

Why Bother Learning About China?

If your extent of knowledge is thinking that if you dig deep enough you'll get to China.
By Ted Mitchell





What things make it worth your while to care about China?

- China's population
- Rising China – Economic superpower
- Global environmental concerns
- China is a nuclear power
- Rich culture and history



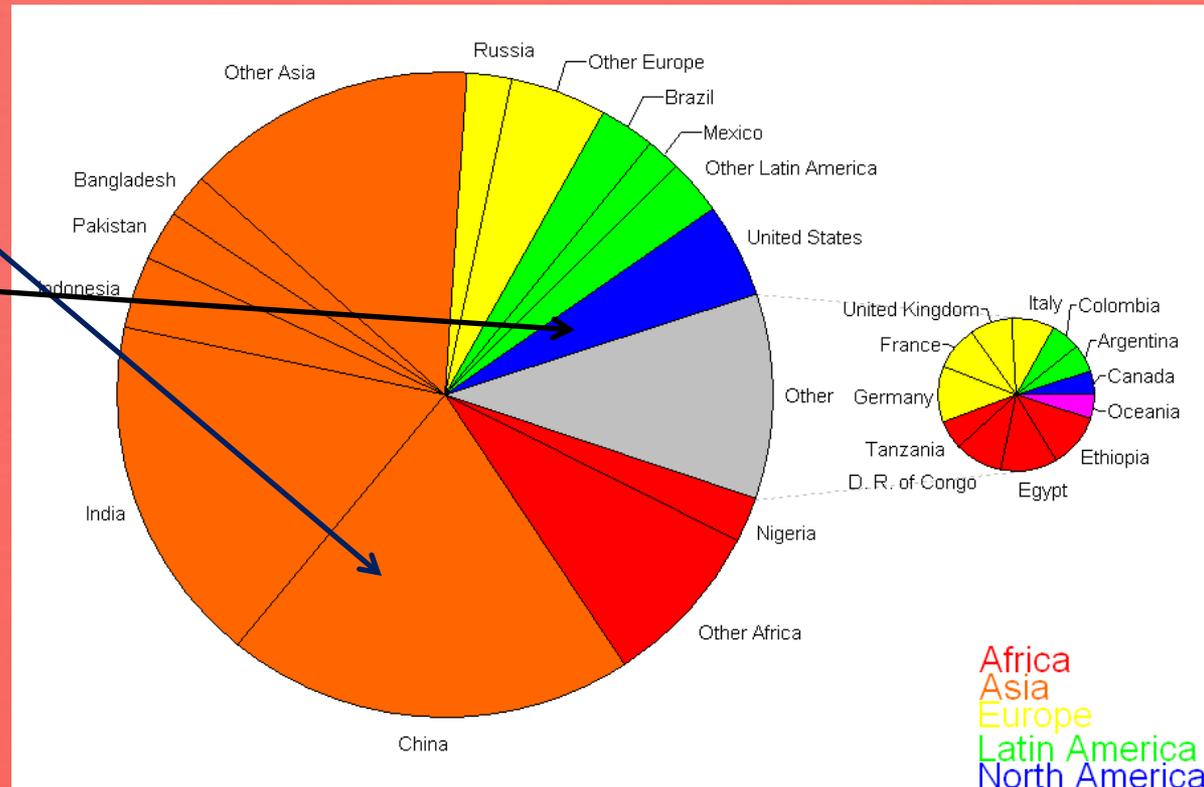
China's Population = 1,343,239,923



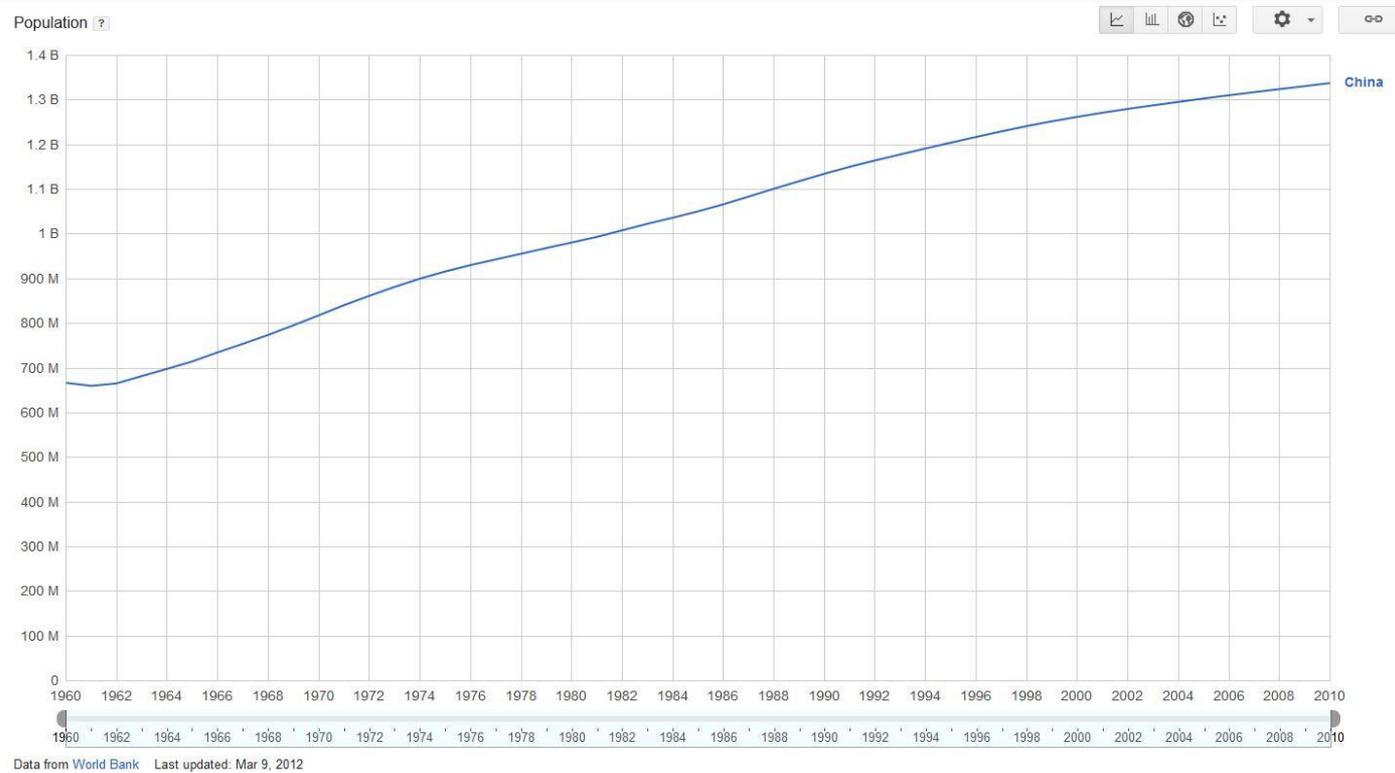
About the same size as the U.S., but over 4 times the amount of people.

