

Can Copenhagen succeed without Vienna?

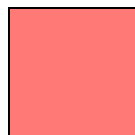
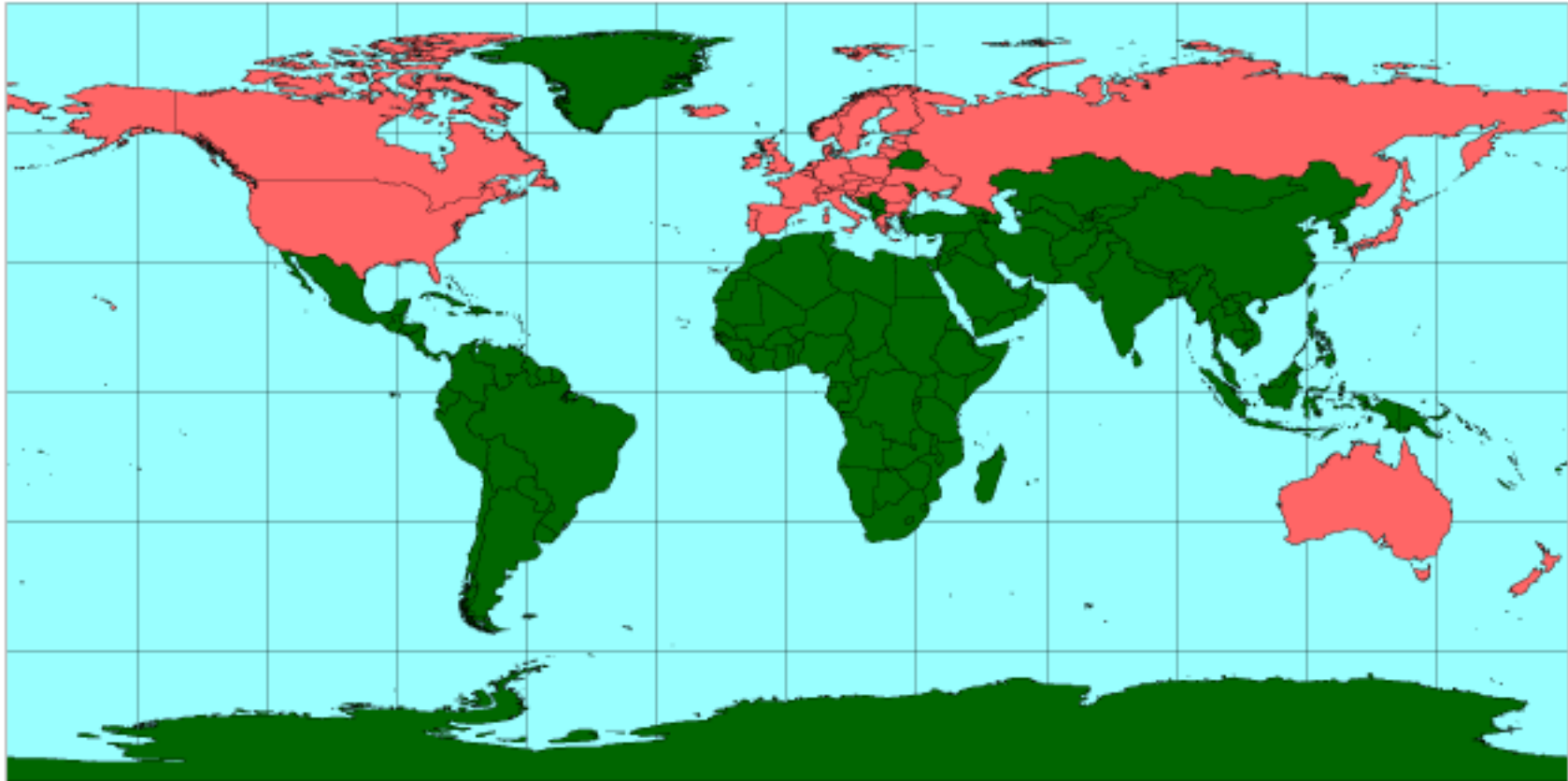
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Co-founder, Offsetters.ca

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November 3rd 2009



KYOTO: A WORLD DIVIDED



Annex B
countries



Non-Annex B
countries

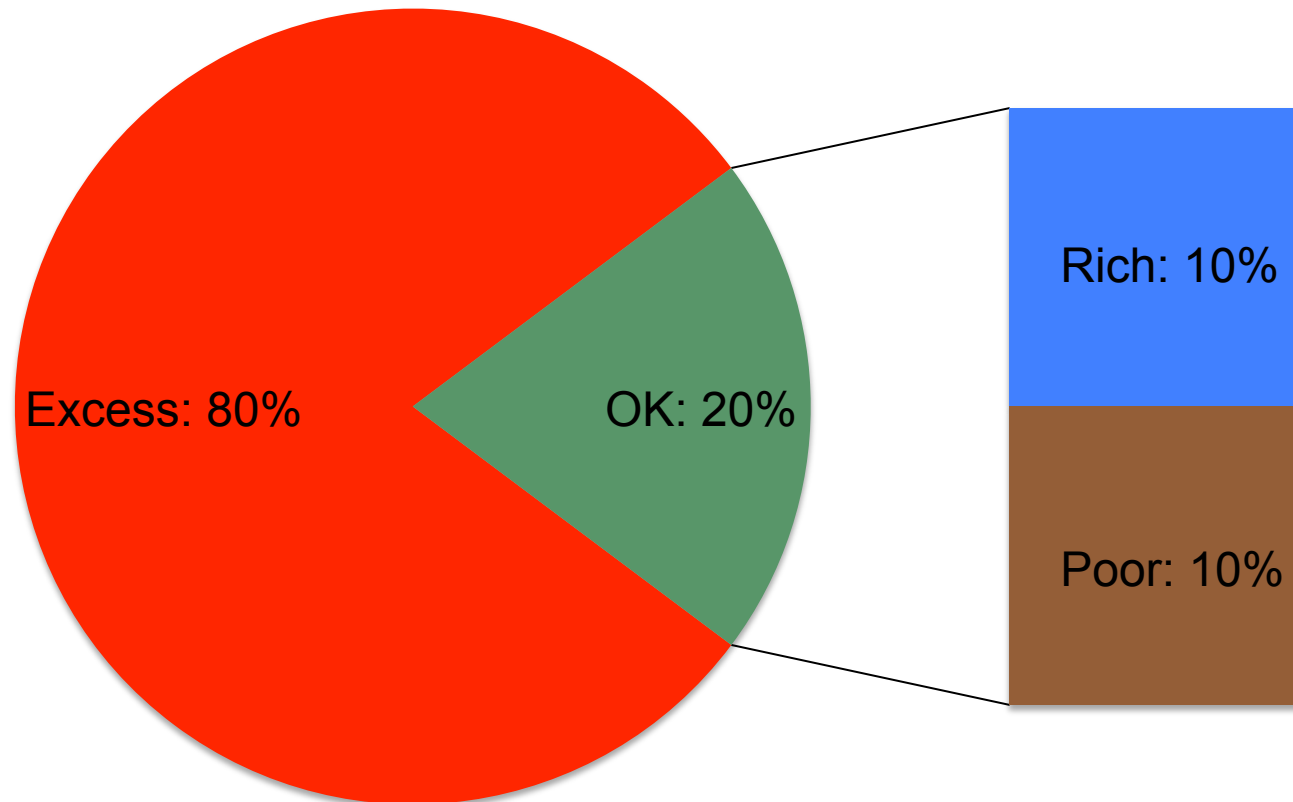


COPENHAGEN OBJECTIVE

- Global GHG Emission Targets of
- Engagement of BRIC countries
- Engagement of others

