

Local strategies for sustainable development

Experiences from Freiburg

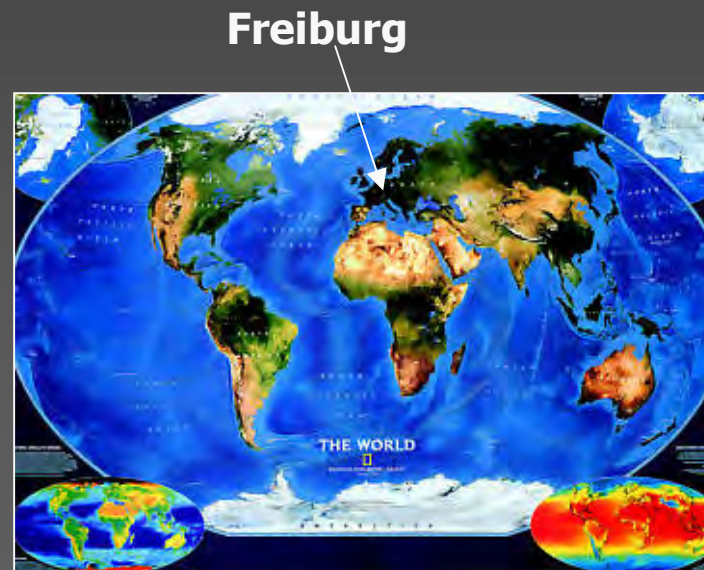


Freiburg, 1.4. 2008 – National Assembly for Wales

Klaus Hoppe, Head of Energy Department, City of Freiburg, Germany

▶ Overview

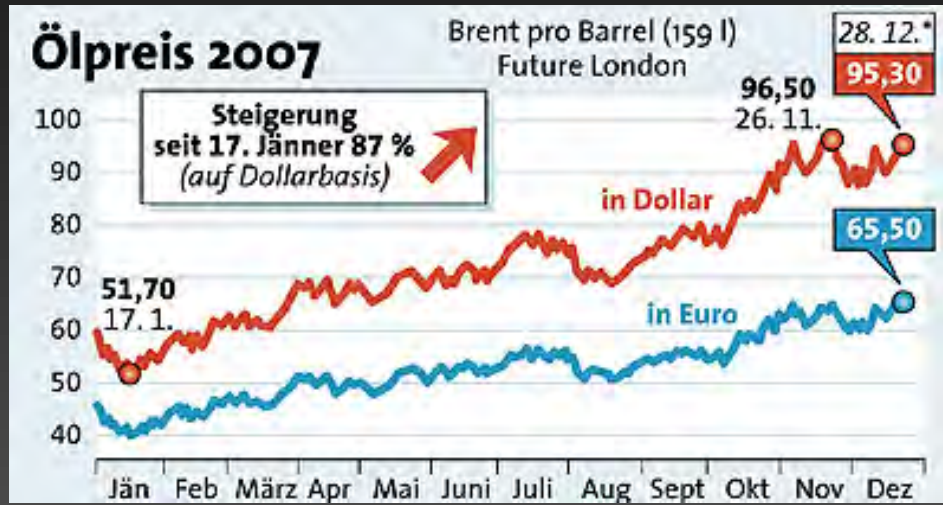
- ▶ Preface
- ▶ Some information about Freiburg
- ▶ Historical background
- ▶ Implementation of local strategies
- ▶ Some Examples
- ▶ Conclusion



