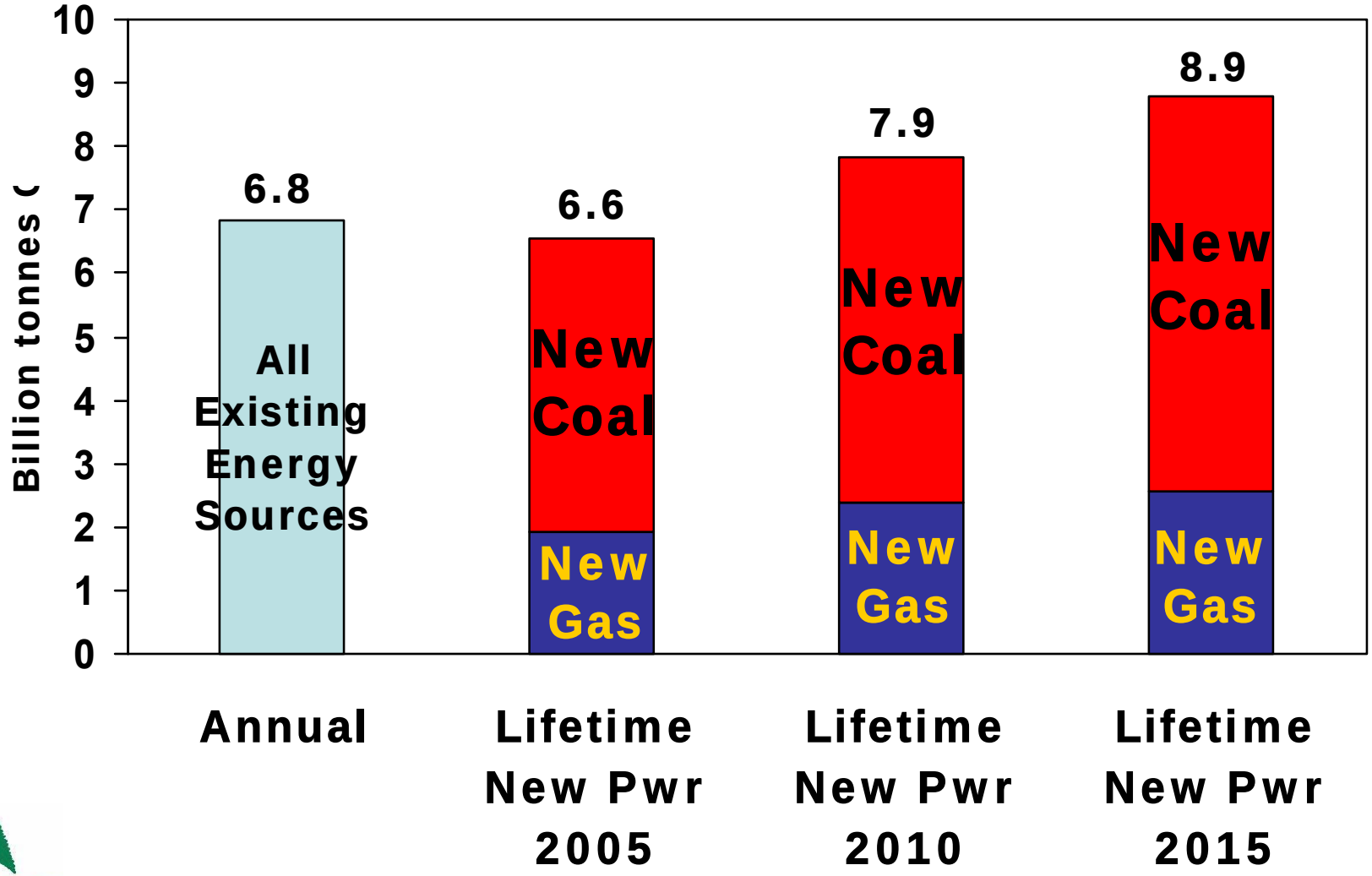
Hitting the Climate Wall

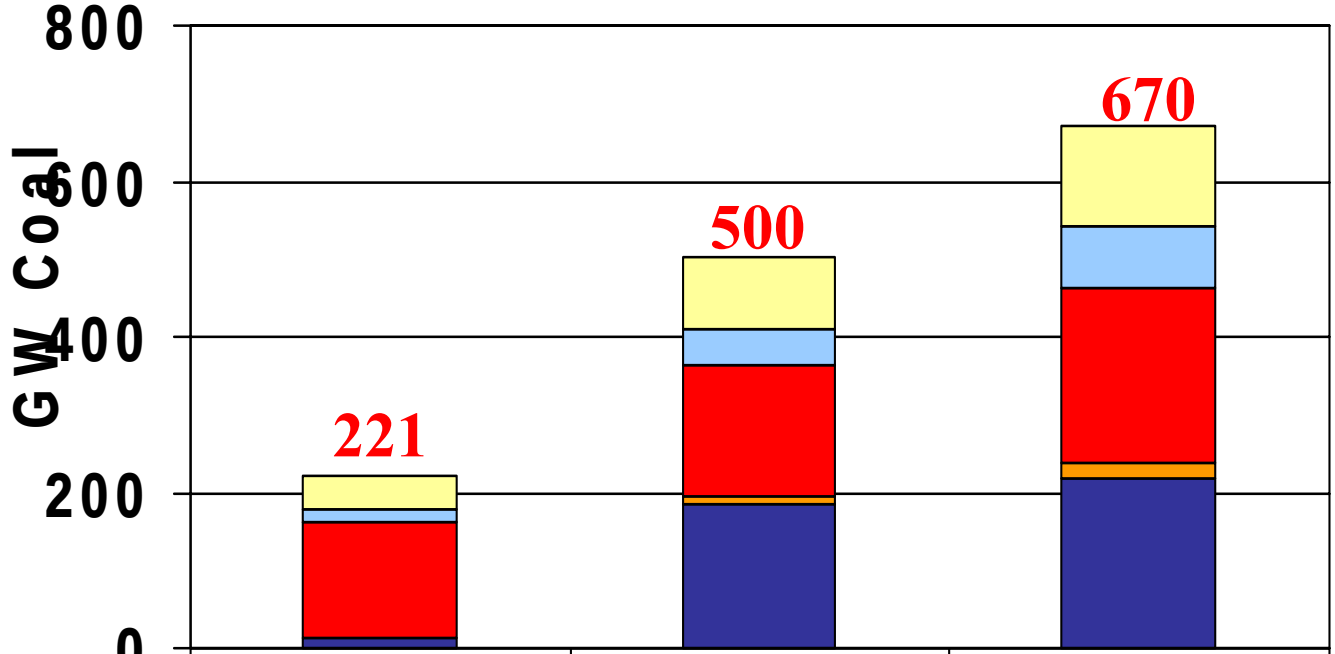
Annual Carbon Commitment

Lifetime Emissions of Annual New Fossil Investment



Source: new fossil capacity, IEA, WEO 2004

New Coal Build by Decade



	2003-2010	2011-2020	2021-2030
Other Developing	43	90	128
India	16	48	79
China	150	168	226
Transition	1	11	19
OECD	12	184	218

