

Mitigation from agriculture: What are fair, ambitious targets?



RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



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CGIAR Research Program on Climate Change, Agriculture and Food Security
(CCAFS)

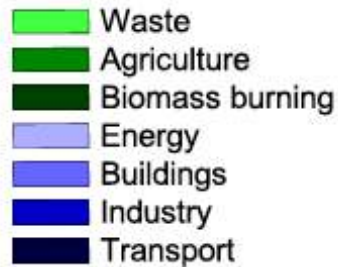
With L. Wollenberg, P. Smith, P. Havlík, M. Obersteiner, F.N. Tubiello, M. Herold, P. Gerber, S. Carter, A. Reisinger, D. van Vuuren, A. Dickie, H. Neufeldt, B.O. Sander, R. Wassmann, R. Sommer, J.E. Amonette, A. Falcucci, M. Herrero, C. Opio, R. Roman-Cuesta, E. Stehfest, H. Westhoek, I. Ortiz-Monasterio, T. Sapkota, M.C. Rufino, P.K. Thornton, L. Verchot, P.C. West, J.-F. Soussana, T. Baedeker, M. Sadler, S. Vermeulen, B.M. Campbell



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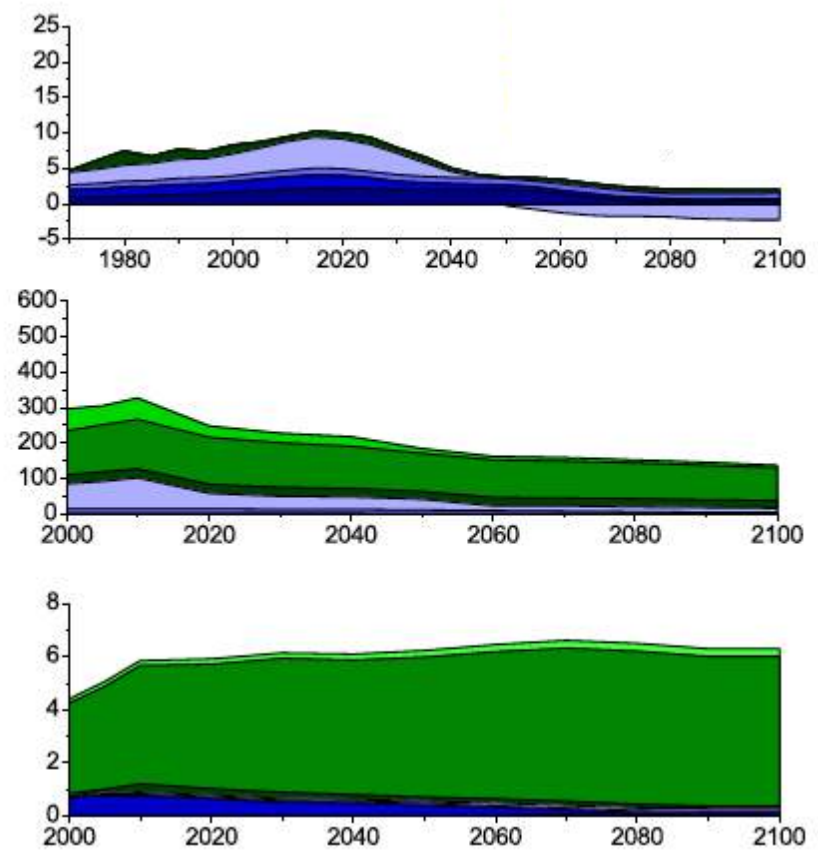
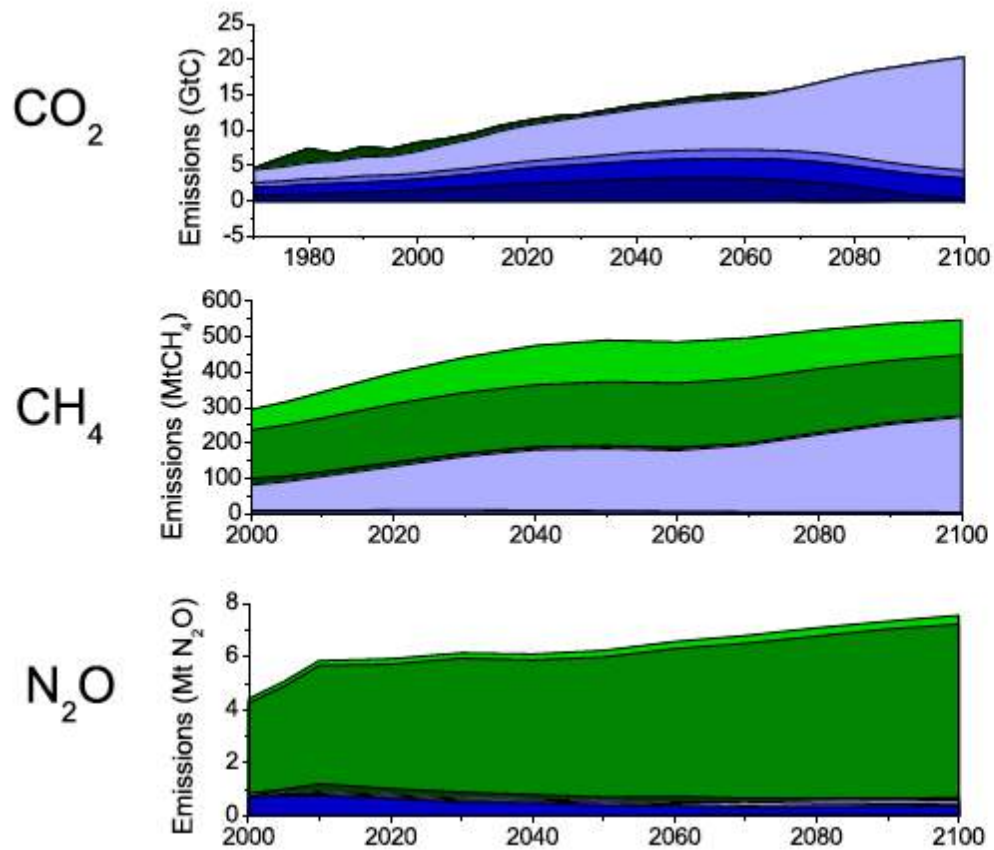
18 May 2016
SBSTA 44, Bonn

