EPRI ELECTRIC POWER RESEARCH INSTITUTE

Opportunities for International Emissions Reduction Partnerships Under Article 6 and Otherwise

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Energy and Environmental Analysis Research Group

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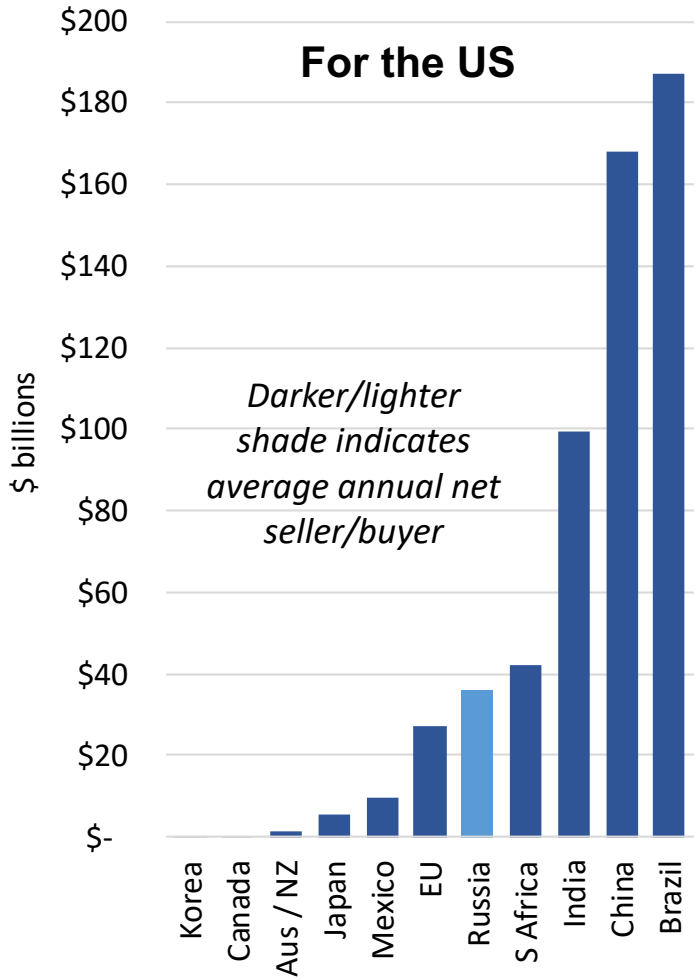
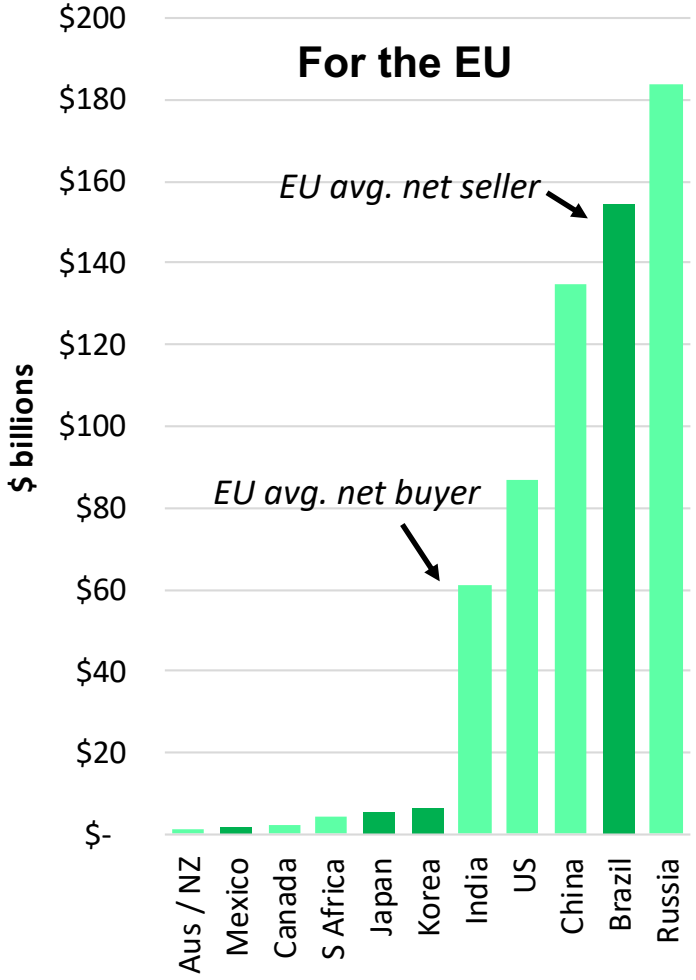
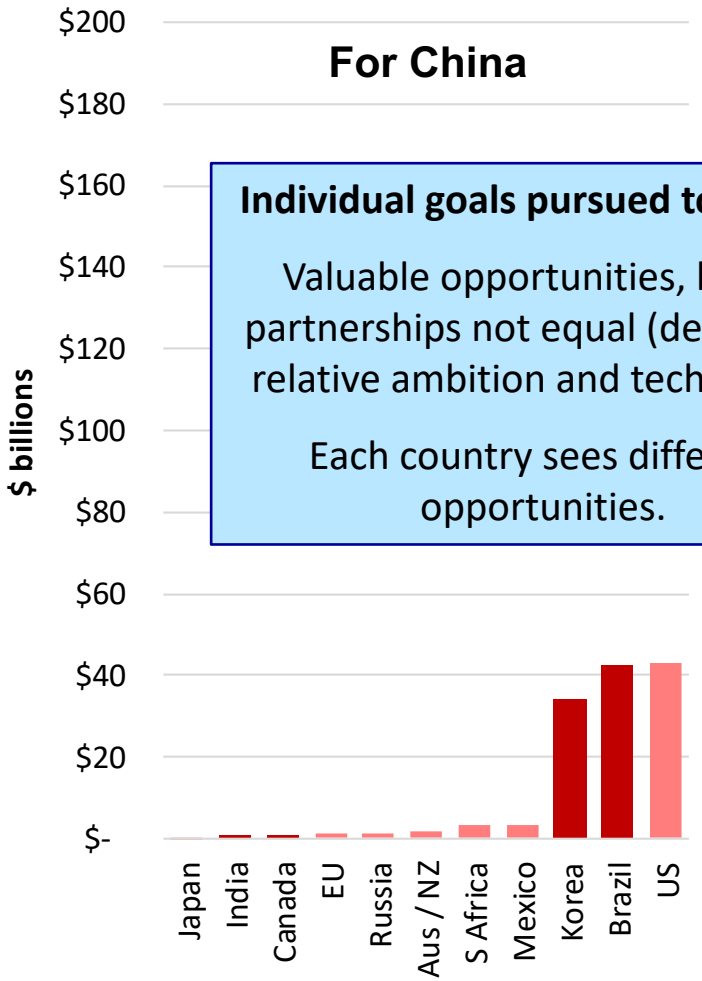
Opportunities for International Emissions Trading Partnerships

Gains in regional household consumption for each potential bilateral partnership
(net present value)







Individual goals pursued together!

Valuable opportunities, but all partnerships not equal (defined by relative ambition and technology)

Each country sees different opportunities.

