Future oil price developments

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- Oil price crises in the past
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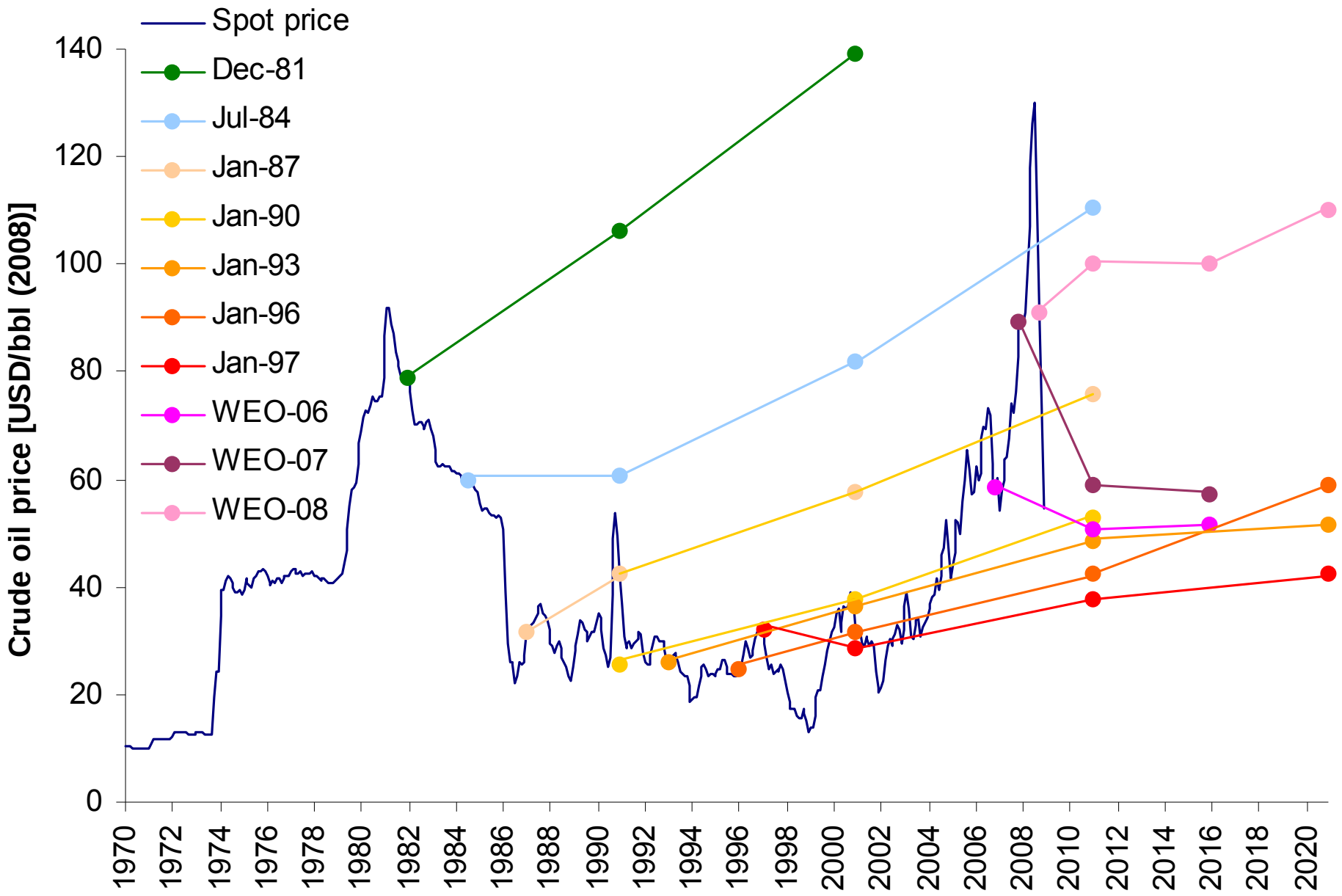
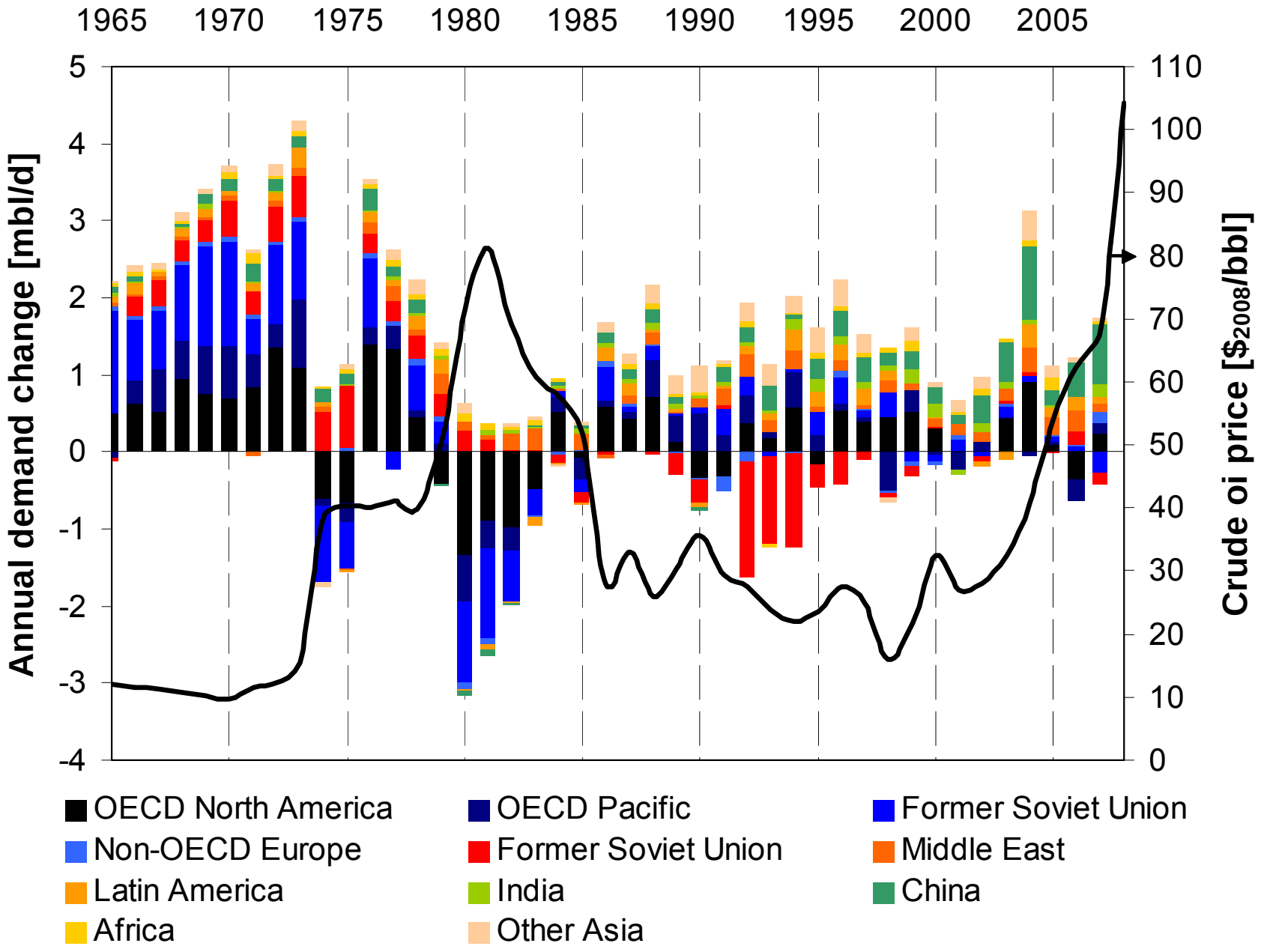
Different oil price forecasts in real prices