Incremental new coal capacity by decade

Source: IEA, WEO 2004

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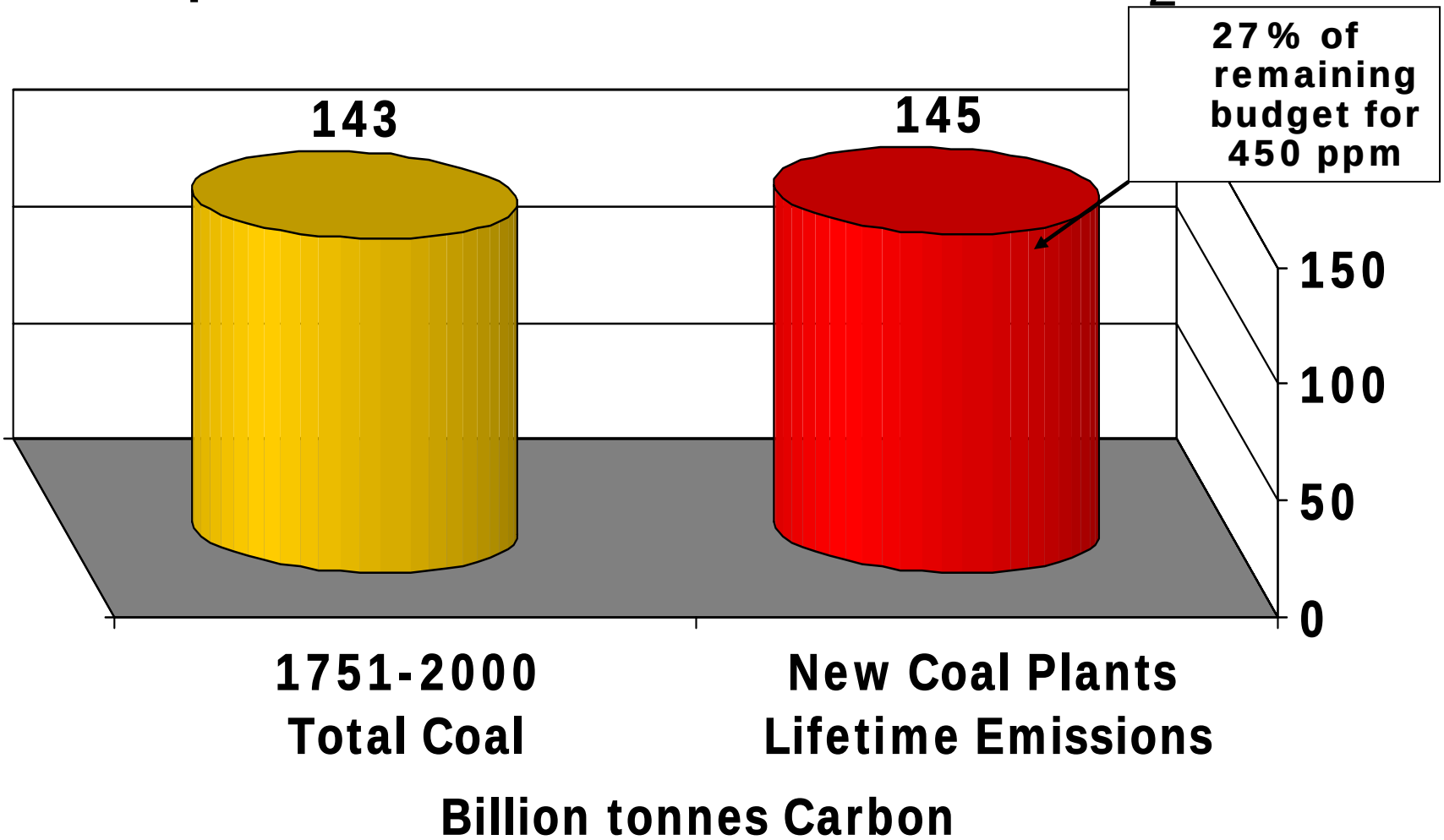
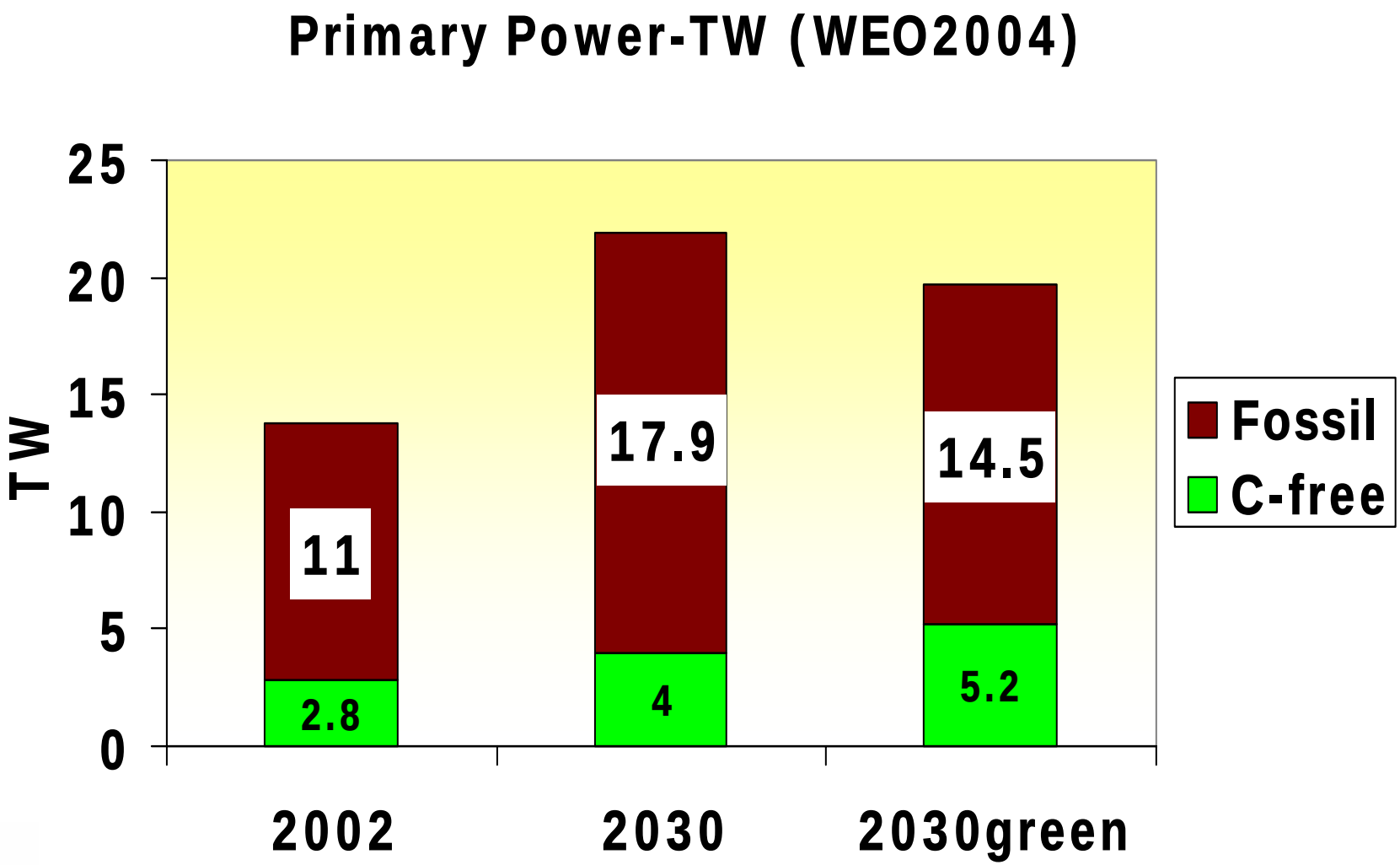
New Coal Plant Emissions Equal All Historic Coal CO_2



Source: ORNL, CDIAC; IEA, WEO 2004

Fossil is Pulling Ahead



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“Asia-Pacific Six” Vision

- Australia, China, India, Japan, So. Korea, USA.
- CCS for new fossil power after 2015/2020.
- Gradual diffusion of improved technology to AP6 and beyond.

