

Copenhague et l'innovation technologique: quelques repères



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14 JANVIER 2010

Contexte

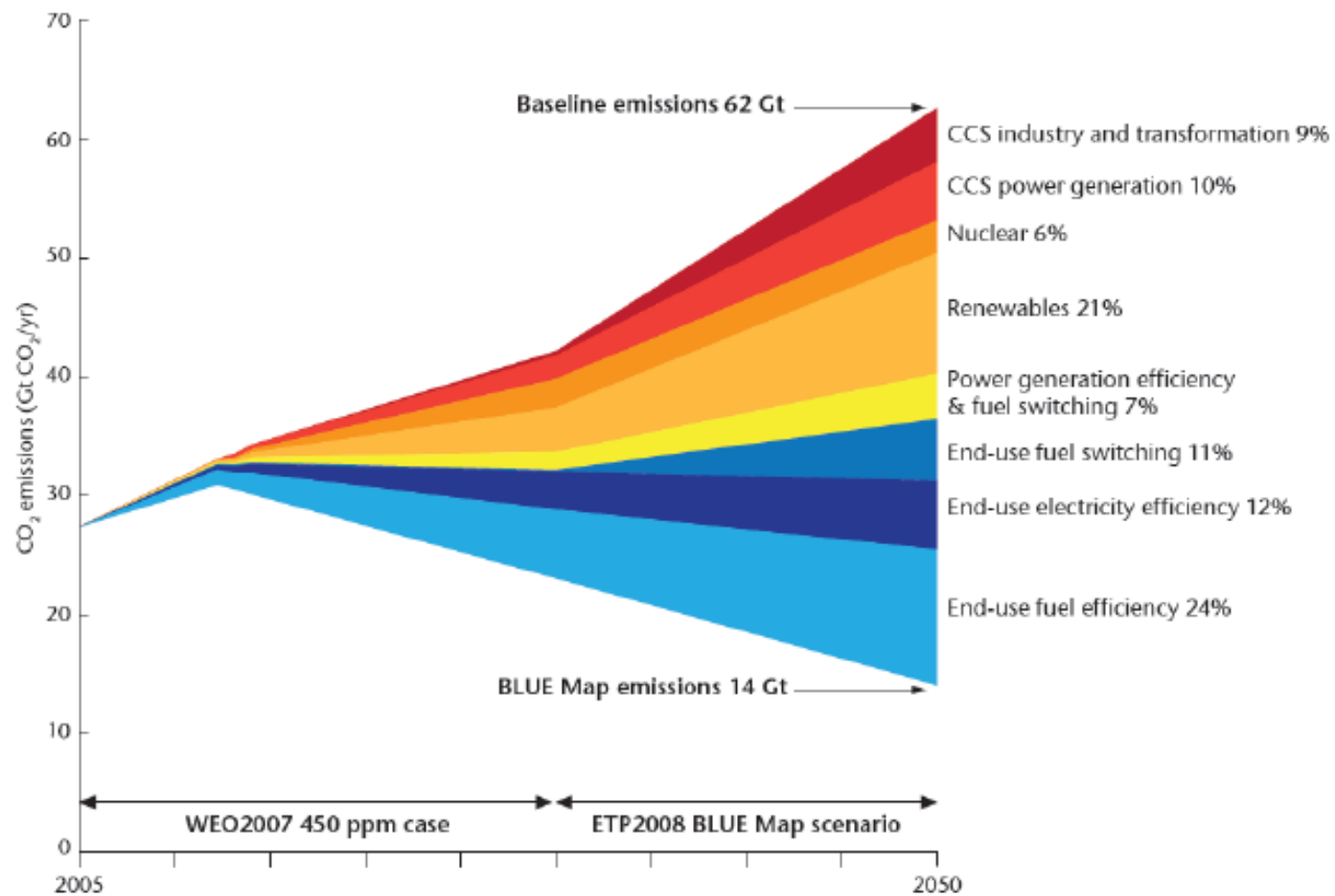


- Depuis le Protocole de Kyoto, les émissions de GES annuelles mondiales ont augmenté de 20%
- Sur base des émissions actuelles, on devrait atteindre rapidement 450 ppm qui est l'objectif maximal conseillé (mais pas acté à Copenhague, même si « 2 degrés » sont mentionnés sans échéance)
- Dans l'accord de Copenhague les transferts de technologies sont mentionnés plusieurs fois pour la prévention et l'adaptation aux CC, et un « Technology Mechanism » est créé

