



## Berlin's Climate Protection Policy and C 40 activities

Berlin, 18.11.2008

Office of the Land Berlin to the EU  
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# Energy Policy and Climate Protection in Germany

## Ambitions:

- 40 % reduction in greenhouse gas emissions by 2020 compared with 1990
- Expansion of renewable energies in the current range from about 13 % to 25 – 30 % by 2020 compared with 1990
- 14 % increase of renewable energies until 2020 in the heating technology
- Berlin has dealt with climate protection since 1989



# General Information on Berlin

## Berlin – A City and a Federal State



### Statistics:

Surface area: c. 892 km<sup>2</sup>\*

Inhabitants: 3.4 m

Density: 3,750 inhabitants per km<sup>2</sup>

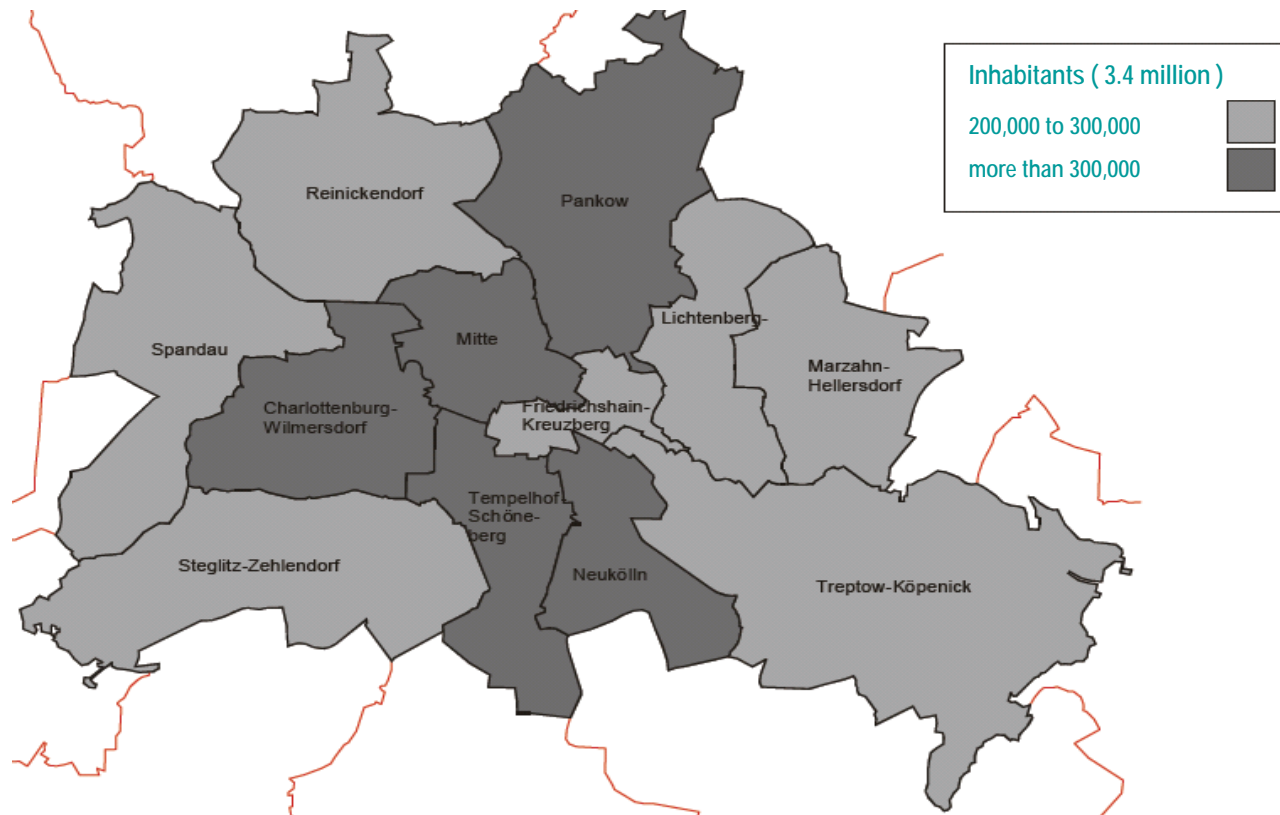
GDP: €80.3 billion

\* 1 square kilometre = 0.386 sq. mile



# General Information on Berlin

## Berlin's Districts = 12 German Cities





# Power Plant Locations in Berlin



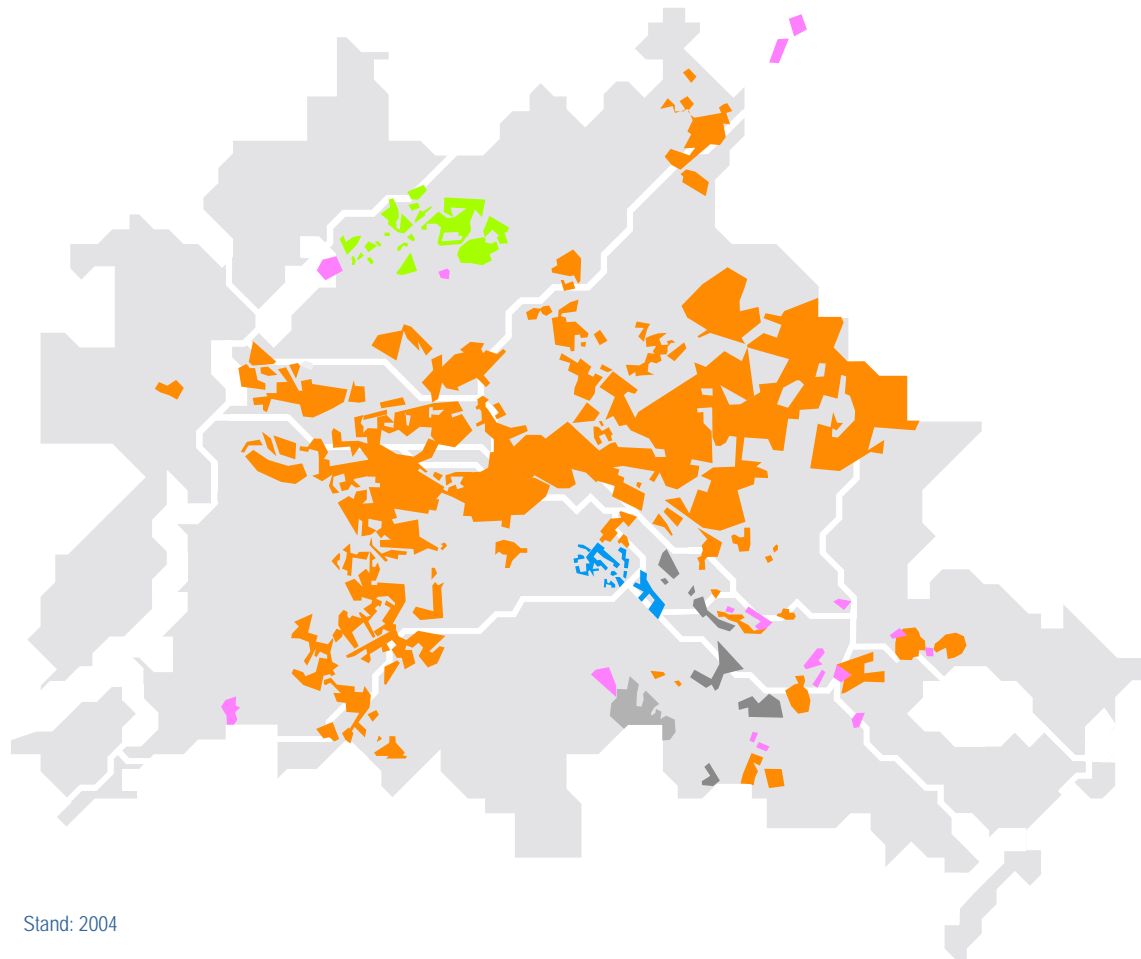
Berlin's 9 most important power plants

- Heat capacity:  
4,800 MJ/s  
Market share in heat almost 30 %  
Supply to  
- 613,000 households  
- Industry  
- public buildings
- Electric Power:  
2,500 MW<sub>el</sub>
- 80 % of Berlin's electric power consumption

