



the city where the black snow falls

Fighting the Air Pollution in Industrial Cities of Europe

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Karaganda Ecological Museum

NGO. Start of activity in 1995

Area of interest

- Biodiversity, Nuclear tests consequences, Defense and Space Exploration Influence, Chemical Pollution and Chemical Safety, Persistent Organic Pollutants, Extracting and metallurgical Industry Impact

Activities

- Environmental Impact Assessment, Environmental Audit, Environmental Education, Advocacy Campaign, Researches of pollutions, Awareness Rising, Law Reforms, Public Dialog Development

Where we are?

Kazakhstan

- Population 18,4 Mio (62th),
- Square 2,7 Mio sq.km (9th),
- GDP PPP 500 Bln \$ (42th),
- GDP nominal 184 Bln (50th)
- GDP PPP per capita 24,000\$ (53th),
- GDP nominal per capita 10,000\$ (54th)

Temirtau city established 1933, Population 215 000

Arcelor Mittal Temirtau, since 1950

- **Coke oven plant 3,5 Mt/y**
- **Sinter plant 6 Mt/y**
- **4 Blast furnaces**
- **Steel plant 3 oxygen-converters (BOF) and 3 lines of continuous casting machine 5,2 Mt/y (3,9 Mt 2016)**
- **2 coal power plants, 627 MW**
- **Secondary metallurgy (rolling mills, tubular mills) 3,7 Mt/y**
- **Coal mining (8 mines) 10,1 Mt/y**
- **Iron ore mining (4 mines) 2,5 Mt/y**
- **> 30 000 employees**
- **> 40 Mio \$/y for environmental protection, 2015**
- **CO2 emissions in 2016 comprised 15 684 799 tons**

**Arcelor bought plant in 1995 (as Ispat International).
and then invested more than 2 bln \$**

Environmental Research of AMT impact

- Studies were not conducted in Soviet era
- 1992. The first environmental research on the influence of AMT was conducted in 1992 (first and last 😞) - snow pollution mapping as an indicator of air pollution
- Arnika and EcoMuseum conducted joint studies in the framework of the EU project (children's playground soils, river sediments, air for the dioxins etc.), 2012-2015

The local AMT managers agreed for the sampling at the plant, but AMT HQ reversed this decision. Playgrounds predictably showed high pollution, but in Kazakhstan there are no specific limits for soils (www.toxic.kz)

AMT Modernization & Environmental Improvement

- Official reports say that AMT has spent several hundred million dollars in the last ten years alone to install and upgrade gas treatment installations. According to these data, the annual emissions of pollutants decreased by several tens of thousands of tons.
- AMT reports are full of beautiful photos of the latest equipment from famous western manufacturers. This equipment was actually installed at the plant and EcoMuseum and Arnica observed it - machines for continuous casting of steel, new gas treatment facilities (electric filters, textile bag filters, etc.)



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Environmental Legislation

- Environmental legislation is very detailed and extensive.
- The main laws are the Environmental Code, the Water Code, the Land Code, The Forest Code and huge amount of sublaws.
- The legislation has main principles similar to western legislation (“polluter pays”, environmental permits, environmental fees for emissions, etc.).

Environmental Law Enforcement

- **“When I come to a new country, I don’t ask if the laws are good, I ask if they are enforced,”** Strugatsky brothers (famous writers of Soviet era)
- Enforcement of the “fiscal part” (emission payments) is very strong. AMT pays about \$ 10,000,000 each year
- Non-fiscal part of the legislation is executed very selectively and weakly
- AMT and AM Ostrava – “Everything meets legal requirements! We have all the necessary permissions from the state!”

The problem is that this is true (well, almost true ;-)

“Everything meets legal requirements! We have all the necessary permissions from the state!”

- Does this matter for the quality of the environment, even if the volume of emissions has really decreased by several tens of thousands of tons per year, as described in official data?

The annual emissions of AMT is 240,00 tons (dust 25,000 tons), more than a ton for each inhabitant of Temirtau



