§ 11. In order to enhance action on development and transfer of technology we decide to establish a Technology Mechanism to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities.

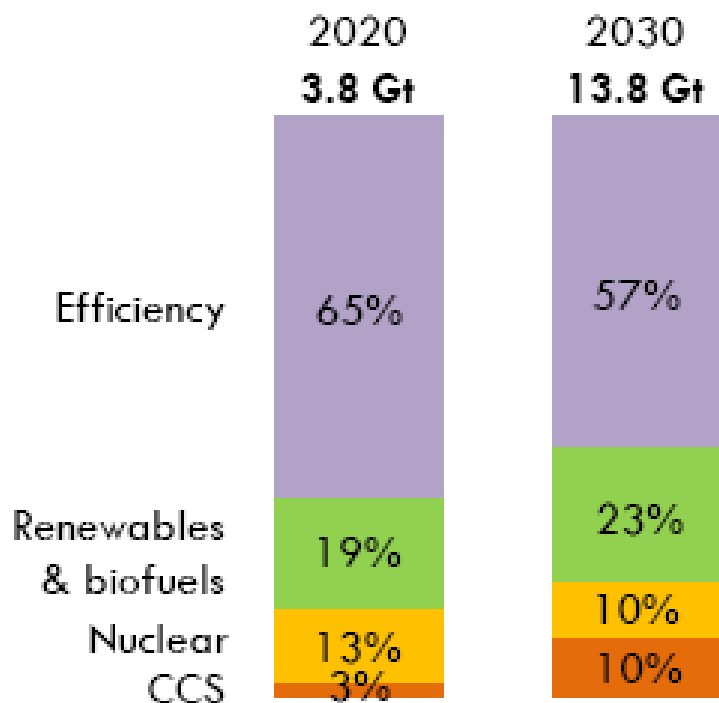
An energy technology revolution is needed