Meeting the 2°C goal requires mitigation from agriculture

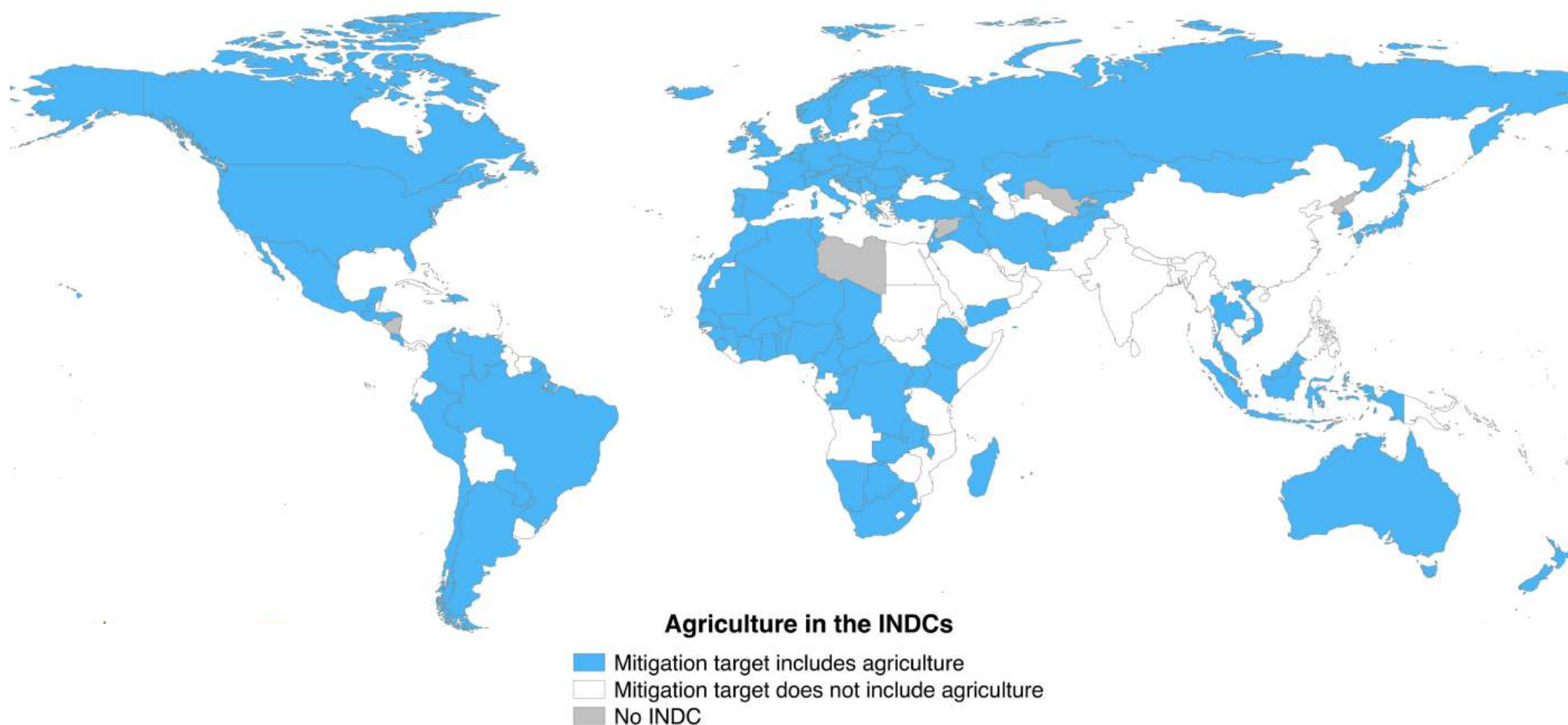


