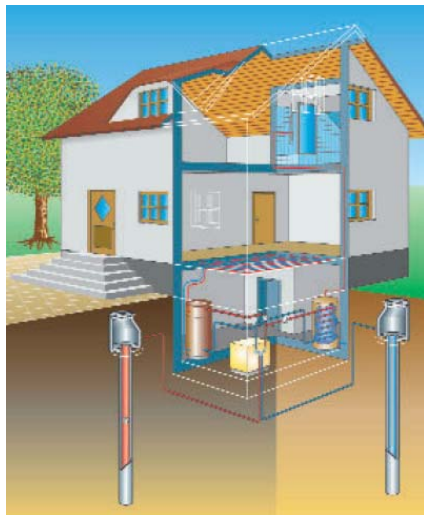




Energy in Rural Areas: Conceptual orientation 17.5.2010

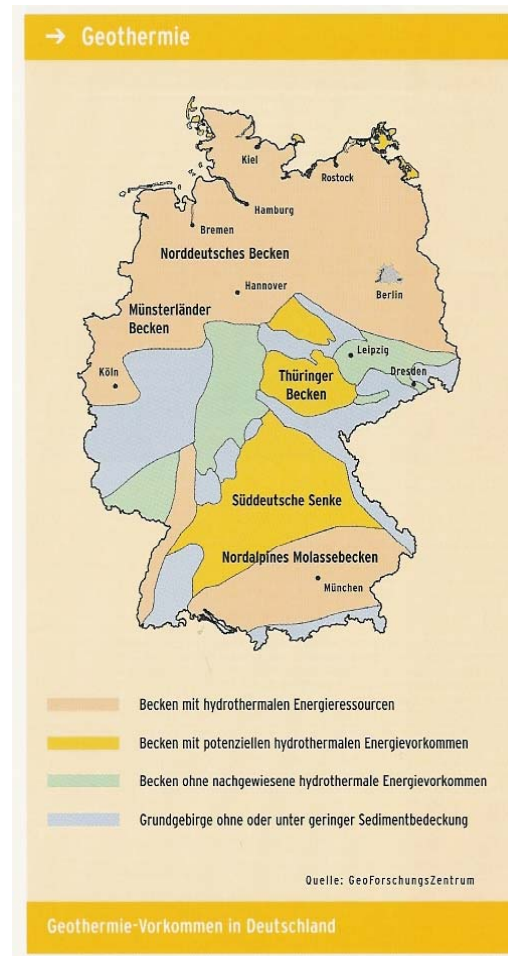


Near-surface or shallow ground geothermal energy

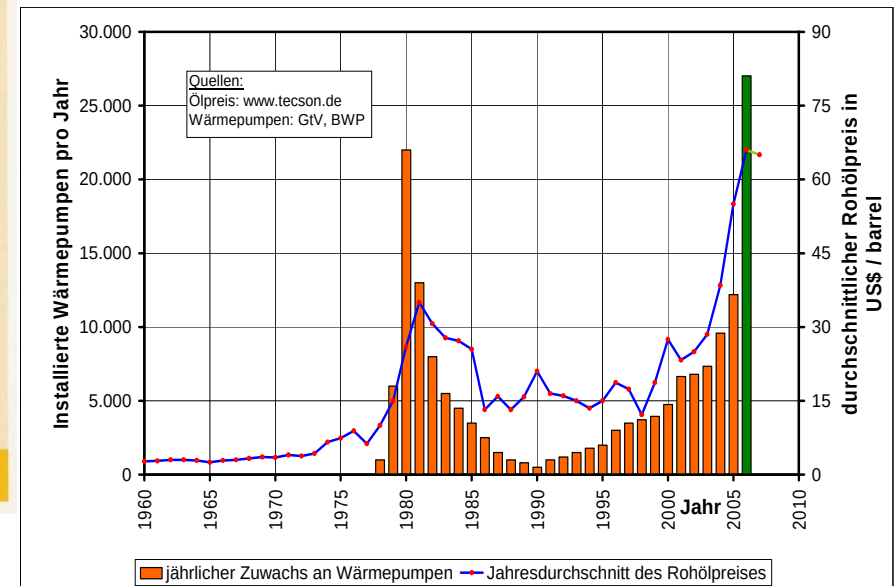


Above:
Example of shallow
ground geothermal
energy

right:
Geothermal
potential in
Germany



Below:
Heat pump installations
following oil price variations in
Germany





CO₂-reduction by increasing energy efficiency

Can energy efficiency be increased at all in Germany **without loss of comfort?**

Yes !

