



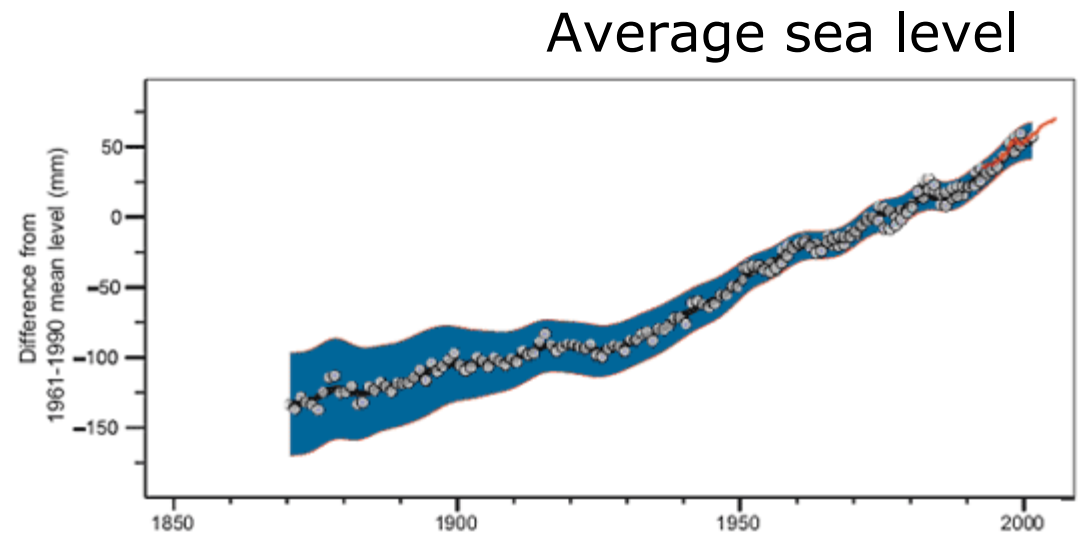
# Carbon trading history and stakes

BlueNext, 22nd January 2008  
Christian de Perthuis - Mission Climat

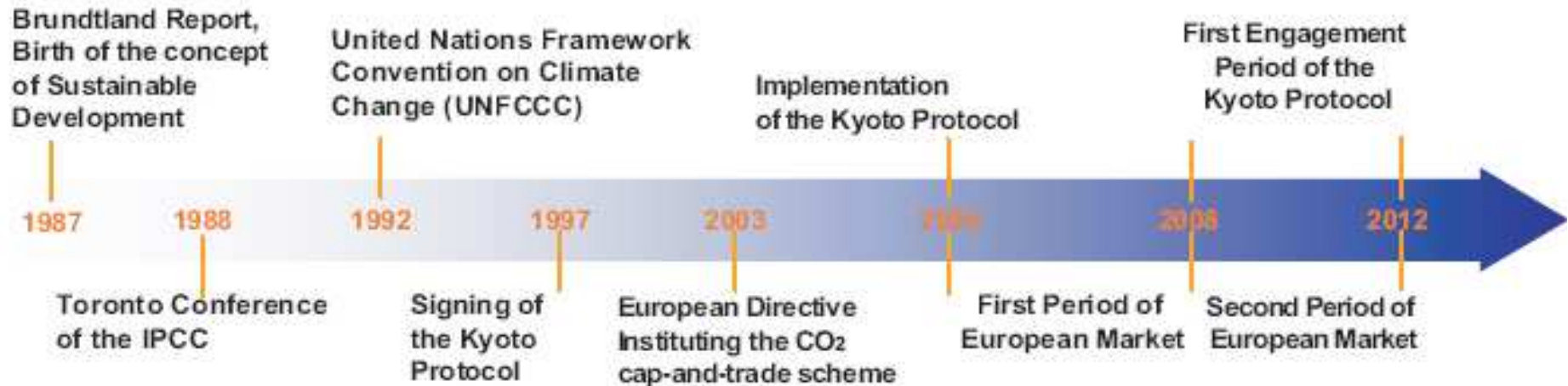
# Impacts of climate change as assessed by the IPCC

---

- Increase in global **mean temperature** but highly unequal depending on latitude
- **Water cycle disruptions** :  
droughts, floods...
- Increase in **sea level**
- Increased **frequency of extreme phenomena** :
  - ▶ Storms, hurricanes...
  - ▶ Unusual number of warm or cold days
  - ▶ ...



