INDUSTRIAL PROCESSES AND PRODUCT USE
2020 GREENHOUSE GAS INVENTORY

Presented by: Hendrik Louw

Directorate: GHG Inventory and Systems
Chief Directorate: Climate Change Monitoring, Evaluation and Mitigation

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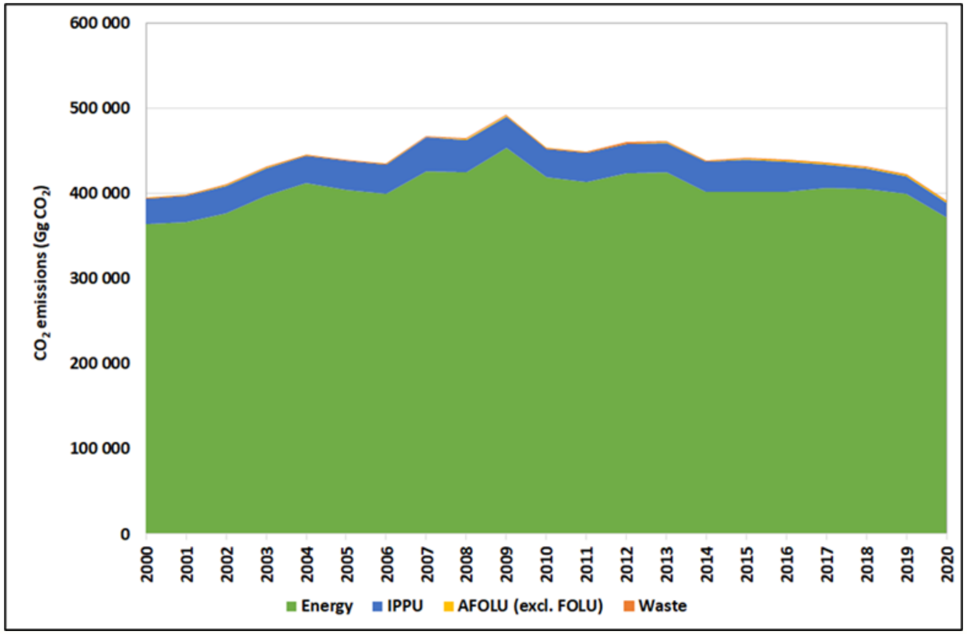
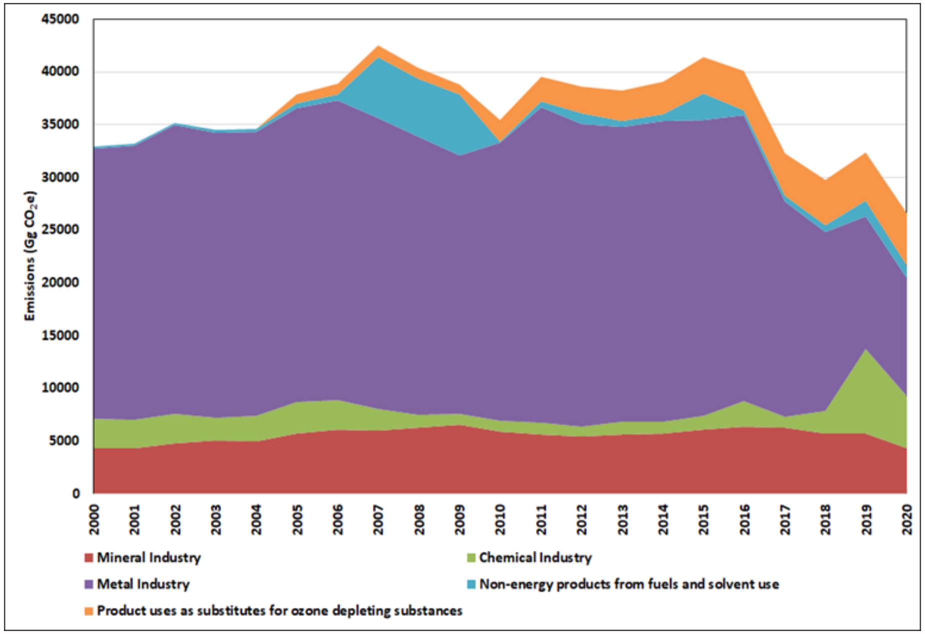
Overview

