# Low Emission Reduction in Wrocław ICN Wrocław 28-29.04.2022





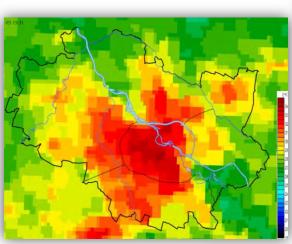
Katarzyna Szymczak-Pomianowska
Director of the Sustainable Development Department
Municipality of Wrocław



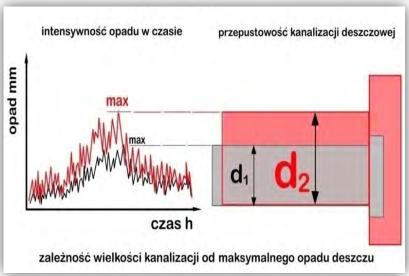
# Climate changes – consequences

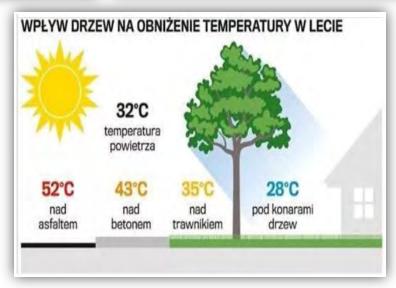






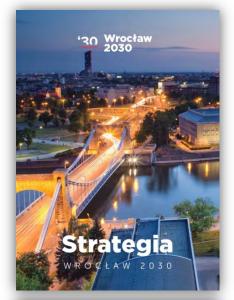






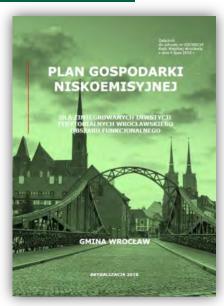
# **Sustainable Development**



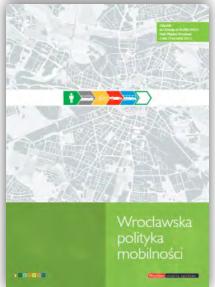








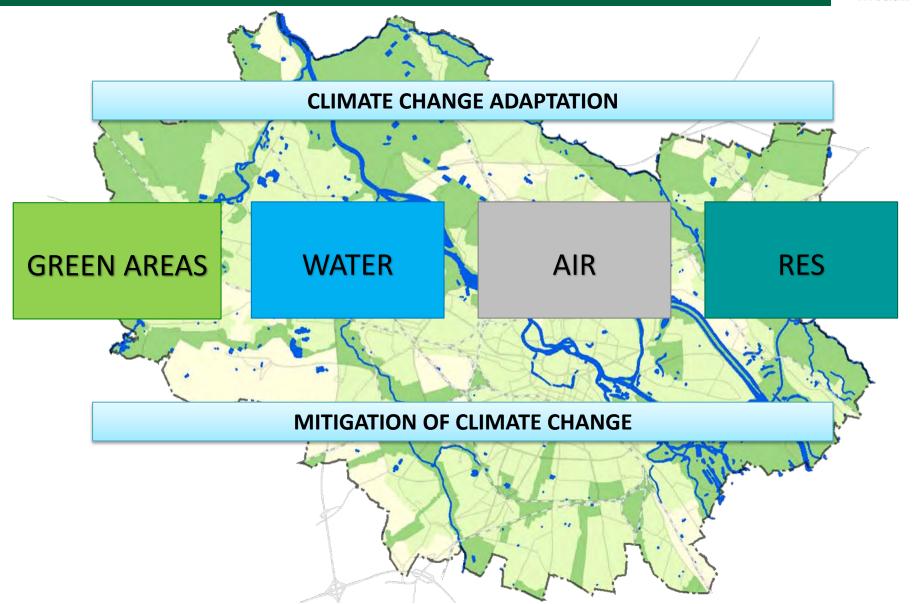






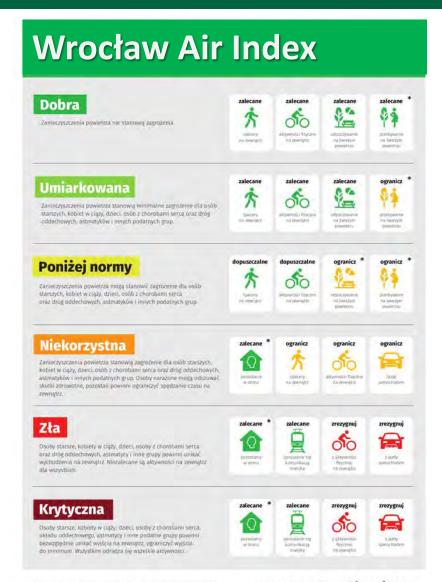
# **Operation areas**





# **Anti Smog Resolution**





1st July 2028 it is prohibited to use of any boilers, solid fuel stoves (i.e. classes 3,4,5) Exceptions:

- installations, heating solid fuels in places where there is no technical possibility of connecting to a heating or gas network
- recreational fireplaces only those ones that are not the primary source of heat in the premises and do not distribute heat.

