



# AIR POLLUTION IN ULAANBAATAR

*Улаанбаатар*

АЗ ЖАРГАЛТАЙ ХОТ



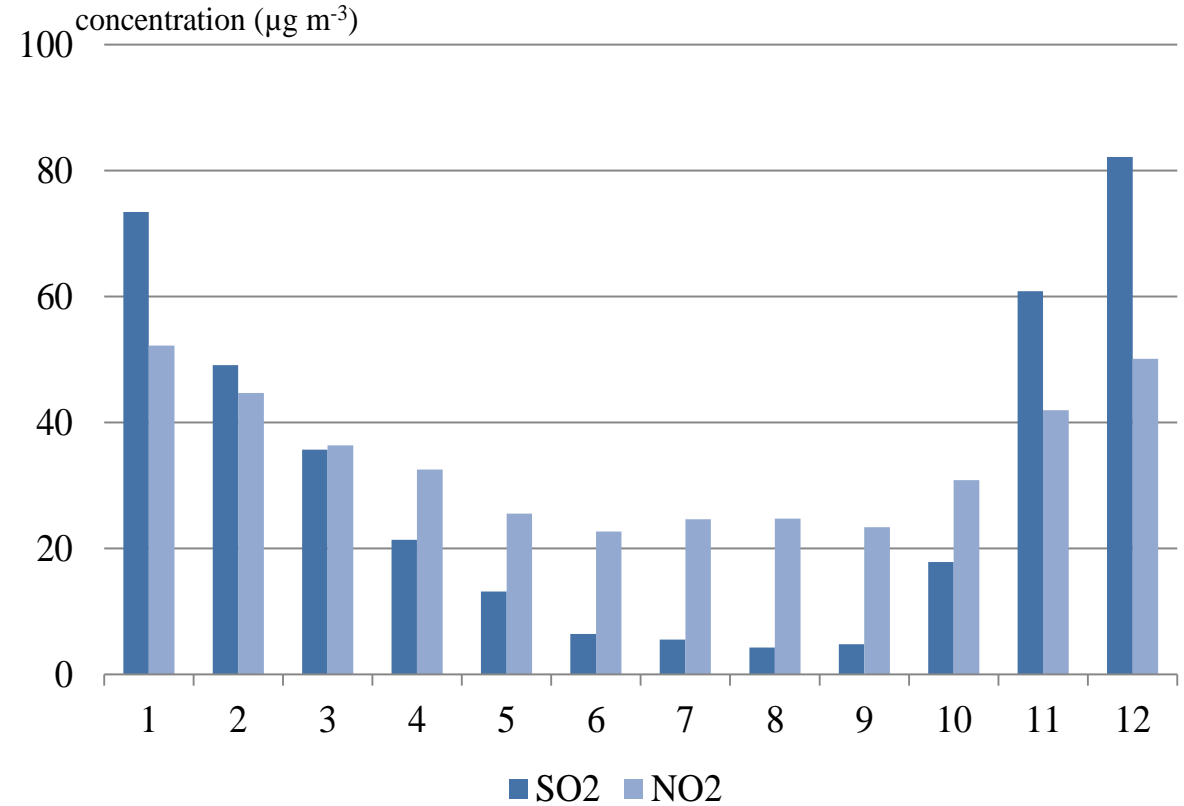