# From the Kyoto Protocol to the European market (1)



## Purpose of the Kyoto Protocol :

- **Environmental** = 38 industrialised countries must achieve an average emissions reductions of 5% vs 1990 levels between 2008 and 2012
- **Economic** = Use of market instruments via the creation of an international carbon credits market

## From the Kyoto Protocol to the European market (2)

---

- **2005: implementation of a European market for CO<sub>2</sub> emissions allowances**
  - ▶ 1 allowance = 1 emitted ton of CO<sub>2</sub>
  - ▶ Over 11 500 installations covered
  - ▶ 2.100 billion allowances allocated each year
- **Purpose: helping Europe reach its Kyoto target** = achieve emissions reduction 8% below 1990 levels
- From 2005: trading of European allowances on both spot and forward markets
  - ▶ \$25 bi. in 2006, \$40 bi. in 2007 (World Bank estimate)
  - ▶ approx. 80% the 2006 international carbon market's value

# An effective but volatile carbon price signal

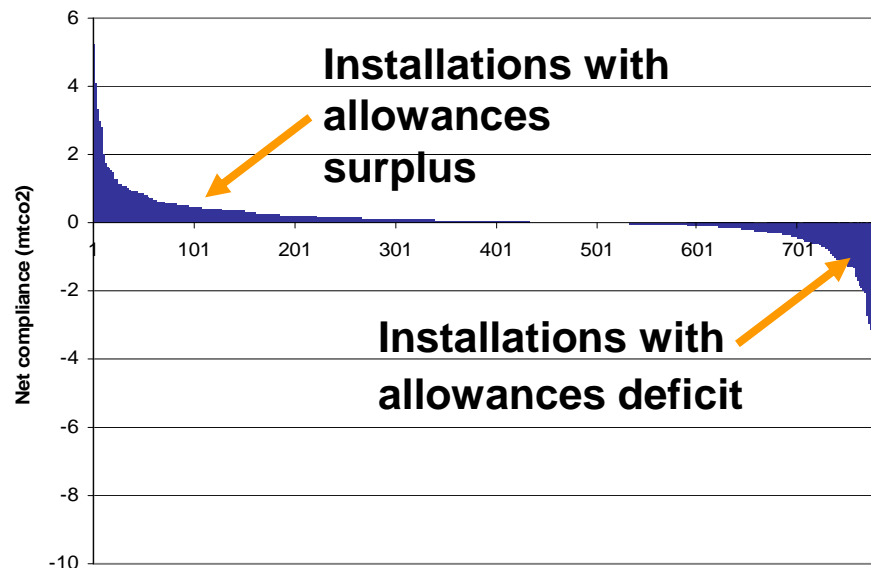
Source: Mission Climat of Caisse des Dépôts



1. High volatility: **price shock in April-May 2006 (compliance data release)**
2. First period price tends towards transaction cost: **over-allocation and no banking**
3. Higher second period prices : **expected scarcity (stricter allocation plans)**

# The role of financial markets

## EU 25 - installations position in 2005



Source: Mission Climat of Caisse des Dépôts & CITL data. Only installations with allocation over 0,5 Mt are shown.

