

About the benefits of a CO₂ transport and storage infrastructure in Europe

A coal industry perspective

EP Round Table on Coal – 15th September 2010

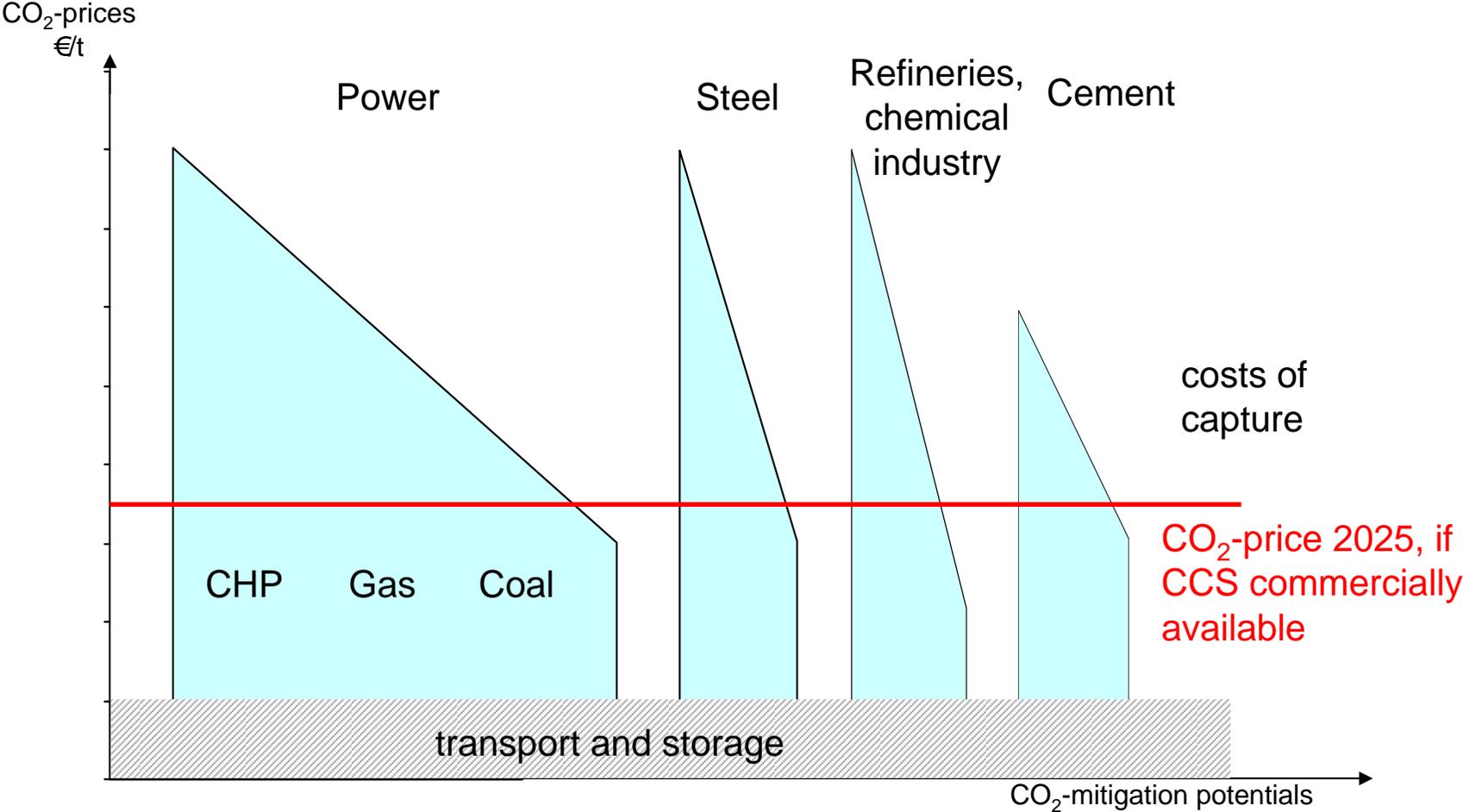
Stand: 17. August 2010

CO₂ infrastructure as location factor

- The utilization of oil, gas and coal, increasingly after 2020 and – as things stand today – only possible at all in 2050, with carbon capture.
- Security of supply in the electricity sector and industrial production are linked with CCS technology in the medium term already.
- A CO₂ transport and storage infrastructure will be needed after 2015/2020.

The need for carbon capture and a CO₂ transport and storage infrastructure follows from the climate targets and the fact that Central Europe is to remain an industrial region.

CO₂-infrastructure provides planning reliability as CO₂-prices become calculable (qualitative illustration)



Decision-makers know their costs of capture and are able to estimate the operating expense for transport und storage, if a CO₂-transport-storage-infrastructure is available. With the exhaustion of the cheapest mitigation potentials CO₂-prices rise slowly over time.

