Forest management and policies in front of biomass, energy, climate and biodiversity issues

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with contributions of
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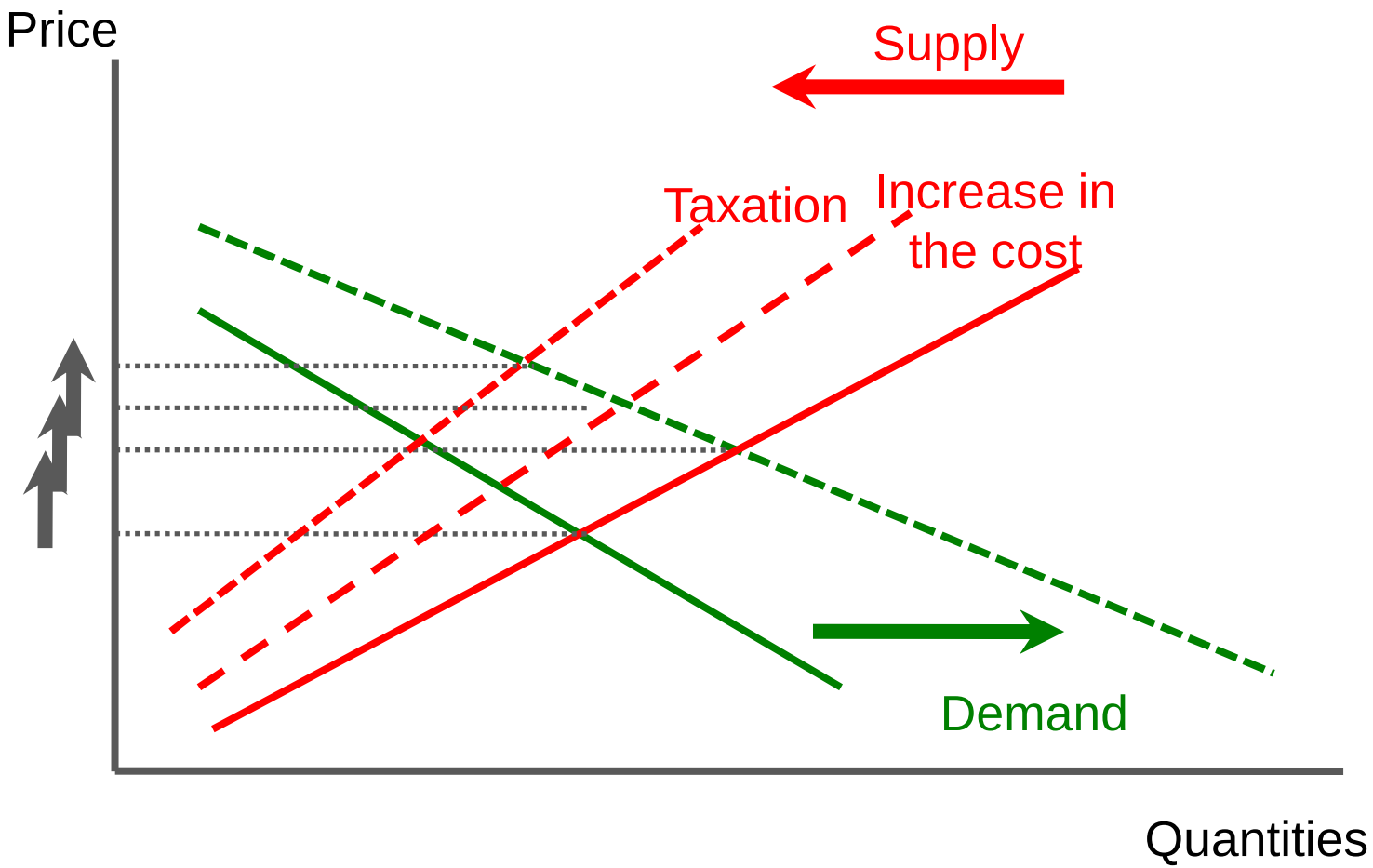
Introduction

- Historical influence of economic activities on forests
  - Agriculture on the edge of the forest
  - Energy in the hart of wood
- Importance to be worried about future evolutions
- Main questions
  - Which energy cost in the medium term?
  - Which wood price in the medium term?
  - Which forest contributions to energy?
  - Which available forest resources?
  - Which balance between biomass and biodiversity?