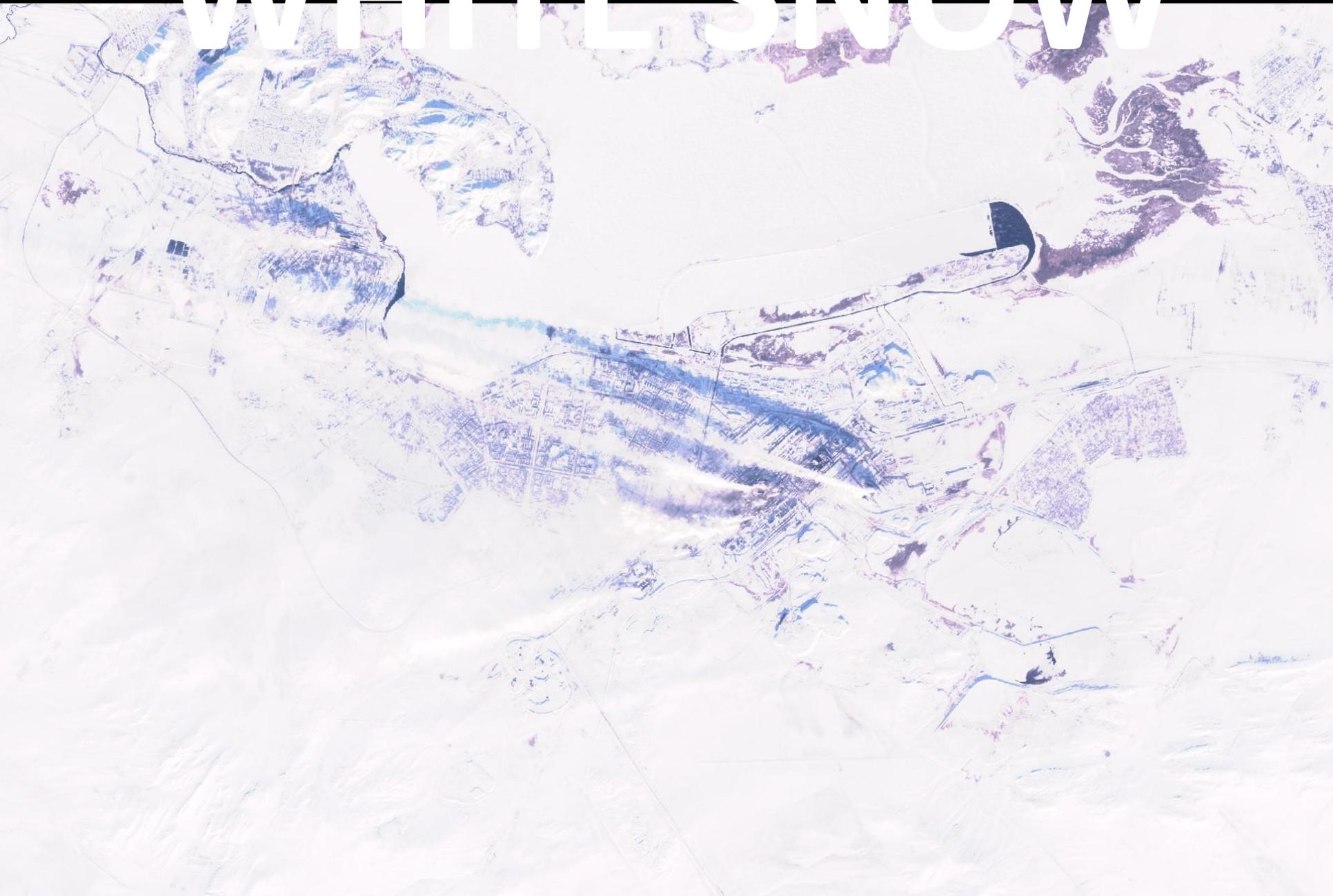
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ВНИМАНИЕ
НЕ ВХОДИТЬ