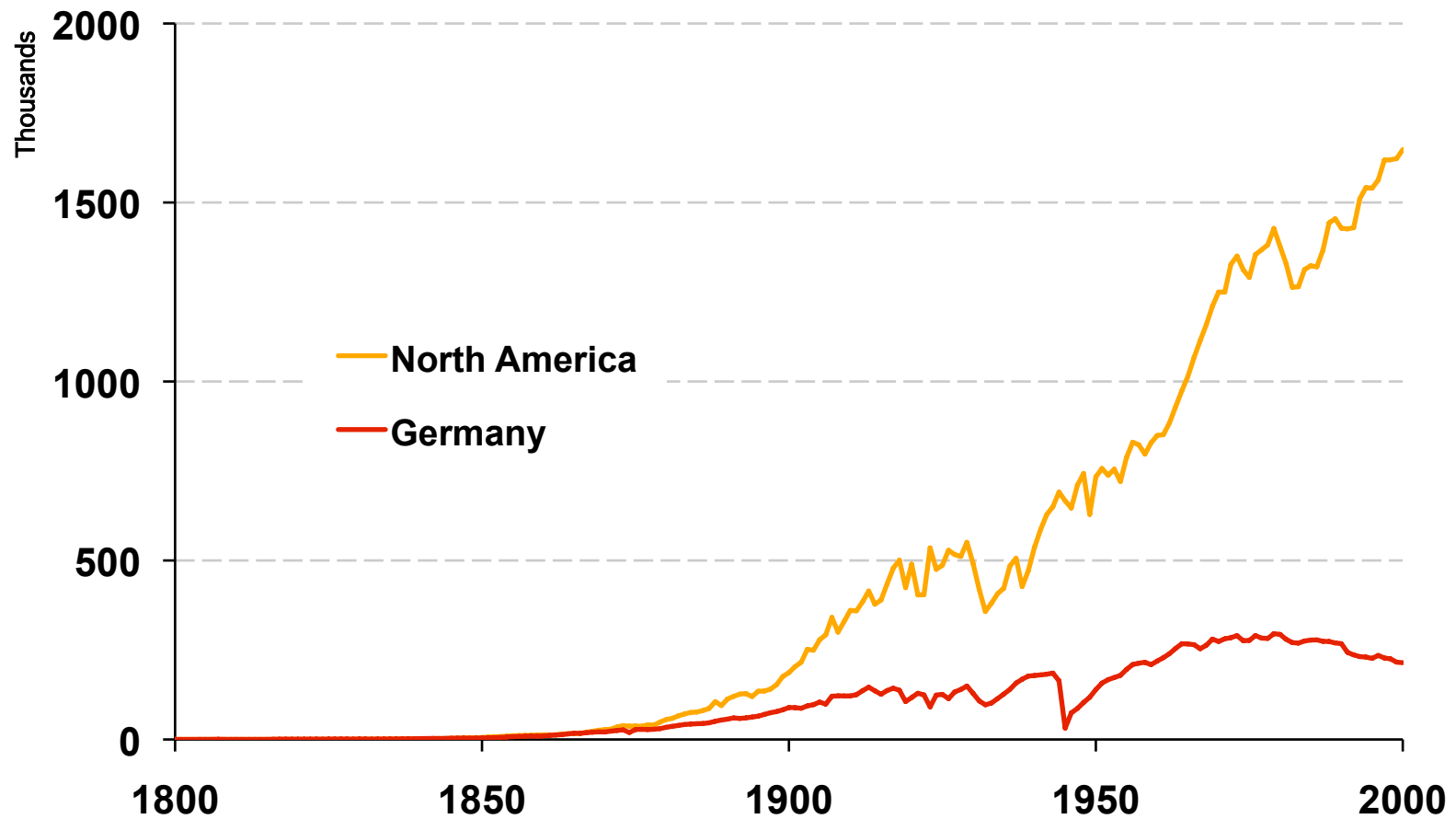


CLIMATE STABILISATION



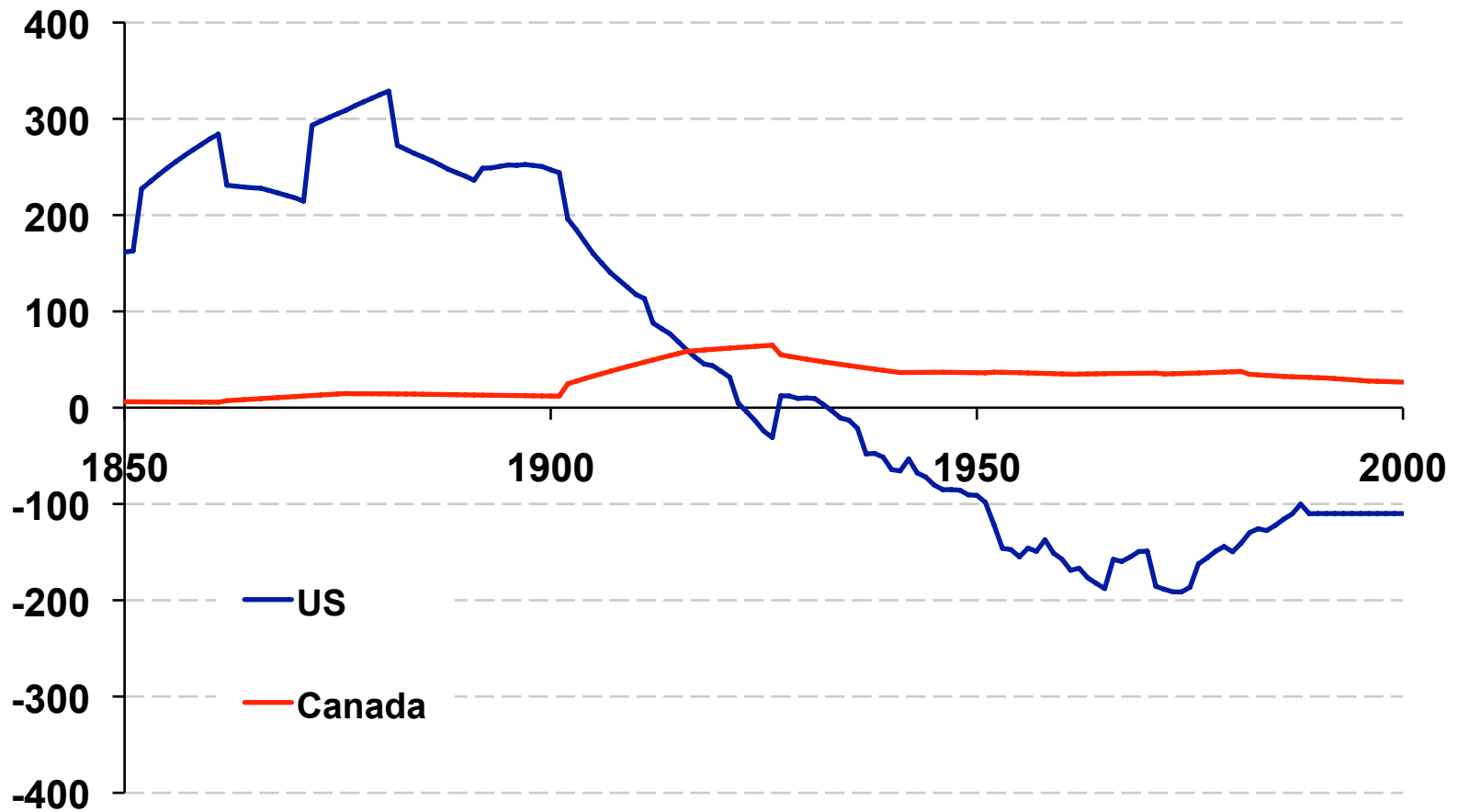


FOSSIL FUEL EMISSIONS 1800 TO 2000



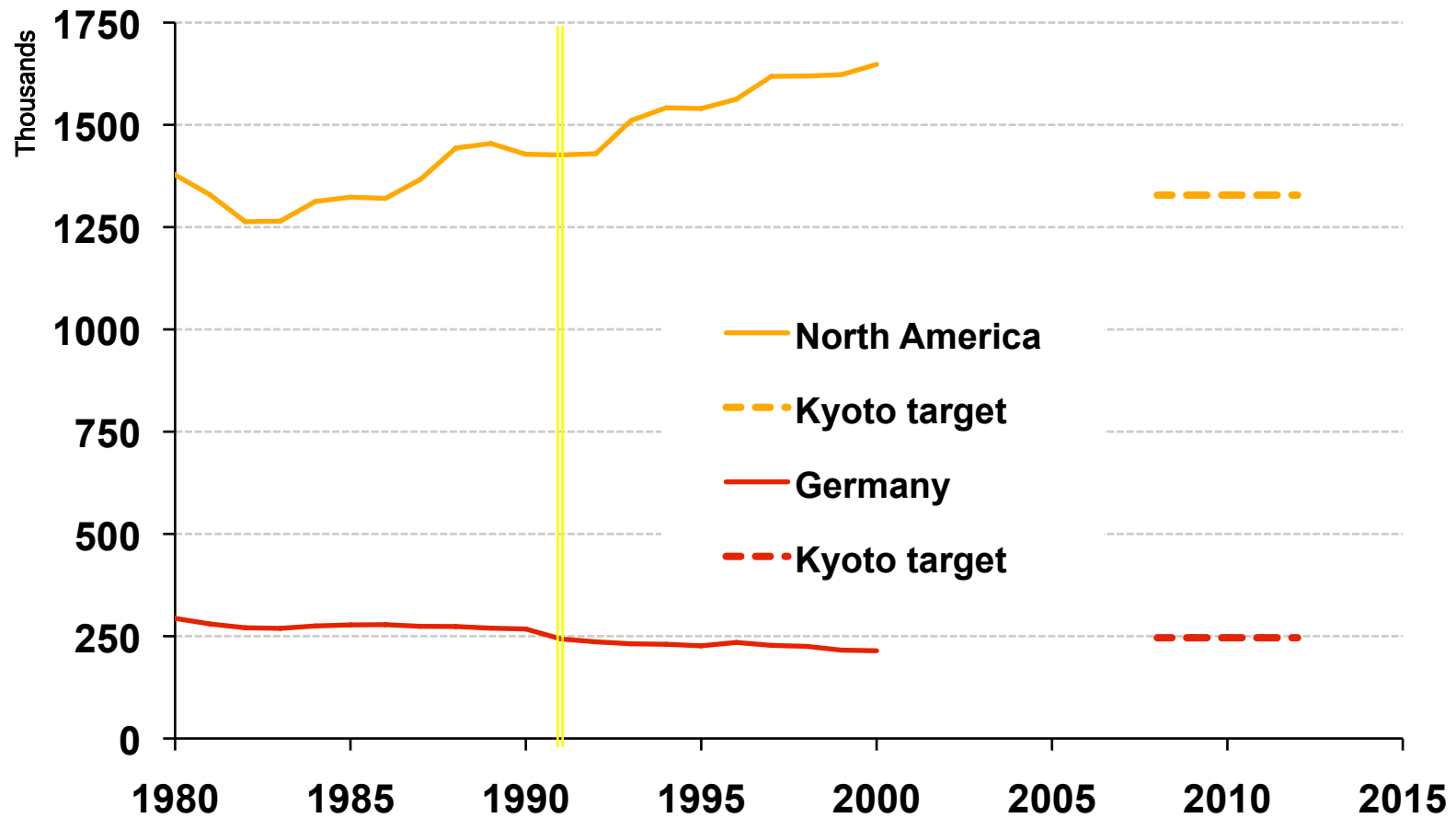


LAND-USE CHANGES





THE KYOTO PROMISE: 1980-2012

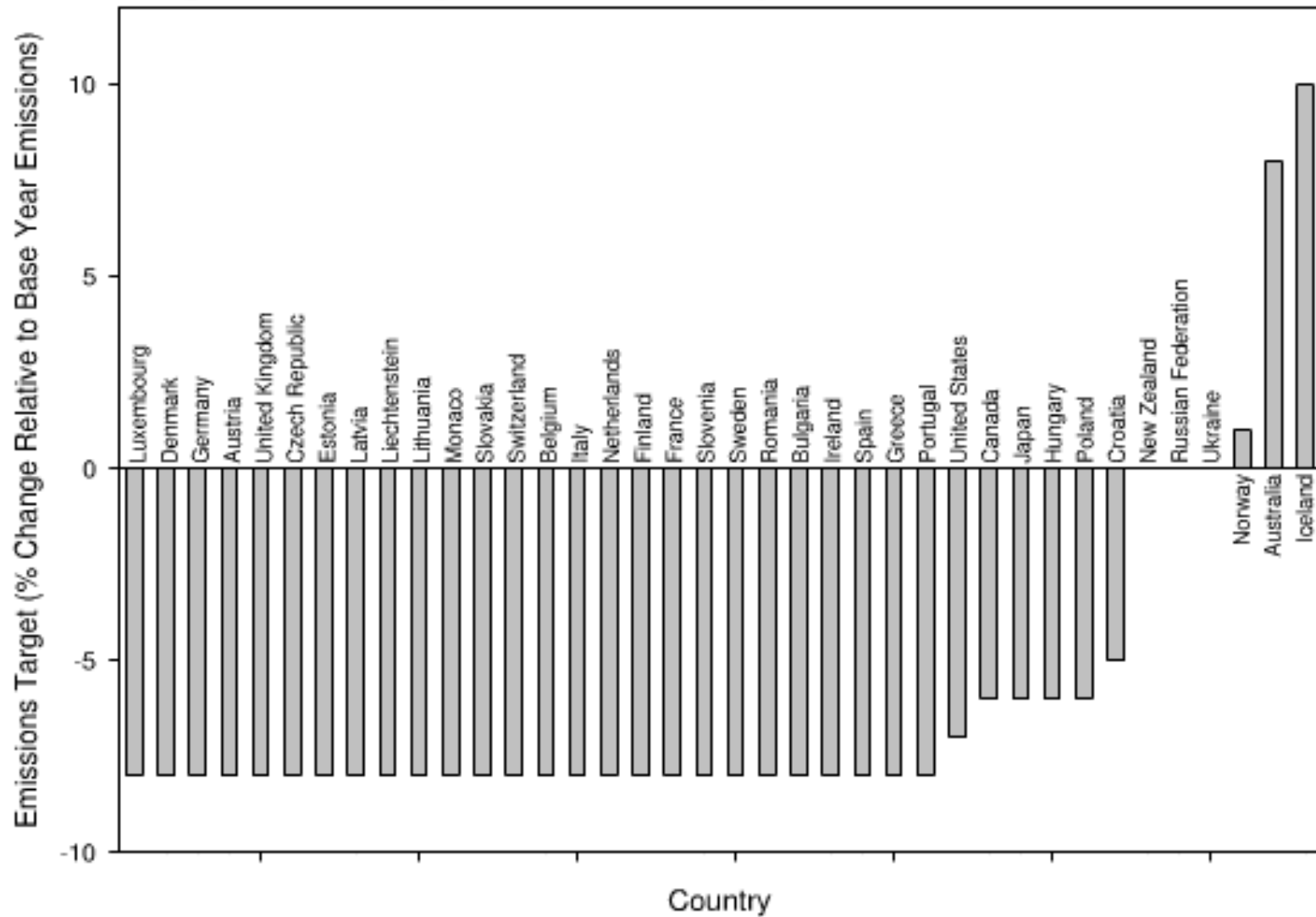




Where	Target	Ratified	Target met?
Australia	+8%	no	no
Canada	-6	yes	no
C Europe	-8	yes	--
E Europe	-8	yes	--
E U	-8	yes	no
Hungary	-6	yes	--
Iceland	+10	yes	yes
Japan	-5	yes	no
New Zealand	0	yes	no
Norway	+1	yes	yes
Poland	-6	yes	--
Russia	0	yes	--
Switzerland	-8	yes	no
Ukraine	0	yes	--
US	-7	no	no



