



City of Munich
Department of Health and
Environment

Municipal Climate Protection Policy in the City of Munich

Bonn, May 11th 2011



City of Munich

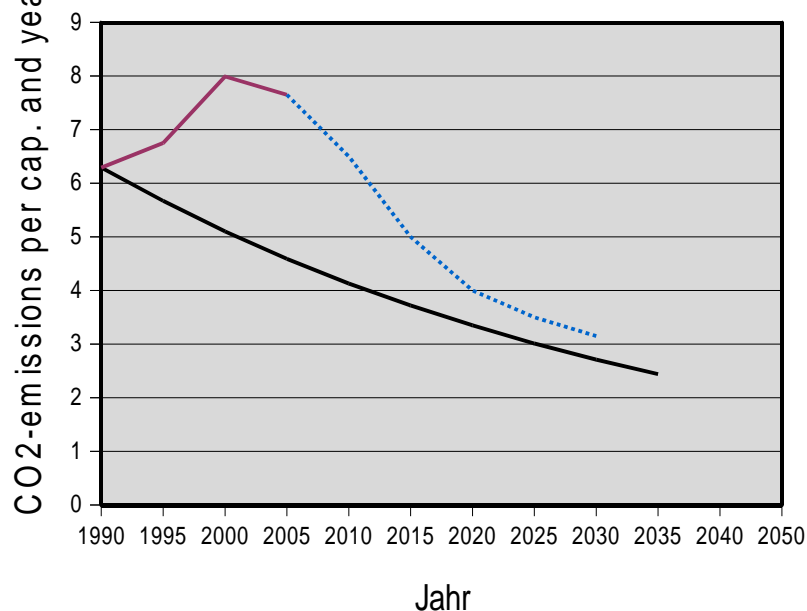




„Sustainable city“ (1)

- **Self-imposed obligation of CO₂-reduction:
minus 50 % CO₂-emissions
latest by 2030 from 1990 on
and accordingly
minus 10 % every 5 years**
- **All households in Munich
supplied with renewable electric
power by 2015 and**
- **all households and commercial
customers supplied with
renewable electric power by 2025**

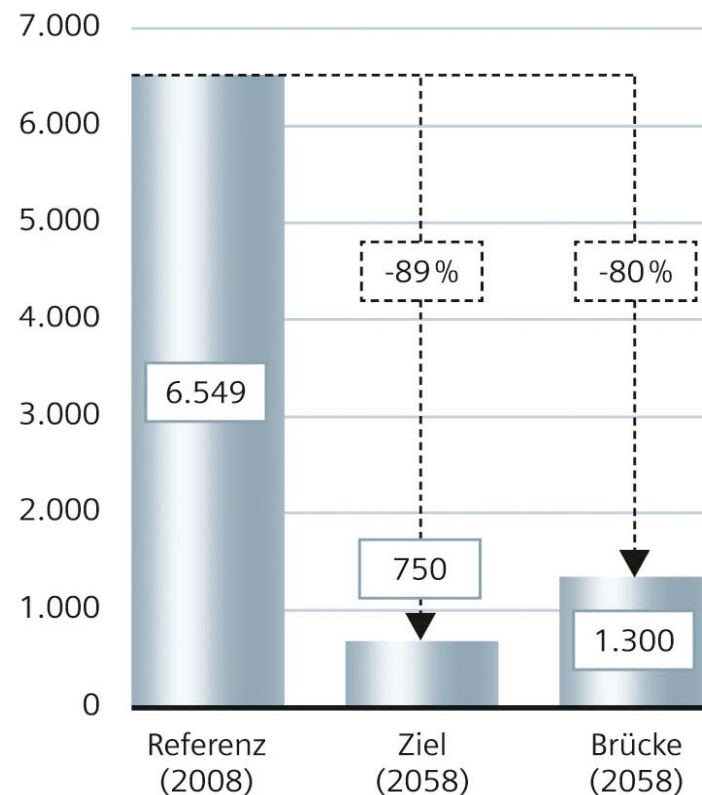
Climate protection target and CO₂-emissions





CO₂-Emissionen pro Kopf

kg CO₂/Kopf p.a.