Baseline emissions

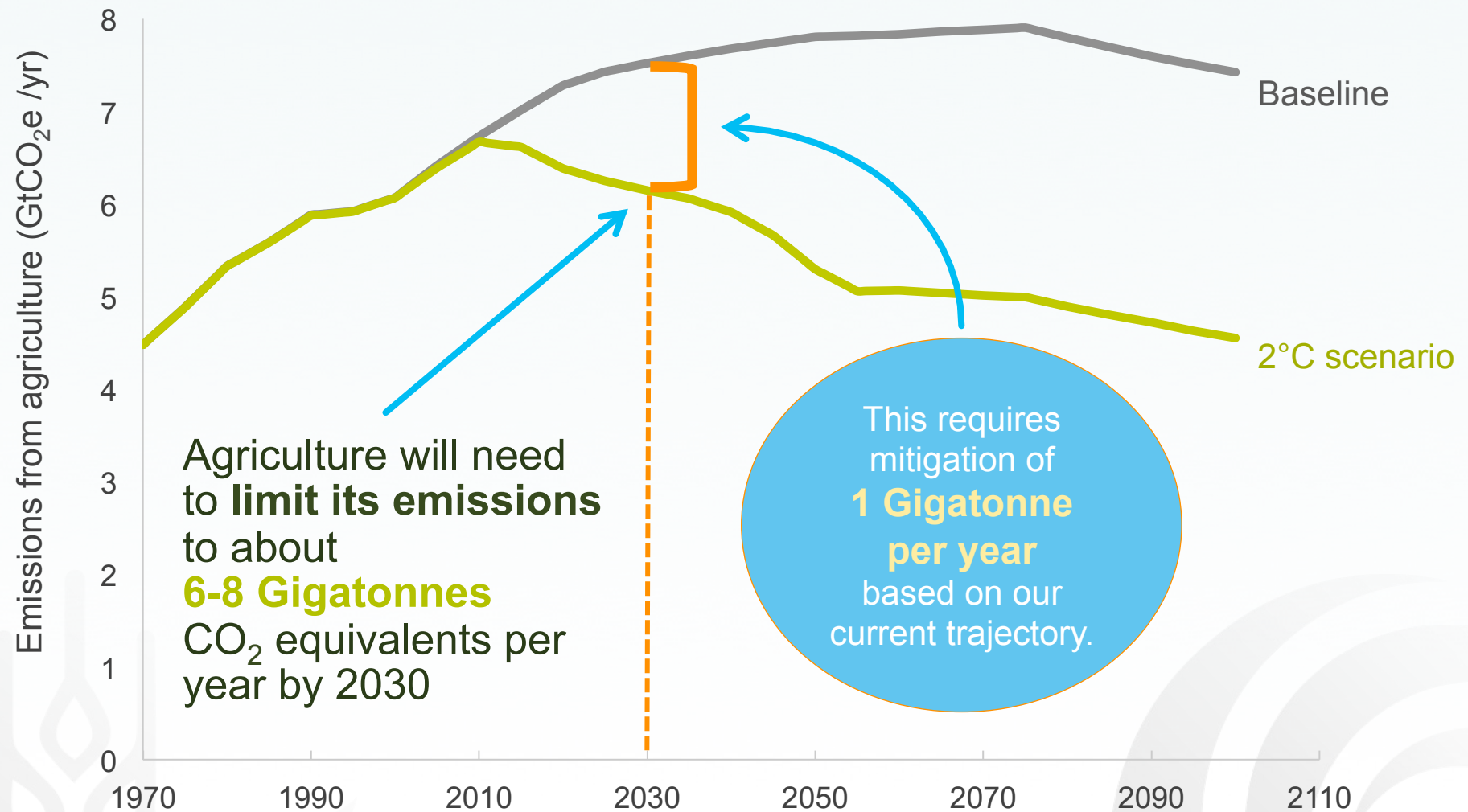
Emissions under the 2°C scenario



