



ELECTRIC POWER
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US Climate Policy: Offsets R' Us?

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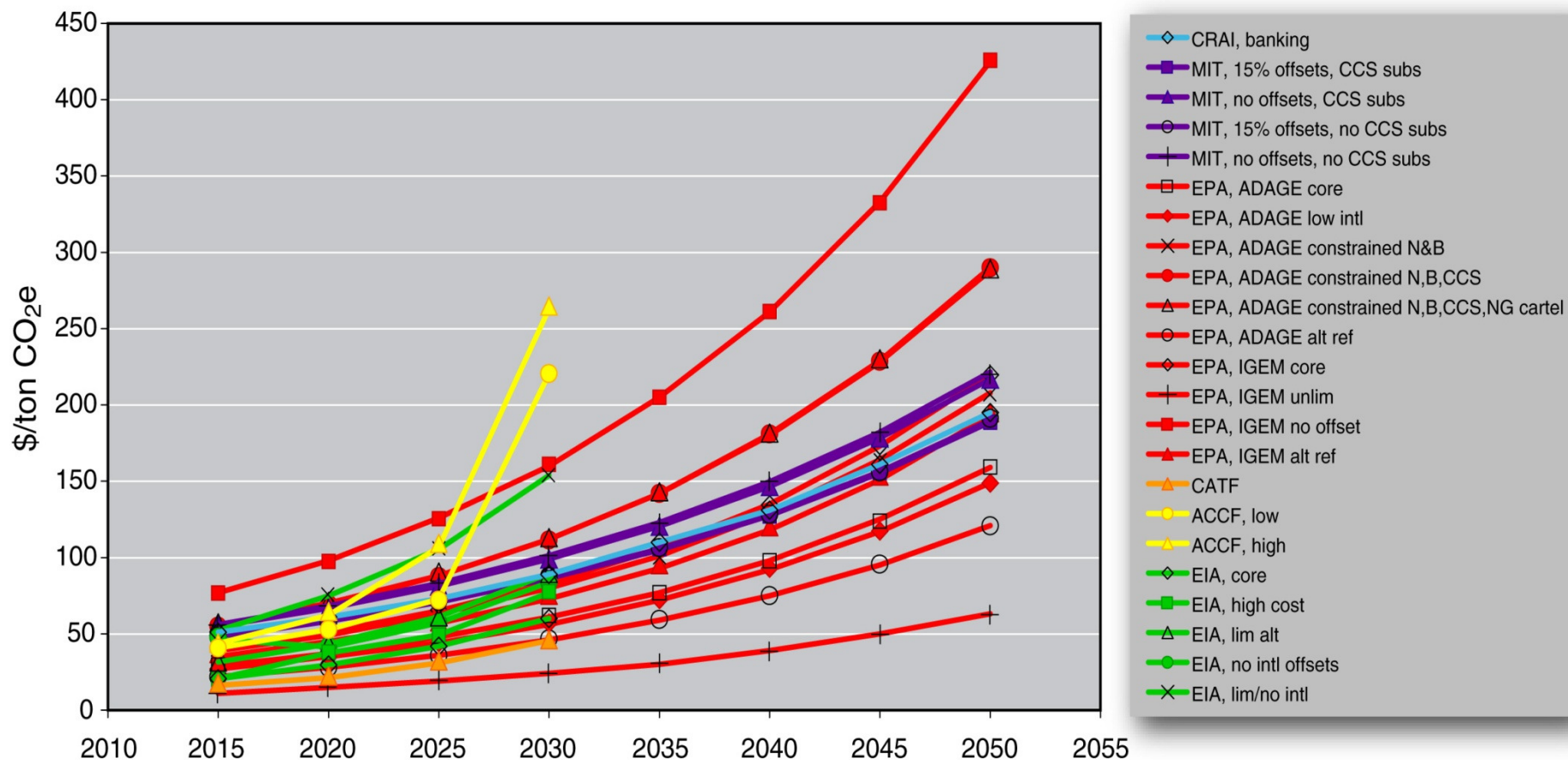
London Energy Forum

9 November 2009

Thank You To:

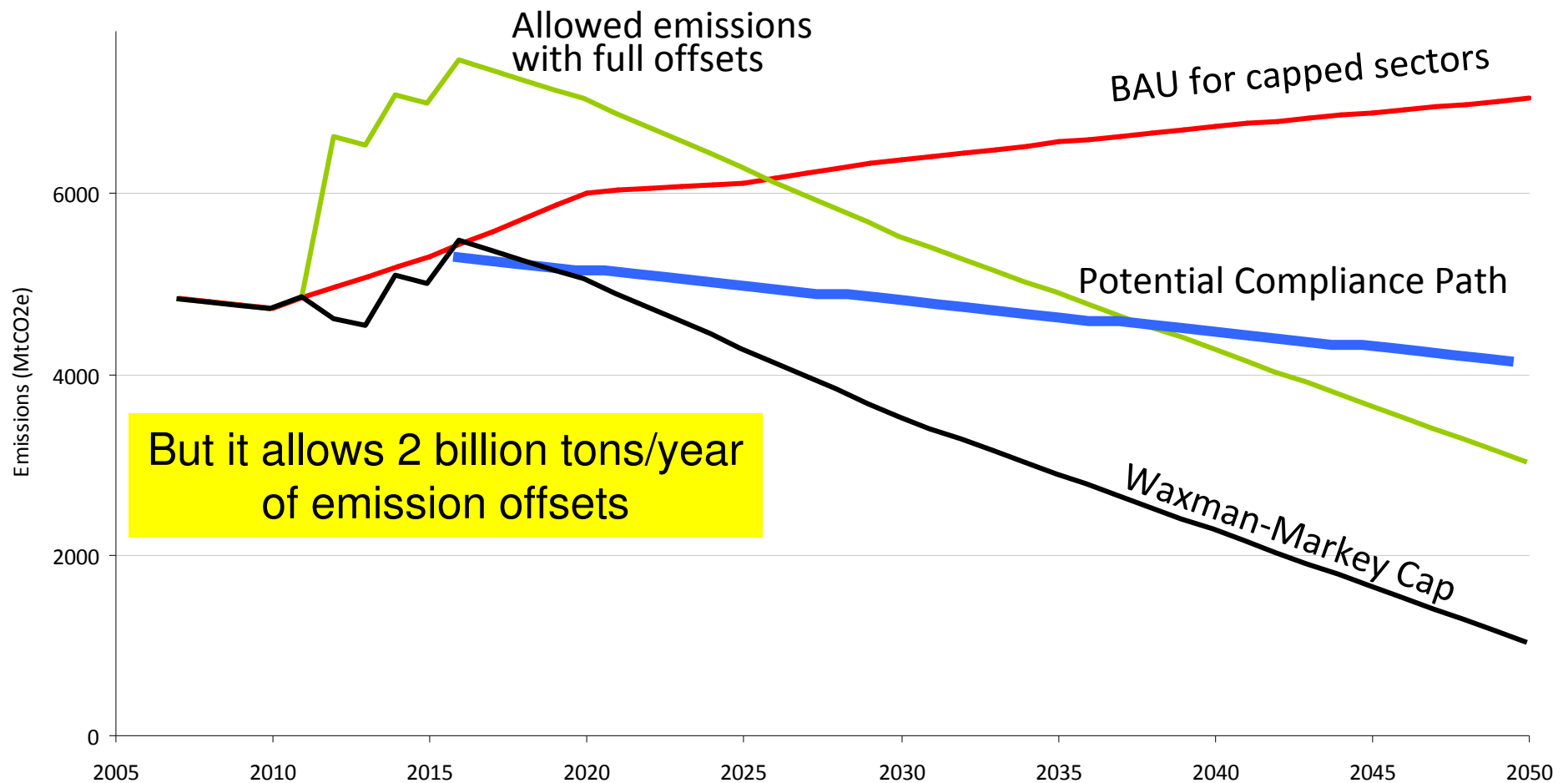
- Vic Niemeyer and Delavane Diaz for their analyses of the US electric sector
- Geoff Blanford for his analyses of sectoral caps

