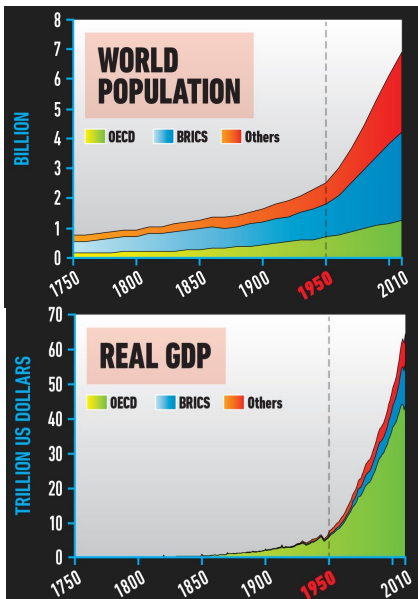
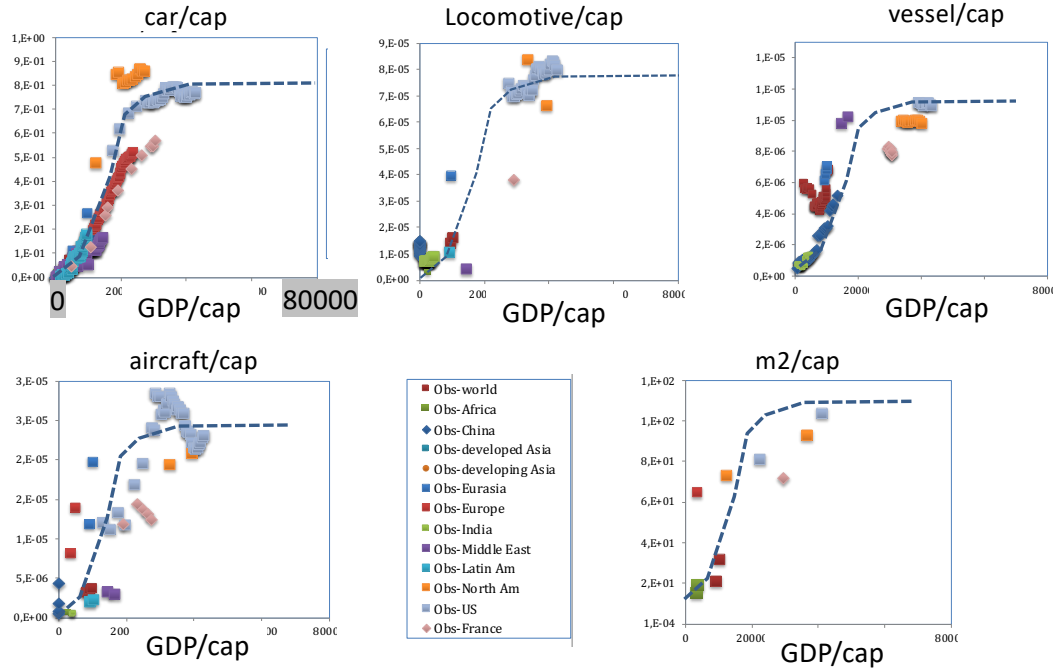
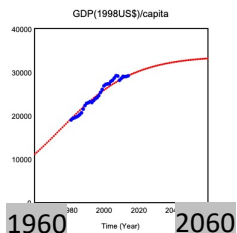
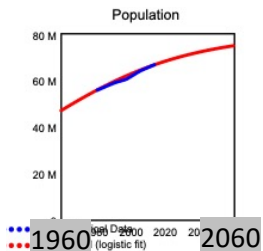


