

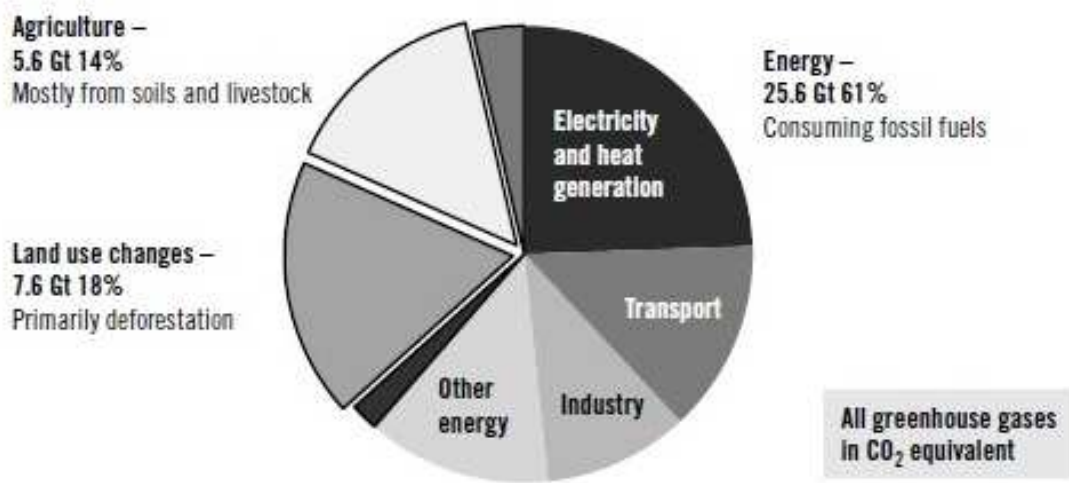
Environmental Economics and Global Warming

Text adapted from “What is the Economics of Climate Change”, by Nicholas Stern, *World Economics*, Vol 7, No 2, April-June 2006.

Fill in the blanks using the following words.
sources generation change evidence transport

“Climate ____ is a serious and urgent issue. There is now an overwhelming body of scientific ____ that human activity is causing global warming, with the main ____ of greenhouse gases, in order of global importance, being electricity ____, land-use changes (particularly deforestation), agriculture and ____ (see Figure 1); the fastest growing sources are transport and electricity.”

Figure 1: Global emissions of greenhouse gases by source



Source: World Resources Institute, 2000 estimate.

cost rights emission horizons agent failures perfect regulation

“Climate change, like other environmental problems, involves an externality: the ____ of greenhouse gases damages others at no cost to the ____ responsible for the emissions. The standard theory of externalities, under certainty, ____ competition, and with a single government, points to one of: taxation of the emitter equivalent to marginal social ____ (Pigou); the allocation of property ____ with trading (Coase); and direct ____.

But here we have many jurisdictions, weak representation of those most affected (future generations), long-term ____, a global scale, major uncertainties, and important interactions with other market failures. Thus, whilst the standard theory can provide useful initial insights, we have a much deeper and more complex economic policy problem. We have a problem of intertemporal international collective action with major uncertainty and linked market ____.”

global warming	réchauffement de la planète
climate change	changement climatique
greenhouse gas(es)	gaz à effet de serre
emissions of greenhouse gases (GHGs)	émissions de gaz à effet de serre (GES)
fuel	combustible
-solid fuel	-combustible solide
-fossil fuels	-énergies fossiles

land use	affectation des terres
changes in land use	changement des affectation des terres
deforestation	déforestation
forest management	gestion forestière
-forestation	-boisement
-reforestation	-reboisement

Taken from the Stern Review, “Executive Summary”, 30 October 2006

shortages hunger flooding

“Climate change will affect the basic elements of life for people around the world – access to water, food production, health, and the environment. Hundreds of millions of people could suffer _____, water _____ and coastal _____ as the world warms.

damage reducing risks

“Using the results from formal economic models, the Review estimates that if we don’t act, the overall costs and _____ of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of _____ could rise to 20% of GDP or more. In contrast, the costs of action – _____ greenhouse gas emissions to avoid the worst impacts of climate change – can be limited to around 1% of global GDP each year.”

carbon dioxide	gaz carbonique, dioxyde de carbone
carbon dioxide equivalence	équivalent-dioxyde
methane	méthane
hydrofluorocarbons	hydrofluorocarbones
ozone layer	couche d’ozone
adverse impact(s)	effet(s) néfaste(s)
energy efficiency	efficacité énergétique
enhancement of energy efficiency	accroissement de l’efficacité énergétique
Clean Development Mechanism (CDM)	mécanisme de développement propre
permit	permis
to trade in permits	échanger des permis
carbon stocks	stocks de carbone
carbon dioxide sequestration technologies	technologie de piégeage du dioxyde de carbone
carbon sinks	puits de carbone
-removals by sinks	-absorption par les puits

Translated from: Maisonneuve, C., (Centre Energie, IFRI), « L’énergie en Europe : orgueil et préjugés », *Tribune Libre*, Gaz d’aujourd’hui / no 2013-4.

Use the words in italics to fill in the gaps:

security competitiveness ambitious

“Lead by example”: This was the _____ slogan of the European Union when it adopted its new climate and energy policy in 2007. This policy was in turn supposed to lead to a less CO2 emissions, and increased _____ of supply in the EU at reasonable costs, while maintaining its _____ .

agreement unconventional paradigm

Five years later, European aspirations have been swept aside by four tidal waves: i) an economic crisis of a brutality and magnitude comparable to the 1930s, ii) the revolution of _____ hydrocarbons in the United States that undermines all talk of peak oil, iii) the failure of the various rounds of international negotiations in reaching a comprehensive _____ on climate, and iv) the Arab Spring which re-emphasises, among other factors, the fragility of some energy supply sources. This rapid and deep change in the global energy _____ highlights the contradictions and inconsistencies that were previously latent in Europe's energy and climate policies, and which could lead to results in total opposition to their initial objectives.

spatial planning	aménagement de l'espace
waste -solid waste disposal on land	déchet(s) -mise en décharge
-wastewater handling	-traitement des eaux usées
-waste incineration	-incinération des déchets
waste management	gestion des déchets
recovery of energy	récupération de l'énergie
forms of renewable energy	source(s) d'énergie renouvelable
windpower	énergie éolienne
hydro-electric power	énergie hydroélectrique
nuclear energy	énergie nucléaire

Complete the following sentences:

- 1) Scientific evidence is increasingly conclusive that the emission of _____ into the atmosphere is leading to global warming.
- 2) The most significant gas contributing to this phenomenon is _____.
- 3) It is released into the atmosphere mainly through the burning of fossil _____.
- 4) The Kyoto Protocol commits industrialised countries to reducing emissions. One way to achieve this is to use less energy by making economic growth more _____.
- 5) Other methods for limiting the build-up of GHGs is to expand so-called carbon _____.
- 6) This could be done by changing agricultural land-use and promoting _____ schemes to increase the number of trees absorbing CO₂.
- 7) To limit the cost of controlling emissions, the Kyoto Protocol provides the possibility of trading carbon _____.
- 8) Alternatively, industrialised countries may help finance developing countries improve their emission performance through a _____.
- 9) Proper verification procedures are essential to ensure that annual _____ are correctly carried out.
- 10) Freak storms indicate that _____ may already be resulting from global warming, and could substantially alter weather patterns over the next century.