

WARSAW – LOCAL ACTIONS FOR SUSTAINABLE ENERGY



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City of Warsaw



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Main features of the capital city of Poland:

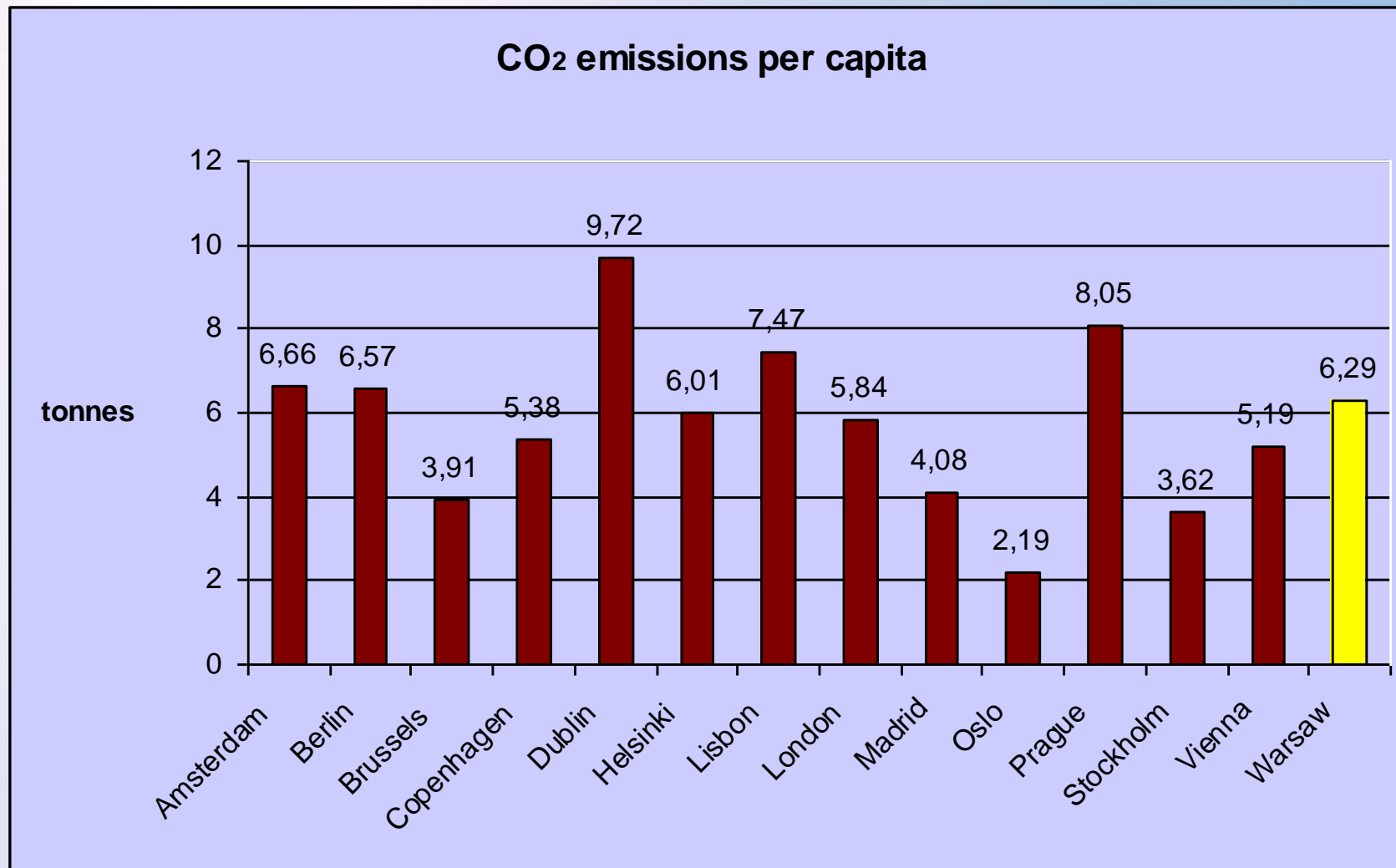
- ✓ administrative area: 517 km²
- ✓ inhabitants within this area: 1.7 million
- ✓ inhabitants within agglomeration: 3.3 million
- ✓ density of population: 3300 per km²
- ✓ registered enterprises: 300 000
- ✓ registered vehicles: 1.2 million
- ✓ budget for 2011: 3.325 billion €
- ✓ unemployment: 3.5%



