

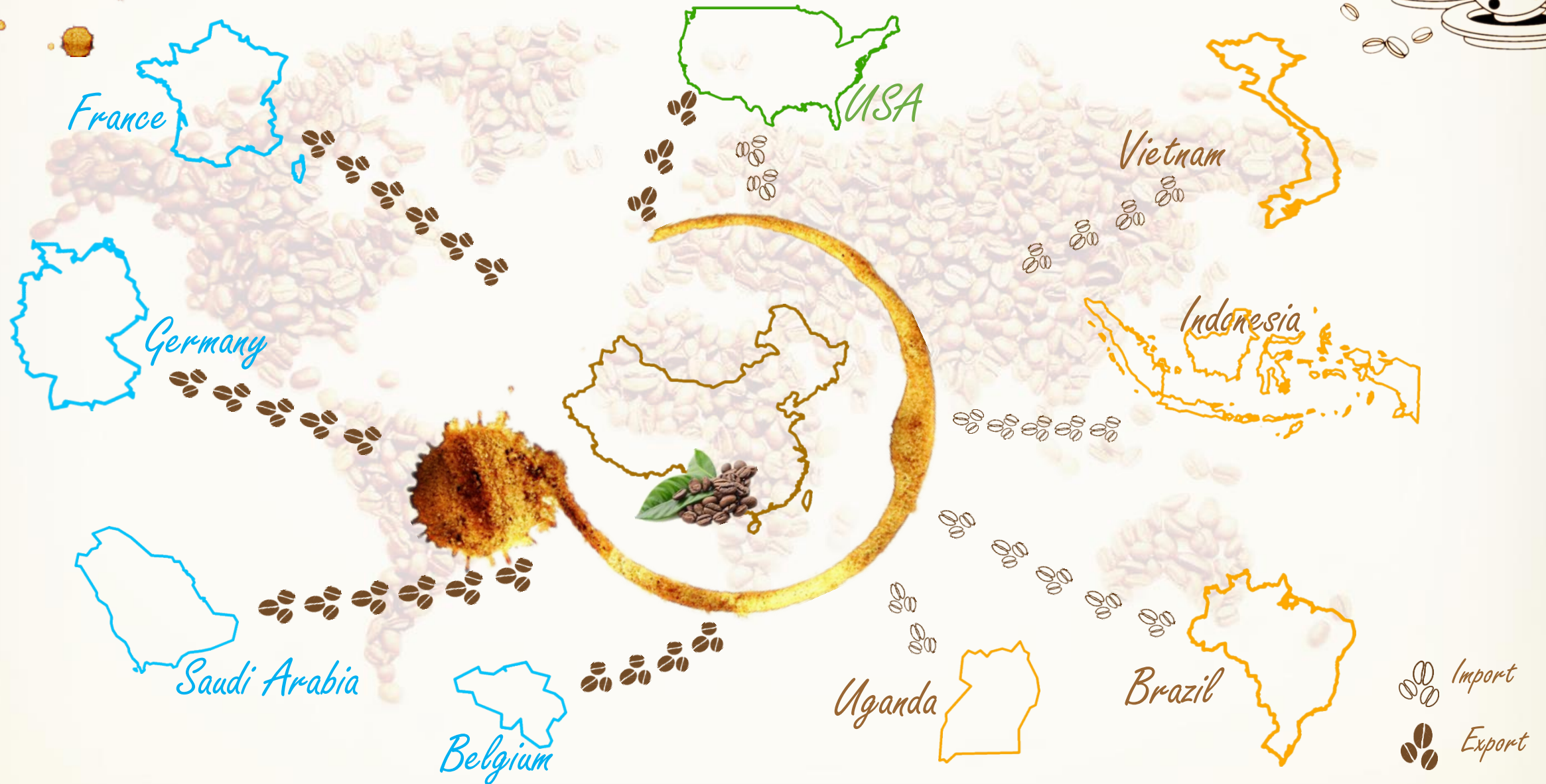


# China's Water Risks and Sustainable Coffee Production

<http://www.theguardian.com/sustainable-business/2015/may/18/spilling-the-beans-chinas-growing-coffee-culture>



