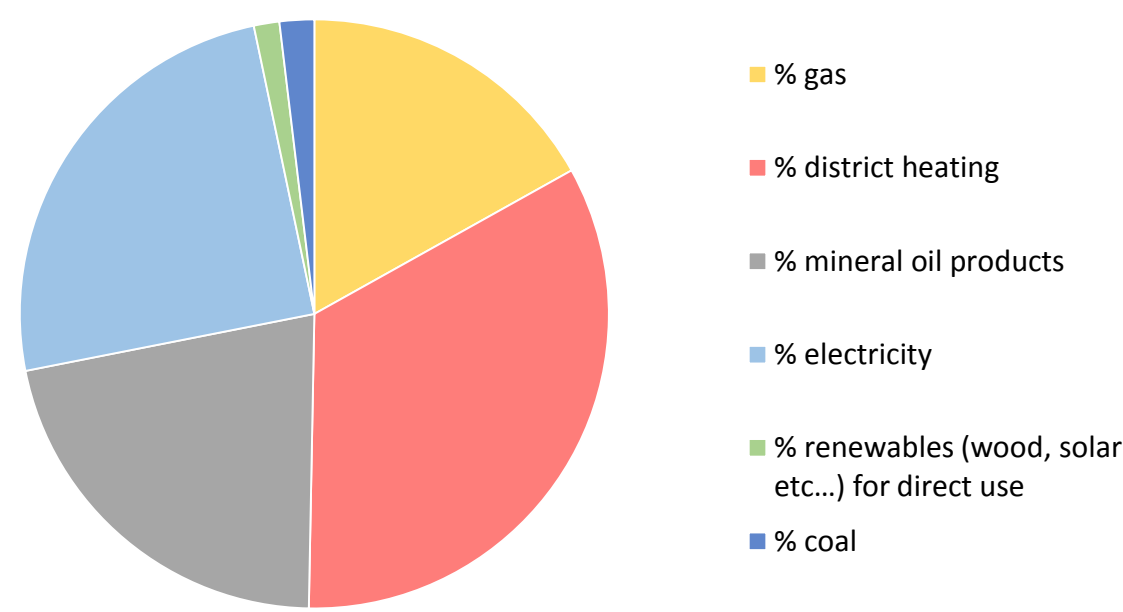


## City Facts

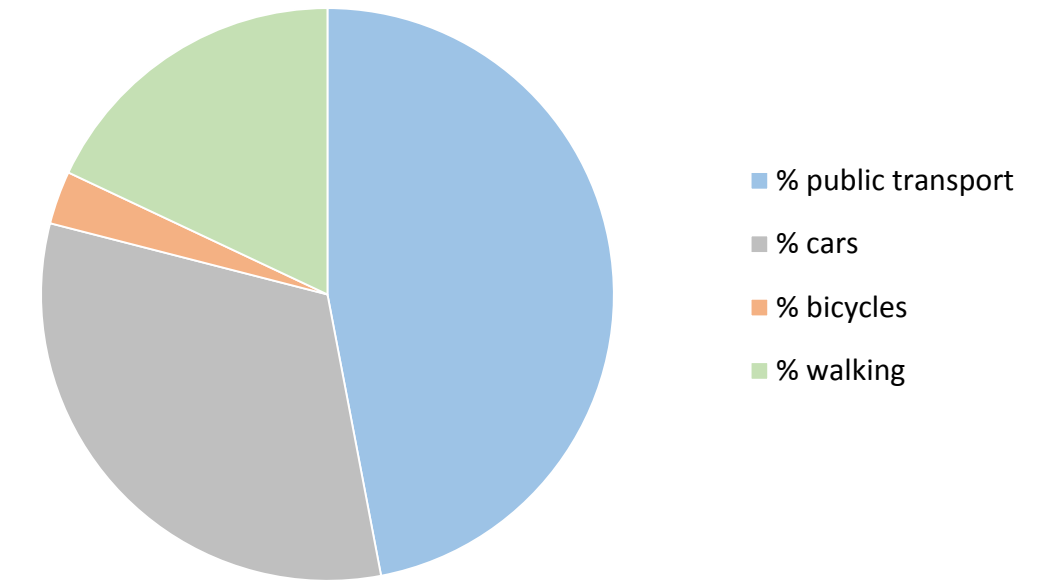
General data		
Size (km <sup>2</sup> )	2016	517,24
% of green area	2016	39,6
% of water (incl recreational)	2014	3,4
Size (population)	2016	1 721 248
Density (Inh./km <sup>2</sup> )	2016	3363
Density (houses/km <sup>2</sup> )	2011	366
Annual population growth (%)	2008-2016	0,68
Purchasing Power (GDP/capita in EUR)	2013	30 619

## Final energy consumption (2013)



Final energy consumption - total (2013): 29.599 GWh  
 Final energy consumption per capita (2013): 17.196 kWh/cap\*a  
 CO<sub>2</sub> emissions - total (2013): 12.706.696 t CO<sub>2</sub> eq  
 CO<sub>2</sub> emissions per capita (2013): 7,38 t CO<sub>2</sub> eq / cap\*a