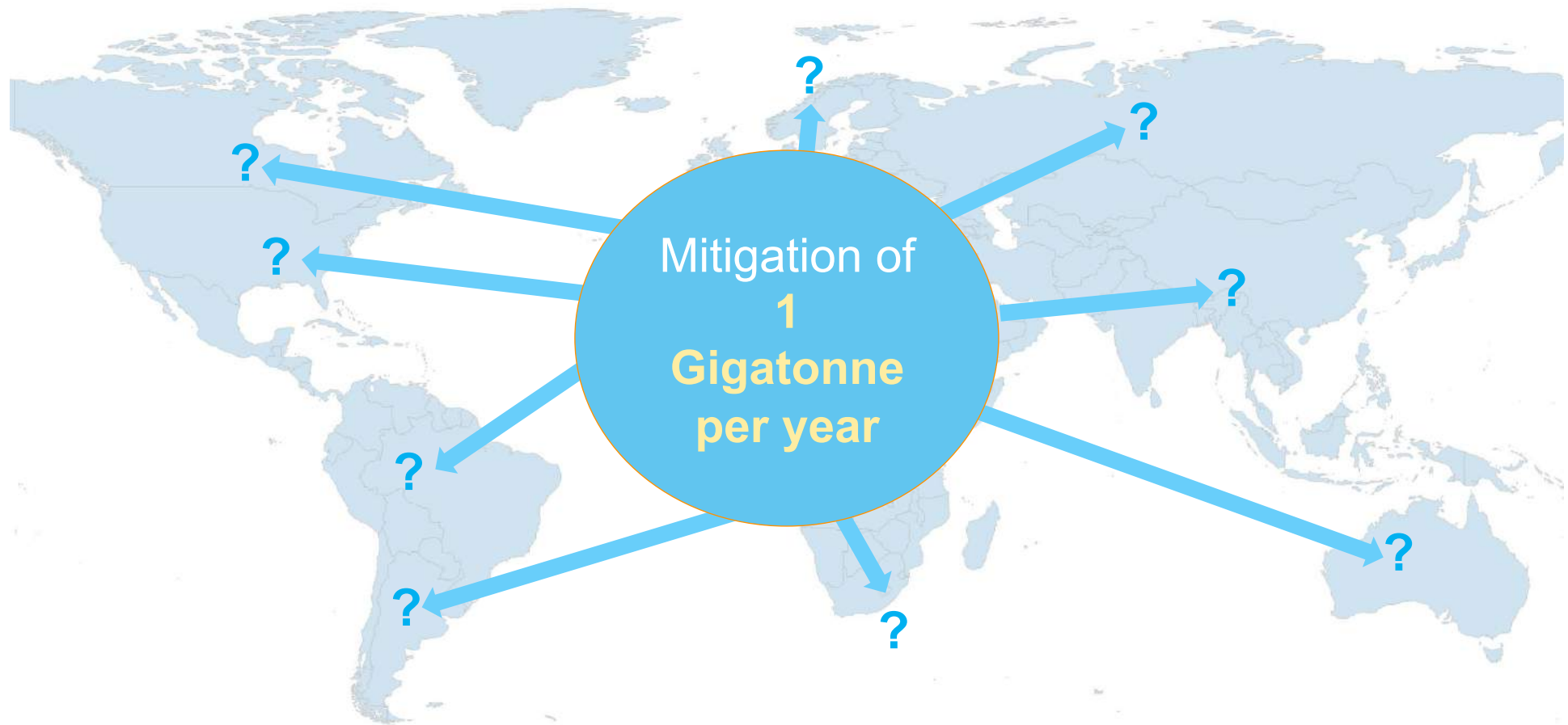
Countries are planning action in agriculture