Consommation/hab - tendanciel

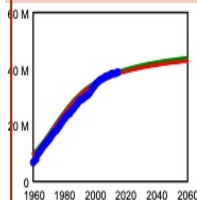


Population & GDP

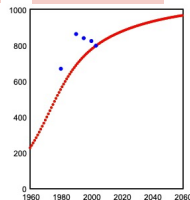


Infrastructure

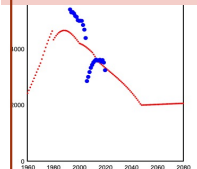
Automobiles



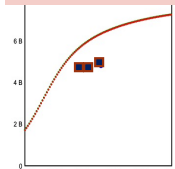
Avions



Locomotives



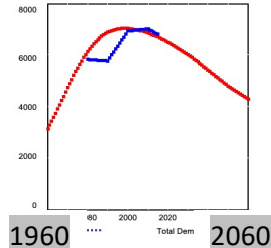
m2 batiment



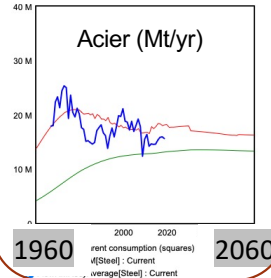
Appareils domestiques, etc

Ressources

Energie (PJ/yr)

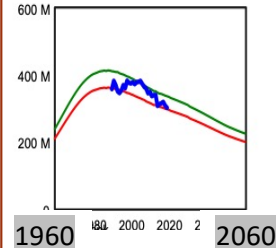


Ressources minérales

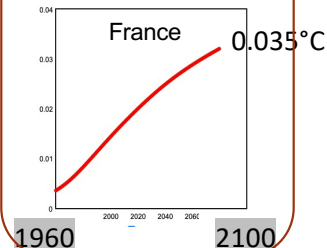


Impacts

CO2 (Mt/yr) - émissions locales



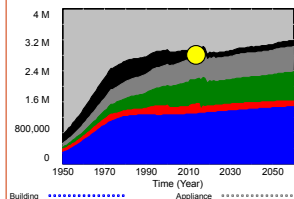
Contribution locale au réchauffement global



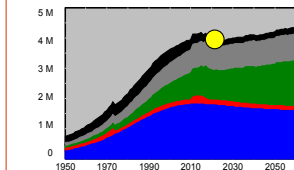
La demande dépend des évolutions de PIB/hab – ex: (Cu en t/yr)

Developed countries

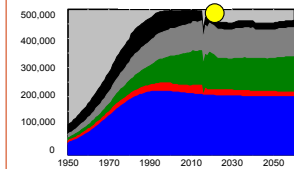
US



Europe

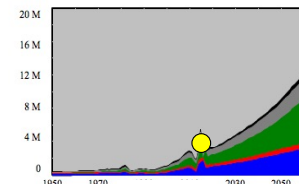


France

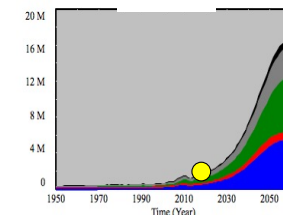


Developing economies

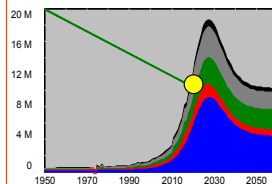
Africa



India

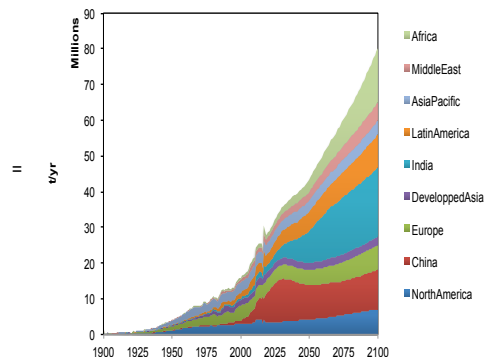


China



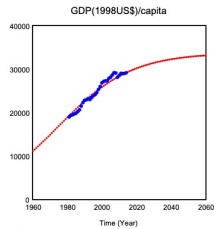
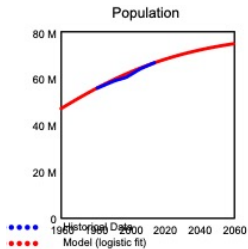
+

World

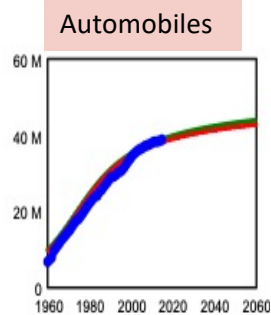


Comment s'écarter de l'évolution tendancielle ?