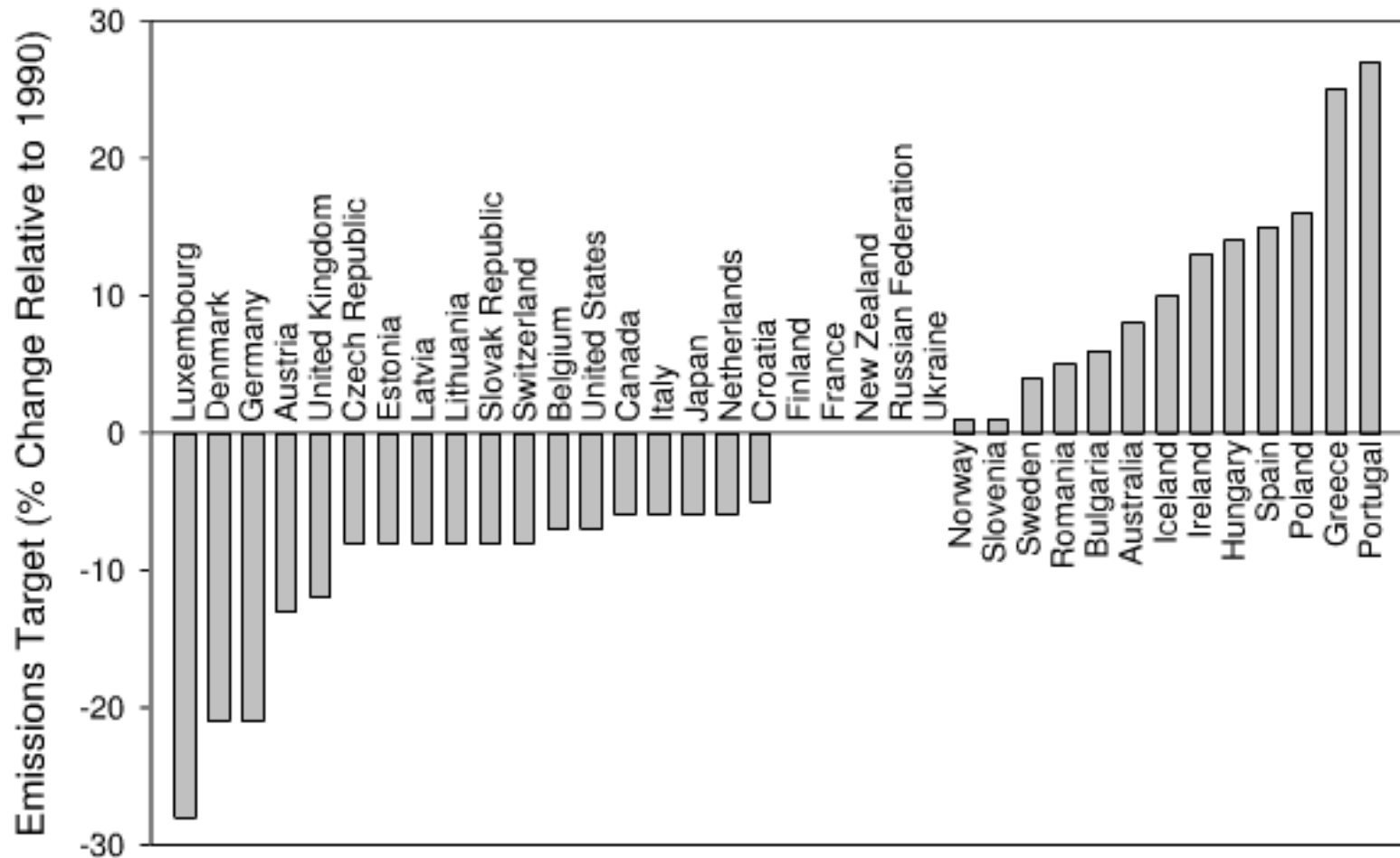
Targets reported by the UNFCCC



Source: N. Schneider & G. Fox U of Guelph, 2007



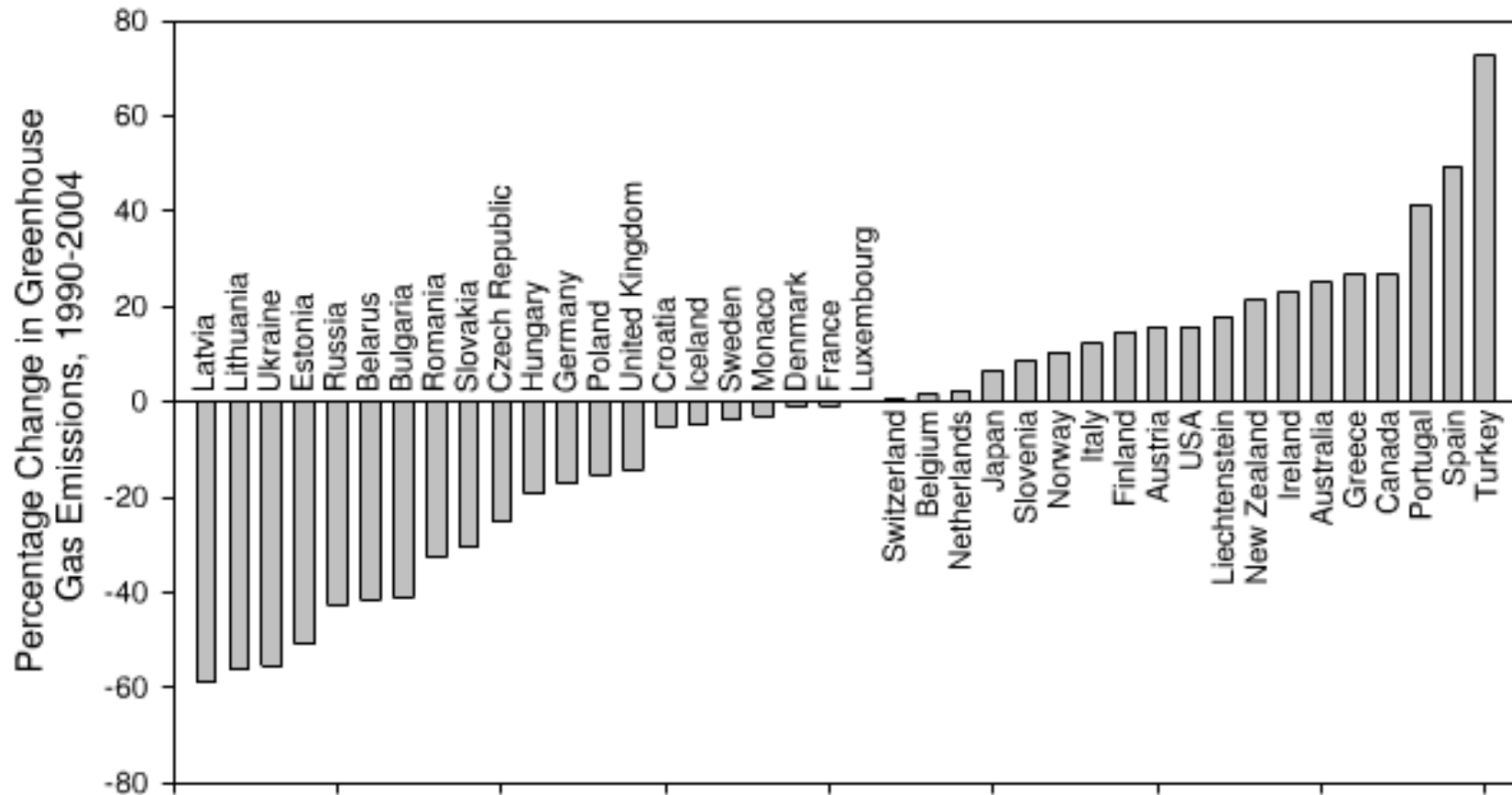
Actual targets relative to 1990



Source: N. Schneider & G. Fox U of Guelph, 2007



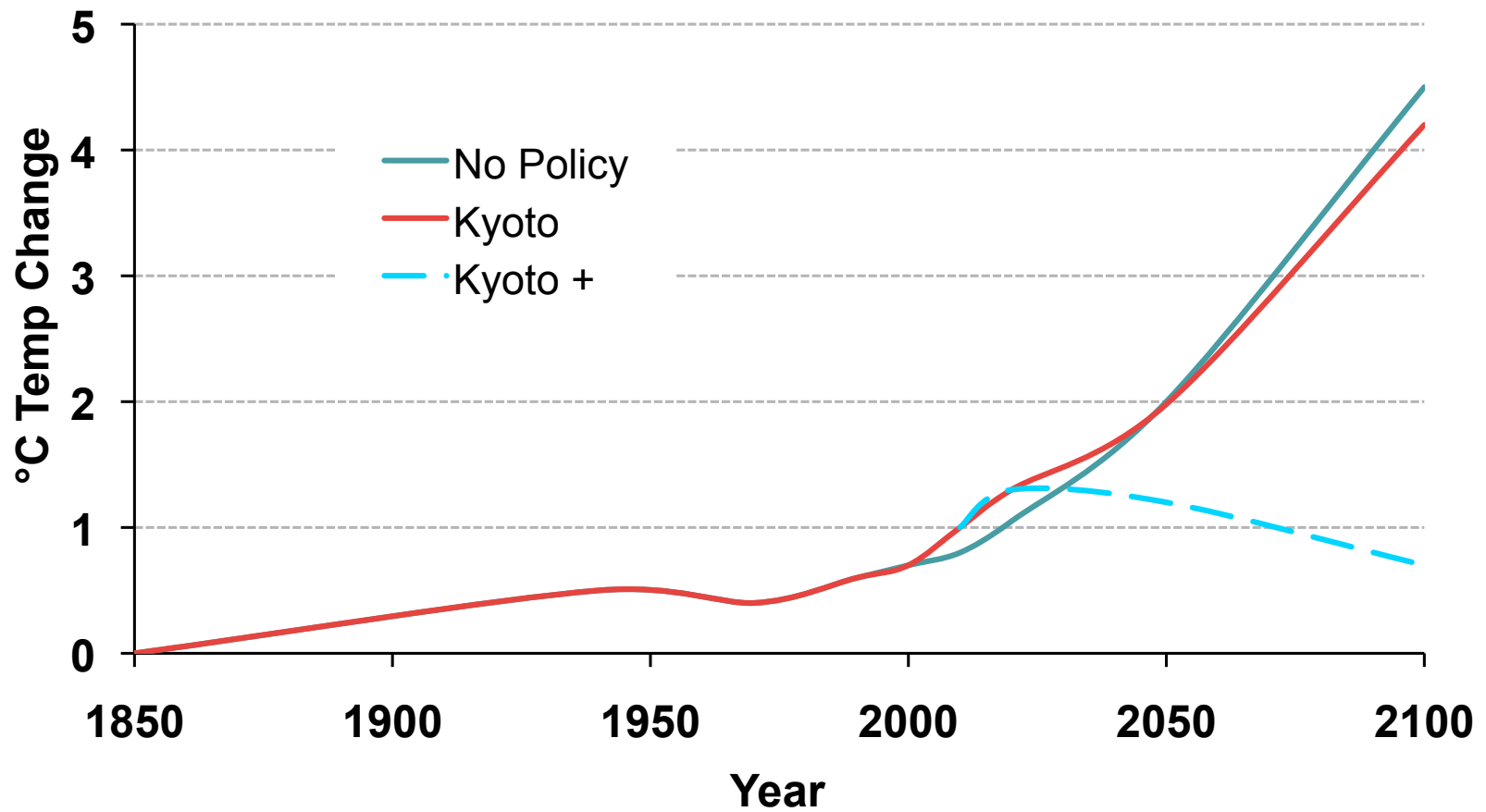
Change in GHG emissions, 1990-2004