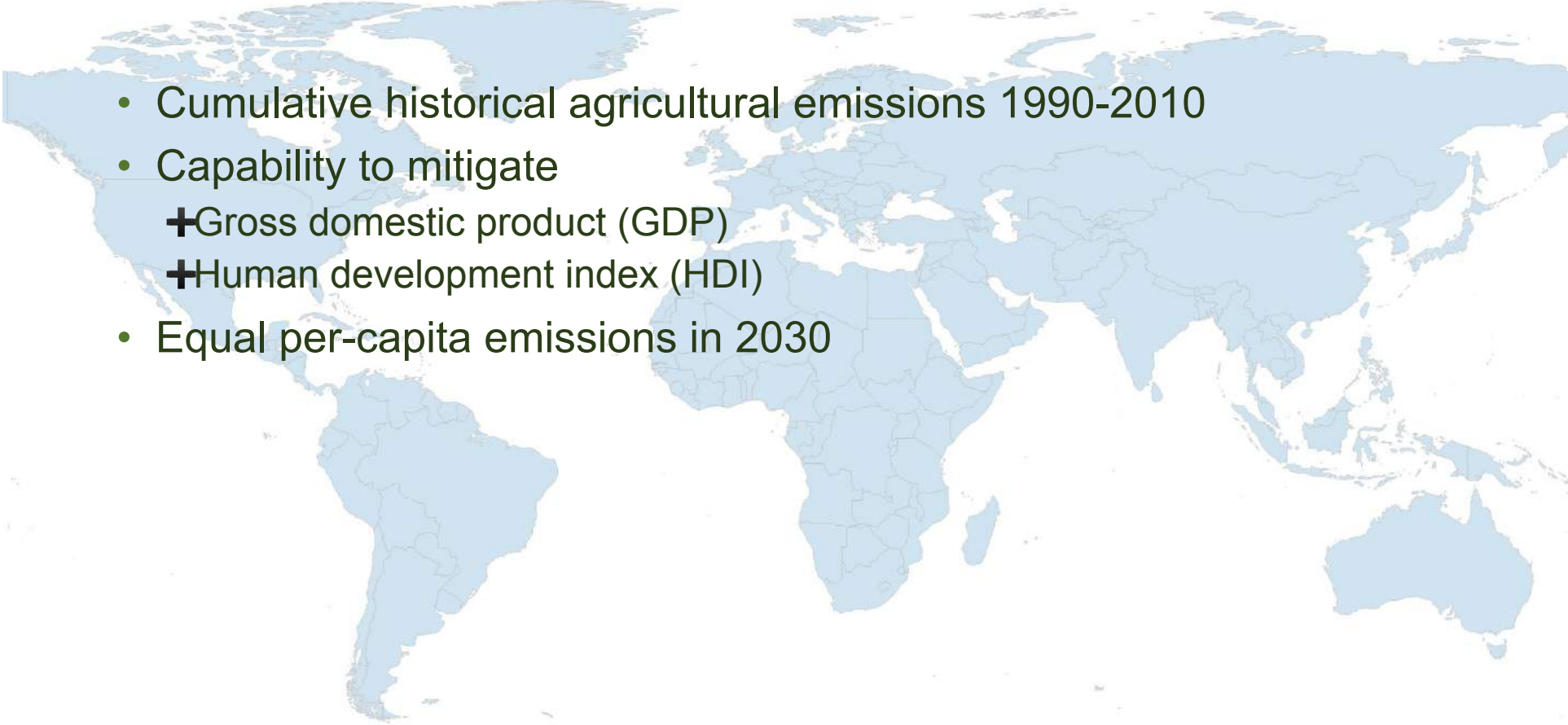
The agriculture sector must reduce **methane and nitrous oxide** emissions by 1 Gigatonne per year by 2030 to stay within the 2°C limit



