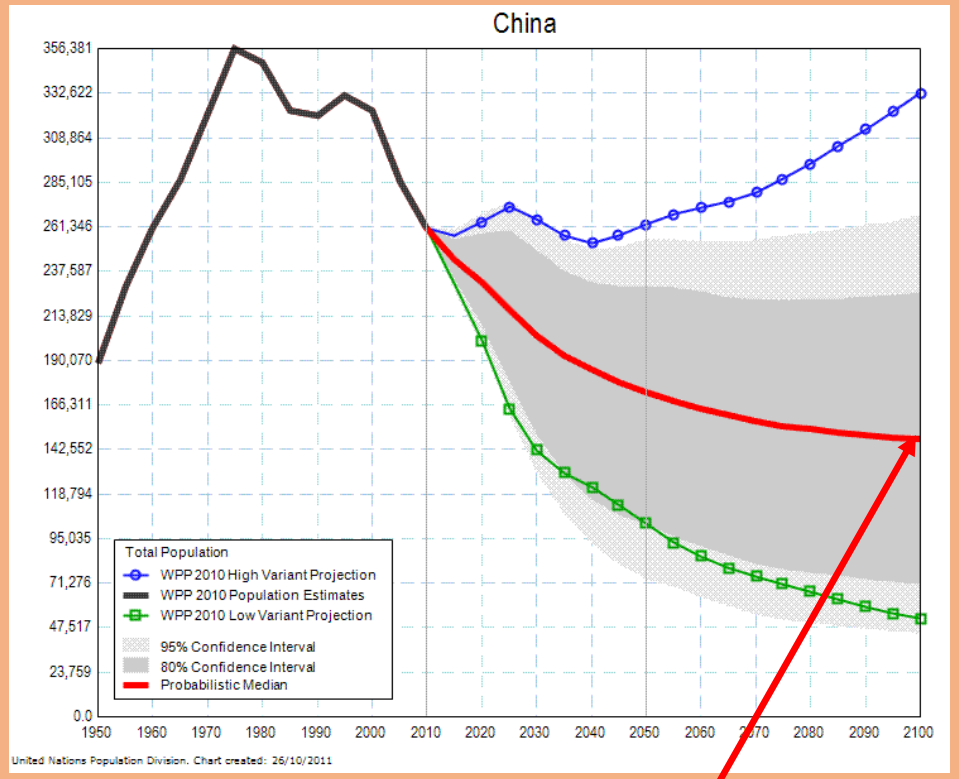
NOW 20.6 TRILLION ABOUT THE SAME AS USA

GROWTH RATE STEADY AT ABOUT 1 TRILLION PER YEAR

CHINA AND USA POPULATION PROJECTIONS

USA MID-RANGE FORECAST FOR 2100 = 480,000,000 OR ABOUT ONE-THIRD OF THAT IN CHINA





CHINA MID-RANGE FORECAST FOR 2100 = 1,420,000,000,000

THE DOWN SIDE

Air Pollution in **China**. Coal is the **leading** culprit of **air pollution** in **China**. ... 75% of the premature deaths are **caused** by the 152 coal-fired power plants in Hebei Province. **Air pollution** will remain a serious problem in **China** as long as coal continues to be the country's major energy source.

Air quality index for China = 215

Air quality index for Canada = 66

POLLUTION IMAGES

Worker Cleans Away Dead Fish At A Lake In Wuhan, Central China's Hubei Province

Child Swims In A Polluted Reservoir, Pingba

Boy Tries To Avoid Scattered Rubbish Floating On A Flooded Street In Shantou, Guangdong Province