WHITE SNOW

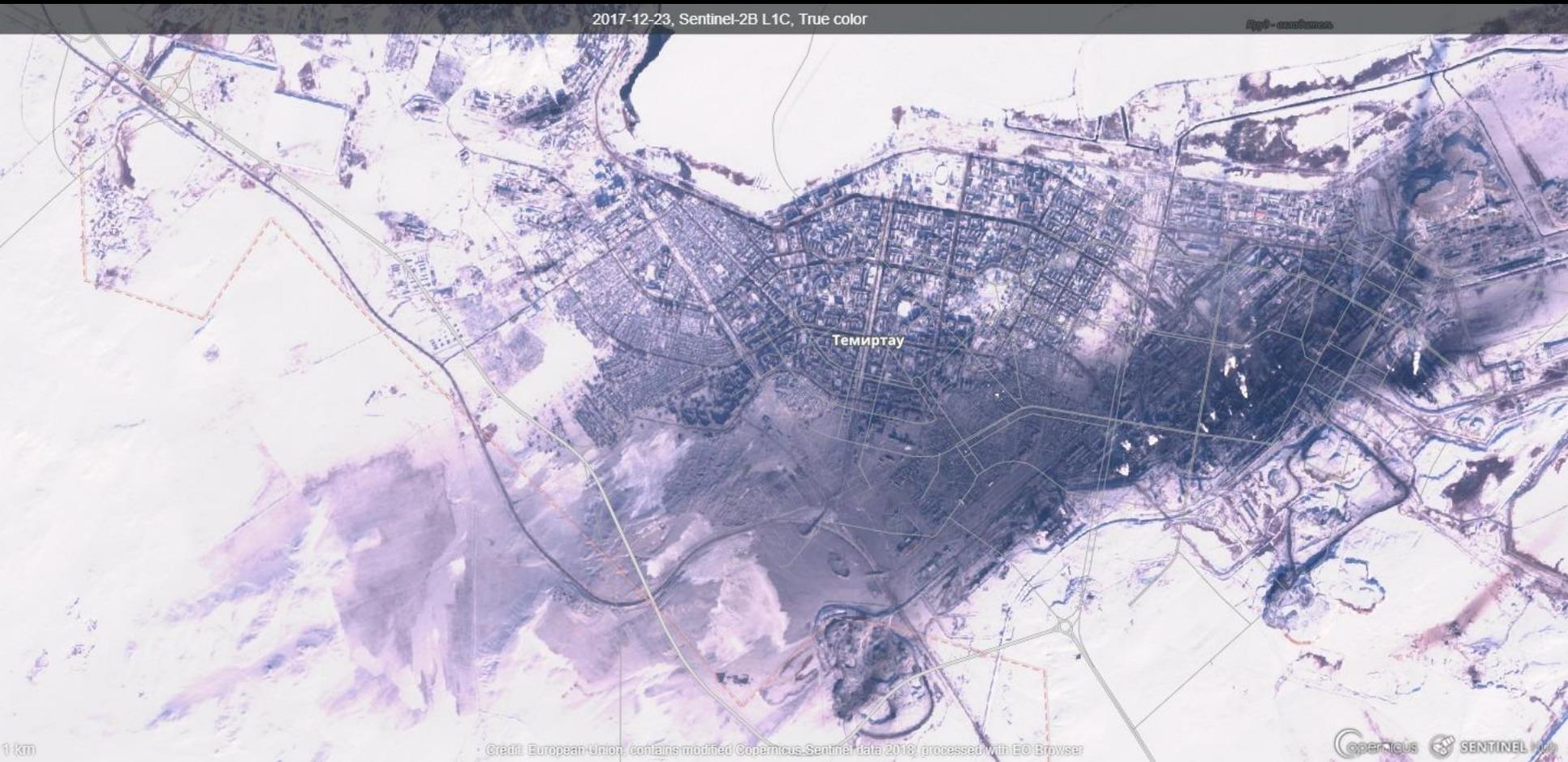


BLACK SNOW

13-23 DEC 2017

2017-12-23, Sentinel-2B L1C, True color

Алматы-аэропорт



1 km

Credit: European Union, contains modified Copernicus Sentinel data 2018, processed with EO Browser