1st July 2024 it is prohibited to use solid fuel non-class boilers, below class 3 according to the EN 303-5 standard (PN - EN303-5: 2012).

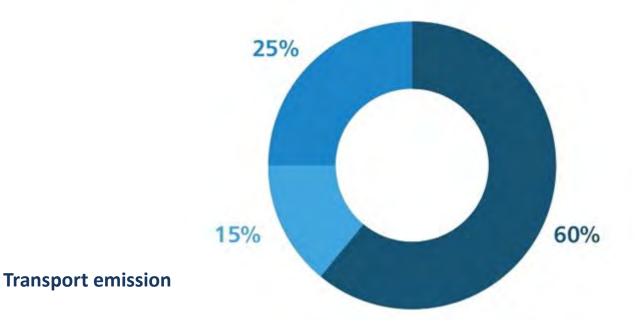
www.wroclaw.pl/powietrze

dot. osób starszych, köblet w ciąży, dzieci, osób z chorobami serca oraz dróg oddechowych i jonych podatnych grup.

## **Structure of emission**



#### Inflow emission

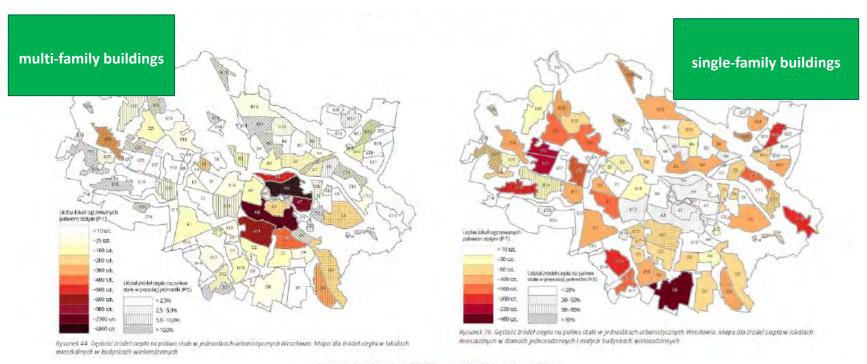


Low emission (househodls' heating systems)

## Structure of emission



#### **Coal furnace intensity in urban districts**



Raport z badań Politechniki Wrocławskiej



No Smog in Wrocław Campanig

# 330 mln pln

"Change the furnace" action

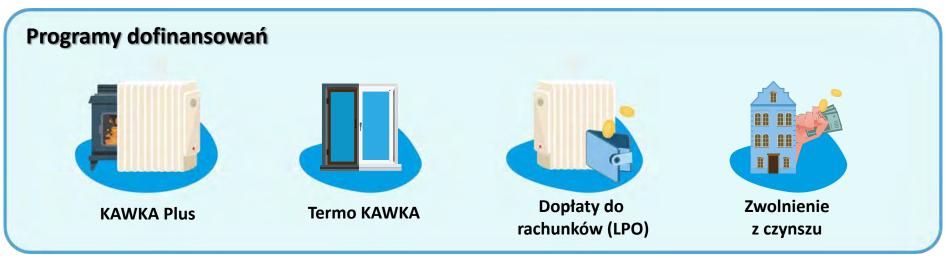


## **No Smog in Wrocław**









# No Smog in Wrocław



#### **Offline actions**

- public transport vehicles
- bus shelters
- city lights





- printed materials
- TV
- press
- radio



#### **Online actions**



internet



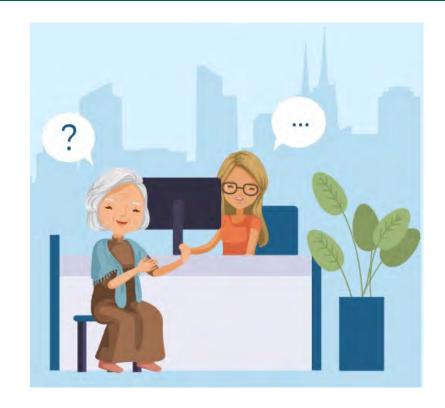
social media



**Google Ads** 

# **Energy advisory**





Stakeholders trainings Advisory for residents

Helpline

Meetings with residences



## Possibile sources of financing







## Possible sources of financing



# **Surcharge** calculator





## **Stakeholders**







Praca Zarządców



8100

kontaktów pracowników ZZK (rozmów telefonicznych i kontaktów osobistych)

6100

kontaktów pracowników spółki WM (wizyt u mieszkańców i kontaktów telefonicznych)

1124

wydane zgody dla najemców komunalnych na wymianę ogrzewania



## **Stakeholders**





**Municipal Centre** of Social Help 2021:

530 visits of social clerks at residents' flats



**Sustainable Development Department** 

ZMIEŃ PIEC

3.03.2022 r.