# China's Coffee Trade





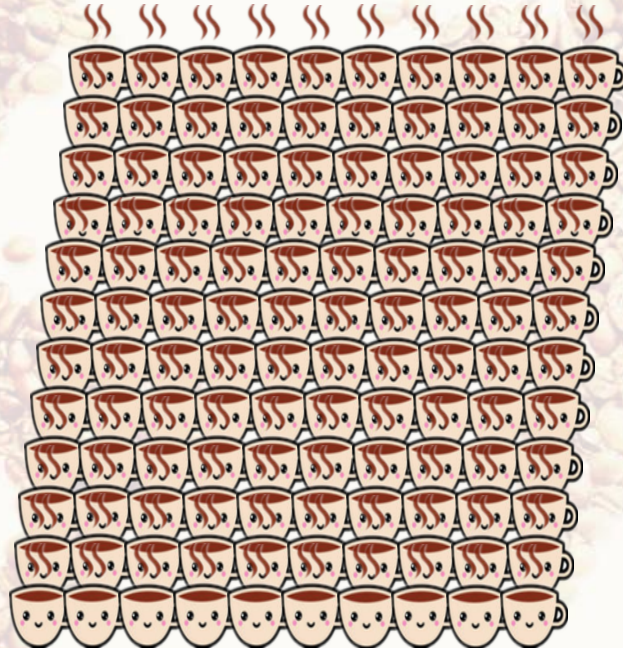
# Annual Per Capita Coffee Consumption



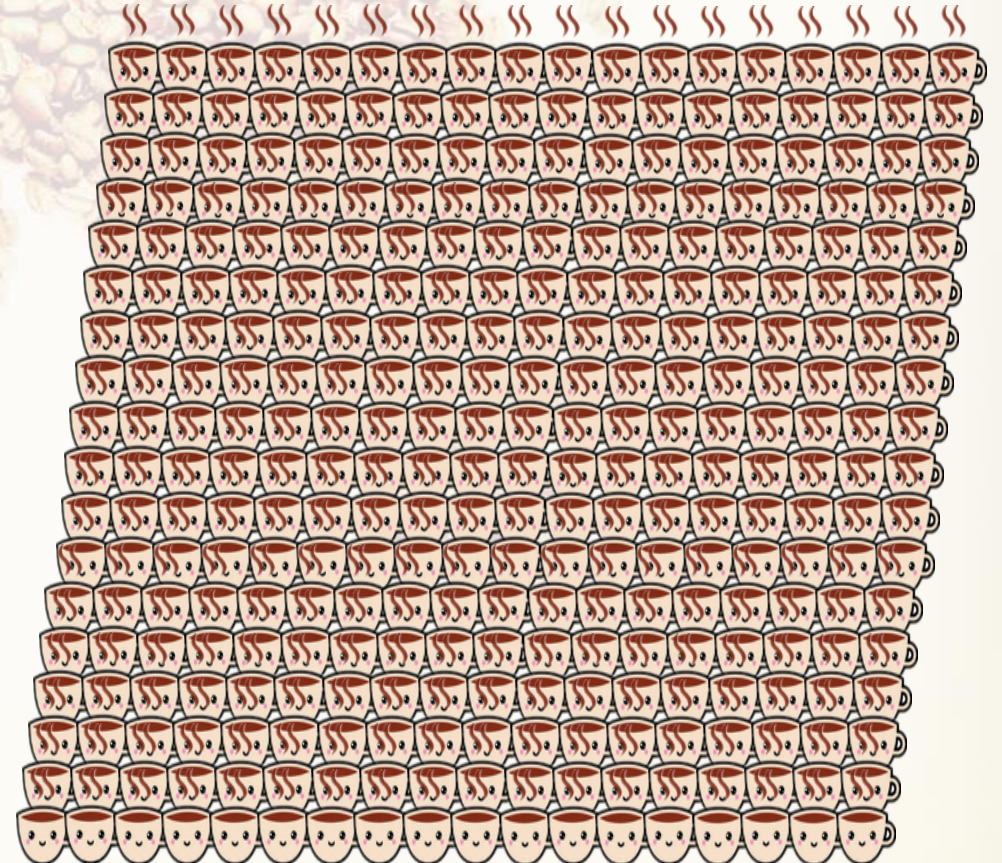
4  
Cups



150 cups



331 cups

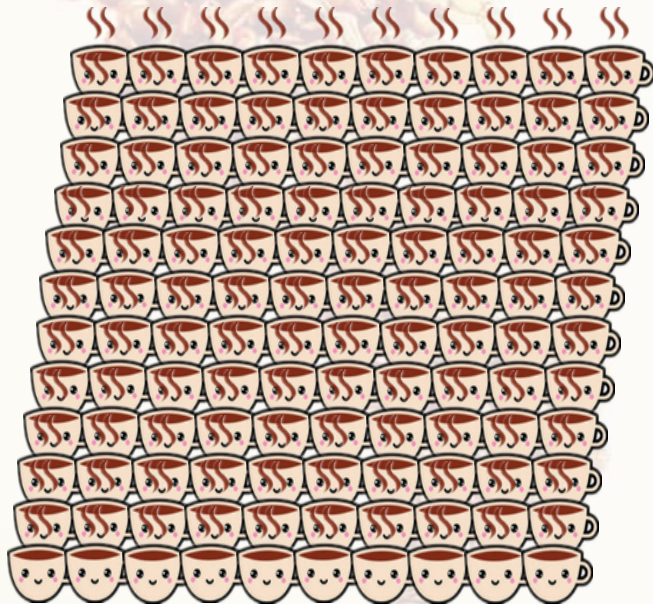


But Lester Brown Says.....

# "1.3 Billion Times Anything is a Whole Hell of A Lot."