Technology contributions to 50% CO₂ reduction scenario, 2005-2050



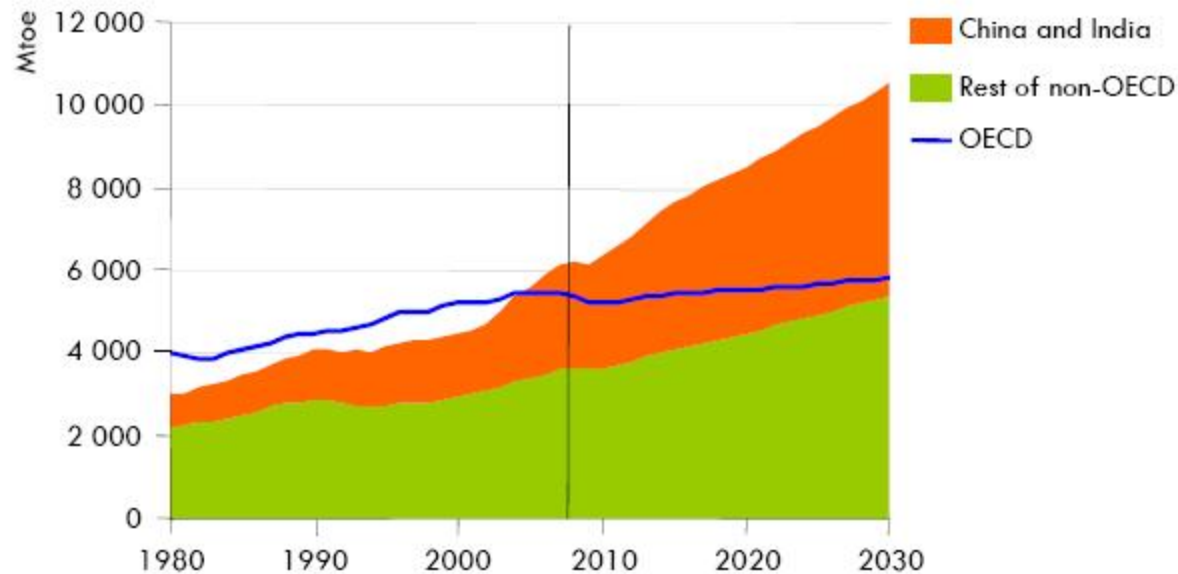


World abatement by technology



An additional \$10.5 trillion of investment is needed in total in the 450 Scenario, with measures to boost energy efficiency accounting for most of the abatement through to 2030

World primary energy demand in the Reference Scenario



*Non-OECD countries account for 93% of the increase in global demand
between 2007 & 2030, driven largely by China & India*

