



Integrating GHG emissions inventories and accounts: A feasibility study



Expert Forum for Producers and Users of Climate Change-Related Statistics
29-30 August 2024

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Outline

- Why
- How
- Results
- Benefits



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Objective



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Inventory data

Often used for
climate policy
making



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Inventory data

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Account data

More aligned to
data for economic
policy making



Objective



Ensure consistency
Provide granularity





From complementing to integrating

Integrate

Account

Complement

Inventory



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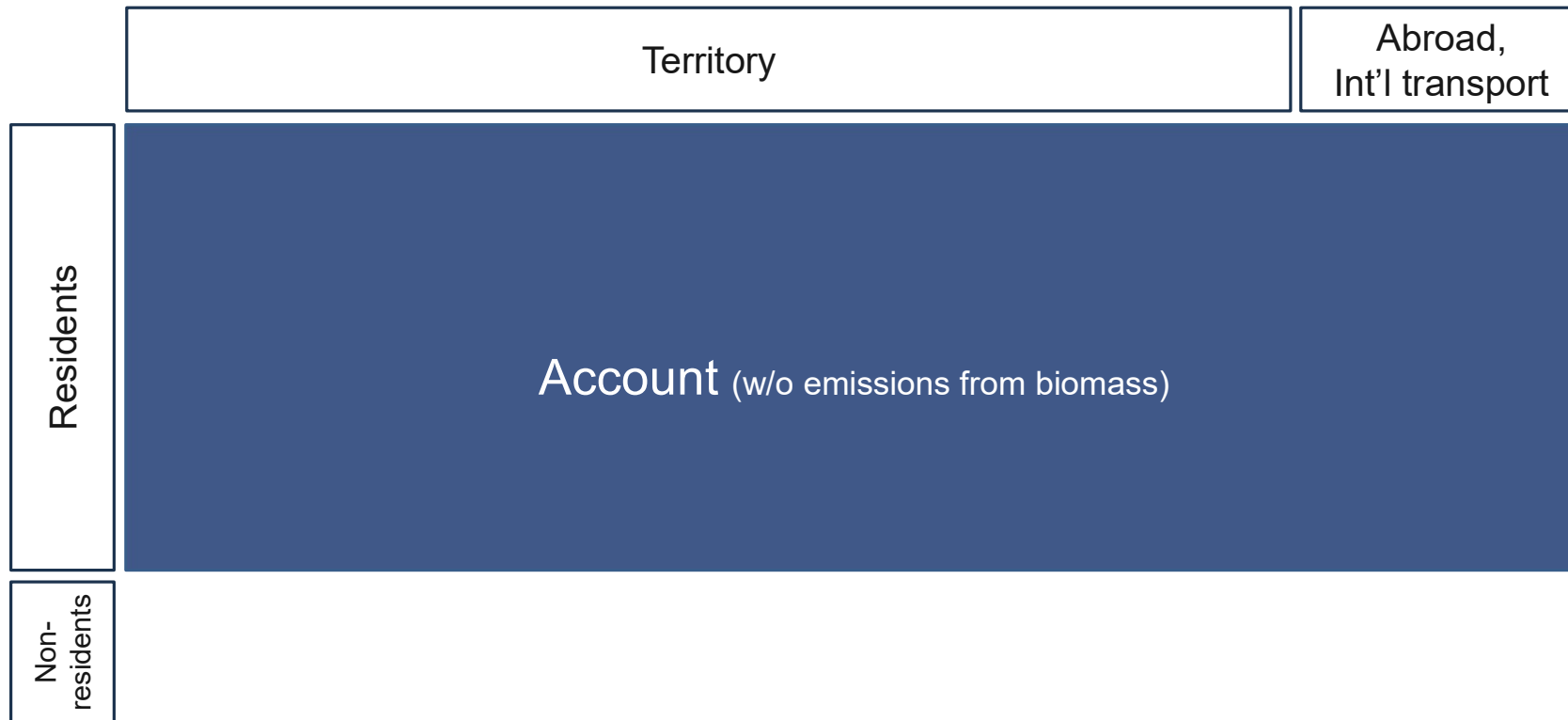


Concept: Accounting approach, Scope, Classification





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		Territory	Abroad, Int'l transport
Residents	Account (w/o emissions from biomass)		ISIC A
			ISIC B
			ISIC C
			:
			Households
			Total
Non-residents			



Concept: Accounting approach, Scope, Classification

	Territory	Abroad, Int'l transport	
Residents			ISIC A
			ISIC B
			ISIC C
	Account (w/o emissions from biomass)		:
	Inventory (w/o LULUCF)		Households
			Total
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			Account (w/o emissions from biomass)											:
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	IPCC 1A1	IPCC 1A2	IPCC 1A3	IPCC 1A4	IPCC 1A5	IPCC 1B	IPCC 1C	IPCC 2	IPCC 3	:	Total			

Restricted Use - A usage restraint



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Account (w/o emissions from biomass)
Inventory (w/o LULUCF)