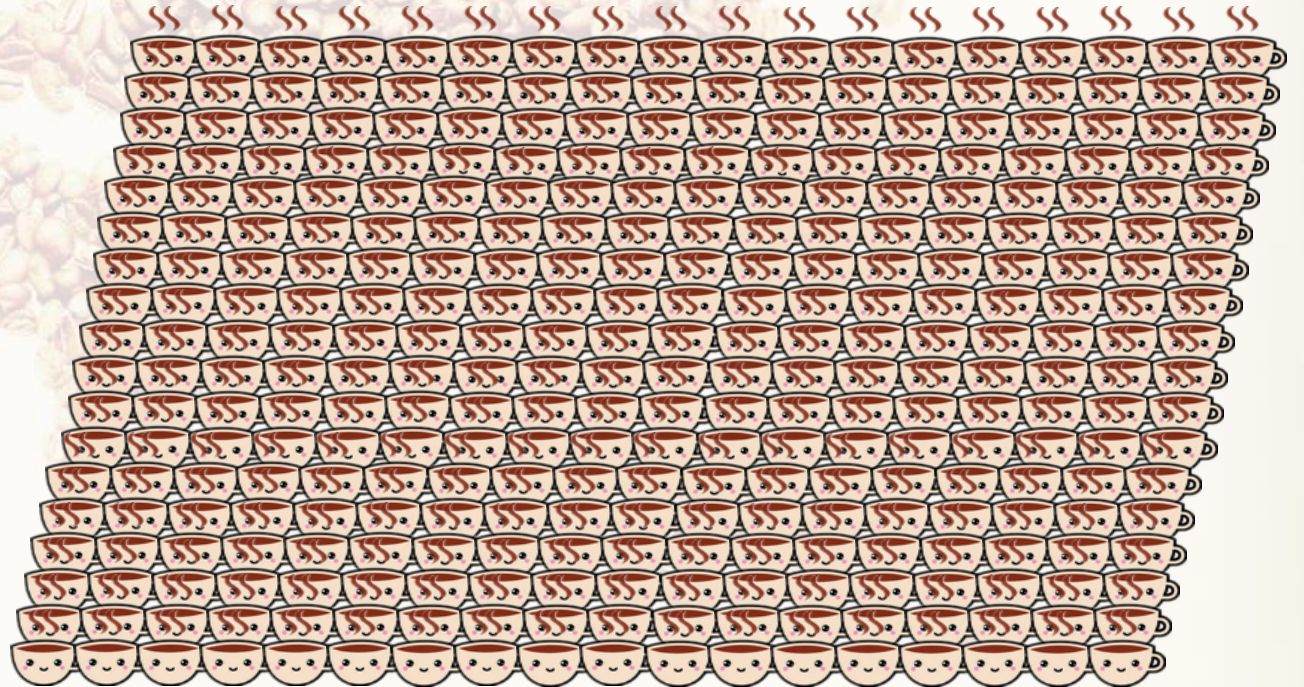
*4 Cups X 1.3 Billion*



*52 Billion Cups*



*331 Cups X 321 Million*



*106 Billion Cups*

# Living Under the Dome







Illustration by Mikel Jaso <http://www.bloomberg.com/news/2011-07-06/why-we-care-about-the-price-of-water-in-china-peter-orszag.html>

