Bhutan's National Greenhouse Gas Inventory

Third National Communication to UNFCCC

National Environment Commission
Royal Government of Bhutan

Presentation Outline

- Methodology
- Category of emission sources
- Total Emissions (2015)
- Sector wise Emission Breakdown
- Emission Trends
- Conclusion

Methodology

- ✓ National multi-sectoral task force
  - ✓ 20 Members in 4 working groups
- ✓ IPCC 2006 Guidelines
- ✓ IPCC software
- ✓ Base year for reporting: 2015

Categories of Emission Sectors and GHGs

Sectors

- ✓ Energy
- ✓ Industrial Process and Product Use
- ✓ Agriculture Forestry and Other Land Use
- ✓ Waste

Gases

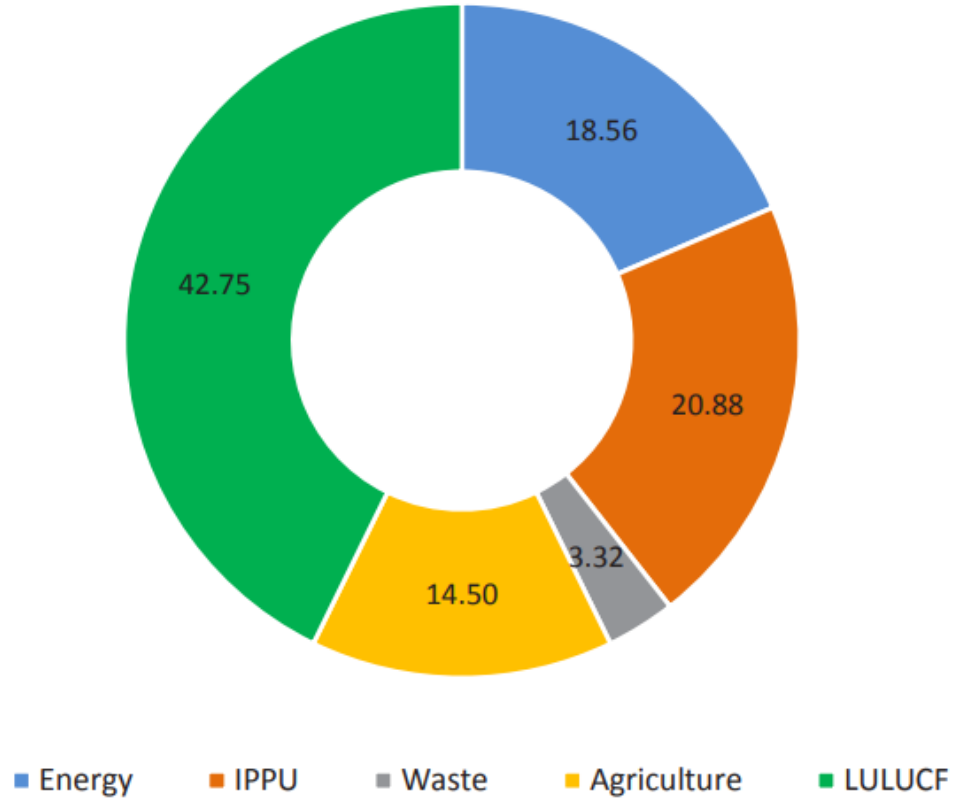
- ➢ Carbon Dioxide (CO_2)
- ➢ Methane (CH_4)
- ➢ Nitrous Oxide (N_2O)