Concept: Accounting approach, Scope, Classification

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Account (w/o emissions from biomass)

Inventory (w/o LULUCF)



Concept: Accounting approach, Scope, Classification

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													ISIC B	
	Chemical manufacturing												ISIC C	
				Account (w/o emissions from biomass)										:
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				Domestic aviation by non-resident airlines										
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[Guidelines on residence adjustments for water and air transport](#)



Feasibility study with NLD CO₂ emissions data in 2019

- **Emissions data sources**
 - National inventory
 - Air Emission Account
 - AEA related to road transport by NACE Rev.2 activity
 - Bridging items
 - National emission registry
 - OECD experimental estimates on CO₂ emissions from air transport
- **Other materials**
 - Eurostat correspondence table between UNFCCC CRF and NACE
 - Reports of the Central Commission for the Navigation of the Rhine



How to fill in and balance the matrix

1. Filling in the bottom row (Inventory), the last column (AEA), bridging items



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3. **Assign reliability coefficients**
4. **Run algorithm to balance rows and columns**



Towards a single, comprehensive, consistent database

Single

- Inventories and accounts emissions data from a single underlying dataset



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- Reconcilable by adjusting for known differences between the datasets



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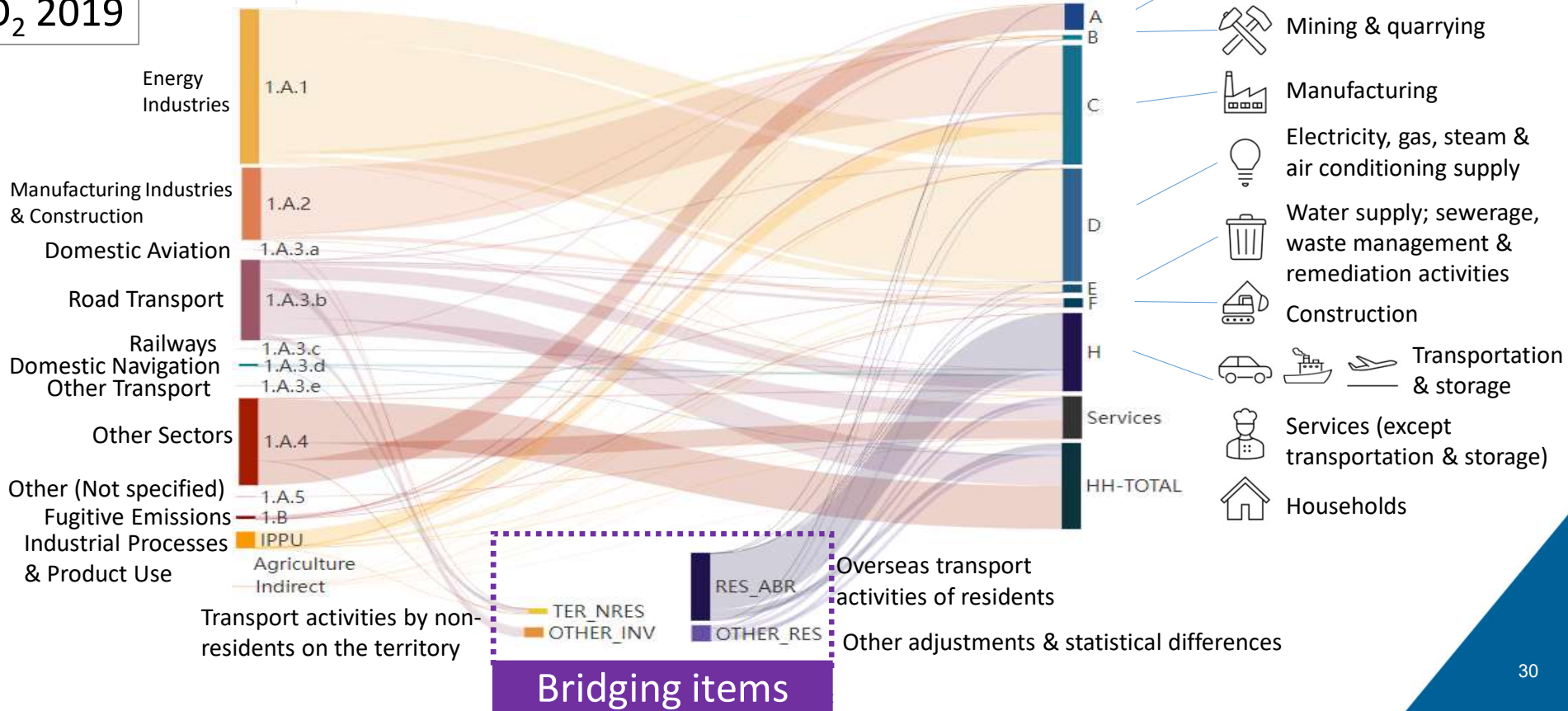