Which future energy cost?

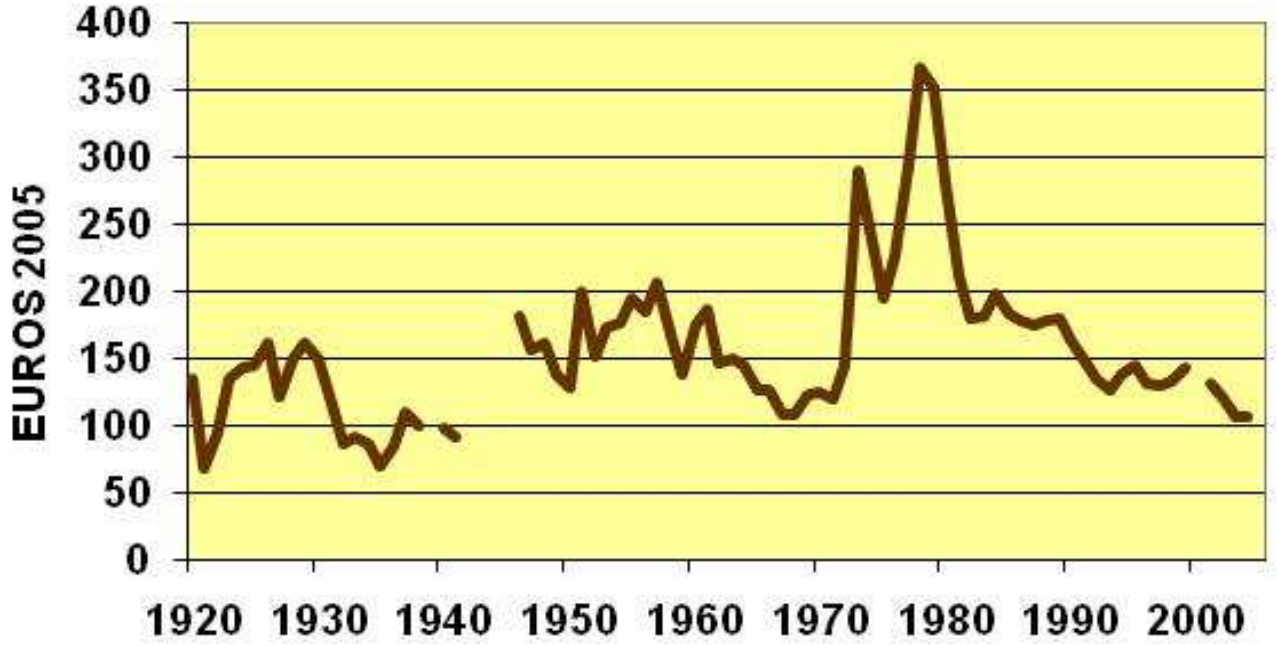
- World consumption of energy
  - Doubling in 30 years (+2,3%/yr)
  - Population and standard of living increase (emerging countries)
  - Political objectives will be hard to reach (division by 2 in 40 yrs)
  - International Energy Agency : +0,8 to +1,6%/yr (2006-2030)
- Energy resources
  - 2020-2040: Oil and gas supply growth < demand increase
  - Much coal but environnemental problems (lower yield, pollution)
  - Nuclear power is controversial
  - Renewable energies cannot probably be the only solution
- Future energy cost
  - Economic regulation (price) and environmental regulation (tax)
  - High future energy cost (price +tax) if no economic crisis
  - Likely fluctuations

Which future energy cost?



Which future roundwood price?