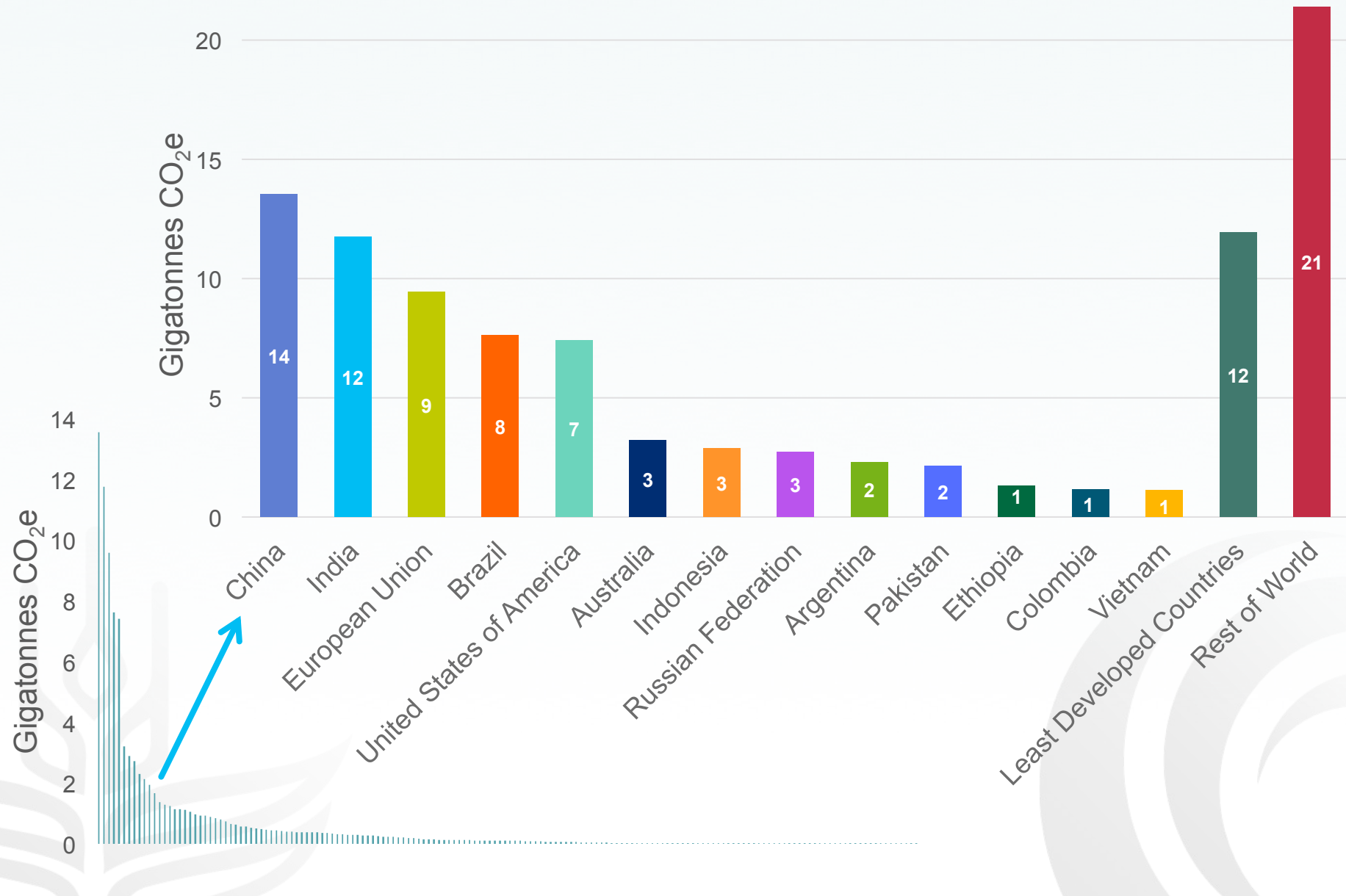
What does this mean at the country level?