Quelle: Abschätzung Wuppertal Institut 2008

„Sustainable City“ (2)

Potential of CO₂-reduction in
the City of Munich:

Carbon free by 2058



Munich's fields of action and instruments used for climate protection

**Promising fields of action with CO₂ reduction potentials (t CO₂/annum)
according to the case study of Öko-Institut 2004:**

Renewal of building stocks, homes and businesses: 818.000

Utilization of biomass and biogas in power plants: 340.000

Change of user behaviour in homes: 338.000

Change of user behaviour in GHD: 209.000

Change of fuels in heating systems: 150.000

Energy-efficient housing construction: 134.000

Lighting in administration buildings, commerce, schools: 112.000

Energy conservation in industry: 86.000

White goods equipment in private homes: 61.000

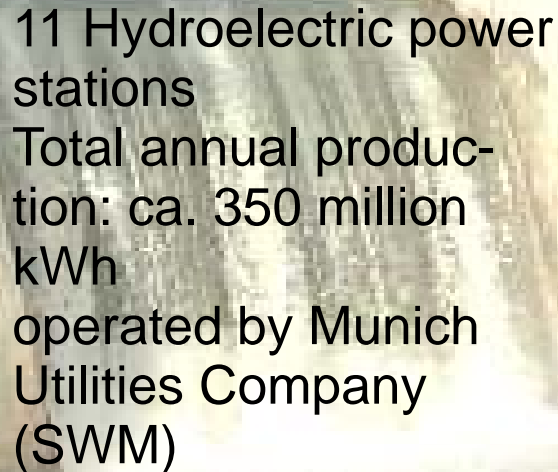
Communication and media technology in private homes: 61.000

Total: 2.309.000

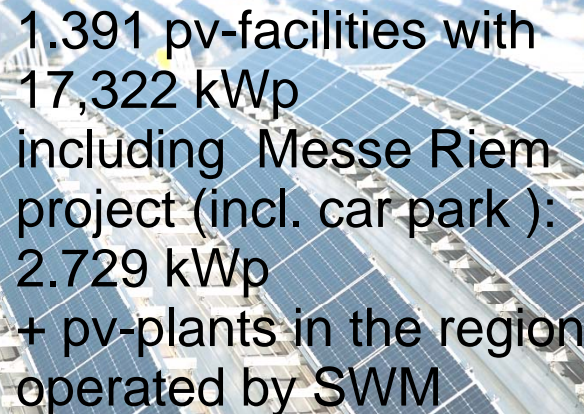
Use of renewable energy initiated by the City of Munich (2008)




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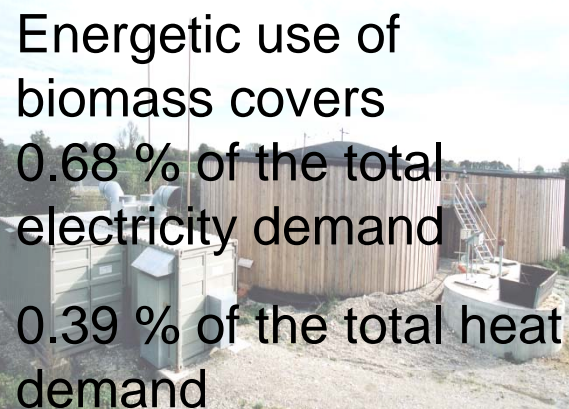
11 Hydroelectric power stations
Total annual production: ca. 350 million kWh
operated by Munich Utilities Company (SWM)