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Warsaw among other European cities



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CO₂ emissions in Warsaw

Source	Total emissions [thousand tonnes CO ₂ eq/year]				Change between 1990-2007 [%]
	1990	1995	2000	2007	
Energy and heat production	6 808.45	6 836.12	7 663.76	8 462.62	24.30
Transport	1 348.40	1 450.61	1 508.36	1 570.73	16.49
Waste management and sewage treatment	915.89	897.49	848.84	761.67	- 16.84
Absorption	- 46.83	- 52.87	- 56.15	- 67.82	44.82
Total	9 025.91	9 131.35	9 964.81	10 727.20	18.49
	tonnes CO ₂ eq/year				
per capita	5.45	5.52	6.19	6.29	15.41



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Climate Protection Team

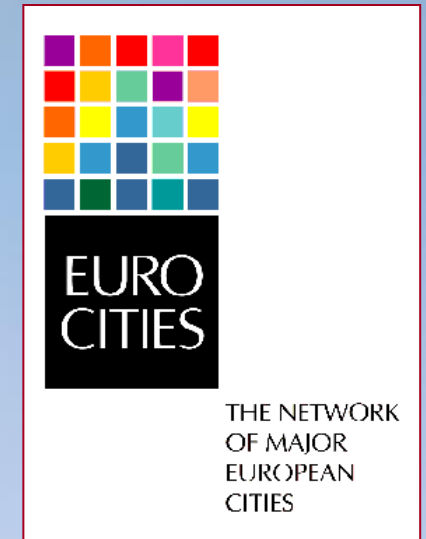
- ✓ Established in July 2008, chaired by Mayor of Warsaw: the Team comprises Directors of competent city departments and representatives of NGO partners.
- ✓ Team duties:
 - actions to reduce the amount of GHG emitted into atmosphere,
 - reduction of energy consumption,
 - preparation of action plan for Warsaw to tackle climate change and supervision over its implementation,
 - coordination of information activities and dissemination of knowledge about global process of climate warming and actions which may counteract it.



Cooperation

EUROCITIES

- ✓ ExCom Climate Change and Energy WG
- ✓ Climate Change Declaration
- ✓ The „Stockholm Appeal” (27th November 2009)
 - cooperation of EUROCITIES with US Conference of Mayors
- ✓ Letter from Warsaw’s Mayor to Polish PM
 - Initiative for all members of EUROCITIES to help protect climate



C40 Large Cities Climate Leadership Group

- ✓ Cooperation with cities and experts like Clinton Climate Initiative
- ✓ Warsaw C40 UrbanLife Workshop



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EU Best practices considered for Warsaw

- ✓ Berlin – Energy Agency
- ✓ Vienna – Solid Waste Management
- ✓ Stockholm - Hammarby Sjöstad – low emission district
- ✓ Copenhagen – Bicycle and Waste-to-Energy-Plants
- ✓ Paris – SEAP and Public bicycle - Vélib
- ✓ London – Barclays Cycle Hire



Covenant of Mayors



- ✓ Getting ready for implementation of our Sustainable Energy Action Plan
- ✓ Goals of Warsaw's Energy Action Plan:
 - Modernization of energy production and distribution,
 - Implementation of renewable energy sources,
 - Optimization of energy consumption and resource management,
 - Making buildings more energy-efficient,
 - Introducing new solutions in transportation,
 - Changing energy consumers behaviour.
- ✓ Promotion of Covenant of Mayors ideas among Polish municipalities