Cost Estimates of US Policy Proposals Prior to 2009 Driven By Electric Sector Assumptions



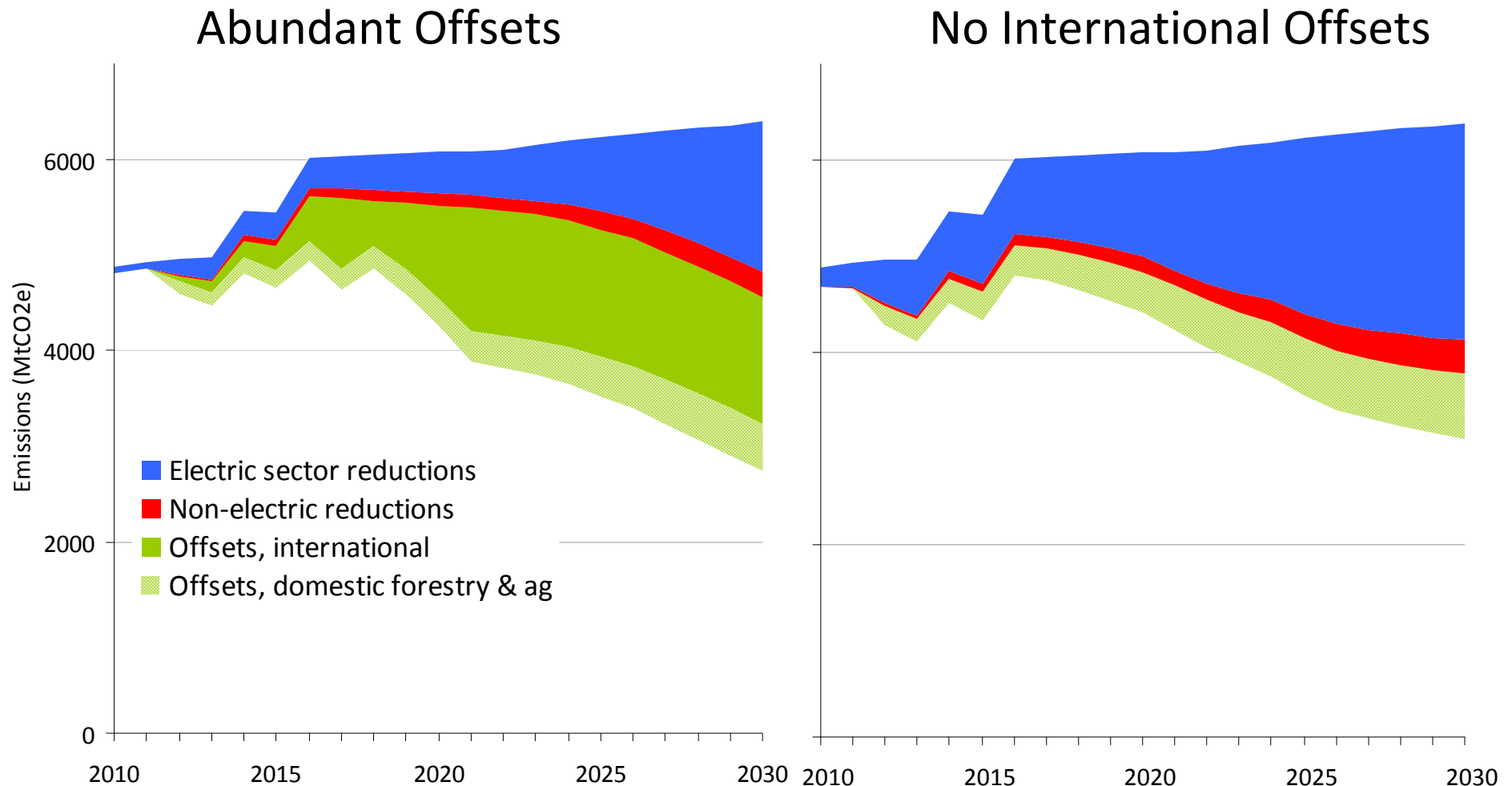
Note: Cost Estimates of Lieberman-Warner 2007

House-passed Climate Bill Seeks 80+% Cut in Emissions by 2050



Where do Emission Reductions Come From?

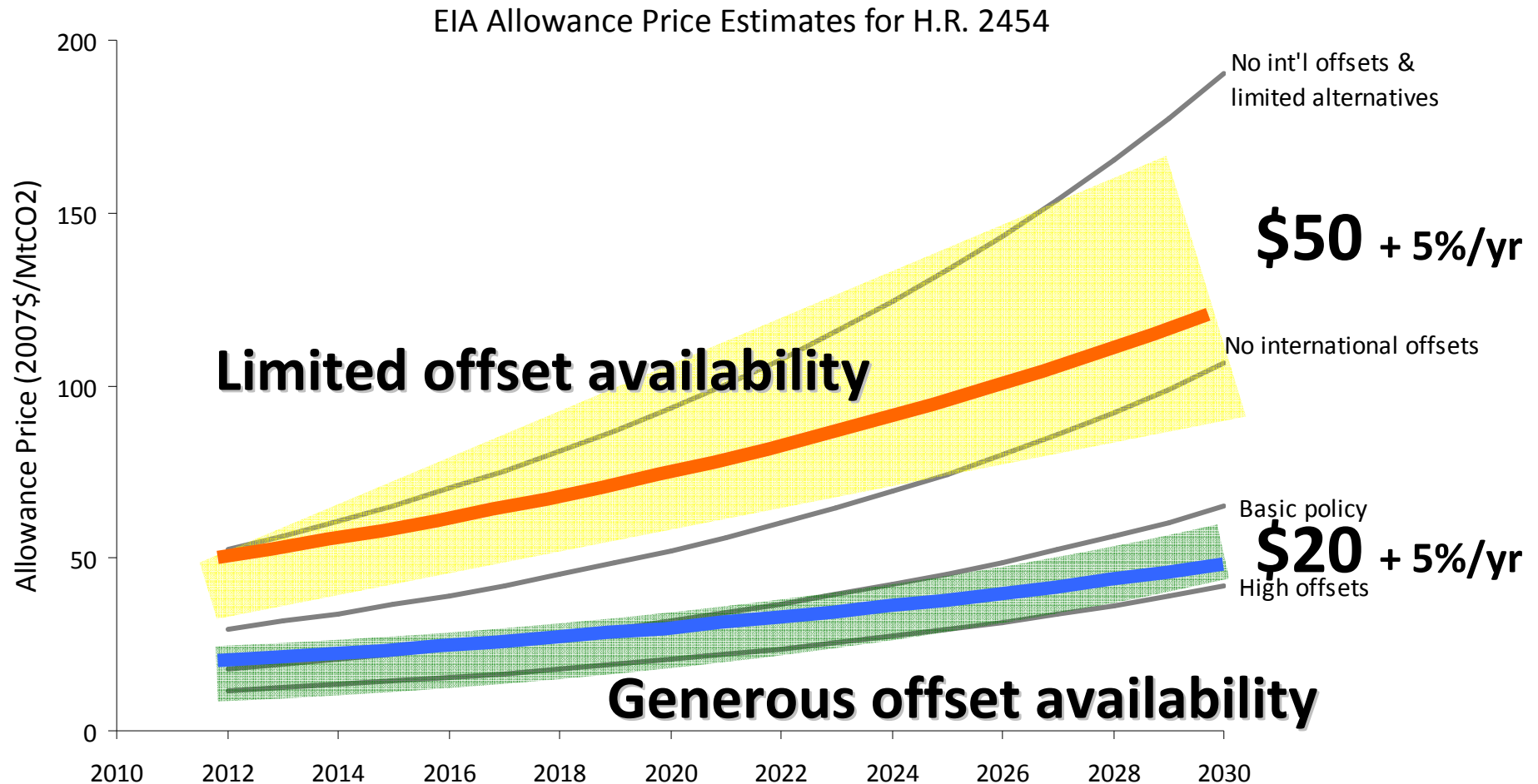
EIA Says Primarily from Offsets and the Electric Sector



