

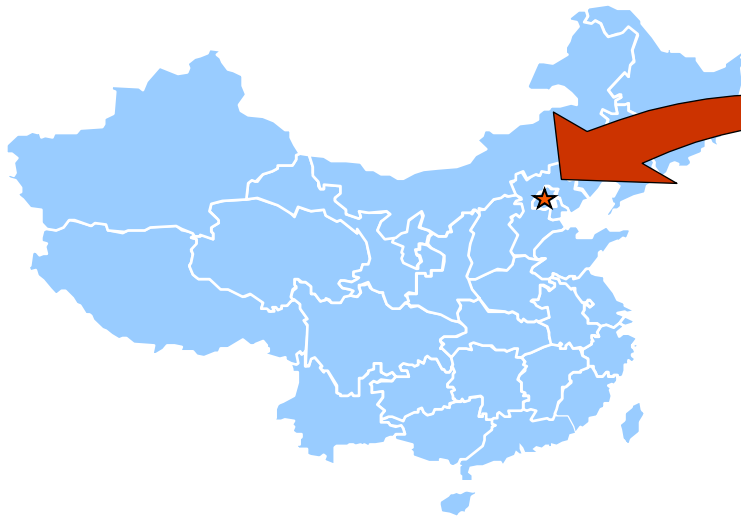
Safe Use of Wastewater in Agriculture
International Wrap-up Event

**Collection, treatment and reuse of
wastewater in Beijing, China**

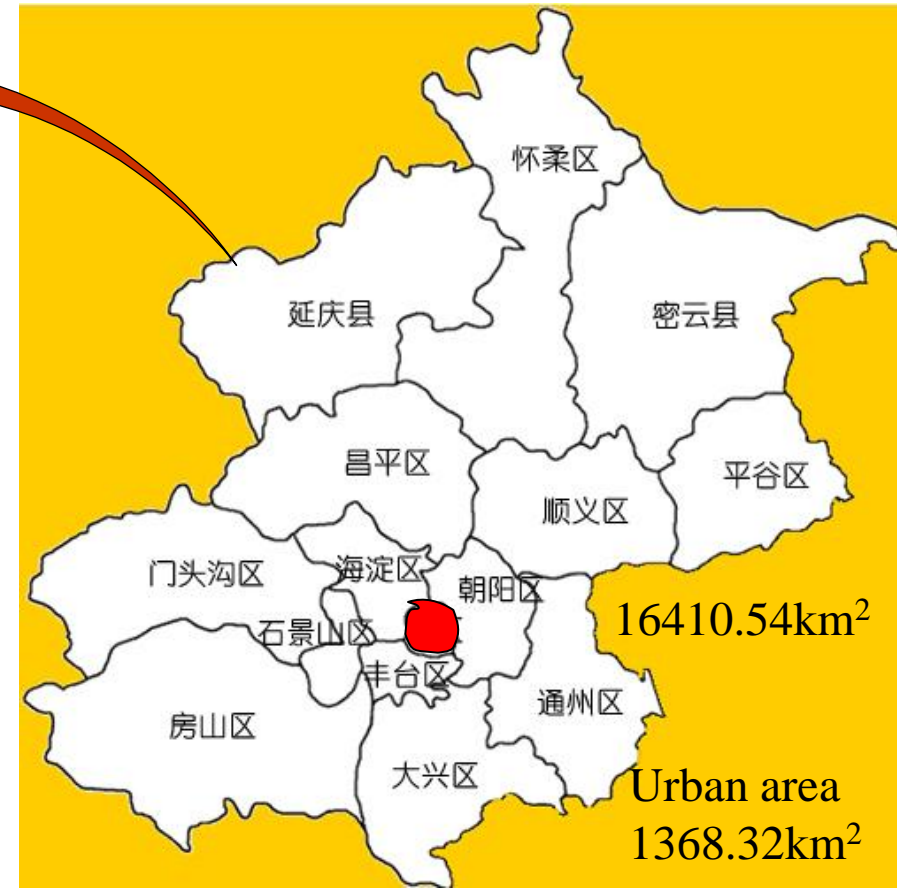
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一、Background