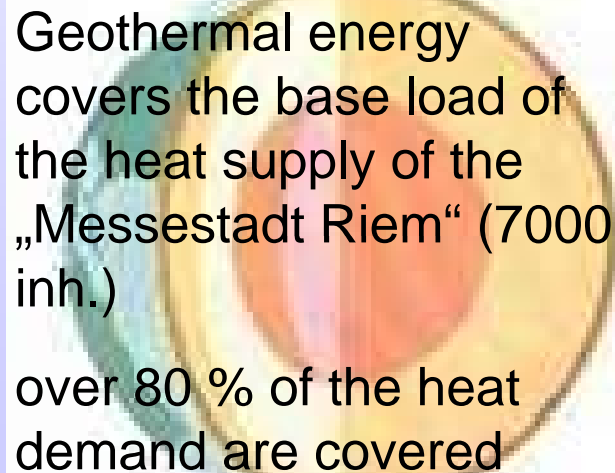
1.391 pv-facilities with 17,322 kWp including Messe Riem project (incl. car park): 2.729 kWp + pv-plants in the region operated by SWM



Wind power station on the dump hill at Fröttmaning
el. power: 1.5 MW
Supply of ca. 1,000 Munich households + windparks (SWM, onshore/offshore)



Energetic use of biomass covers 0.68 % of the total electricity demand
0.39 % of the total heat demand



Geothermal energy covers the base load of the heat supply of the „Messestadt Riem“ (7000 inh.)
over 80 % of the heat demand are covered



ca. 54.359 m² collector surface, gross
Promoted 4.900 facilities with ca. 48.000 m² collector surface, incl. Ackermannbogen: 3.000 m² collector surface

Aktualisierung der Leitlinie Ökologie der PERSPEKTIVE MÜNCHEN

Teil Klimawandel und Klimaschutz
Entwurf vom 05.11.2008



Perspective Munich – Guideline Eco-Balance

Module „Climate protection and climate change“ within the framework “Guideline Eco- Balance”

- Providing background information (even beyond energy sector)
- Cross-departmental coordination of facts and figures
- Defining fields of action
- Reference to lead projects



Integrated Action Plan „Climate Protection in Munich“

- **Headed by Deputy Mayor**
- **Steering committee: Heads of departments**
- **Management of implementation and controlling by cross-departmental project group**
- **The action plan also corresponds to the „Sustainable Energy Action Plan“ of the Covenant of Mayors agreement**
- **to be updated every two years
(Covenant of Mayors obligation to report)**
- **Decision of the City Council of June 23, 2010 with package of measures 2010-2012 including capital investments of 25,971 Mio €, nonpersonnel costs of 386.500 € and 7,1 new staff members**



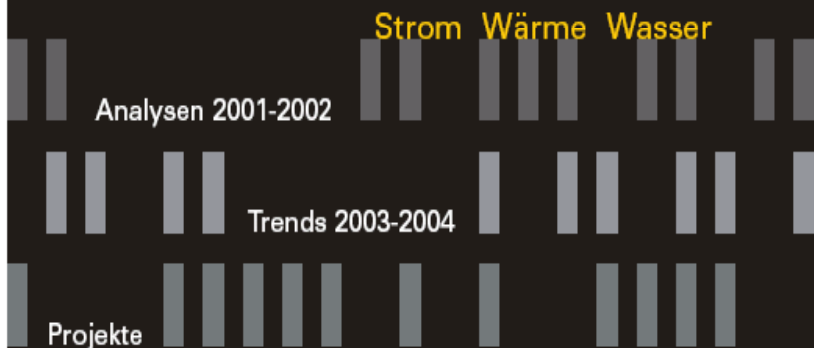
Integrated Action Plan „Climate Protection in Munich“

The key aspects of the Integrated Action Plan 2010:

- **Renewal of residential buildings (Budget increase on 14 Mio € for grant programme of energy conservation, measures of building societies)**
- **Increase of energy efficiency of municipal non-residential buildings (supplementary 12 Mio €)**
- **Local energy production: strategies for climate protection of the SWM**
- **Promotion of cycling**
- **Economisation of electricity concerning street lighting and signal lights (supplementary 600.000 €)**
- **Promotion of programs for change of user behaviour, energy efficiency of the municipal fleet, energy efficiency of office equipment**