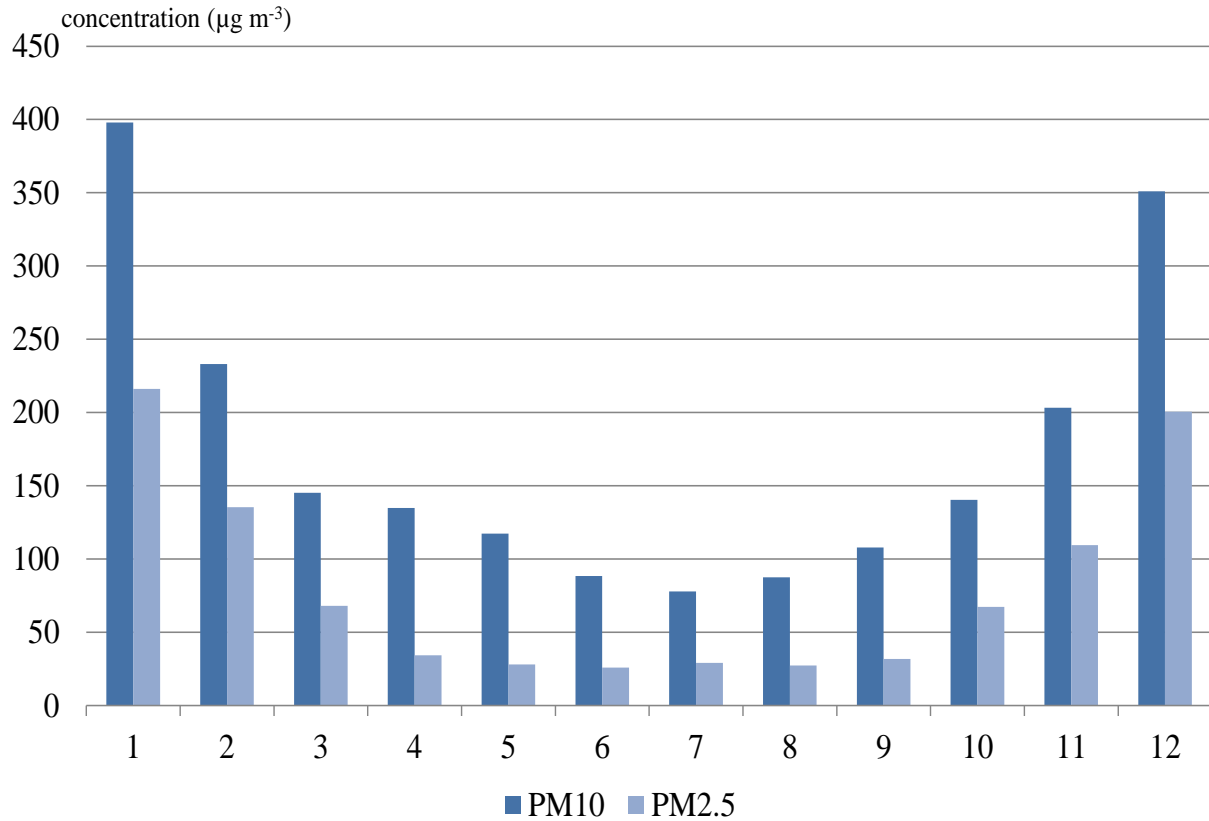
**TSATSRAL Batmunkh**  
/Head of the Air pollution reducing department of the  
capital city/