Policies: countries pursuing increased ambition post-2030

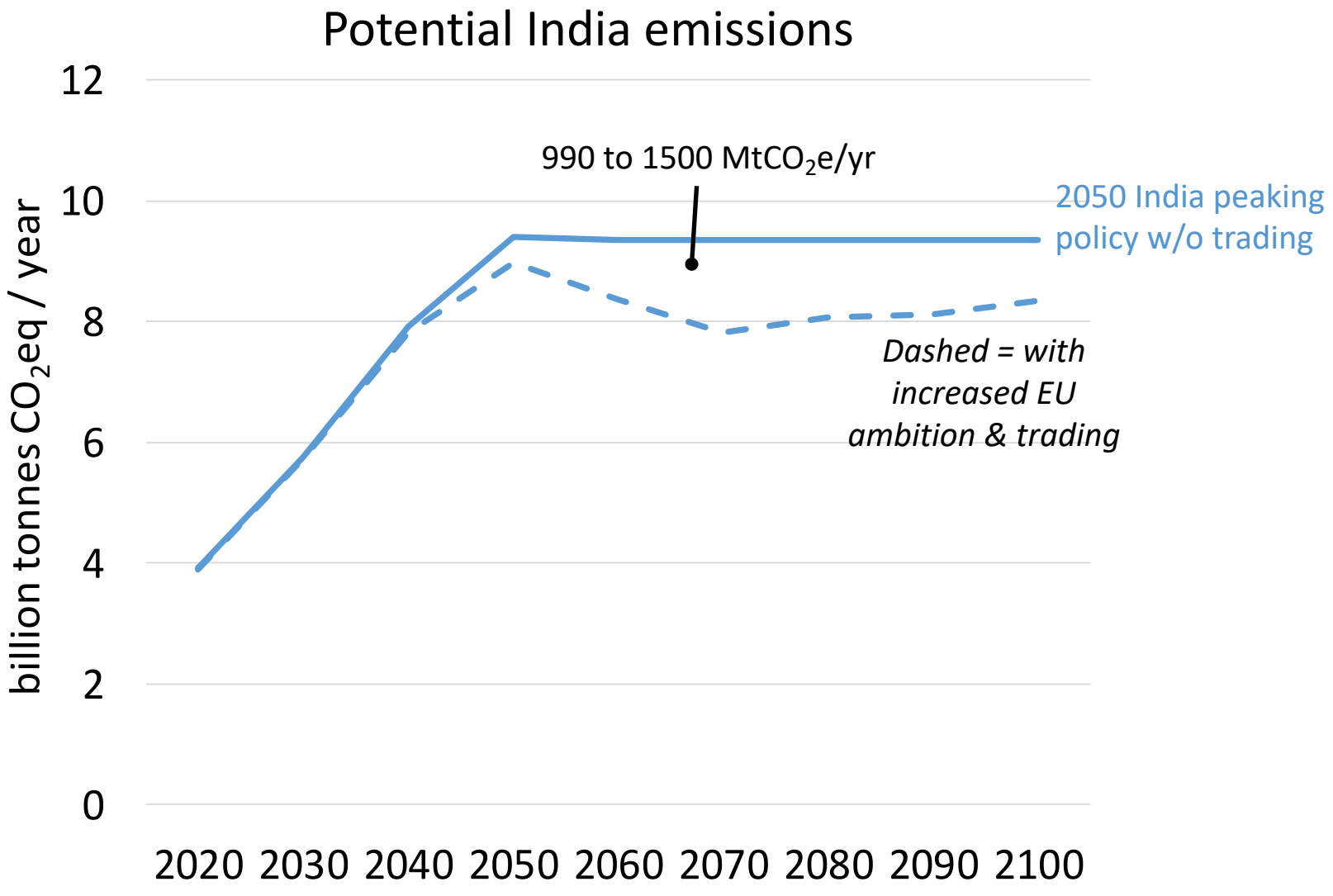
Emissions Trading a Means for Increasing Ambition?

May be possible in particular circumstances

e.g., EU increases ambition with trading partnership with India

➔ India reduces more to sell credits, global emissions decline, lower EU costs, India revenues

➔ Repeatable with EU-India? Yes, but likely diminishing.



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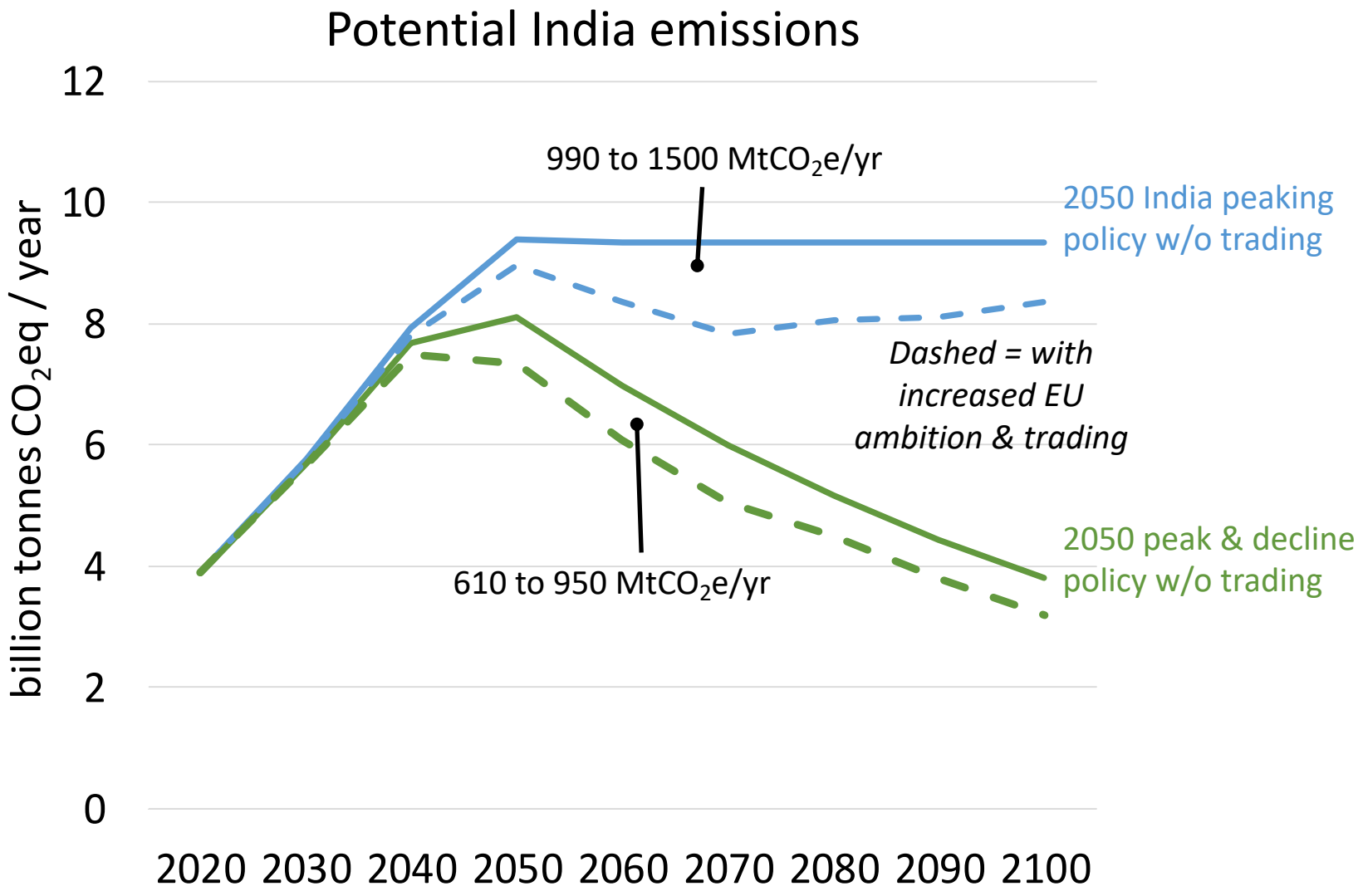
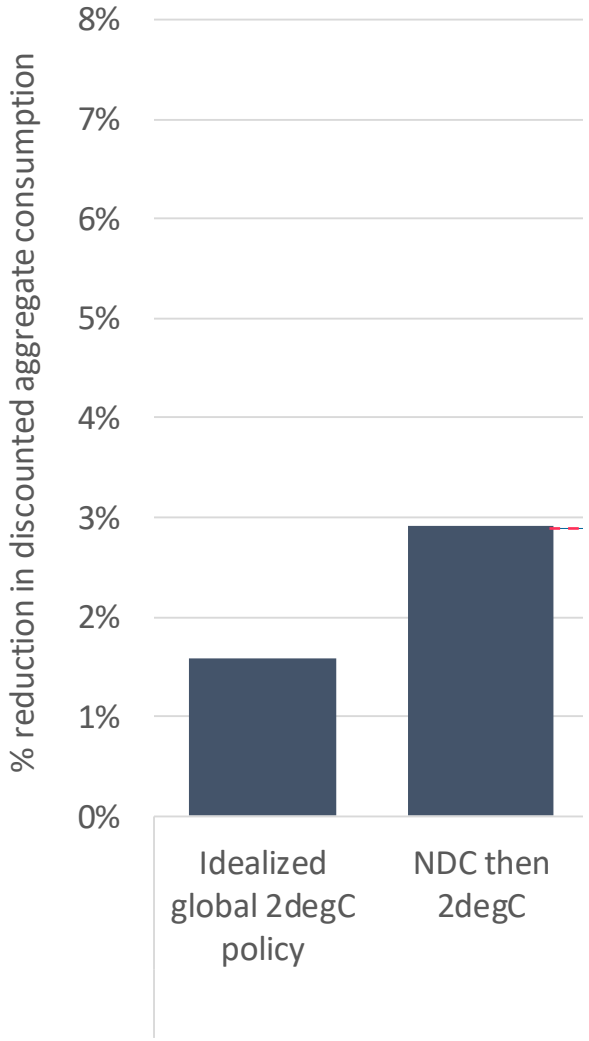


Implications of Delayed US Participation in the Paris Agreement?