- High fuelwood price
- AND high timber price
- Price fluctuations should be managed
- The example of oak over 47,5 cm in diameter (data from ONF, INSEE)



Which forest contributions to energy?

- Development of short rotation coppice
- Decrease of harvest losses
- Less delayed harvests
- Decrease of rotation age

- Harvest outside forest
- Better use of sawmill and pulpmill residues
- Better recycling
- Better heating systems

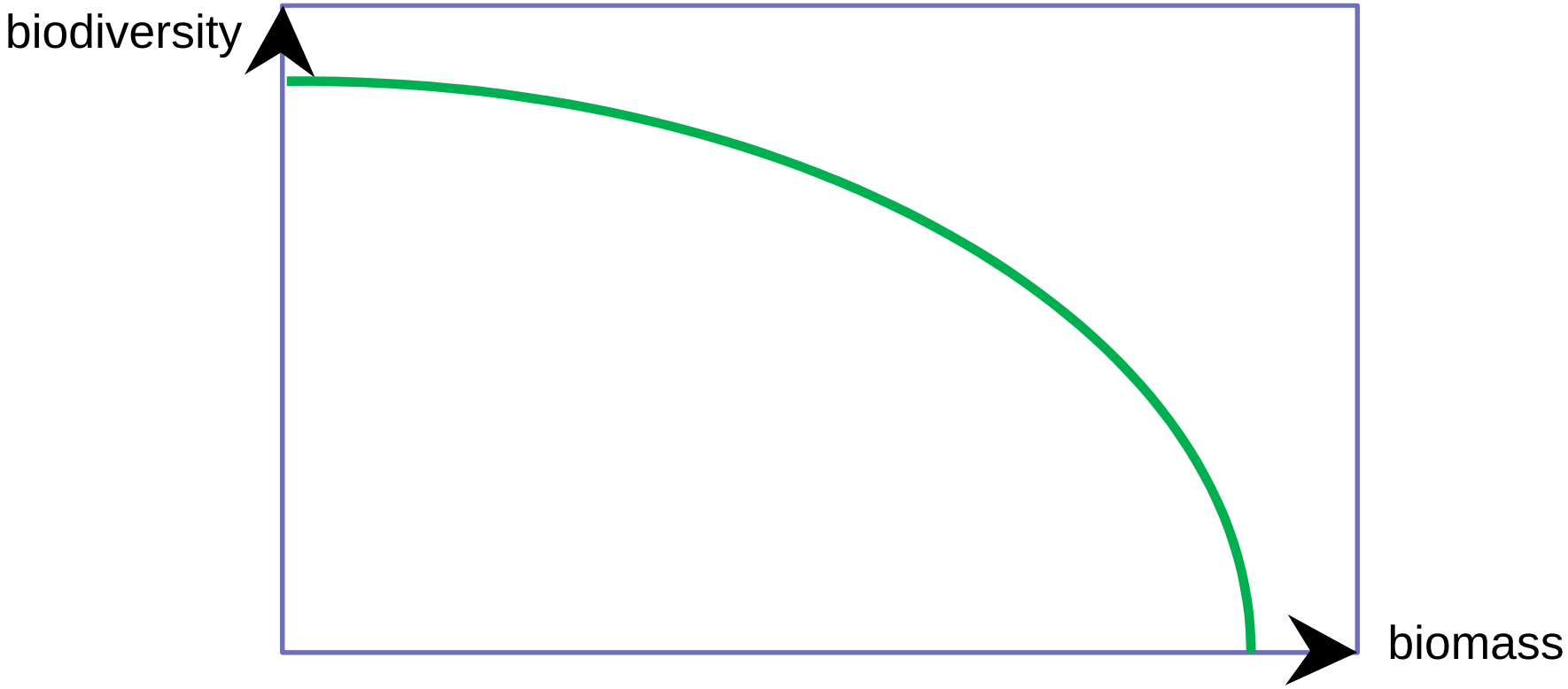
- From energy consuming materials to forest products

Which available forest resources?