Annual change in global oil consumption and crude oil price



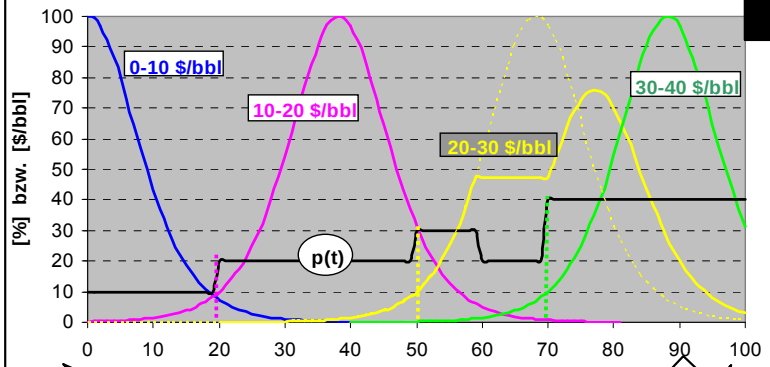
Linkage of the oil market model with the global energy system model

Cartel and Hubbert rent,
Gas price linked to oil price

Oil market model LOPEX

Non-OPEC module

Hubbert simulation



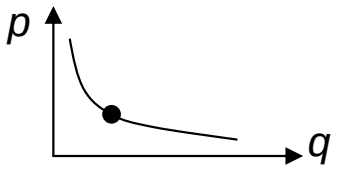
Oil price

Iterations until convergence

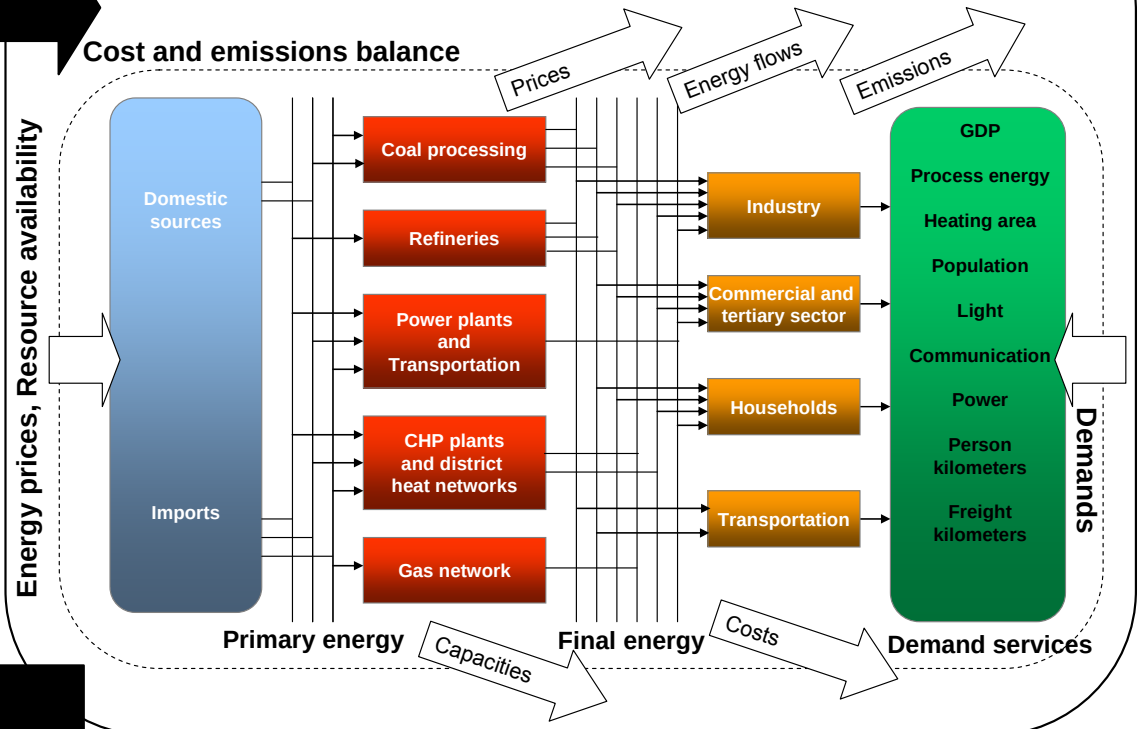
Non-OPEC production

OPEC modul