Bild 2

Major CO₂ sources in Central Europe

	Number of operations > 10 m t/a	Number of operations 10 – 3 m t/a	Number of operations 3 – 0.35 m t/a	Total CO ₂ emissions of selected operations, in m t/a
Netherlands	0	10	33	86
Belgium	0	5	33	51
Germany	9	23	153	434
Poland	2	10	56	162
Czech Rep.	0	8	33	74
Total	11	56	308	807

Source: EPER 4/2009 – Data for 2004

Reducing complexity

- CCS-Demonstration as integrated technological process proves to be difficult; lack of concepts for industrial application
- Separation of tasks in industrial-scale application reasonable:
 - Capture conducted by operator of facility:
 - Technology exists, industrial application needs incentives: three processes available in power generation
 - Setup and operation of CO₂ transport- and storage-infrastructure by specialized companies:
 - CO₂-transport tested, acceptance and regulation needed
 - CO₂-storage needs balance of interests between regions and utilization competition

Government action guarantees non-discriminatory access to a CO₂ – infrastructure and ensures sufficiently large capacities in the future

CO₂ sources > 3 m t/a and potential storage regions



Source: EPER 4/2009 – Data for 2004



CO₂ storage formations

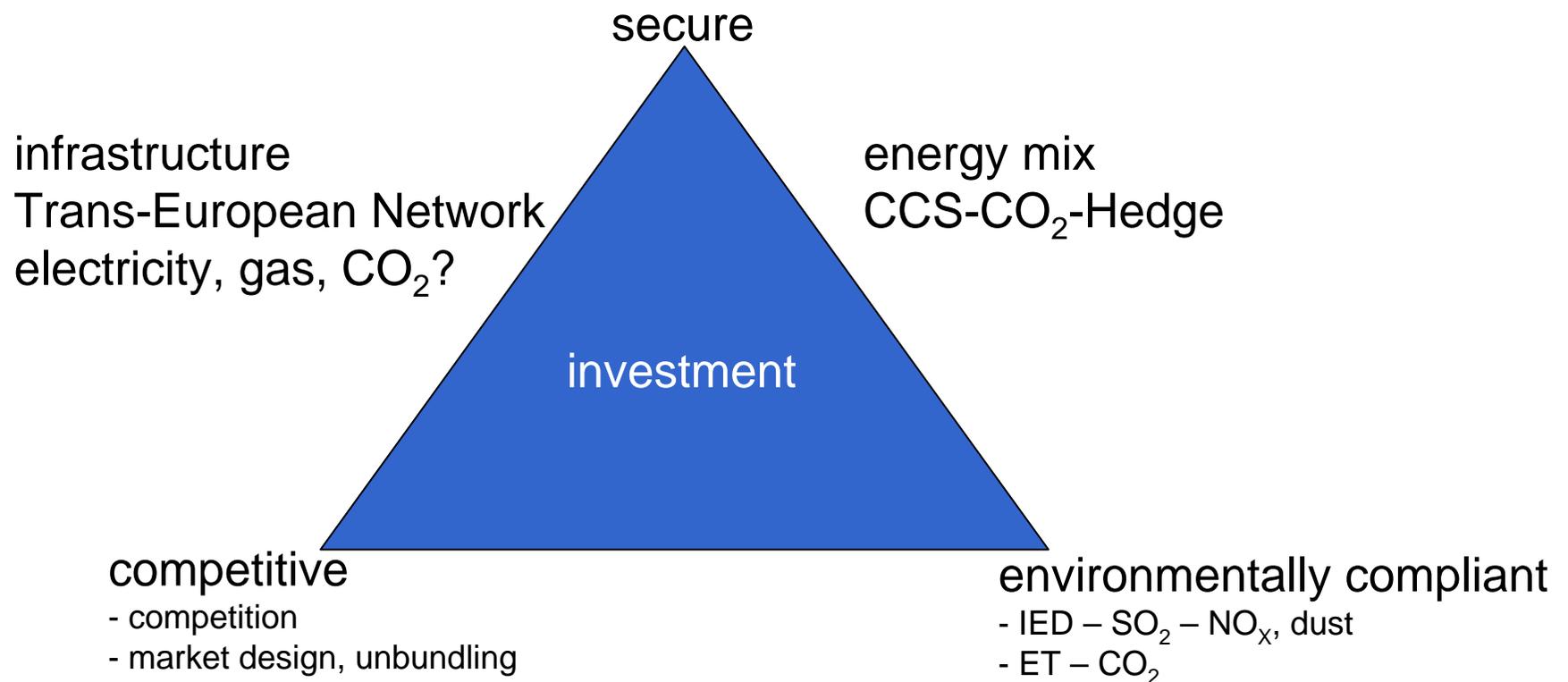


Oil/gas fields



Focus of CO₂ emissions

Objectives in energy and electricity policies



Who is responsible for “security” of supply in electricity sector?