# Rivers Run Red, Green, Denim Blue....



35%

300 Million





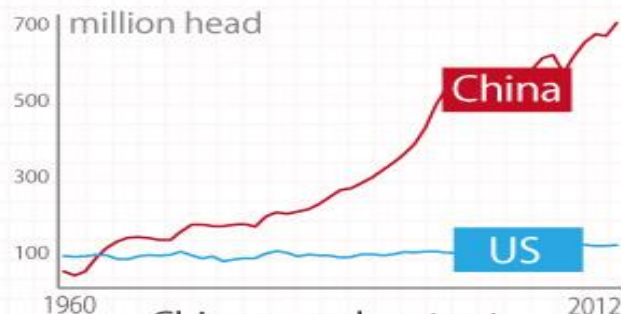


# THE PORK INDUSTRY IN CHINA

**65%** of the meat consumed by China is pork.

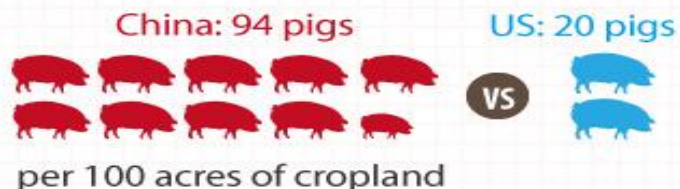


Per Capita Annual Pork Consumption in China **81 LBS**



Chinese pork output has increased by **15 times** over the past five decades.

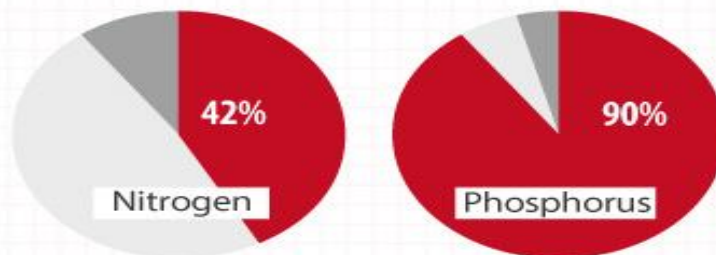
High hog population density in China has tightened supplies of feed and damaged the environment.



The average pig in China produces **5.3 kg** of waste each day, which contains nutrients, heavy metals, and pharmaceutical residues.



Pig production accounts for an estimated **42% of nitrogen** and **90% of phosphorus** flows into the South China Sea.\*



■ Pig Production ■ Domestic Wastewater ■ Other Sources

\* Including the Pearl River basin in Guangdong Province, the Chao Phraya River basin in Thailand, and the Red River and Dong-Nai River basins in Vietnam.



Eutrophication of surface water damages wetlands and fragile coastal ecosystems



Leaching nitrates and pathogens contaminate soil and water



Excess nutrients and heavy metals damage soil fertility and shrink arable land



Ammonia, methane, and other gases cause pollution and contribute to greenhouse effect



Diseased pigs are not always disposed of properly – 16,000 carcasses were found in the Huangpu River in 2013

Livestock farm waste is about

**3 TIMES**

the amount emitted from industries.