Source: EIA NEMS runs, HR2454 Cap, HR2454 No Int Offsets

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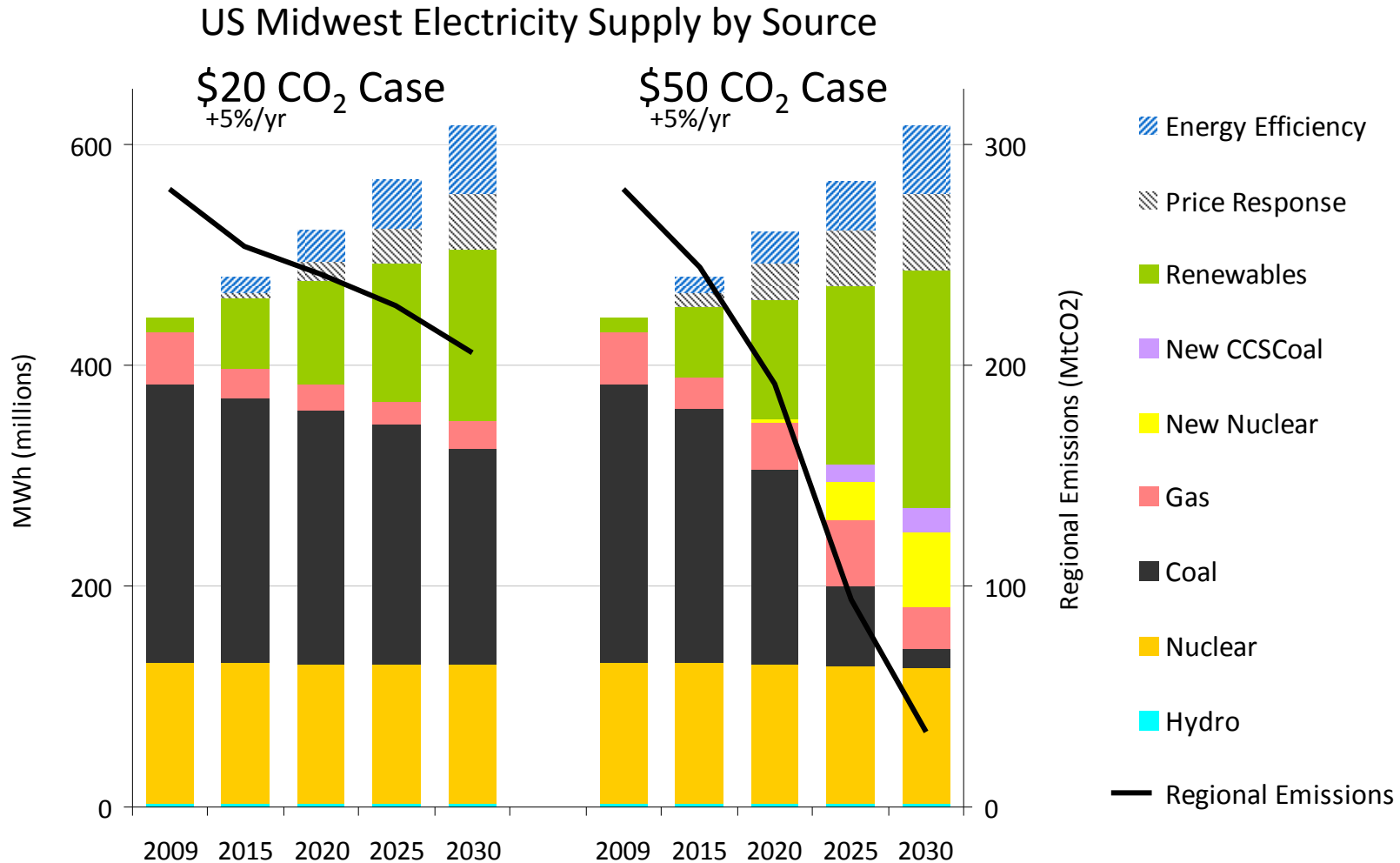
CO₂ Price Paths Represent Alternative Assumptions about Offsets



Source: EIA NEMS runs, HR2454 Cap, No Int Offsets, No Int Offsets/Lim, High Cost, High Offsets

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\$20/ton and \$50/ton Worlds Could Define Dramatically Different Futures for the Electric Sector