Ratio of green stimulus of national recovery packages, absolute volumes in bn€

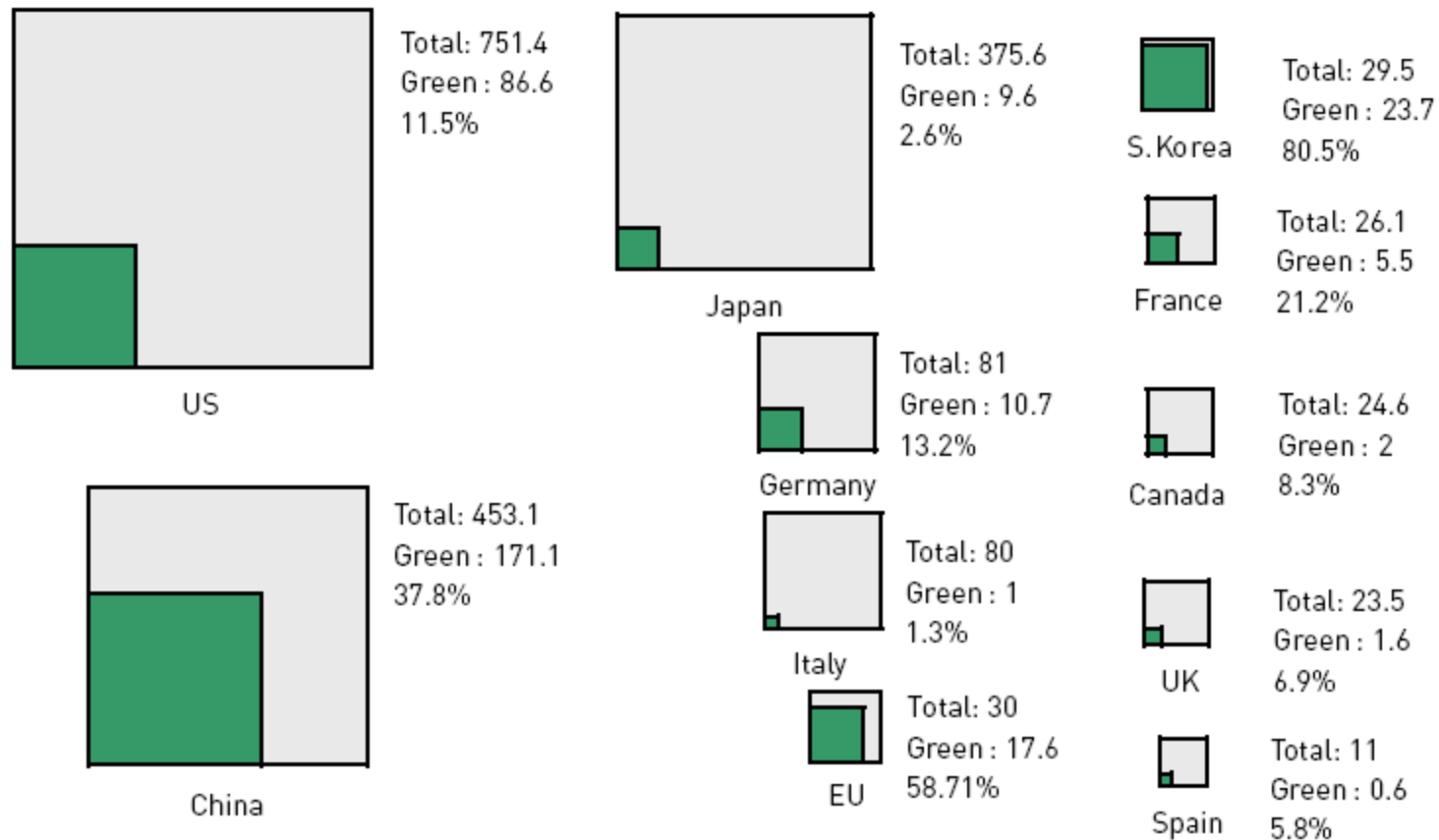


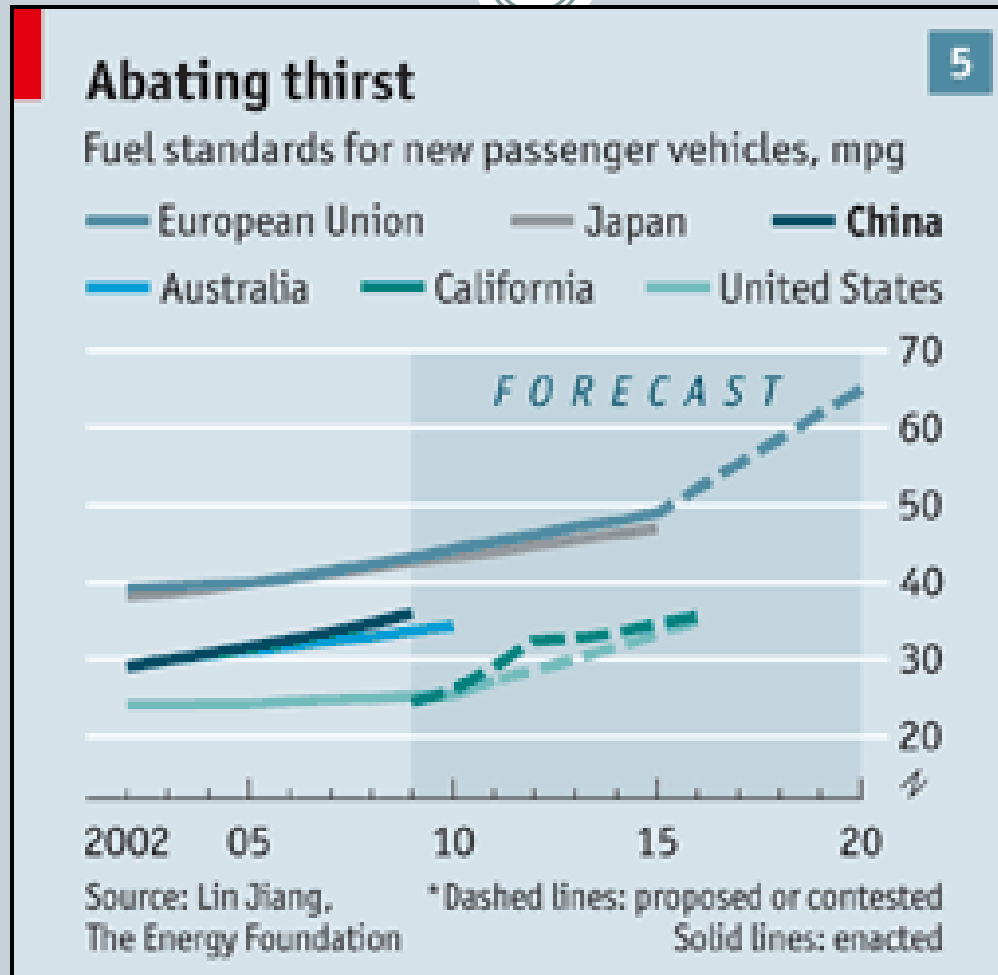
Figure 3 Ratio of green stimulus of national recovery packages, absolute volumes in bn€ (based on Bernard et al. 2009; data from HSBC 2009)