Copernicus SENTINEL

2017-12-13

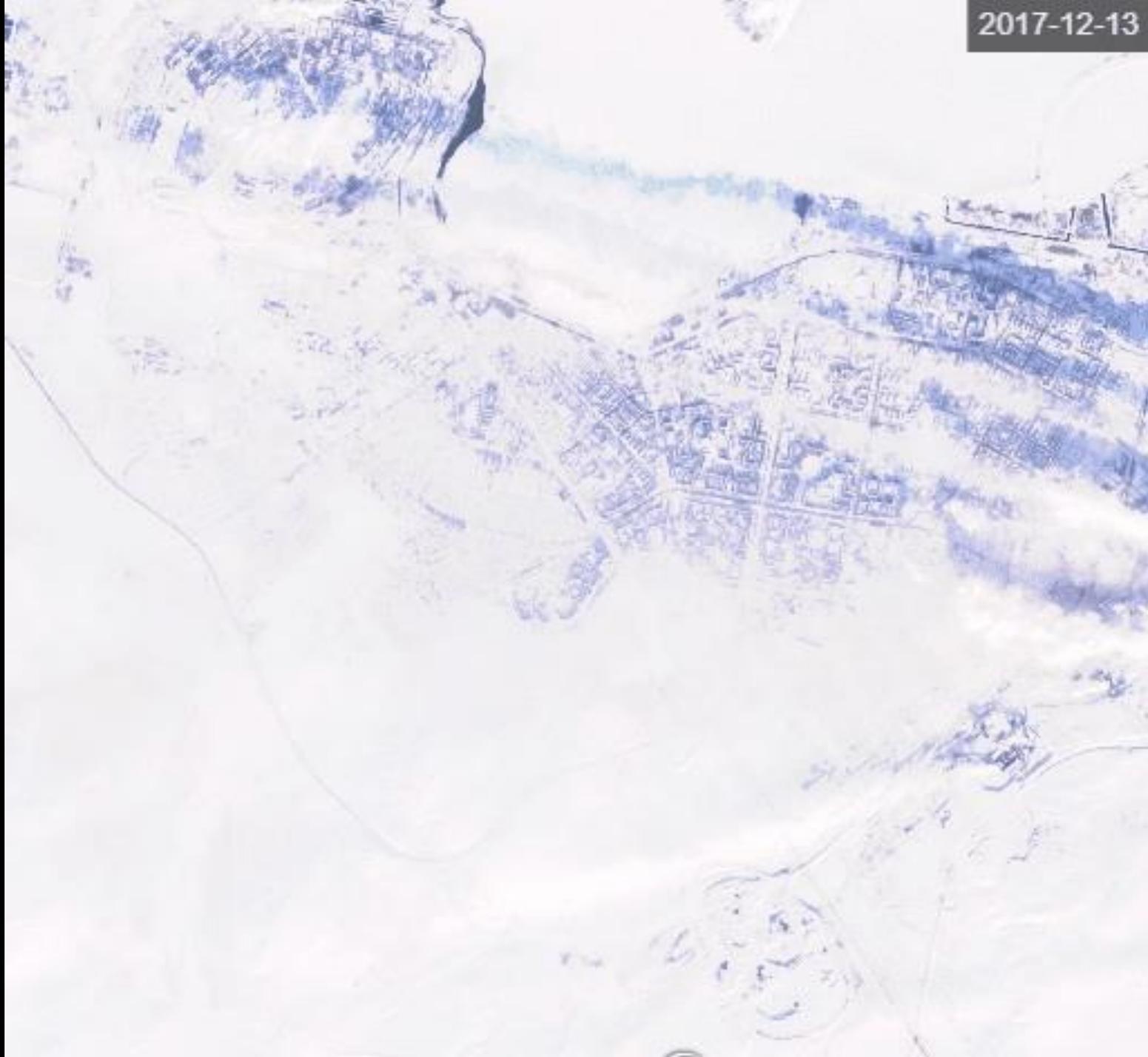




Фото: НОВОСТИ ГОРОД

Legislation have be reformed!