All power plants are cogeneration plants.  
Market share combined heat and power: > 90 %



# District Heating in Berlin



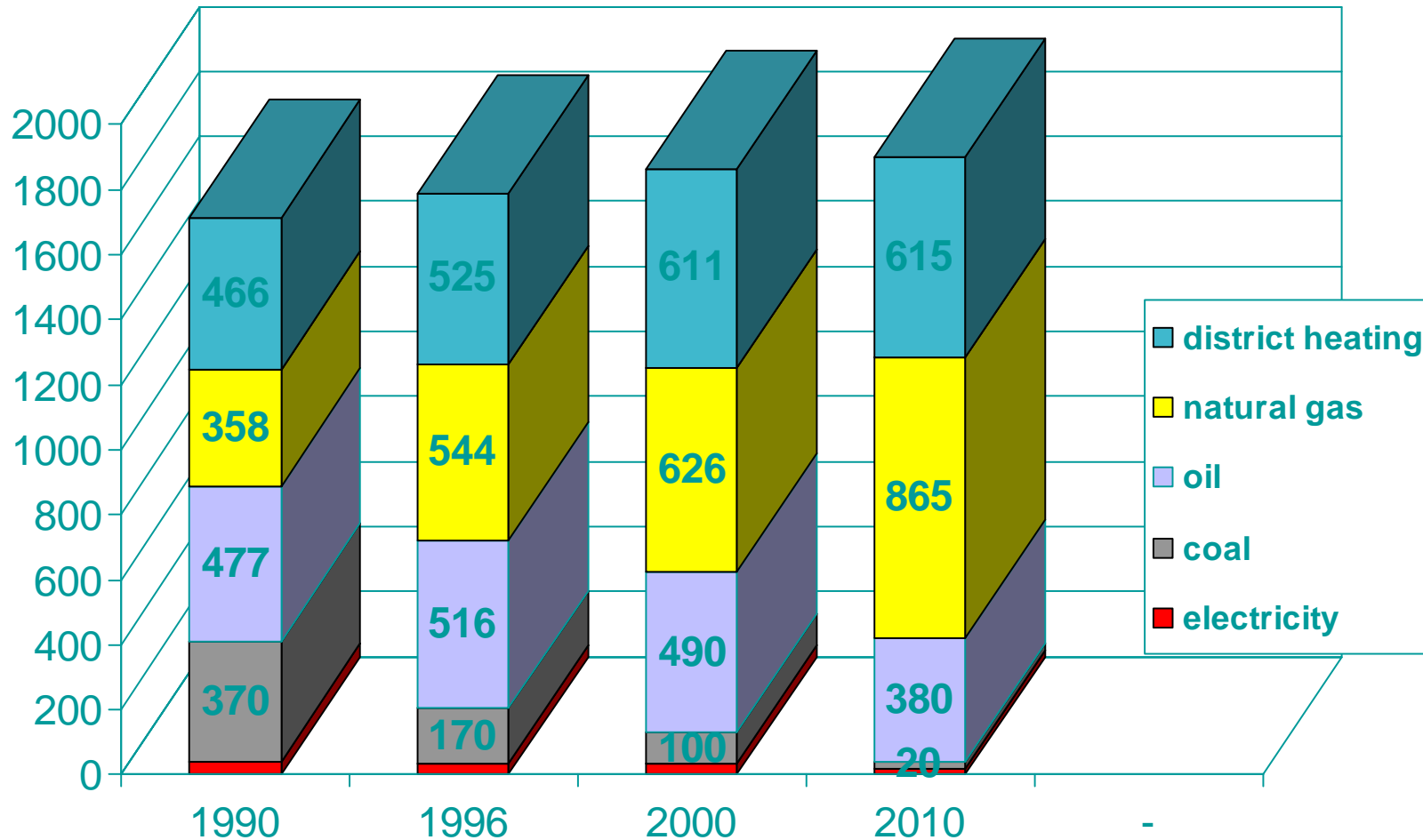
- Vattenfall Europe
- Fernheizwerk Neukölln AG
- Fernheizwerk Märkisches Viertel GmbH
- BTB Blockheizkraftwerks-Träger- und Betreibergesellschaft mbH Berlin
- Harpen EKT GmbH
- EAB Fernwärme GmbH
- piping system: 1,500 km
- 6.000 Megawatt
- largest district heating network in Western Europe