➤ **Beijing, China is a serious water shortage city, where average water resource amount per capita is 300 m³, taking only up one-eighth of that of whole country.**

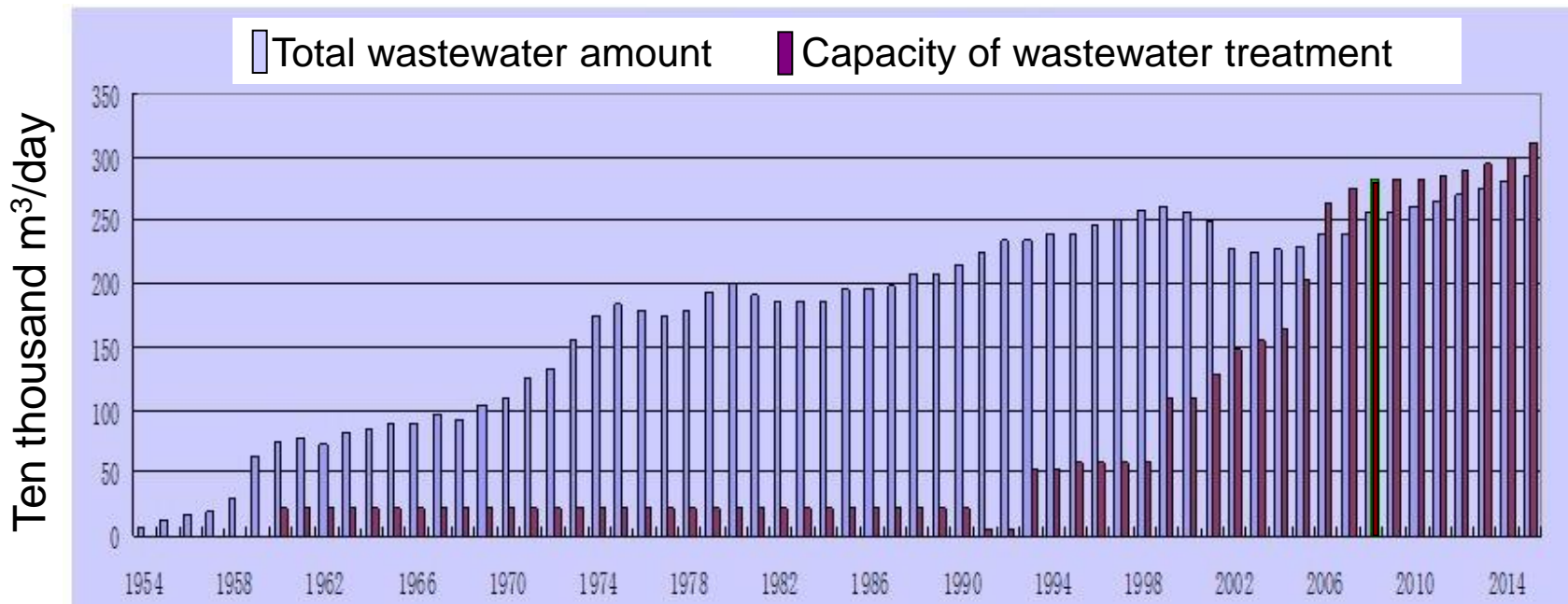


➤ **The agriculture is the major water consumer, and the amount of agricultural water use takes up 38% of the city's total water consumption**



二、Wastewater treatment

Total wastewater amount in Beijing had been slowly increasing and reached 2.5 million m³ per day in the nineties, whereas the capacity of wastewater treatment had been remained at a relatively low level before 1994. After 1990s, Beijing accelerated the construction of wastewater treatment plant and the capacity of wastewater treatment was greatly enhanced.