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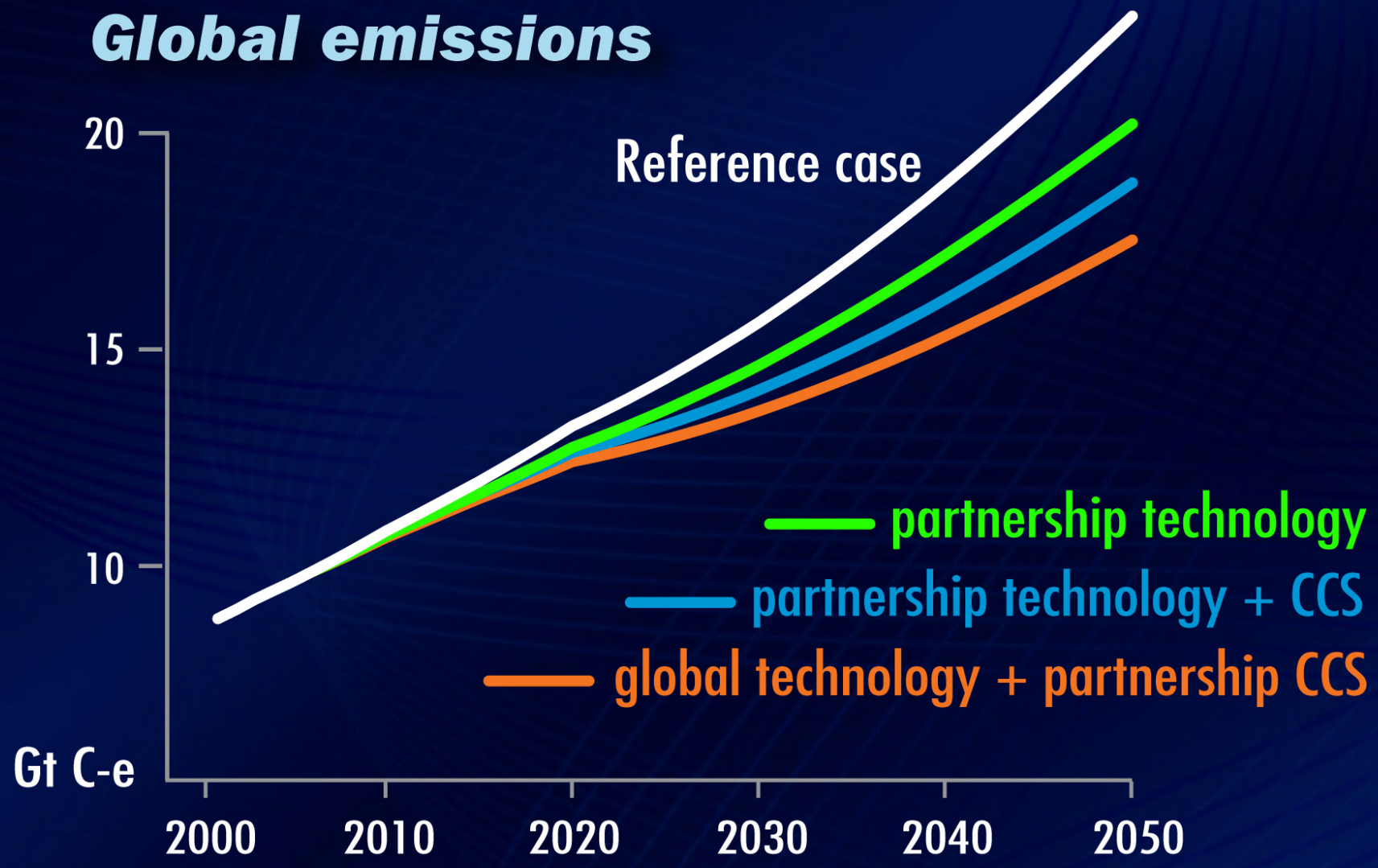
Global emissions



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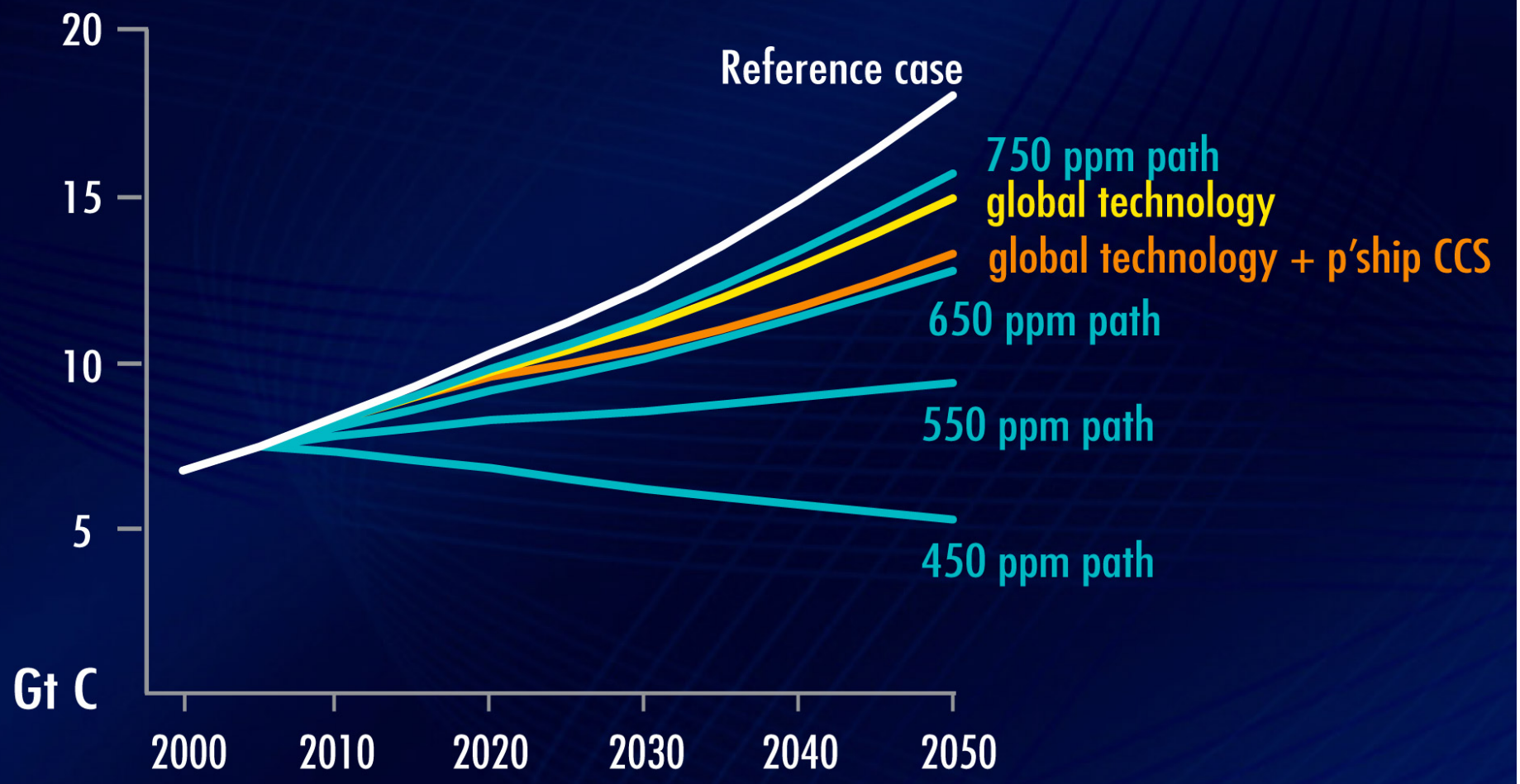
Atmospheric CO_2 concentration pathways