- The IPPU sector produced 26 595Gg CO2e (5.6% of South Africa's GHG emissions (excl. AFOLU)
- Indirect footprint however much bigger (mostly reported via energy)
- Various inconsistencies and uncertainties in the past due to "indirect" information
- Various processes incorporated over time
- SAGERs contributed to increase certainty, consistency and accuracy
- Tier 3 improved accuracy and completeness (from 2022)
- External Verification improved accuracy and completeness (from 2022)





Overview

GHG source categories	% contribution	CO_2	CH_4	N_2O	HFCs	PFCs	Total
		Gg CO_2e					
IPPU	**5.6 %**	**17 385.6**	**3 320.2**	**835.5**	**4 933.1**	**120.4**	**26 594.8**
2.A Mineral industry	**16.25 %**	4 321.1	NE	NE	NE	NE	4 321.1
2.B Chemical industry	**18.74 %**	1 328.0	2 820.2	835.5	NE	NE	4 984.3
2.C Metal industry	**41.77 %**	10 488.3	499.4			120.4	11 108.2
2.D Non-energy products from fuels and solvents	**4.69 %**	1 248.1					1 248.1
2.E Electronic industry		NE			NE	NE	
2.F Product uses as substitute ODS	**18.77 %**				4 993.1	NE	4 993.1
2.G Other product manufacture and use		NE	NE	NE	NE	NE	
2.H Other		NE	NE	NE	NE	NE	

- The largest source category is the metal industry category, which contributes 41.8% to the total IPPU sector emissions
- The IPPU sector produces CO_2 (65.4%), fluorinated gases (19.0%), CH_4 (12.5%) and N_2O (3,1%)
- Approach 1 – Level and Trend Assessment was undertaken

IPCC Code	Category	GHG	Identification Criteria
2A1	Cement production	CO_2	L
2B	Chemical industry	CO_2	T
2C1	Iron and steel production	CO_2	L,T
2C2	Ferroalloy's production	CO_2	L,T
2C3	Aluminium production	PFCs	L,T
2F1	Refrigeration and air conditioning	HFCs	L

Completeness

GHG Source and sink category	CO_2	CH_4	N_2O	HFCs	PFCs	SF6	NOx	CO	NMVOC	SO_2
2.A Mineral industry										
All proccesses	T2 / T3	NE					NE	NE	NE	NE
2.B Chemical industry										
Key processes	T3	T3 / T1 / NE	T3 / NE				NE	NE	NE	NE
Chemicals not produced	NO	NO	NO				NO	NO	NO	NO
Other	T2	T2	NE	NE	NE	NE	NE	NE	NE	NE
2.C Metal industry										
All processes	T3	T3 / NE	NE		T3 / NO		NE	NE	NE	NE
Magnesium, Lead, Zinc	NO	NO	NO				NO	NO	NO	NO
2.D Non-energy products from fuels and solvents										
All products	T1	NE	NE				NE	NE	NE	NE
2.E Electronics industry										
All processes	NE		NE	NE	NE	NE	NE	NE	NE	NE
2.F Product uses as substitute ODS										
All product use	NE			T2	NE		NE	NE	NE	NE
2.G Other product manufacture and use										
All			NE		NE	NE	NE	NE	NE	NE
2.H Other										
Pulp and paper / Food and beverage	NE	NE					NE	NE	NE	NE

- Where information is reported by industry directly T3 is used
- The lack of information is the key reason for Non-Estimation

Data Collection and Sources

- Mineral, Chemicals and Metals industries directly from industry via SAGERS
  - Very good CO_2 and PFC data (and N_2O for specific industries)
- Chemical usage via external reports and other government departments
  - High level estimates and extrapolation

Quality Control

- Mineral, Chemicals and Metals industries
  - Internal review by technical expert
  - External verification (both by company and requested from DFFE)
- Chemical usage
  - Need to take most data at face value
  - More reports are available for review
  - More networking with other government departments starting to be in place for detailed information (i.e. ODS)

Challenges and Improvements

- Challenges
  - Internal Human Resources
  - System availability (SAGERS)
  - Third party dependency (DMRE)

- Improvements
  - Tier 3 methodologies
  - External Verification
  - Closer internal liaison (DFFE - Hazardous Chemicals Management)
  - System re-development

THANK YOU!

Mr Hendrik Louw

GHG Specialist Consultant IPPU

GHG Inventory and Systems

Department of Forestry, Fisheries and the Environment

Tel: 012 399 9820

Website: http://www.environment.gov.za

Address: The Environment House, 473 Steve Biko Road, Arcadia, Pretoria, 0083