The World's Largest Population

- Amount of People in China:
1,343,239,923
- Amount of People in United States:
313,847,465
- Amount of People in the World:
6,840,507,003



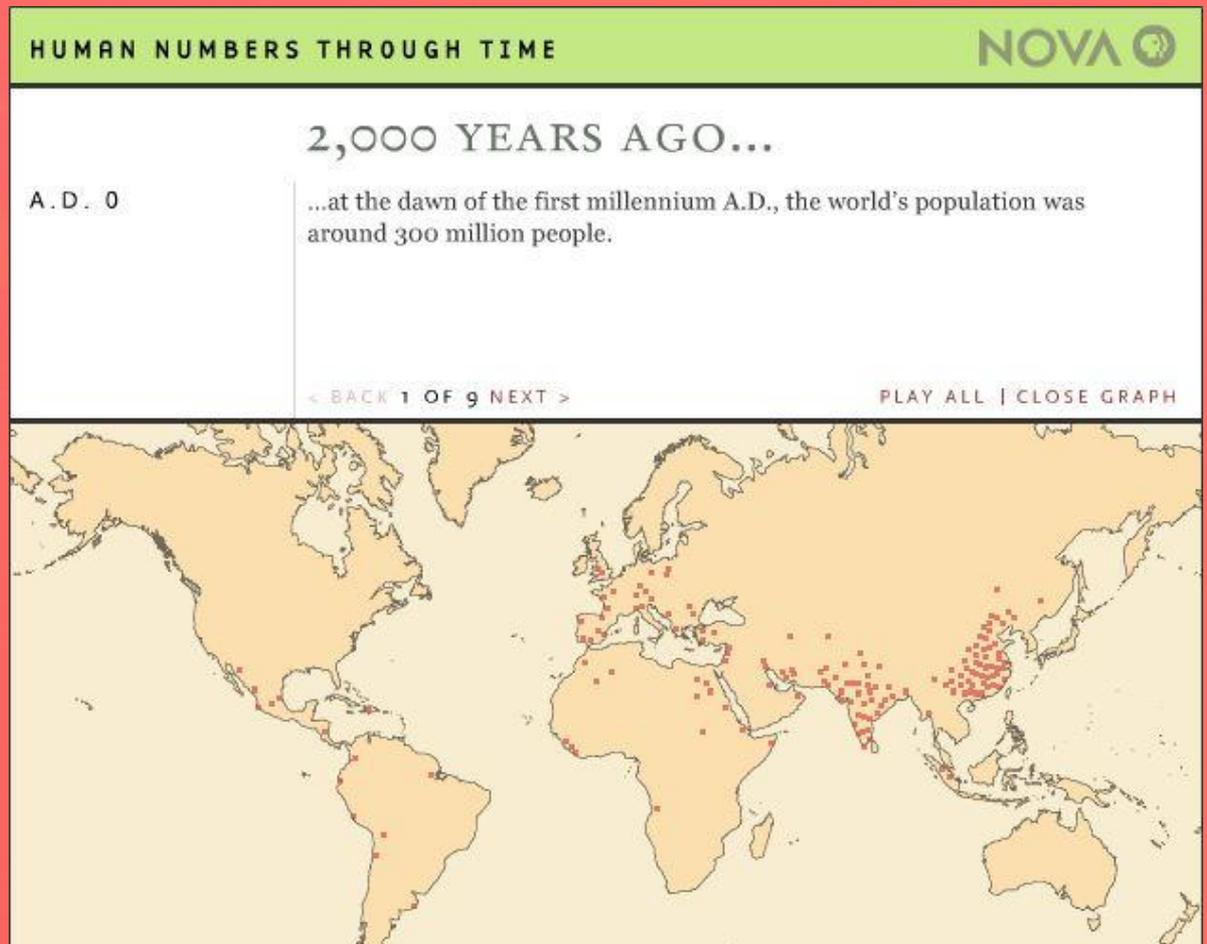
Population Growth in China Matters – Many Mouths to Feed



China's population grows at less than 1% per year, yet even one percent equals 13 million more people.

China's place in world history regarding population growth:

History of World Population Growth: 0 C.E.



History of World Population Growth: 1,000 C.E.

HUMAN NUMBERS THROUGH TIME

NOVA 

I,000 YEARS LATER...

A.D. 1000

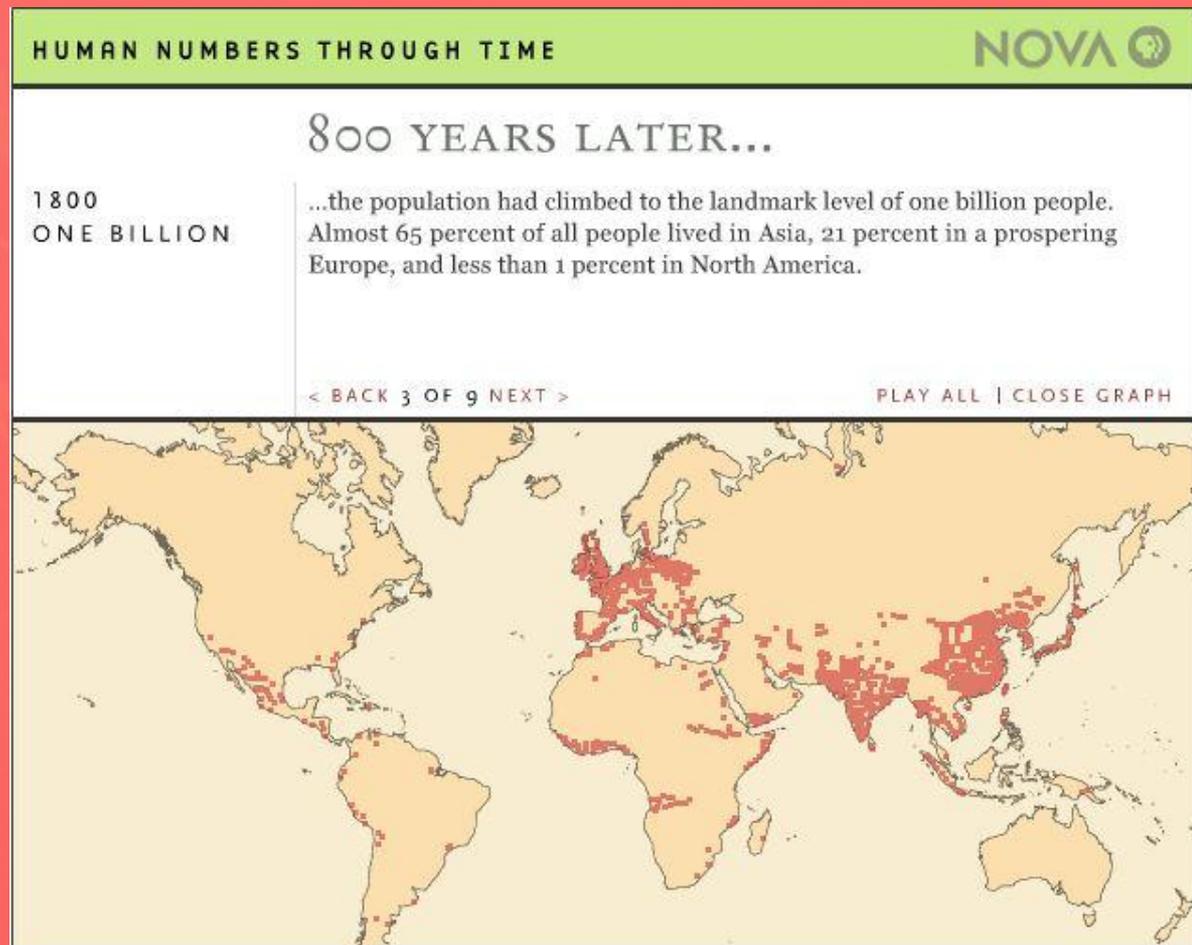
...the population had risen by as little as 10 million. And well into the second millennium, it grew less than 0.1 percent each year. The numbers in Europe even fell in the 1300s—struck down by the Black Plague. But beginning in the late 18th century, the Industrial Revolution would raise living standards and spur growth.