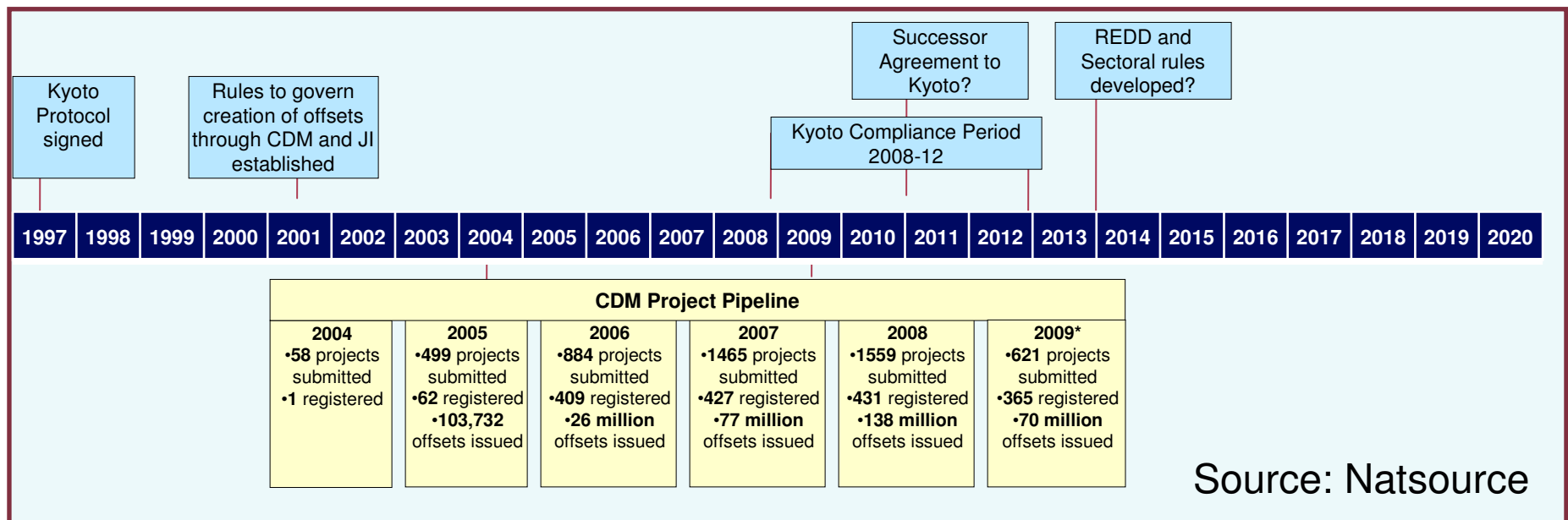


Source: EPRI Regional Stack Model, Midwest ISO results

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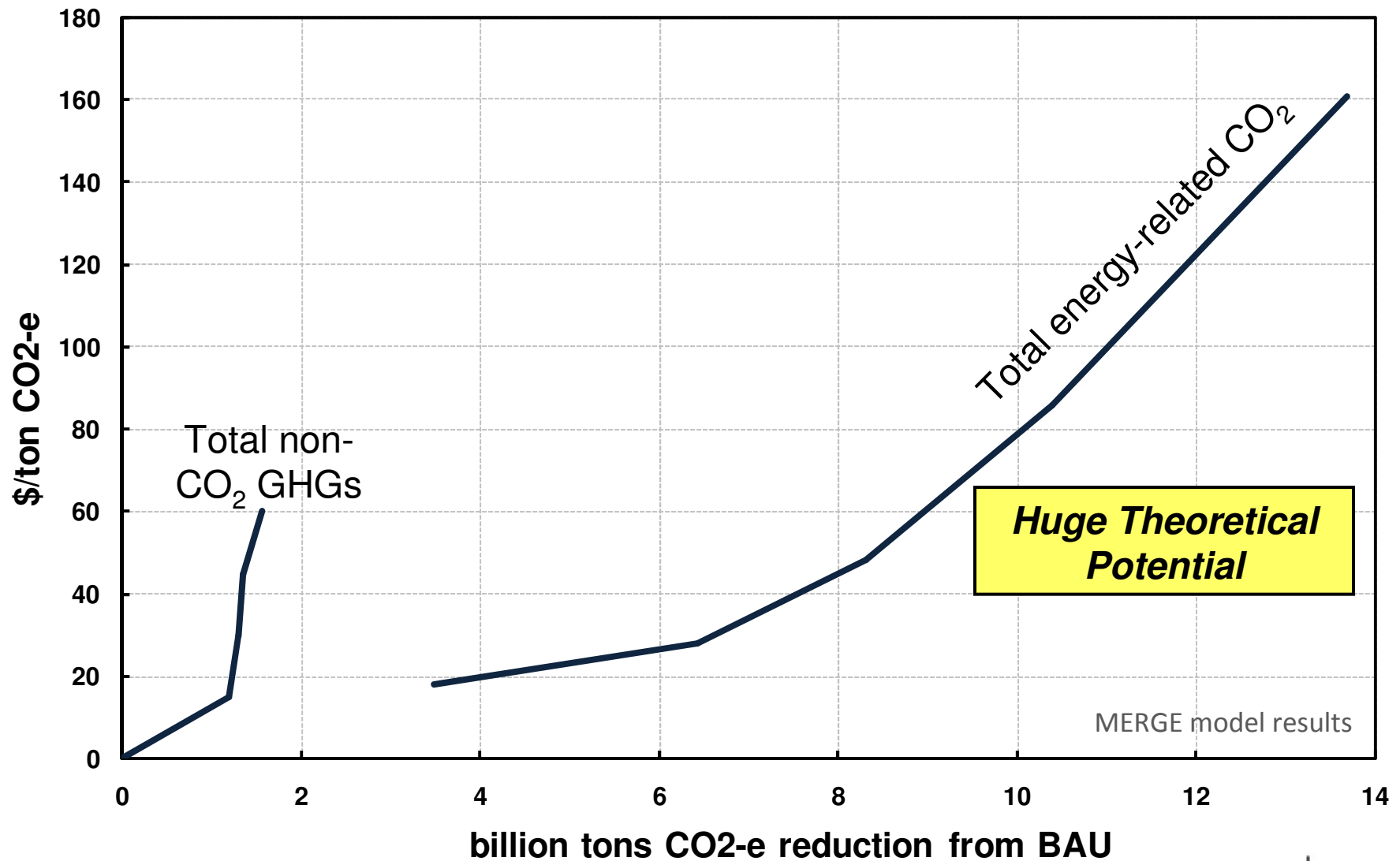
The \$100 billion/year Question Becomes, If You Allow Offsets, Will They Come?