Source: N. Schneider & G. Fox U of Guelph, 2007

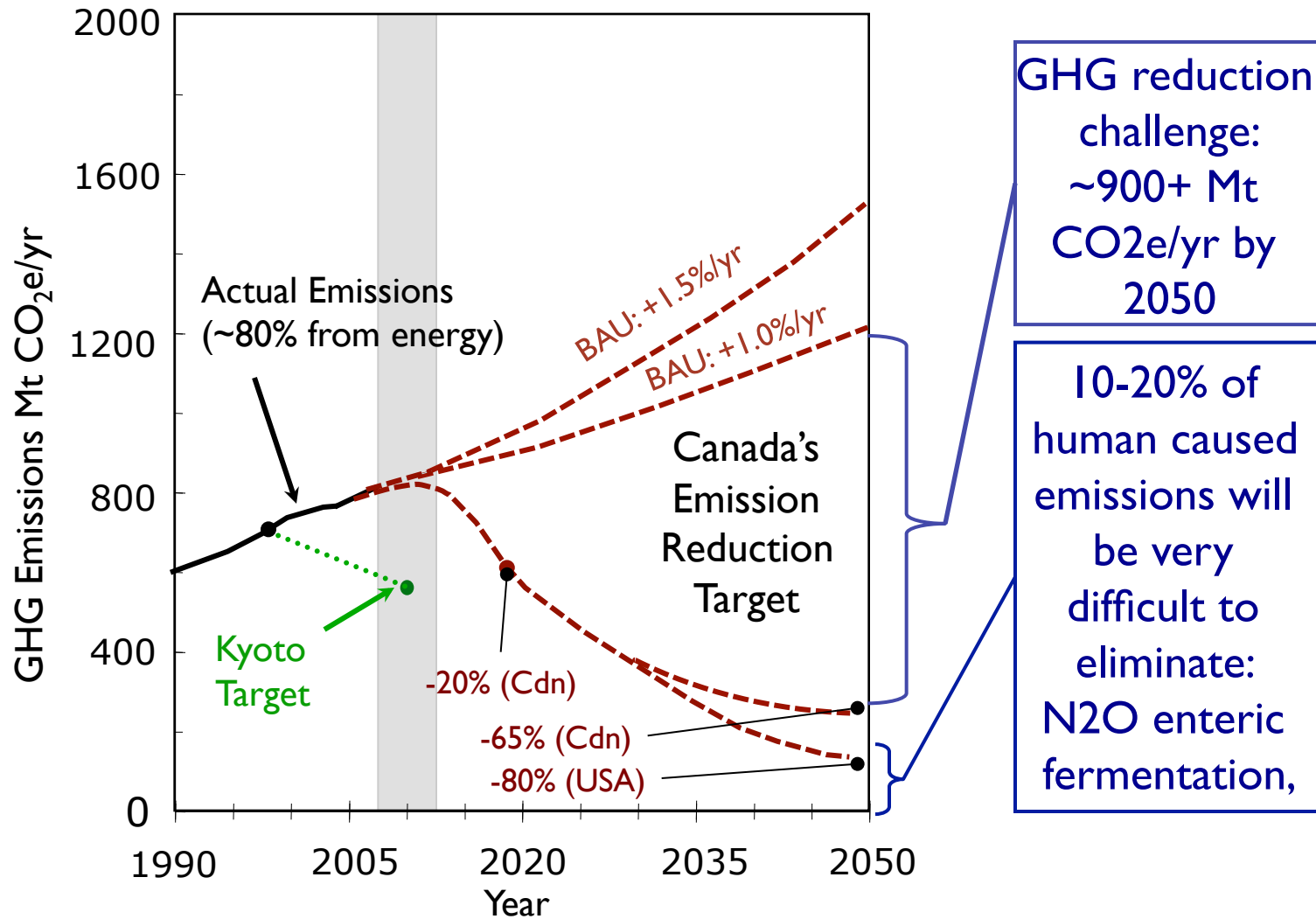


KYOTO IS ONLY THE FIRST STEP





THIS IS NOT ENOUGH



Source: David Layzell, 2009

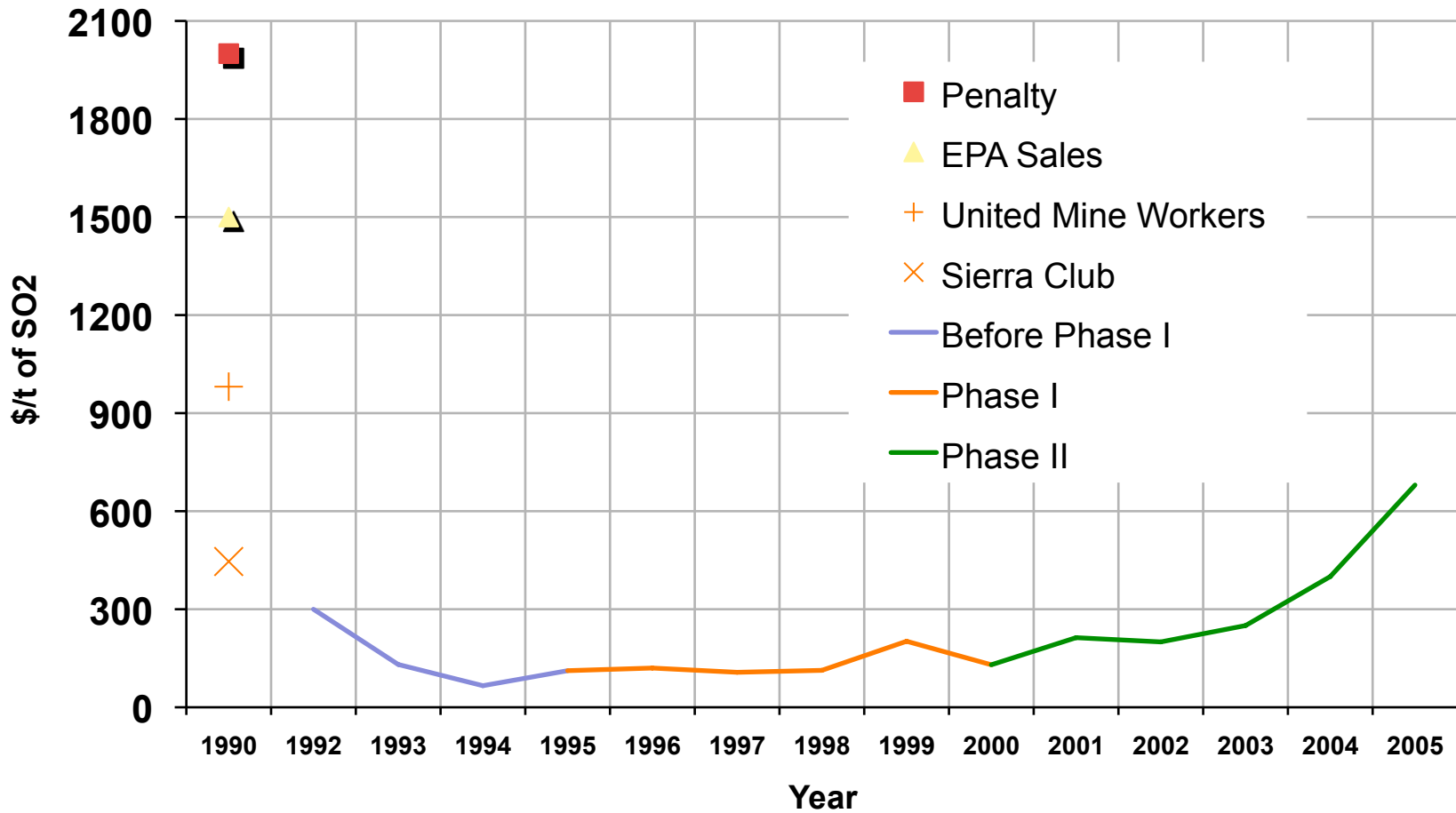


LESSONS FROM EXPERIENCE

- **Voluntarism**
 - Only minimal uptake
- **Incentives**
 - Can be effective when carefully targeted, but can lead to free-riders
- **Standards**
 - Always effective once adopted and enforced
- **Price instruments**
 - Shown to be flexible and economical, reveals what is possible
- **Quantity limits**
 - Shown to be effective, high transaction costs
- **Invest offshore**
 - Prone to systematic failure.