- ➡ Economic Potential for Energy reduction around 20%
- ➡ Technical Potential for Energy reduction 40%
- ➡ long-term energy saving potential 60-75%



Climate protection needs longterm thinking

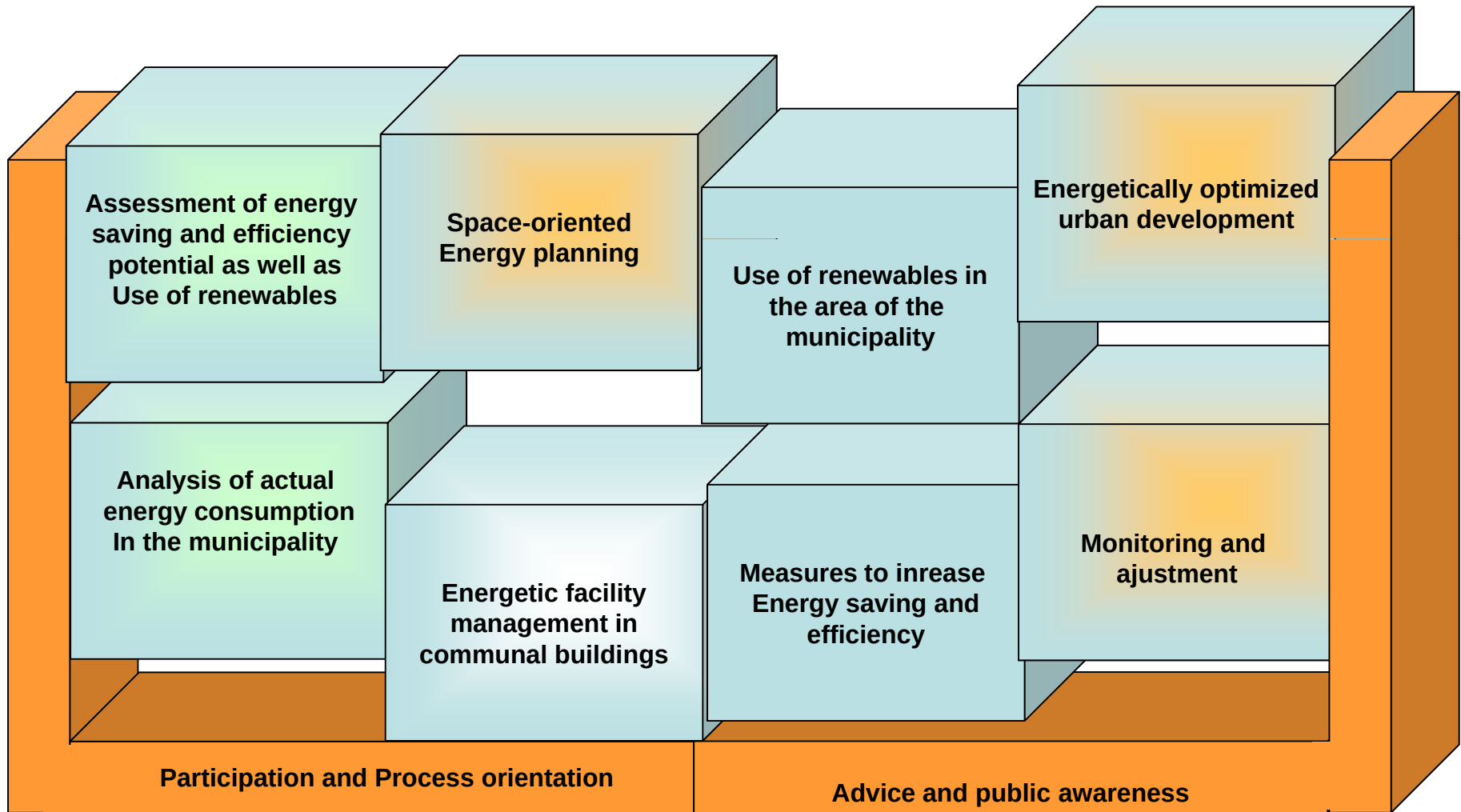
- **Guiding vision: the energetic triple-jump**
 - Energy ... 1. saving 2. efficiency 3. use renewable sources
 - Combination increases positive effects