二、Wastewater treatment

Capacity of wastewater treatment plants before 2010 in Beijing

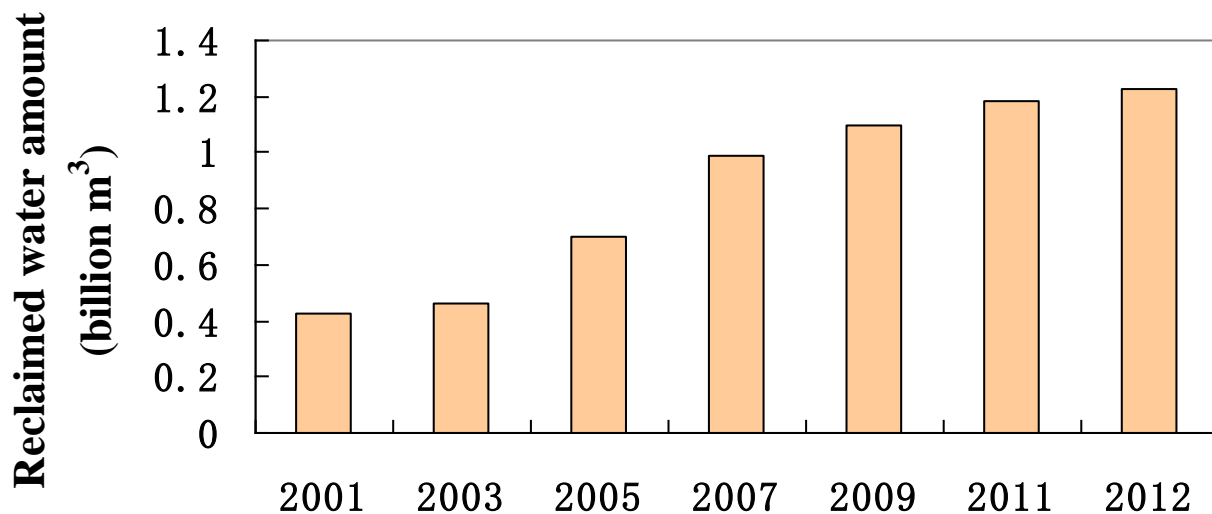
No	Name of wastewater treatment plant	Operation time (Year)	Design treatment capacity (10 ⁴ m ³ /d)	No	Name of wastewater treatment plant	Operation time (Year)	Design treatment capacity (10 ⁴ m ³ /d)
1	北小河	1990	10	20	小红门	2006	60
2	密云檀州	1991	4.5	21	顺义天竺	2006	2
3	牛口峪	1995	6	22	小汤山	2006	1.05
4	方庄	1995	4	23	顺义区	2007	8
5	云岗	1996	1.2	24	怀柔区	2007	7.5
6	高碑店	1999	100	25	永丰再生水厂	2008	2
7	酒仙桥	2000	20	26	温泉再生水厂	2008	2
8	北京兴水水务有限责	2000	8	27	长阳污水处理有限责	2008	2
9	夏都缙阳污水处理有	2001	3	28	同顺中水处理厂	2008	1
10	北京金源经开污水处	2002	5	29	北七家	2008	2.5
11	吴家村	2003	8	30	平谷洳河	2008	8
12	肖家河	2003	2	31	北苑	2009	4
13	良乡污水处理厂增加	2003	4	32	房山城关	2009	2
14	昌平污水处理中心	2003	5.4	33	通州区漷县镇中心区	2009	1
15	卢沟桥	2004	10	34	张家湾镇	2009	1
16	清河	2004	40	35	南口镇	2009	2
17	门城污水处理有限公	2004	4	36	天通苑	2009	1.32
18	通州碧水	2005	10	37	天堂河	2009	4
19	次渠	2005	1	38	庞各庄	2009	1.1