GHG Emissions in 2015

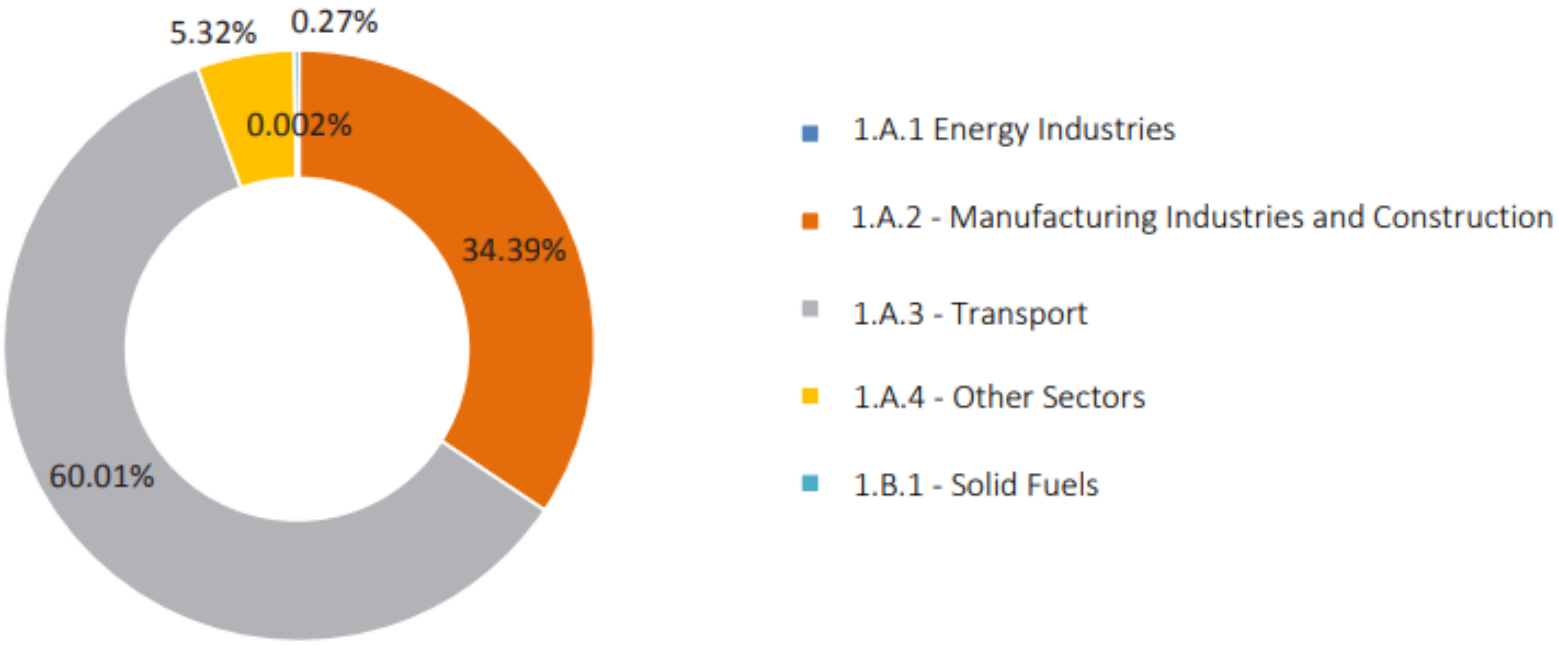
Table 8 Bhutan's GHG emissions from sectors in 2015

GHG sources & sinks	GHG, Giga grams				
	CO_2	CH4	N2O	Nox	CO
Energy	691.556	0.361	0.028	0.000	0.000
IPPU	791.834	0.219	0.000	0.000	0.000
Agriculture	1.073	20.549	0.388	0.000	0.000
LULUCF	-7977.606	3.515	0.194	2.244	80.028
Waste	0.000	5.849	0.012	0.000	0.000
Total emission	-6493.142	30.493	0.623	2.244	80.028
CO_2e	-6493.142	640.36	193.00	-56.77	144.05
Net emission			***-5,572.50***		