Stand: 2004





# Heating Energy Use in Apartment Buildings (in 1,000 units)





# Berlin's Climate Protection Policy – Overview

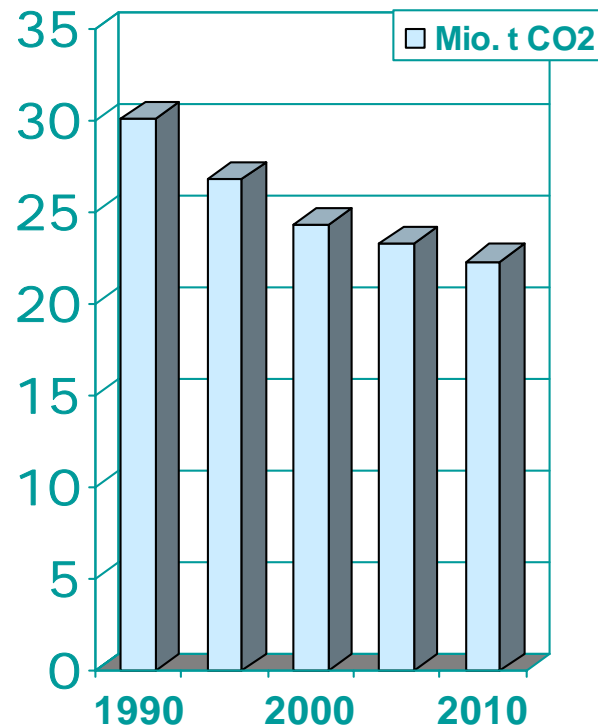
- Energy Planning Unit since 1989
- Energy Advisory Board in 1990
- Berlin Energy Saving Act in 1990
- Berlin Energy Agency created in 1992
- Energy Programme 2006 – 2010
- Climate Protection Expert Council since September 2007
- Partnership Agreements on Climate Protection with public and private Companies
- Climate Protection Working Programme 2008







# Energy Programme 2006 - 2010



- 1990: 30 million t CO<sub>2</sub>-emissions
- reduction of 25 %  
by city measures until 2010
- **25.3 % reached in 2005**
- Energy Programme 2006 - 2010:
  - ◆ ImpulsE communication programme:  
energy awareness + dialogue
  - ◆ building sector + public buildings
  - ◆ industry and commerce
  - ◆ transportation
  - ◆ energy services
  - ◆ solar and renewable energies



# Berlin's Climate Protection Policy 2008

- **Climate Protection Expert Council** was established
- Targets of **Energy Programme** clearly defined by cooperation agreements with the economy
- Amendment of the **Berlin Energy Saving Act**





# Berlin's Climate Protection Policy

## Urban Development - Measures

### Reconstruction / revitalisation of the inner city

- Master plan for inner city development
  - additional housing, retail trade etc.
  - higher density
  - improved public space
  - re-orientation to the historical structure





# Berlin's Climate Protection Policy Urban Development - Measures

- **Landscape Programme including Nature Conservation and Climate protection zones**
- **Protection and development of urban public green space and forests**