- **Trump Administration withdrawing US from the Paris Agreement**
- **Potential implications?**
  - Consider delayed US action towards pursuing limiting warming to 2˚C
  - With shorter (post-2020) and longer (post-2030) delays
- **How might the international community respond?**
  1. Increased effort to compensate for US delay?
  2. Unchanged effort because unwilling to do more to offset US delay?
  3. Delayed effort for political and economic reasons?
- **Potential role for emissions trading?**

Potential US Cost of Delayed Participation in the Paris Agreement

US costs for limiting warming to 2˚C with delayed participation
(% losses in discounted aggregate consumption)



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Notes: Central equilibrium climate sensitivity assumption used for results shown. "No solution" = model solution infeasible, i.e., model unable to limit warming to below 2˚C given economic, technology, and climate system assumptions modeled.

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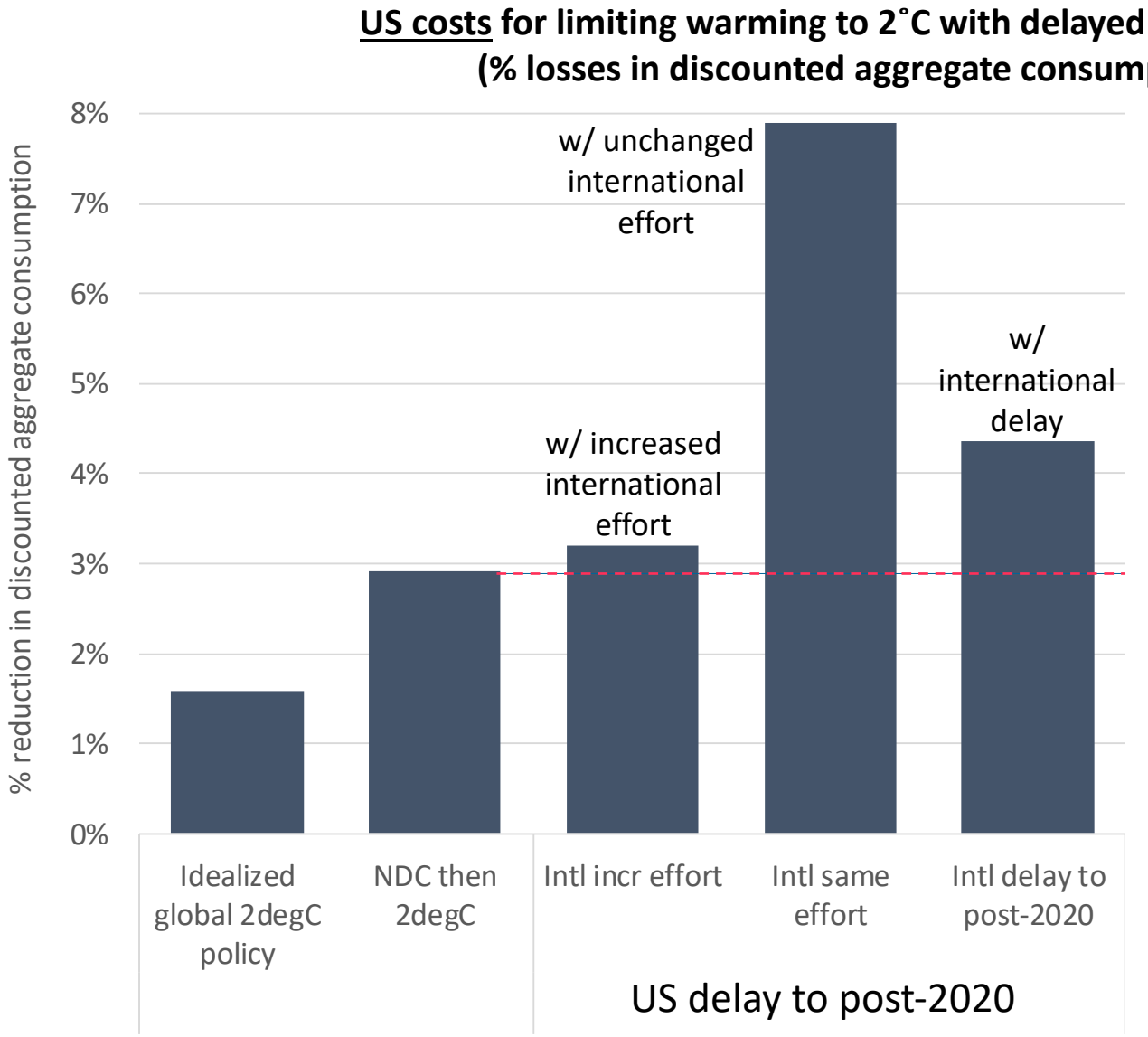

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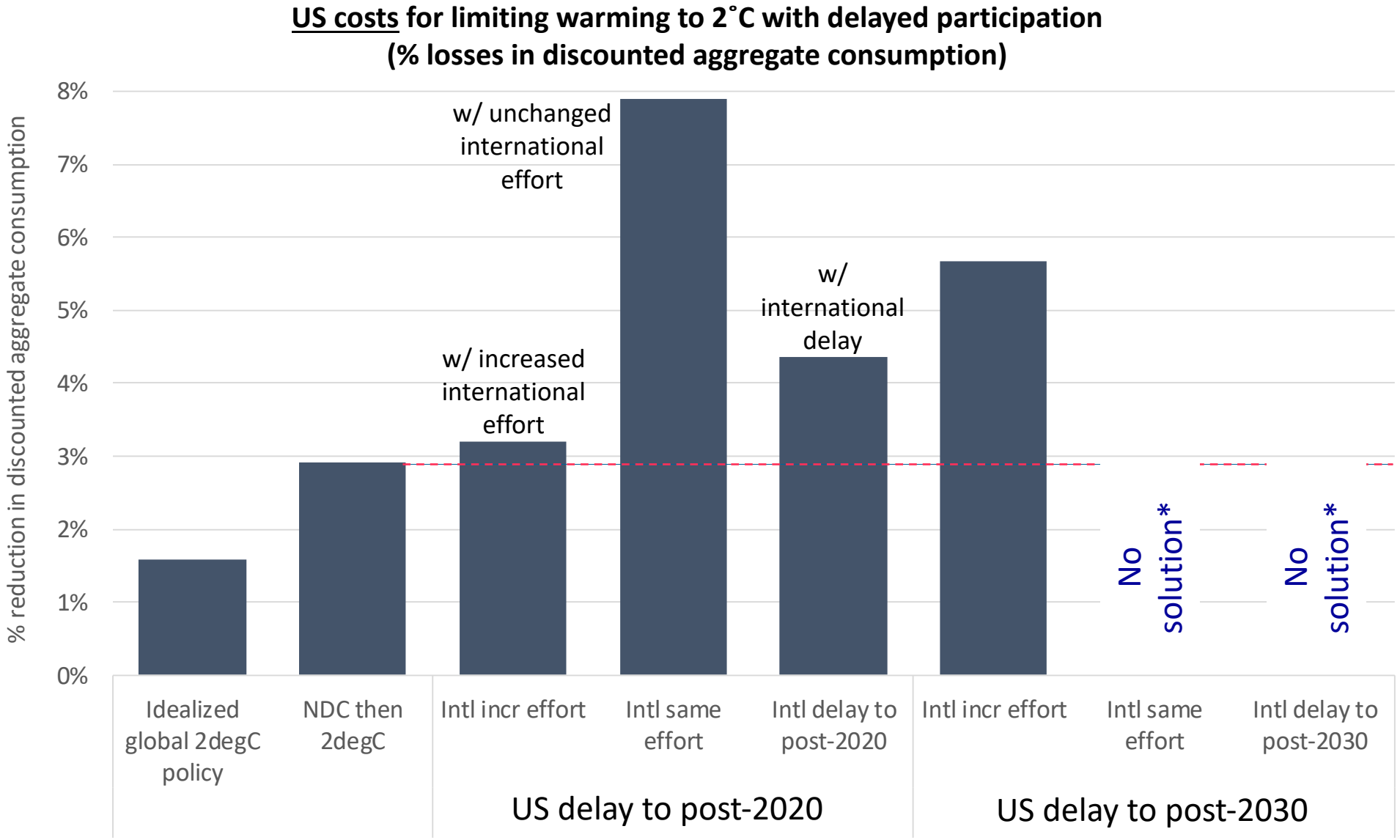

