



City of Munich
Department of Health
and Environment

Climate Protection and its Impact on the Local Economy

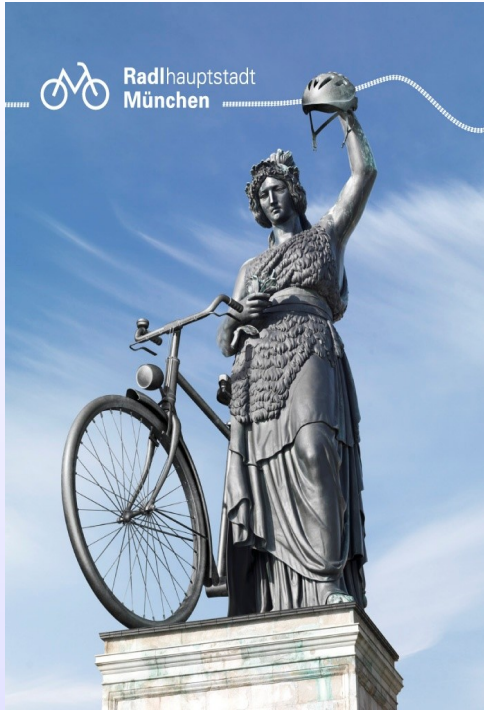
Ideas and Experience from Munich

Summer School Renzo Imbeni
Modena, September 6th, 2012





Impressions of Munich





Data of Munich



Inhabitants: 1 424 180 (June 2012)

Area: 310,7 sqkm

Inhabitants per sqkm: 4 594

Vehicles: 737 205 (Dec. 2011)

GDP: 54 273 Euro per cap. (2008)

Services: 60% of GVA

Production: 25% of GVA

Trade, gastronomy, transport:

15% of GVA

(GVA: Gross Value Added)

**“English Garden” (3.73 sqkm):
one of the largest public inner-city
parks of the world**



Munich – a sustainable energy city ⁽¹⁾

Voluntary commitment to reduction of CO₂

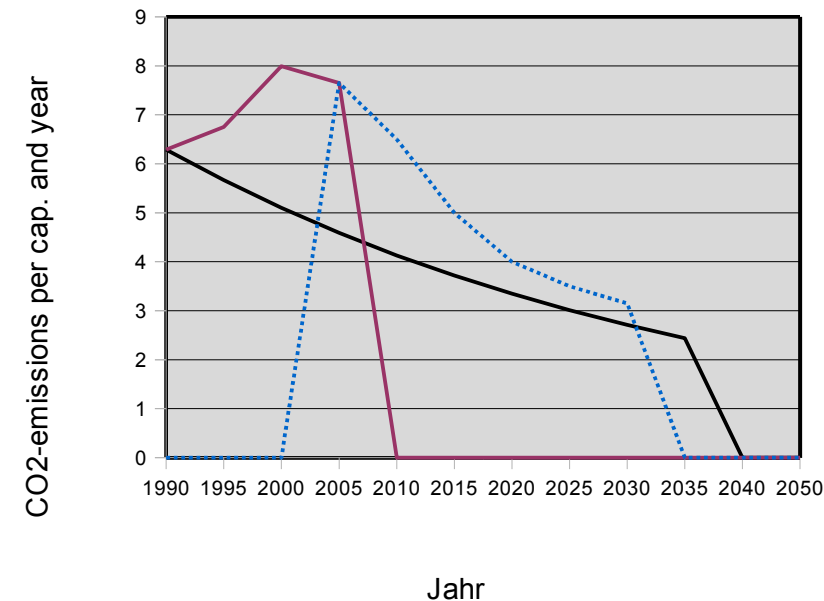
minus 50 % CO₂-emissions by 2030
(basis year 1990),
accordingly minus 10 % every 5 years
(following the requirements of the European local network Climate Alliance)

Green electrical power supply by SWM
(Munich Utilities)

all private households by 2015
the entire municipality by 2025

(by building wind and solar power plants not only in the region but also throughout Europe)