- The annual increment is only partly removed
  - 2/3 in France
  - Similar figures in Europe
- Several reasons
  - Imbalance of stages
  - Difficult access
  - High harvesting costs
  - Low roundwood demand at the moment
  - Owner behaviour
- Additional available resource in France : about 30 Mm3
- Economic conditions of increased removals:
  - High wood prices and price elasticity of roundwood supply

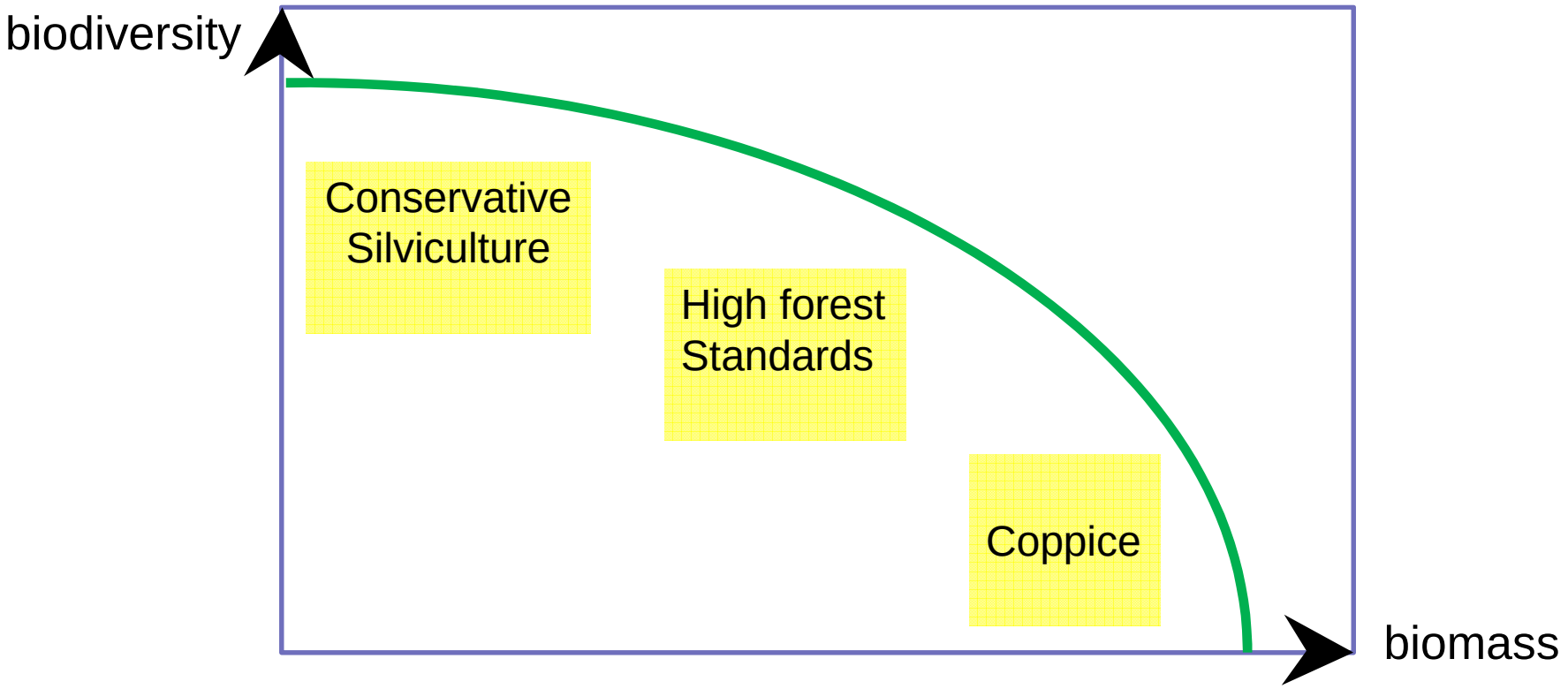
Which balance between biomass and biodiversity?