# Berlin's Climate Protection Policy

## Building Refurbishment

- **energy efficient refurbishment of half of Berlin's prefabricated multi-storey building stock (273.000 dwellings) since 1990**
- **Reduction of the energy consumption of 50 % to now 80 KW/sqm**



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# Berlin's Climate Protection Policy

## Energy Saving Partnership (ESP)

- 5,000 municipal building estates in Berlin
- €180 m annual energy costs
- 1992: Foundation of the Berlin Energy Agency
- Performance contracting in pools of different buildings
- Guarantee of cost savings 15.7 – 36 %
- Term of contract 12 - 15 years







# Berlin's Climate Protection Policy

## Energy Saving Partnership (ESP) - status

- Up to now 22 energy saving partnerships (pools)
- More than 500 real estate properties with more than 1,300 buildings managed by private contractors
- About 25 % of all public buildings (5,000)
- Cumulated CO<sub>2</sub>-reduction amounts up to date 60,000 t/a

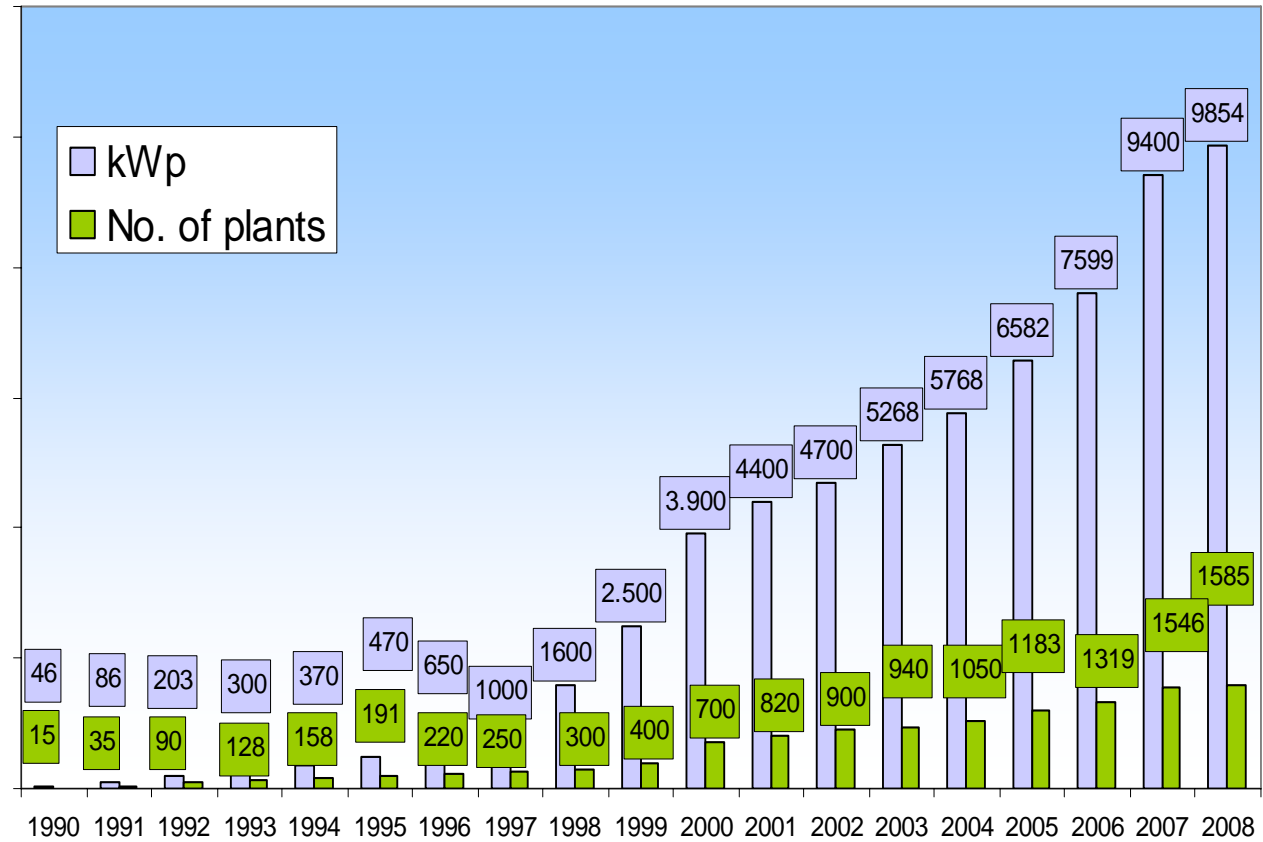




# Berlin's Climate Protection Policy

## Photovoltaic in Berlin - Status

- Supported by the EEG (federal renewable energy act) the number of photovoltaic plants has grown from 400 to 1,585 (2008).
- Performance of installed photovoltaic increased from 1,600 kWp in 1998 to 9,854 kWp in 2008.
- Our aim of a 10 MW photovoltaic performance by 2010 has been nearly achieved.





# Berlin's Climate Protection Policy

## Solar Power Roof Top Initiative

- Public administration has to set a positive example in activities of climate protection
- 2002 start of the Solar Power Roof Top Initiative
- Project relies on private investors
- Expected rent:  
1 - 3 % of EEG electricity payment
- Status: 13 pv-plants (totally 296 kWp) constructed on 12 public buildings (11 schools and a Leisure- and recreation-centre)



Installation of pv systems on school roof top



# Berlin's Climate Protection Policy

## Transport Measures

### Reconstruction / revitalisation of the inner city

- Inner-city transportation strategy of 2003
  - improvement of public transport by
    - partial extension of public transport network
    - increasing speed of public transport
    - better organised connecting points
  - better conditions for bicycle riding
  - discouragement of private car use by
    - extension of paid parking zones, higher fares
    - limitation for building of private parking space
