

Introduction to the GPC

Global Platform for Sustainable Cities
Expert Meeting

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World Resources Institute

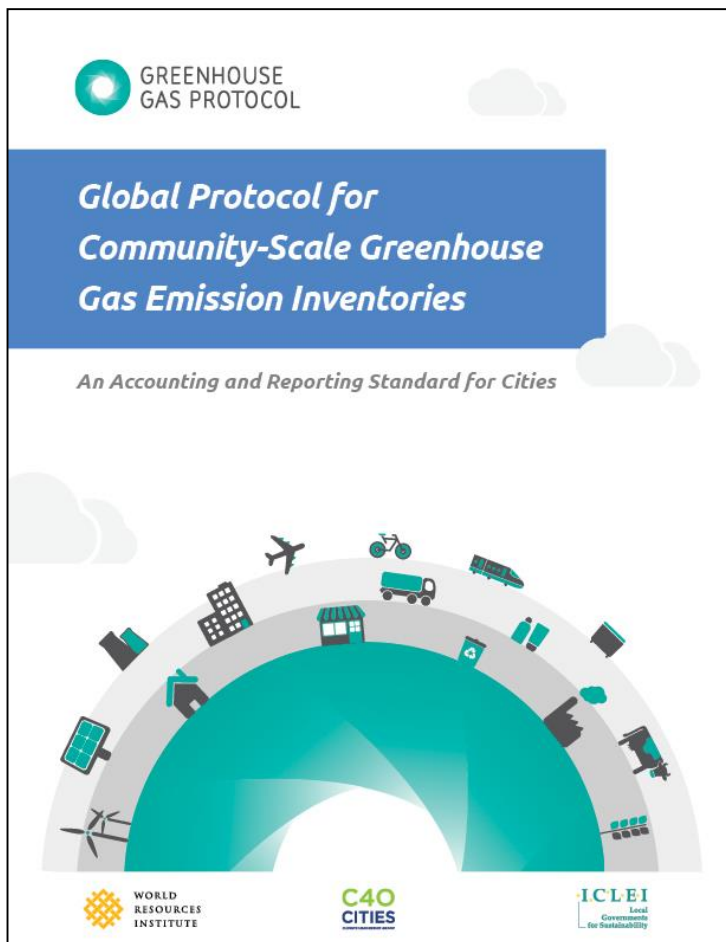


Global Protocol for Community-Scale Greenhouse Gas Emission Inventories

An Accounting and Reporting Standard for Cities



About the GPC



- ❖ A 176-page document
- ❖ One of the GHG Protocol series of GHG accounting standards
- ❖ Download:
www.ghgprotocol.org/city-accounting

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Inventory Boundaries

- ❖ Geographic boundary
- ❖ Time period
- ❖ Greenhouse gases
- ❖ Inclusion and categorization of emission sources
- ❖ Categorization of emissions by scope



Reporting Framework

Scope Framework

Comprehensively report all GHG emissions from:

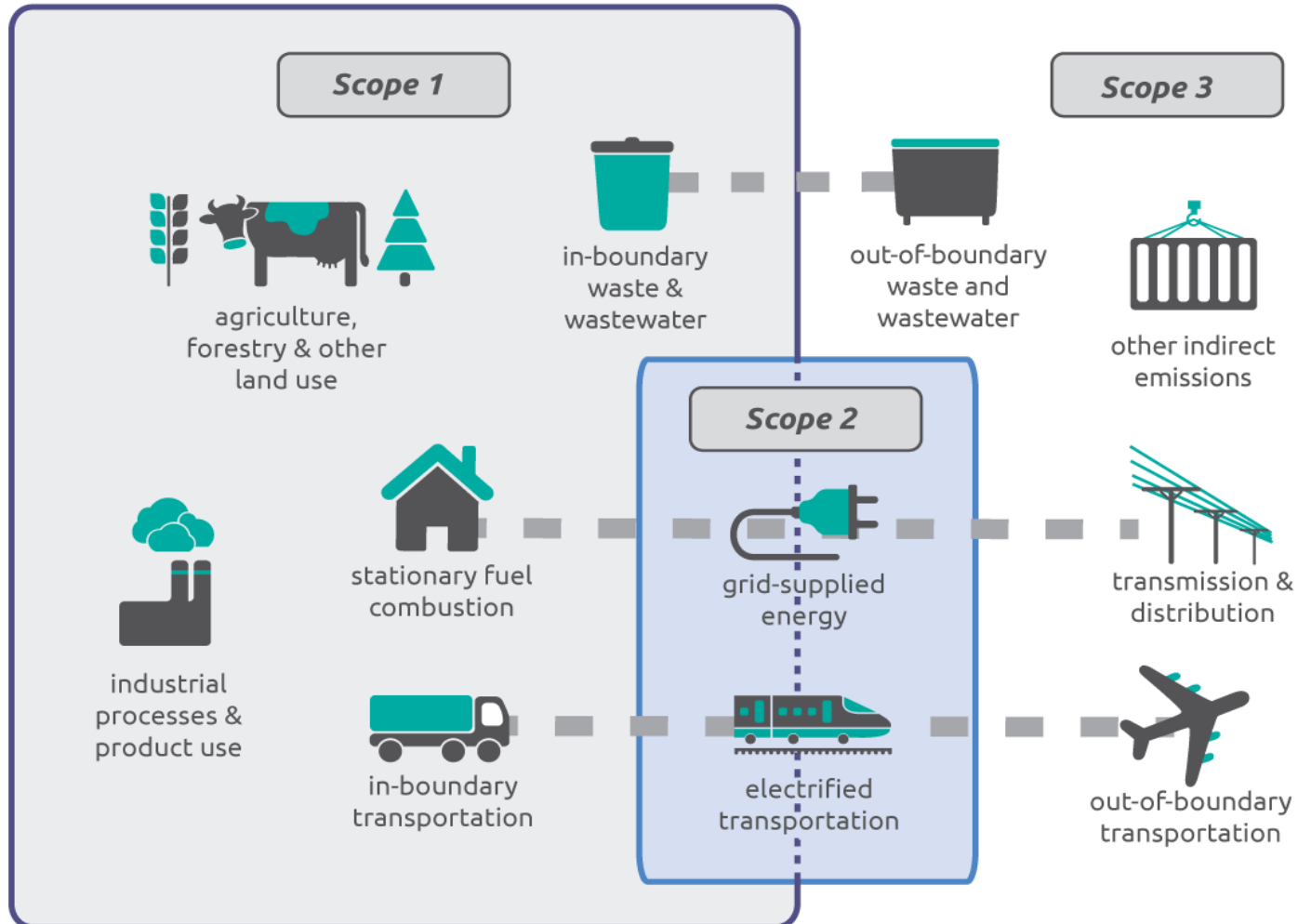
- Emissions from in-boundary sources (**scope 1**, or “**territorial**”)
- Emissions from the use of grid-supplied energy (**scope 2**)
- Emissions from out-of-boundary sources as a result of activities in the city (**scope 3**)

City-induced Framework

Report only GHG emissions that attributable to activities in the city:

- **BASIC** level reporting:
Cover sources that occur in almost all cities and calculation methodologies/data are more readily available
- **BASIC+** level reporting:
More comprehensive coverage of emissions sources