- Introduction
- Air quality in Ulaanbaatar
- Air quality monitoring
- Legalization
- Implementing actions

- Ulaanbaatar is the coldest capital city in the world
- Approximately 1.4 million residents
  - Half of them are living in GER which is traditional house where stoves are used for cooking and space heating
- Located in valley
- Surrounded by mountains
- The main energy source is raw coal





Strong monthly/seasonal variation, winter high and summer low, was observed for coarse and fine particulate matters as well sulfur dioxide due to usage of coal.

80%



218,665 household stoves,  
3000 Heat only boilers

10%



Vehicle exhaust  
emission

6%



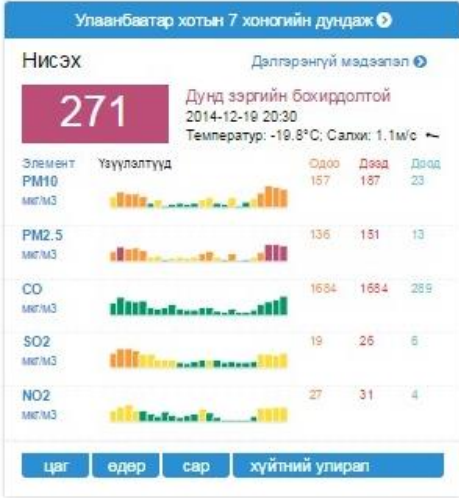
Thermal Power  
Plants

4%

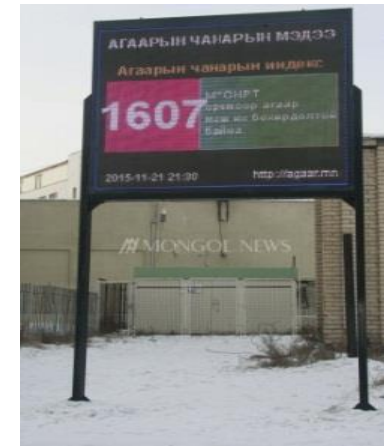
Non transport related  
dust, open burning  
garbage, construction  
side, ash pond etc.

15 air quality monitoring stations in Ulaanbaatar to monitor air pollution level.