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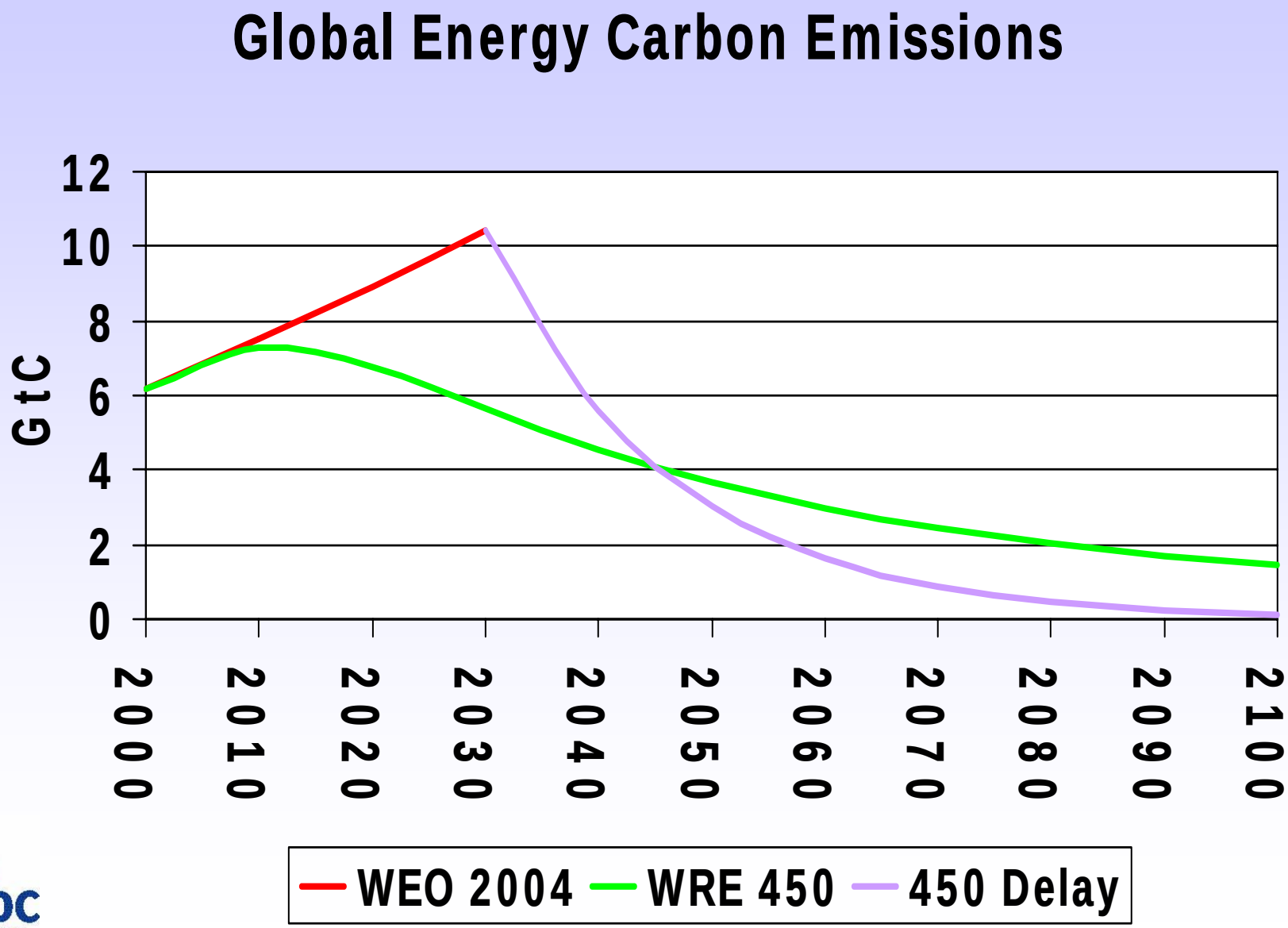
Slow Start Means Crash Later



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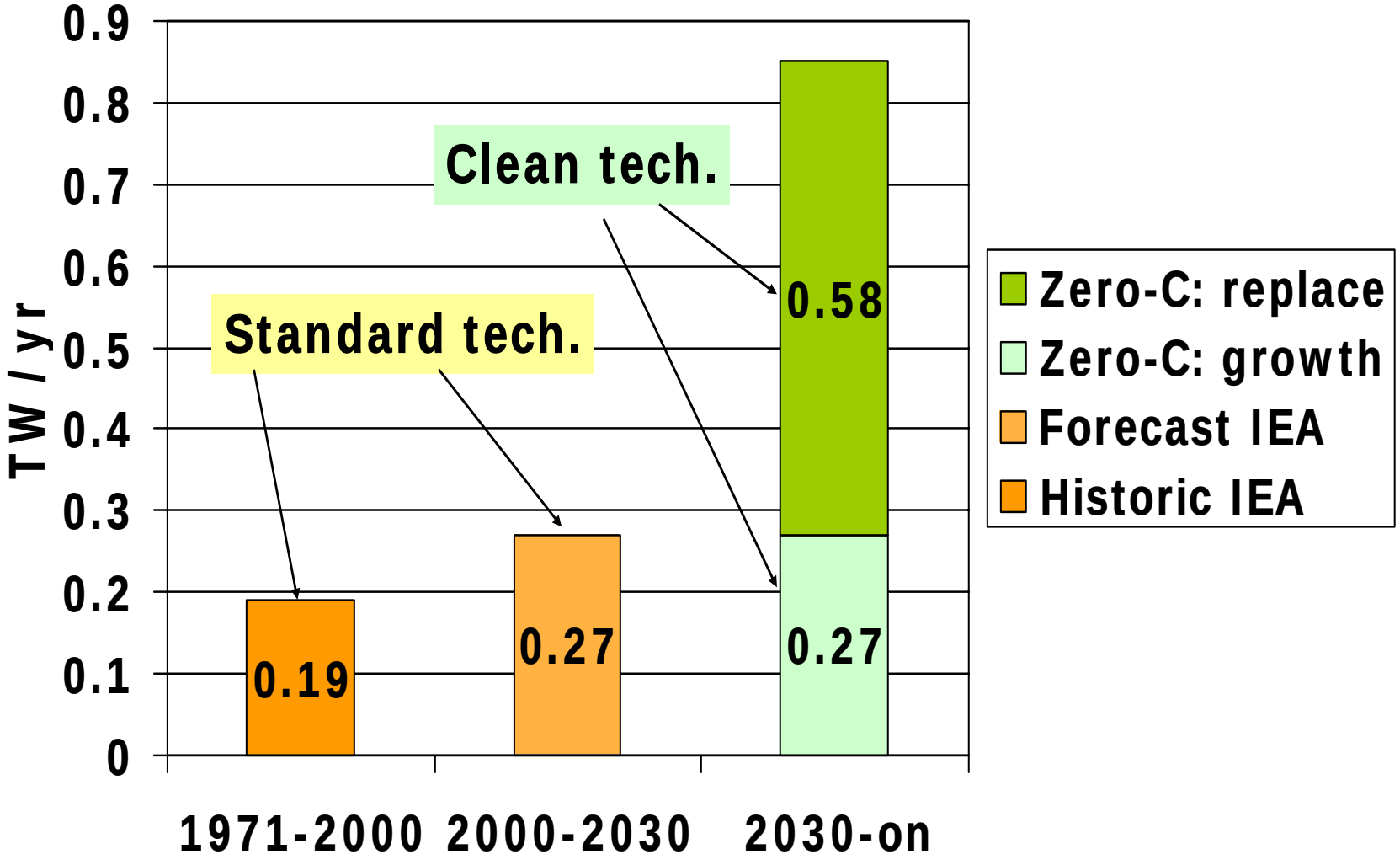
450-Delay: Zero-Carbon Required Build Rates