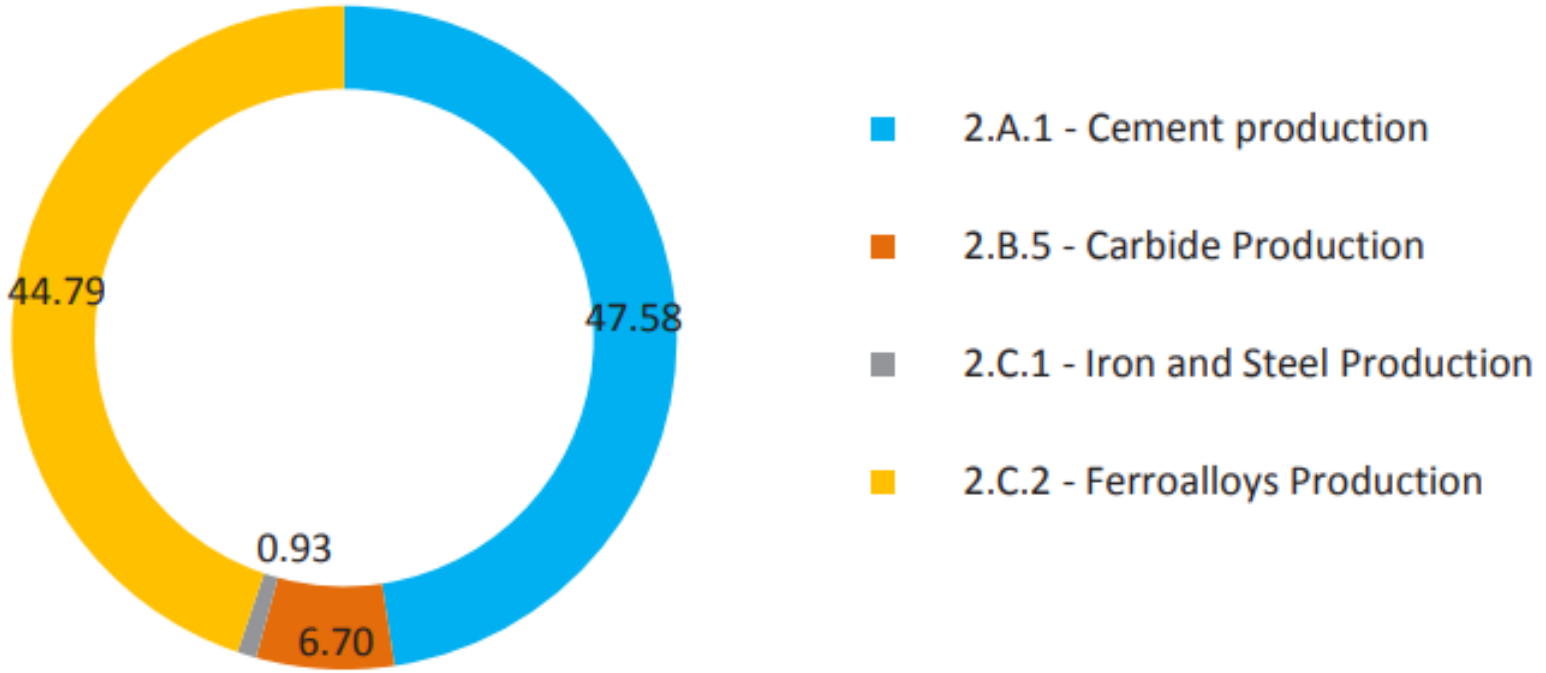
(Percentage share of sect oral emissions to National Total (2015)excluding removals from LULCF



