



Bureau of Economic Geology, The University of Texas at Austin



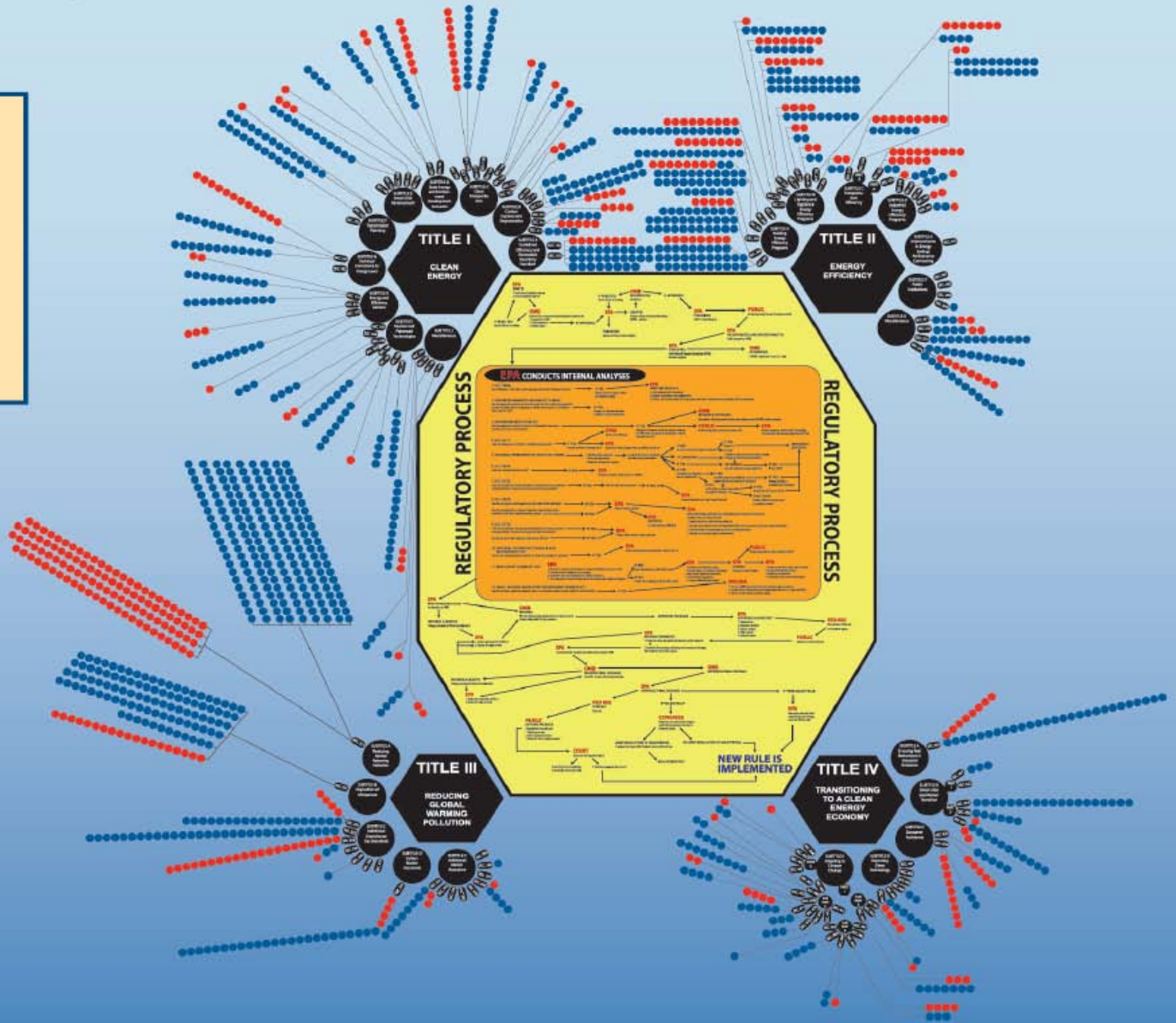
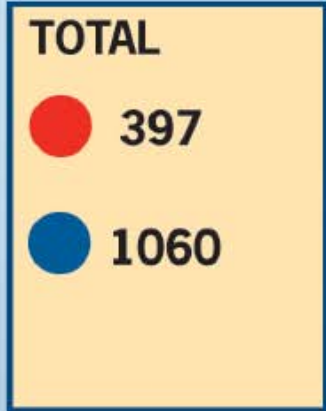
Houston Climate Forum
September 19, 2009

The Issues

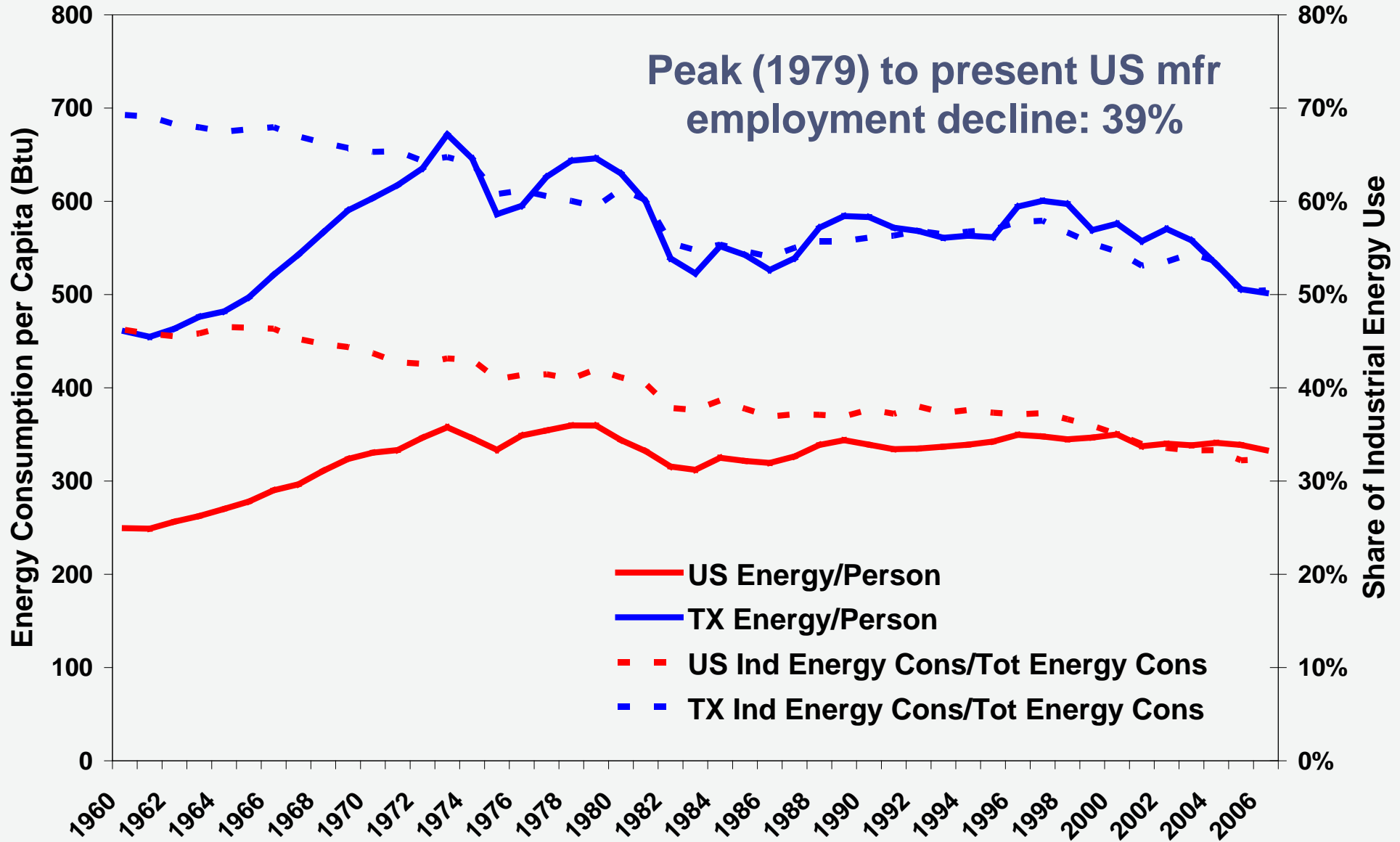
- American Clean Energy & Security Act 2009 (HR 2454)
 - *Does it make sense for Texas?*
 - *Does it make sense from an environmental point of view?*

AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 (H.R. 2454)

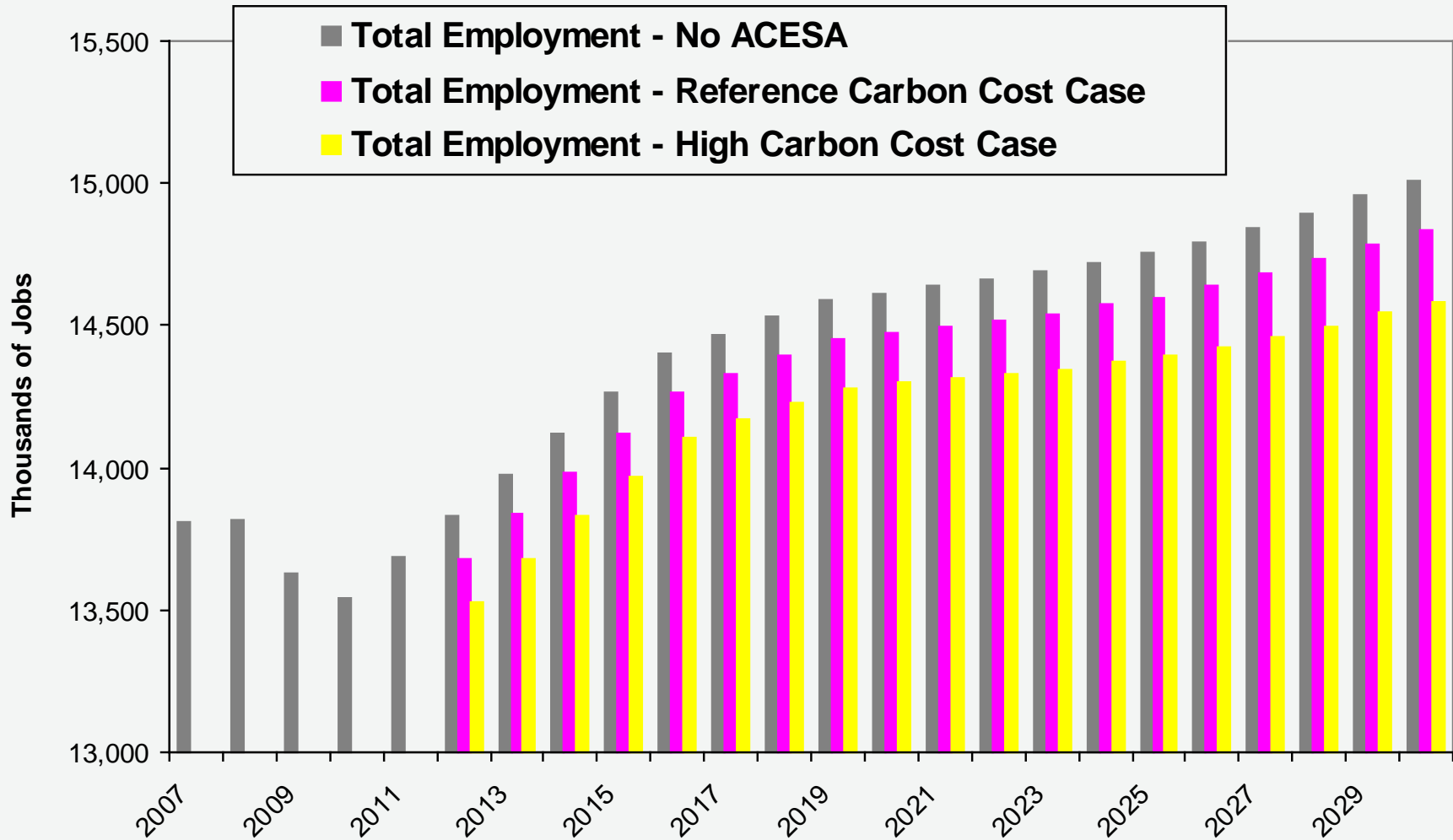
REGULATIONS & MANDATES



Texas Has Energy Intensive Industries

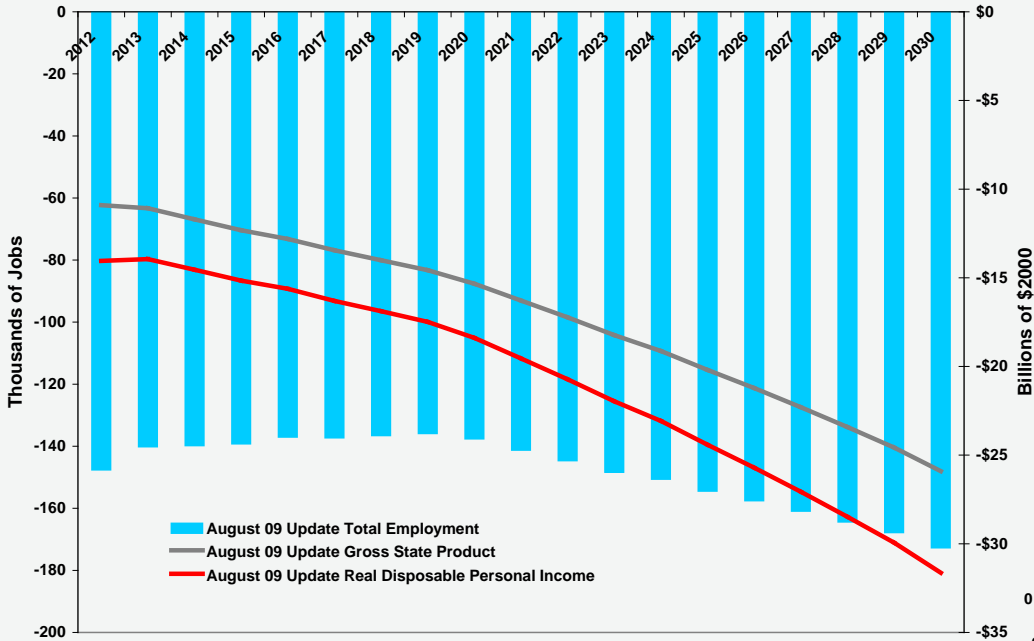


ACESA Impact on Texas Employment



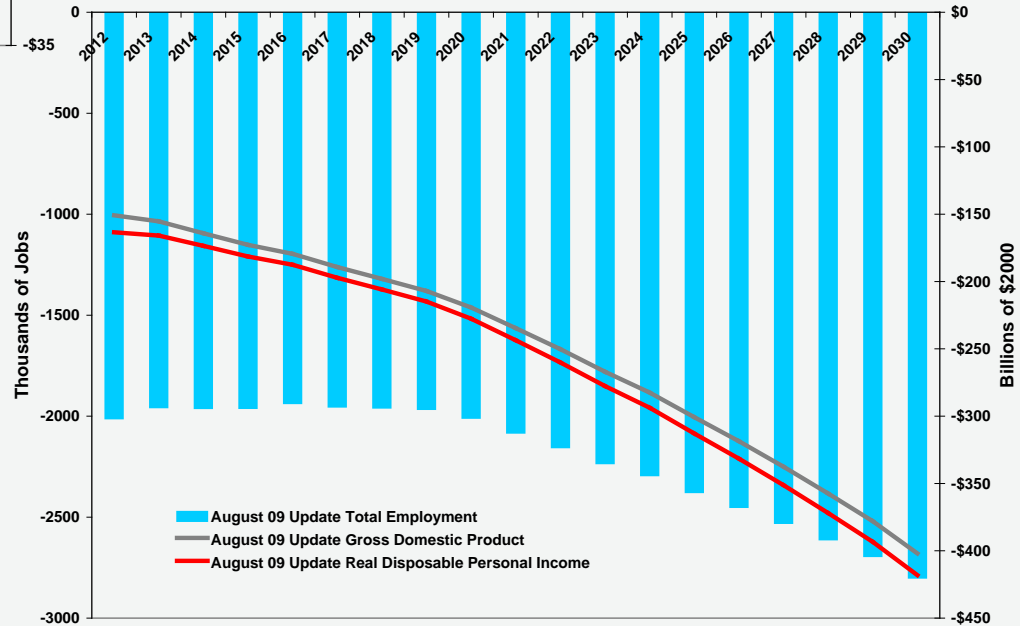
Regional