If pursuing 2˚C, U.S. delay is costly—to the U.S. and others.

How much will depend on international response and length of delay.

With the possibility of not being able to limit warming to < 2˚C.

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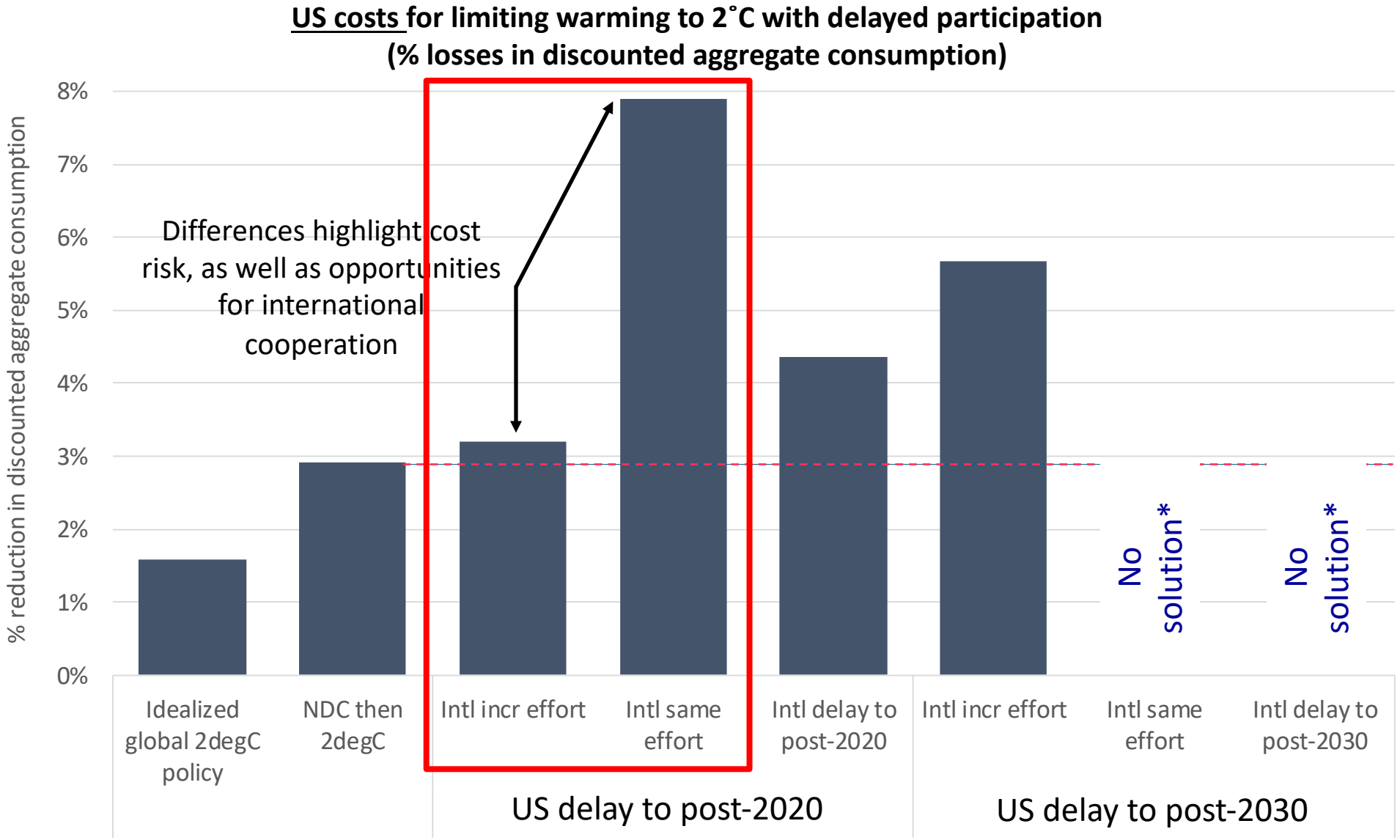

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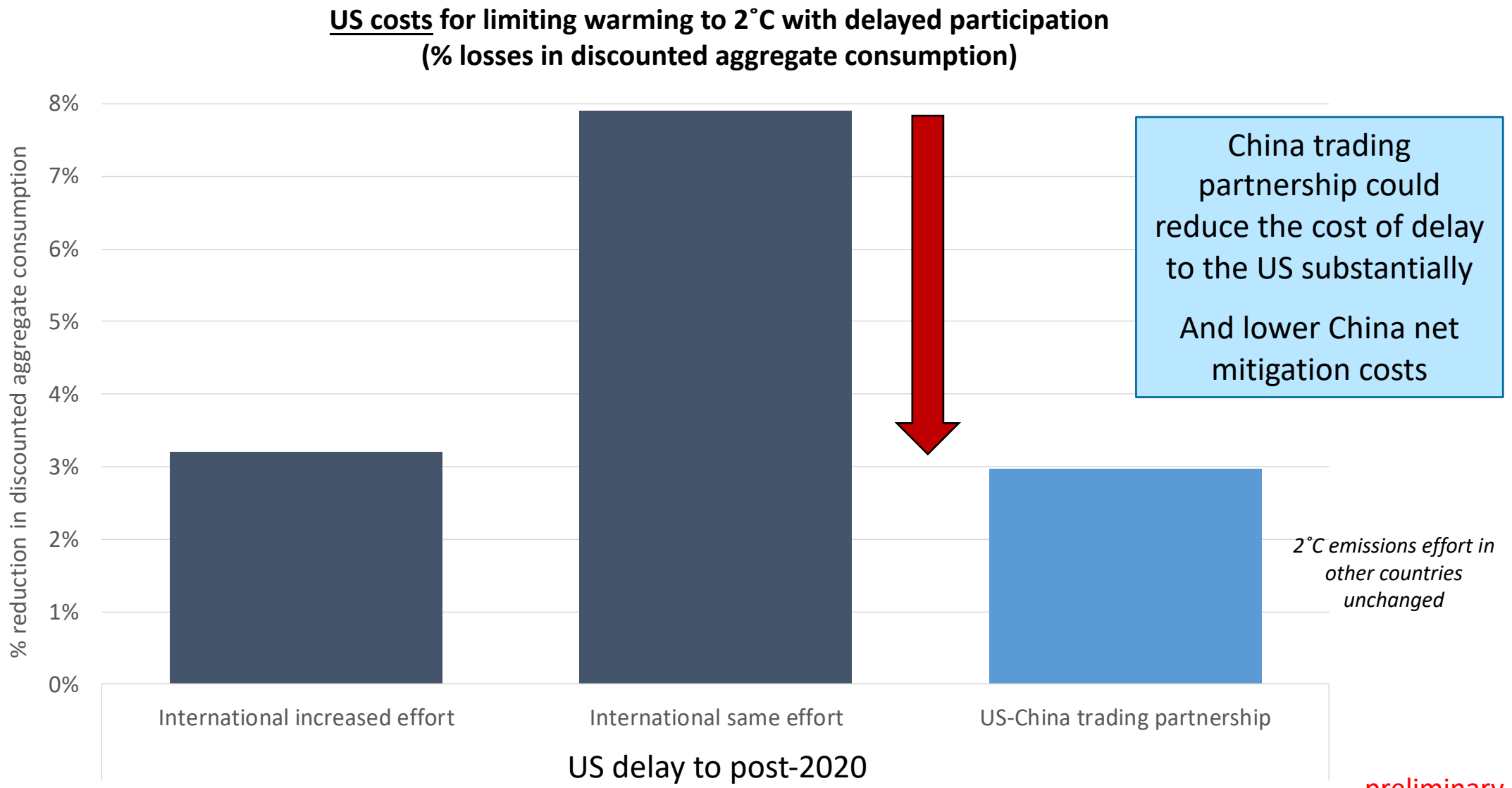
Emissions Trading Partnerships Could Reduce Cost of Delay