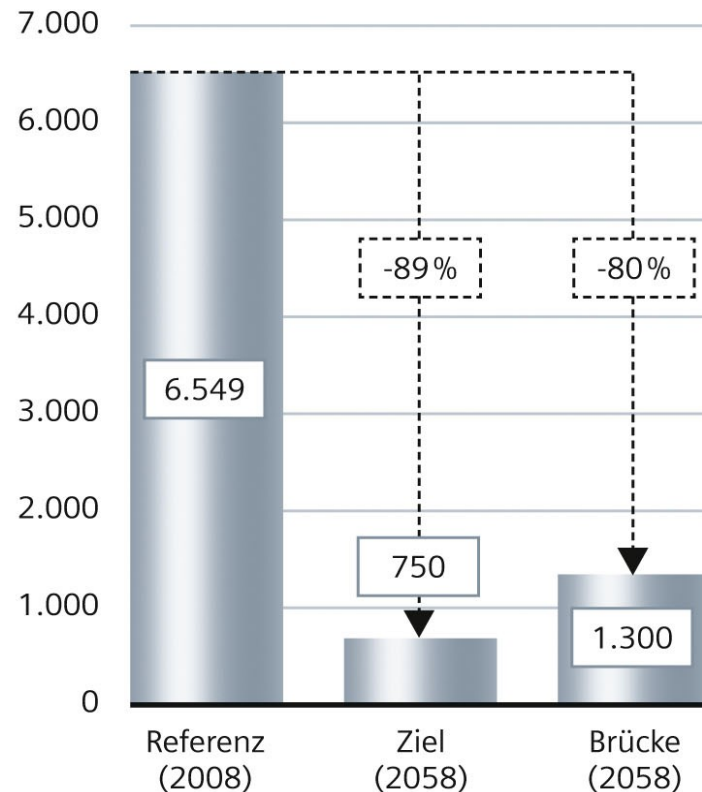
Climate protection target and CO₂-emissions





CO₂-Emissionen pro Kopf

kg CO₂/Kopf p.a.



Quelle: Abschätzung Wuppertal Institut 2008

Munich – a sustainable energy city (2)

Potential of CO₂-reduction in the city of Munich:

nearly carbon free by 2058
according to a strategic study by
Siemens prepared for Munich for its
850th birthday



Fields of action for climate protection and sustainable energy policy in Munich

CO₂-reduction potentials in Munich (Öko-Institut Freiburg, 2004):

818.000 t CO₂/a by domestic/commercial energy efficiency refurbishments

340.000 t CO₂/a by utilization of biomass and biogas in power plants

338.000 t CO₂/a by change of behaviour of residents

209.000 t CO₂/a by change of behaviour in industry, trade and services

150.000 t CO₂/a by change of fuels in heating systems

134.000 t CO₂/a by energy efficient residential construction

112.000 t CO₂/a by lighting in office buildings, shops, schools etc.

086.000 t CO₂/a by energy savings in industry

061.000 t CO₂/a by energy efficient white goods in private homes

061.000 t CO₂/a by energy efficient ICT in private homes

Total: 2.309.000 t CO₂/a



Instruments of action for climate protection and sustainable energy policy in Munich

Public sector:

Integrated Action Plan

„Climate Protection in Munich“

(based on the “Sustainable Energy Action Plan” (SEAP) worked out for the Europe-wide “Covenant of Mayors”)

Private sector:

„Munich for Climate Protection Club“

(consisting of private companies promoting best practice)





Integrated Action Plan „Climate Protection in Munich“ ⁽¹⁾

- Lead-managed by the Department of Health and Environment under the direction of the 3rd mayor
- Supported by a steering group consisting of the heads of all departments
- Management of implementation of measures and controlling by a cross-departmental project group
- Integrated Action plan also corresponds to the „Sustainable Energy Action Plan“ (SEAP) of the Covenant of Mayors agreement
- Updates every two years (in accordance with Covenant of Mayors obligation to report)
- **Decision of the city council (June 23rd, 2010) with additional capital investments of about € 26 000 000 for 2011-2012**
- Decision for the period 2013-2014 currently in preparation with the same additional capital investments as in 2011-2012