- **Energy concept considering the increase of efficiency instead of a unconnected individual measures**

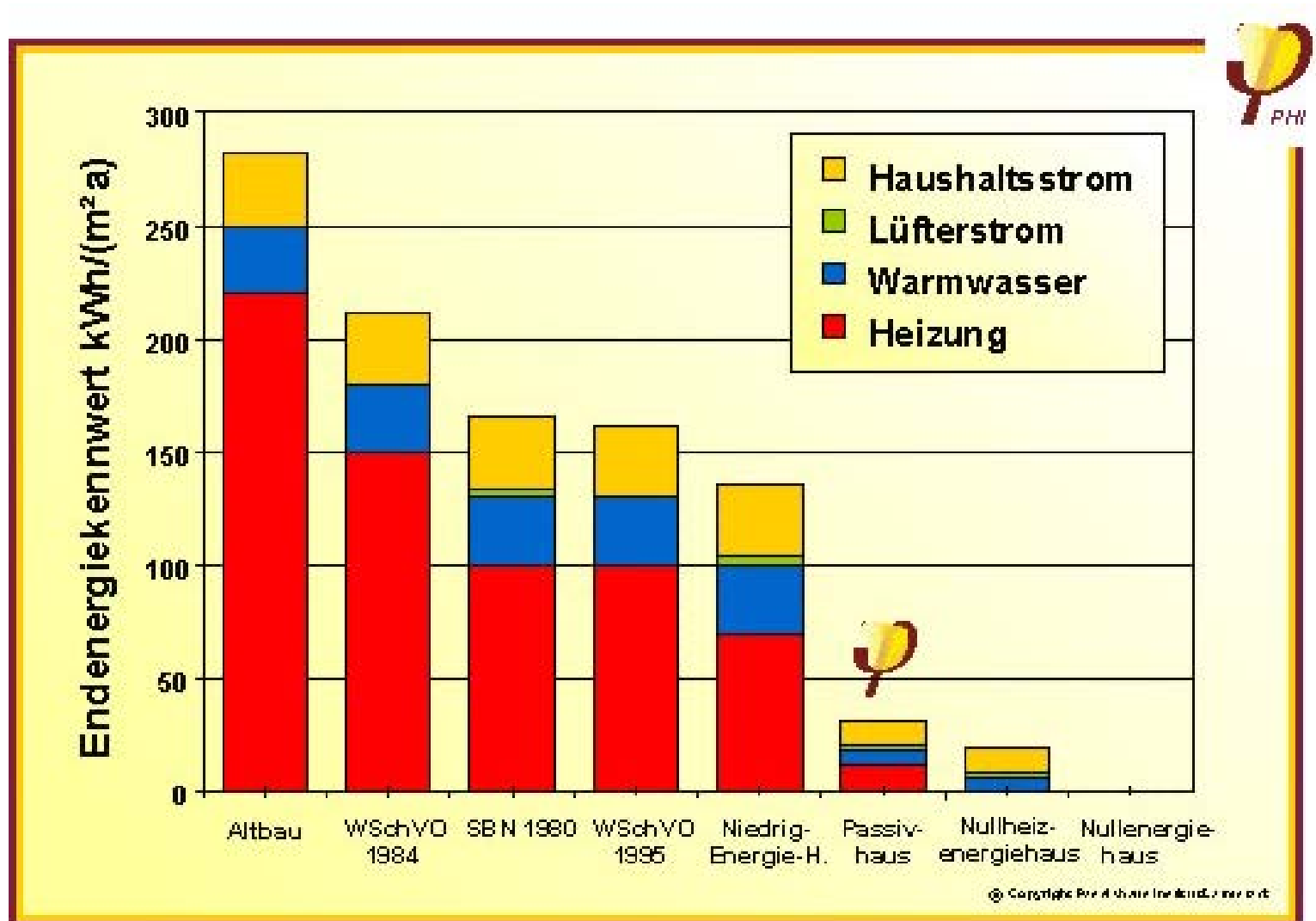


Communal energy programmes – principle of construction-kit



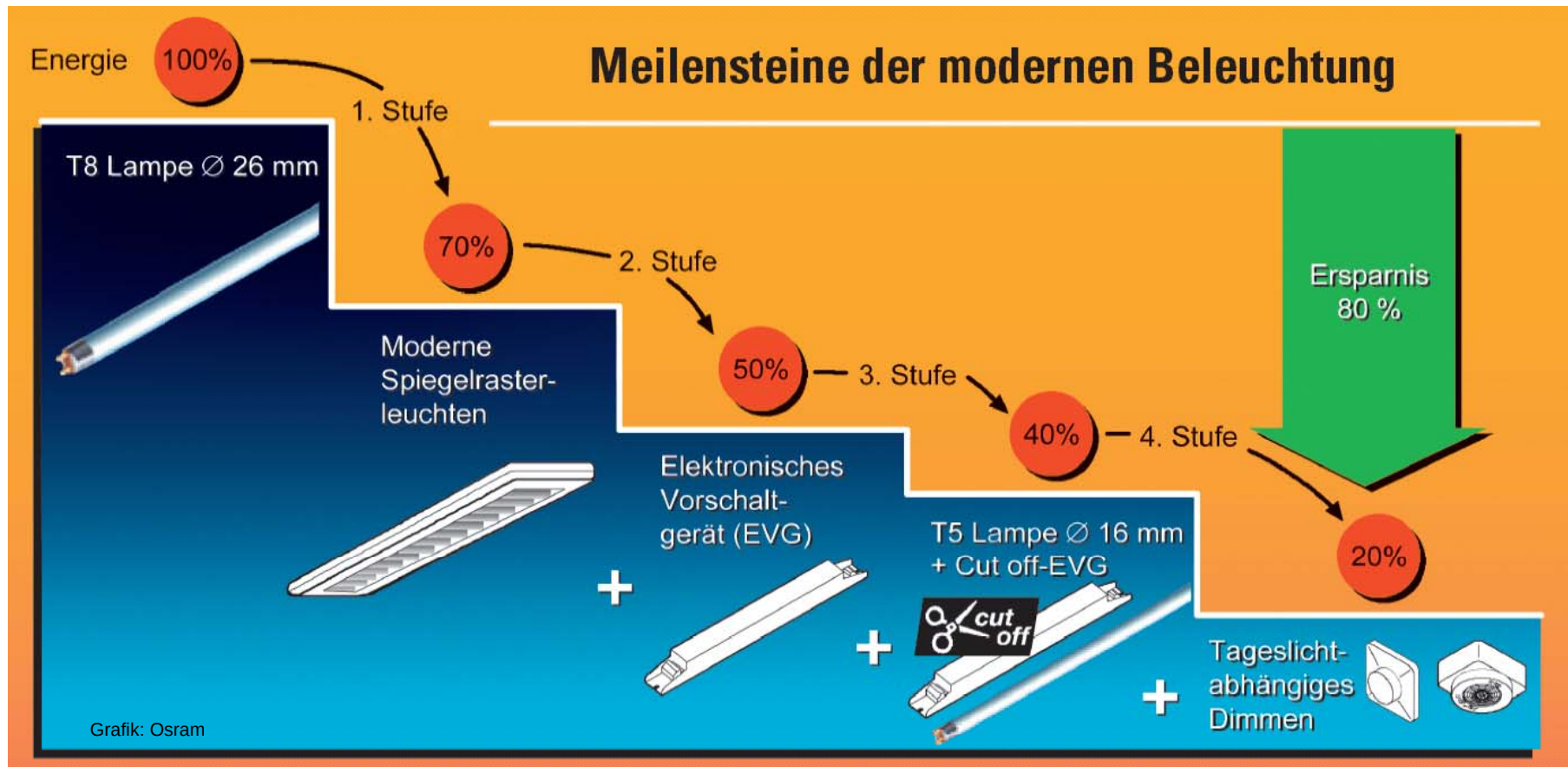


Example: Increase of efficiency in buildings