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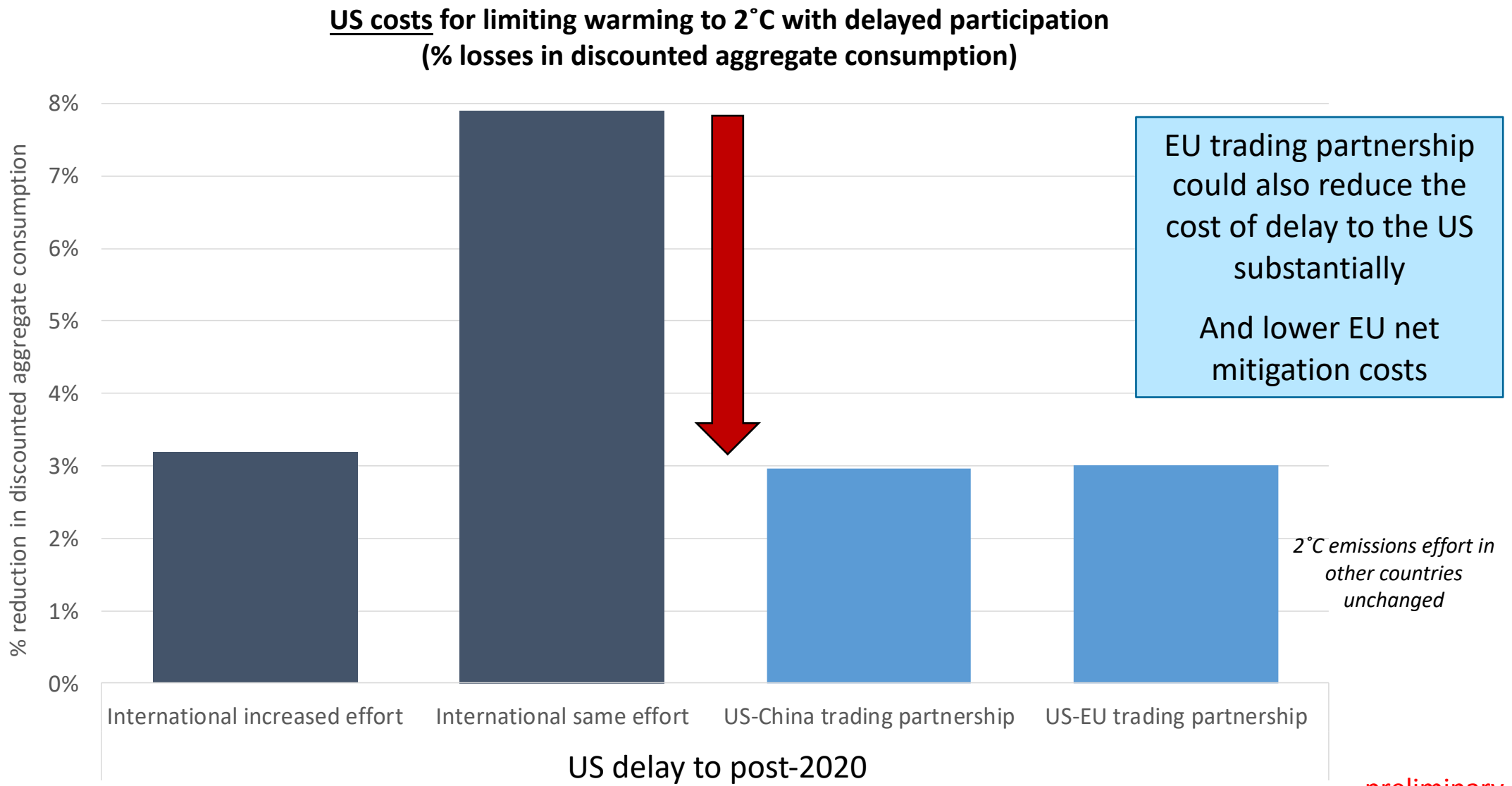

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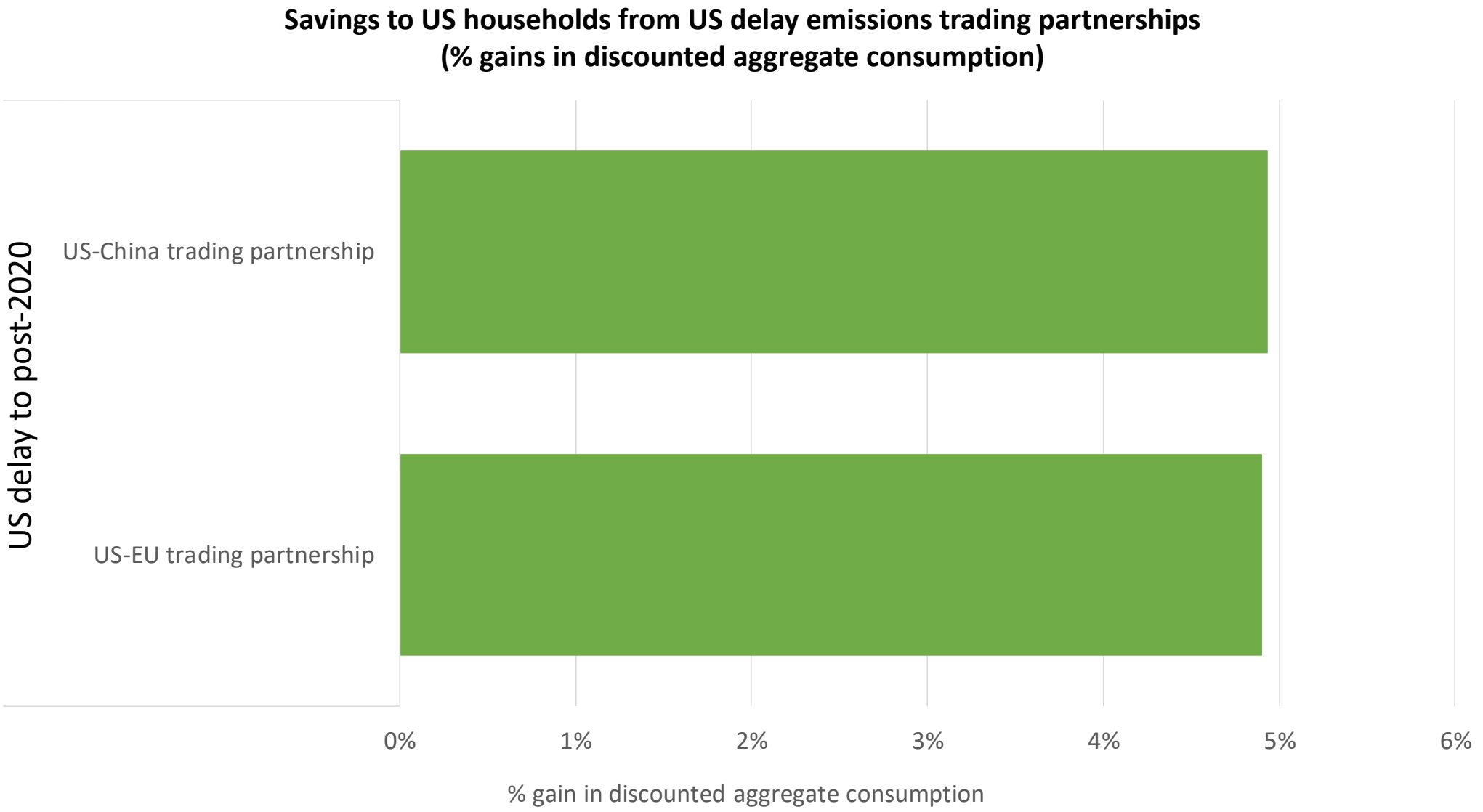
Should Policy-Makers be Concerned about Buying Permits?