Child Drinks Water From Stream In Fuyuan County, Yunnan Province

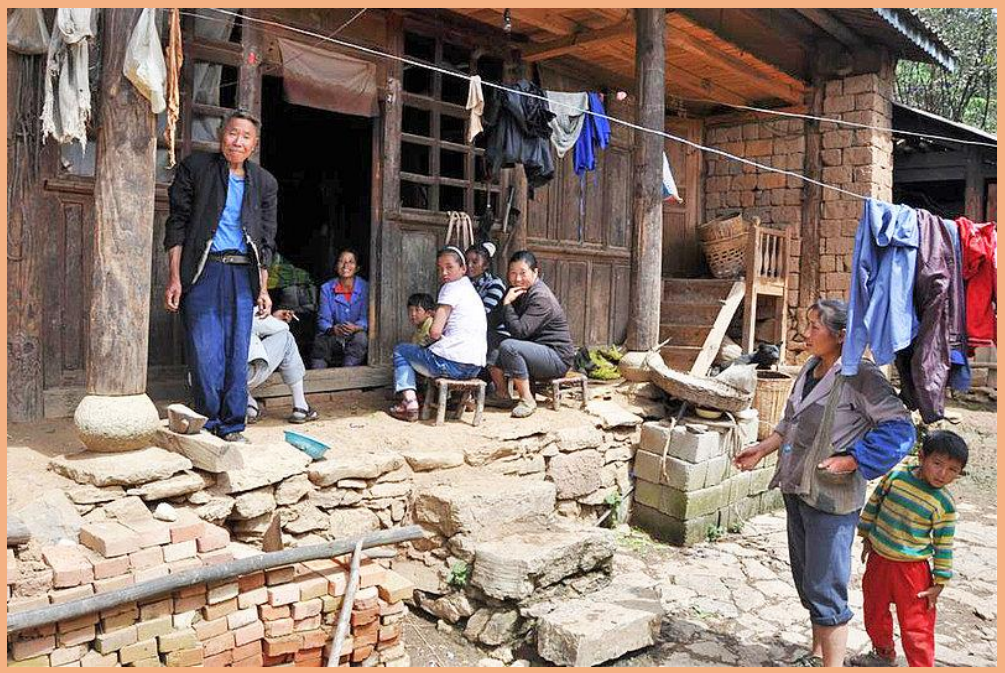
China is building coal power again. CoalSwarm published a report on September 26, 2018, warning that 259 gigawatts of coal power capacity – equivalent to the entire coal power fleet of the United States – is being built in China despite government policies restricting new builds.

Coal-burning factories like the Gu Dian steel plant have given Shanxi Province in China a Dickensian feel.

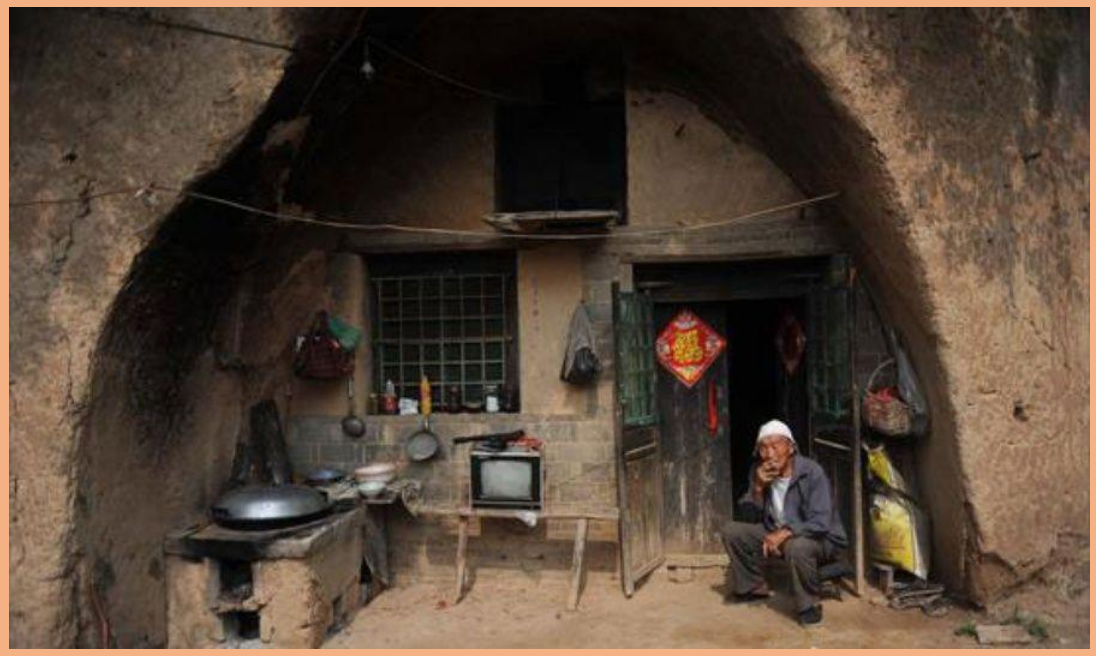
All coal-fired power stations in China need to be closed within the next decade on health grounds.