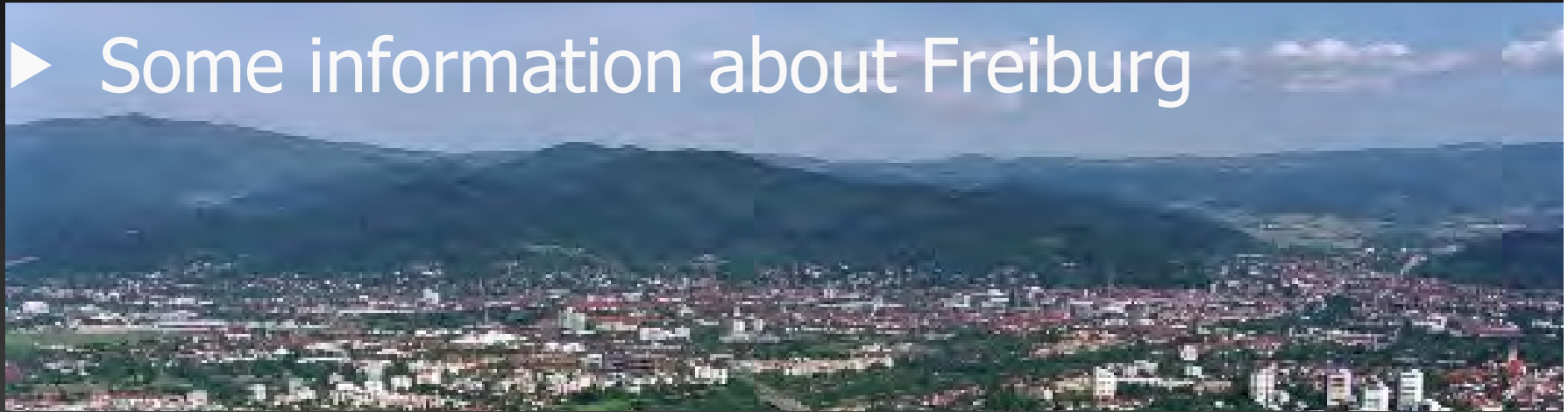
▶ Preface



► Preface



► Some information about Freiburg



Population: 215.000, thereof 30.000 students

Covered Area: 150 km², thereof 40% forest

Employment: 57% Services sector

Unemployment: 6%

Electricity: 50% provided by cogeneration

CO₂ Emissions: 1.9 Million t/a = 9.3 t per capita/a

Private vehicles: 450 per 1000 inhabitants

Tourists: 1 Mio. overnight stays a year; 1/3 foreigners

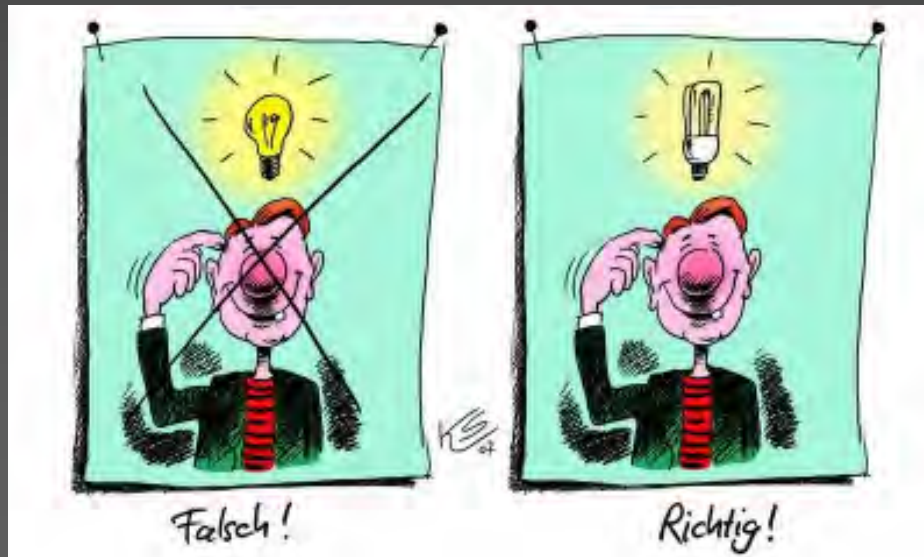
▶ Historical background


- 1975 Anti-nuclear protest
 - 1981 Foundation of solar energy research institute
 - 1986 Freiburg energy supply concept
 - 1992 Award "German Capital of the Environment"
 - 1992 Low-energy construction standard on municipal land
 - 1996 Climate protection concept
 - 2000 SolarRegion Freiburg at world exhibition EXPO 2000
 - 2003-2006 German champion in Solar-Bundeliga contest
 - 2007 New energy and climate strategy
- = plenty of starting points for sustainable development –
but: not a planned development from the beginning!