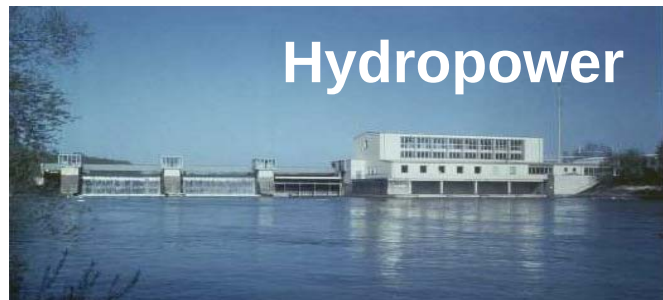
Example: Efficient energy use in illumination





Example Energy Production Efficiency

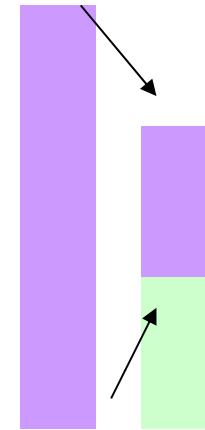
- Modernisation of power plants
- Improvement of the efficiency factor with existing technologies
- Promotion of Renewable energy production
- Power management: optimizing the energy mix



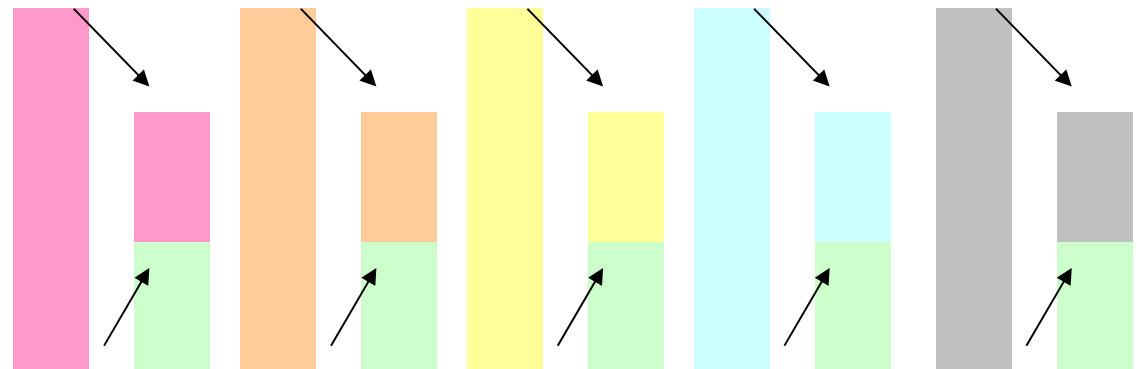


Common understanding: „Combination of measures“

- Many municipalities have the objective,
 - To decrease the total energy consumption and
 - To increase the proportion of renewable energies