Energiemanagement

Bericht

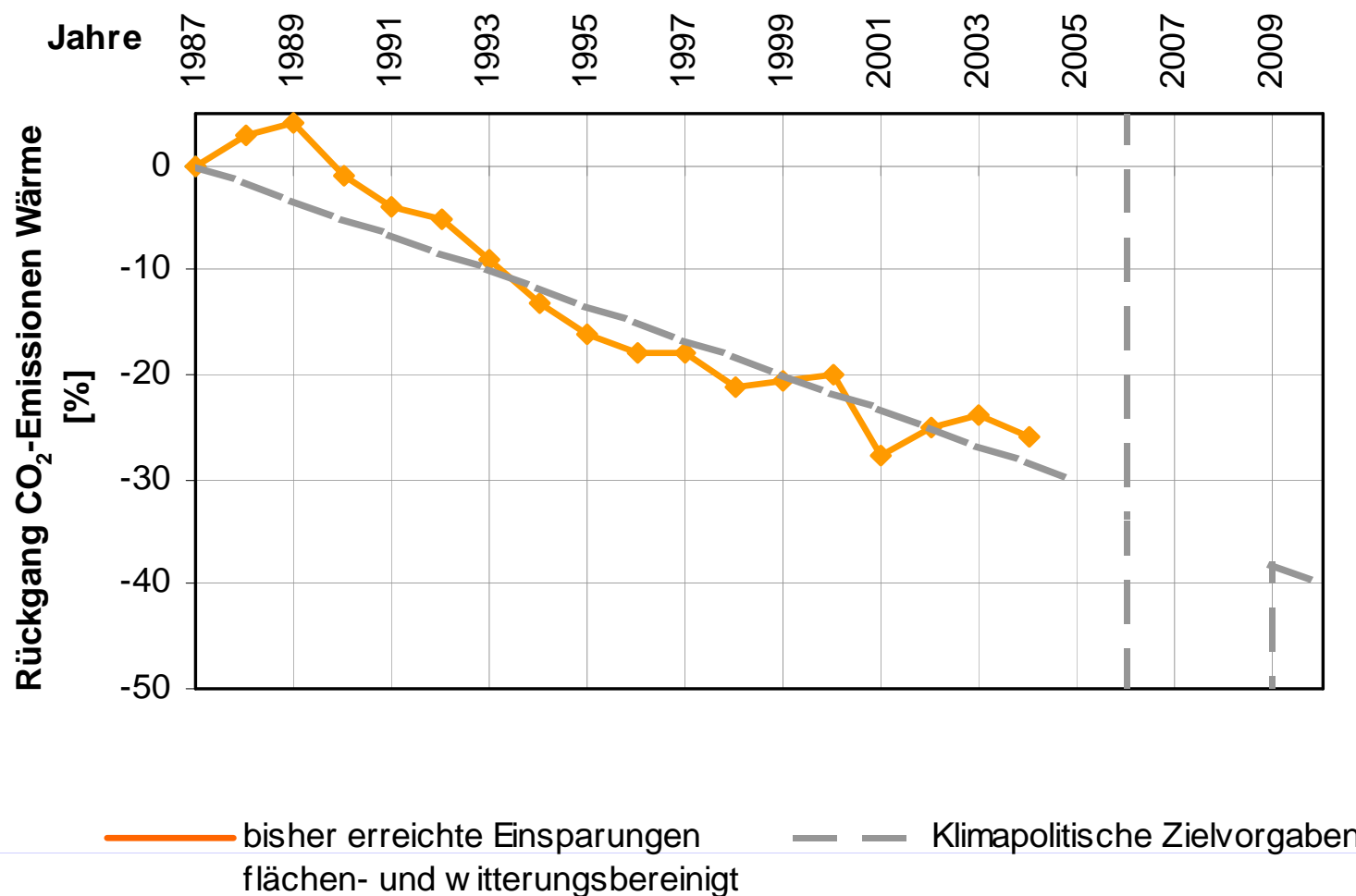


Illustrated Report on Energy Management for municipal buildings by Construction Dept.