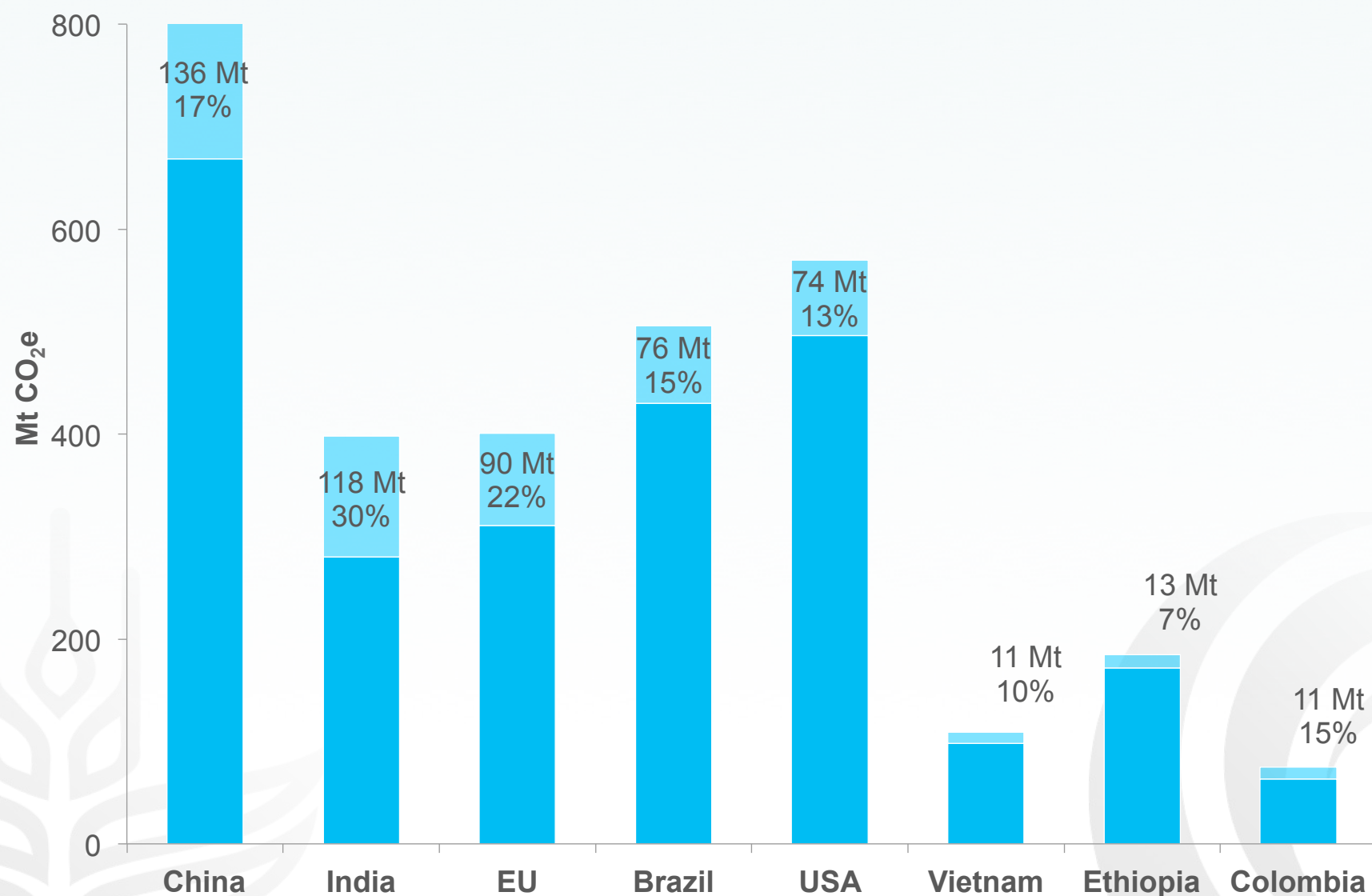
Allocating the target based on cumulative agricultural emissions

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- Cumulative historical agricultural emissions 1990-2010
 - Capability to mitigate
 - ✚Gross domestic product (GDP)
 - ✚Human development index (HDI)
 - Equal per-capita emissions in 2030