POVERTY IN CHINA

Villagers in Xiaoguancheng, one of the poorest parts of China.



Poverty in rural regions in China.



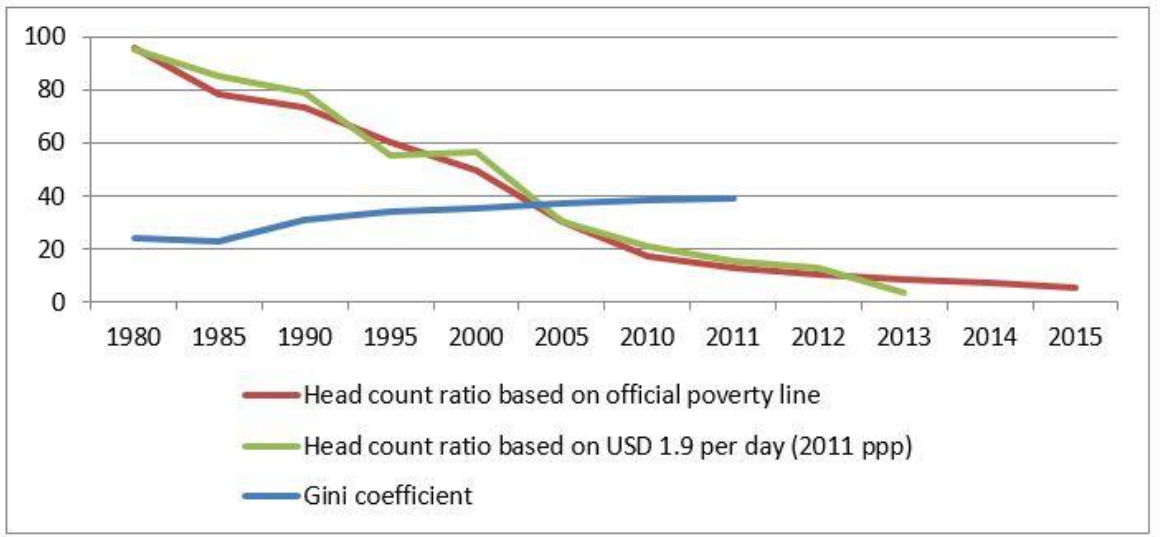
Over 30 million people in China live in caves, and many of them live in the Shaanxi province. Chinese president Xi Jinping reportedly lived in a cave when he was exiled to Shaanxi province during the Cultural Revolution.

A CONCRETE track meanders past nurseries of pine saplings and sheep grazing on stubble, petering out at Dayinghan, the poorest, most remote village in the stony hills of central Shanxi, a northern province. Some of the villagers live in caves.

Aiming to eliminate poverty by 2020, China has made huge strides in poverty reduction . The country is on track to achieve the government's target of lifting 10 million people out of poverty this year.

Hong Kong cage homes.

The cages, stacked on top of each other, measure 1.5 square meters. To keep bedbugs away, residents put thin pads, bamboo mats, even old linoleum on their cages' wooden planks instead of mattresses.



HOWEVER, CHINA IS RAPIDLY REDUCING POVERTY

THE END

THANKS FOR YOUR ATTENTION

YES – VERY DEPRESSING, TELL YOUR GRANDCHILDREN TO LEARN MANDARIN.