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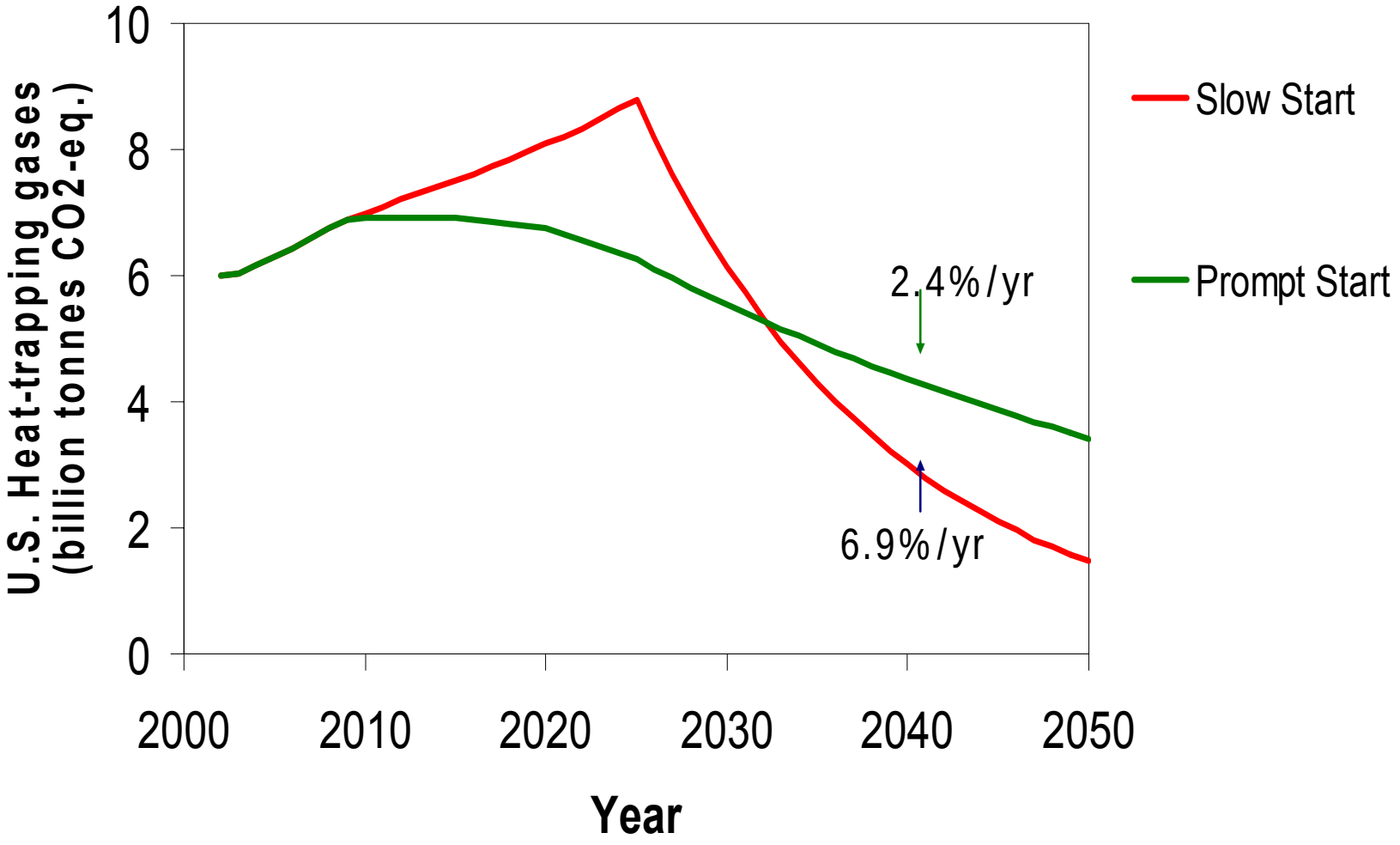
US: Slow Start Means Crash (…Or Burn) Later



