

Fifty-sixth session of the Working Group on Strategies and Review (22-25 May 2018)
Thematic session on solid fuel residential heating as a source of air pollution
and short-lived climate forcers

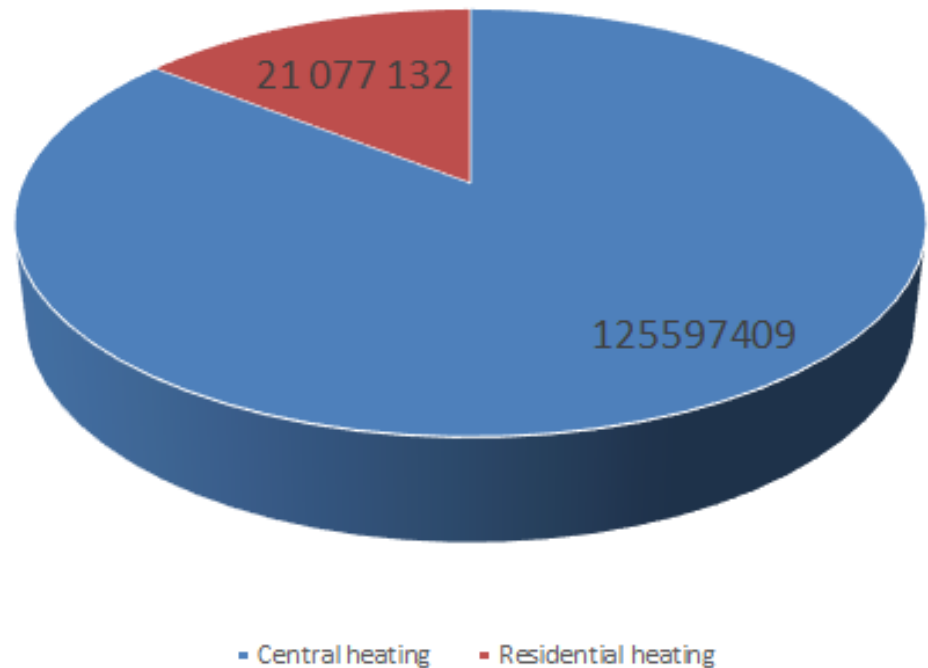
Residential burning in the Russian Federation: first assessment steps



Alexander Romanov
Deputy Director General – International cooperation
Scientific Research Institute for Atmospheric Air Protection JSC,
St.Petersburg, Russian Federation

Central heating vs. local residential heating in Russia

Population of the Russian Federation covered by the central heating versus local residential heating (2016)



Fuels used:

Natural gas
Coal (various ranks)
Heavy oil
Firewood
Other*

**hard to define...*

Case of Krasnoyarsk (Siberia)