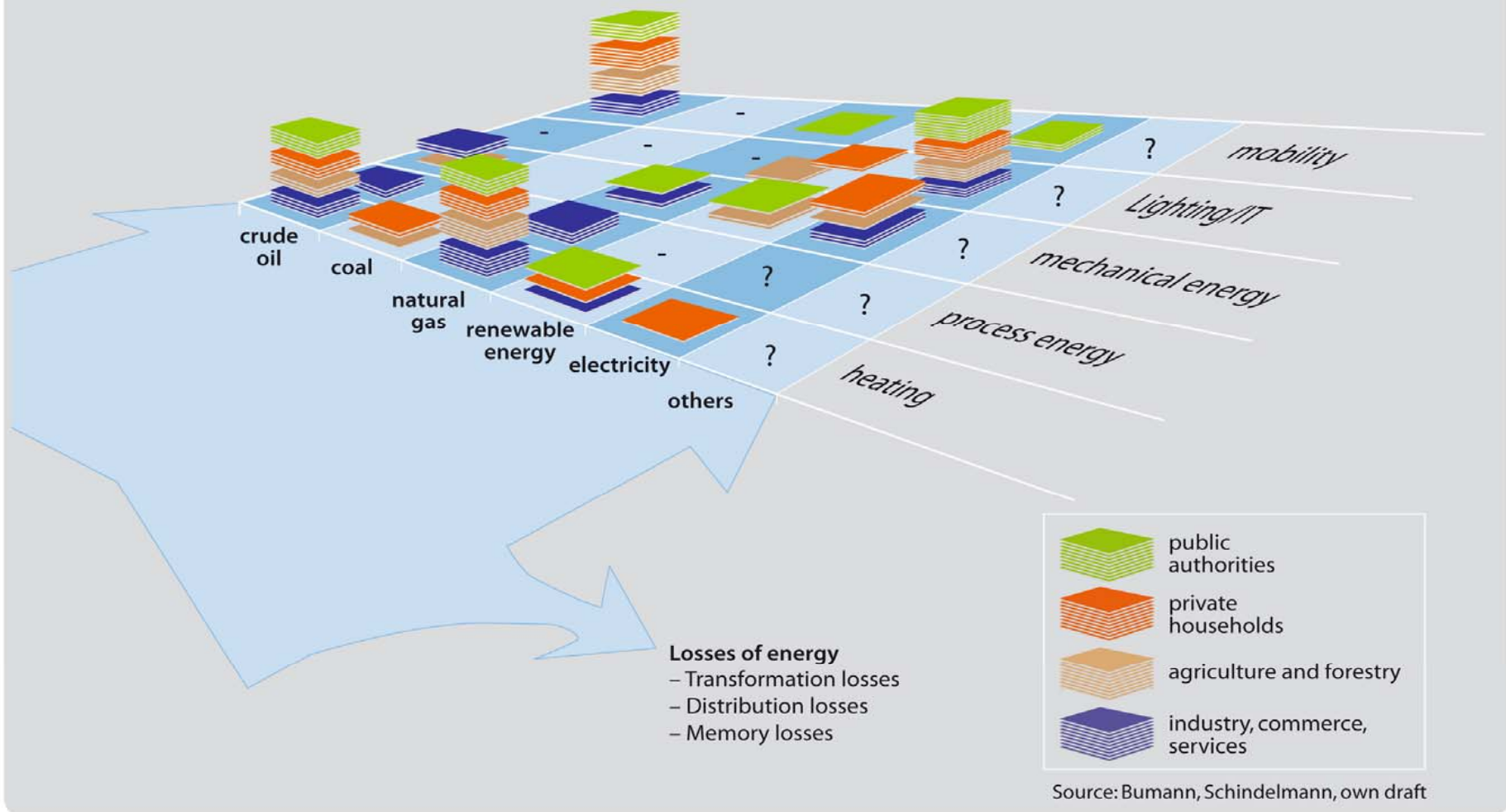
- Which are the possible fields of intervention?
What is economically efficient and environmentally sound?





Common Understanding: „Basic Data“

Fictitious energy consumption situation of a municipality





National Proportions of Renewable Energies regarding bruto energy consumption by 2020 – Renewable-Energy-Directive - EU

EU Member States	proportion 2005	Objective: proportion 2020
Belgien	2,2 %	13 %
Bulgarien	9,4 %	16 %
Dänemark	17 %	30 %
Deutschland	5,8 %	18 %
Estland	18 %	25 %
Finnland	28,5 %	38 %
Frankreich	10,3 %	23 %
Griechenland	6,9 %	18 %



National Proportions of Renewable Energies regarding brutto energy consumption by 2020

EU Member States	proportion 2005	Objective: proportion 2020
Irland	3,1 %	16 %
Italien	5,2 %	17 %
Lettland	32,6 %	40 %
Litauen	15 %	23 %
Luxemburg	0,9 %	11 %
Malta	0,0 %	10 %
Niederlande	2,4 %	14 %
Österreich	23,3 %	34 %
Polen	7,2 %	15 %



National Proportions of Renewable Energies regarding bruto energy consumption by 2020

EU Member States	proportion 2005	Objective: proportion 2020
Portugal	20,5 %	31 %
Rumänien	17,8	24 %
Schweden	39,8 %	49 %
Slowenien	16 %	25 %
Slowakische Republik	6,7 %	14 %
Spanien	8,7 %	20 %
Tschechische Republik	6,1 %	13 %
Ungarn	4,3 %	13 %
Vereinigtes Königreich	1,3 %	15 %
Zypern	2,9 %	13 %

Energy Strategy on District Level – the example of Neumarkt in der Oberpfalz