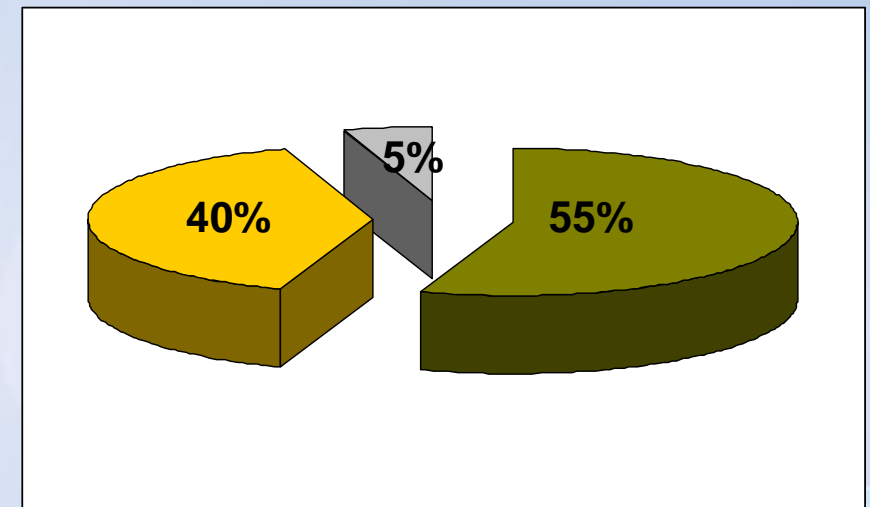
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Potential of heat consumption reduction and current achievements

✓ Average consumption of heat in Warsaw is annually: ~13 TWh
including housing sector: ~ 8,5 TWh (65%)

✓ Potential of reducing heat consumption in Warsaw (MWh):

- Housing sector ~ 2,09 TWh ■
- Service sector ~ 1,5 TWh ■
- Industry sector ~ 0,18 TWh ■
- Warsaw overall ~ 3,79 TWh



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Sustainable Energy Action Plan – main activities on reduction of energy consumption

Lp.	Tasks	Planned energy savings in 2020	Reduction of CO ₂	Investments
		[MWh/a]	[t/a]	[million €]
1	Complex buildings retrofit in housing sector	1 399 200	415 562	1020
2	Complex buildings retrofit in service sector	1 150 783	341 782	612
3	Complex buildings retrofit in public sector	359 718	106 836	191
4	Modernization of heating system (e.g. replacement of local heat sources with more efficient heat sources)	105 000	31 185	87
5	Retrofit of industrial buildings	185 820	55 189	49
6	Modernization of indoor lighting	85 228	83 693	9
7	Modernization of street and outdoor lighting	55 000	54 010	25
8	Replacement of old home electronic equipment	16 667	16 367	57
9	Replacement of old IT equipment	22 727	22 318	38



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Plans and present activities

✓ Transport

- Expansion of existing public transport network
- 186 trams (375 million €), 35 underground trains (250 million €), 168 modern buses (50 million €)
- Construction of the second metro line up to 2014 (1



✓ Energy production in cogeneration

- coal consumption reduction by about 30%
- cogeneration produces additional 3.4 TWh of energy from the same amount of fuels for Warsaw
- CO₂ reduction of 2 million tonnes annually

✓ Modernization of street and outdoor lighting



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Plans and present activities

- ✓ Biomass combustion in power plants in Warsaw
- Biomass co-combustion in one existing system and planned new system
- Planned biomass share in combusted fuel in power plants in Warsaw:

2010 2%
2015 → 11%
2020 → 15%

✓ Waste-to-energy

- Development of recycling and concept of treating solid
- Extension and modernization of the ZUSOK Solid Waste Incineration Plant (up to 2015, >300 000 tonnes)
- Construction of another incineration plant (up to 2018, 300 000 tonnes)
- Planned share of energy from waste increased from <1% in 2009 to 8% in 2018



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Electric mobility

✓ Project with RWE Poland

- The Warsaw City Hall works on implementation and preparation of pilot projects aimed at popularization of electric cars by creating adequate charging infrastructure together with RWE Poland.
- So far 10 open-access charging stations in Warsaw downtown.
- Promotional and educational aspects (huge interest from citizens and mass-media).



✓ Warsaw's Cluster on e-mobility

- “E-Mobil Cluster” is a common initiative of scientific institutions, local self-government, associations, and companies operating in the Warsaw area. Among most notable partners are Warsaw University of Technology, Car Transportation Institute, Fiat Auto Poland and energy group ENEA.



How do we educate our citizens?

- ✓ Earth Hour
- ✓ Tree Day
- ✓ Picnic with Climate
- ✓ Car-Free Day
- ✓ Warsaw's Recycling Days



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