- Price = meeting of supply and demand
- Exchange platforms ease allowances transfers between installations
- Price signal induces arbitrage between abatement and allowances purchase. **Estimated abatement in 2005 & 2006: 50-100 Mt per year**

# 2008: an international carbon market

---

## 2008-2012

- **New credits** from Kyoto Protocol project mechanisms:
  - ▶ *CERs*\* from Clean Development Mechanism (CDM) = emissions reduction in a developing country financed by an industrialised one
  - ▶ *ERUs*\* from Joint Implementation (JI) = emissions reduction in an industrialised country financed by another industrialised country
- **Development of the international market**
- **Development of mandatory cap & trade schemes outside of Europe** : Canada, Australia, Japan, United States

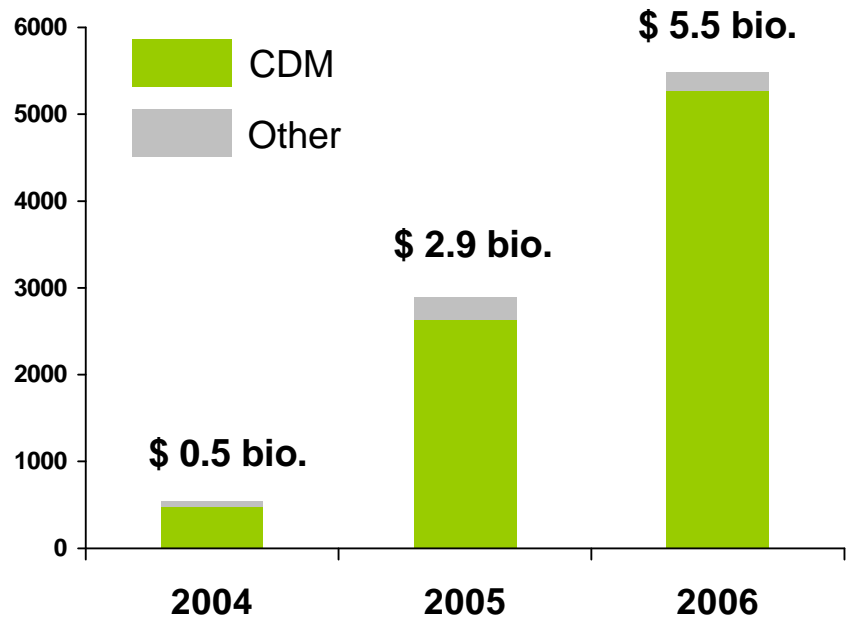
\* Certified Emission Reduction

\*\* Emission Reduction Unit

## 2008 stake: project mechanisms

- **Price of European allowances** = main price driver for Kyoto project based mechanisms
- CERs & ERUs can be used on the European market from 2008