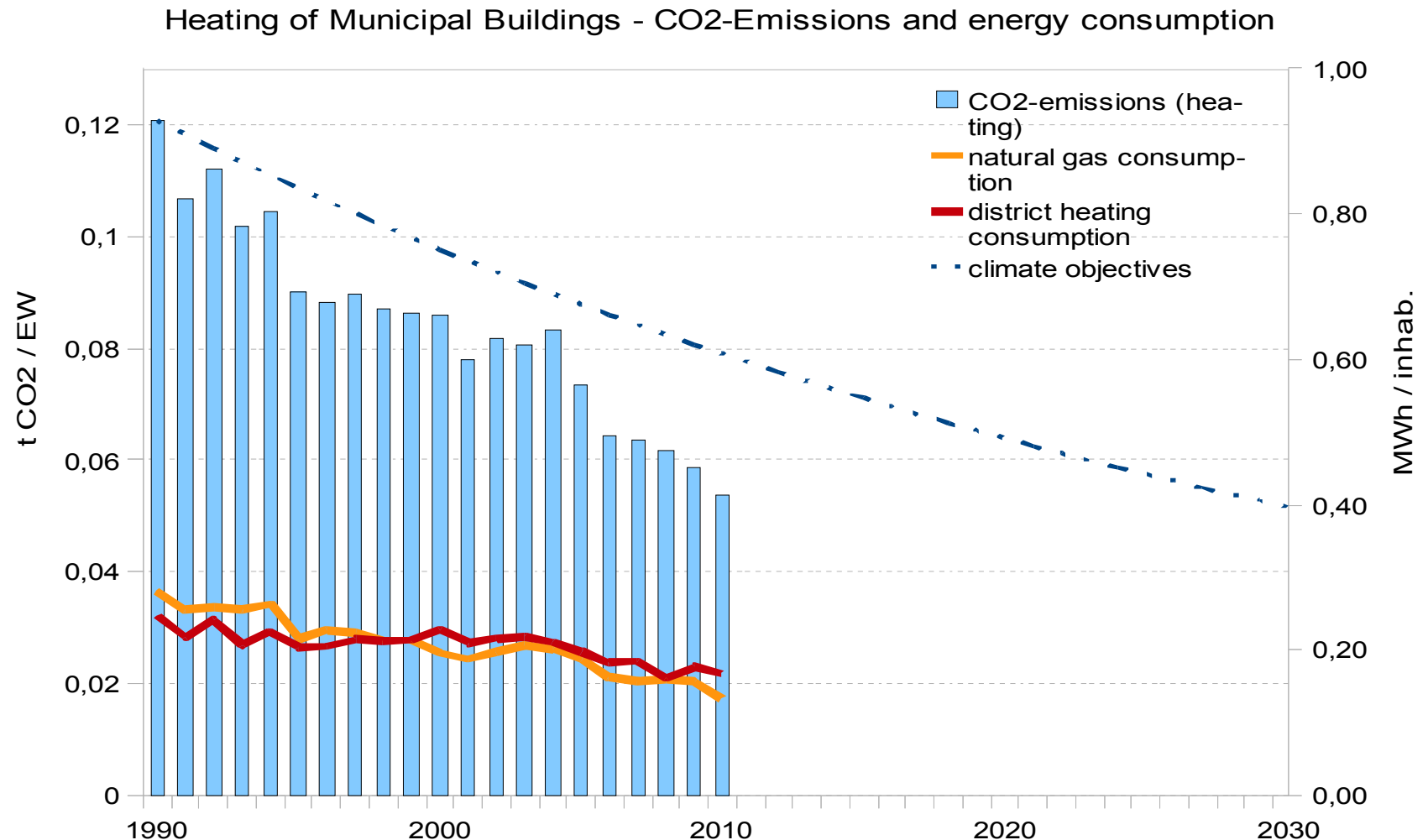
Integrated Action Plan „Climate Protection in Munich“ ⁽²⁾