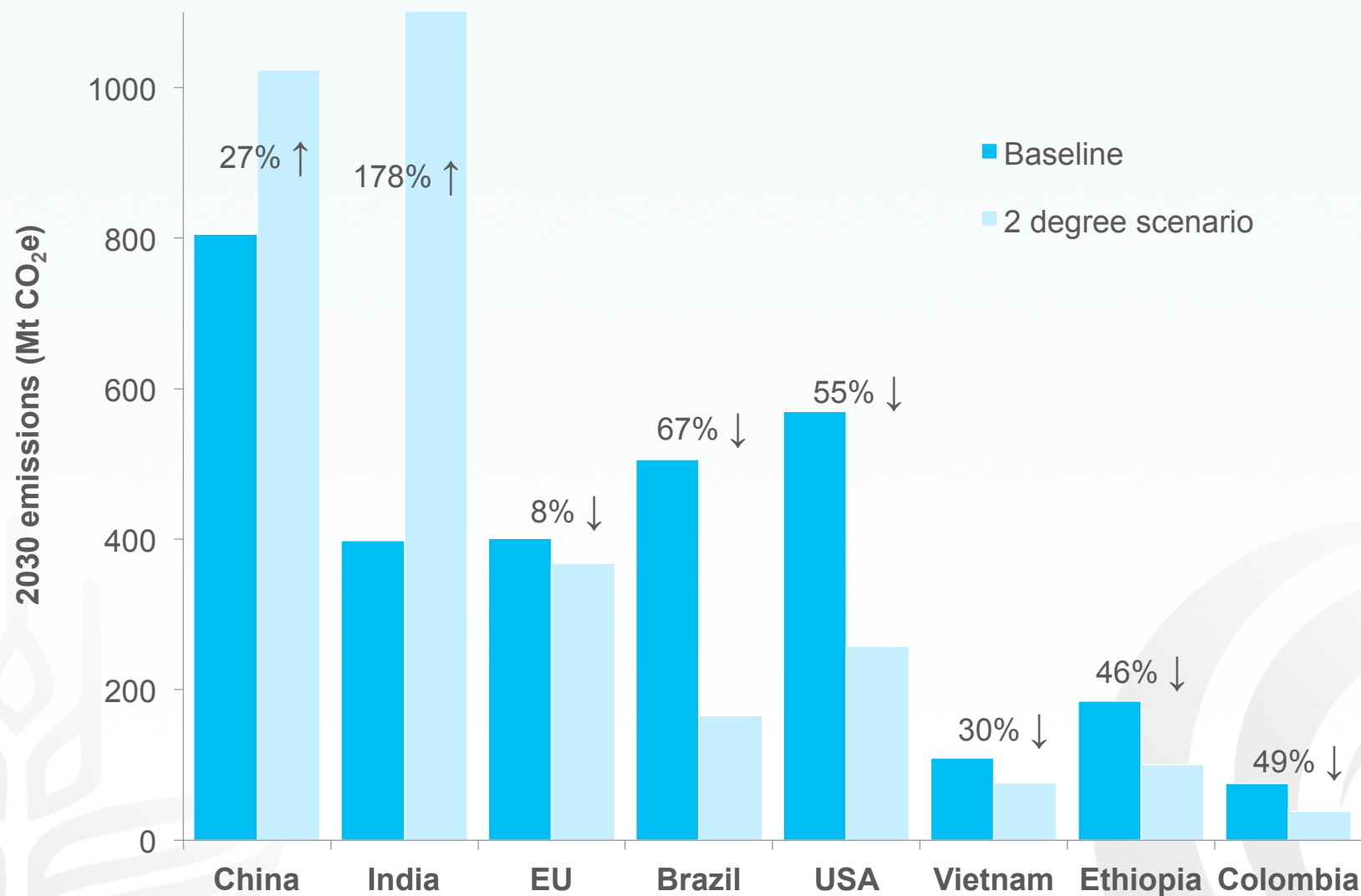
Cumulative agricultural emissions 1990-2010



Mitigation targets using cumulative agricultural emissions 1990-2010



Mitigation targets using equal per-capita emissions in 2030



Conclusions

- ~1 Gt CO₂e mitigation needed in 2030
- Most feasible if all countries participate
- Can we meet the target?
 - What is possible at the country level?
 - At what cost?
 - Compatibility with food security?



Thank you!



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