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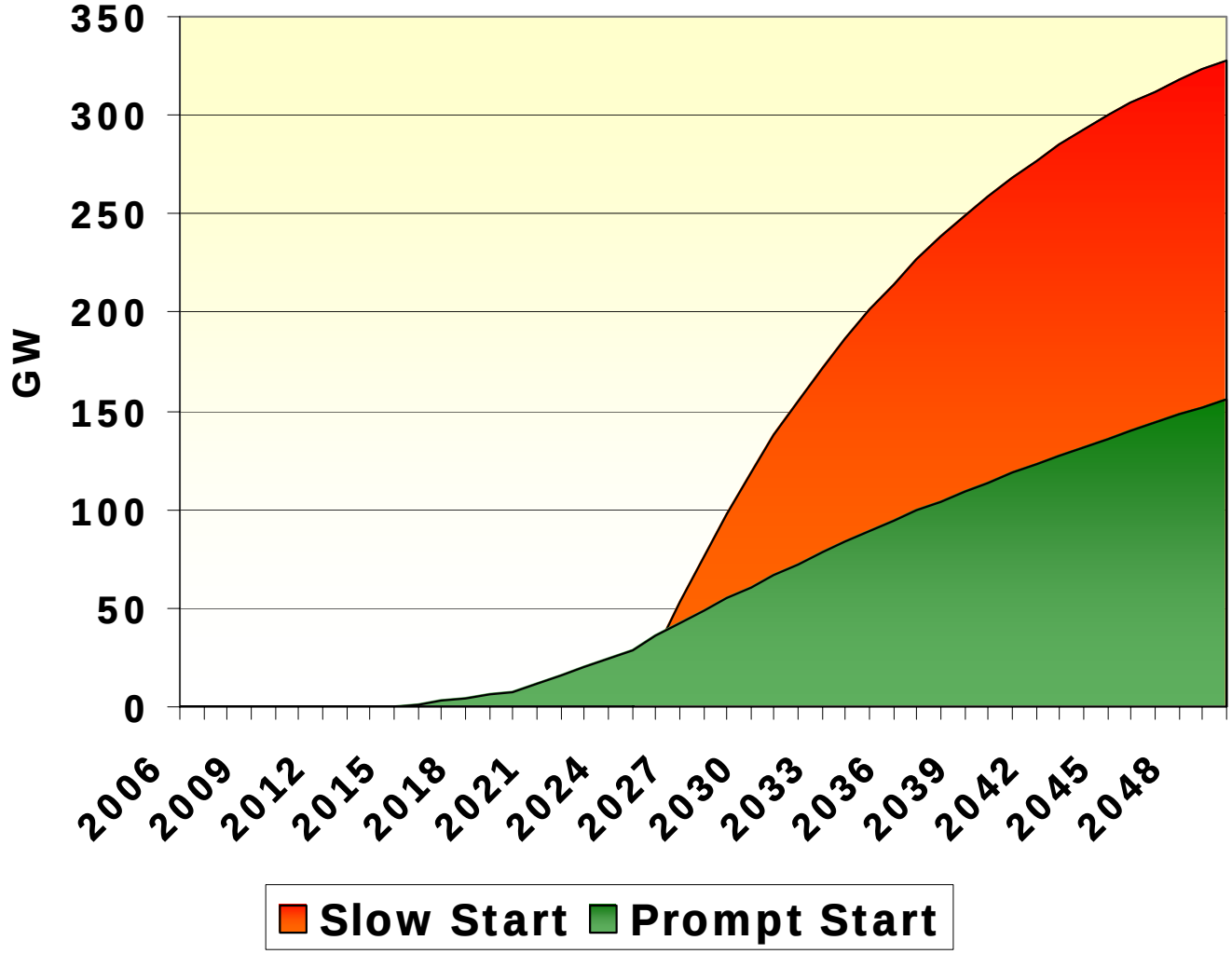
Existing US Coal Capacity Replaced



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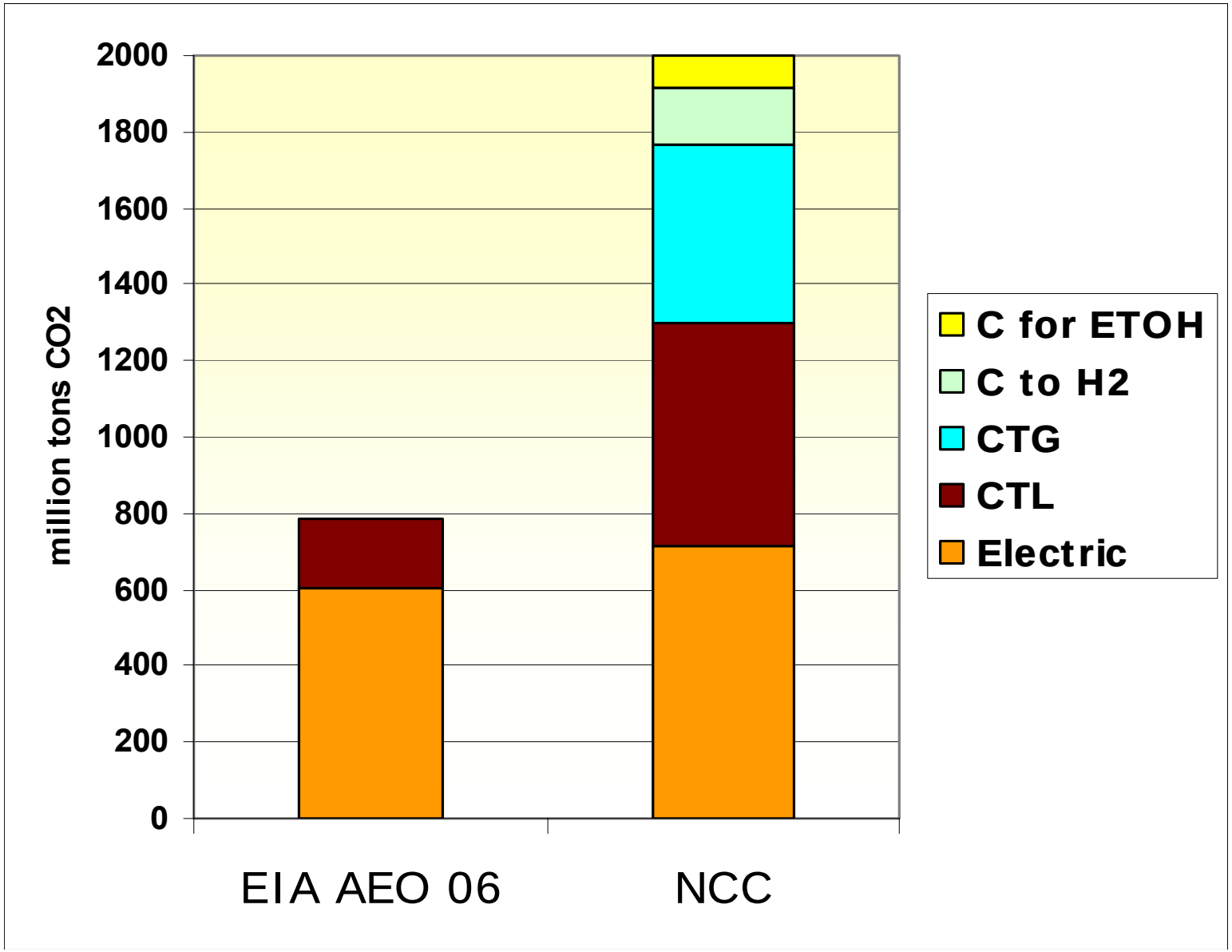
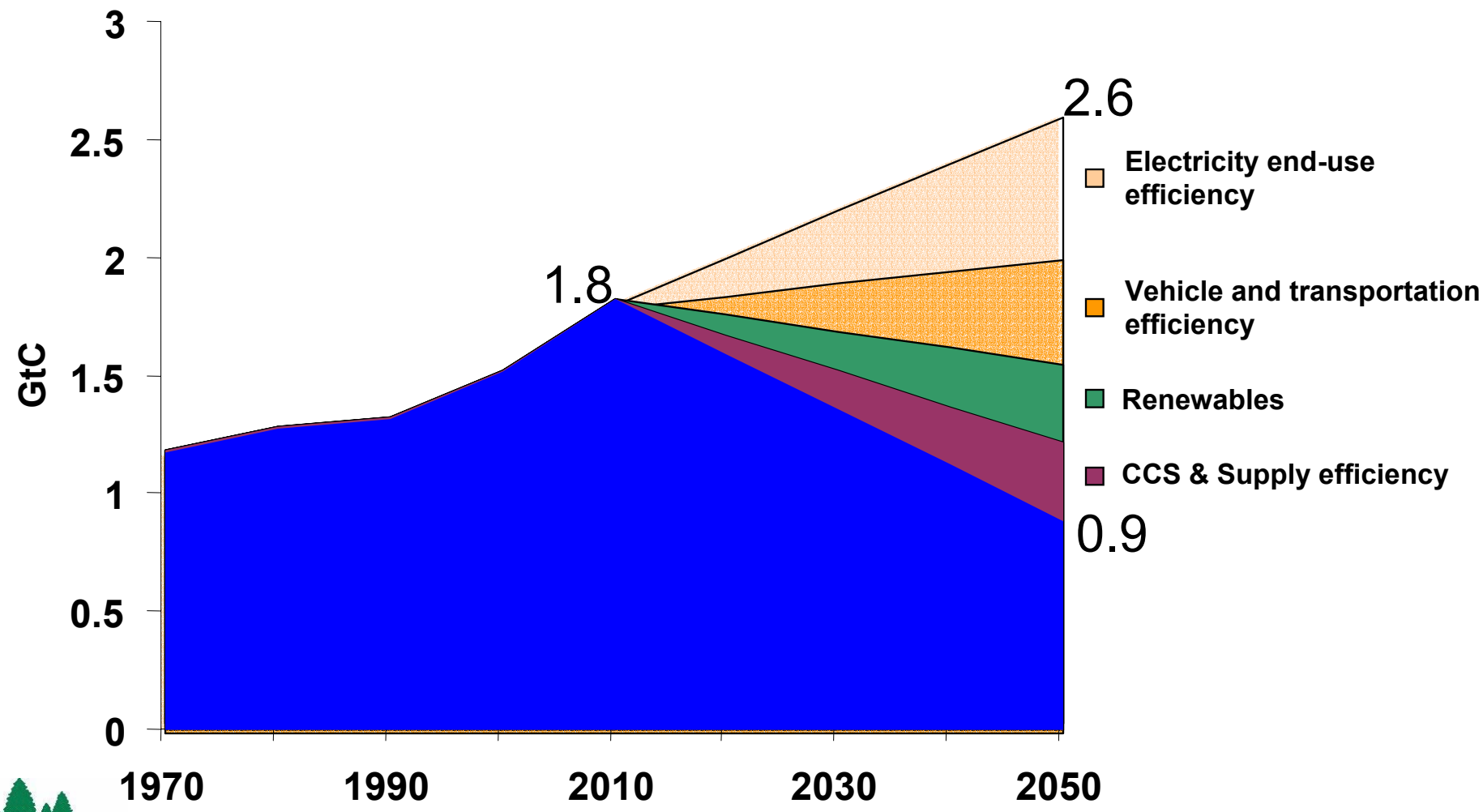
CO2 Storage for New Coal Use in US to 2025