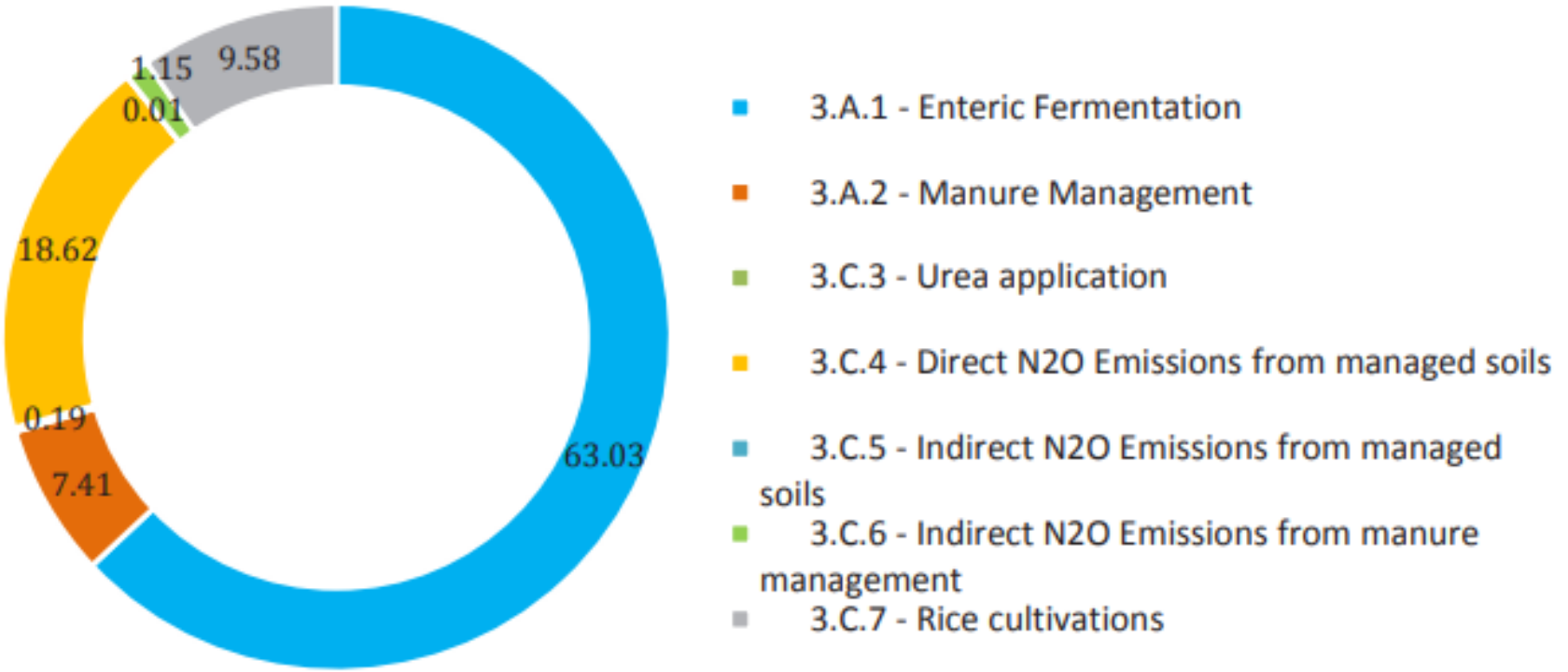
Breakup of Emissions from Energy Use (2015)



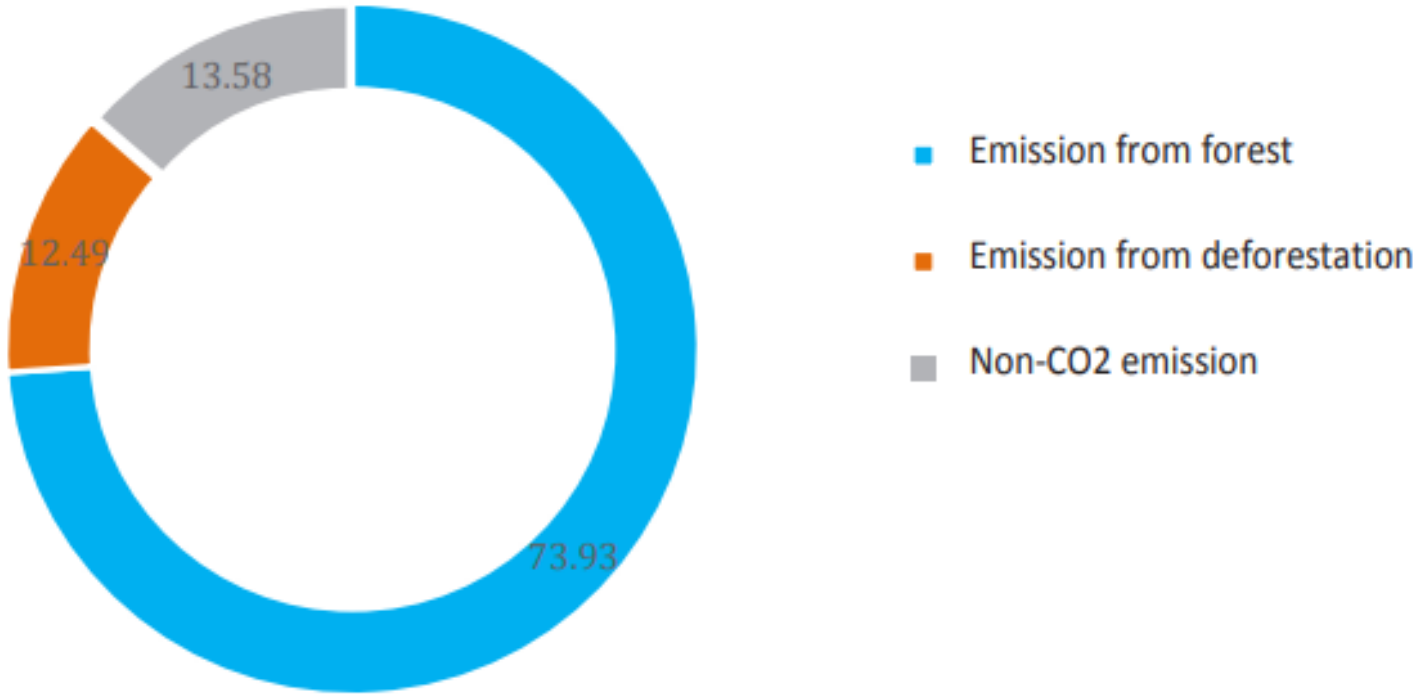
Breakup of Emissions from Industrial Processes and Product Use (2015)