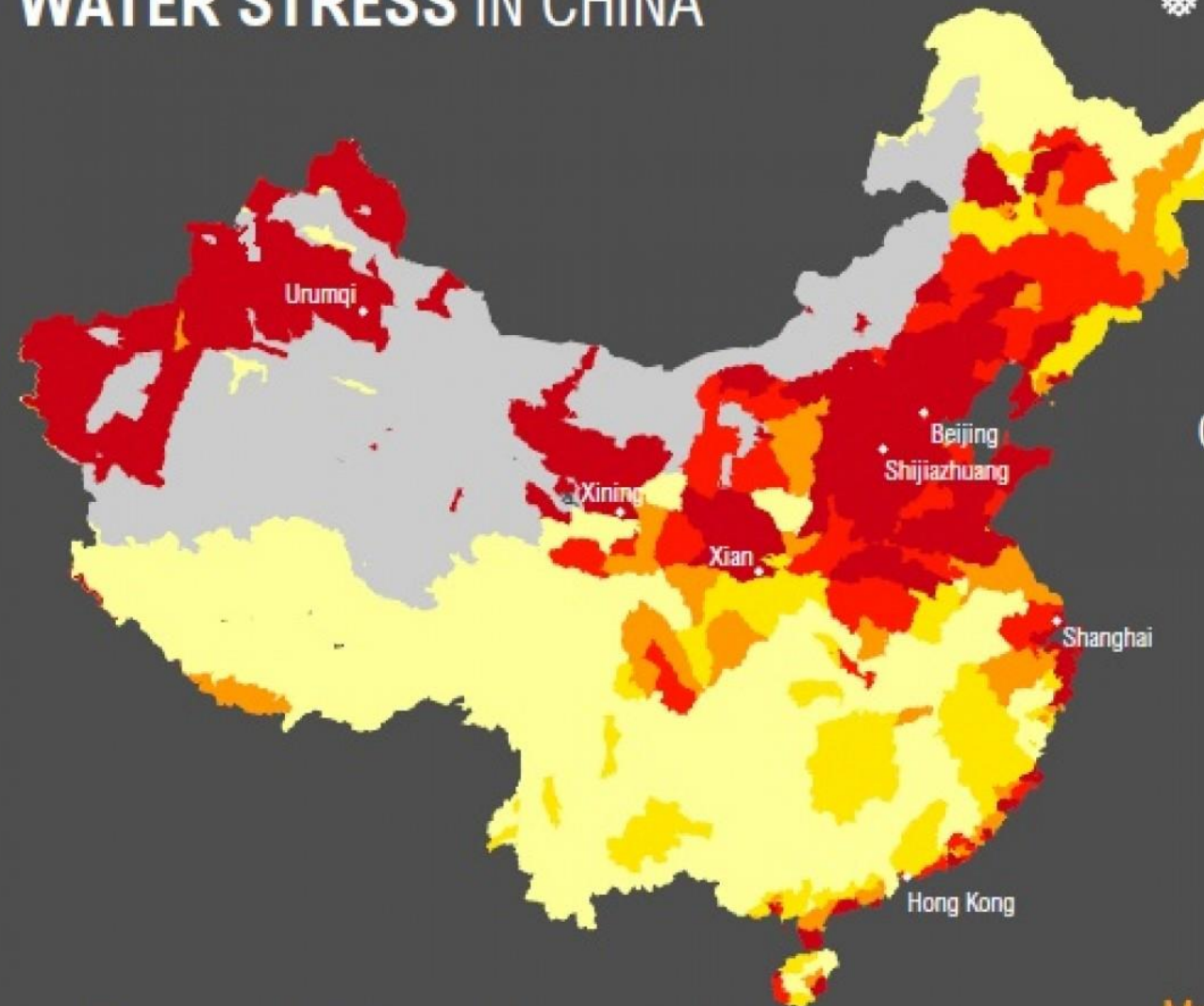
**1.29 BILLION**  
metric tons

of waste is produced by the Chinese pork industry per year.

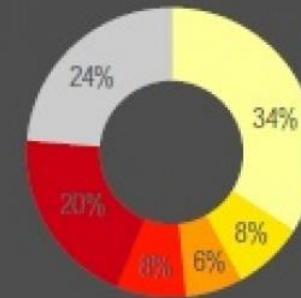


# WATER STRESS IN CHINA

WORLD RESOURCES INSTITUTE



Countrywide distribution of land under stress



Arid & low water use Low Low-medium Medium-high High Extremely high  
(Ratio: withdrawals/supply) <10% 10%-20% 20%-40% 40%-80% >80%