Scope Framework



City-Induced Framework

BASIC

Scope 1

- Energy-Stationary
- Energy-Transportation
- Wastes

Scope 2

Scope 3

- Wastes

BASIC+

Scope 1

- Stationary Energy
- Transportation
- Waste

• AFOLU

• IPPU

Scope 2

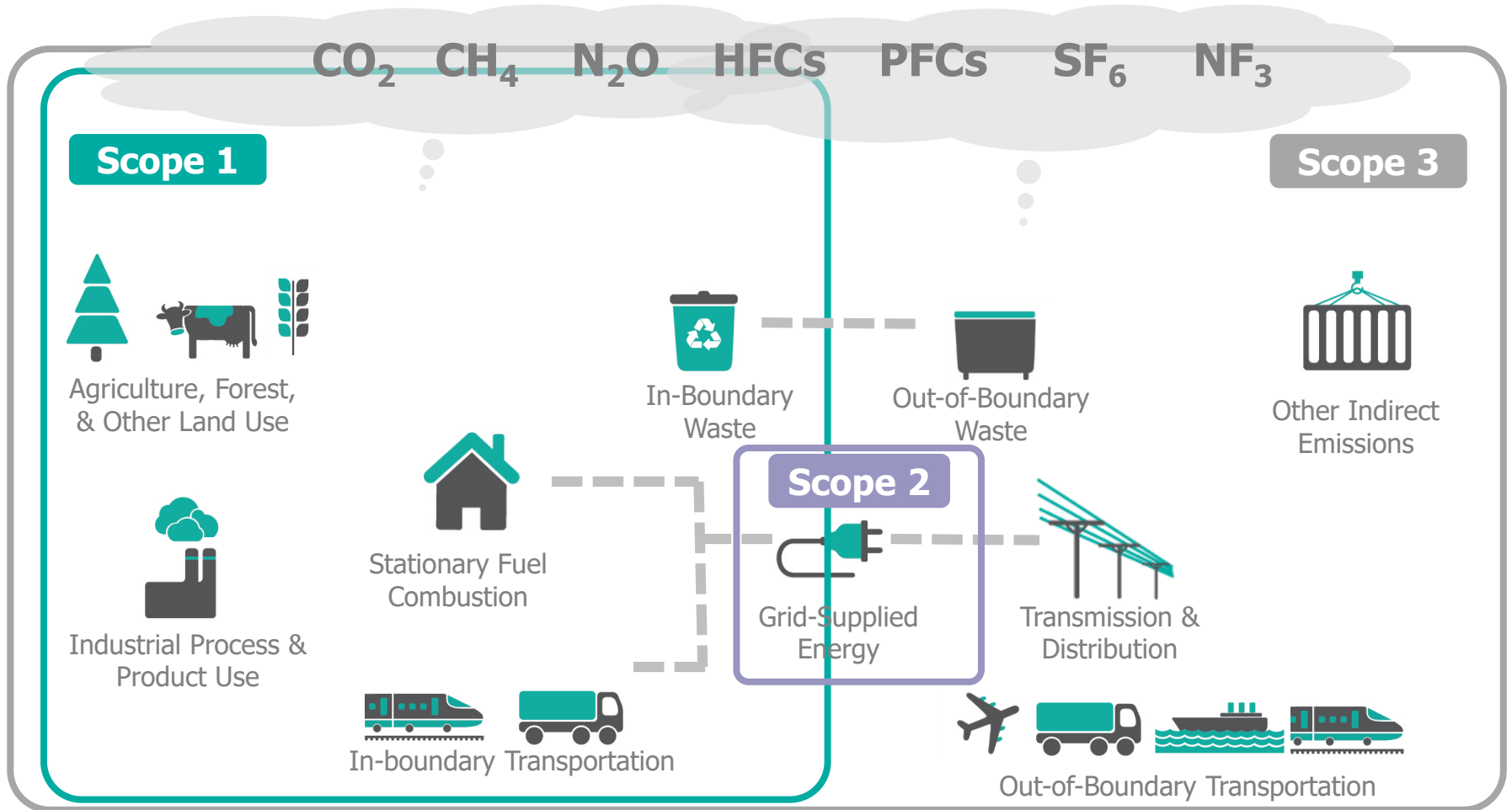
Scope 3

- Waste
- **Transportation**

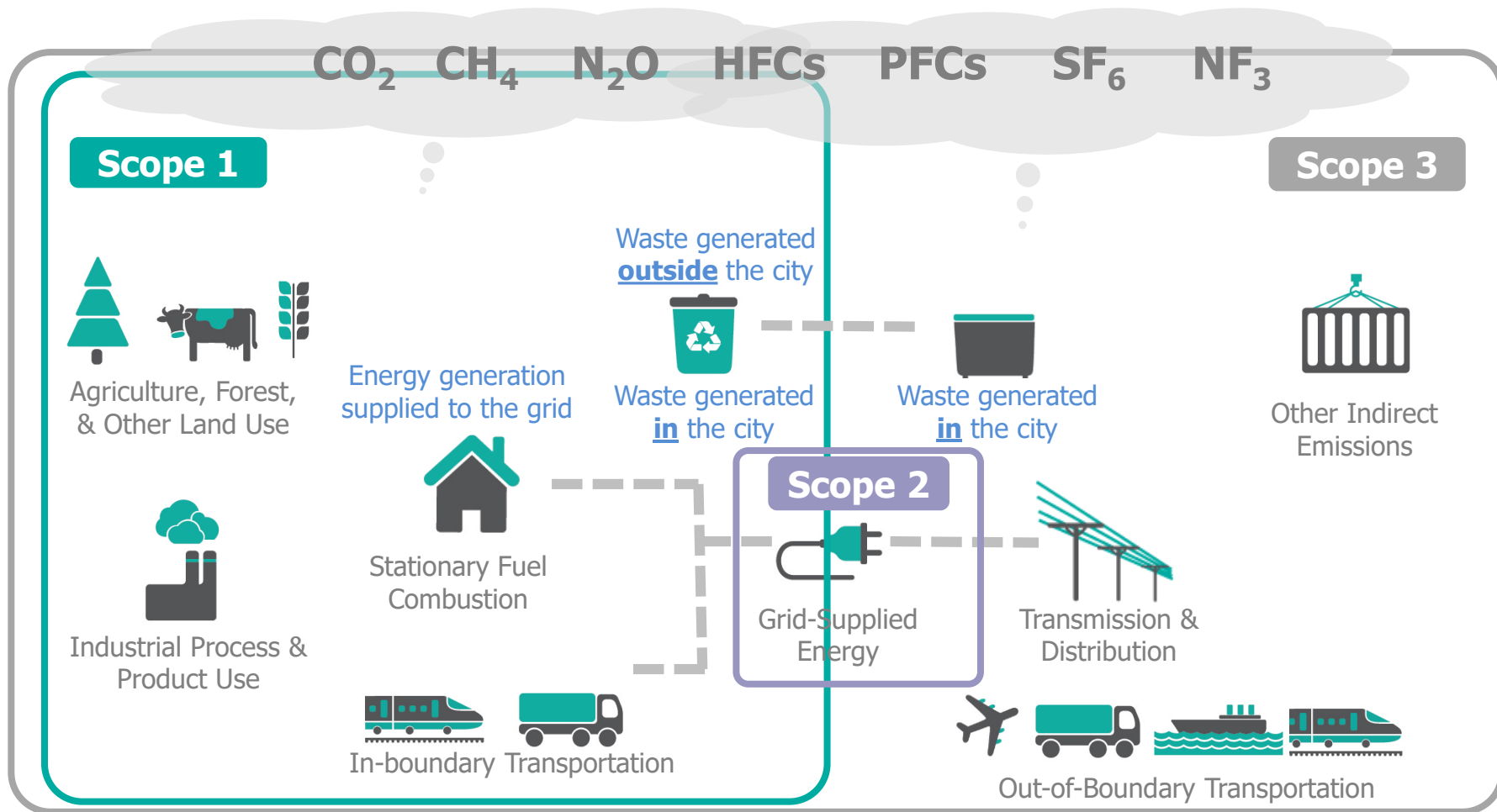