<b>Нисэх</b> 271	2014-12-19 20:30 Дунд зэргийн божирдолтой	<b>Толгойт</b> 588	2014-12-19 20:30 Маш их божирдолтой	<b>МҮОНРТ</b> 1001	2014-12-19 20:30 Маш их божирдолтой	<b>Амгалан</b> 504	2014-12-19 20:30 Маш их божирдолтой	<b>Мишээл экопо</b> 77	2014-12-19 20:30 Хэвийн
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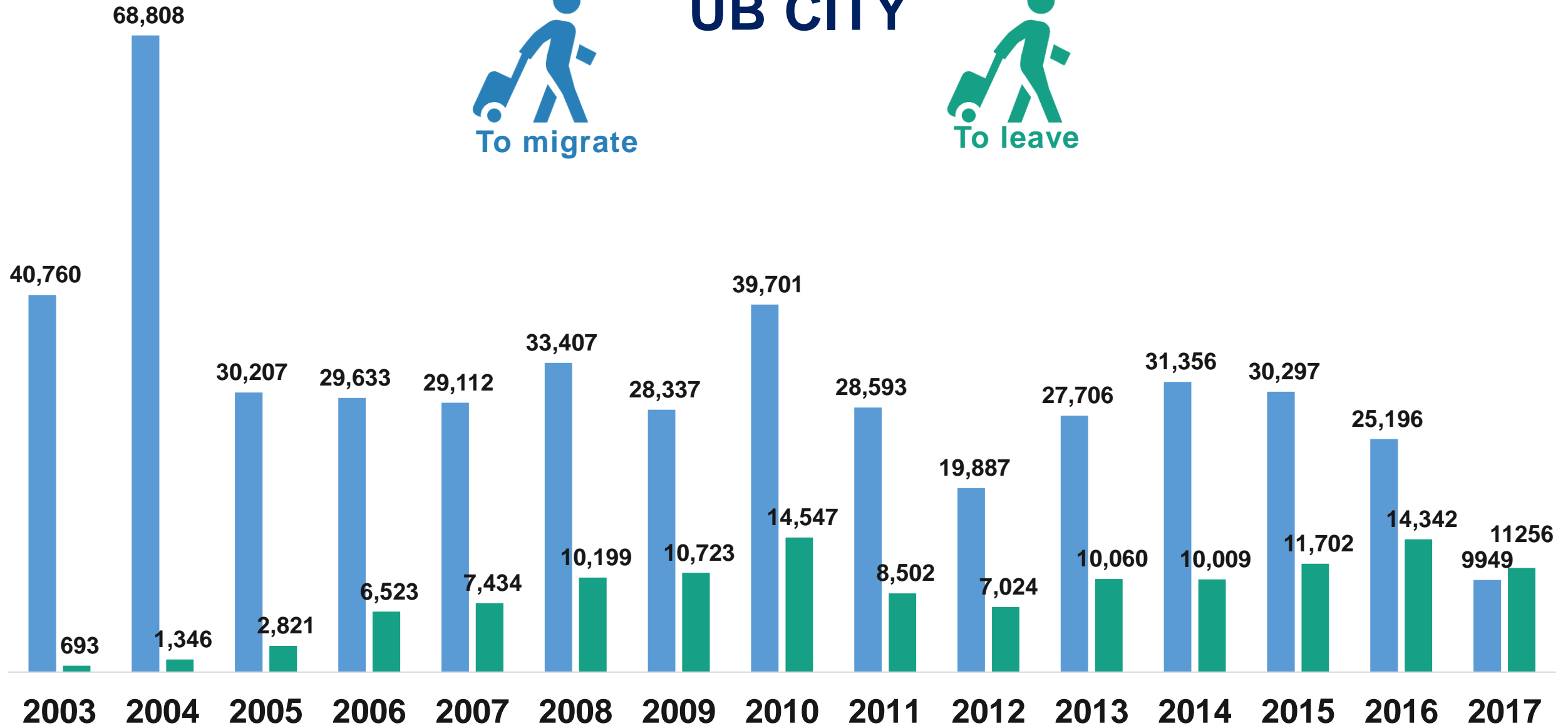
<b>Баруун 4 зам</b> 369	2014-12-19 20:30 Дунд зэргийн божирдолтой	<b>Бөхийн өргөө</b> 