Medium-high national stress:  
rank 70/181 score 2.94

15KM DRIVE TO WATER

COAL MINE

COAL MINE

DRY WELL

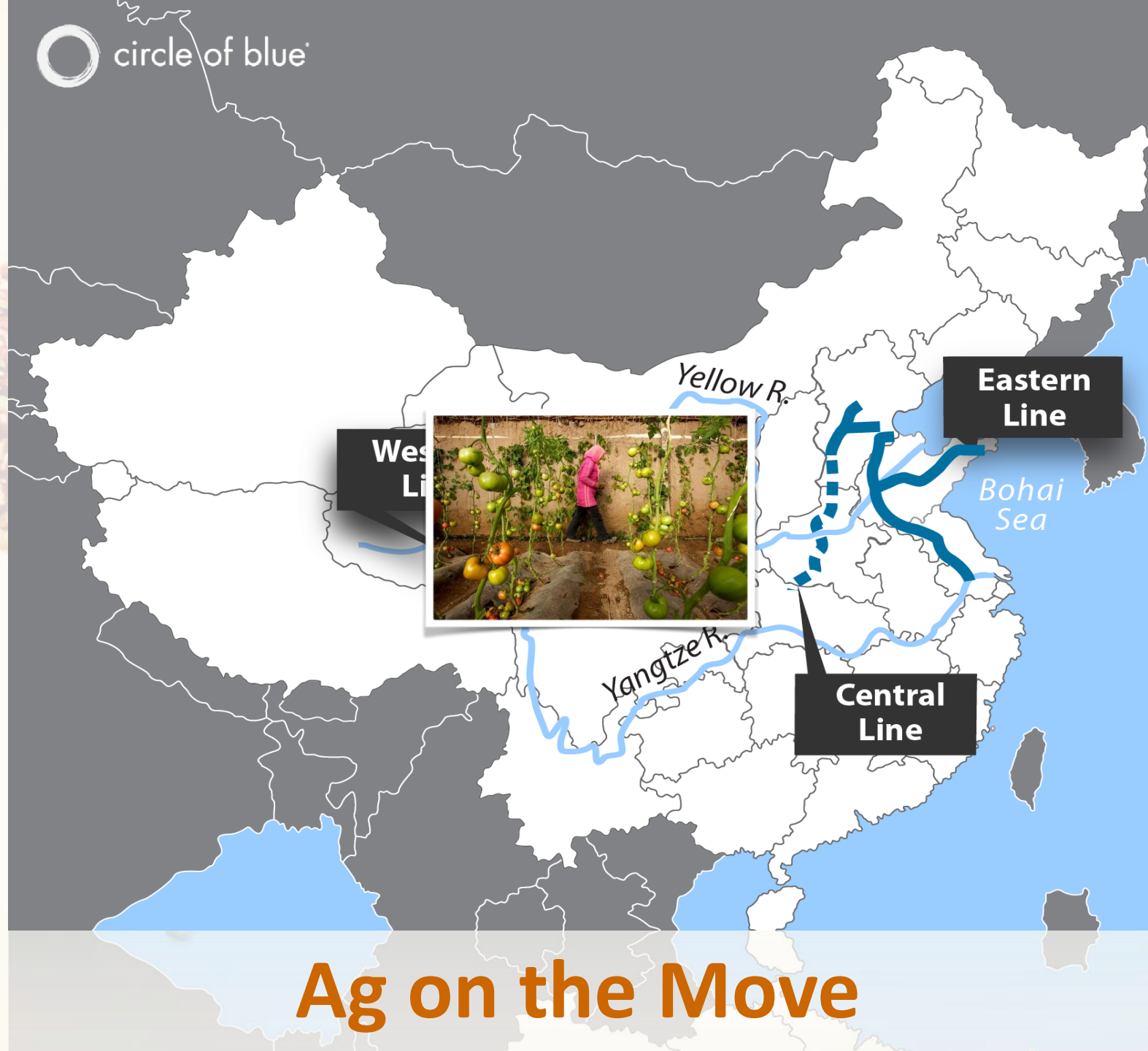




# The King is Thirsty



**China's Demand for Energy is Outpacing its Freshwater Supply**



**Ag on the Move**





**Ag on the Move**

# Water on the Move







**South-North Water Transfer Project, 2050**





# Crushing Droughts in Water-Rich South







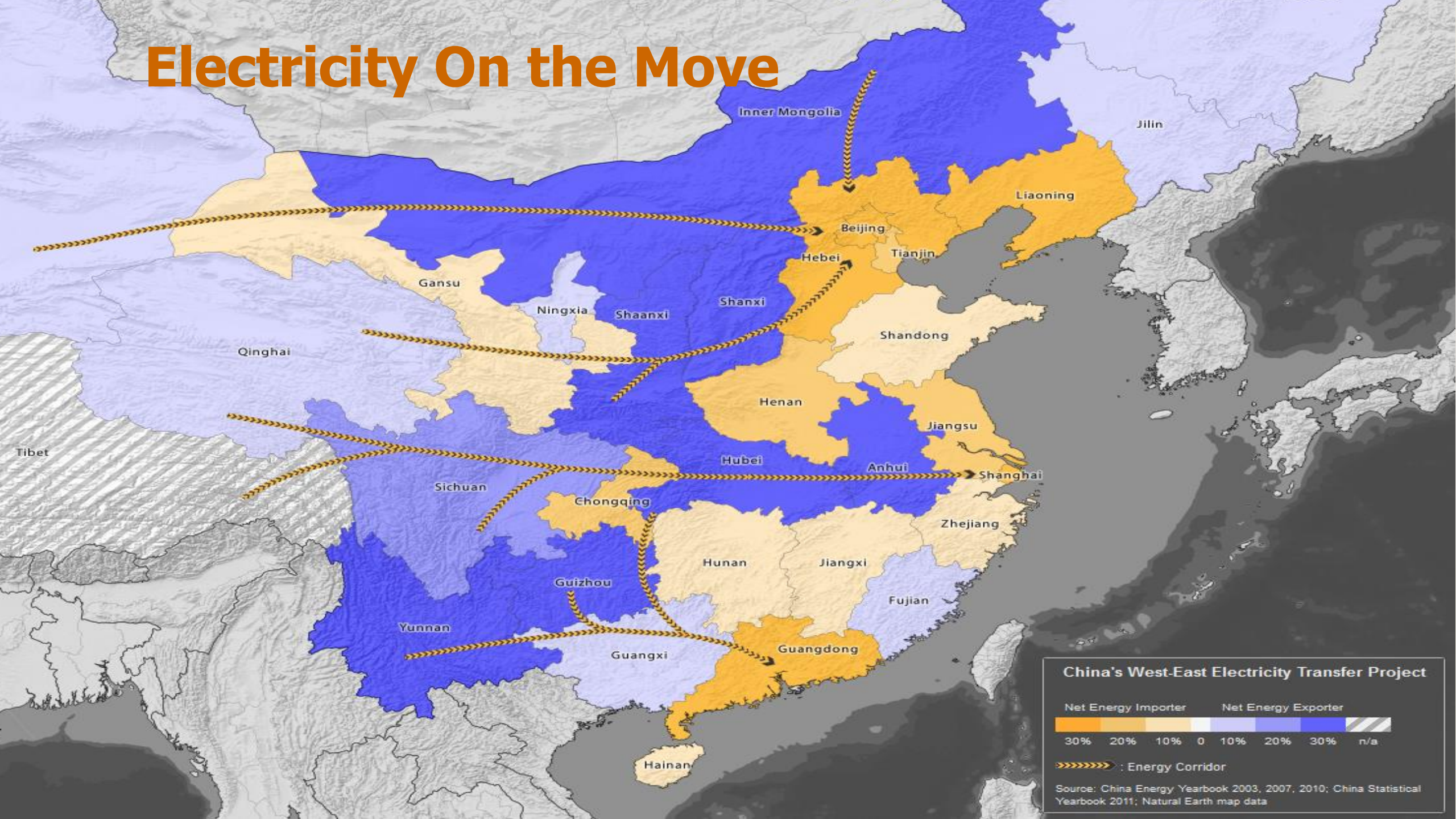
# Dammed & Diverted Rivers



87,000 and Counting.....



# Electricity On the Move





**NOT all Gloom and Doom!**

## **Water Pollution Action Plan**



**Sponge City**

**Red Lines**



**Public Interest Lawsuits**

**Higher Fines for Polluters**

**Greening Local Government Evaluations**



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A large, faint background image of a map of China composed of coffee beans. A golden coffee ring is drawn around a small cluster of coffee beans and a green leaf inside the map.

**@wilsonCEF**

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