4.03.2022 r.

Swojczyce

Kuźniki

5-6.03.2022 r.

Brochów,

# Information campaign





650 000

wyświetleń filmów



600 000

wyświetleń strony www.zmienpiec.pl



6150 emisji w radio i telewizji



2100

wykonanych projektów graficznych

## RESULTS ©



## **KAWKA Plus and commune properties managers operations:**



**7695**REMOVED COAL FURNACES

# Map of the changed heating systems:

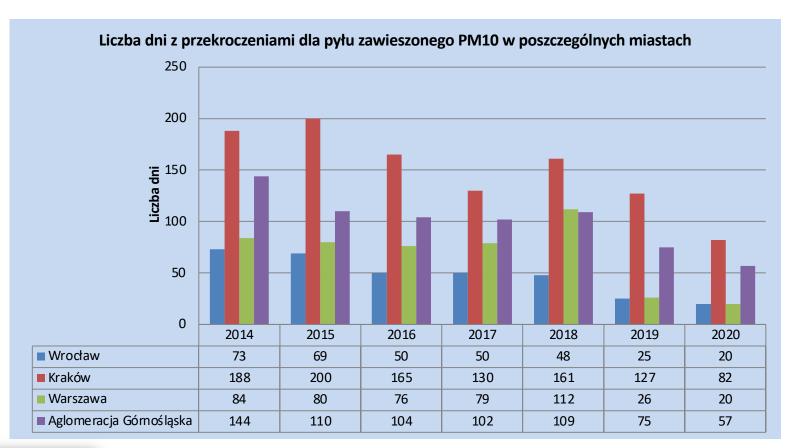




## **Effects**



### Air quality





## Thermomodernization in municipality buildings



- Removal of coal stoves and connection to the municipal heating network
- Scope of work: replacement of damaged ceilings, roof insulation, renovation of the front elevation, staircase and cellars. Replacement of the window joinery and new ventilation, sanitary and intercom installation.
- 3. Total cost: 3 mln PLN
- 4. Results: 69,3 % less heat demand 86 % CO<sub>2</sub> reduction



## **Cooperation for energy efficiency**



## Tax immunity



- Tax immunities for the real estates after RES installations
- Minimum investment value15 000 PLN
- 3. Tax immunity value cannot be higher that 50% of the costs if investment

## **Investments' funding**







## Mitigation – RES and tax immunities



Tax immunities for the real estates after RES installations:

- Open calls till the end of 2023
- Max period of tax immunity end of 2028
- Tax immunity value = not higher than 50%of the costs if investment



#### 2020-2021 results:

625 tax payers with reduced real estate tax

Total value: 8,56 mln pln

#### 2020:

- 33 CIT payers with total reduced tax value 211 000 PLN
- 8 PIT payers with total reduced tax value 617 000 PLN 2021:
- 505 CIT payers with total reduced tax value 1,73 mln PLN
- 79 PIT payers with total reduced tax value 6 mln PLN

## **Cooperation for energy efficiency**



### **Central Base of the Emissivity of Buildings**

#### **PROMOTION:**

- Leaflets delivered to tax payers' homes
- Information campaign in city transport vehicles
- Posters in Local Districts Councils and Residents' Service Centres of Municipality of Wrocław
- Internet campaign: www.wroclaw.pl, facebook Zielony Wrocław, Zmień Piec, Press Office
- Energy Advisory Helpline