Concluding Remarks

- Results suggest that international bi-lateral (and larger) emissions trading partnerships are valuable
  - Reducing societal costs with cost savings and revenue opportunities in general
  - As a potential mechanism for increasing participation and ambition
  - As a means to reduce the cost of delayed action – for the delaying country and others
  - And, increasing the likelihood of being able to limit warming to 2˚C

Thank you!

Steven Rose

srose@epri.com

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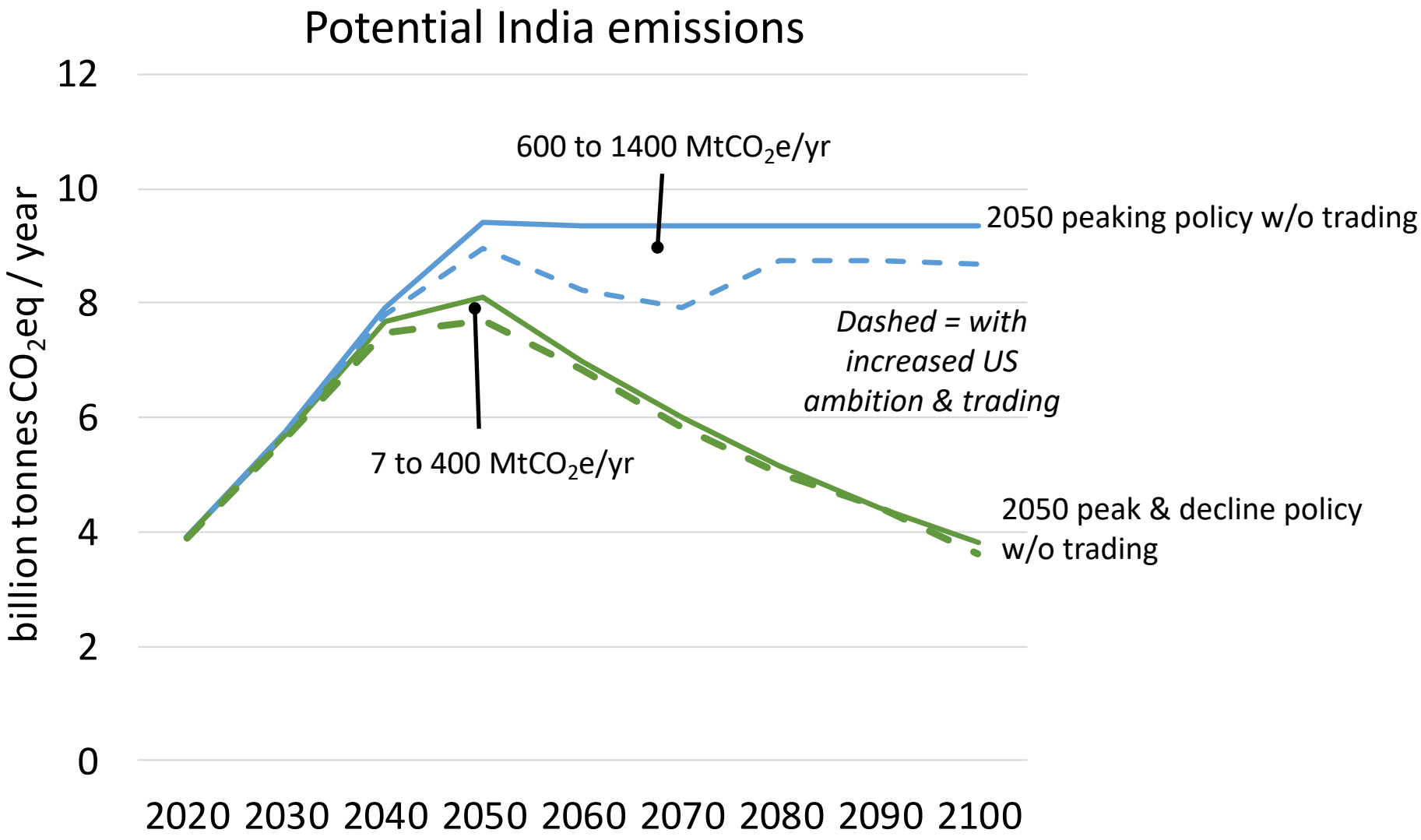

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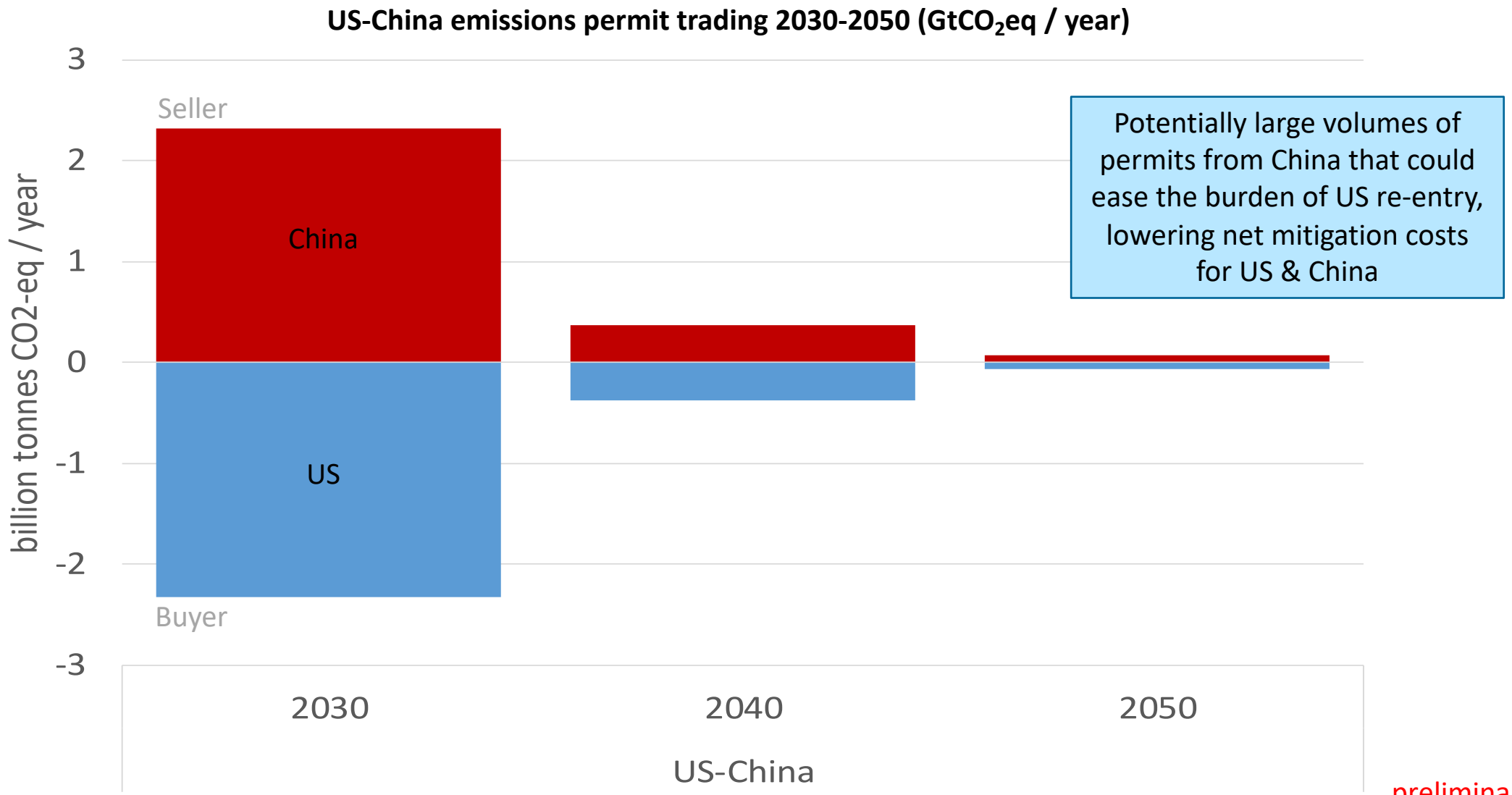

