



Source: National Geographic ©

Discussion document

Green House Gases (GHGs)

Quantitative view of GHGs emissions of annex I countries of UNFCCC

London, United Kingdom
January 2019

This report is solely for the use of client personnel. No part of it may be circulated, quoted, or reproduced for distribution outside the client organization without prior written approval from the author. It is not a complete record of the discussion.

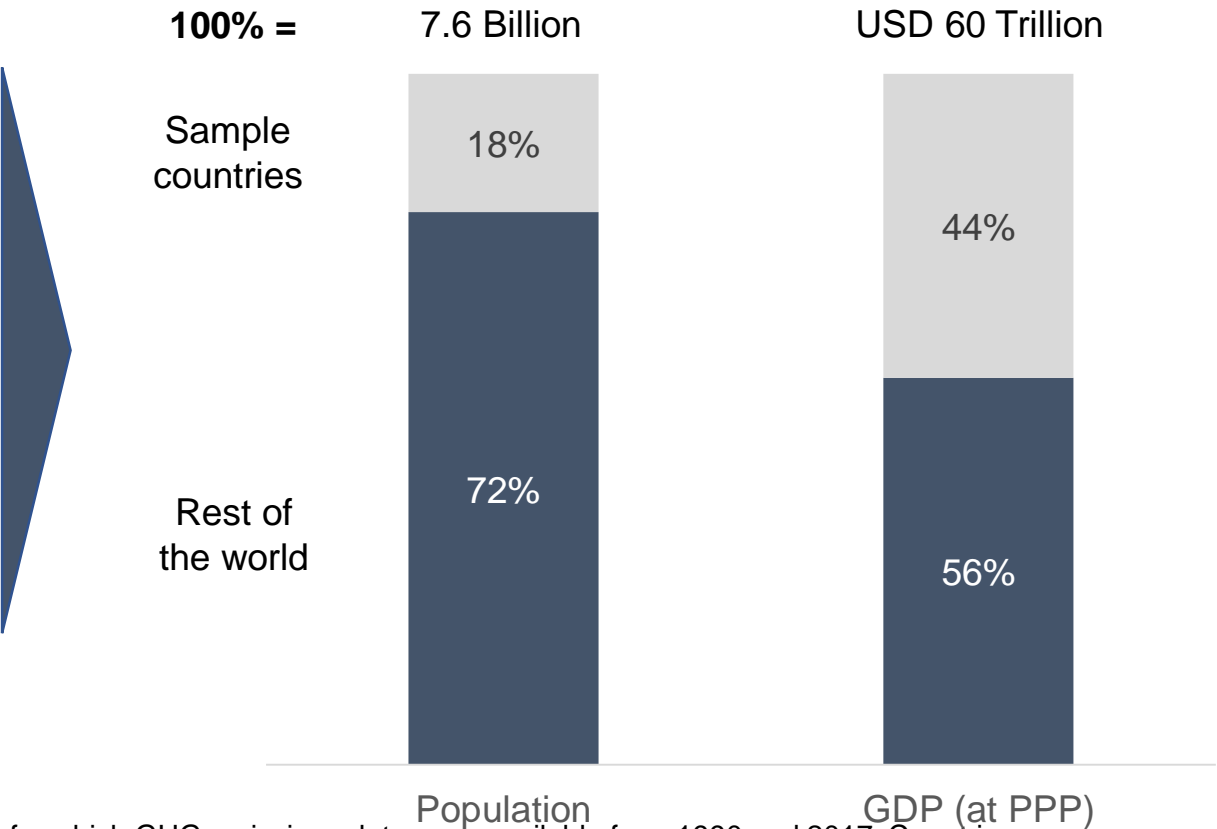
RAPUTT

The study assesses the GHG emissions' foot print based on a sample set of countries, which constitute 44% of global GDP and 18% of global population

List of sample countries – Annex I countries ¹

1. Australia	14. Germany	27. Monaco	40. Turkey
2. Austria	15. Greece	28. Netherlands	41. UK
3. Belarus	16. Hungary	29. New Zealand	42. Ukraine
4. Belgium	17. Iceland	30. Norway	43. USA
5. Bulgaria	18. Ireland	31. Poland	
6. Canada	19. Italy	32. Portugal	
7. Croatia	20. Japan	33. Romania	
8. Cyprus	21. Kazakhstan	34. Russia	
9. Czech	22. Latvia	35. Slovakia	
10. Denmark	23. Liechtenstein	36. Slovenia	
11. Estonia	24. Lithuania	37. Spain	
12. Finland	25. Luxembourg	38. Sweden	
13. France	26. Malta	39. Switzerland	