Key aspects of the Integrated Action Plan 2011-2012:

- Refurbishment of residential buildings:
budget increase of from € 10 000 000 to € 14 000 000 annually for grant programmes concerning energy savings for building societies
- Refurbishment of municipal non-residential buildings:
additional € 12 000 000 for energy efficiency measures
- Energy production: climate protection strategies of the SWM (Munich Utilities) (wind and solar power plants, using geothermal energy for district heating)
- Promotion of cycling
- Energy efficient street lighting and traffic lights (**additional € 600.000**)
- Promotion of programmes for change of behaviour, energy efficiency of the municipal fleet of vehicles, energy efficiency of office equipment



Achievement of objectives: Heating of municipal buildings





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„Munich for Climate Protection Club“

(www.muenchenfuerklimaschutz.de)

- **Founded under the supervision of 3rd mayor as the “Munich for Climate Protection Alliance” on July 18th, 2007**
- **Leaders from politics and public administration, local and regional enterprises, from scientific institutions and NGOs working together to jointly develop solution strategies on climate change problems**



Objectives:

- Identifying and developing of a maximum of local reduction potentials of greenhouse gas in an economic and efficient manner
- Implementing best practice in energy saving and energy efficiency by each company taking part in the „Club“
- Reducing of CO₂-emissions by 50% minimum until 2030 in comparison with 1990
- Creating a networking platform for actors occupied with reducing CO₂-emissions



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„Munich Climate Saving Book“

(„Klimasparbuch
München“)



- **Motivating local citizens for energy saving by changing behaviour (housekeeping, mobility, shopping)**



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**„Munich Climate
Autumn“**

**(„Münchner
Klimaherbst“)**



→ **Events, lectures and discussions on climate protection,
organised annually in autumn by several NGOs**



Environmental Management System for small and medium- sized companies (SME) organised by the City of Munich and the chamber of commerce



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Savings in reporting year 2009/2010	57 companies
Electricity (kWh)	2 986 286
Heating/cooling energy (kWh)	14 575 716
Fuel (l)	9 468
CO ₂ -emissions (kg)	6 123 594
Residual waste (kg)	25 770
Raw materials (kg)	15 785
Water/sewage (l)	27 564 502
Savings (Euro)	2 102 350
Investment (Euro)	48 336 392

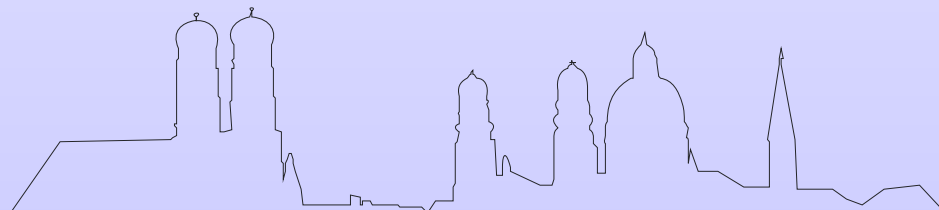
The „Bauzentrum Muenchen“, a centre of education and advice on green housing