< BACK 2 OF 9 NEXT >

PLAY ALL | CLOSE GRAPH



History of World Population Growth: 1,800 C.E.



History of World Population Growth: C.E. 1927

HUMAN NUMBERS THROUGH TIME

NOVA 

127 YEARS LATER...

1927
TWO BILLION

...the two-billionth baby was born. From 1920 to 1950, the population growth rate hovered around 1 percent a year. But beginning in the middle of the century, the advent of antibiotics and other public health advances profoundly altered life expectancy, increasing the number of children who would live to bear their own children.

< BACK 4 OF 9 NEXT >

PLAY ALL | CLOSE GRAPH



History of World Population Growth: 1960 C.E.

HUMAN NUMBERS THROUGH TIME

NOVA 

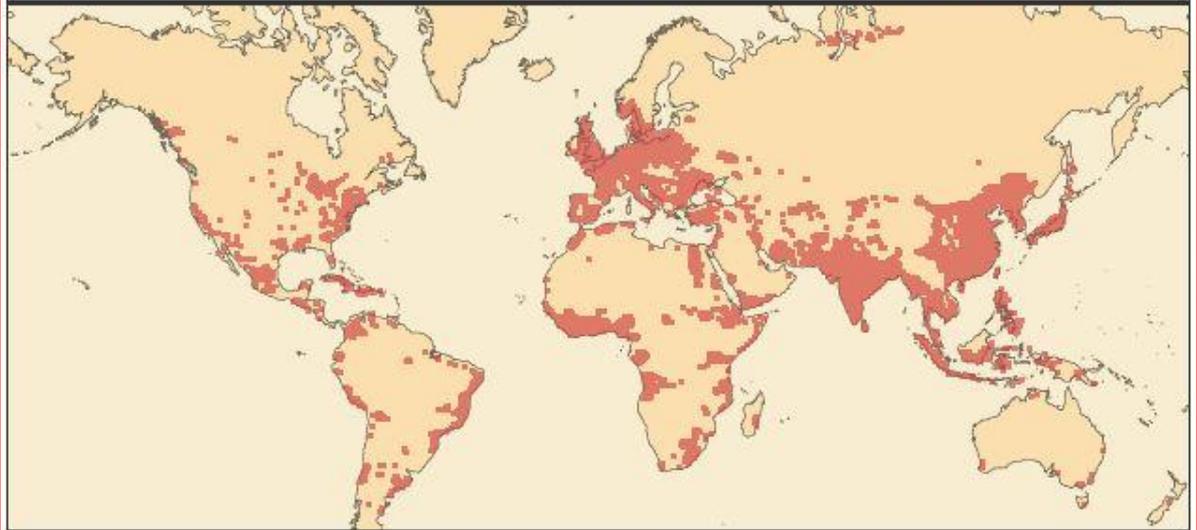
33 YEARS LATER...

1960
THREE BILLION

...advances in medicine, agriculture, and sanitation had spread to many places in the developing world. By 1960, the global population reached three billion, and in the late 1960s the growth rate hit an all-time peak of 2.04 percent a year.

< BACK 5 OF 9 NEXT >

PLAY ALL | CLOSE GRAPH



History of World Population Growth: 1974 C.E.

HUMAN NUMBERS THROUGH TIME

NOVA 

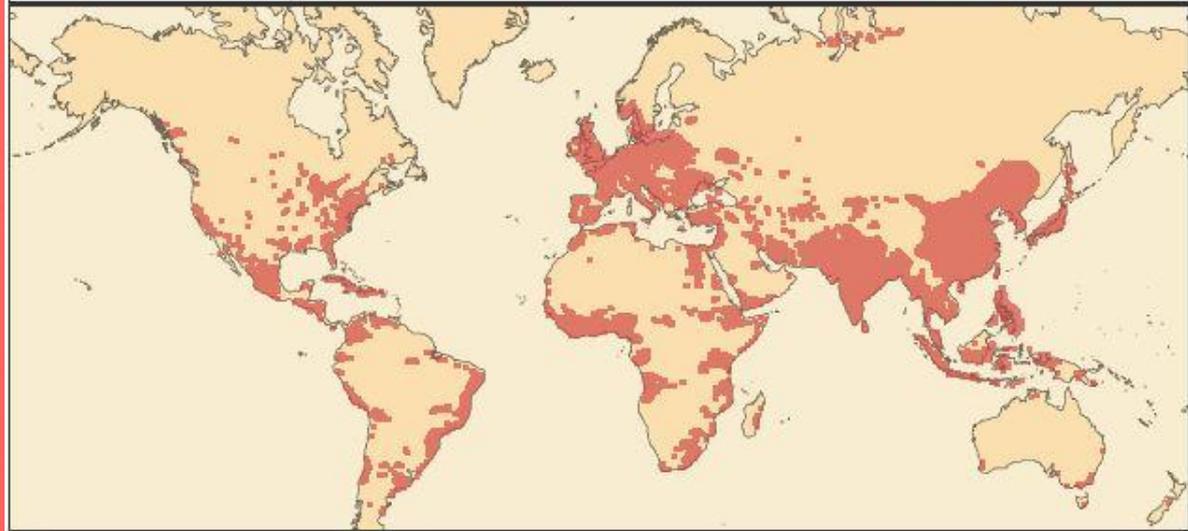
14 YEARS LATER...

1974
FOUR BILLION

...new reproductive technologies had helped curb the growth rate. But with so many people already on the planet, a population “explosion” was under way, and the epicenters of the explosion lay in the developing world. The four-billionth baby was born in 1974.