Expanded

Full coverage of
Scopes 1, 2, and 3

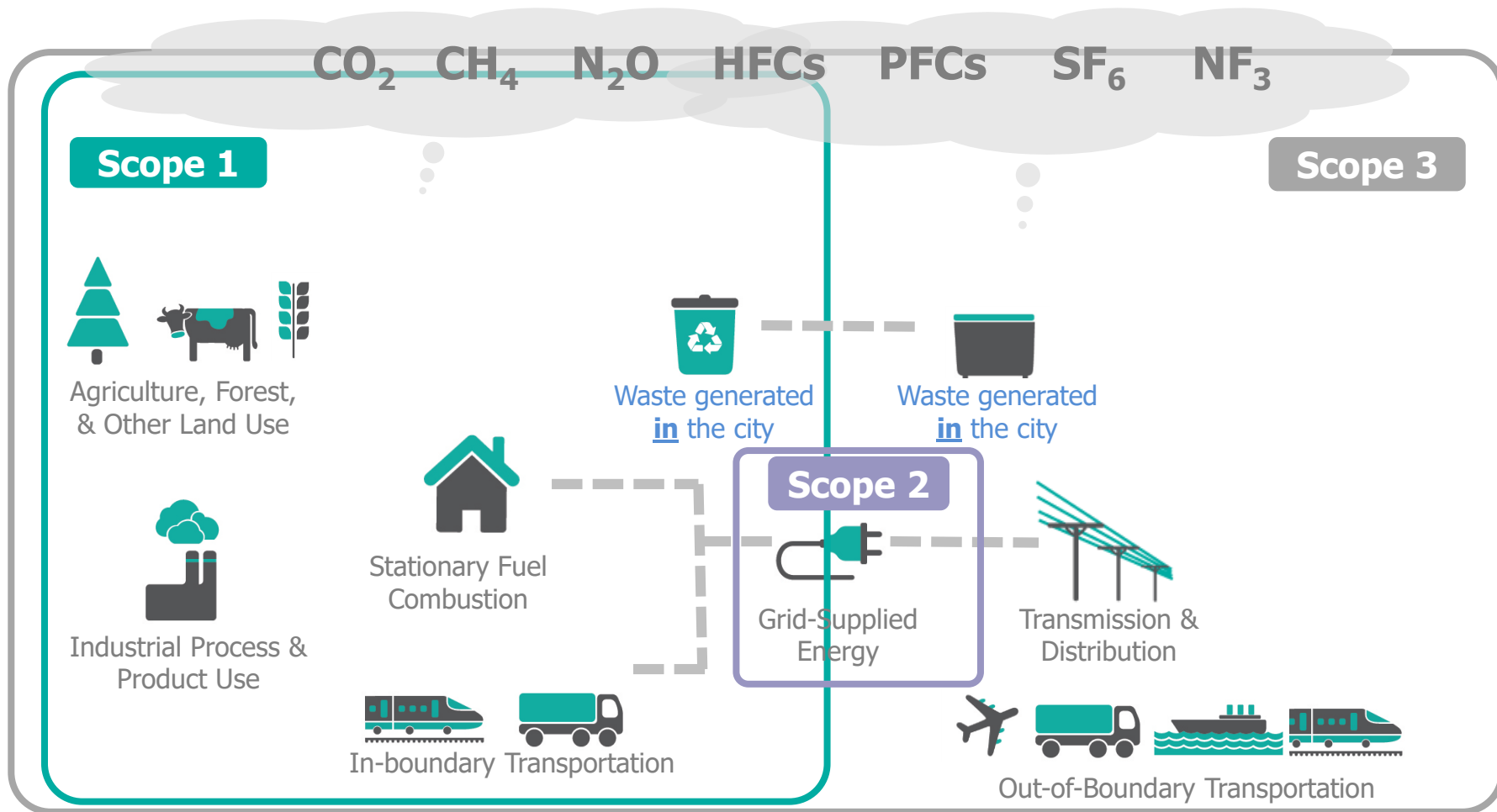
Scope Framework



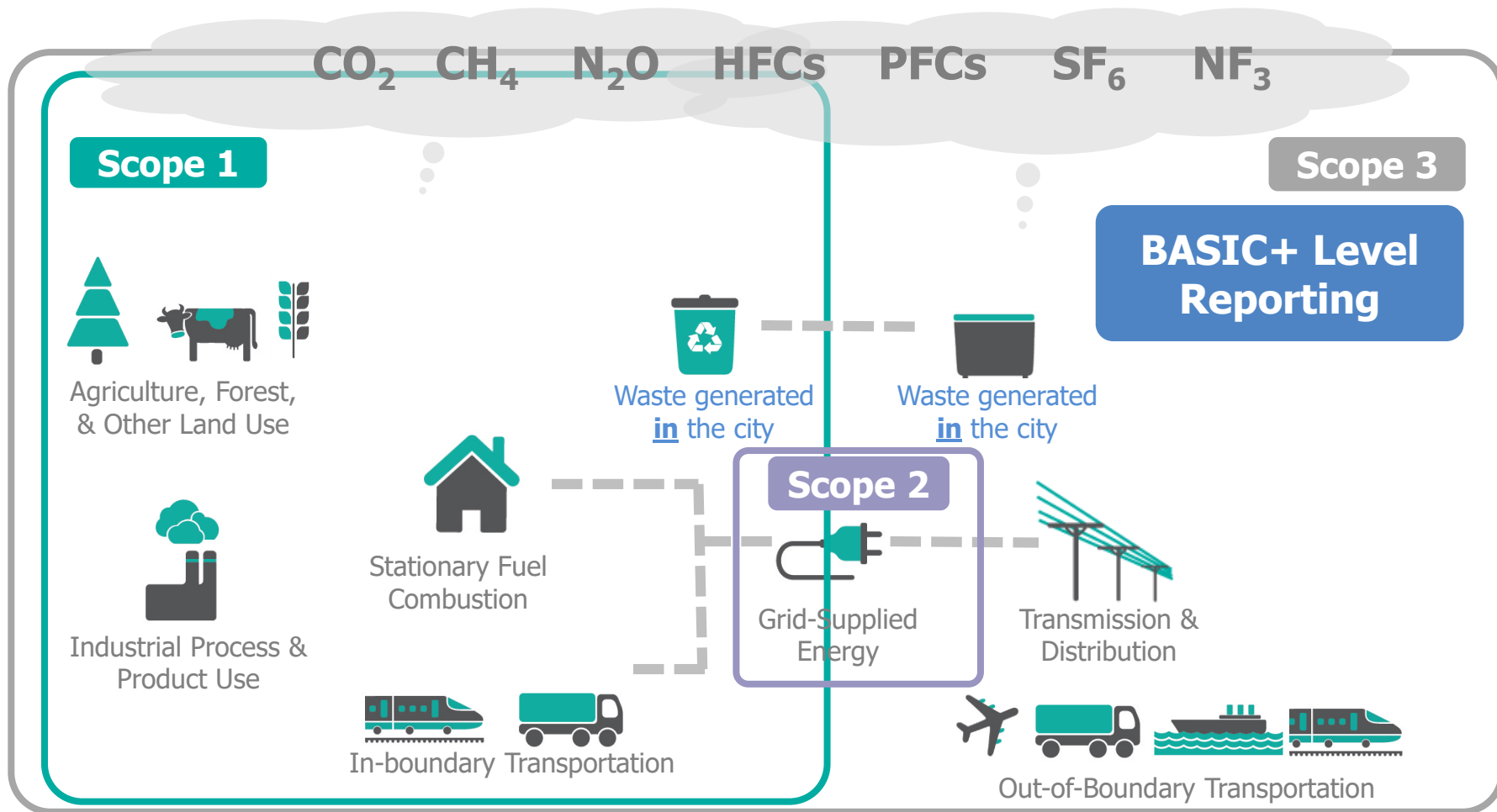
City-Induced Framework



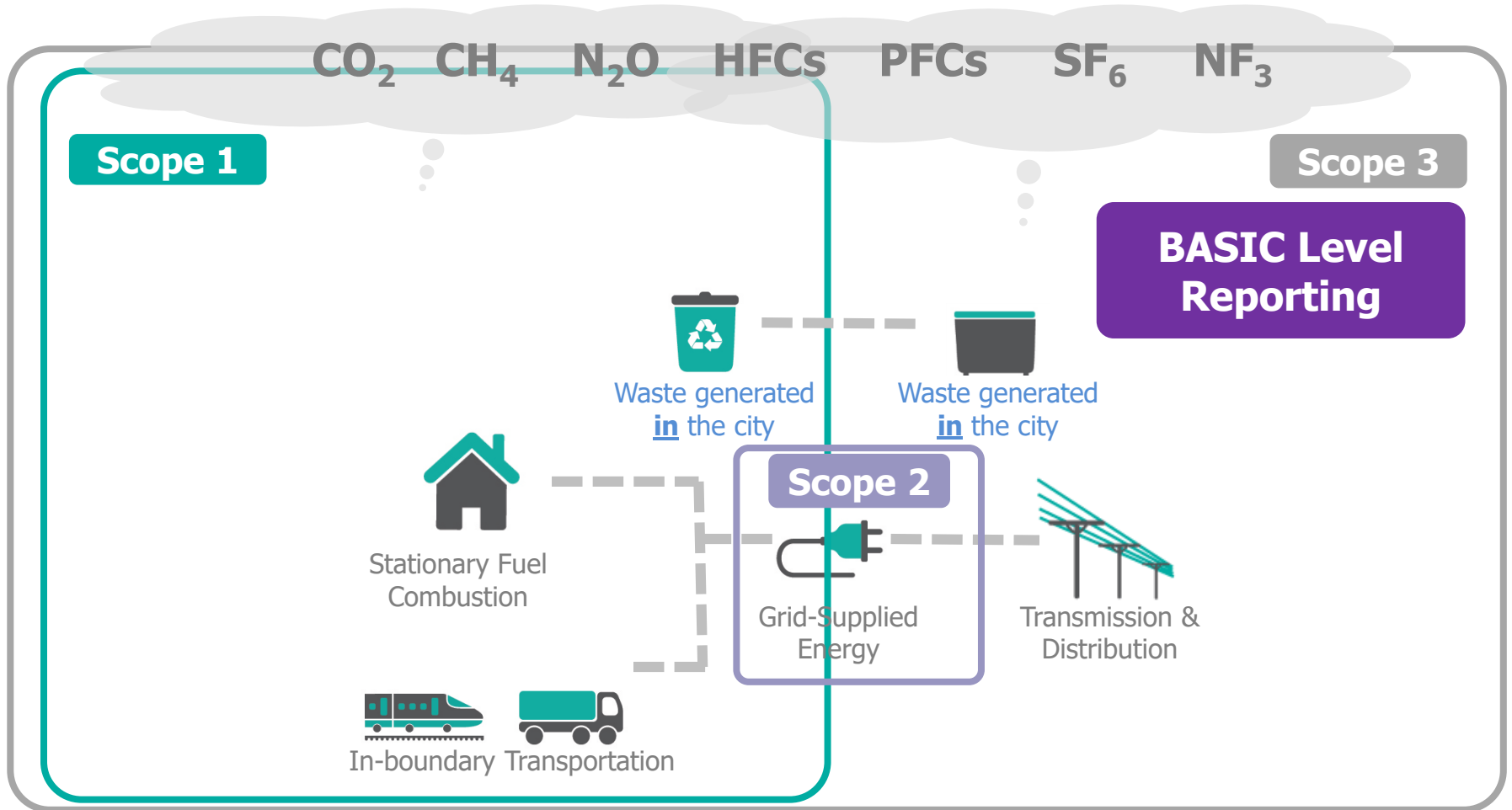
City-Induced Framework



City-Induced Framework



City-Induced Framework



Reporting Framework

Inventory boundary	City Information
Name of city	
Country	
Inventory year	
Geographic boundary	
Land area (km ²)	
Resident population	
GDP (US\$)	
Composition of economy	
Climate	
Other information	

Sector		Total by scope (tCO ₂ e)				Total by city-induced reporting level (tCO ₂ e)	
		Scope 1 (Territorial)	Scope 2	Scope 3 included in BASIC/ BASIC+	Other Scope 3	BASIC	BASIC+
Stationary Energy	Energy use (all I emissions except I.4.4)						
	Energy generation supplied to the grid (I.4.4)						
Transportation (all II emissions)							
Waste	Generated in the city (all III.X.1 and III.X.2).						
	Generated outside city (all III.X.3)						
IPPU (all IV emissions)							
AFOLU (all V emissions)							
Total		(All territorial emissions)				(All BASIC emissions)	(All BASIC & BASIC+ emissions)

- Sources required for BASIC reporting
- + Sources required for BASIC+ reporting
- Sources included in Other Scope 3

- Sources required for territorial total but not for BASIC/BASIC+ reporting (*italics*)
- Non-applicable emissions