- CDM may be allowed. It has grown, but volumes do not approach allowed levels

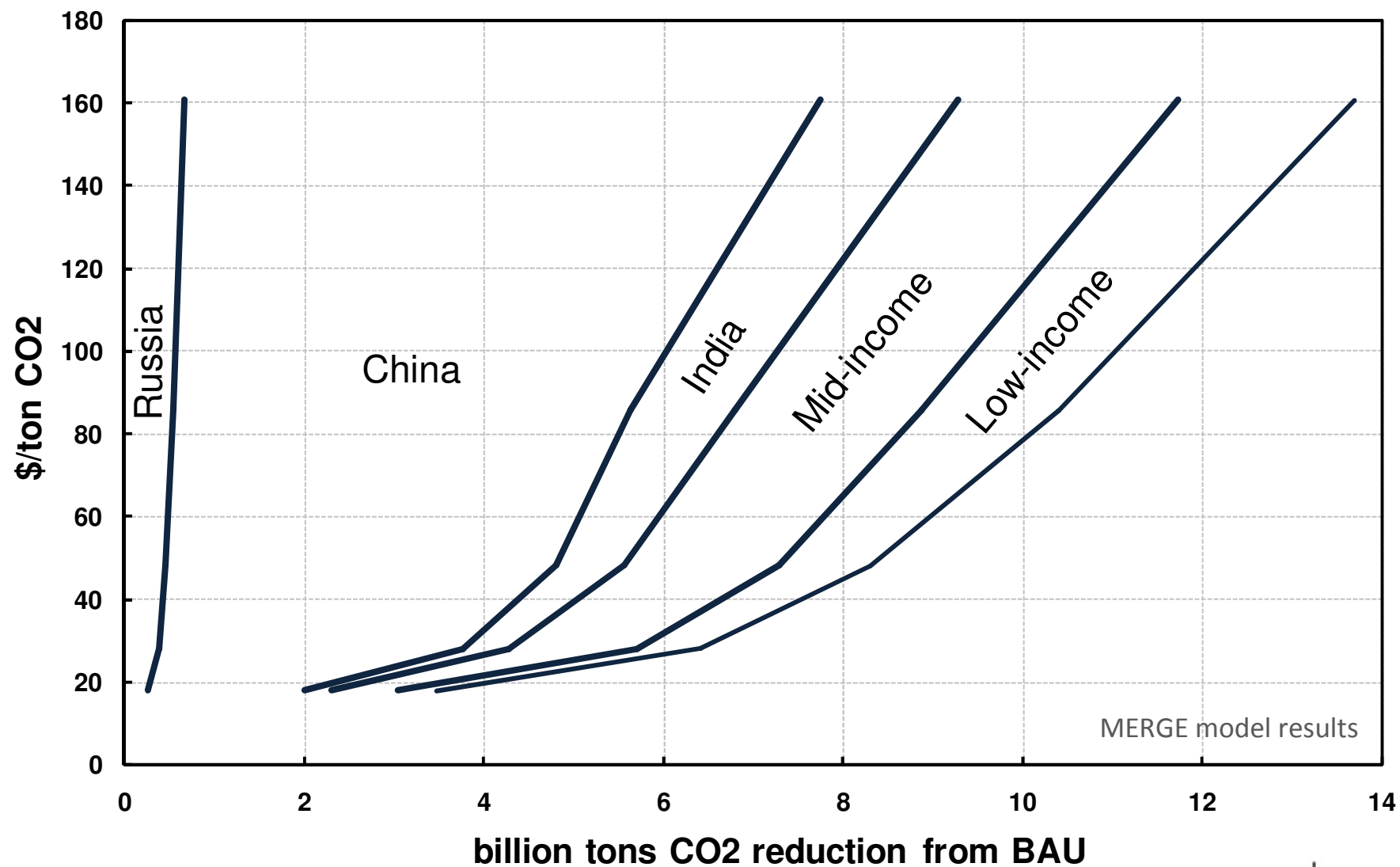


- Forestry and agricultural offsets allowed. Have great potential but face significant challenges (Steve Rose presentation)
- Sectoral offsets also allowed

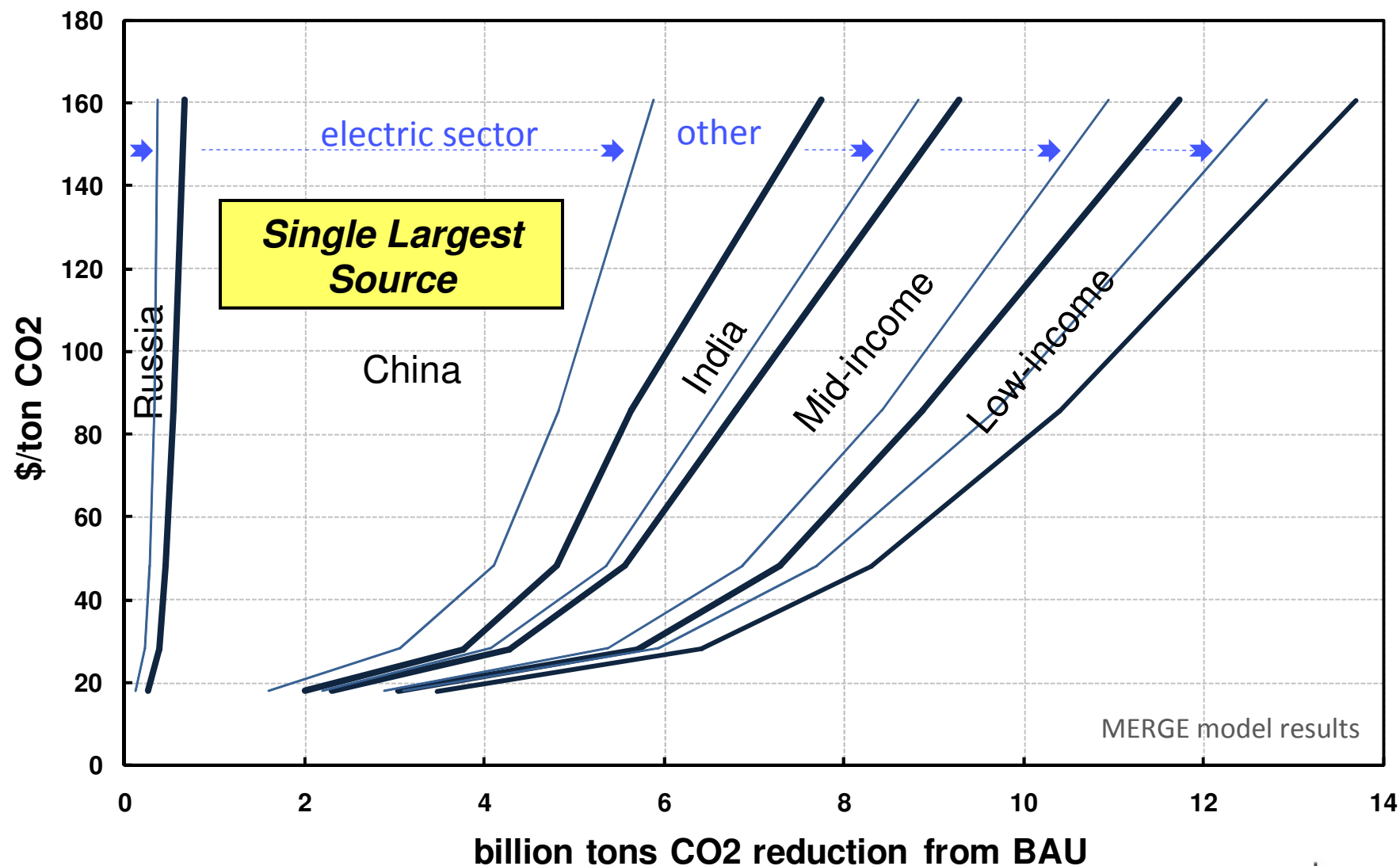
Non-OECD Abatement Opportunities in 2030