< BACK 6 OF 9 NEXT >

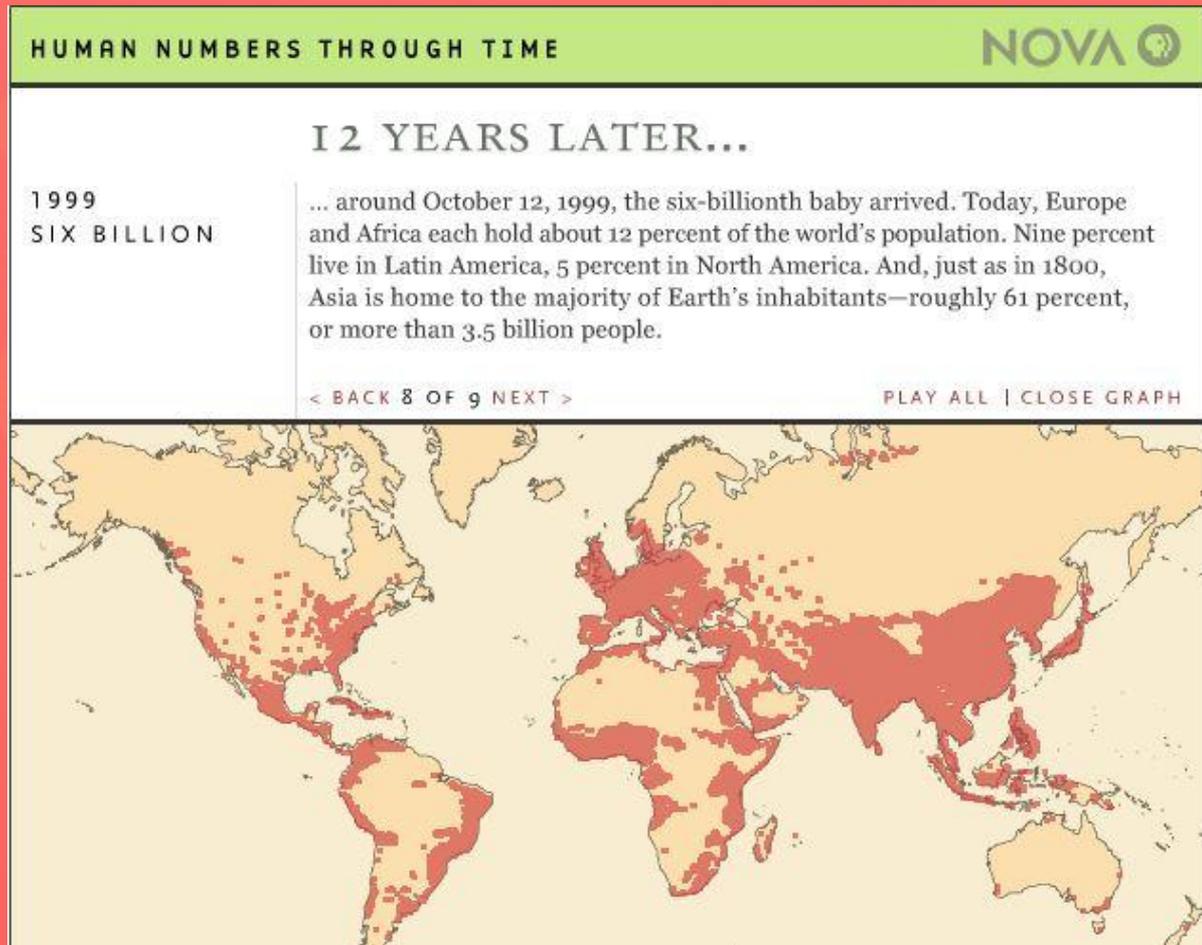
PLAY ALL | CLOSE GRAPH



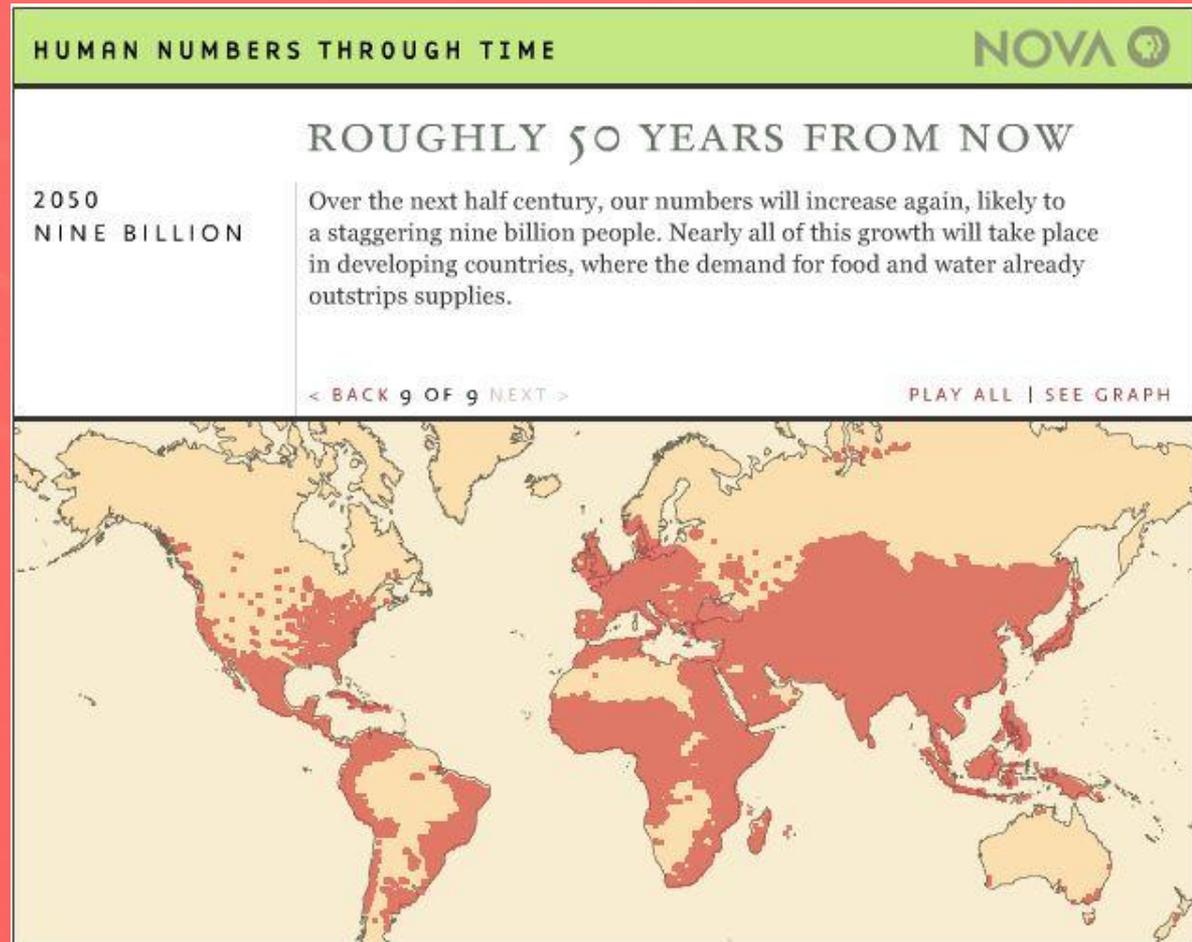
History of World Population Growth: 1987 C.E.



History of World Population Growth: 1999 C.E.



History of World Population Growth: 2050 C.E.*



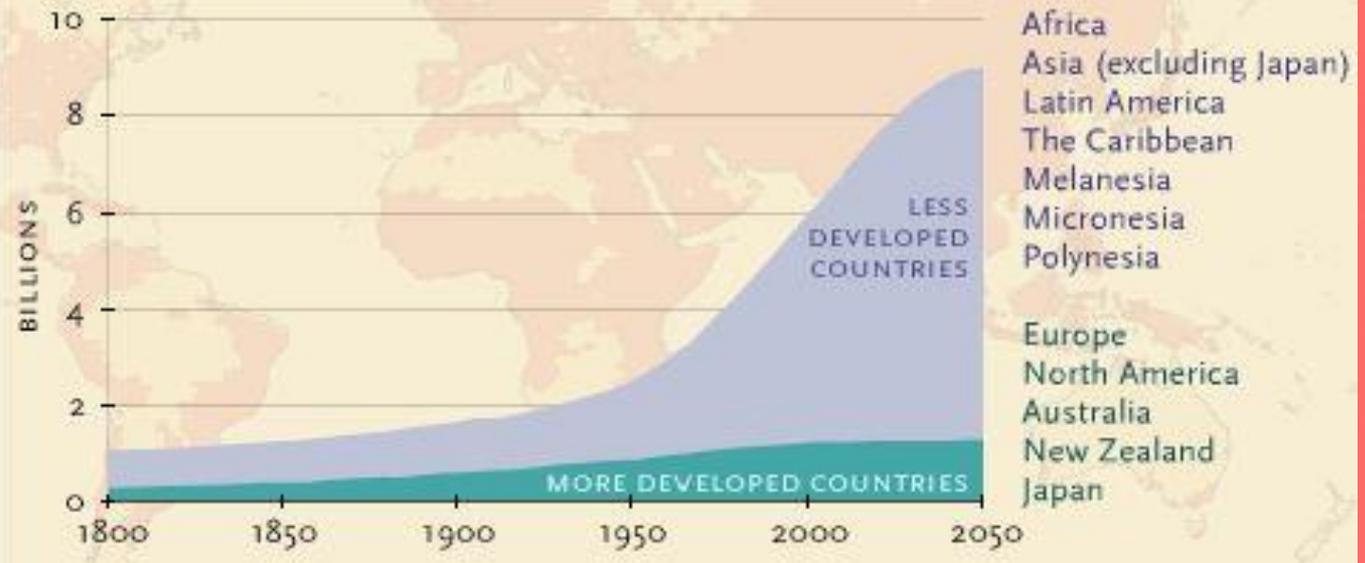
*Future projection/estimate



World Population Growth (1800-2050)

WORLD POPULATION GROWTH, 1800-2050

At the turn of the 21st century, almost 75 million people were being added to the Earth every year—about a quarter of the entire U.S. population. In the future, almost all population growth will be in the developing world.



