

# Emissions from coal use of power generation and heating stoves in Mongolia

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# Why focus on emissions from coal use?

Air quality management in Mongolia is focused on its capital city of Ulaanbaatar.

Coal used cooking and heating stoves in ger (Mongolian national dwelling) districts has led to major increases in the capital city's air pollution emissions.

Majority of Ulaanbaatar's population lives in a ger and each ger family burns an average of 5 tons of coal and 3 m<sup>3</sup> of wood per year.

The city's other major air pollution sources include coal-fueled power plants, about 400 heat-only boilers.



## Main air pollution sources in Mongolia



**Coal fuelled Power plants**

- One of the largest emitters are the power plants



**Coal used Stoves in Ger area**

- Coal-fueled ger (traditional felted tents) stoves and boilers used for heating and cooking produce toxic black smoke plumes by the 180,000 ger households

# Various sources of air pollution in Mongolia (2015)

Air pollution various sources	Stove and boilers					Vehicles
	Common stoves that capacity less than 10kw	Yearly consumption of coal /ton/	Stationary sources that more than 100 KW capacity			
			10-100KW	More than 100KW	Yearly consumption ton	
<b>In Mongolia</b>	608698	876021	6291	409	8004954	<b>720278</b>
<b>In UB</b>	171731	588769	2866	337	5801326	<b>439129</b>

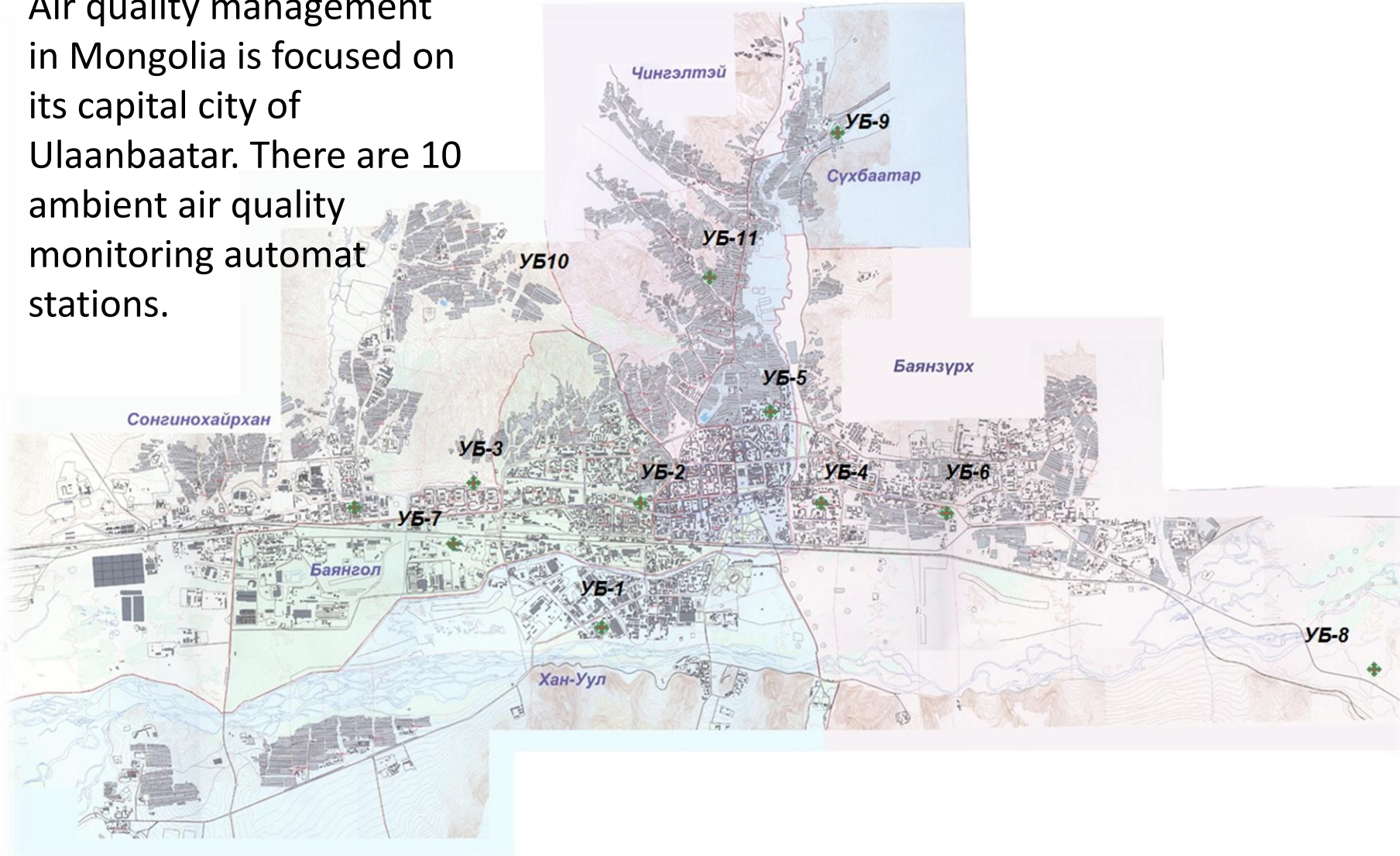
# Air quality monitoring network in Mongolia