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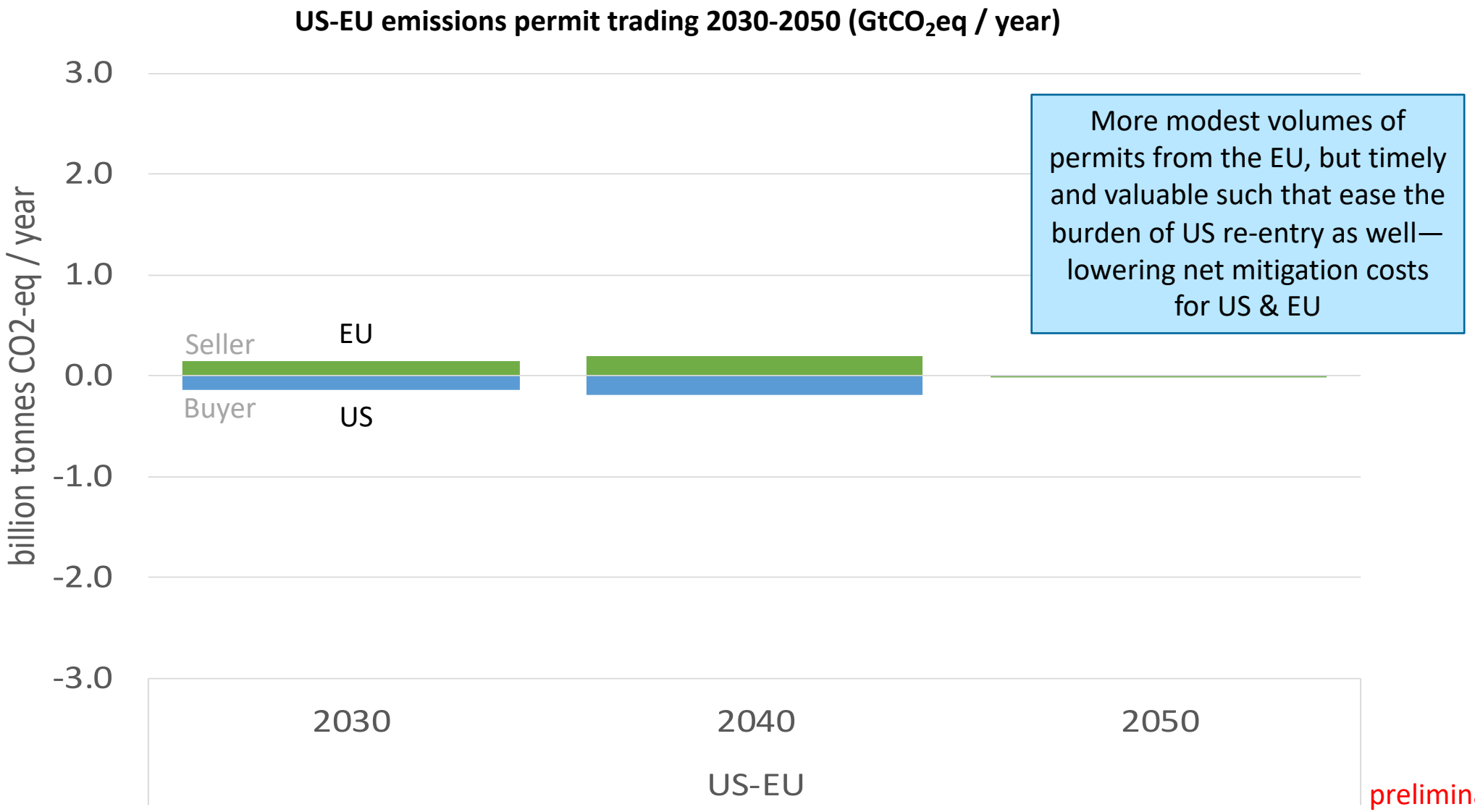

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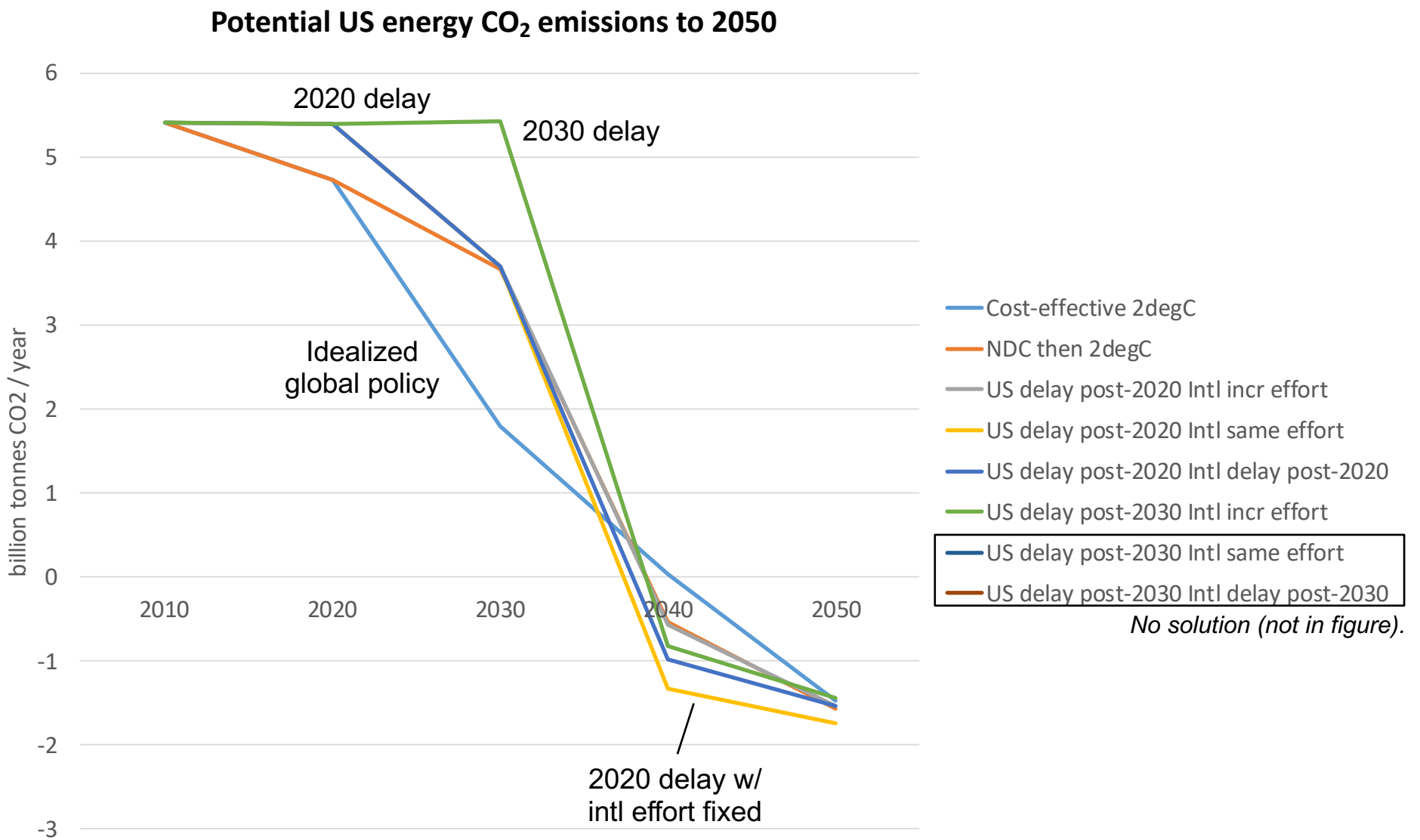
US Energy CO_2 Emissions and Delayed Effort in Pursuing 2˚C