$$[dem(P(t)) - nopt(t)] \leftrightarrow P(t)$$

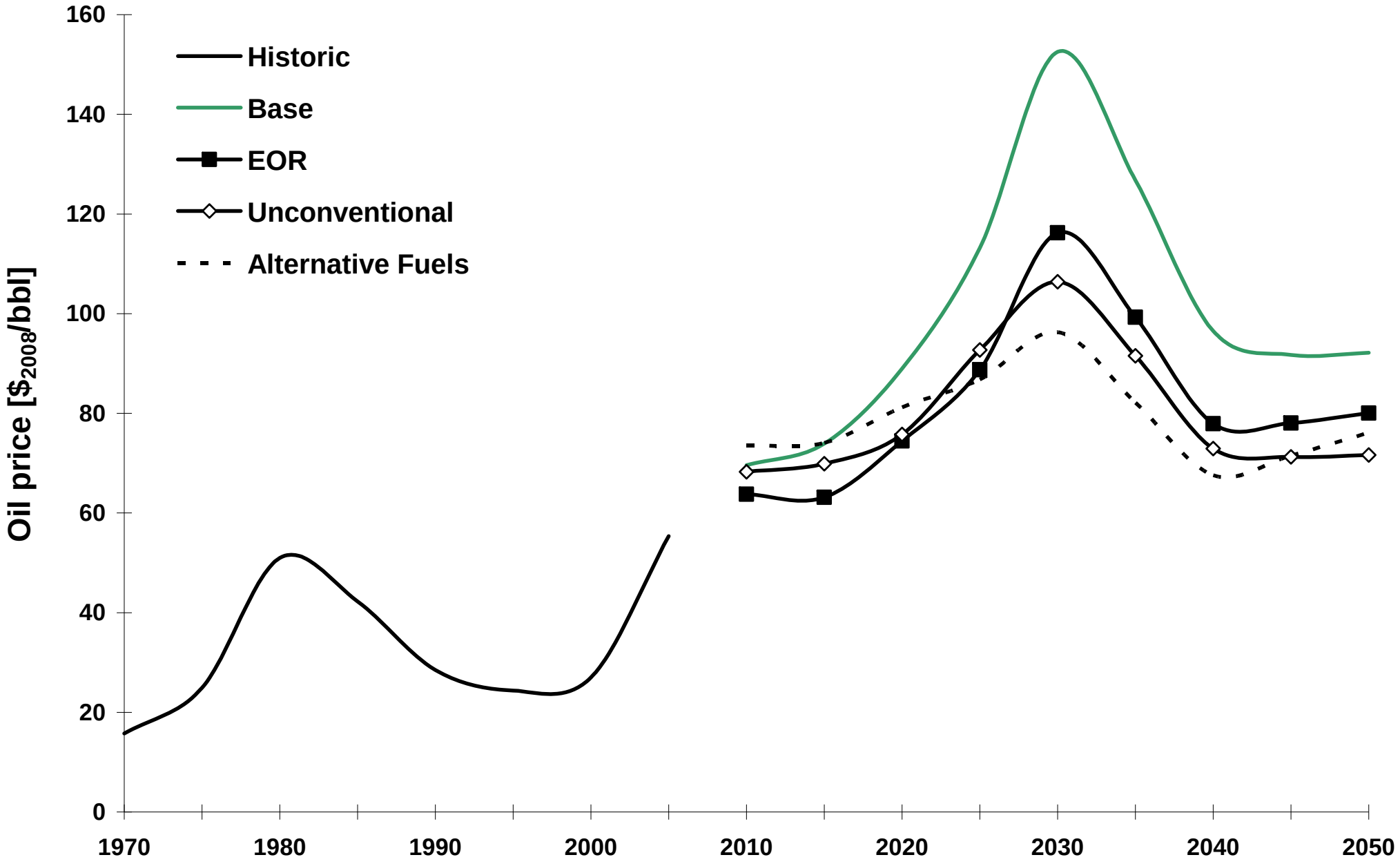


Global energy system model

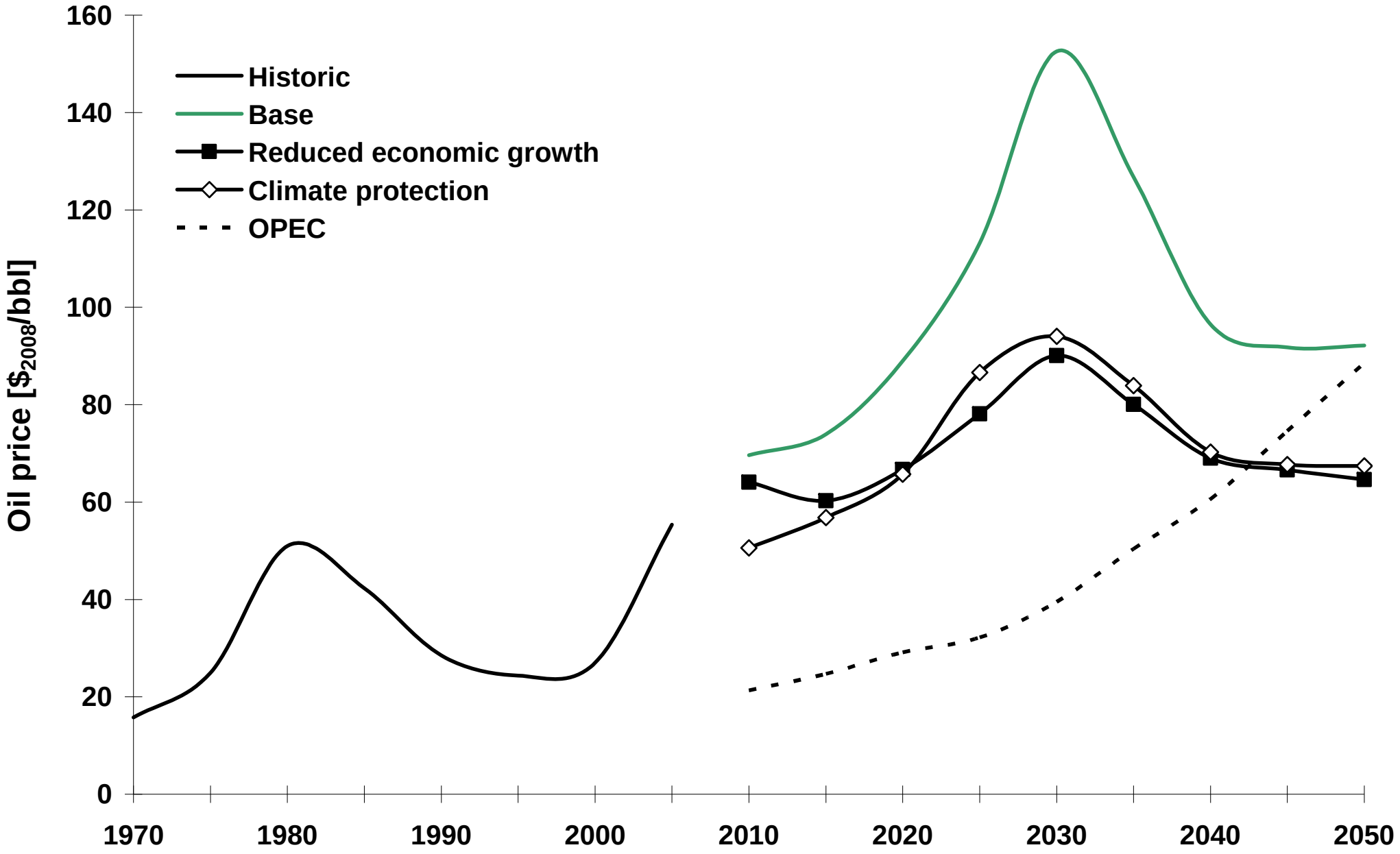


Reference point (oil demand and price)
for demand function

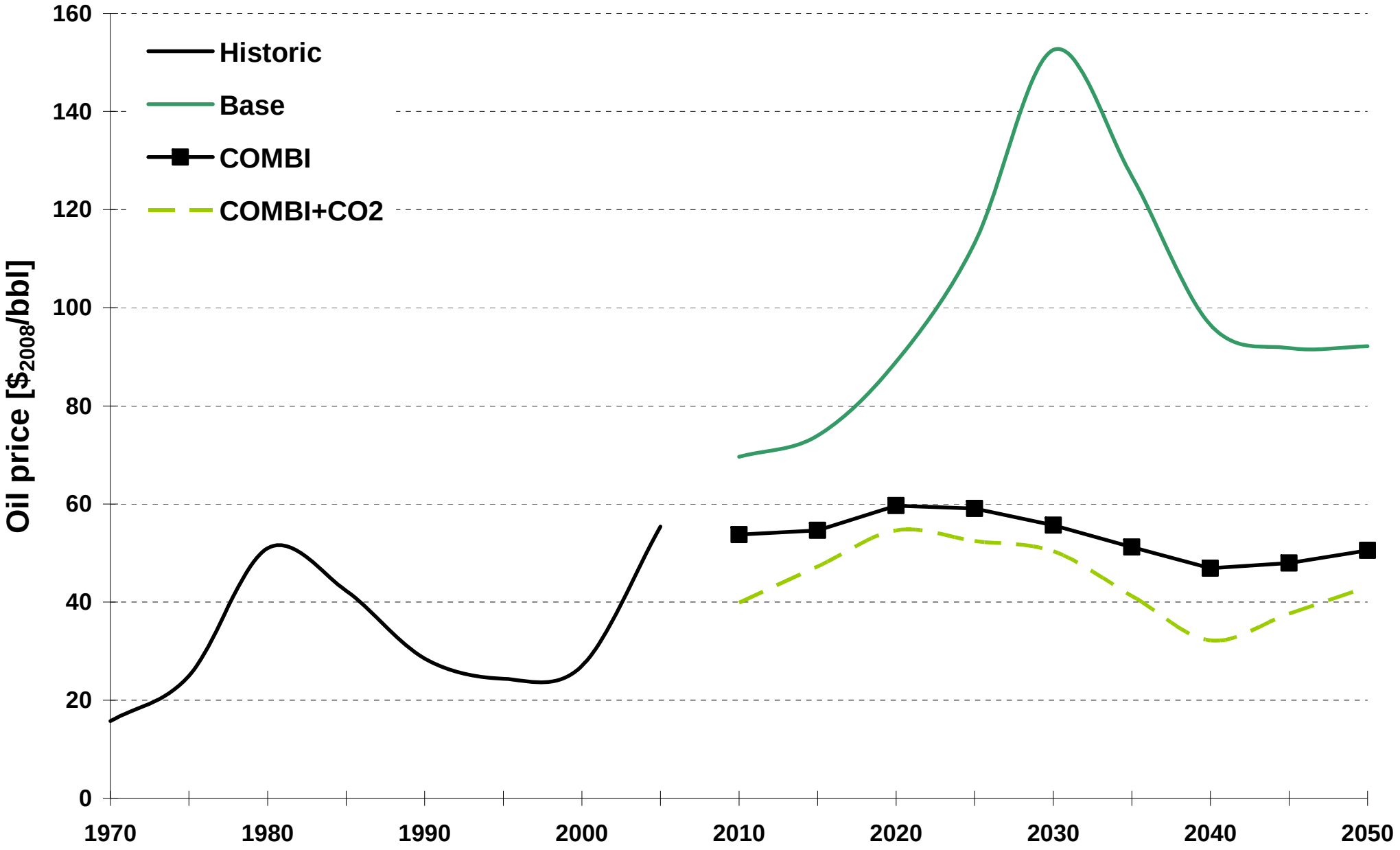
Oil prices in the scenarios BASE, EOR, Unconventional and Alternative Fuels



Oil prices in the scenarios Reduced Economic Growth, Climate Protection and OPEC



Oil prices in the scenarios COMBI and COMBI+CO2



Conclusions

- Under the conditions of the base scenario the oil price would peak in 2030 at about 150 USD/bbl because of the increase of the market share of the OPEC cartel above 44%
- Price (and demand) reductions can be achieved by the following measures:
  i. Reduced global economic growth
  ii. Introduction of CO_2 mitigation policies
  iii. Increased direct (e. g. biofuels) and indirect substitution (e. g. electrification) of oil products on the demand side
- Supply side oriented measures can reduce the market power and the price:
  i. Increased production from unconventional oil (oil shale, oil sands)
  ii. Better recovery rate through enhanced oil recovery (EOR)
- The behaviour of the OPEC cartel is the most important price determinant
- **For the future a return to the low oil prices of 20 to 30 USD/bbl observed after the first two oil price crises appears very unlikely**

Thank you for your attention !