二、Wastewater reuse

- In 2000, the wastewater reuse engineering that renovated the first-period project of Gaobeidian wastewater treatment plant was included in the key project of Beijing, the largest reclaimed water use project in Beijing.
- In 2001, Beijing city formulated “Planning outline of reclaimed water reuse of wastewater treatment plants
- In 2003, the reclaimed water was formally priced at 1.0 YUAN/m³ in Beijing
- In 2004, the reclaimed water was included in the allocation plan of Beijing’s water resources
- The Olympic Games in 2008 further promoted the development of the wastewater treatment.
- In 2009, Beijing city formulated “Scheme of reclaimed water use after upgrading of wastewater treatment plant

二、 Wastewater reuse

The amount of reclaimed water use increased from 0.21 billion m³ in 2001 to 0.70 billion m³ in 2011 (exceeding surface water source), the ratio taking up total water supply amount increased from 8% to 21%, the accumulated amount of reclaimed water use reached 3.36 billion m³.



Reclaimed water amount in Beijing

二、 Wastewater reuse

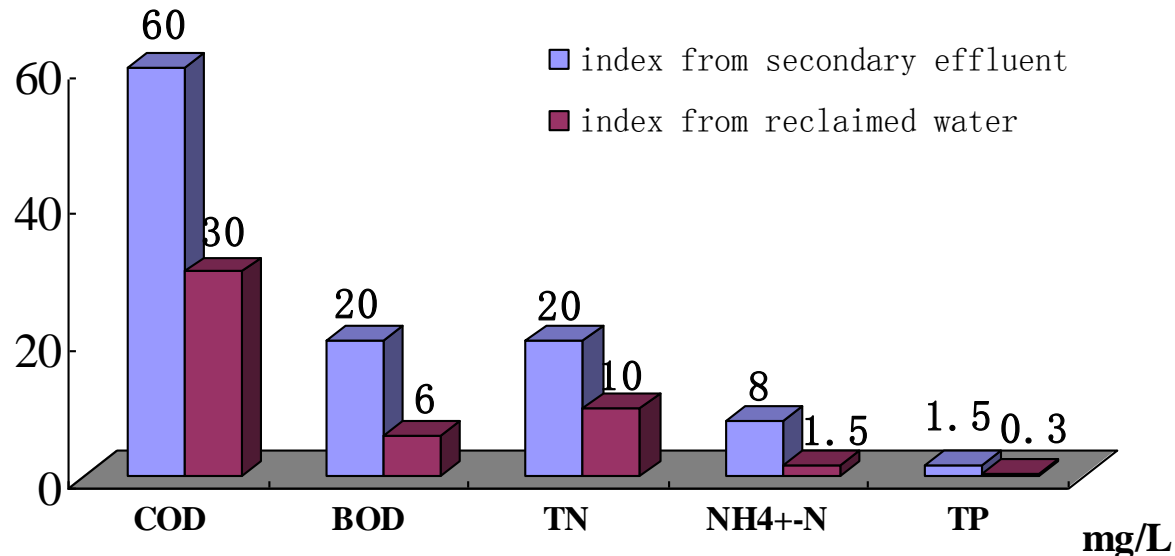
The reclaimed water is used to industrial cooling, agricultural irrigation, water supplement for river/lake (Olympic Games, Yongding River), landscaping and municipal use.

In 2011, 0.3 billion m³ of reclaimed water was used for agricultural irrigation, taking up 43% of reclaimed water reuse



二、Wastewater reuse

- **The secondary effluent from wastewater treatment plants was further treated as reclaimed water source**
- **The treatment methods for the secondary effluent include coagulation-sedimentation-filtration technology, biological filtration technology, membrane technology, and Ozone Oxidation technology etc.**



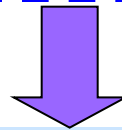
Indexes of main water quality

Three year action plan (2012-2015)


47 new reclamation water plants will be built, in which main water index reaches IV standard of surface water.

20 wastewater treatment plants will be upgraded. The newly increased capacity of wastewater treatment is 2.28 million m³/d

The 1290km wastewater pipeline will be constructed and renovated, 484km reclaimed water pipeline will be constructed



Wastewater treatment rate reaches more than 90% in Beijing by 2015. Harmless sludge treatment will come true



Thanks for your attention!