Air quality issues

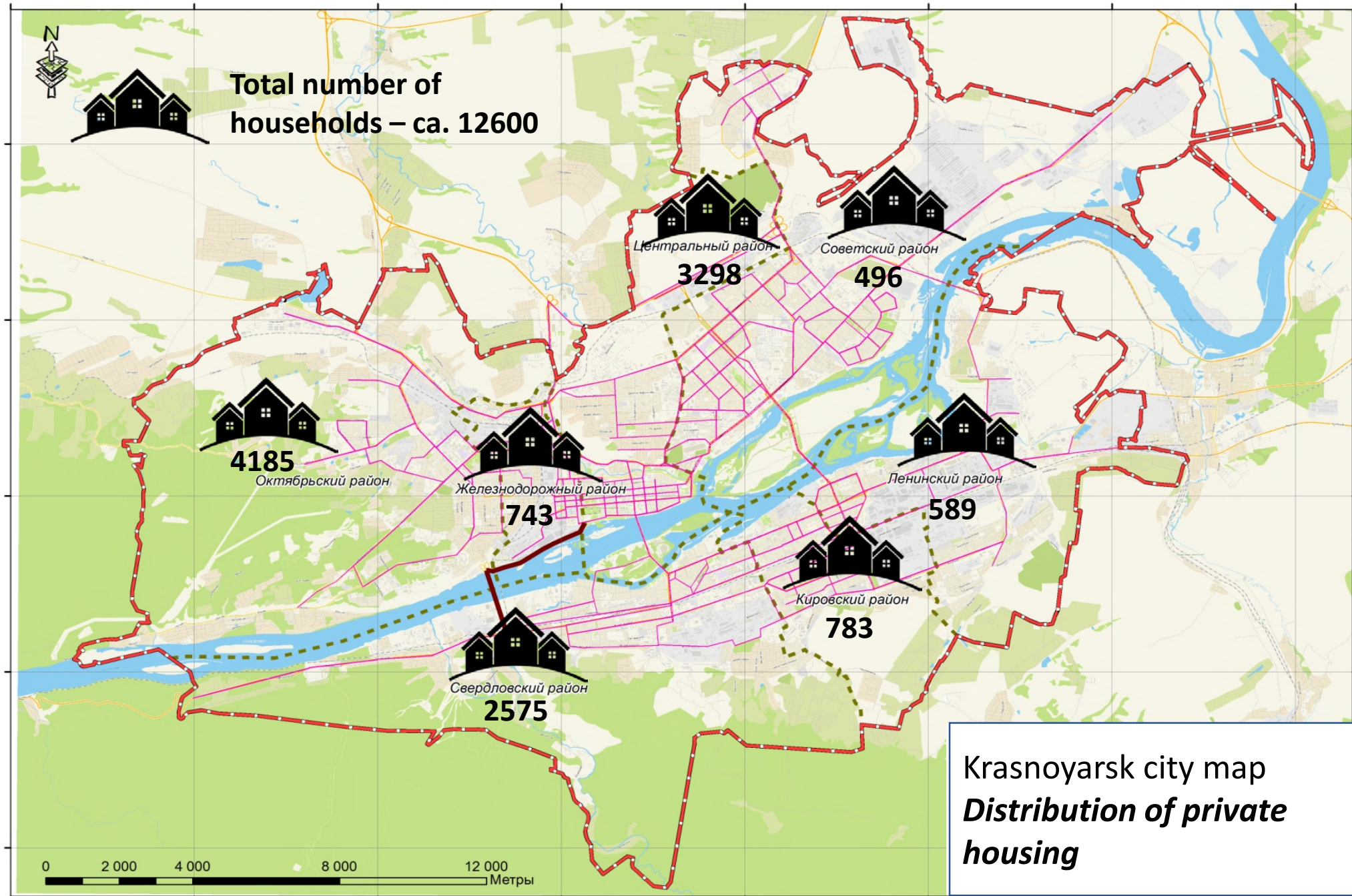


Highly industrialized area with large metallurgy and coal energy generating sectors present

Existing regulations require further development in order to better account for meteorology and small (yet numerous) sources historically neglected

Mostly during winter time
Low temperatures – below -15C
Low or no wind conditions
= **Adverse meteorological conditions**





Overview of emissions from the residential sector

		Emissions of pollutants from residential burning, t/year					
#	Pollutants →	NO ₂	NO	SO ₂	CO	Benzopyrene (PAH)	Ash (fine PM, including BC)
	District						
1	Октябрьский	26.6	4.13	60.5	5105	0.0230	139
2	Железнодорожный	4.66	0.723	10.4	926	0.00405	24.5
3	Советский	2.86	0.442	5.72	639	0.00240	15.07
4	Центральный	21.9	3.41	52.4	3987	0.0194	116.3
5	Кировский	6.06	0.947	16.6	902	0.00563	32.7
6	Ленинский	3.73	0.578	8.40	737	0.00324	19.8
7	Свердловский	14.5	2.24	28.1	3285	0.0120	75.4
City total		80.31	12.47	182.12	15581	0.06972	422.77

Regulations: approaches

- Industrial sources are largely covered by regulations on air pollution abatement and control
- Residential burning has no regulation and limited data is available on consumption of fuels by households
- Key pollutants emitted: benzopyrene (PAH), PM, CO
- Maximum permissible concentrations (national health standard) are exceeded for **benzopyrene by factor 5.2; CO by factor 2.1; for PM by up to 1.2;**
- Regional recommendations are being developed to address the issue of pollution from the domestic sector (first step is to correctly assess and account for such emissions)
- The concept of policies related to domestic burning is likely to be regional/local; regional/municipal authorities to be responsible for resolving the issue and coming up with relevant instruments
- The only straightforward instrument so far is gasification of households to the highest extent possible

Thank you for your attention!