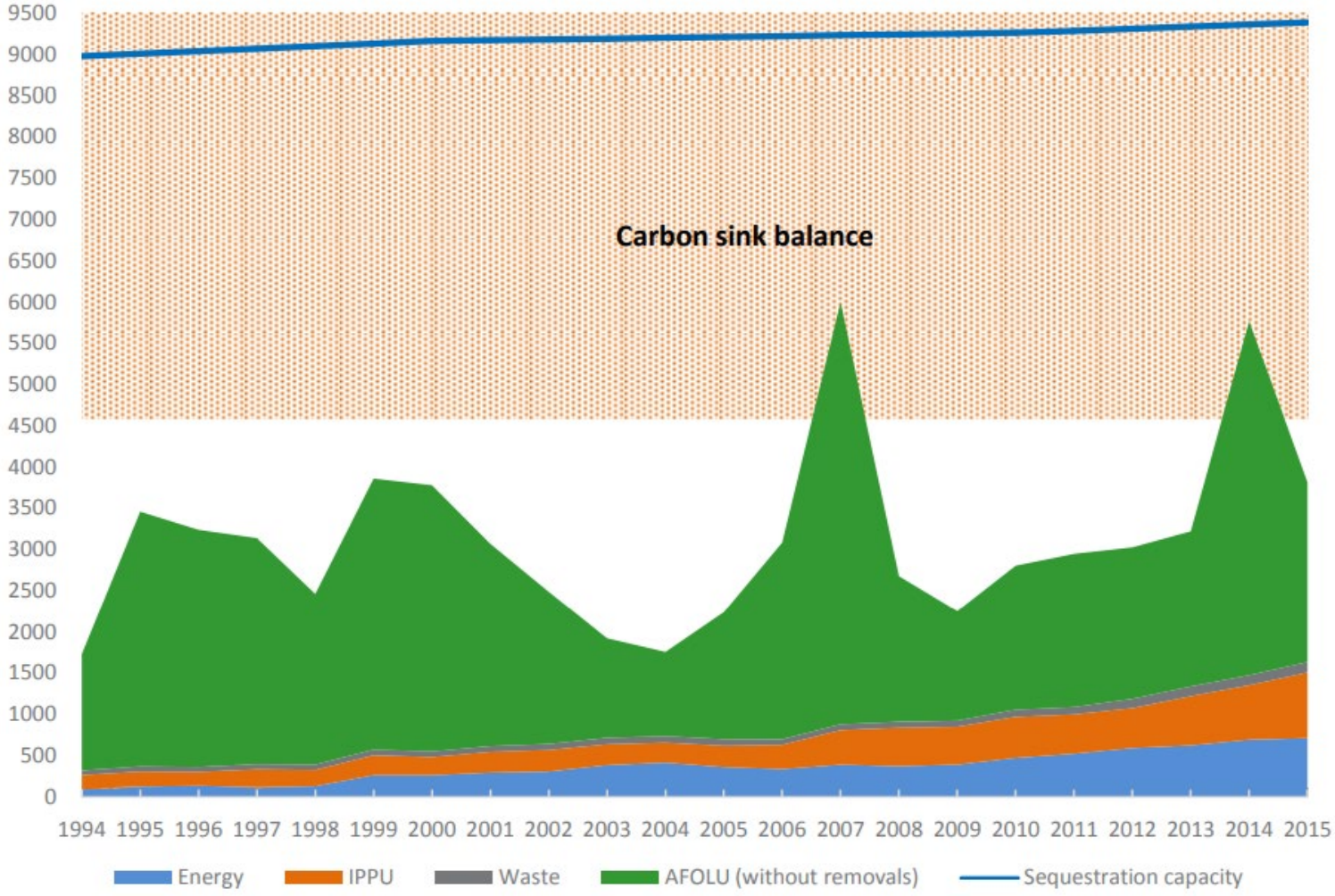
Breakup of Emissions from Agriculture (2015)