Country	FUND €	Green €	%	Low Carbon Power		Energy Efficiency			Water/ Waste	Total	
				Renewable	CSS/ Other	Building	Low Carbon Vehicles	Rail			Grid
EU	30.0	17.61	58.71%	0.50	9.66	2.20	1.50			3.75	13.86
Germany	81.0	10.69	13.20%			8.03	0.53	2.13			10.69
France	26.1	5.52	21.19%	0.67		0.64		1.01	3.19		8.71
Italy	80.0	1.02	1.28%					1.02			1.02
Spain	11.0	0.64	5.85%							0.64	0.00
UK	23.5	1.63	6.94%			0.22	1.07	0.32		0.02	1.61
US	143.0	14.07	9.84%	7.92	2.01	2.58	0.59	0.26	0.71		14.78
	608.4	72.70	11.95%	17.42	3.05	21.18	3.09	7.41	8.50	12.04	69.16
Canada	24.6	2.03	8.27%		0.83	0.19		0.30	0.61	0.10	2.54
China	453.1	171.07	37.76%				1.16	76.26	54.11	39.54	185.65
Japan	375.6	9.61	2.56%			9.61					9.61
South-Korea	29.5	23.72	80.55%	1.39		4.79	1.39	5.42		10.74	12.99
Total	1885.7	330.33	17.52%	27.91	15.55	49.44	9.33	94.13	67.13	66.84	330.62
				43.46			220.03			66.84	

All currencies converted to €. €1=\$1.29

Table 2 Country specific allocation of the green stimulus in bn € (based on HSBC 2009)

Evolution des standards de consommation pour nouveaux véhicules



Dec 3rd 2009

From *The Economist* print edition

EUROPE/US

- Europe's target : generating 20% of its energy from renewable sources
- Some 50% of new power capacity added in the EU in 2000-06 was renewable energy, compared with 29% in 1990-2000.
- According to New Energy Finance, onshore wind energy needs a carbon price of \$38, offshore of \$136 and solar cells of \$196.
- Some 20,000 jobs have been lost in the solar industry in Spain over the past year, and plenty more elsewhere



CHINE

- Wind currently generates only 0.4% of Chinese electricity. Coal generates 80%.
- For wind energy, the target was set at 20GW of capacity by 2020. China now expects to hit that target by 2010 and is aiming for 150GW by 2020.
- The target for solar energy, similarly, has been raised from 1.8GW to 20GW by 2020.
- Electric vehicles are being generously subsidised (\$8,800 for a car and \$73,500 for a bus) and the government plans to build the capacity to produce half a million a year by 2012.
- China has received \$2 billion through the CDM for cleaning up its industrial processes and building clean-energy capacity—half the money that has flowed through the CDM. That is expected to rise to \$8 billion by 2012.

Dec 3rd 2009

From *The Economist* print edition

Facteurs influençant la poursuite de l'innovation technologique ./ Climat



- Cadre et incitants: prix de la tonne CO₂, mécanismes complexes de régulation internationale
- Discussions sur inclusion CCS, Forêts, ...
- Caractère spéculatif
- Vérifications comme point d'achoppement
- Discussions sur propriété intellectuelle
- Retards dus à la crise économique
- ...