ACESA Impacts on Texas and the US



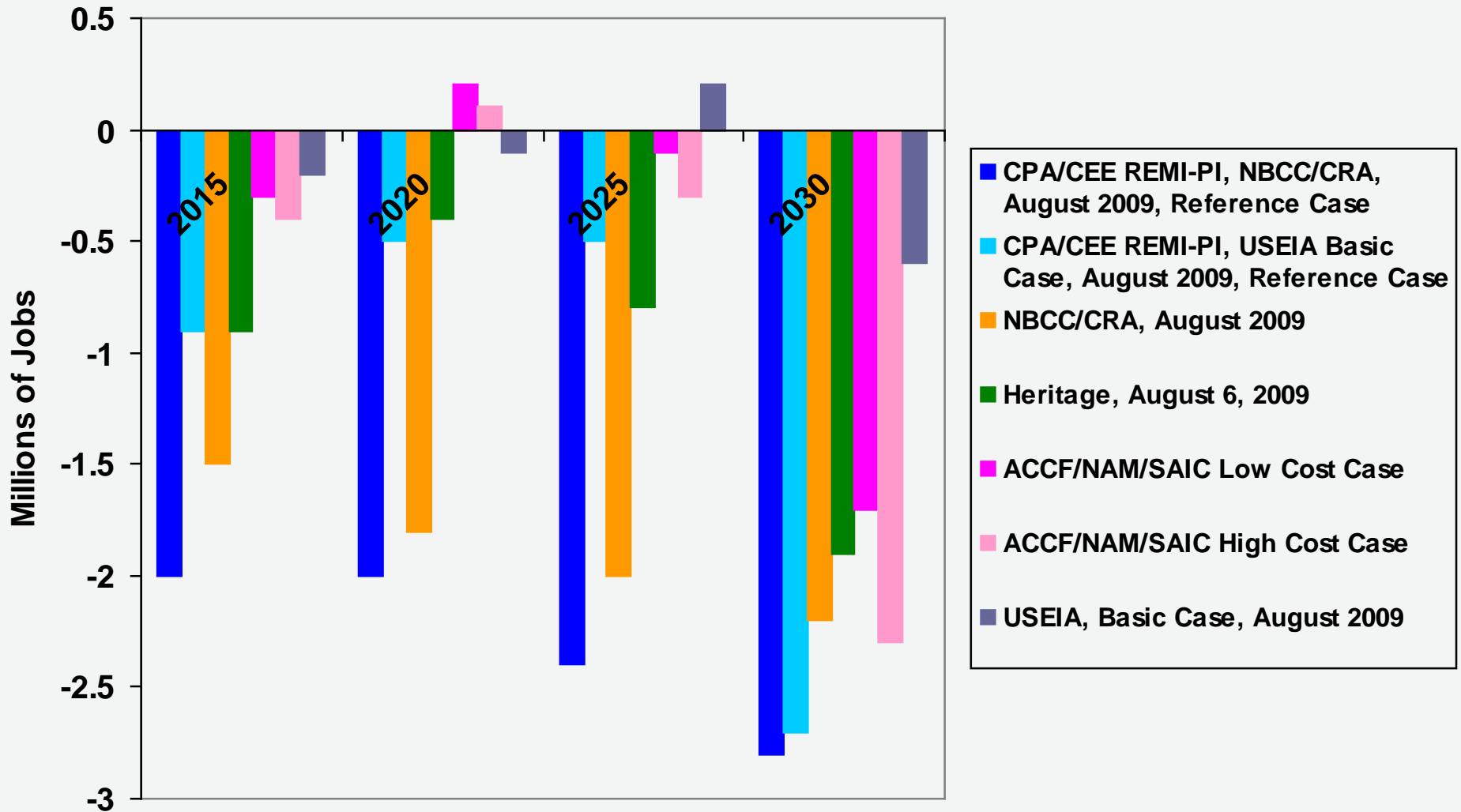
Texas

National

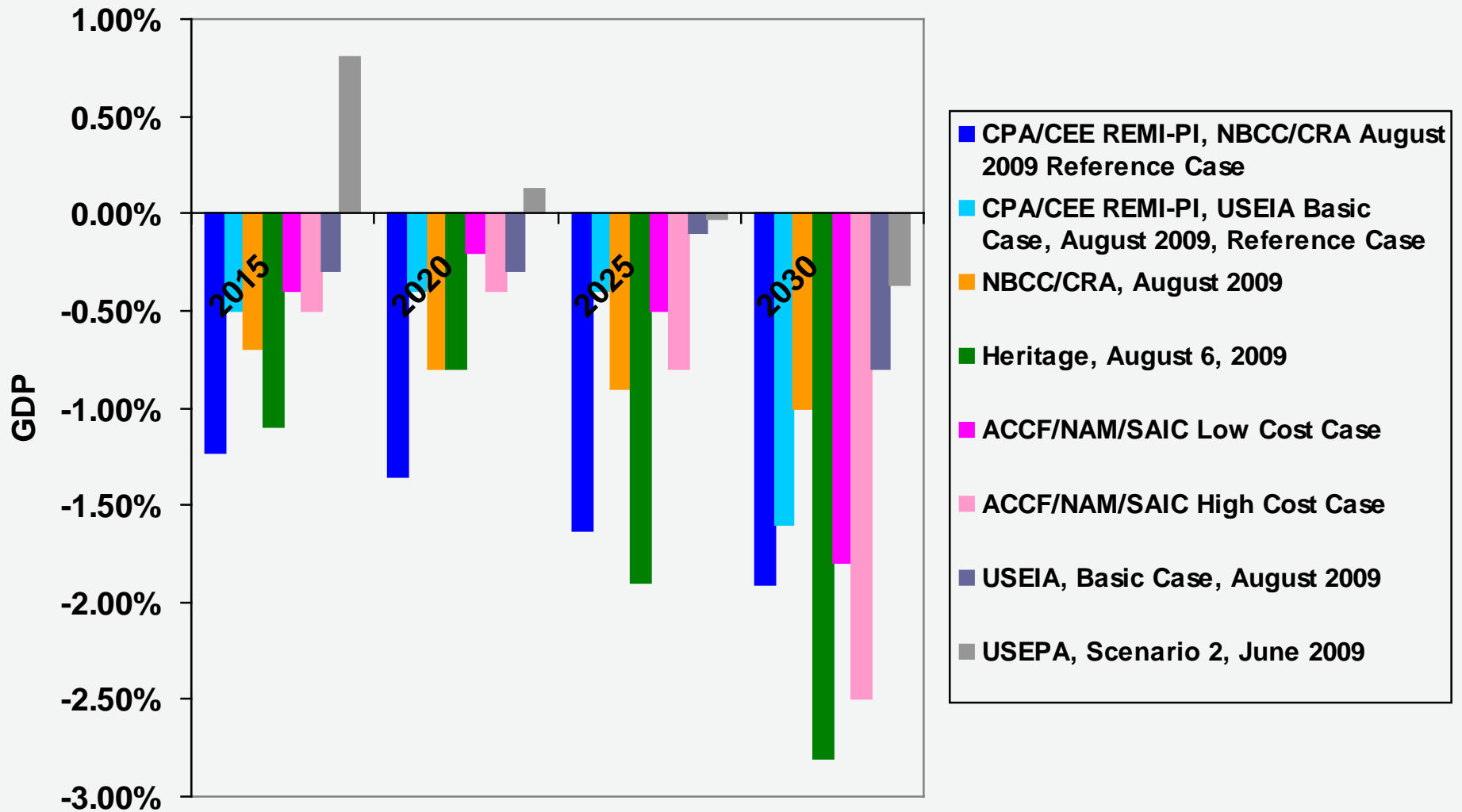


US

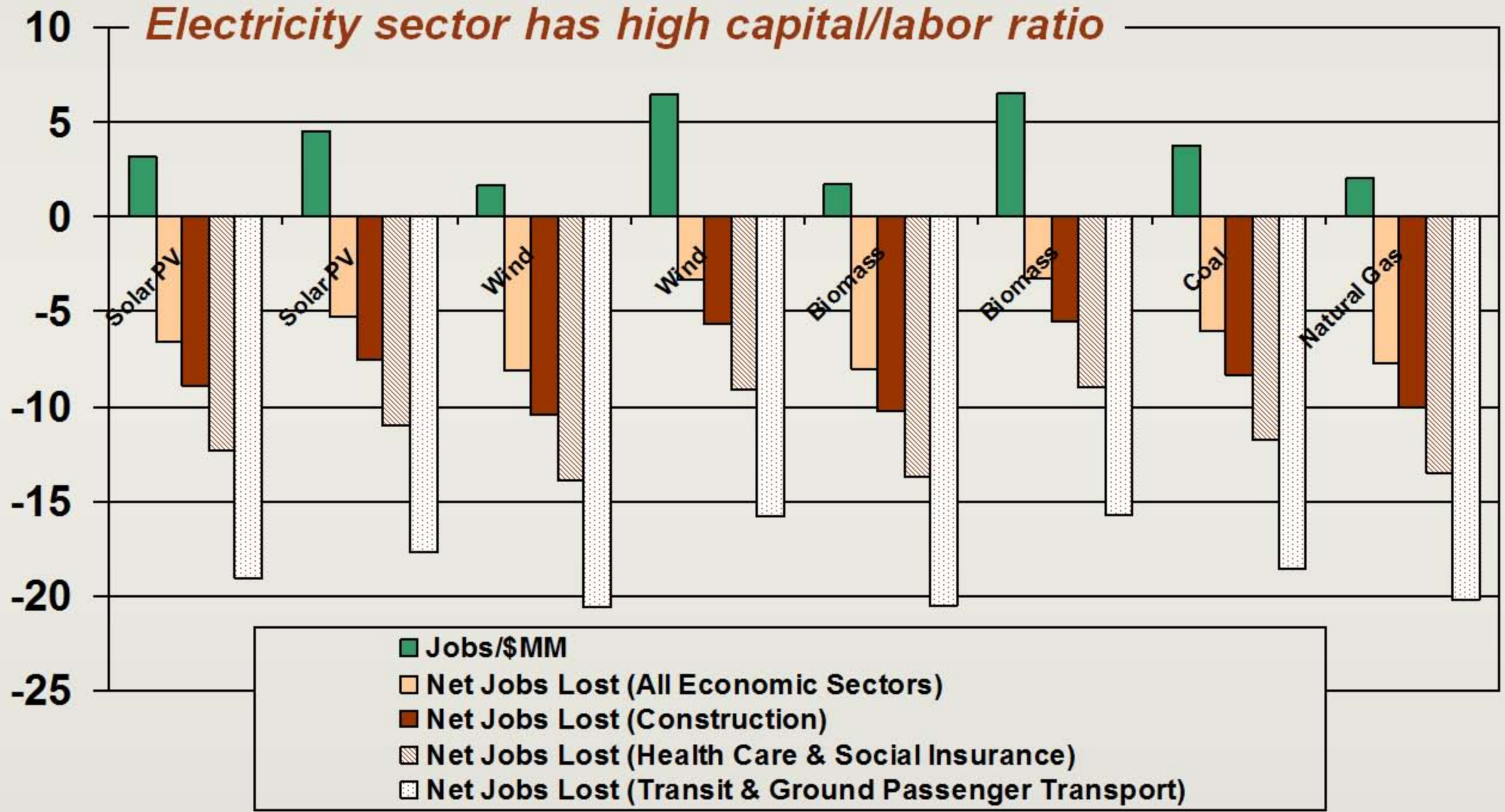
US Job Losses with ACESA



US GDP Losses with ACESA

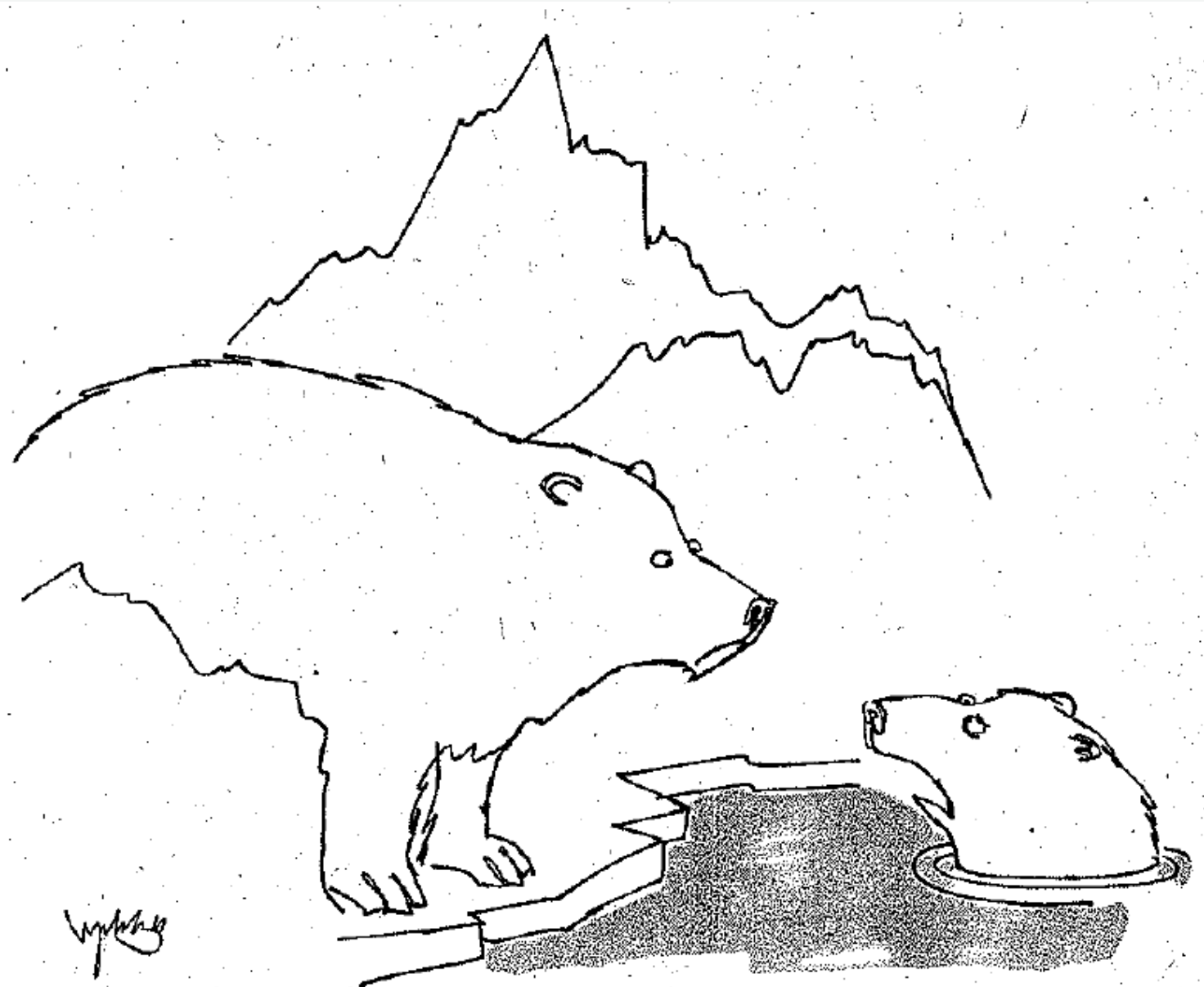


Green Jobs Debate: Jobs Gained and Lost with Incentives Programs



USCRS Views on ACESA

- Response of the economy to the technology is crucial
- Allocation of allowances determines who bears cost
- Offsets (esp. international offsets) is potentially key
- Low-carbon generation has to be built
- Estimating household effects is difficult
- Bottom line:
 - ***“There is no reason to believe that cost estimates for greenhouse gas reductions will be any more accurate than the 1990 SO2 estimates; indeed, they are likely to be less reliable. This is not to say that they will be too high; they may be too low.”***