► Implementation of local strategies

1. Municipalities as stakeholders on local level
2. Implementation of „Energy subject“ within administration
3. Action plan – basic aspects
4. Main fields of action



- 
- ▶ Municipalities as „stakeholder“ on local level
 - ▶ City Council as policy and decision maker
 - ▶ Municipality as consumer itself
 - ▶ Municipal as owner of companies
 - ▶ Municipality as city developer and planner
 - ▶ Municipality as role model

▶ Administration in Freiburg



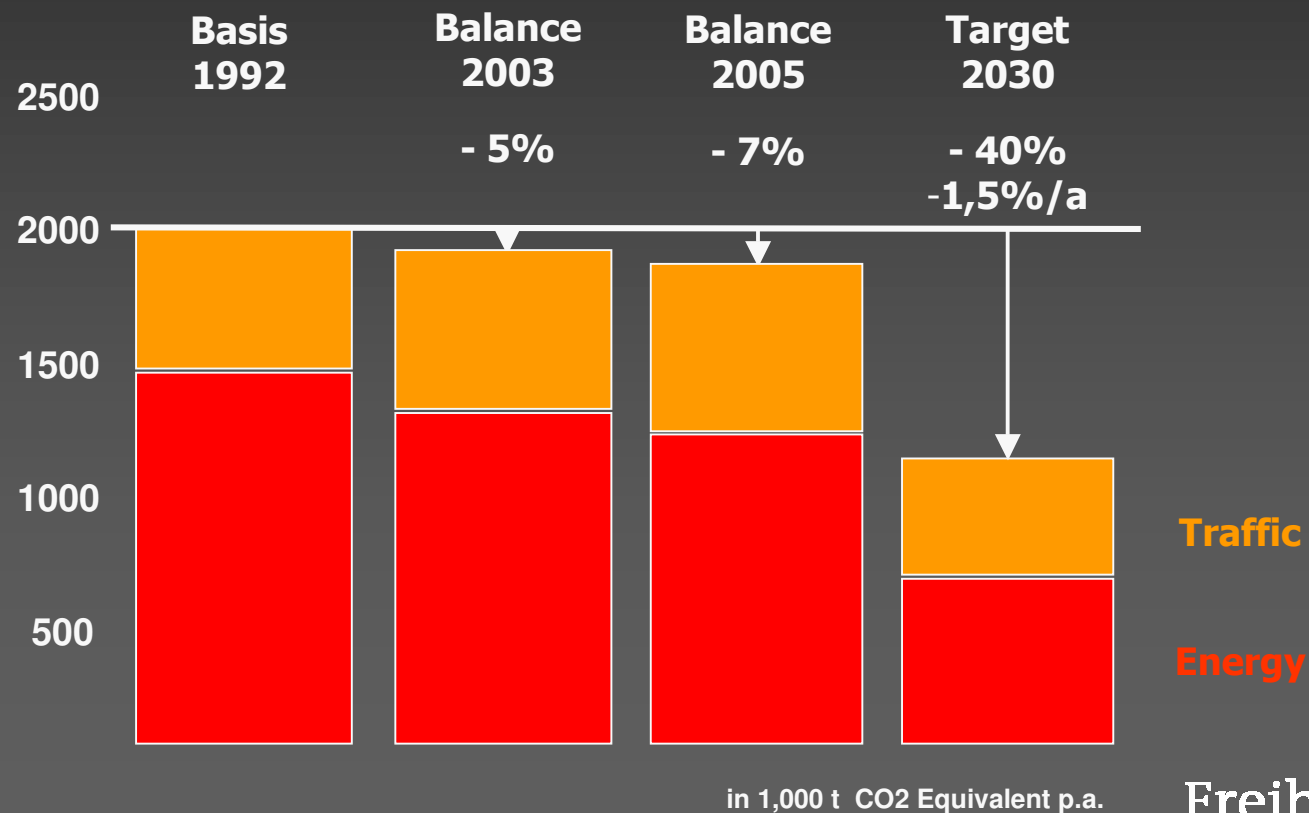
▶ Action plan – basic aspects

- ▶ Analysis: Basic data evaluation
- ▶ Assets and resources - SWOT
- ▶ Vision: Where do you want to go?
- ▶ First steps: Starting points – Pilot projects?
- ▶ Focus: Main/Key actions?
- ▶ Implementation: Create staff unit!
- ▶ Networking: Who could help? Partners?

www.ccre.org
letit.energyprojects.net

► Action Plan - Implementation

1. General Strategy - Realistic and achievable targets
2. Precise Action plan – timeframe and responsibility
3. Regular Monitoring – adjustment if necessary



in 1,000 t CO2 Equivalent p.a.