- **Energy and water balances**
- **Activities of energy management**
- **Structural and technical measures**
- **Financial and capital investment programmes**
- **Resulting CO₂-reduction (10% every 5 years reached)**



Achievement of objectives: Municipal real estate/property (heating)





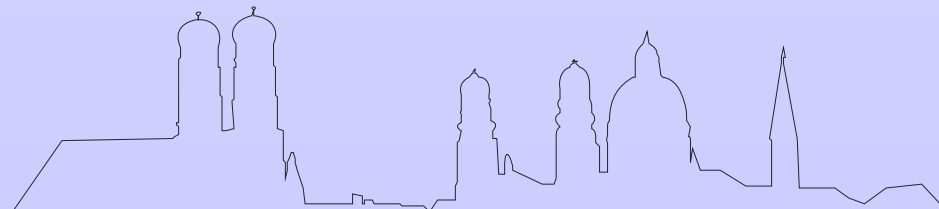
The alliance „Munich for Climate Protection“ (www.muenchenfuerklimaschutz.de)

- **Founded on July 18, 2007 under the supervision of City Mayor Hep Monatzeder**
- **Leaders from politics and public administration, large Munich enterprises, from Science, institutions and organisations work together to enter in a constructive and open dialogue on climate protection problems and to develop joint solution strategies.**
- **Final conference “project phase” and kick-off “implementation phase” on March 25, 2010**



Objectives::

- To develop a maximum of local reduction potentials in an economic and efficient manner, in particular carbon dioxide emissions
- To reduce CO₂-emissions by 50 per cent, minimum, by 2030 in comparison with 1990.
- Creating a networking platform for actors who seek to lower CO₂-emissions





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Referat für Gesundheit
und Umwelt

„Klimasparbuch München“

Climate savings
book





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Münchener
Klimaherbst

„climate
autumn“-events





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... and:

- **Campaign car fasting**
- **Training course for teachers: „climate change and sustainable development - the contribution of raw materials“**
- **Munich agreement in modernization**
- **Munich quality standard**
- **Manual for builder-owners**
- **Workshop „energy saving in lighting“**
- **Biogas supply of a fuel cell of Telekom Germany**
- **Intensified PR for Carsharing**
- **etc.**



Environmental Management System for small and medium-sized companies)



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Einsparungen im Berichtsjahr 2007/2008 Savings in reporting year 2007/2008	21 Betriebe 21 companies
Strom/electricity (kWh)	15.933.705
Wärme/Kälte heat/cooling energy (kWh)	13.801.350
Treibstoff/fuel (l)	170.750
CO ₂ -Emissionen/CO ₂ -emissions (t)	14.370.424
Restmüll/residual waste (kg)	169.800
Rohstoffe/raw materials (kg)	50.700
Sonstige Abfälle/other waste (kg)	2.100
Wasser/Abwasser water/sewage (l)	62.518.400
Kosteneinsparung/savings (€)	3.223.781
Investitionen/investment (€)	18.344.428