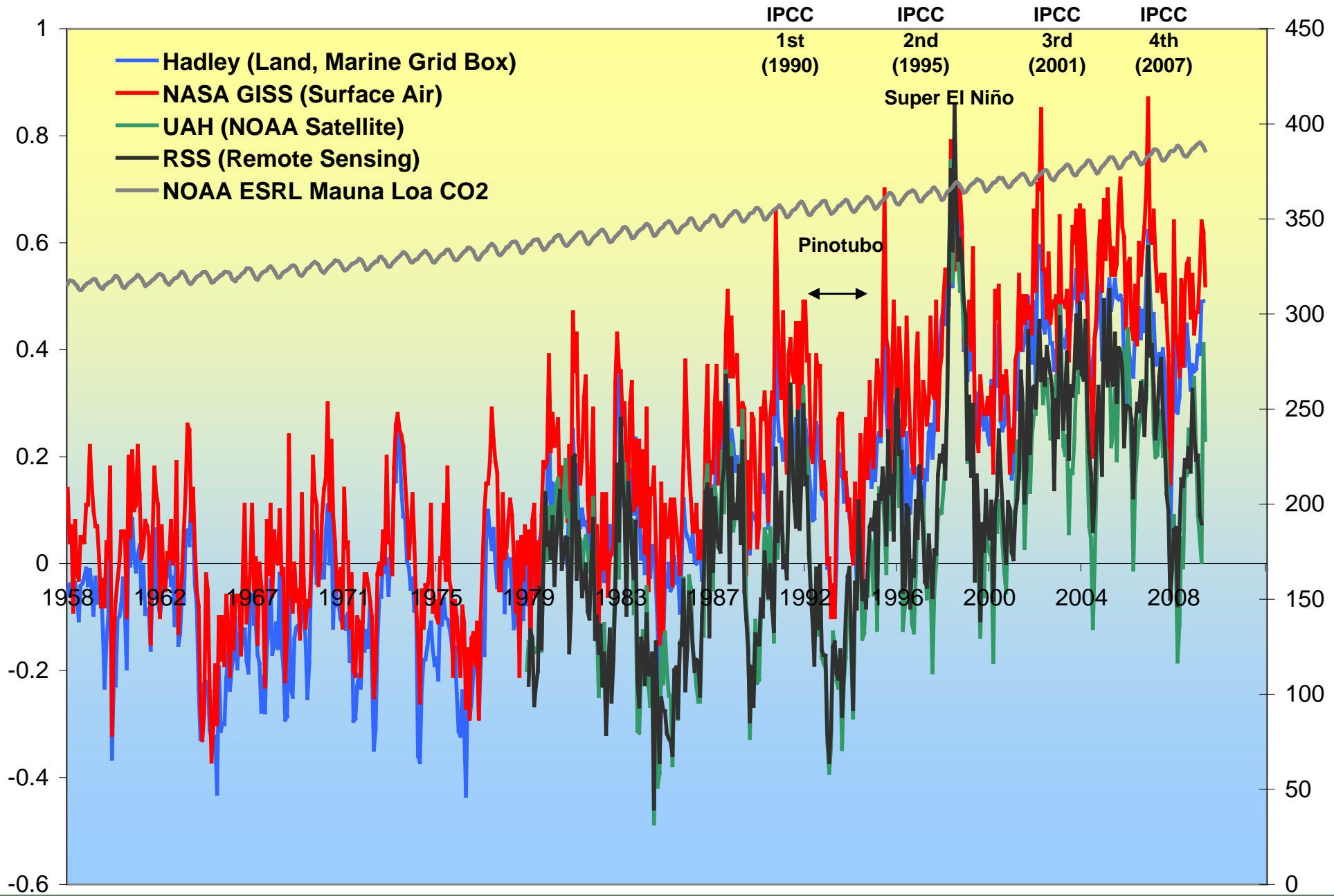
"You know, I've been thinking about it a lot, and I'm really cold."

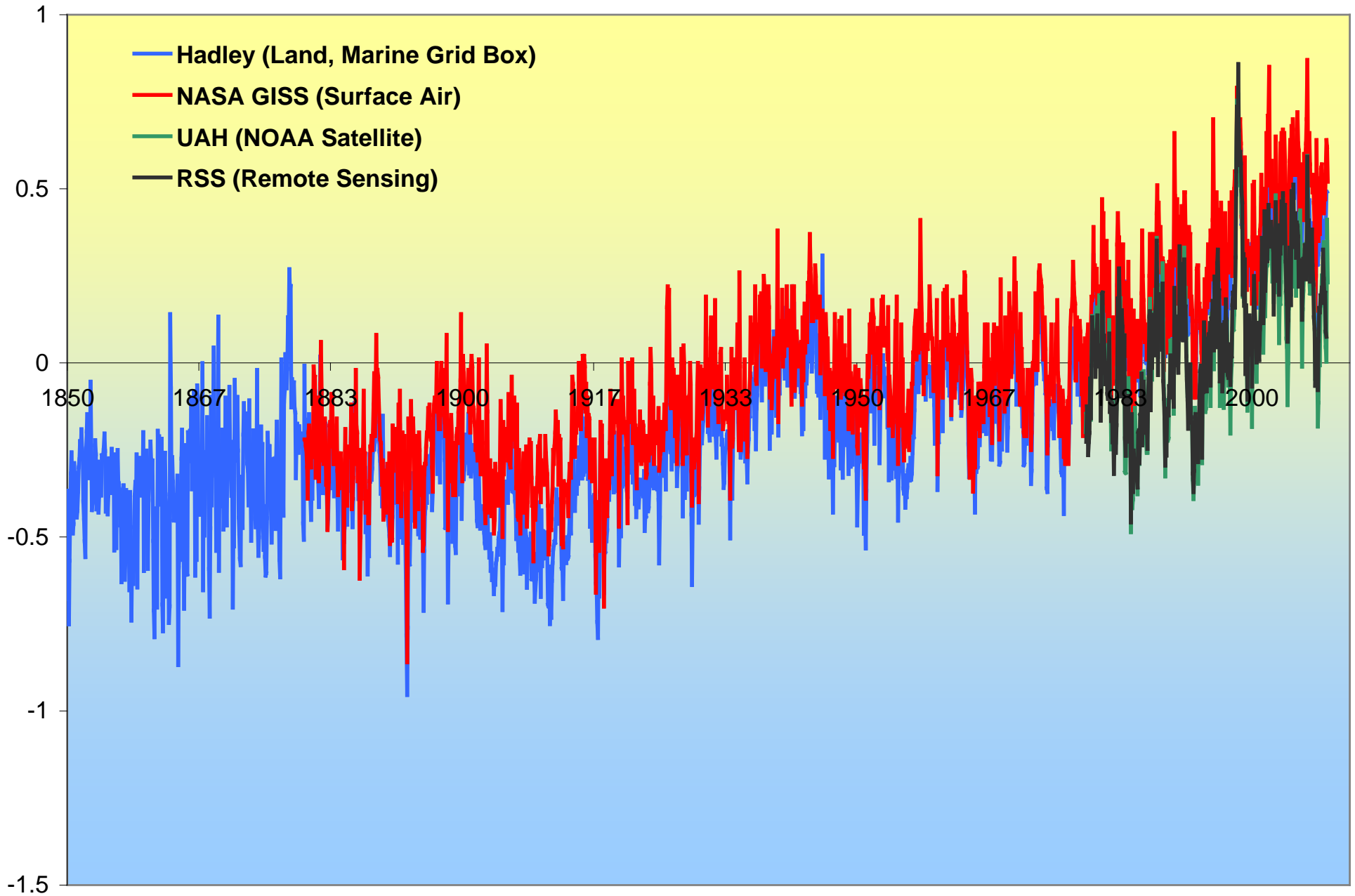
External forcings in the 20th century simulations (20C3M):

16 modeling groups, 23 models/versions from PCDMI.