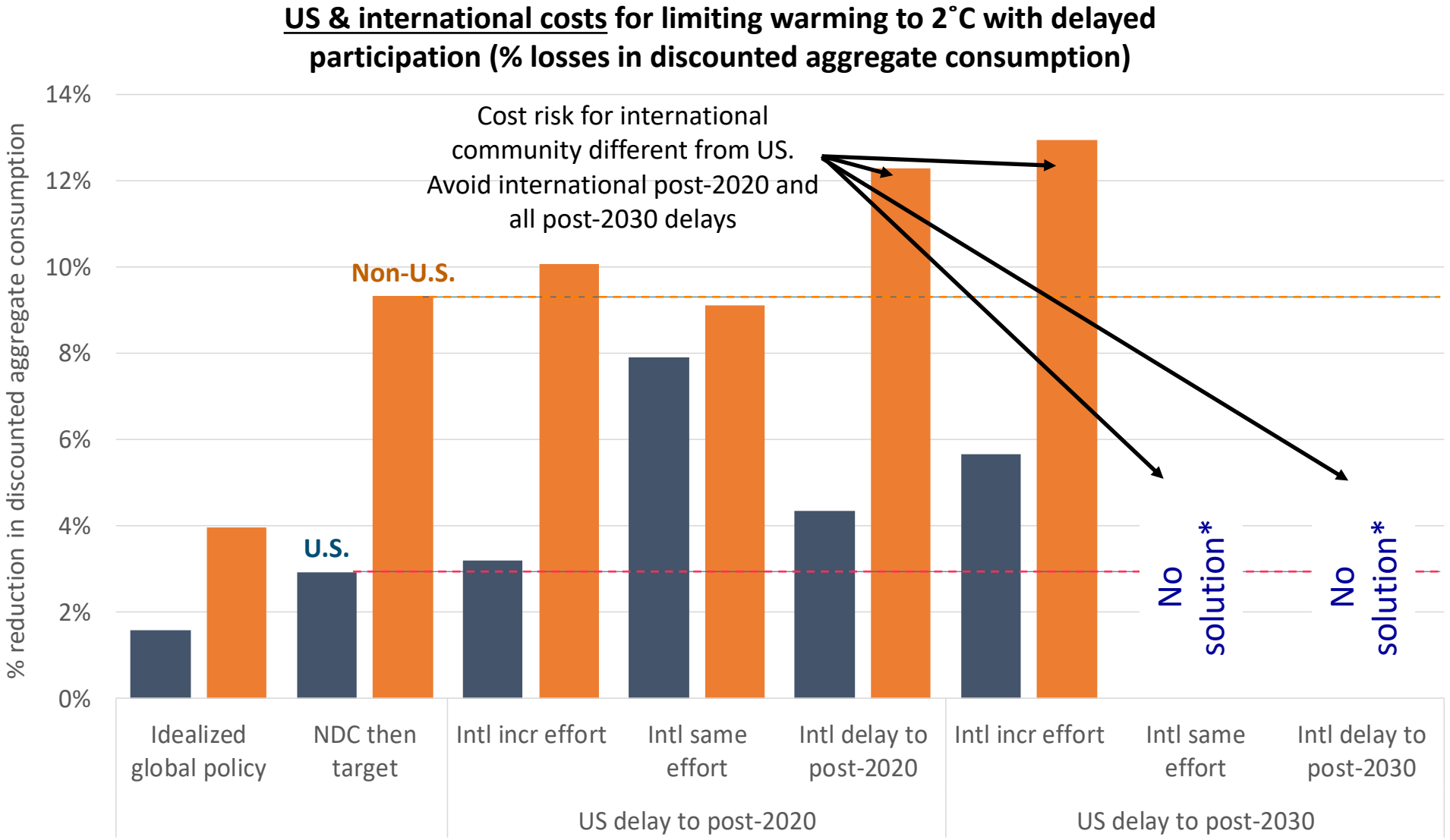


No solution (not in figure).

Delay implies more rapid future US emissions reductions if 2˚C is going to be pursued.

Negative emission technology likely essential globally, even without delay (e.g., biopower with CCS).

Potential Costs of Delayed Effort Pursuing 2˚C



If pursuing 2˚C, U.S. delay is costly to others as well.

Some outcomes are less appealing than others—for the US, for the international community.

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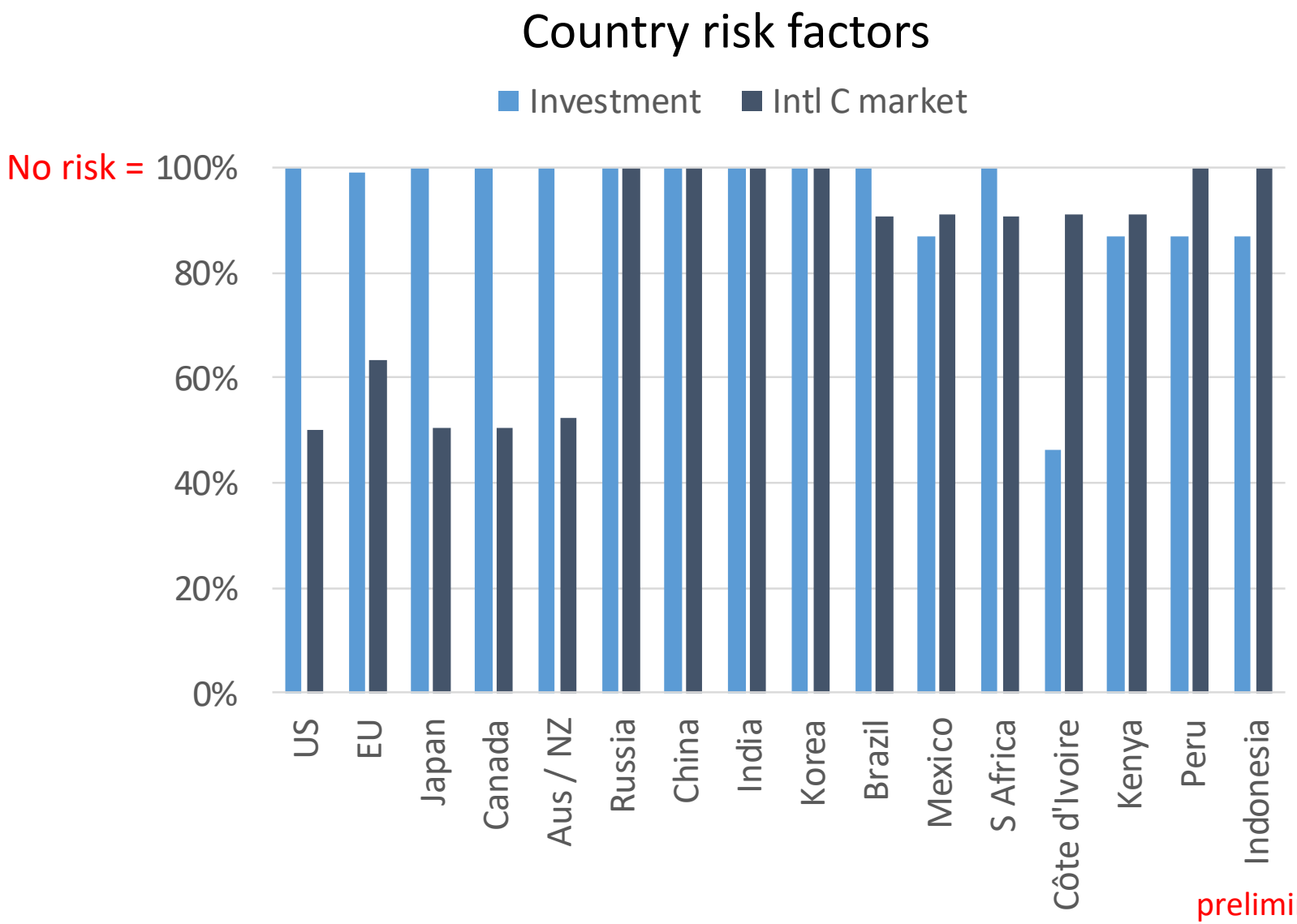
Country Risks Could Affect Partner Appeal

Country risks represent uncertainty and additional costs



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