Public Relations, Guidance and Support

The technical exhibition and information centre

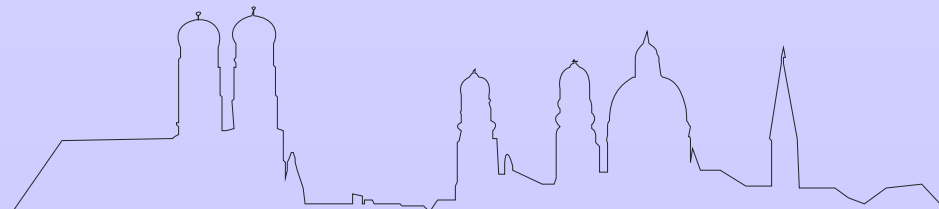
“Bauzentrum München“



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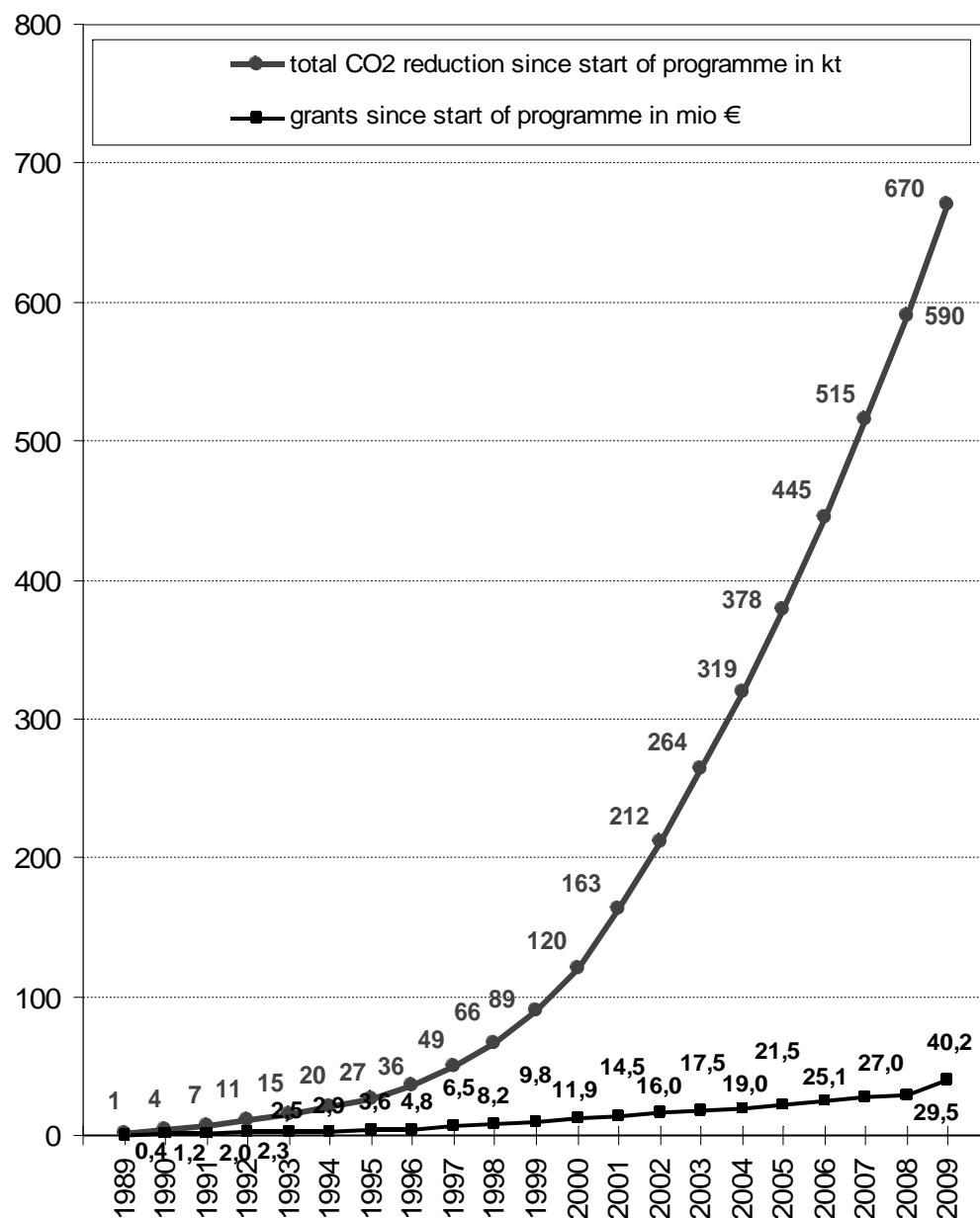
- Campaign for the utilisation of municipal roofs for solar energy
- Annual: „Solar Days Munich“, „Energy Conservation Days“
- (International) conferences
- Seminars and special forums
- Press conferences
- Internet presentation