How does China keep it's birth rate so low?

- One Child Per Family Policy



Difficult to feed, but more difficult to provide them a middle class life as China's economy grows.



Shopping mall in Beijing, China



The Next Superpower? – A smaller economy than the U.S., but China is catching up!

China (2011 est.)	United States (2011 est.)
GDP – \$11.29 trillion	GDP - \$15.04 trillion
GDP Per Capita - \$8,400	GDP Per Capita – \$48,100
GDP Growth Rate – 9.2%	GDP Growth Rate – 1.5%

G.D.P. (Gross Domestic Product) = The sum of all goods and services produced in a country. How much a country is worth.

G.D.P. Per Capita = The average of how much each person makes a year.

G.D.P. Growth Rate = How fast the economy \$\$\$ is growing each year.

According to an economist at PricewaterhouseCooper, China's economy will surpass the U.S. by 2020.



China's booming cities



Nearly one quarter of the world's 1,000 biggest cities in China, whose urban population is growing rapidly, according to a new statistical report issued by the United Nations.





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It's not as rosy as it's portrayed...



The Poor are Everywhere

China

Minimum Wage - \$2,484 per year (in Shenzhen)

Poverty – China has about 150 million people living below the United Nations poverty line of one US dollar a day. Nearly 500 million Chinese people live on less than \$2 a day.

Average Hourly Wage = \$1.36

U.S.

Minimum Wage - \$13,920 per year

Poverty – 46.2 million were classified as poor in 2010. A single person in most states would have to earn \$10,890 or less to be labeled as poor.

Average Hourly Wage = \$23.32





Overall, the Chinese are growing richer...

“China’s number of millionaire households ranks it third, behind the 5.22 million in the U.S. and Japan’s 1.53 million, according to BCG.”

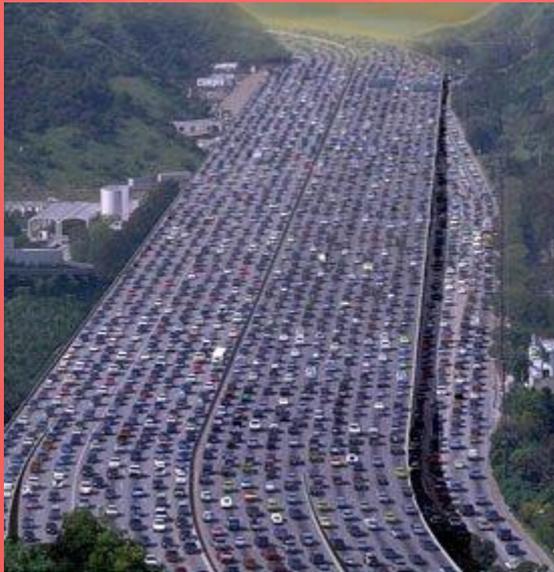


Growing Richer = More Consumption (Buying and using things, like cars...)



China had 79 million cars on its roads in 2009, according to the National Bureau of Statistics and we estimate the number for 2010 is roughly 85.5 million vehicles. China's vehicle stock will increase nearly twenty-fold, to 390 million in 2030.

More and more traffic
in the country with the
largest population



Adapting to the Situation –

The Electric Bicycle



66% of the world's 130 million bicycles made are in China.
[Wikipedia "Bicycle"]

There are about 120 million electric bicycles in China...up from a few thousand in the 1990s.
[The New York Times "An Electric Boost for Bicyclists, Jan. 31, 2010]

Chinese electric bikes can travel up to 30 miles an hour with a 50 mile range.
[The New York Times "An Electric Boost for Bicyclists, Jan. 31, 2010]

About 90% of the over 20 million electric bikes sold worldwide are in China. In comparison, only about 200,000 are sold annually in the U.S., or about 1% of China's sales.
[Time Magazine "On the Streets of China, Electric Bikes Are Swarming" June 14, 2009]





More Cars = Greater Need for Oil

China's demand for oil will equal US demand by 2040.



Energy Statistics > Oil > consumption (most recent) by country

VIEW DATA: **Totals** Per capita

[Definition](#)

[Source](#)

[Printable version](#)

Bar Graph

[Pie Chart](#)

[Map](#)

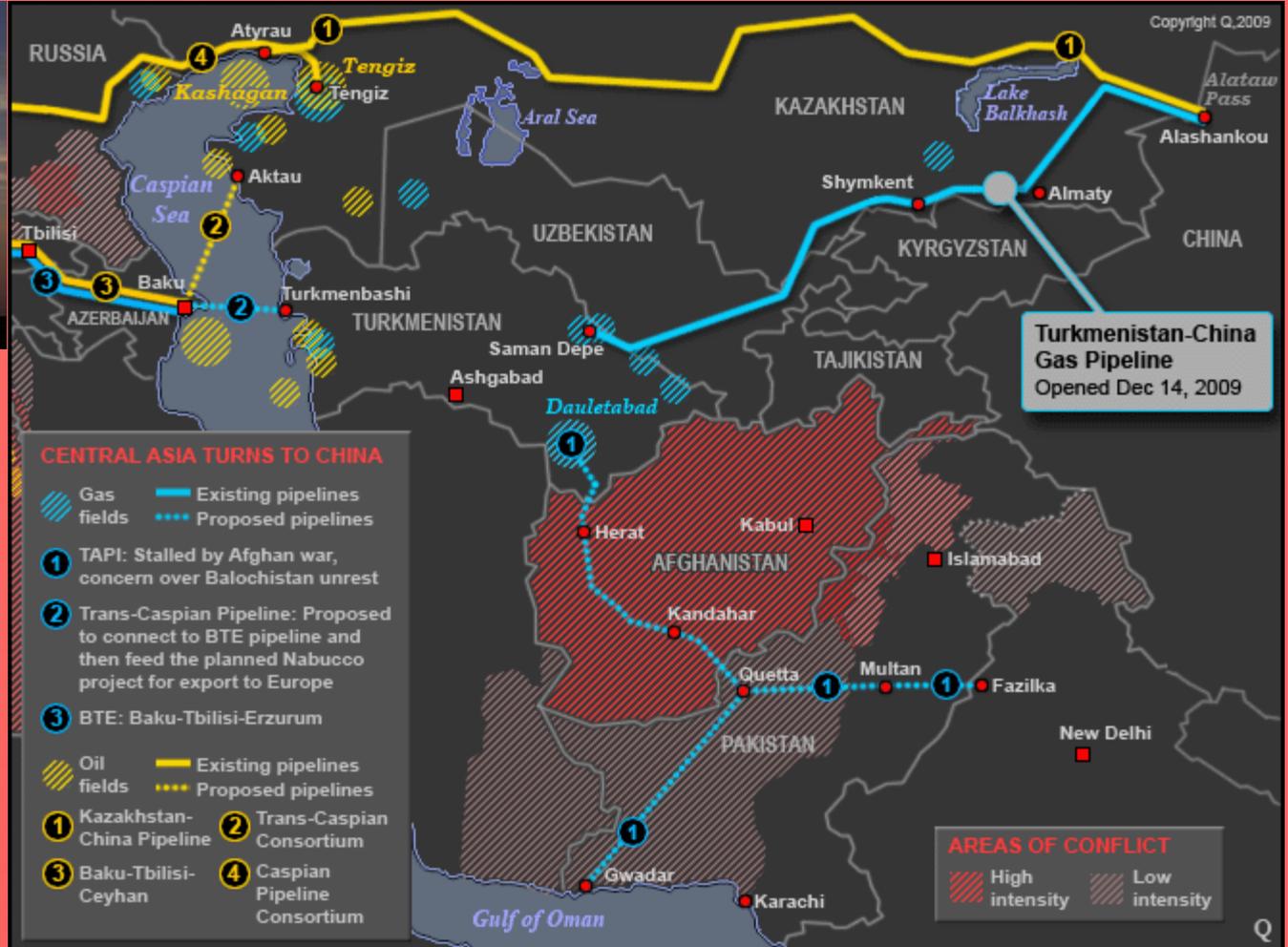
Showing latest available data. Select another time period: **Most recent** ▼