Sample countries' share of global Population and GDP (2018)

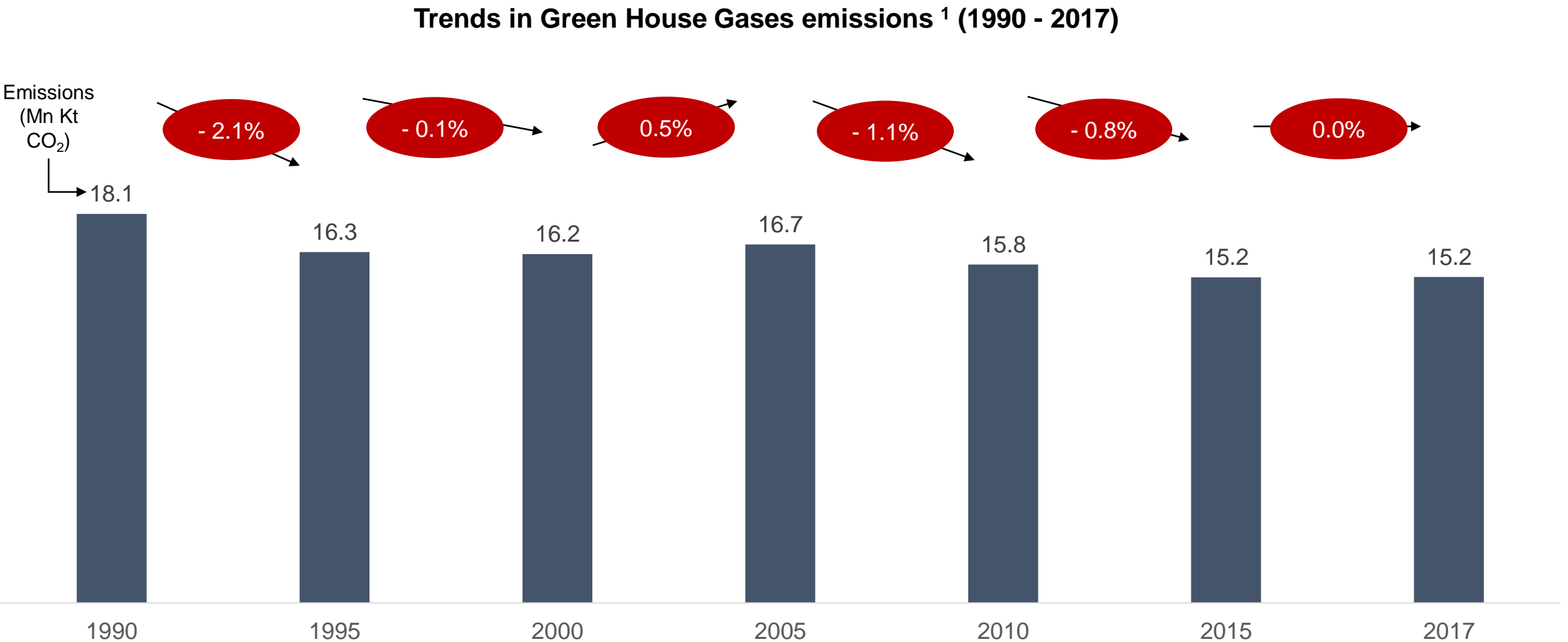


Note: ¹ List of 43 countries from UNFCCC database. The list of countries were the only countries for which GHG emissions data were available from 1990 and 2017. Countries represented in red font are the ones whose latest GDP data in not available