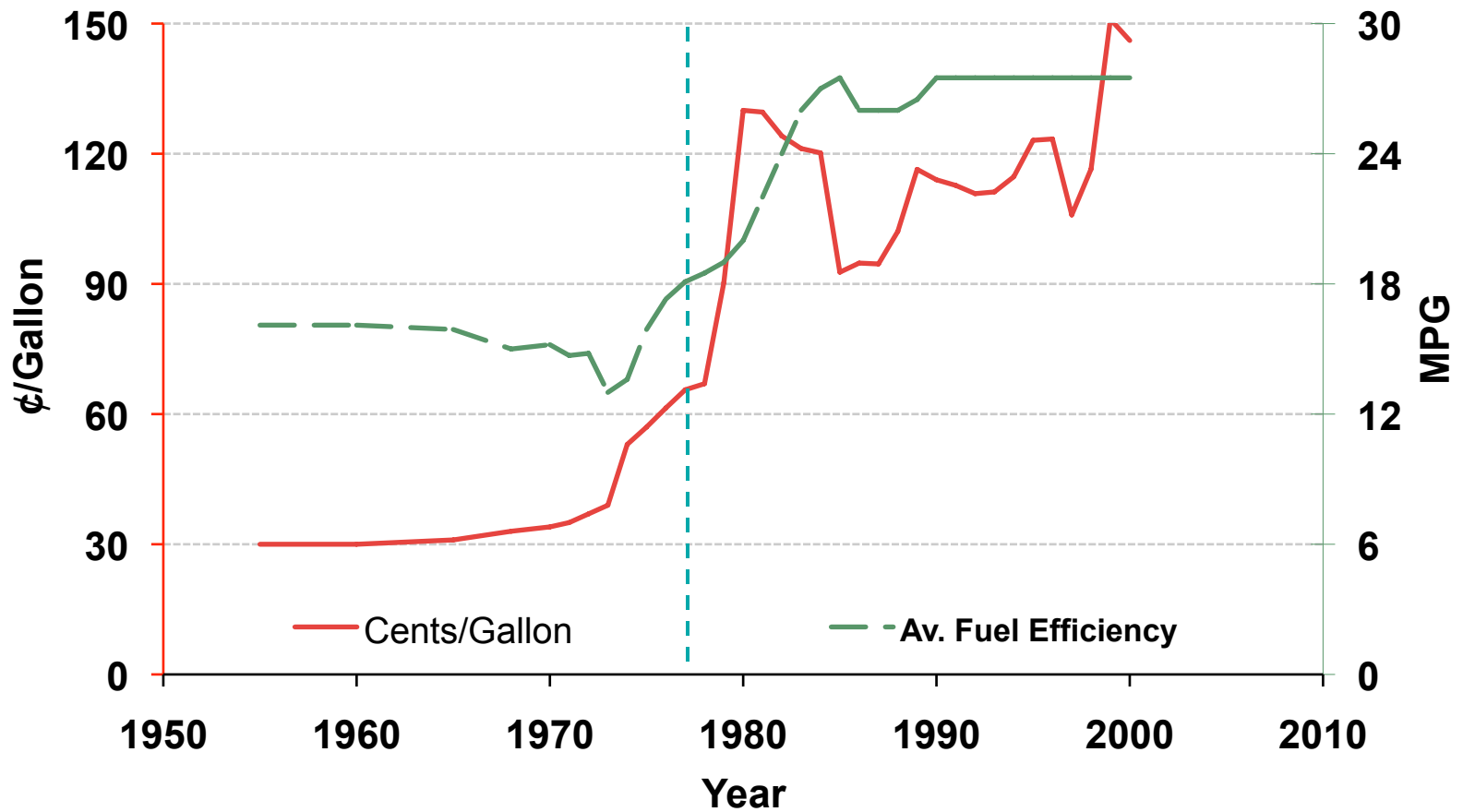


CAP AND TRADE: MISUNDERSTOOD SO₂ EXPERIENCE



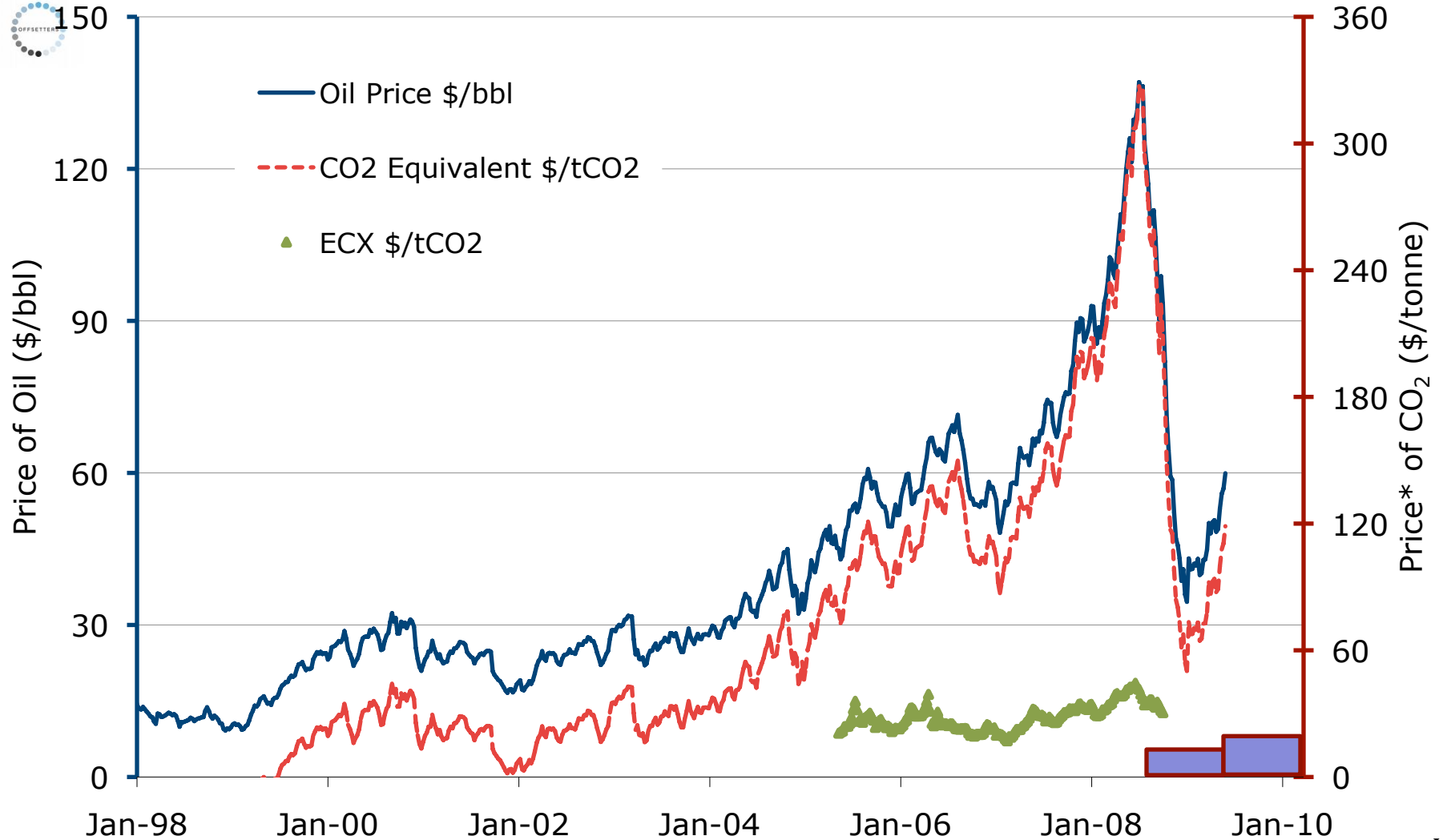


PRICES & STANDARDS TOGETHER: MAGIC





OIL CF. CARBON PRICES





PEAK OIL

- Gas is best for climate but not good enough
- Peak oil will not mean $> \$200/\text{bbl}$
- Alas:
 - for the rich there is lots of coal liquefaction at $< \$100/\text{bb}$
 - for the poor there is going to be even more deforestation.