290	2014-12-19 20:30 Дунд зэргийн божирдолтой	<b>100 айл</b> 476	2014-12-19 20:30 Их божирдолтой	<b>Монгол газар</b> 120	2014-12-19 20:30 Бага зэргийн божирдолтой	<b>Ургалч наран</b> 204	2014-12-19 20:15 Бага зэргийн божирдолтой
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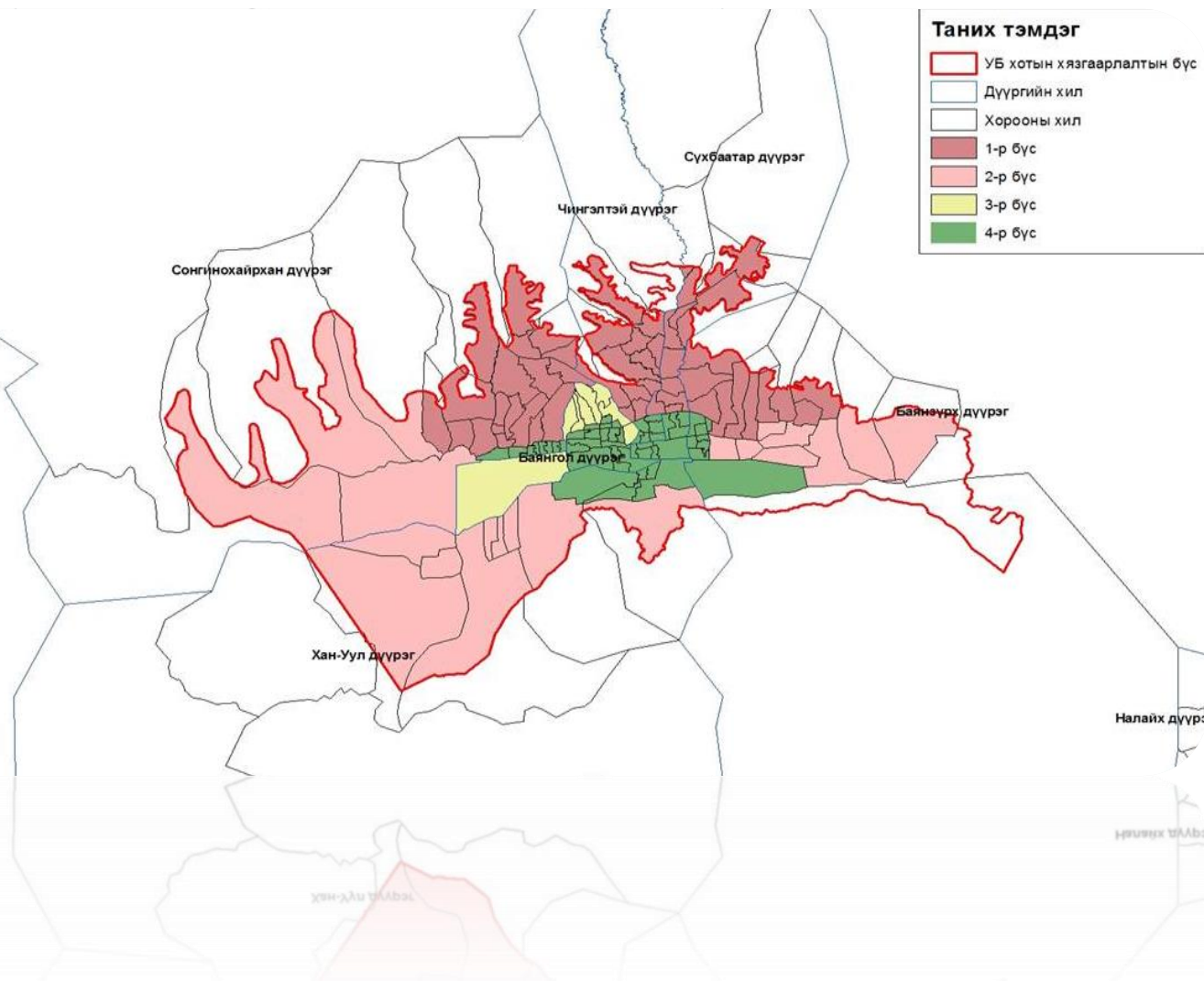
Law	Year
Law of Air quality /refined/	17 <sup>th</sup> May 2012
Law of the air pollutants payment	24 <sup>th</sup> June 2010