Source: UNFCCC, World Bank; Raputt team Analysis

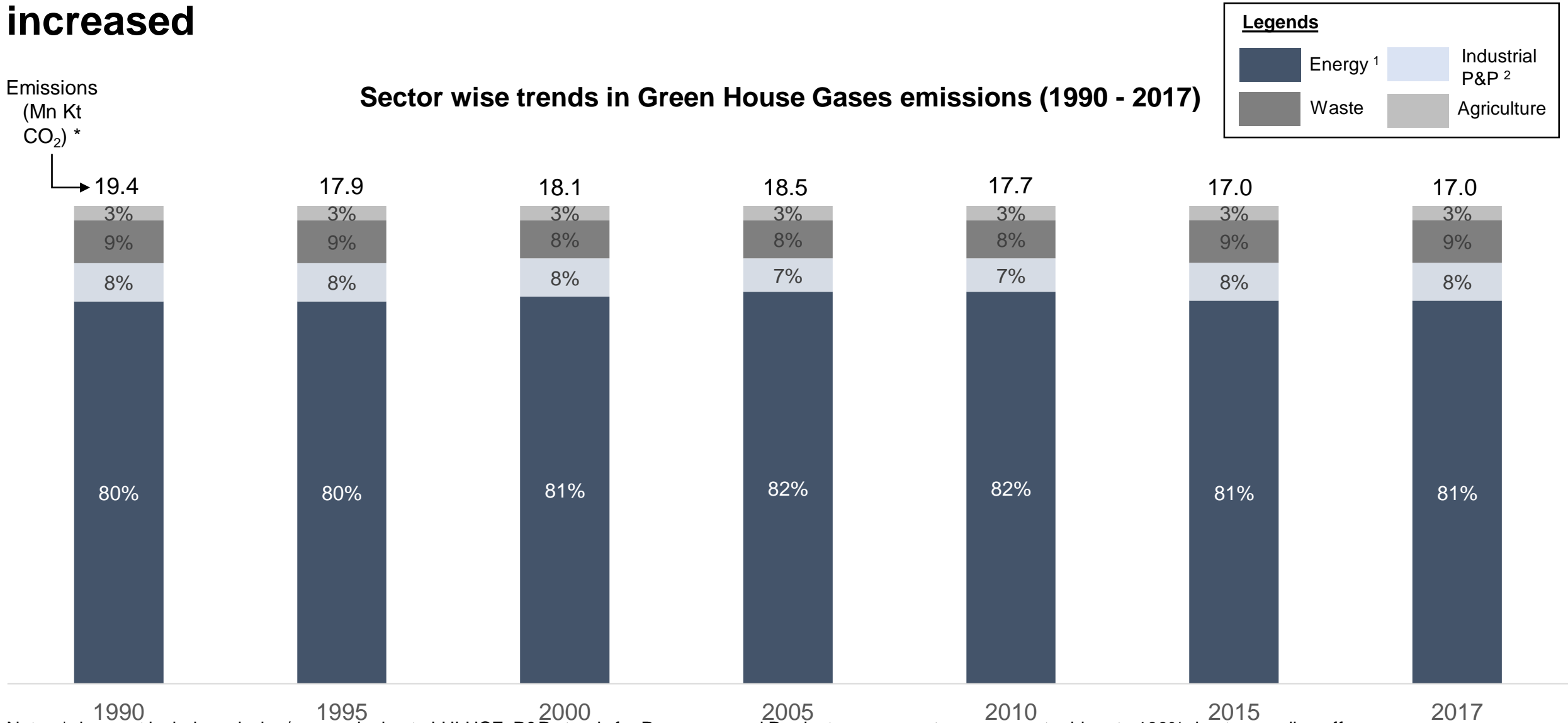
2

During 1990 – 2017 the overall GHG emissions have reduced, however the rate of reduction is slowing for the sample countries