Rank	Countries	Amount ▼	Date
# 1	United States:	18,690,000 bbl/day	2009
# 2	China:	8,200,000 bbl/day	2009
# 3	Japan:	4,363,000 bbl/day	2009
# 4	India:	2,980,000 bbl/day	2009
# 5	Russia:	2,740,000 bbl/day	2010
# 6	Brazil:	2,460,000 bbl/day	2009
# 7	Germany:	2,437,000 bbl/day	2009
# 8	Saudi Arabia:	2,430,000 bbl/day	2009
# 9	Korea, South:	2,185,000 bbl/day	2010
# 10	Canada:	2,151,000 bbl/day	2009

The need for oil presses China to look around the world and compete for black gold.



Oil pipelines set up to bring oil to China and India (The two big up and coming superpowers)



Power Up China: Coal Energy in China



China relies on coal for almost 70% of its total energy supply (compared to the U.S.'s 30%). [NPR, U.S.-China Economic and Security Review Commission (USCC.gov), 2010 report]



[Energy Statistics](#) > Coal consumption (most recent) by country

Like 1

VIEW DATA: Totals

[Definition](#) [Source](#) [Printable version](#)

[Bar Graph](#) [Pie Chart](#) [Map](#) [Correlations](#)

Showing latest available data.

Rank	Countries	Amount
# 1	China:	1,310,000,000
# 2	United States:	1,060,000,000
# 3	India:	339,000,000
# 4	Russia:	298,000,000
# 5	Germany:	265,000,000
# 6	South Africa:	170,500,000
# 7	Japan:	149,500,000
# 8	Australia:	144,170,000
# 9	Korea, North:	103,600,000
# 10	Ukraine:	97,200,000

Coal is the main resource
to keeps the lights on in
China

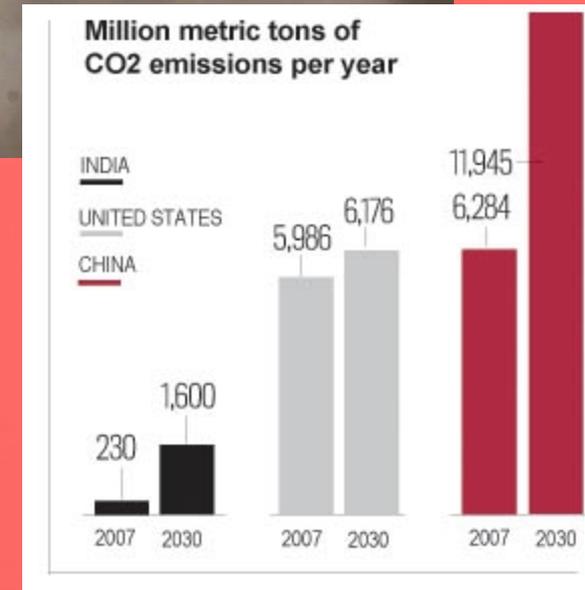


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But coal brings pollution...



China is home to 20 of the world's 30 most polluted cities. [The World Bank; Time Magazine "The World's Most Polluted Places" Sept. 12, 2007]





Only 1% of China's 560 million urban residents breathe air that is deemed safe by European Union standards. [Wikipedia; New York Times, "As China Roars, Pollution Reaches Deadly Extremes" Aug. 25, 2007]



Two thirds of China's cities don't meet the country's own air emissions standards. ["China: The Balance Sheet" Bergsten 2006]

When 1.3 billion people consume like we do... will the world be able to handle it?



Ethically, who are we to tell them that they can't live like us? – So what should be done?



Not only do the Chinese have trouble finding where to put their garbage, other countries, like the U.S. dump some of theirs in China as well!

“[R]oughly 70 percent of the world's discarded computers and electronic equipment ends up in China.” (Christian Science Monitor)



The city of Guiyu is home to 5,500 businesses devoted to processing discarded electronics, known as e-waste. According to local websites, the region dismantles 1.5 million pounds of junked computers, cell phones and other devices a year.





The niche industry employs tens of thousands of people, many of them in small, family-run workshops.





The ewaste is mined for the lead, gold, copper and other metals that are found in the circuit boards, wiring, chips and other parts of electronic devices. In this photo, a worker heats a computer board on a steel surface to remove the computer chips soldered into it.





Much of the waste from the work, particularly the ash from the burning of coal, is dumped into city's streams and canals, poisoning the wells and groundwater.





Almost 80% of the discarded electronics come from overseas, including the United States.





Guiyu — and places like it in India and Africa — flourish because it is far cheaper to break down e-waste there than it is in the developed world, where companies must follow strict guidelines.





According to Guiyu's own website, the e-waste business generates \$75 million a year for the town.





Circuit boards, which can contain tiny amounts of gold and silver, are treated with acid baths.





Health reports from the region say that Guiyu's children suffer from an extremely high rate of lead poisoning.





A worker throws a computer casing onto a pile.





According to reports from nearby Shantou University, Guiyu has the highest level of cancer-causing dioxins in the world and an elevated rate of miscarriages.



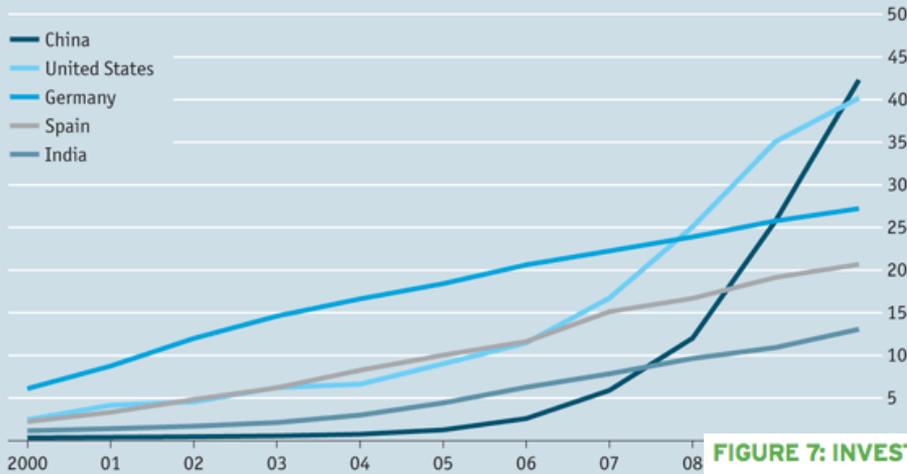


A worker hauls phone casings on a tricycle. Despite the dangers it presents, the e-waste business in Guiyu continues to thrive.