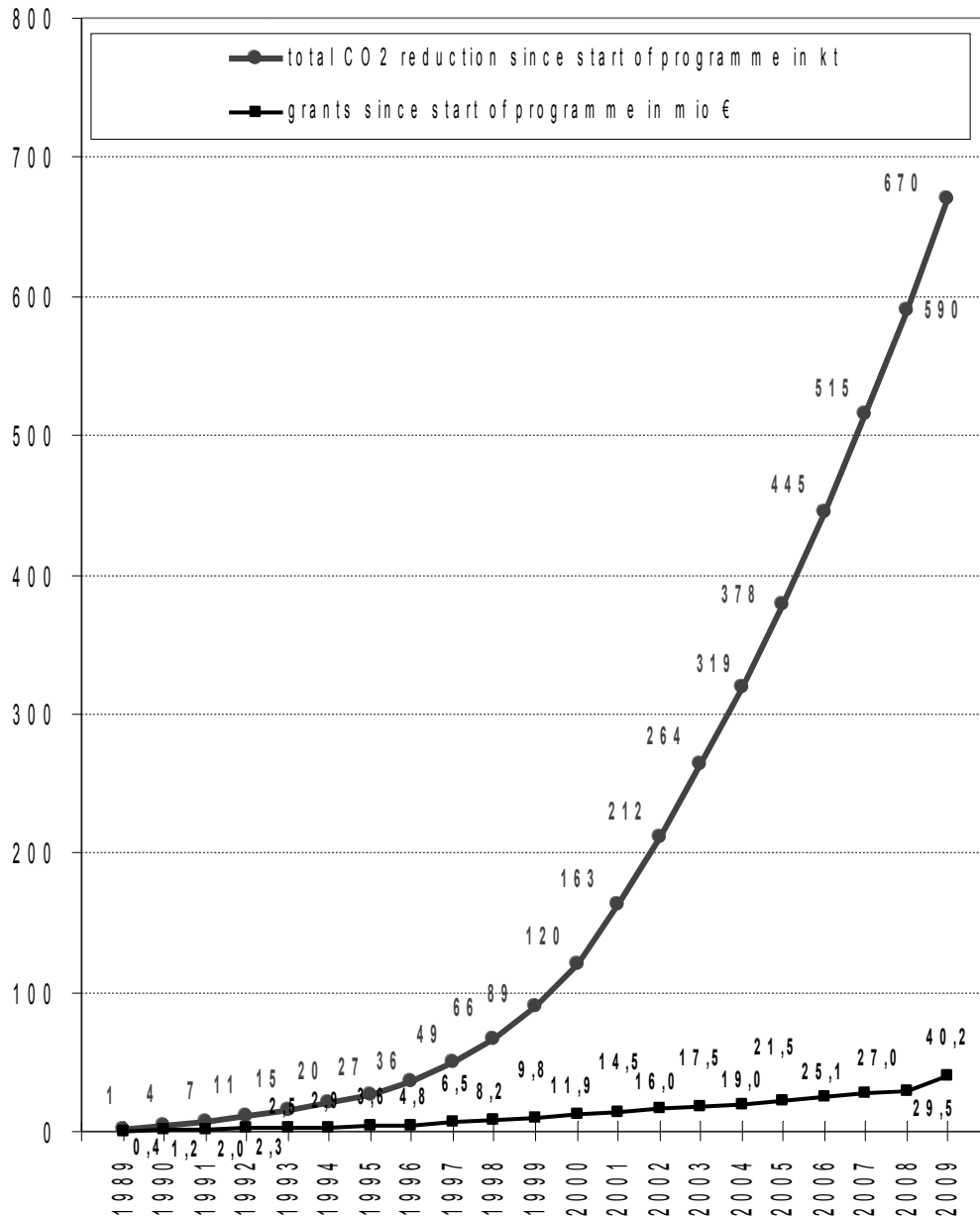


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- Promoting the Munich policy on sustainable building and living by educating and advice
- Target groups: craft firms, builders and property developpers and citizens
- 55 000 visitors, 260 events (2011)
- Cost-free counselling for 8 000 people (2011)
- Organising a yearly energy fair with varying craft guilds