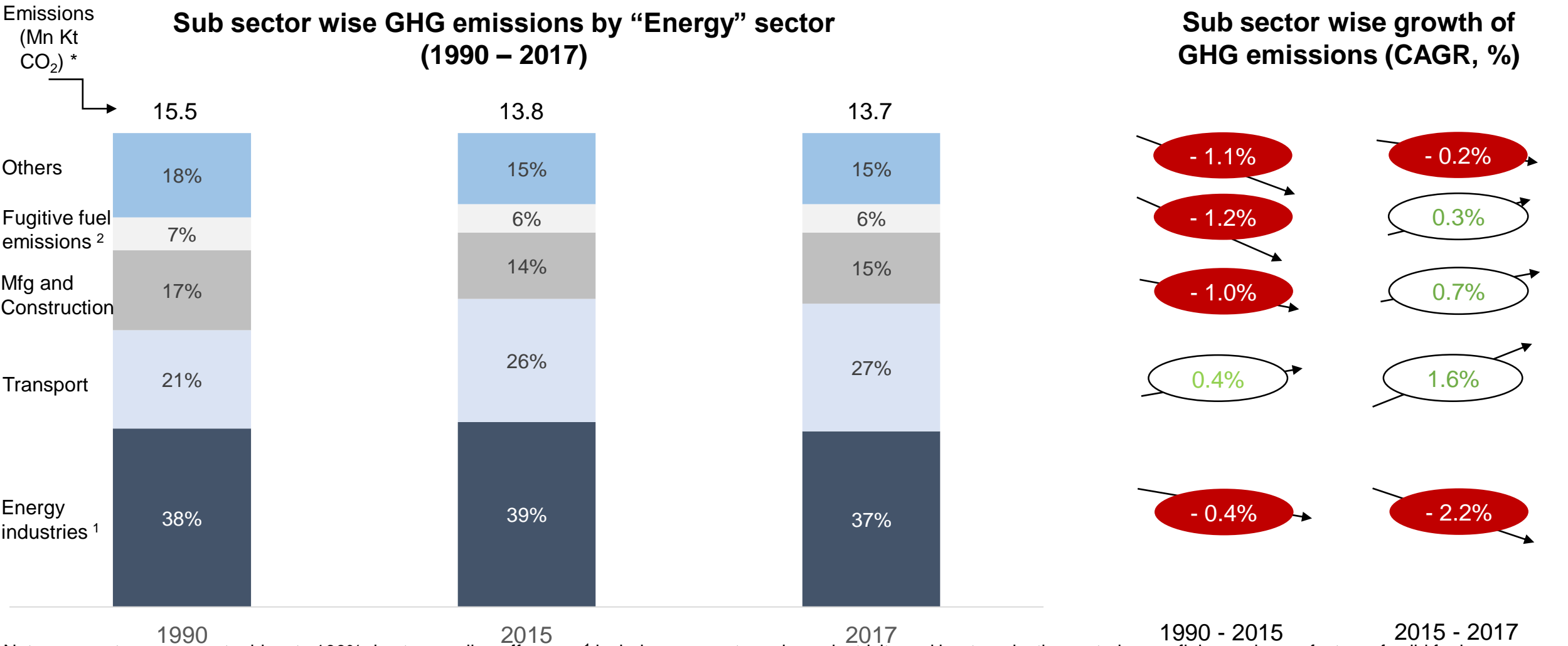
Note: Figures in the red oval boxes represent growth trends expressed in CAGR; ¹ includes LULUCF stands for Land Use Land Use Change and Forestry
Source: UNFCCC; Raputt team Analysis

Energy sector is the primary contributor to GHGs emissions and its share has increased