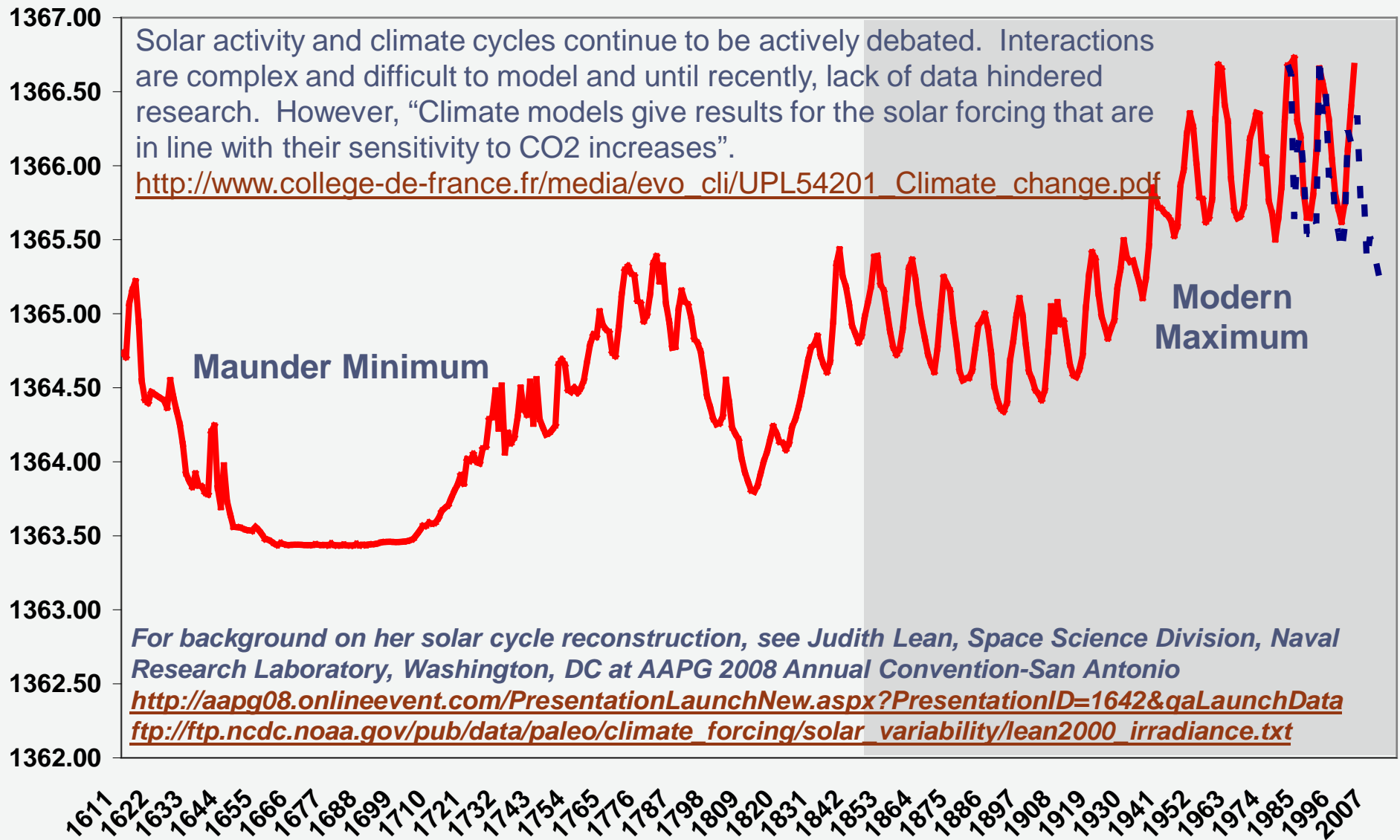
- G:** Well-mixed greenhouse gases
- O:** Tropospheric and stratospheric ozone
- SD:** Sulfate aerosol direct effects
- SI:** Sulfate aerosol indirect effects
- BC:** Black carbon
- OC:** Organic carbon
- MD:** Mineral dust
- SS:** Sea salt
- LU:** Land use
- SO:** solar irradiance
- VL:** Volcanic aerosols

Model	G	O	SD	SI	BC	OC	MD	SS	LU	SO	VL
CCSM3	Y	Y	Y	-	Y	Y	-	-	-	Y	Y
GFDL-CM2.0	Y	Y	Y	-	Y	Y	-	-	Y	Y	Y
GFDL-CM2.1	Y	Y	Y	-	Y	Y	-	-	Y	Y	Y
GISS-EH	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
GISS-ER	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MIROC3.2(medres)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MIROC3.2(hires)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MIUB/ECHO-G	Y	-	Y	Y	-	-	-	-	-	Y	Y
MRI-CGCM2.3.2	Y	-	Y	-	-	-	-	-	-	Y	Y
PCM	Y	Y	Y	-	-	-	-	-	-	Y	Y
BCCR-BCM2.0	Y	-	Y	-	-	-	-	-	-	-	-
CCCma-CGCM3.1(T47)	Y	-	Y	-	-	-	-	-	-	-	-
CCCma-CGCM3.1(T63)	Y	-	Y	-	-	-	-	-	-	-	-
CNRM-CM3	Y	Y	Y	-	Y	-	-	-	-	-	-
CSIRO-Mk3.0	Y	-	Y	-	?	?	?	?	?	?	-
ECHAM5/MPI-OM	Y	Y	Y	Y	-	-	-	-	-	-	-
FGOALS-g1.0	Y	-	Y	?	-	-	-	-	-	-	-
GISS-AOM	Y	-	Y	-	-	-	-	Y	-	-	-
INM-CM3.0	Y	-	Y	-	-	-	-	-	-	Y	-
IPSL-CM4	Y	-	Y	Y	-	-	-	-	-	-	-
HadCM3	Y	Y	Y	Y	-	-	-	?	-	-	-
HadGEM-run1	Y	Y	Y	Y	Y	Y	-	Y	Y	-	-
HadGEM-run2	Y	Y	Y	Y	Y	Y	-	Y	Y	Y	Y
INGV-SXG	Y	Y	Y	-	?	?	?	?	-	?	?
CSIRO-Mk3.5	Y	-	Y	-	-	-	-	?	?	-	-