Population & GDP



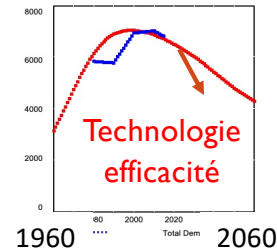
Infrastructure



Ressources

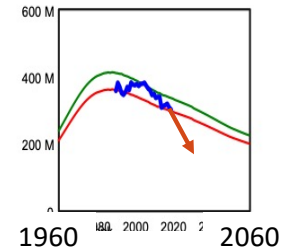


Energie

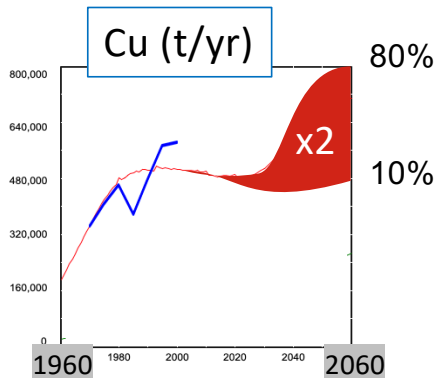


Impacts

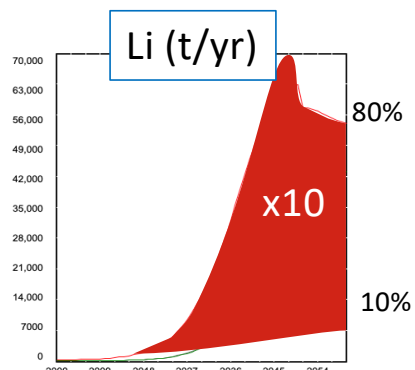
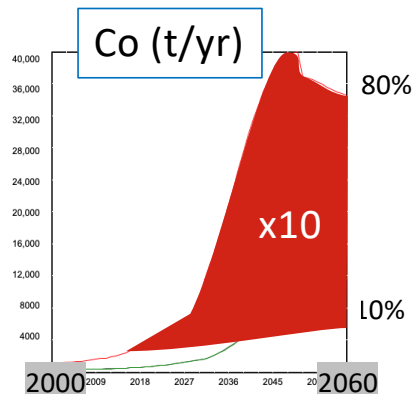
CO2 emissions



EV, durée de vie = 13 ans, batterie Li-ion= 10 ans

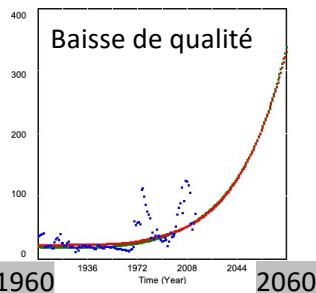


Les métaux ne sont pas extraits en France
=> exportation des impacts et vulnérabilité

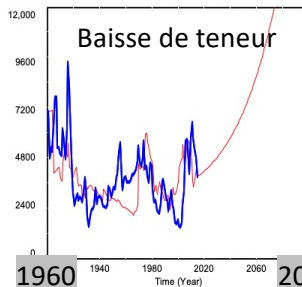


Baisse de qualité des gisements exploités => augmentation des coûts et prix - **impacts ?**

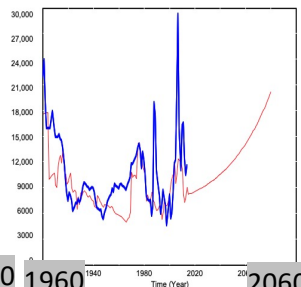
Oil (1998US\$/barrel)



Cu (1998US\$/t)



Ni (1998US\$/t)



Mn (1998US\$/t)