grant programme energy conservation I



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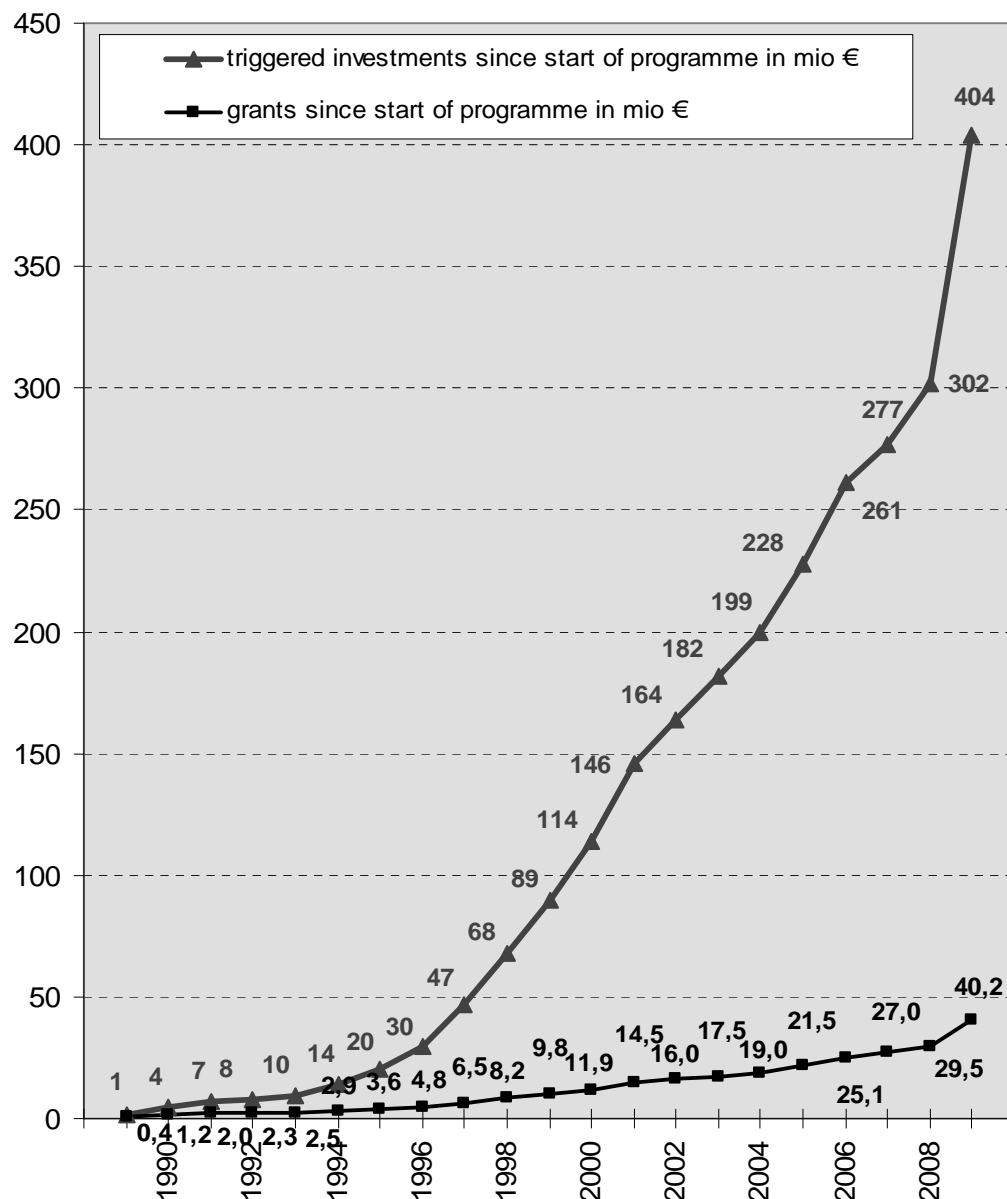


grant programme
energy conservation

total CO₂ reduction



grant programme energy conservation II



grant programme
energy conservation

triggered investments



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For further information:
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klimaschutz.rgu@muenchen.de