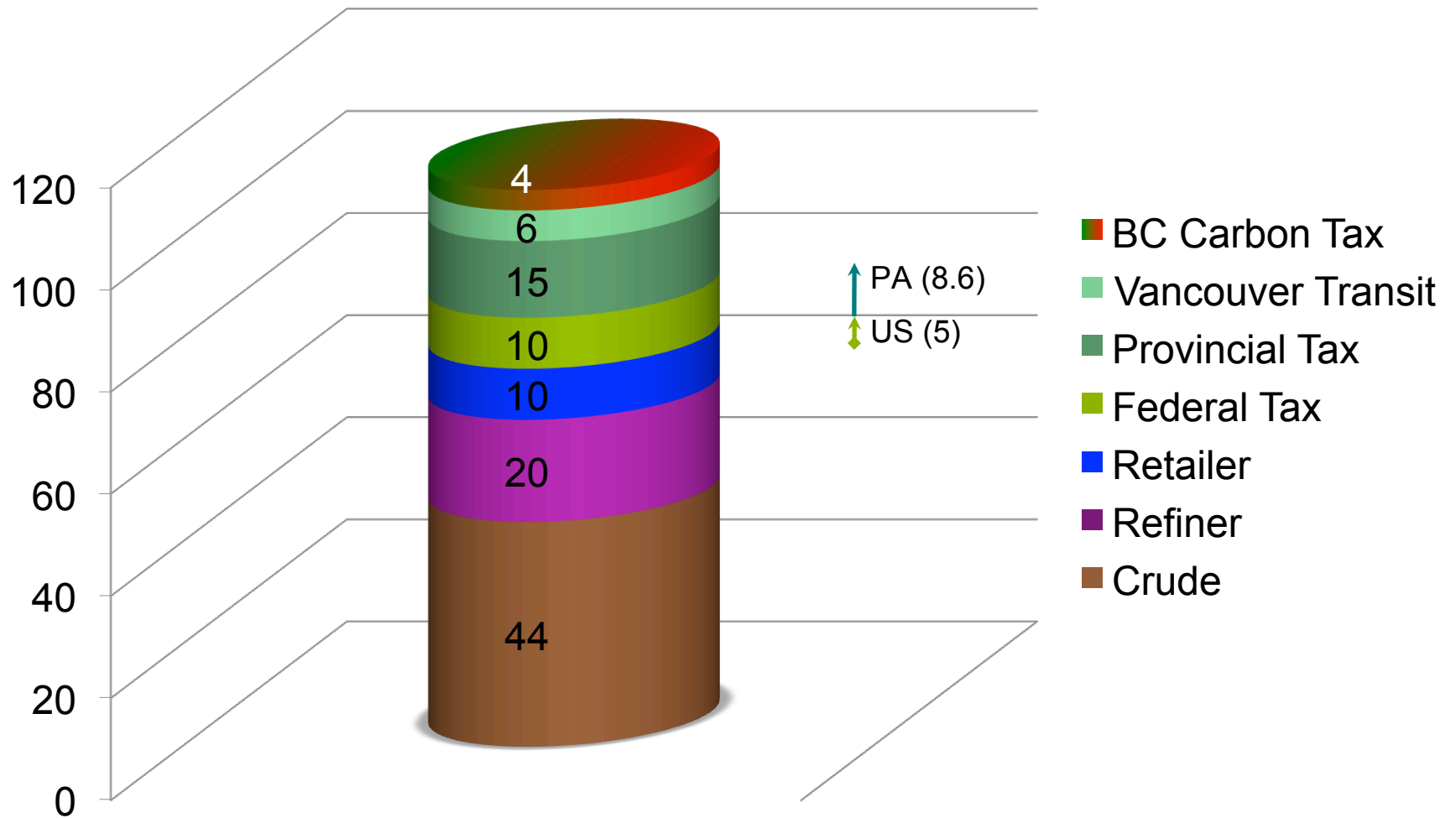


RATES OF INVESTMENT IN BC

- BC Bioenergy \$25M
- BC Innovative Clean Energy fund \$25M/yr
- New port and multimodal freight hub ~\$2B
- New gas exploration & production >\$38 B since 2000

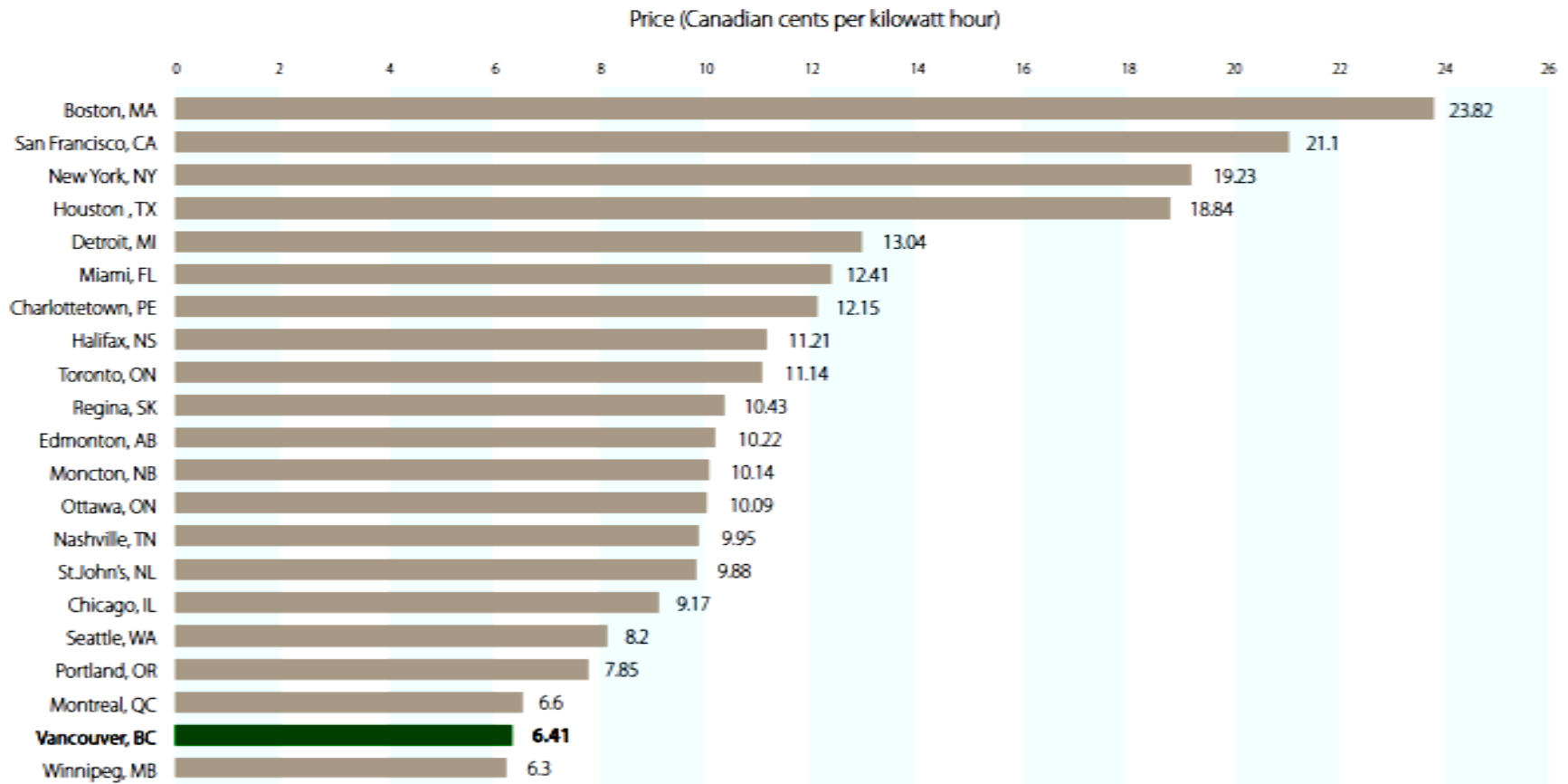


PRICE OF GASOLINE (¢/L)





RESIDENTIAL ELECTRICITY PRICES



Source: Hydro Quebec comparison of Electricity Prices in Major North American Cities, April 2006