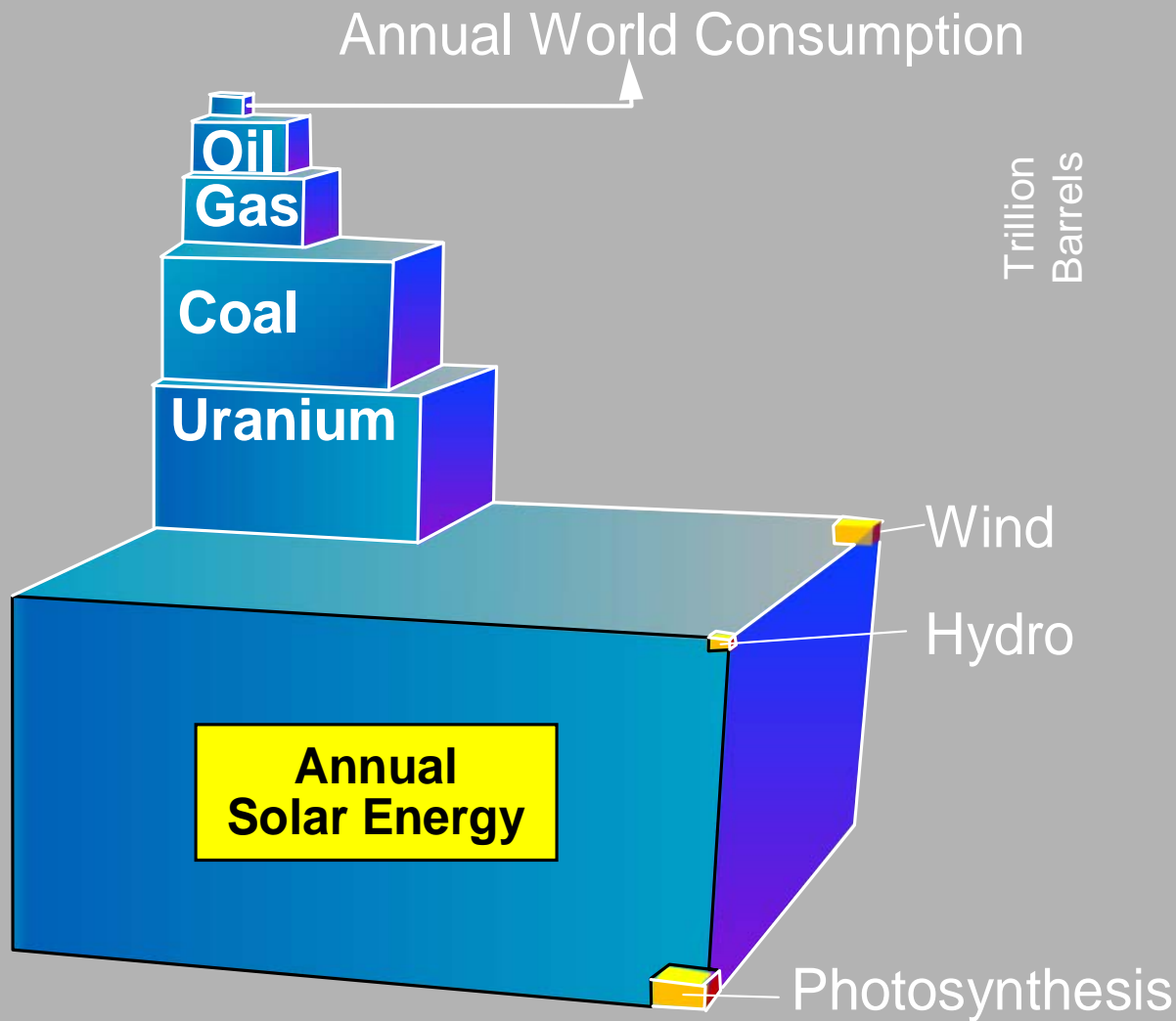




Lean, Reconstructed Solar Cycles, 1610-2004; Davos, 1979-Present

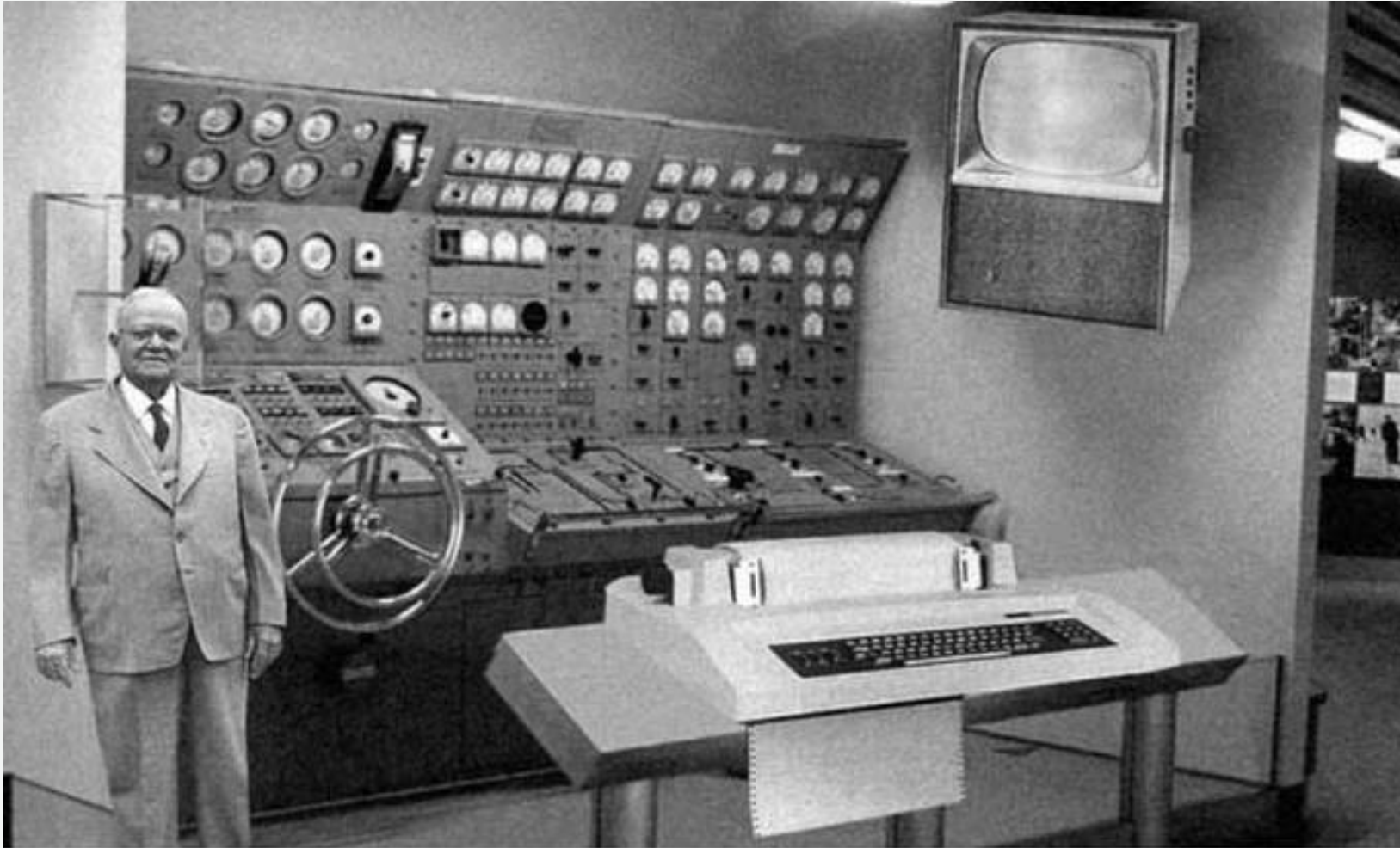


Total Energy Resources



Source: Craig, Cunningham and Saigo.

Technology Changes



Scientists from the RAND Corporation have created this model to illustrate how a "home computer" could look like in the year 2004. However the needed technology will not be economically feasible for the average home. Also the scientists readily admit that the computer will require not yet invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use.

Does A Focus on Caps Make Sense?

- Constrains alternative views about our climate future and alternative solutions
- Does not address social factors (“man made problems”)
- Ignores other challenges (opportunity cost of climate mitigation)
- Unintended consequences
- International oil trade
- Trading and markets