    - extension and better enforcement of speed limitations
    - reduction of street capacities
  - deviation of through traffic





## Berlin's Environmental Policy

# The Environmental Zone

- **88 km<sup>2</sup> of the inner city area**
- **Only low emission motorised vehicles will be allowed to enter the area (including buses, lorries and tourists' cars)**
- **Around one million of Berlin's 3.4 million inhabitants live there**
- **It came into force on 1 January 2008**
- **The environmental zone is introduced in two steps, 2008 and 2010.**
- **Vehicles in the environmental zone must carry one of the three low-emission stickers (green, yellow or red)**





## Berlin's Environmental Policy

# The Environmental Zone







# Berlin's Climate Protection Policy

## Greening of the economy

- **Environmental technology as a field of competence**
- **Promotion of renewable energy consumption and technology**
- **Building a network of energy efficiency companies**



Bildquelle: SenGUV



# Berlin in the International Context

- Motto of the Senate's new work programme:  
think locally – act globally!
- In 2008, more than half of the Earth's population  
will live in urban areas
- To assume its special responsibility in climate protection,  
Berlin is member of the following international networks:
  - ◆ **C40-Cities – Climate Leadership Group**
  - ◆ Covenant of Mayors
  - ◆ Climate-Alliance
  - ◆ ICLEI



# Berlin within the C40 - Cities Climate Leadership Group

The Large Cities Climate Leadership Group, also known as C40, is a group of cities committed to the reduction of urban carbon emissions and adapting to climate change. The Cities Group was founded 2005 on the first World Cities Leadership Climate Change Summit in London. At the 2nd summit in 2006 in New York 13 C 40 signed a memorandum of understanding with the Clinton Foundation's Climate Initiative for technical and communications support. The third summit will be held from May 18 to 21, 2009 in Seoul.

## Berlin

- Conference of C40 Mayors in 2009
- Close cooperation with Warsaw
- Exchange of Best-practices:
  - Energy Saving Partnership (ESP)
  - Sustainable transport planning (mobile 2010)



**Senate Department for Health,  
the Environment and  
Consumer Protection  
Climate Protection Unit**

**Office of the Land Berlin  
to the EU**



**Thank you for  
your attention!**



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