GHG emission matrix IPCC x ISIC

NLD CO₂ 2019

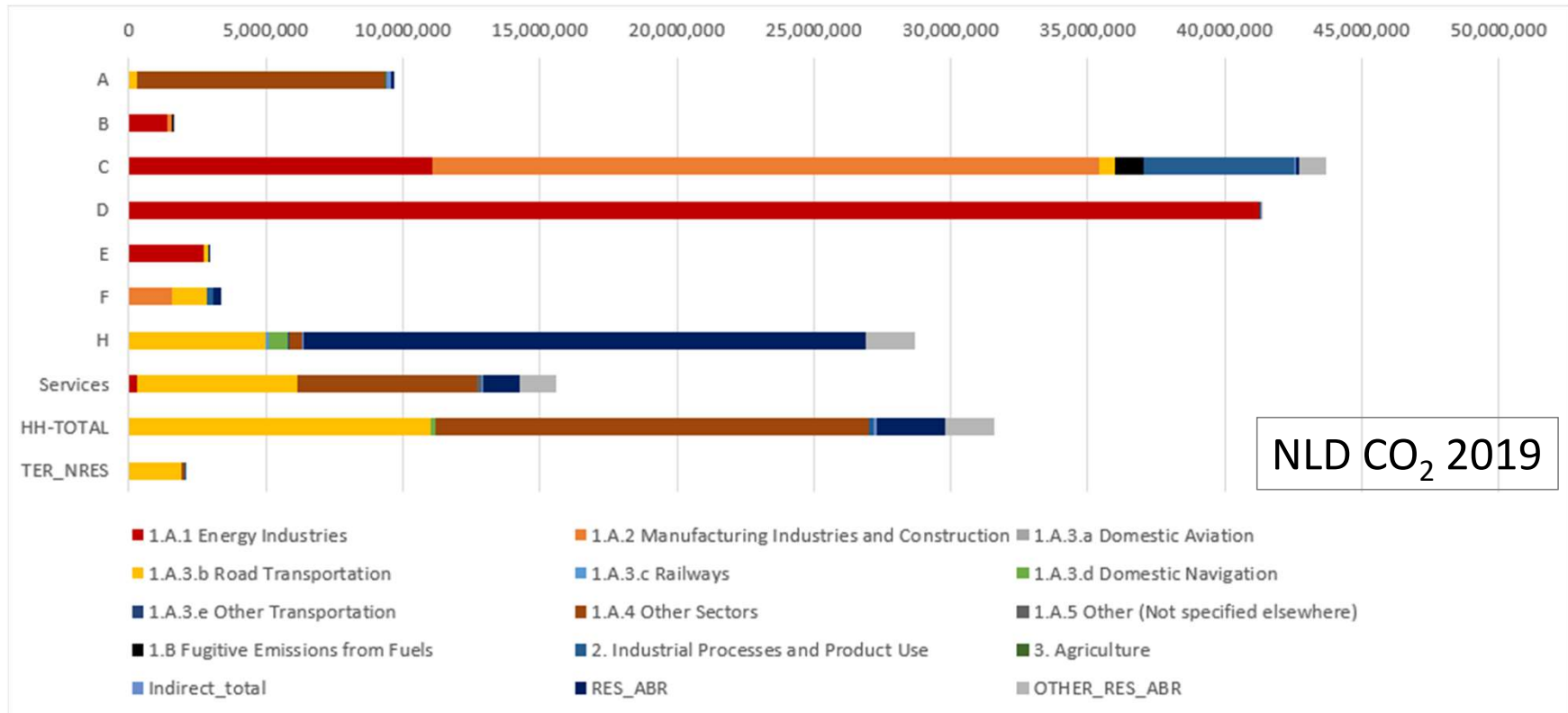
Inventory, IPCC

Account, ISIC





Share of emission process per industry





Integration is feasible. Balancing is promising.

Possible improvements

- **Filling in the matrix:**
 - Additional data sources to be explored.
 - Correspondence table could be further detailed.
 - Estimates on residents vs non-residents would be needed (e.g. maritime).
- **Balancing methodology:**
 - Fine tunings needed for fully balancing the table
 - Improvements required to limit manual imputation and avoid negative values
 - Methodology for constraints and reliability inputs to be refined



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Compilers

- Consistency / Accuracy
- Helpful for estimation
- Visualisation

Users / Policy makers

- Accessibility
- Granularity
- Switch between inventory and account
- Communication



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 - Horizontal and vertical consistency in each row and column
- **Helpful for estimation**
 - Ratio derived from the matrix (i.e. allocation key from IPCC source category to ISIC economic activities)
- **Visualisation**
 - Showing how inventories emissions and accounts emissions relate to each other



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 - Compatible with modelling for emission projection based on economic data (ISIC) and tracking towards climate mitigation target (IPCC)



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- **Communication**
 - Facilitate dialog between different communities (economy and climate)



Collaboration welcome

- **Countries**
 - Test integration of inventories and accounts
- **International organisations**
 - Improve AEA estimates
 - Update correspondence tables



**Thank you
for your attention!**