Installed wind capacity

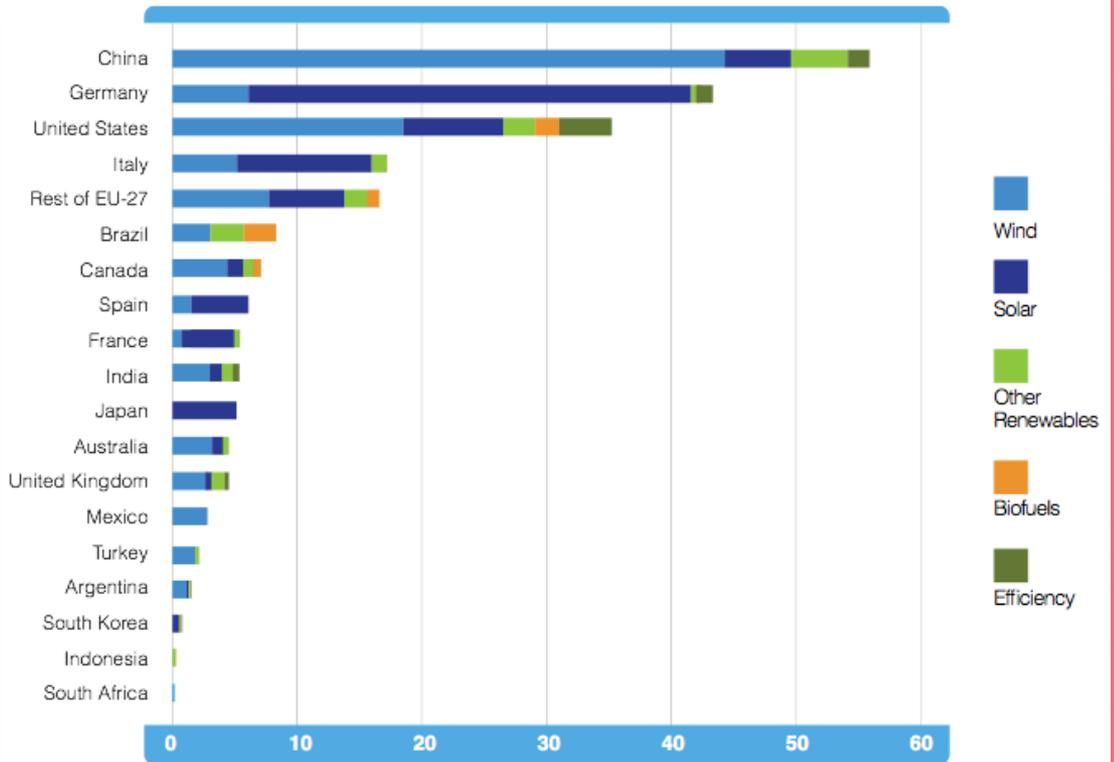
Gigawatts



Source: Global Wind Energy Council

Working to make things right.

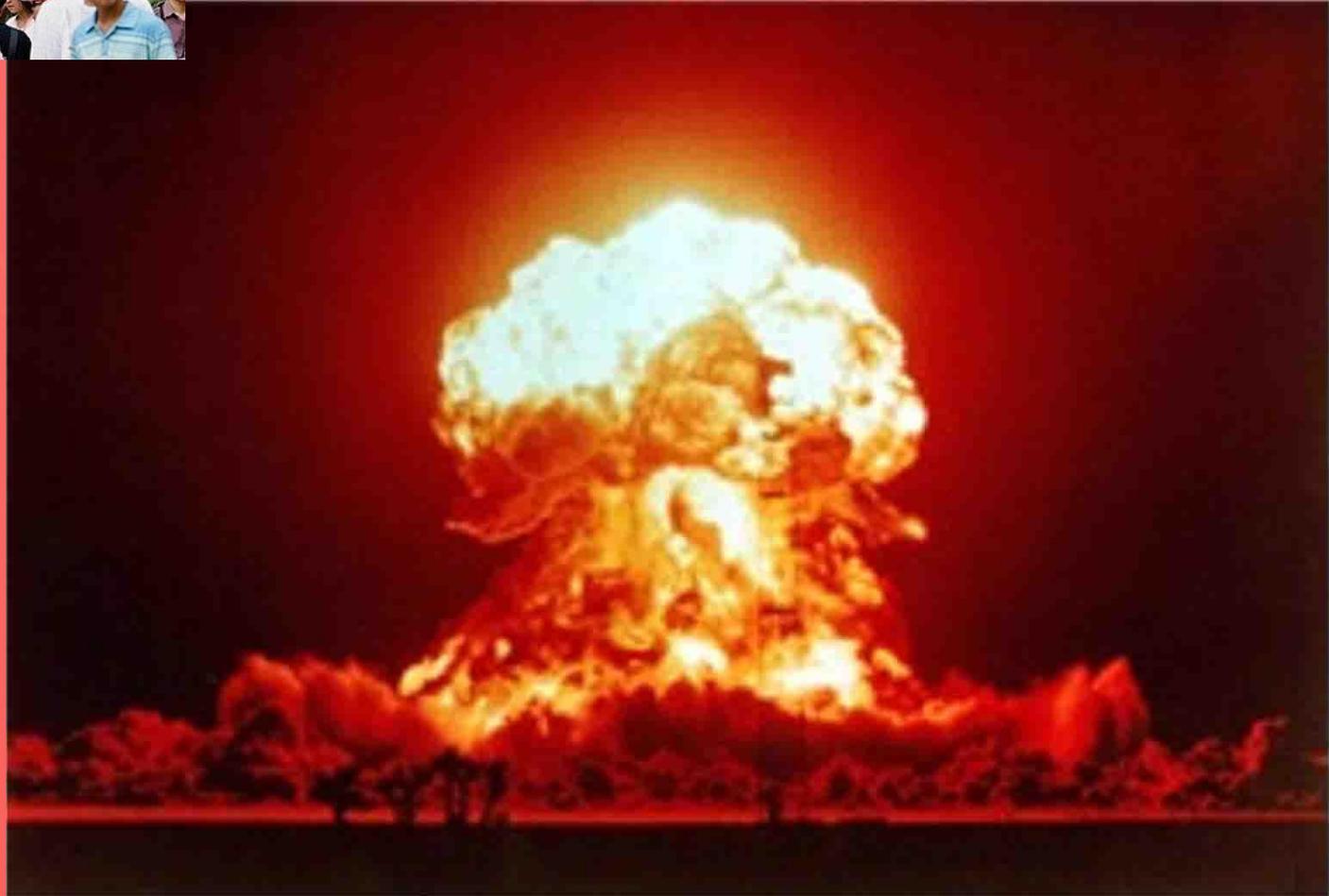
FIGURE 7: INVESTMENT BY COUNTRY AND SECTOR, 2010 (BILLIONS OF \$)



China is the greatest producer of CO₂, but it is also the greatest planter of trees!



China is also a
NUCLEAR POWER





Who has what?

China: About 240 total warheads.

France: Fewer than 300 operational warheads.