Cutting U.S. emissions in half



After Pacala and Socolow, 2004; ARI CarBen3 Spreadsheet

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Steps to Take Now

- Cap and reduce emissions
- CO2 sequestration demos
- Low-carbon generation obligation
- Renewable fuels
- Efficiency Standards
- International re-engagement

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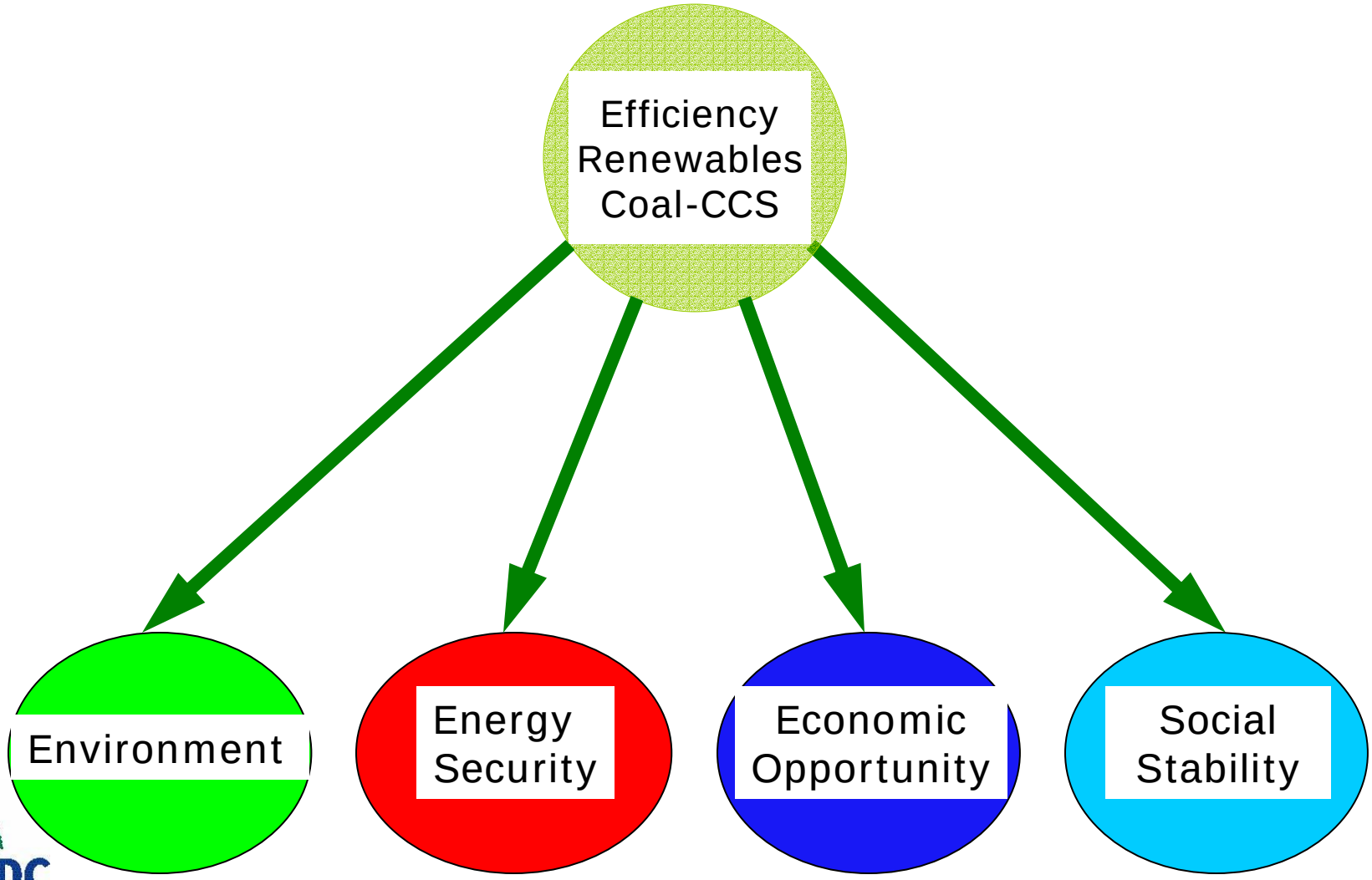
Multiple Benefits