- Quantitative analysis
- Production frontier



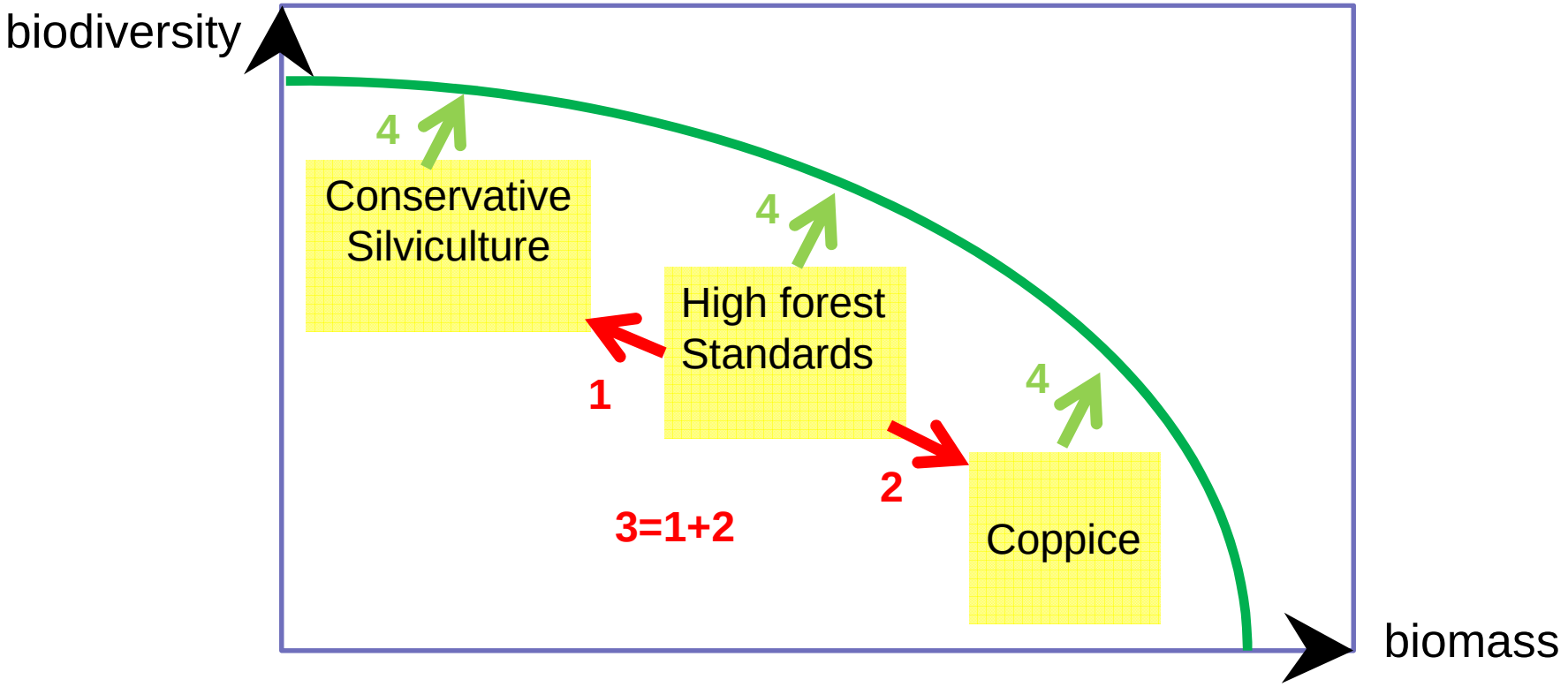
Which balance between biomass and biodiversity?

- Stand structure



Which balance between biomass and biodiversity?

- Possible trends
- Economic analysis (red→ green)



Conclusions

- Likely increase/fluctuations of energy costs
- Likely increase of all roundwood prices
- Interest to support all kinds of bioenergy
- Interest to support timber, not only bioenergy
- Interest to adapt supply to demand (instead of technical supply)
- Sustainable forest management as a rule

- Thank you for your attention

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