Reporting Framework

GPC ref No.	Scope	GHG Emissions Source (By Sector and Sub-sector)	Notation keys	Gases (in tonnes)							Data Quality		Explanatory comments (i.e. description of methods or notation keys used)		
				CO ₂	CH ₄	N ₂ O	HFC	PFC	SF ₆	NF ₃	Total CO ₂ e	CO ₂ e		AD	EF
I		STATIONARY ENERGY													
1.1		Residential buildings													
1.1.1	1	Emissions from fuel combustion within the city boundary													
1.1.2	2	Emissions from grid-supplied energy consumed within the city boundary													
1.1.3	3	Emissions from transmission and distribution losses from grid-supplied energy consumption													
1.2		Commercial and institutional buildings and facilities													
1.2.1	1	Emissions from fuel combustion within the city boundary													
1.2.2	2	Emissions from grid-supplied energy consumed within the city boundary													
1.2.3	3	Emissions from transmission and distribution losses from grid-supplied energy consumption													
1.3		Manufacturing industries and construction													
1.3.1	1	Emissions from fuel combustion within the city boundary													
1.3.2	2	Emissions from grid-supplied energy consumed within the city boundary													
1.3.3	3	Emissions from transmission and distribution losses from grid-supplied energy consumption													
1.4		Energy industries													
1.4.1	1	Emissions from energy used in power plant auxiliary operations within the city boundary													
1.4.2	2	Emissions from grid-supplied energy consumed in power plant auxiliary operations within the city boundary													
1.4.3	3	Emissions from transmission and distribution losses from grid-supplied energy consumption in power plant auxiliary operations													
1.4.4	1	Emissions from energy generation supplied to the grid													
1.5		Agriculture, forestry and fishing activities													
1.5.1	1	Emissions from fuel combustion within the city boundary													
1.5.2	2	Emissions from grid-supplied energy consumed within the city boundary													
1.5.3	3	Emissions from transmission and distribution losses from grid-supplied energy consumption													
1.6		Non-specified sources													
1.6.1	1	Emissions from fuel combustion within the city boundary													
1.6.2	2	Emissions from grid-supplied energy consumed within the city boundary													
1.6.3	3	Emissions from transmission and distribution losses from grid-supplied energy consumption													
1.7		Fugitive emissions from mining, processing, storage, and transportation of coal													
1.7.1	1	Emissions from fugitive emissions within the city boundary													
1.8		Fugitive emissions from oil and natural gas systems													
1.8.1	1	Emissions from fugitive emissions within the city boundary													
II		TRANSPORTATION													
II.1		On-road transportation													
II.1.1	1	Emissions from fuel combustion on-road transportation occurring within the city boundary													
II.1.2	2	Emissions from grid-supplied energy consumed within the city boundary for on-road transportation													
II.1.3	3	Emissions from portion of transboundary journeys occurring outside the city boundary, and transmission and distribution losses from grid-supplied energy consumption													
II.2		Railways													
II.2.1	1	Emissions from fuel combustion for railway transportation occurring within the city boundary													
II.2.2	2	Emissions from grid-supplied energy consumed within the city boundary for railways													
II.2.3	3	Emissions from portion of transboundary journeys occurring outside the city boundary, and transmission and distribution losses from grid-supplied energy consumption													
II.3		Waterborne navigation													
II.3.1	1	Emissions from fuel combustion for waterborne navigation occurring within the city boundary													
II.3.2	2	Emissions from grid-supplied energy consumed within the city boundary for waterborne navigation													
II.3.3	3	Emissions from portion of transboundary journeys occurring outside the city boundary, and transmission and distribution losses from grid-supplied energy consumption													
II.4		Aviation													
II.4.1	1	Emissions from fuel combustion for aviation occurring within the city boundary													
II.4.2	2	Emissions from grid-supplied energy consumed within the city boundary for aviation													
II.4.3	3	Emissions from portion of transboundary journeys occurring outside the city boundary, and transmission and distribution losses from grid-supplied energy consumption													
II.5		Off-road transportation													
II.5.1	1	Emissions from fuel combustion for off-road transportation occurring within the city boundary													
II.5.2	2	Emissions from grid-supplied energy consumed within the city boundary for off-road transportation													
III		WASTE													
III.1		Solid waste disposal													
III.1.1	1	Emissions from solid waste generated within the city boundary and disposed in landfills or open dumps within the city boundary													
III.1.2	3	Emissions from solid waste generated within the city boundary but disposed in landfills or open dumps outside the city boundary													
III.1.3	1	Emissions from waste generated outside the city boundary and disposed in landfills or open dumps within the city boundary													
III.2		Biological treatment of waste													
III.2.1	1	Emissions from solid waste generated within the city boundary that is treated biologically within the city boundary													
III.2.2	3	Emissions from solid waste generated within the city boundary but treated biologically outside of the city boundary													
III.2.3	1	Emissions from waste generated outside the city boundary but treated biologically within the city boundary													
III.3		Incineration and open burning													
III.3.1	1	Emissions from solid waste generated and treated within the city boundary													
III.3.2	3	Emissions from solid waste generated within the city boundary but treated outside of the city boundary													
III.3.3	1	Emissions from waste generated outside the city boundary but treated within the city boundary													
III.4		Wastewater treatment and discharge													
III.4.1	1	Emissions from wastewater generated and treated within the city boundary													
III.4.2	3	Emissions from wastewater generated within the city boundary but treated outside of the city boundary													
III.4.3	1	Emissions from wastewater generated outside the city boundary but treated within the city boundary													
IV		INDUSTRIAL PROCESSES and PRODUCT USES (IPPU)													
IV.1	1	Emissions from industrial processes occurring within the city boundary													
IV.2	1	Emissions from product use occurring within the city boundary													
V		AGRICULTURE, FORESTRY and OTHER LAND USE (AFOLU)													
V.1	1	Emissions from livestock within the city boundary													
V.2	1	Emissions from land within the city boundary													
V.3	1	Emissions from aggregate sources and non-CD ₂ emission sources on land within the city boundary													
VI		OTHER SCOPE 3													
VI.1	3	Other Scope 3													