- There are 22 ambient air quality monitoring stations in countryside

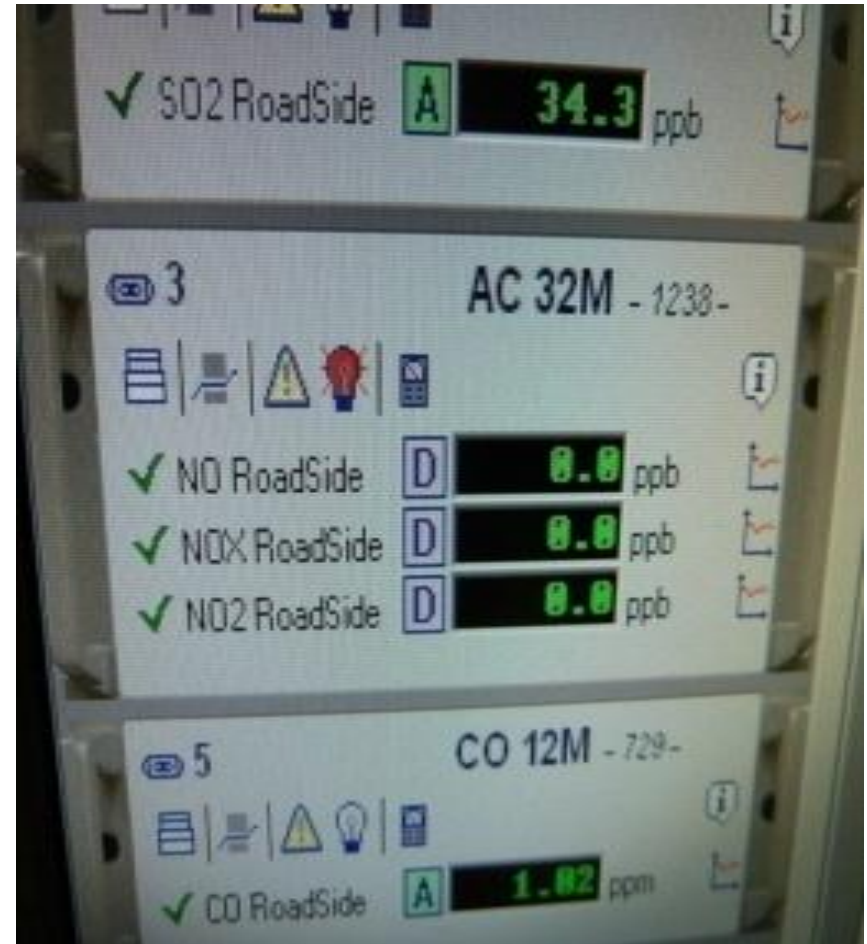
# Air quality monitoring network in Ulaanbaatar

Air quality management in Mongolia is focused on its capital city of Ulaanbaatar. There are 10 ambient air quality monitoring automatic stations.