Percentage share of emission in LULUCF(2015)



Emission Trends, 1994 & 2015



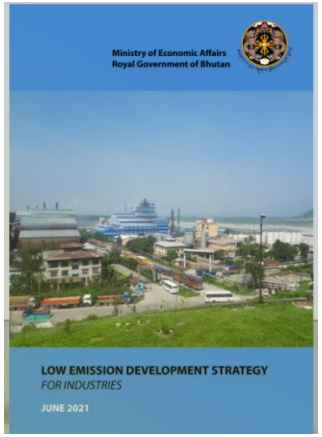
Key Category

Table 6 Level Assessment

IPCC Category code	IPCC Category	Greenhouse gas	2015 Ex,t (Gg CO2Eq)	|Ex,t|(Gg CO2Eq)	Lx,t	Cumulative Total of Column F
3.B.1.a	Forest land Remaining Forest land	CARBON DIOXIDE (CO_2)	-8181.187	8181.187	0.773	0.773
1.A.3.b	Road Transportation	CARBON DIOXIDE (CO_2)	416.778	416.778	0.039	0.812
2.A.1	Cement production	CARBON DIOXIDE (CO_2)	378.924	378.924	0.035	0.847
2.C.2	Ferroalloys Production	CARBON DIOXIDE (CO_2)	354.885	354.885	0.033	0.880
3.A.1	Enteric Fermentation	METHANE (CH_4)	348.490	348.490	0.033	0.913
1.A.2	Manufacturing Industries and Construction - Solid Fuels	CARBON DIOXIDE (CO_2)	236.815	236.815	0.022	0.935
4.D	Wastewater Treatment and Discharge	METHANE (CH_4)	106.204	106.204	0.010	0.945
3.C.4	Direct N2O Emissions from managed soils	NITROUS OXIDE (N_2O)	102.937	102.937	0.010	0.955

Mitigation Actions/plans

- Low Emission Development Strategies
  - Human Settlement
  - Surface transport
  - Industries
  - Food Security

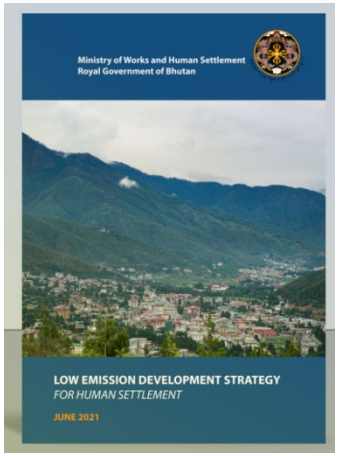


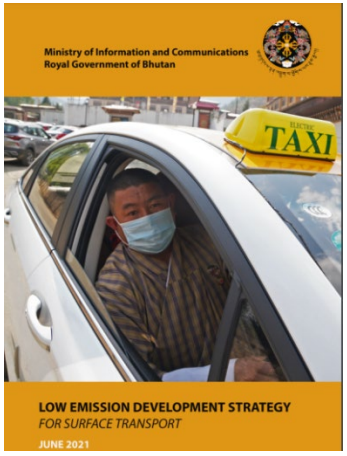
- Second Nationally Determined Contribution

  -REDD+

  -National Energy Efficiency Conservation Policy

  -EV Road Map





Conclusions for year 2015

- Net emissions: -5,572.50
- Total GHG emission : 3,814.098 Gg of CO2equivalent
- Growing emissions from transport, energy and industrial sectors

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