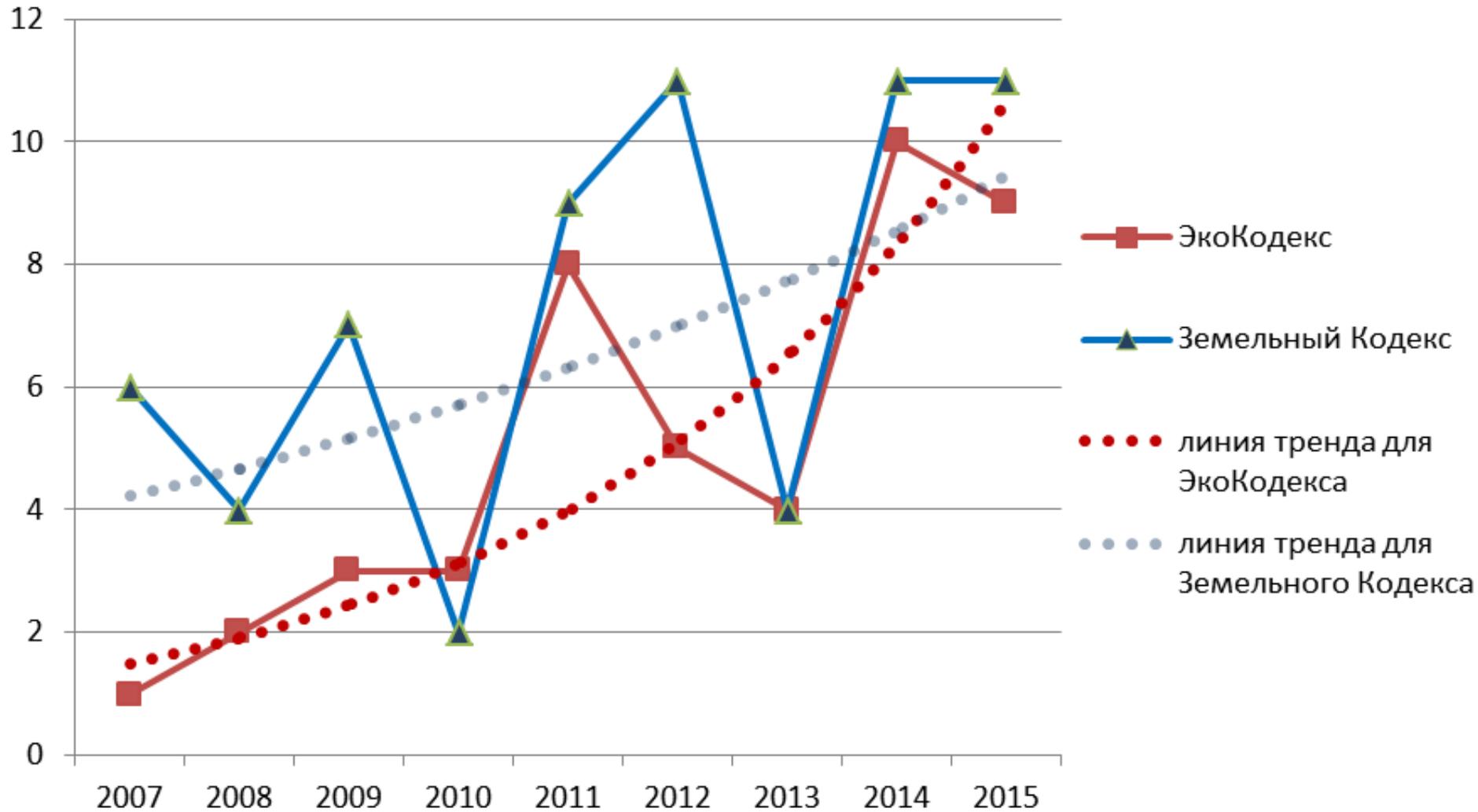
- If the laws do not prevent such a situation, probably they need to be changed?
- Right! Kazakhstan is changing the laws!

Actual change of legislation

Law (pages)	2007- 2016	2015	2016 First 6 months
Water Code (95 p.)	45	4	6
Land Code (142 p.)	74	11	8
Environment Code (212 p.)	53	9	8
Code of Administrative Offenses (415 p.)	201	27	18

Actual change of legislation

The annual number of revisions to the Environmental and Land Code in the period 2007-2015.



Public Protest After the Black Snow

- The wave of spontaneous protests of Temirtau residents rose, who for the first time in the history of independent Kazakhstan were able to organize themselves into a movement that began collecting signatures on a petition demanding to find the causes and prevent such an adverse effect on the population.
- 8,000 signatures were collected under a petition addressed to the President of the country and various state and semi-state structures (and even to the daughter of the President ;-).
- As a result, a Working Group was created with the the state, industry (including AMT) and the public, which developed a plan for improving the environmental situation in Temirtau.

Inverted Mentality

- The following reasons and conclusions in connection with Black Snow are called by state officers and AMT managers:
 - Adverse meteorological conditions — there was no wind!
 - It is heavy industry, - such thing happened!
 - Nature is to blame!
 - It was nature disaster! The wind is uncontrolled nature force!
- AMT - And what do you suggest?! – Do you want to close the plant?! And where will you go? Do you want a social explosion?

Current Situation

- The state Plan to Improve the Environmental Situation was developed and approved by oblast akim (governor of region). Most of the announced measures of the Plan were planned long before Black Snow, it has nothing to do with it and cannot improve the situation).
- It was decided to conduct a project on modeling emissions of all enterprises in the city for calculating the maximum concentrations of pollutants in the air (Сводный Том ПДВ (Предельно Допустимых Выбросов))
- Arcelor promised that he would install the online monitoring on emissions sources and by the end of 2019 the state (and maybe the public) will have access to this information
- The state initiated the creation of a Green Council headed by the governor of the region

Conslusions

- Main reason of Black Snow – poor effiience of environmental protection measures on the AMT
- Wrong outdated approaches of environmental legislation
- The atmosphere is used as a “sewage system” - it carries away emissions, and if the “air sewage system” broke down - all industrial “faeces” fall from the sky to the ground.
- Black Snow will happen again
- No real action is taken to prevent such situations
- Public opinion about real way to improve the environmental situation is absent
- Improvement of the environmental situation is not expected
- Strong democracy is only way for clean air

We Still Fighting the Air Pollution in Industrial Cities of Europe and Asia

- www.toxic.kz www.ecocitizens.kz www.ecomuseum.kz