Regulation document	Year
Ulaanbaatar 2020 master plan and development approaches for 2030	2016
National action program for reducing air and environmental pollution	20 <sup>th</sup> Mar 2017
Regulation document of air quality improvement zone /annually refined/	23 <sup>th</sup> Dec 2017
Regulation document of inventory HOB	19 <sup>th</sup> Oct 2014
Orders to reduce air pollution	16 <sup>th</sup> Jan 2008

UB CITY







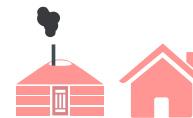
## Zone

1



Highly polluted zone

2



Polluted zone

3

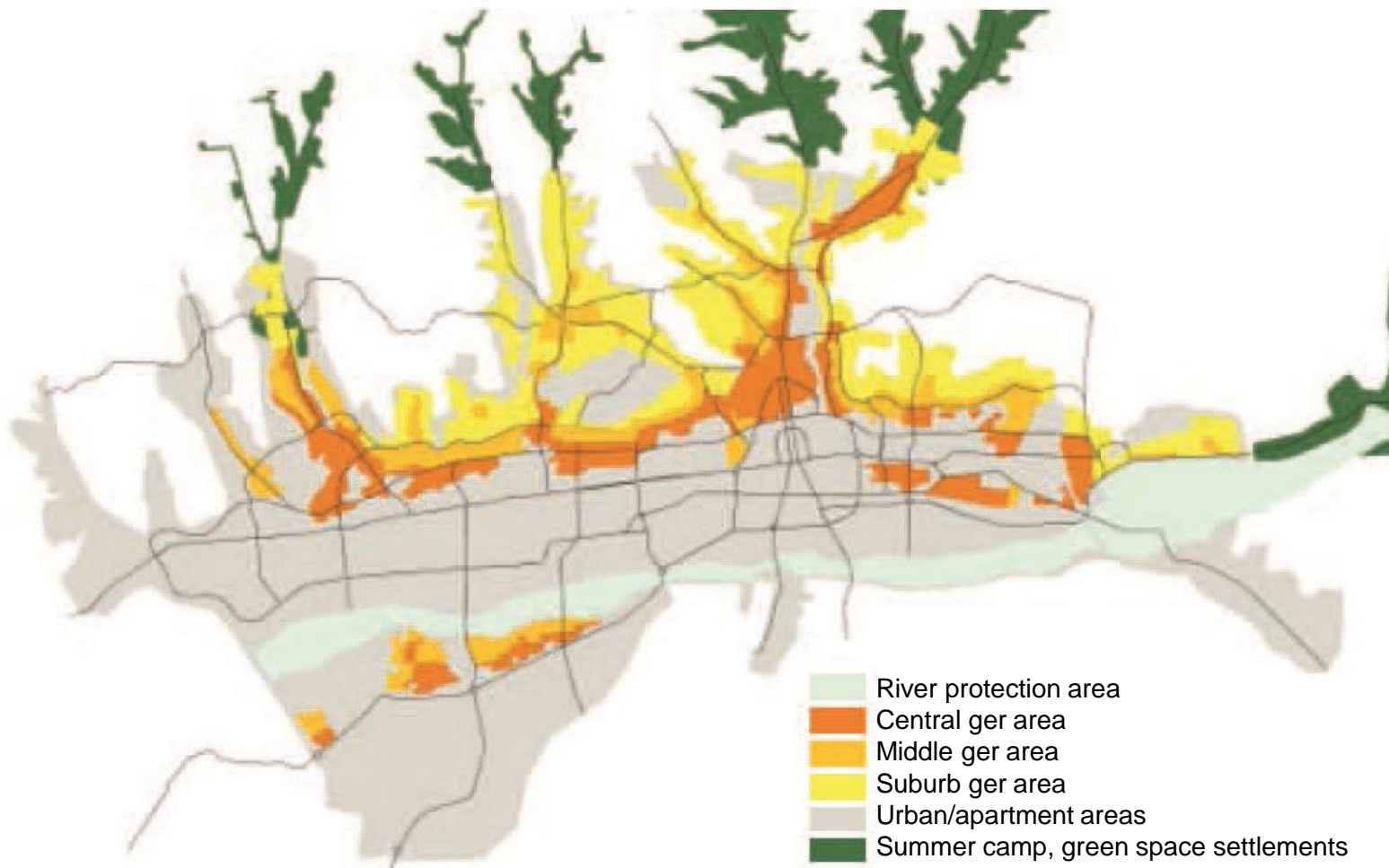


Air pollution from first zone

4



Air pollution from 1, 2, 3 zones



### Central ger area

This area can be connected to the city utility grid.

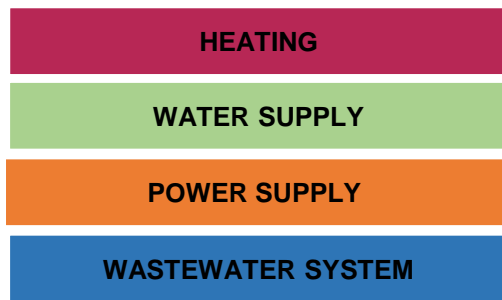
### Middle ger area

Residential neighborhoods within this area will have self-sustaining utilities or partially connected to the city utility grid.

### Suburb ger area

The redevelopment in this area is proposing to build low rise development, including private houses with self-sustaining utilities.

Build **50** infrastructure center until 2020



## Emission of air pollutants



Annual coal consumption

↓ **48'400 ton**

PM

Particulate Matter

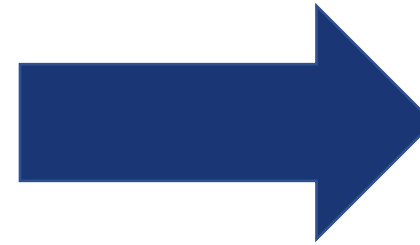
↓ **473 ton/year**

SO<sub>2</sub>

Sulphur dioxide

↓ **160 ton/year**

**Prohibited to use raw coal from 15 May, 2019**





**130** Kindergartens have provided air filter



**125** schools have provided air filter



**15** hospitals have provided air filter



**142** family health center have provided air filter



**4** custody homes have provided air filter





**19 CNG buses from  
February 07, 2018**



An aerial night view of a city, likely Yerevan, Armenia, showing a dense urban landscape with numerous illuminated buildings and light trails from traffic on a major road. The text "THANK YOU FOR ATTENTION." is overlaid in the center. In the background, mountains are visible under a dark sky. A prominent building on the left has "220k" and "99008888" on its top. Another building in the center has a sign for "CITY CITY PLAZA PLAZA".

**THANK YOU FOR ATTENTION.**