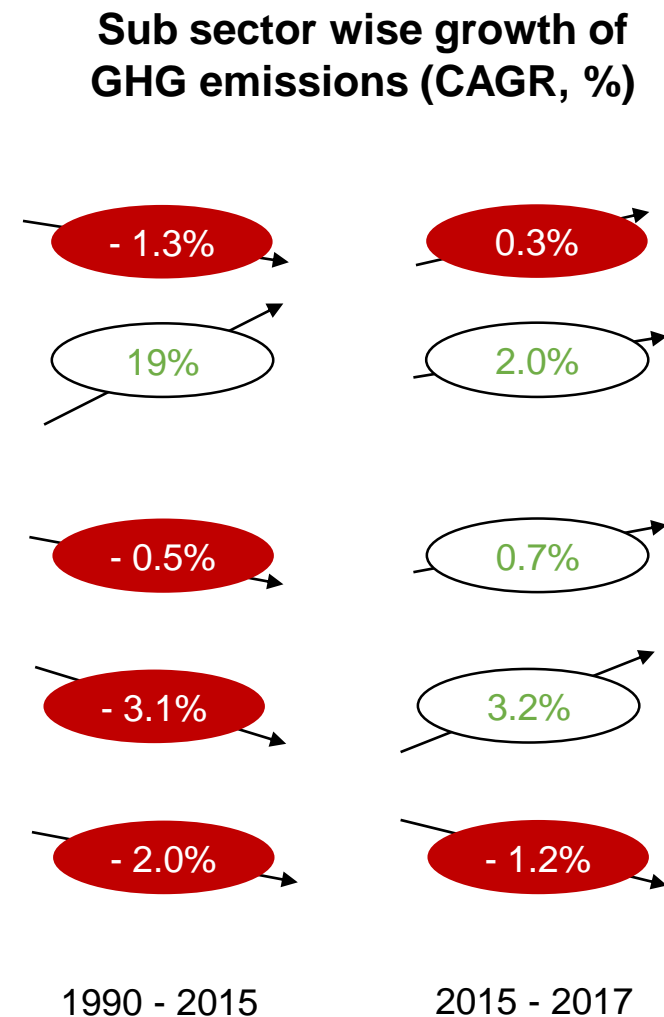
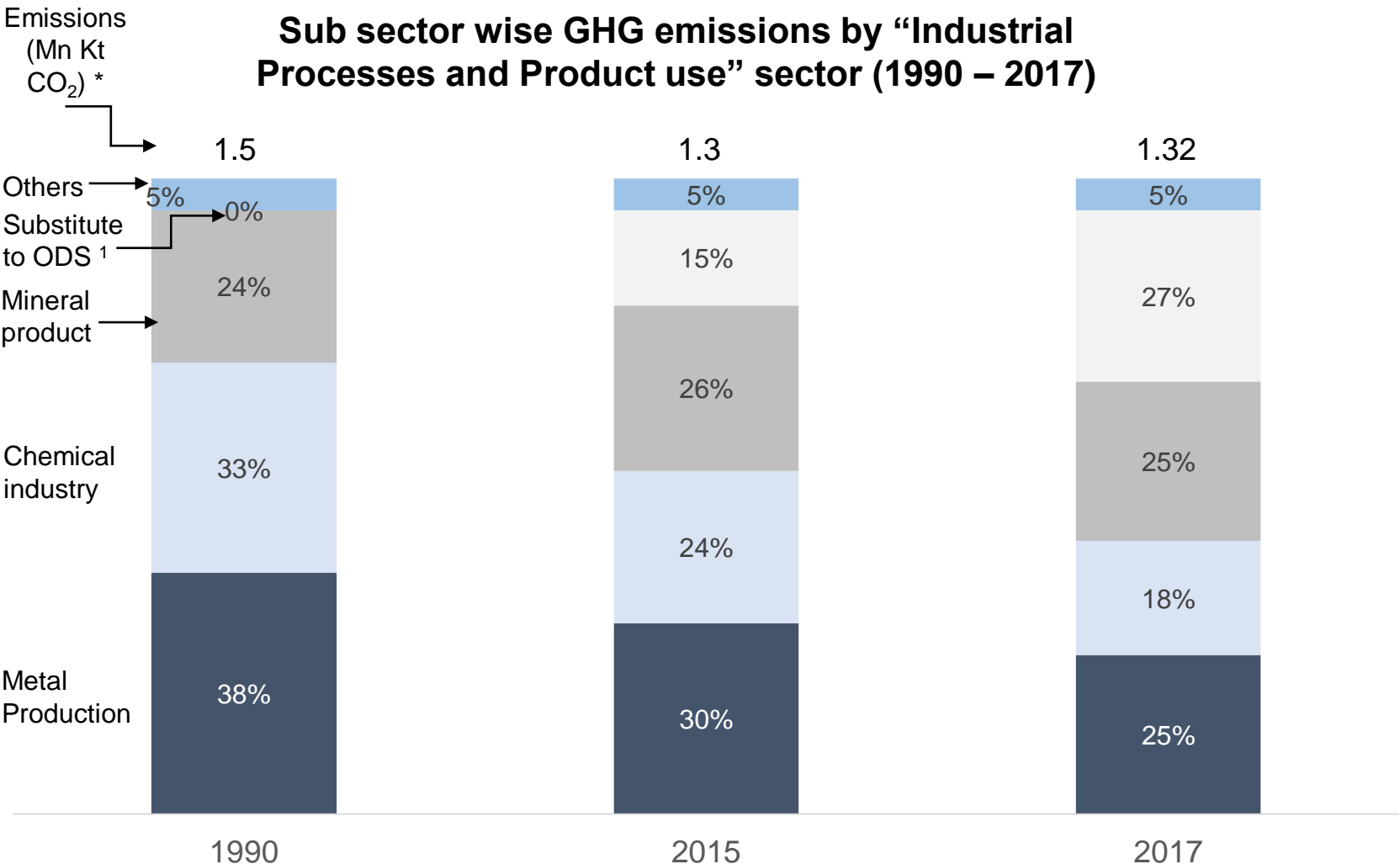


Note: * does not include emission/ removals due to LULUCF; P&P stands for Processes and Product use; percentages may not add up to 100% due to rounding off errors
¹ includes energy industries, transport, manufacturing and construction etc; ² includes mineral products, chemical, metal production, non energy products from fuels, electronics etc
Source: UNFCCC; Raputt team Analysis