▶ Main fields of action = E³

1. Energy saving
2. Renewable energies
3. Energy efficiency
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▶ Some examples

- ▶ Energy saving
- ▶ Energy efficiency
- ▶ Renewable energies

- ▶ Energy saving: old buildings subsidy program
- ▶ Germany:
93% of energy consumption for heating buildings is used in buildings older than 25 years!



Infrared thermography

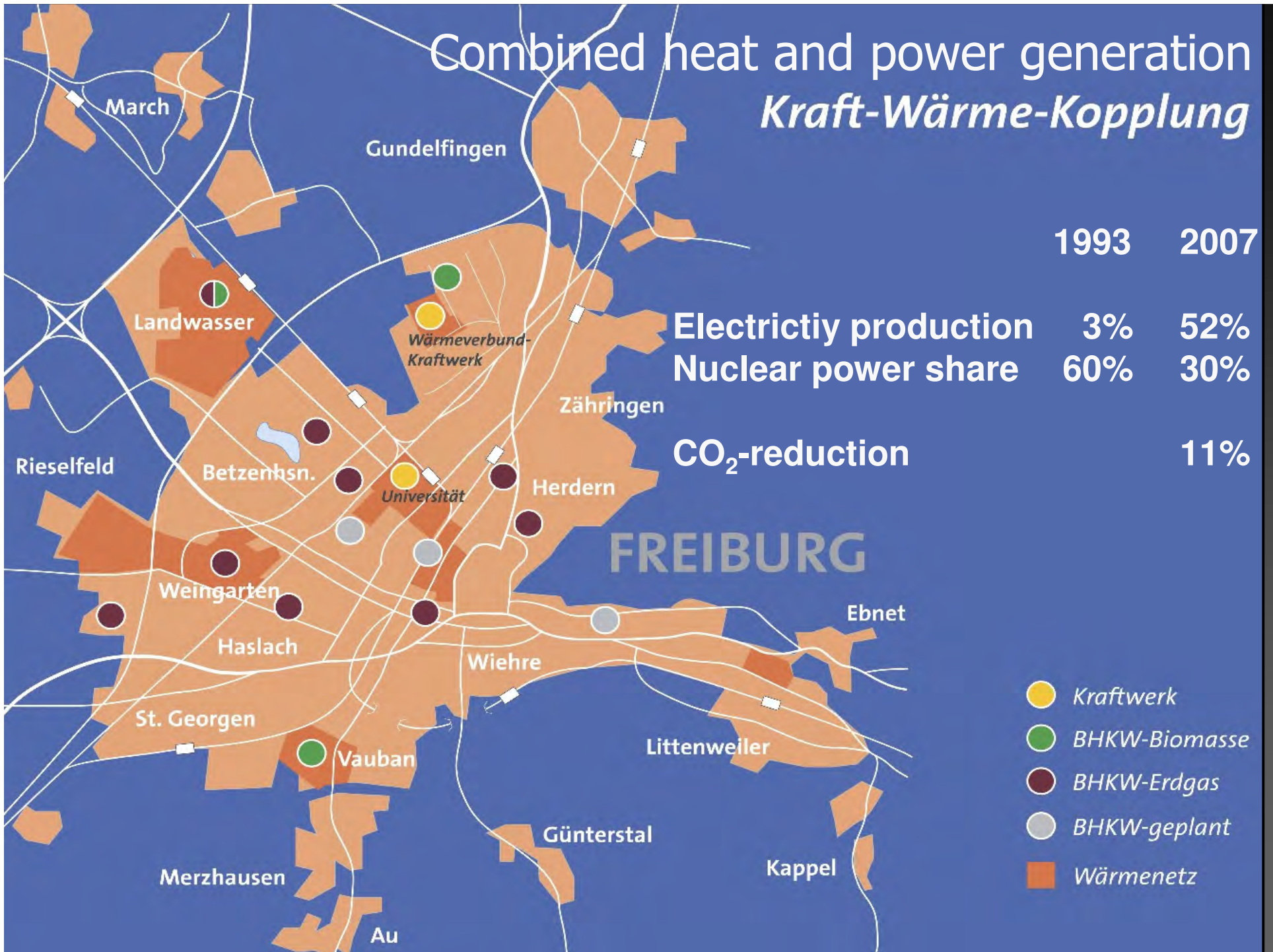
▶ Energy efficiency



▶ District heating co-generation: using methane from urban landfill



Combined heat and power generation *Kraft-Wärme-Kopplung*



	1993	2007
Electricity production	3%	52%
Nuclear power share	60%	30%
CO ₂ -reduction		11%