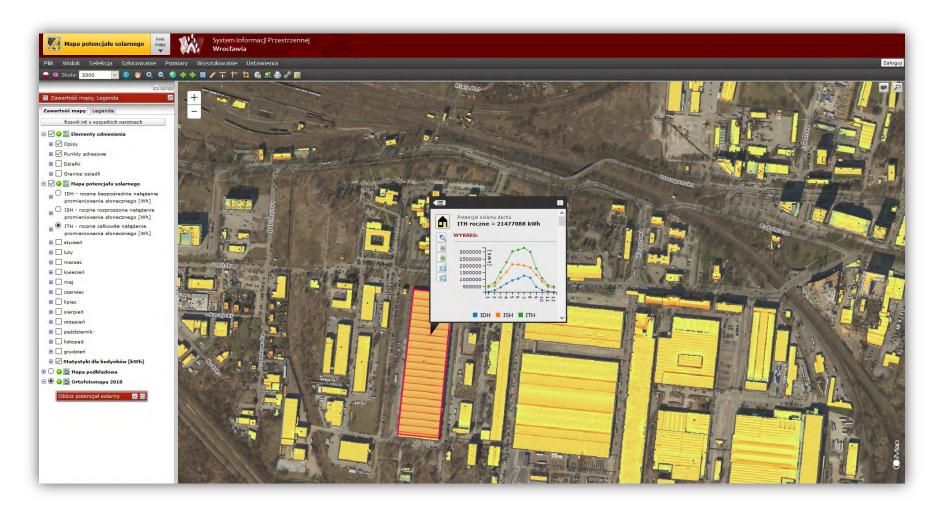




# Mitigation – solar power



## Solar power potential map



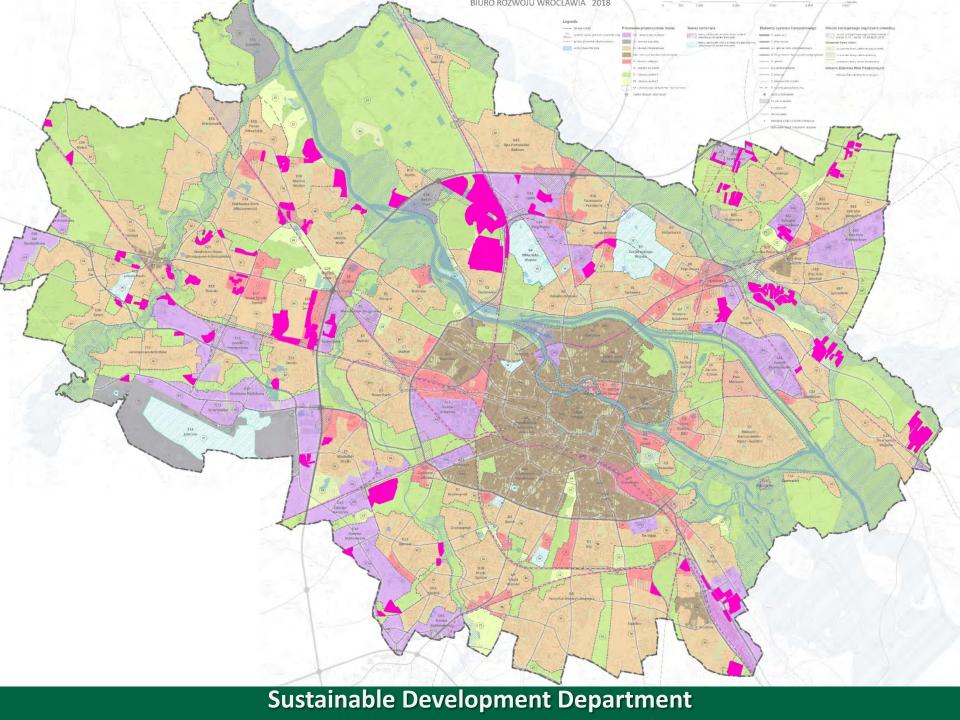
## Mitigation – solar farms



#### Location of a photovoltaic power plant in Wrocław - criteria :

- √ municipality owned lands
- √ areas over 1 ha
- ✓ purpose in Study of Spatial Development: AG (economic activity), U (services), Z1,
   Z2 (green areas)
- √ areas outside protected areas (Nature 2000, ecological lands, landscape park)
- √ outside the existing green areas (parks, squares, forests, allotment gardens)
- ✓ except for intensely wooded plots
- √ outside road corridors





# Mitigation – Renewable Energy Sources (RES)



#### **RES** installations in municipality buildings:

- 1. Model for the implementation of RES investments was made during Initial Market Consultations.
- 2. The results will be audits of selected facilities (at the pilot stage around 20).
- 3. In the next stage the investments will be made on the audits' basis.

Municipality buildings where RES investments are completed:

- Współczesny Wrocław Theatre
- Kindergartens 10, 66, 108, 121
- Municipal waterworks
- Spartan Sp. z o.o. sport facilities
- Primary schools 99 and 96
- Building of the Environment and Agriculture
   Division



Environment and Agriculture Division building at Hubska str.

## Mitigation – emission reduction



#### 1. Thermomodernization



Kindergarten and School Complex no 13, pl. Muzealny

#### 2. Air source heat pomps



New nursery at Sygnałowa str

#### 3. Photovoltaic installation



New kindergarten at Dębicka str

Photovoltaic installation power 9,6 kW



THANK YOU FOR YOUR KIND ATTENTION