Energy industries¹ form large share, transport sector's share has steadily grown and mfg, const and fugitive fuel emission have seen growth recently



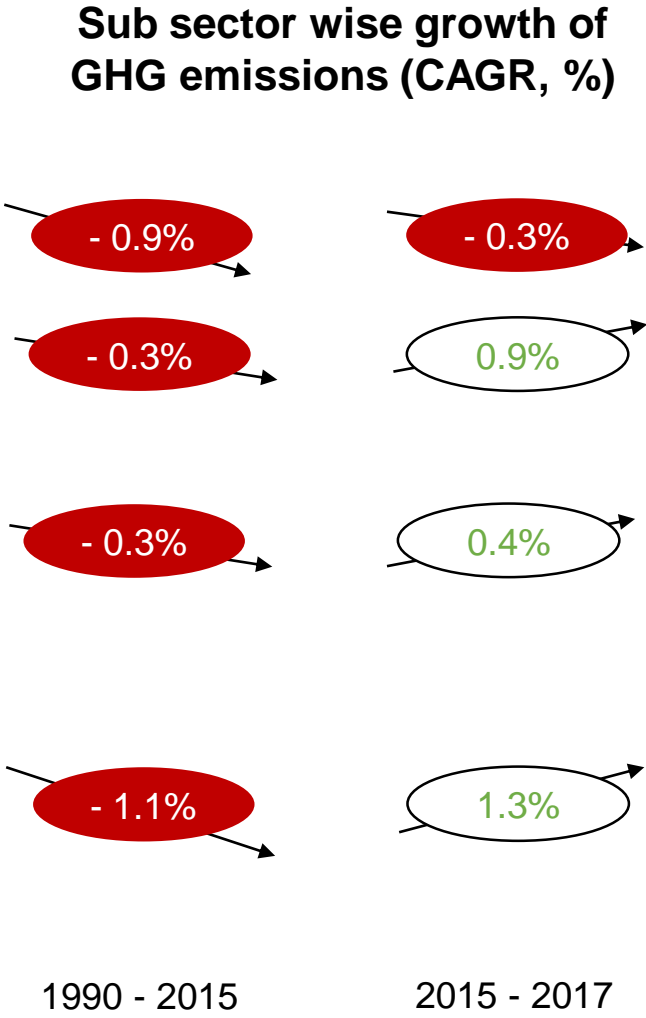
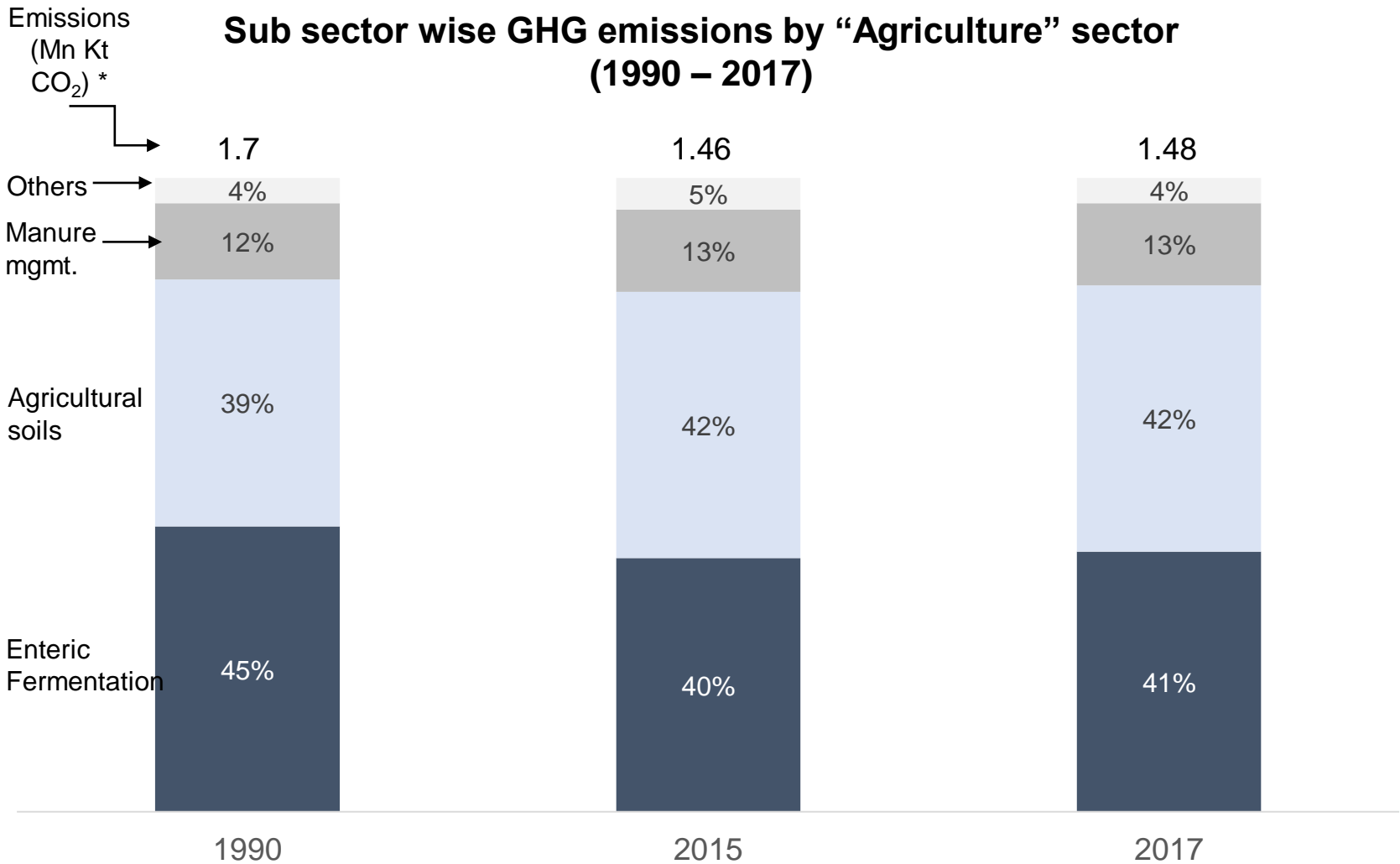
Metal production, Chemical and Mineral products form large share of emissions and emissions from latter two sub-segments have witnessed growth recently