- Kraftwerk
- BHKW-Biomasse
- BHKW-Erdgas
- BHKW-geplant
- Wärmenetz

► Renewable energies



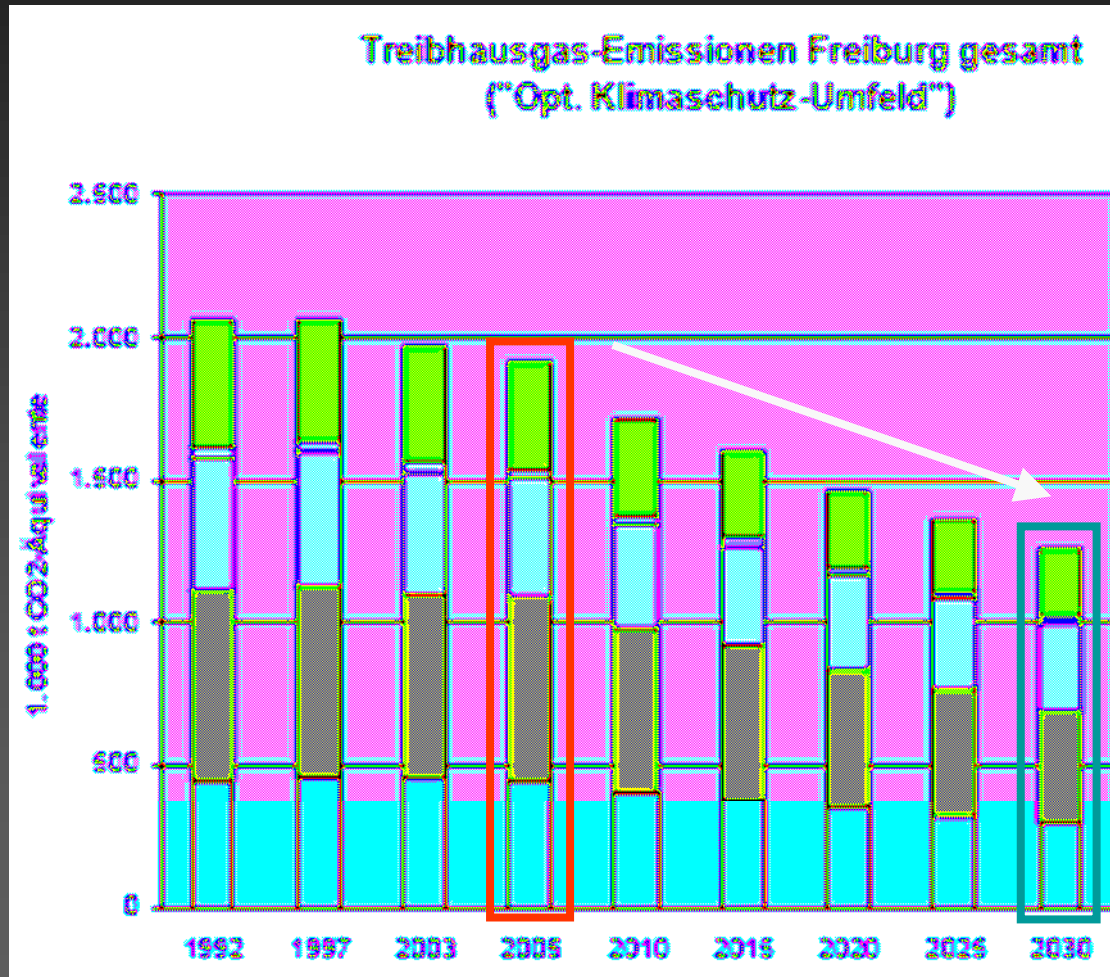


▶ Renewable energies

- ▶ Regional energy company: Subsidies for renewable energies
- ▶ Municipality: Provide suitable areas for example wind turbines
- ▶ Municipality: Favourable property conditions for innovative businesses



▶ Main „energy consumers“ – „CO₂ producers“



traffic
 city administration
 industry
 craftsmen, trade...
 households