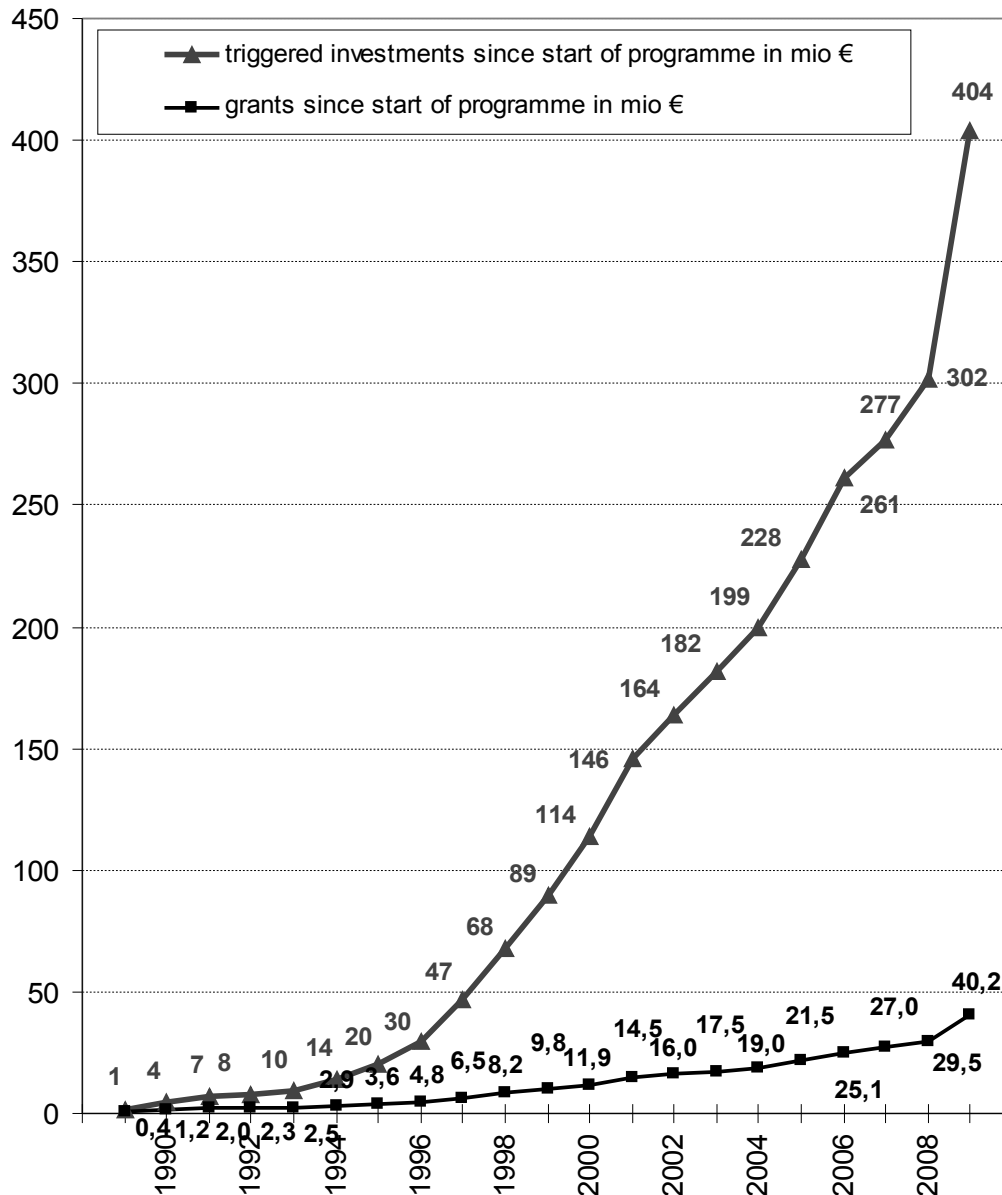


- **Municipal grant programme on energy conservation** (particularly for building insulation, solar heating, up-to-date techniques)
- **€ 40 200 000 paid out 1989-2009**
- **€ 14 000 000 annual subsidies actually**
- **Total local reduction of CO₂: 670 000 t**

grant programme energy conservation II



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Municipal grant programme on energy conservation

€ 404 000 000 investments triggered until 2009 mainly for local economy

- 1 € public subsidy causes 10 € private expenditure
- a programme not only for climate protection on local level but also for the local economy

Thank you for your attention!



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**For further information:
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