Russia: Approximately 1,566 operational strategic warheads [1], approximately 2,000 operational tactical warheads, and approximately 7,000 stockpiled strategic and tactical warheads.

United Kingdom: Fewer than 160 deployed strategic warheads, total stockpile of up to 225.

United States: Approximately 5,113 active and inactive [2] nuclear warheads and approximately 3,500 warheads retired and awaiting dismantlement. The 5,113 active and inactive nuclear warhead stockpile includes 1,790 deployed strategic warheads [1], approximately 500 operational tactical weapons, and approximately 2,645 inactive warheads.



The 5,000 Year Old Civilization: The Oldest



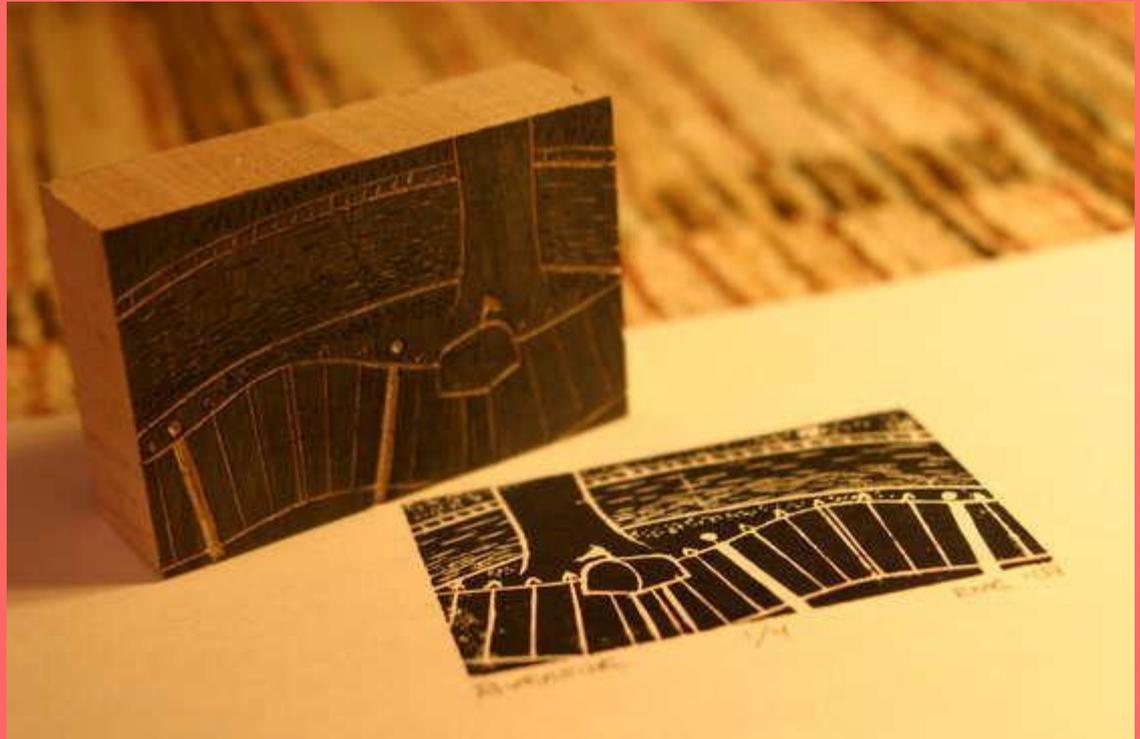
The Oldest Civilization Brought Us...Paper!

By the 3rd Century B.C.E. – Paper was invented



The Oldest Civilization Brought Us...Printing

By 650 C.E., China invented wood-block printing. This technology led to more advanced printing as time went on...



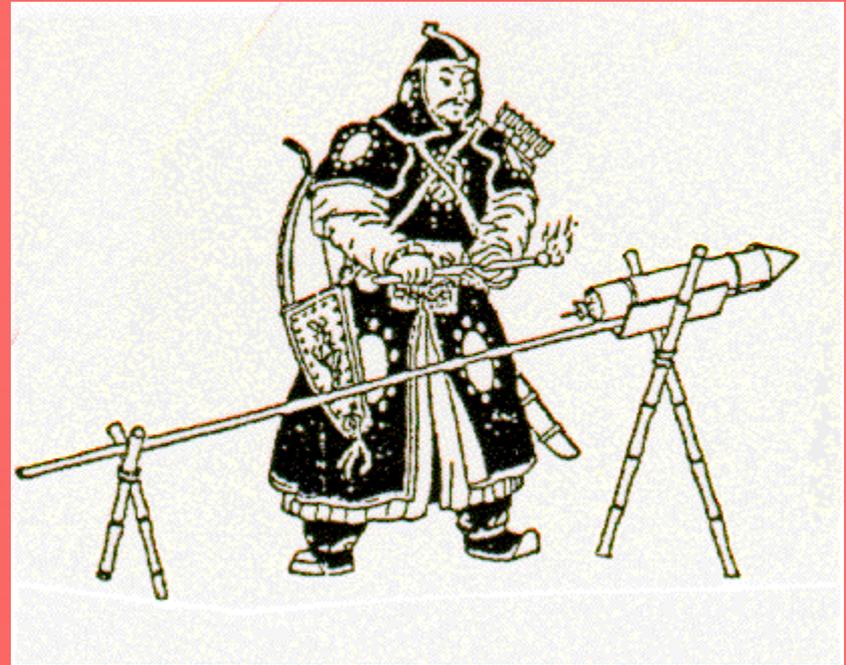
The Oldest Civilization Brought Us...the Compass

By the Han dynasty (202 BCE–
220 CE)



The Oldest Civilization Brought Us...Gunpowder

By 618 C.E., the Chinese invented gunpowder.



The Oldest Civilization Brought Us...Tea

2nd millenium B.C.E. tea was being used in China.



The Oldest Civilization Brought Us...Kung Fu

Martial arts was invented around the 5th/6th century B.C.E. in China.



The Oldest Civilization Brought Us...Silk

Silk has been used for about 5,000 years in China.



The list just keeps on going and going...

Battens in sails and cloth
Blast furnace
Cast iron
Chinese cuisine: Tofu, Ramen sushi
Chinese clothing: Qipao, Hanfu
Chopsticks
Crank, drugs
Repeating crossbow
Escapement mechanism for clocks
Exploding cannonball
Fire Arrow
Gunpowder
Firearm
Horse collar
Hull compartments/bulkheads
Indian ink
Kite
Land mines
Lottery
Menus for Song-era restaurants
Naval mines
Noodles
Paper
Pendulum (Zhang Heng)
Printing (woodblock printing and movable type)
Rockets: Fire Arrow, Multistage rocket
Rudder
Sailing carriage
Seismometer (of Zhang Heng)
Silk
South Pointing Chariot (differential gear, of Ma Jun)
Sluice gates
Toilet paper
Traditional Chinese medicine
Trebuchet (traction)
Trip hammer
Winnowing machine

Abacus
Armillary sphere
Bellows
Belt drive
Bituminous coke for the iron and steel industry
Compass
Camera obscura
Cardan Suspension
The cannon
Chain drive
Chain pumps
Chinese calendar
Crossbow
Drydock
The Flamethrower
Flash lock
Early explosive grenades
Odometer
Paddle wheel, for boats
Paper money
Parachutes
Pontoon bridge
Porcelain
Postal system
Pound lock
Saw
Scissors
Steel
Suspension bridge
Star catalogue
Tea
Umbrella
Vaccination
Water clock
Waterwheel
Wheelbarrow
Windmill



Why wouldn't you want to learn about China?