Note: percentages may not add up to 100% due to rounding off errors; ¹ ODS stands for Ozone Depletion Substances

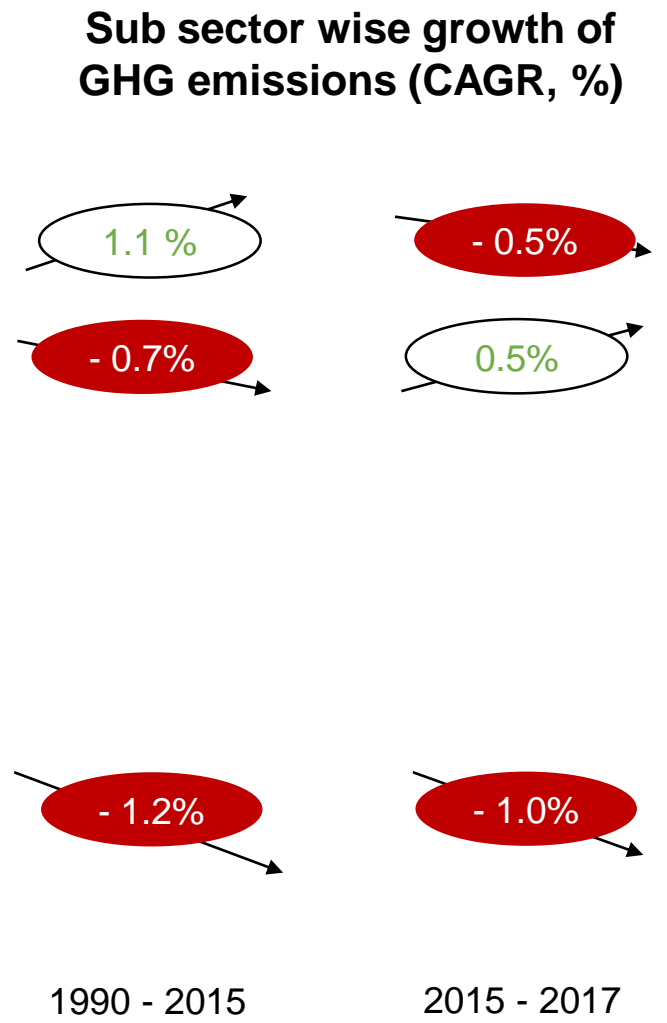
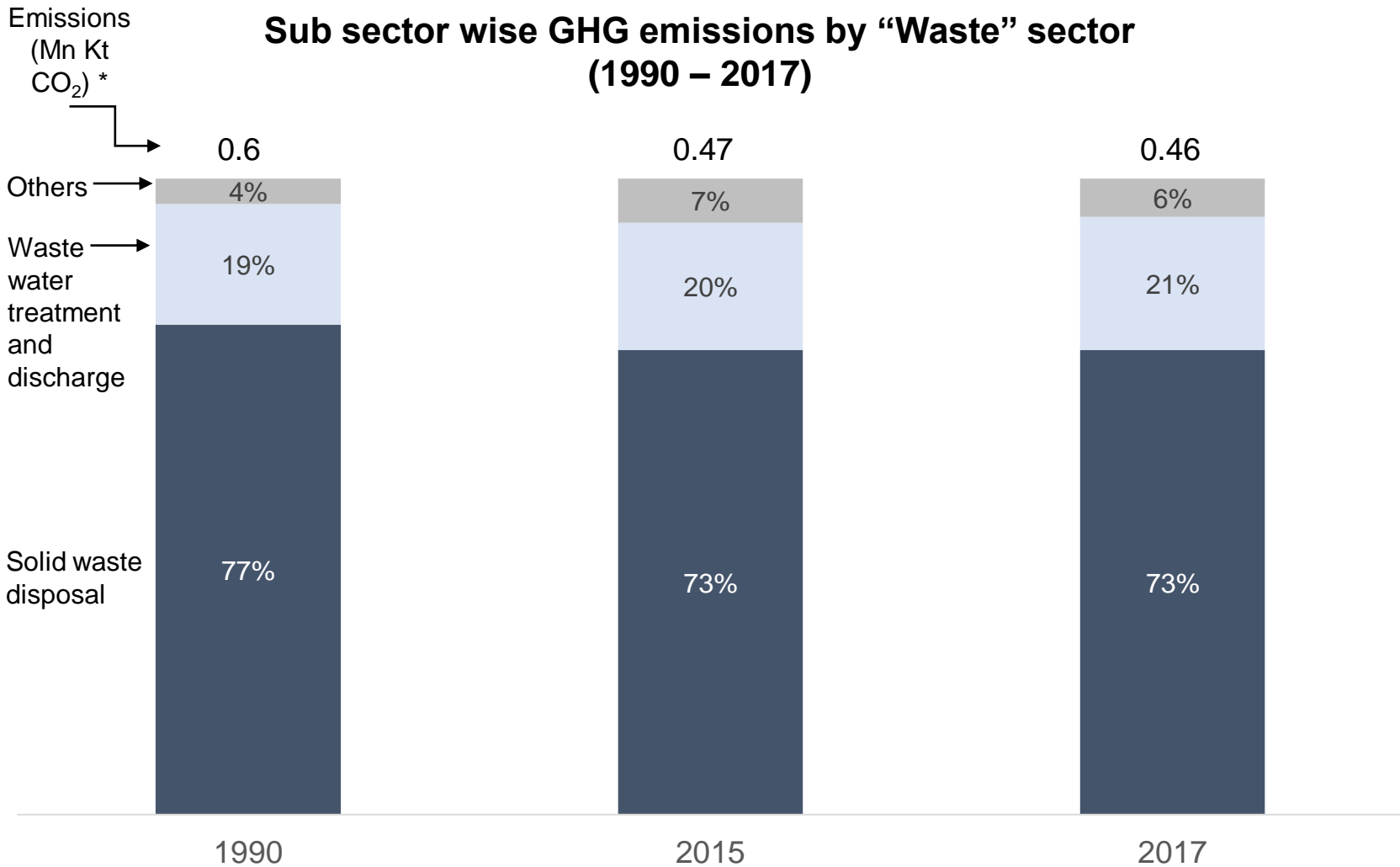
Source: UNFCCC; Raputt team Analysis

Emissions due to Enteric fermentation, soils and manure management has seen growth recently



Note: percentages may not add up to 100% due to rounding off errors;
Source: UNFCCC; Raputt team Analysis

Emissions due to waste water treatment and discharge has seen growth recently, while solid waste disposal continue form large share of total emissions



Note: percentages may not add up to 100% due to rounding off errors; ¹ abc
Source: UNFCCC; Raputt team Analysis

Thanks