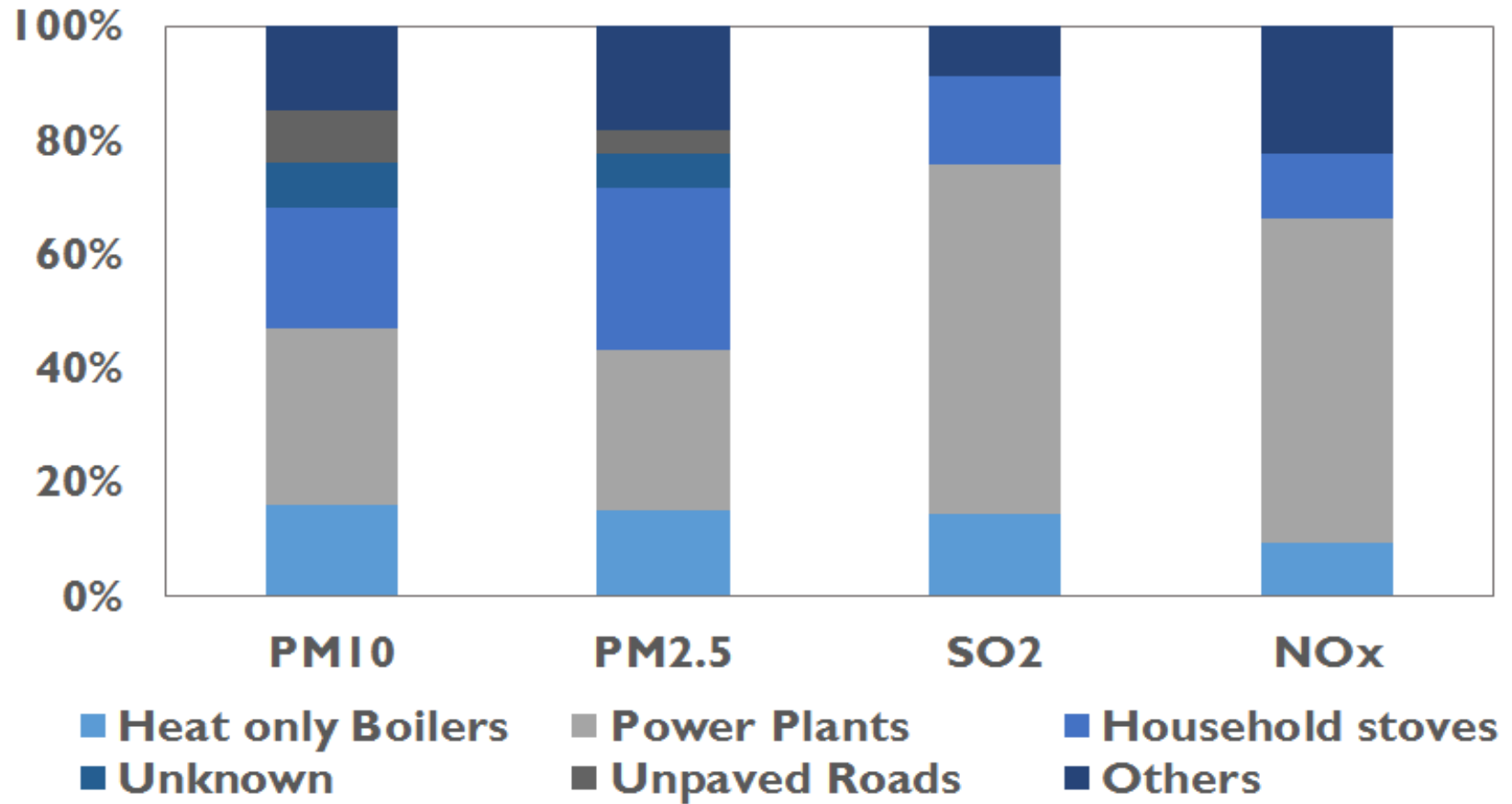




# Air quality monitoring automat stations in Ulaanbaatar, Environment SA



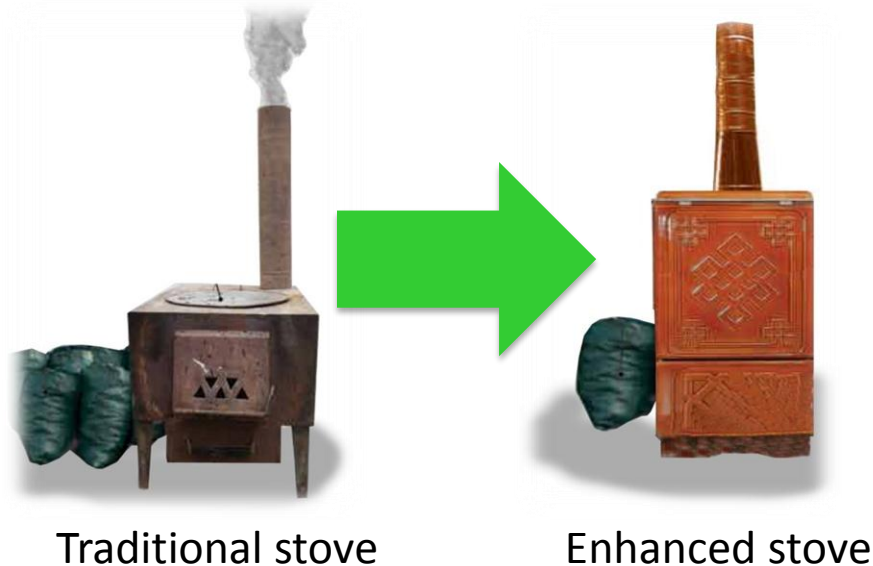
# Estimated emission profile for Ulaanbataar (2015)



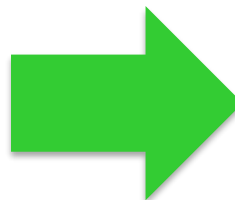


# Emission reducing measures from coal use in heating stoves and boilers

- supplying enhanced stoves and improved fuel briquettes,
- Near 170000 enhanced stoves were distributed to households with discount price
- replacement of heating boilers and connecting some of them to the central heating system



Heating boilers



Central heating system

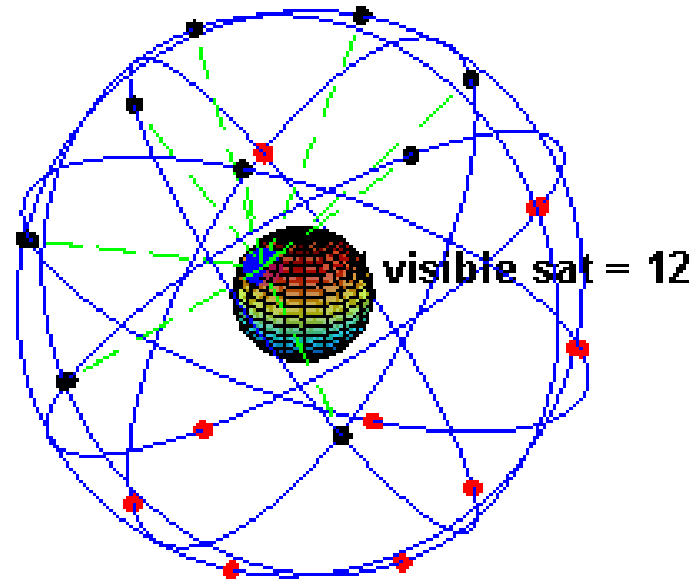
## **Principal directions reducing emissions from coal use:**

1. Improvement of the infrastructure of ger (traditional felted tents) households district
2. Restrict coal consumption and habituate liquid and gas consumption
3. local residents install more energy-efficient stoves and boilers
4. Make the urban district heating system more eco-friendly.
5. Development air quality monitoring and information smart system



## Main emission inventory actions

- ❖ Recently Emissions inventories of air pollutants are compiled annually by the National Agency for Meteorology and Environmental Monitoring (NAMEM) of the Ministry of Nature and Tourism.
- ❖ The inventory of emissions covers the following air pollutants: PM10, PM2.5 , Nitrogen oxides (NO<sub>x</sub>), non methane volatile organic compounds (NMVOC), and Carbon monoxide (CO) from two sources (forest and grass fires, and vehicles).
- ❖ NAMEM, under the Ministry of Environment and Tourism became mainly responsible for monitoring air pollution, developing pollution inventories, and implementing national air quality action plans.



Thank you very much for your kind  
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