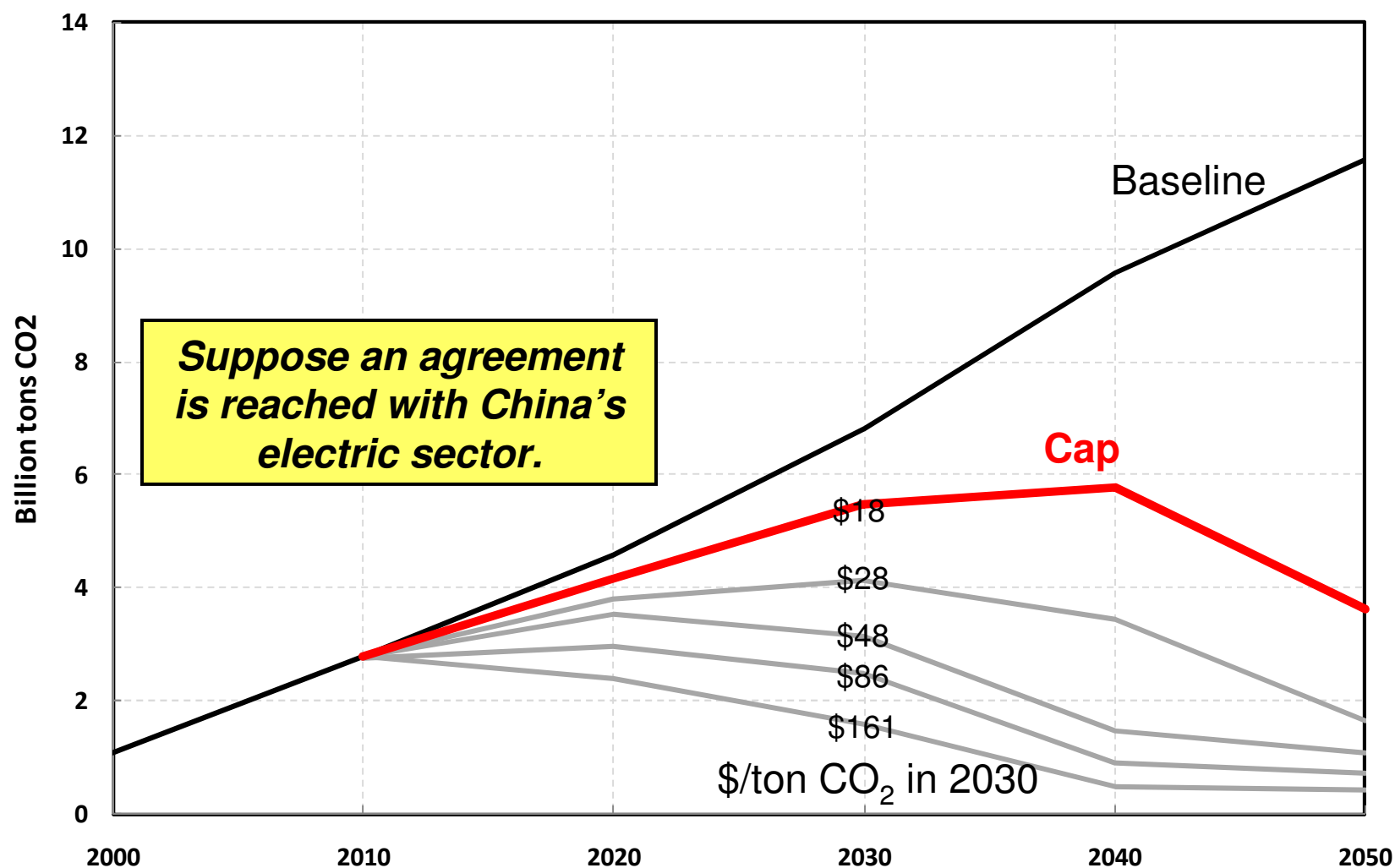
Energy-related CO₂ abatement by region



70% of abatement occurs in electric sector



China's Electric Sector Emissions

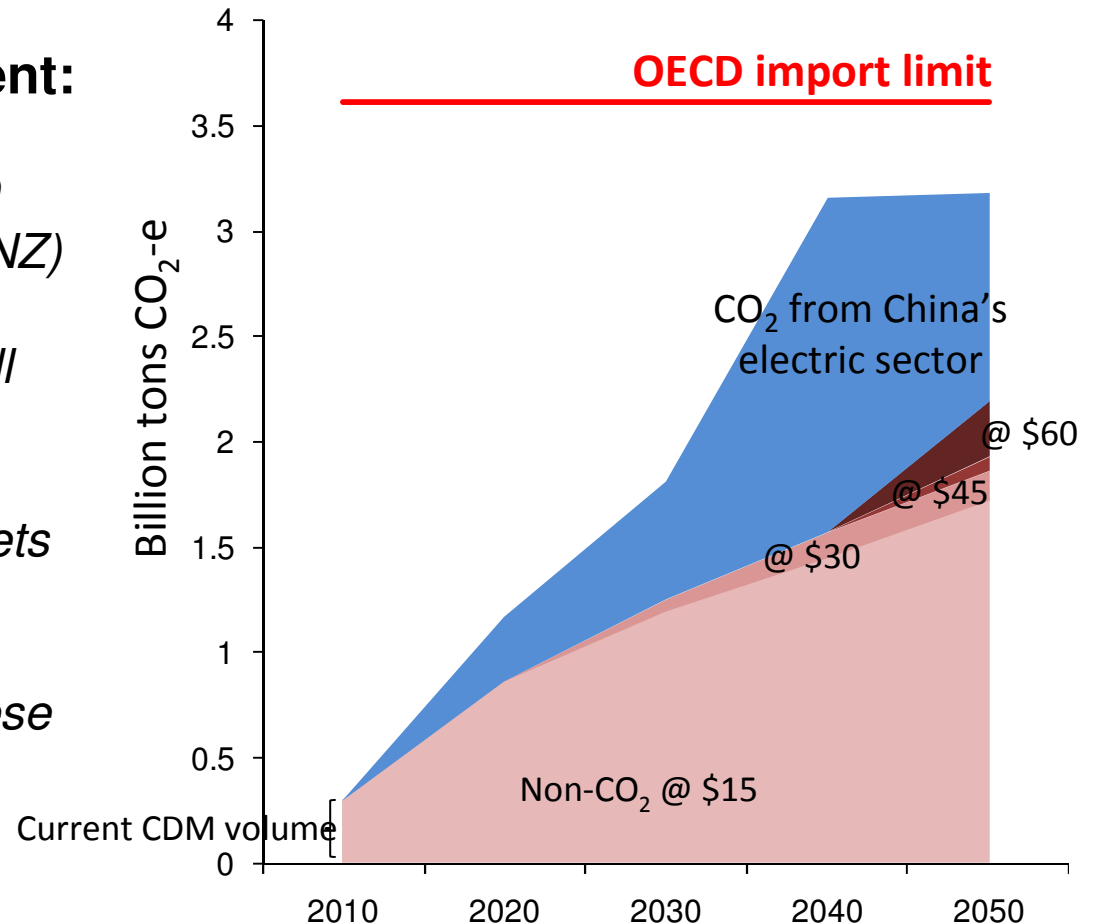


Offset transfers from Non-OECD to OECD

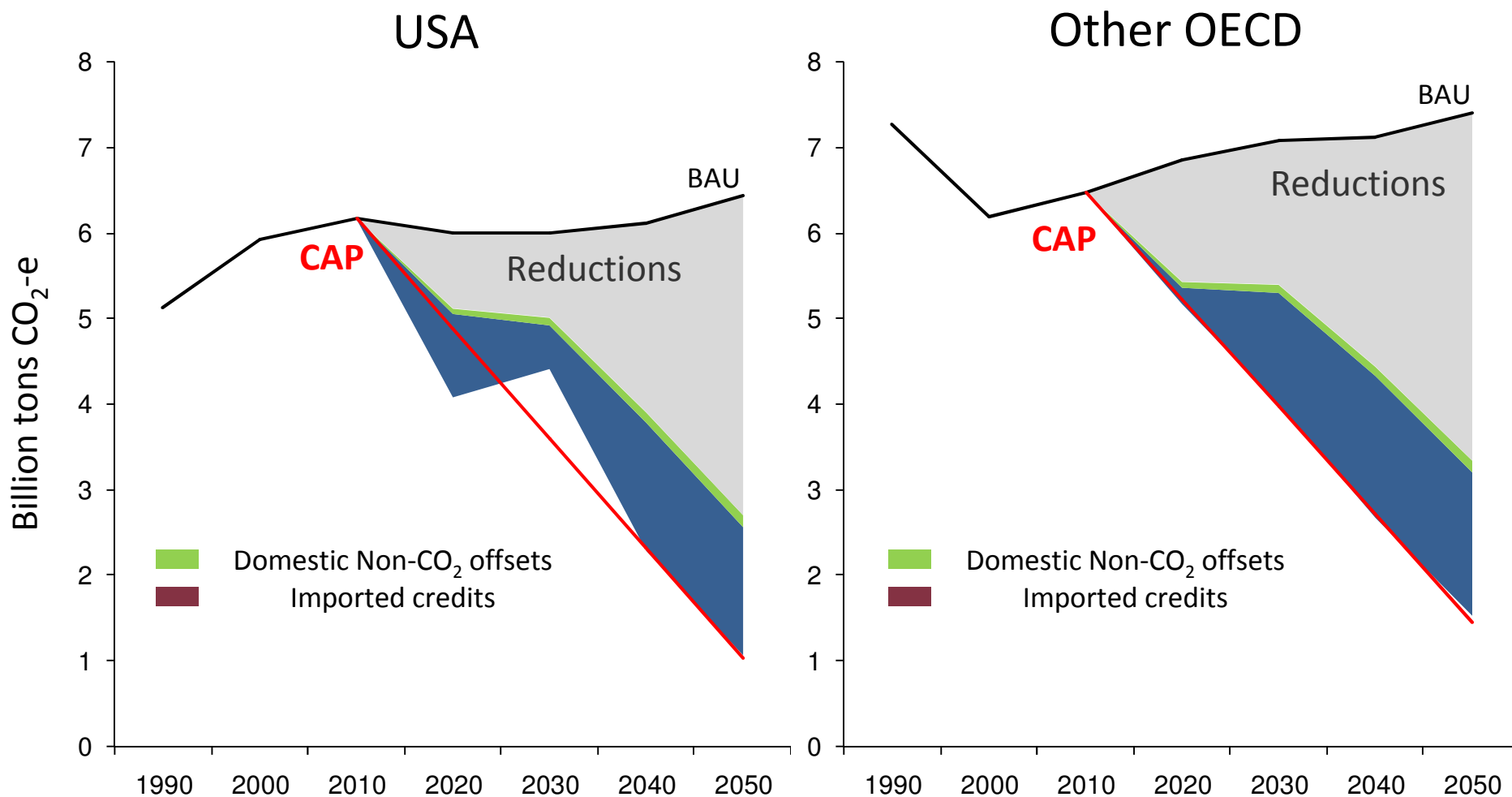
International policy environment:

- *80% below 1990 caps in OECD (USA + EU + Japan + CANZ)*
- *W-M scale offset provisions in all OECD countries*
- *Expanding CDM for non-CO₂ offsets from non-OECD*
- *Energy offsets from capped Chinese electric sector*

If institutional barriers are overcome, supply could become substantial.