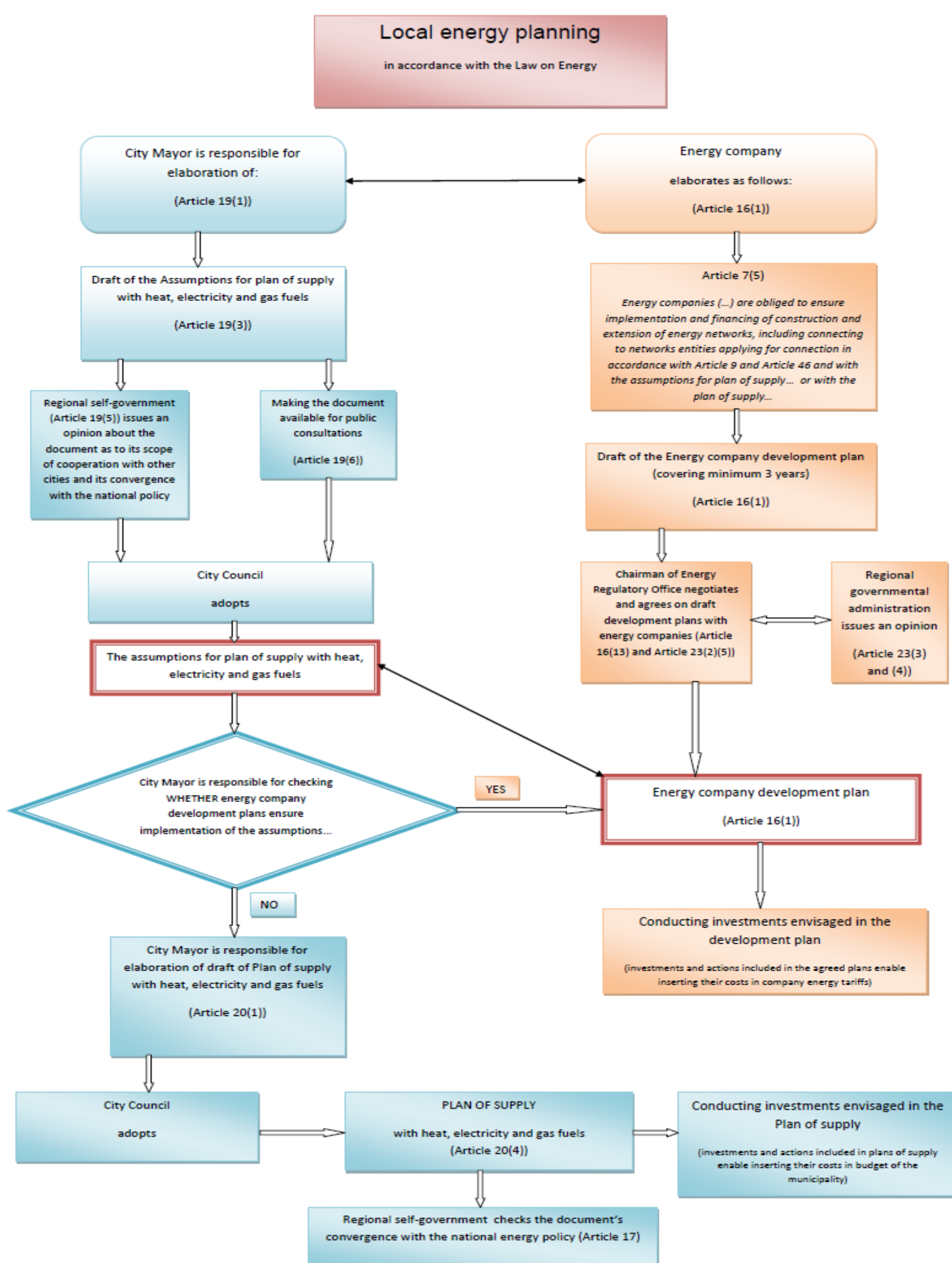
## Modal Split (2015)



Cars per 100.000 inhabitants (-): 791

## Current governance processes

### Warsaw's urban planning process



### Important issues of the current processes towards energy

- Warsaw as the municipality is responsible for the supply of electricity, heat and gas
- Energy planning at local level is a two-step and two-pronged process
- Mayor of Warsaw is responsible for preparing an inventory of all energy systems and forecast as to energy demand
- Energy companies develop their own development plans on energy production/distribution from its own resources
- Warsaw should provide a good cooperation with energy companies, which are independent of the City
- Detailed and correct energy data-base is needed and has a high relevance for both energy planning and other planning processes

## Approaches for integrative energy planning

### Some recommendations for integrative energy planning

- The integrated database should be a compilation of all data-banks operational in the City structures
- The introduction of electric vehicles on a mass scale will impact heavily the operations of the energy system/grid
- In the absence of reserves in the (national) power system for both generation and distribution of energy it is extremely important to implement smart grid/intelligent management system solutions
- Due to the interdependences between energy sub-systems (e.g. heat and gas) and the possibility of substitution, synergies and interactions between different energies, the energy planning should be fully integrated especially in situations involving risk of energy shortage
- New system of local storage of energy – including both heat and electricity, mainly from renewable energy sources - should be implemented
- Due to above considerations, integrative energy planning becomes a necessity