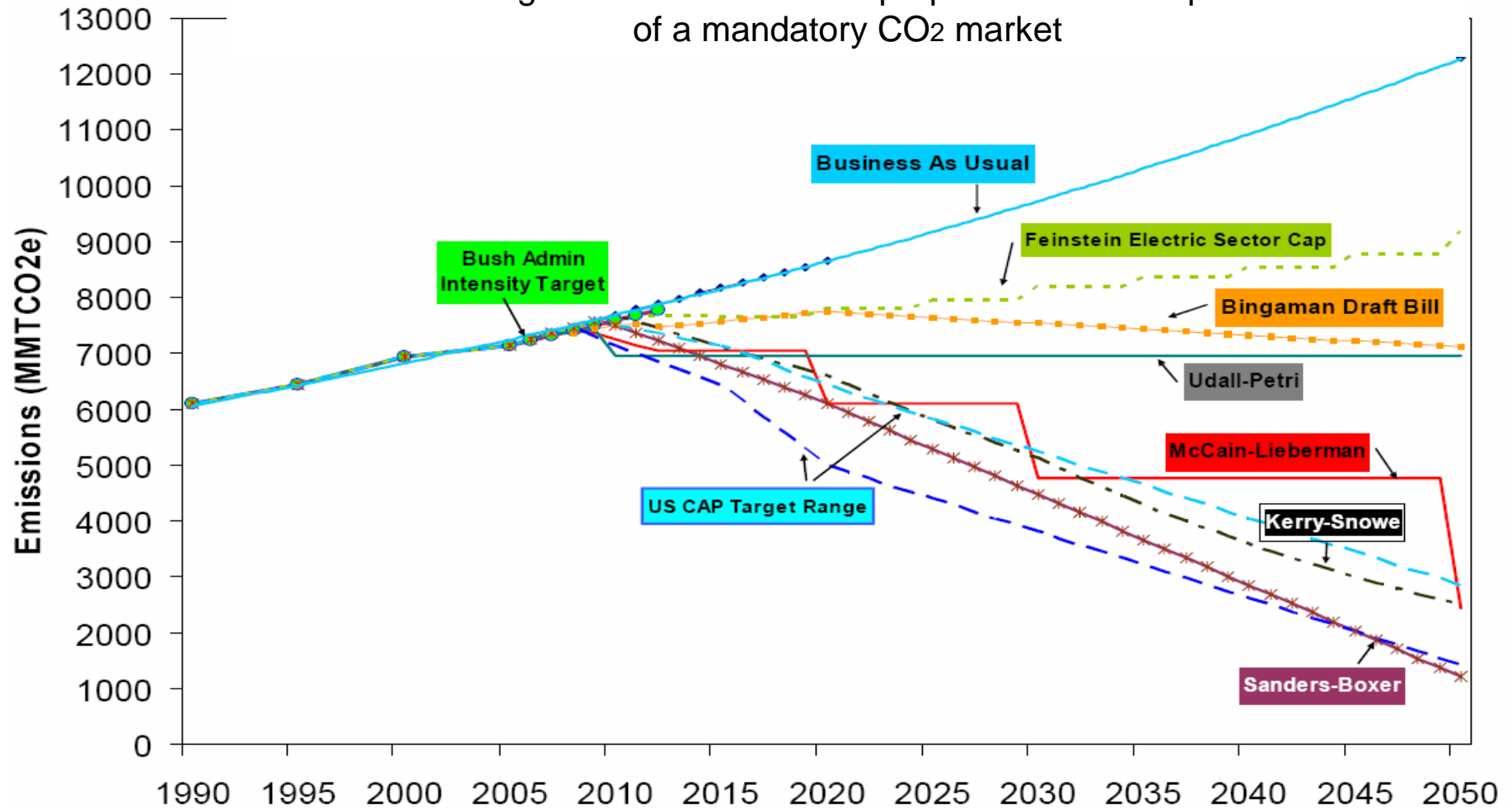
Estimation of project based mechanisms market value



Source: World Bank (2007)

# The United States: outstanding evolutions

Emissions targets in the different bill proposals for the implementation of a mandatory CO<sub>2</sub> market



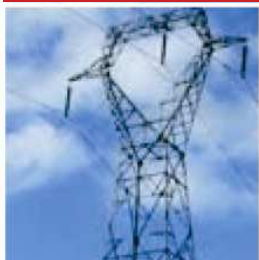
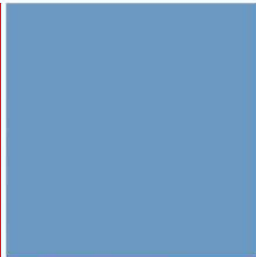
# The future of carbon markets after 2012

---

- 2012 = end of the compliance period of the Kyoto Protocol
- **International negotiation over the post-2012 period:**
  - ▶ Agreement reached in Bali to pursue international negotiation
  - ▶ Concrete solutions expected in 2009 for the United Nations climate conference
- European Union : **European market for CO<sub>2</sub> allowances maintained at least until 2020**



Caisse  
des Dépôts



**Thank you for your attention**  
**[www.caissedesdepots.fr/missionclimat](http://www.caissedesdepots.fr/missionclimat)**

Christian de Perthuis – Director  
[christian.deperthuis@caissedesdepots.fr](mailto:christian.deperthuis@caissedesdepots.fr)  
+33 1 58 50 98 20