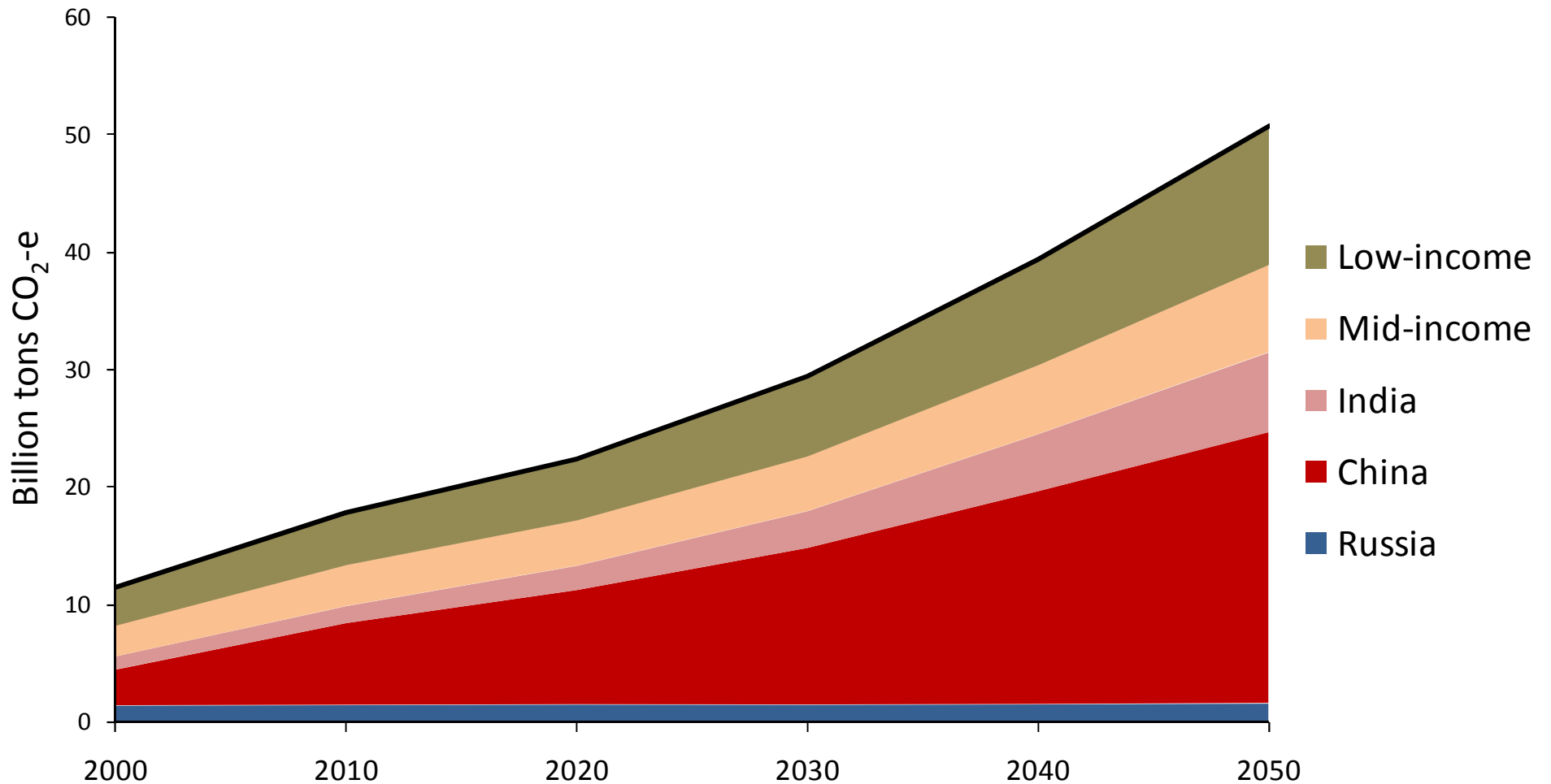


Compliance in OECD after offset transfers

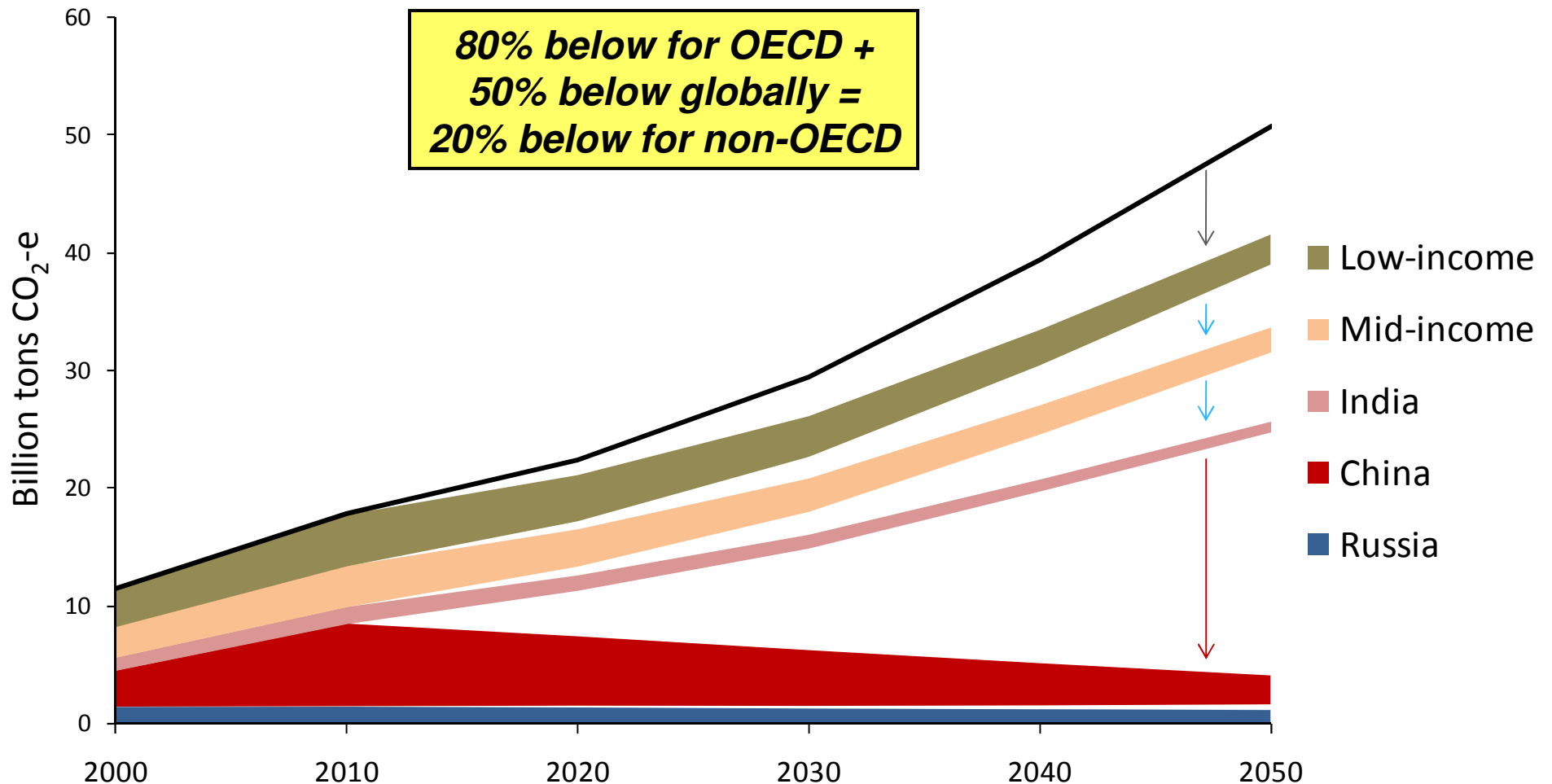


But What Happens if Non-OECD Countries Take Targets??

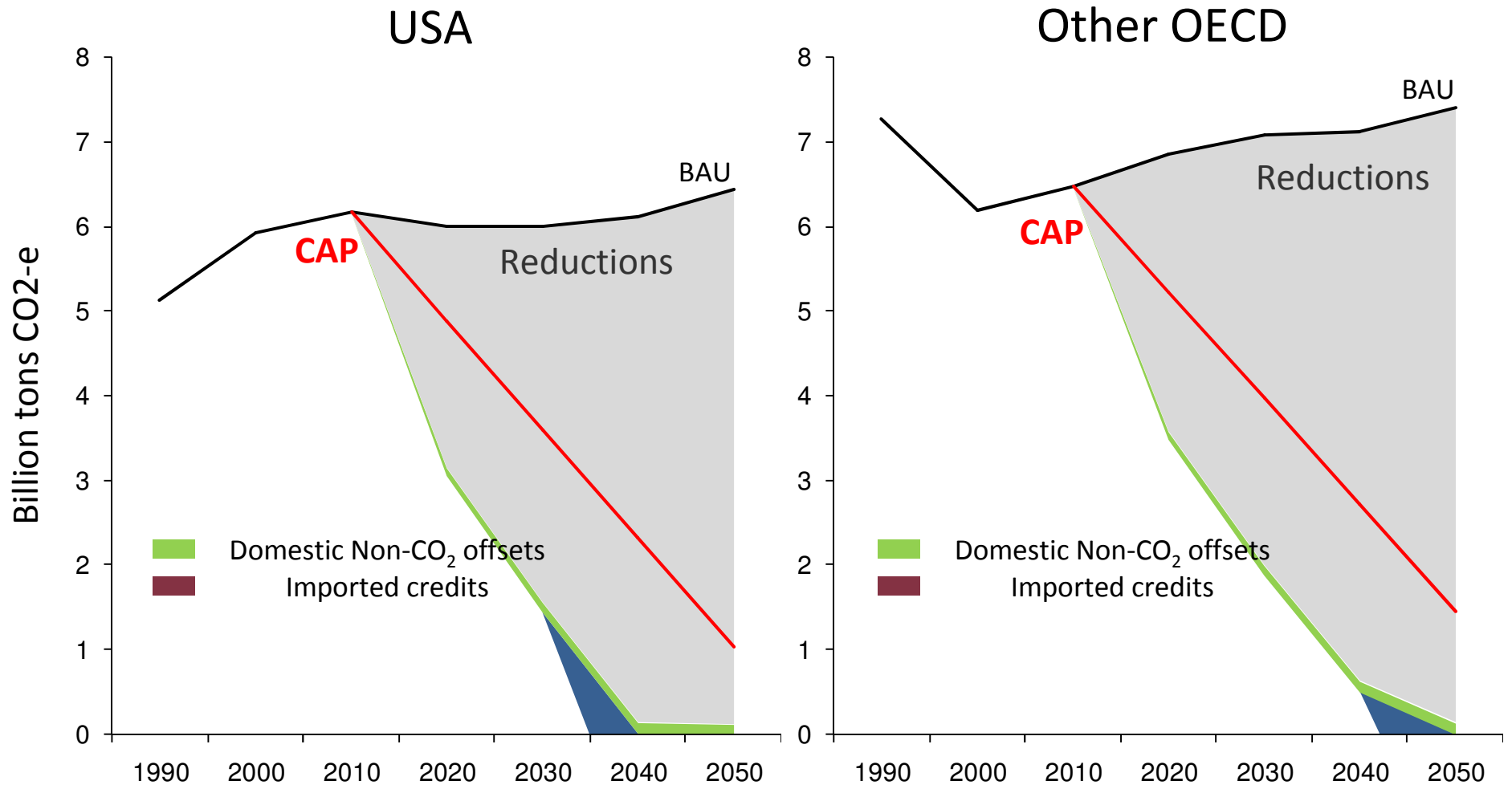
Baseline Emissions for Non-OECD



Reductions required for G8's global target



In G8 scenario, trade flows the other direction



Concluding Thoughts

- Emission offsets are the key driver of the cost of current US climate policy proposals
- If they are not abundant and cheap, we are likely in a >\$50/ton CO₂ world
 - Electric sector drives cost
- If we allow offsets, how many tons will materialize?
 - CDM
 - Agriculture and forestry
 - Sectoral
- Offsets have added a new uncertainty for US utility planners