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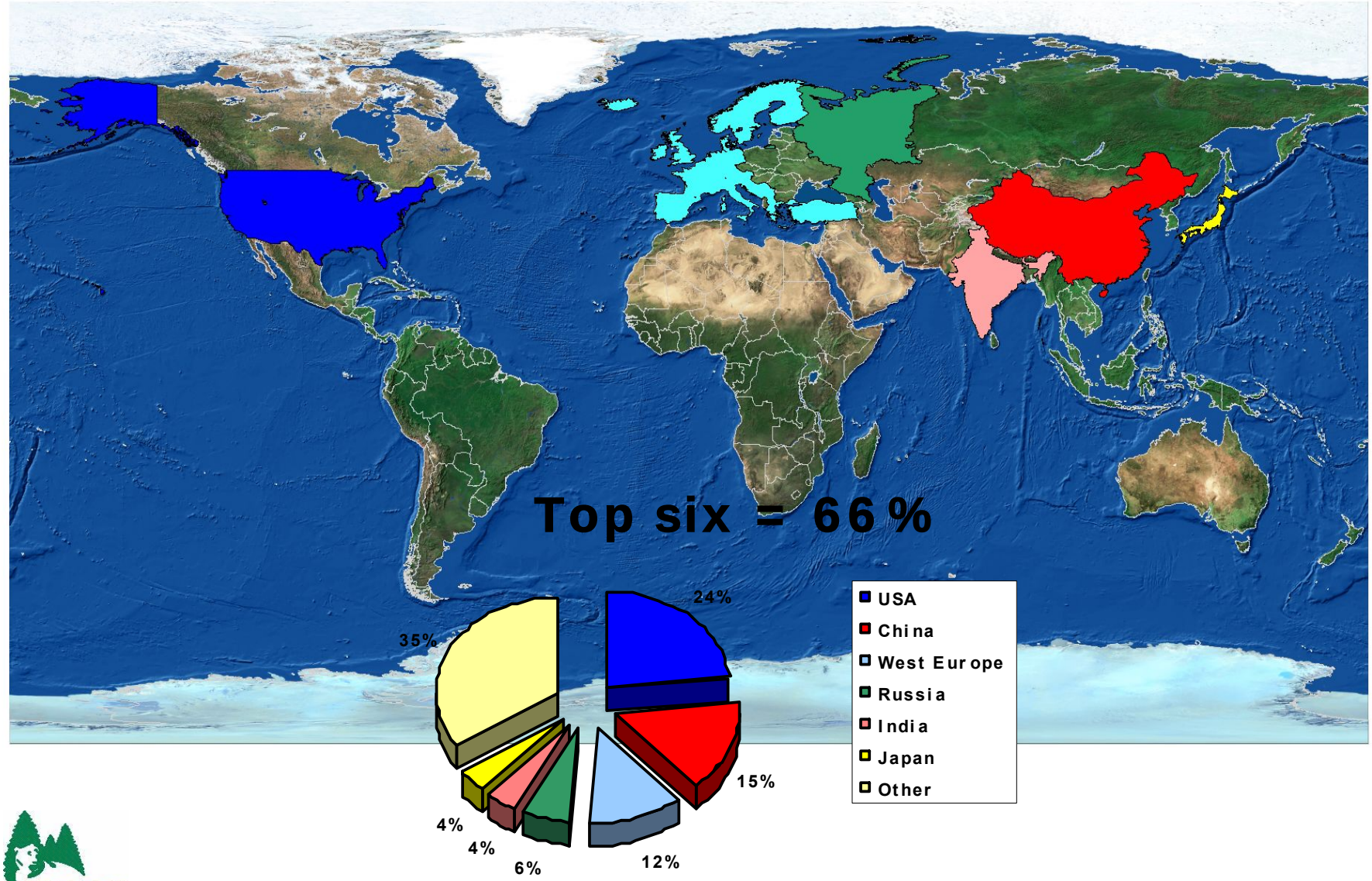
Biggest CO_2 emitters 2000-2025



Cumulative CO2 Emissions 2000-2025, US EIA, IEO 2004

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Take Home

- Delay makes everything harder.
- CCS important but can’t do it all.
- CCS pace much too slow.
- Coal can’t do everything.
- Starting now with comprehensive package makes deep cuts feasible.

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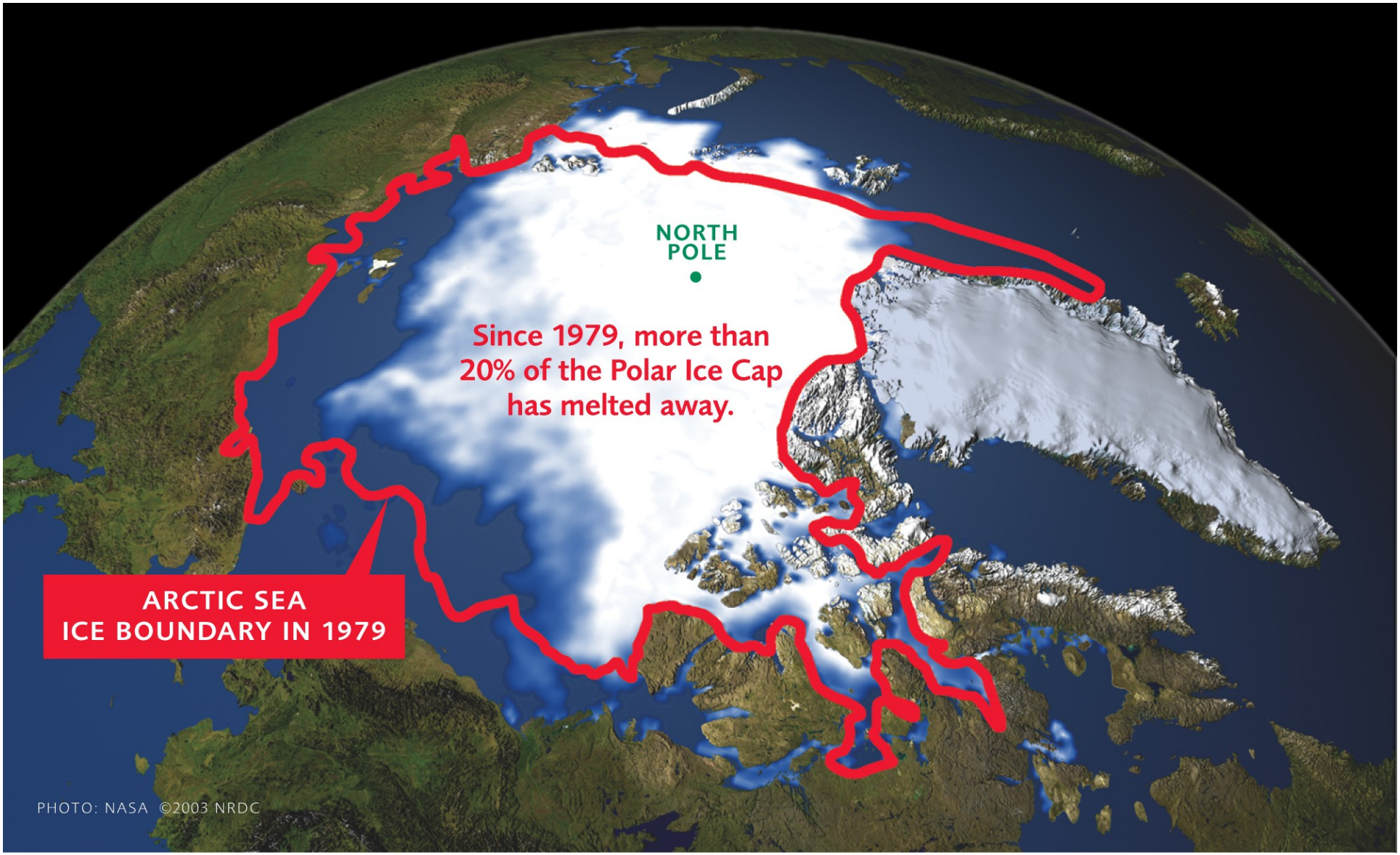
Warming Won't Wait. Will We?