

Amended approach for the Technical annexes on stationary sources and on mobile sources and proposed key sources

Nadine Allemand – TFTEI Co-Chair

Natalia Sirina Leboine – TFTEI techno-scientific board

TFTEI annual meeting. Informal sessions and plenary session. 27-28 October 2026

Agenda

- Amended approach for the revised TAs
- Key sources considered in the revised TAs

Agenda

- Amended approach for the revised TAs
- Key sources considered in the revised TAs

Amended approach for the revised TAs

Taking into account the WGSR_64 recommendations, the discussions with the Chair and vice Chair of WGSR on 8 June 2026 and the discussions with the ad hoc groups of experts on 3 July 2026, **TFTEI has further amended its approach for the Technical Annexes, taking into account the different positions expressed by the Parties at WGSR_64 and seeking to accommodate them as much as possible**

The TFTEI proposal focuses on non-Parties only and should be considered as a tentative minimum core of technical provisions (whether these provisions should be mandatory or not, remains premature at this stage and **competence of the Parties**), which could serve as a basis for the requirements that non-Parties may need to meet in order to join the revised Protocol.

The amended approach is as **flexible as possible** to be adjusted according the outcome of the discussion between Parties and Non-Parties.

Documents prepared by TFTEI for the HoD meeting and this meeting

- **A premise document presenting the amended approach**, including the rationale for the proposed structure of the TAs and the analysis carried out to identify **key emission sources in non-Parties**;

- **A first draft revised Technical Annex for stationary sources focusing non-Parties**, containing ranges of ELVs for two key emission sources (LCPs and cement production), **accompanied by an appendix explaining the rationale** for the proposed ELV ranges and for relevant technical provisions or flexibility provisions;

- **A first draft revised Technical Annex for mobile sources focusing non-Parties**, containing ranges of standards for the three key sources identified (Passenger cars and light duty vehicles; heavy duty vehicles and buses; compression ignition engines for agricultural and forestry tractors and other non-road mobile machines), **accompanied by an appendix explaining the rationale** for the proposed ranges of standards.

TFTEI amended approach: guiding principles (1)

1. Focus on key sources only

With the aim of following non-Parties and WGSR recommendations, the **focus of the amended approach is on key sources only**

- To avoid increase in requirements of new TAs, **no new emission sources and no new pollutants per key source compared to the current AGP are proposed,** nor for stationary sources, nor for mobile sources
- To overcome the issues of low-quality emission inventories from non-Parties, **an analysis of key sources is now available from GAINS data** (kindly provided by IIASA).
- Most of key sources identified are already considered in the current AGP
- As a pragmatic way forward, **TAs initially focus on a limited number of key sources**, without prejudging the future decision on whether the same or different key sources should apply to non-Parties
- **Key sources not covered by TAs will be included in the informal document presenting ranges of ELVs achievable with BATs or standards** for relevant sources

2. Only one single proposal of TAs with a range of ELVs for stationary sources or standards for mobile sources per each key source

- **A proposal of TA for stationary sources and of TA for mobile sources, organised per key source with a range of ELVs or standards** respectively developed for each key source
- **The identification of a final ELV or a final standard as target to be achieved is a policy matter resulting from the negotiation process** for adoption among Parties

2a. Stationary sources:

Ranges of ELVs

In the amended approach, a **range of ELVs is provided** *such as:*

Range of ELVs for activity A for SO_2*: 100 - 200* mg/Nm^3

The minimum limit of the range or minimum ELV may correspond to the upper end of BAT AEL range provided in the informal complementary document developed by TFTEI on reduction techniques for stationary sources (**stricter ELV** compared to 200 in the example) and represents an ambitious ELV ensuring lower emissions compared to AGP in activity A

The maximum limit of the range or maximum ELV corresponds to the current AGP ELV (less stringent ELV but equal to current AGP (200 in the example)).

TFTEI amended approach: guiding principles (4)

Example: Existing combustion plant from 100 to 300 MWth – SO_2

The **current AGP ELV** is **275 mg/Nm^3**

The range of BAT-Associated Emission Levels identified in the Appendix on emission reduction techniques for stationary sources developed by TFTEI in 2025, are:

Range of BAT AELs for SO_2: **135 - 220 mg/Nm^3**

135 mg/Nm^3 being the **lower end** and 220 mg/Nm^3 being the **upper end of the range of BAT-AELs**

The **proposed range of ELVs for these existing combustion plants could be:**

220 - 275 mg/Nm^3

The minimum ELV corresponds to the upper end of the range of BAT-AELs

The maximum ELVs corresponds to the current ELV of AGP

2a. Stationary sources: Systematic distinction of existing and new plants

- The current AGP may consider different ELVs for existing and new plants but not systematically
- **In the amended approach, this distinction is systematic**

  Indeed, the ambition level may be higher for new plants than for existing plants, as there are less obstacles for having stricter ELVs for new plants than for existing plants
- **One range of ELVs for existing plants and one range of ELVs for new plants are provided**
- **Parties will be in position to select the final single ELV for new and existing plants subject to the final negotiation process in consultation with non-Parties**
- **A definition of new and existing plants is proposed similar to the current definition in AGP (Article 1, paragraph 16)**

2b. Mobile sources:

Ranges of standards

- As already proposed in the April 2026 draft Technical Annex for mobile sources, **standards are used**
- Outdated standards from the AGP are replaced by more advanced standards
- **A range of standards is proposed for each key mobile source**
- **Parties will be in position to select the final standard subject to the final negotiation in consultation with non-Parties**

3. Final selection of single ELVs or standards through the negotiation process

- **The ranges proposed by TFTEI are intended to provide the technical basis for the negotiation process and should not be interpreted as predetermined final ELVs or standards**
- **The final identification of a single ELV or a standard to be included in the Protocol as target to be achieved is a policy matter, under the responsibility of the Parties and resulting from the negotiation process**
- By presenting technically justified ranges rather than single ELVs or standards, **the amended approach presents sufficient flexibility to accommodate the outcome of the policy discussions**

4. Transparent rationale supporting the draft TAs

- **The draft revised TAs contain the proposed ELV ranges for each selected key stationary source and the proposed ranges of standards for each selected key mobile source, together with the necessary generic and source-specific technical provisions**

- **To facilitate the understandability of the TAs, the rationale for the range of ELVs or standards** and for any requirements or technical flexibility provisions **are provided in an Appendix associated to each draft revised TA**

TFTEI amended approach: guiding principles (9)

As required by WGSR: informal documents presenting BAT-achievable ELV ranges or standards for relevant key sources

- **Development of an informal document presenting BAT-achievable ELV ranges for relevant key stationary sectors**, starting from some sectors prepared in the last quarter of 2026 and the remaining chapters completed in 2027 (all key sources identified and larger coverage of pollutants)

- **Development of an informal document presenting standards for the relevant key mobile sources**, with the road transport chapter prepared in the last quarter of 2026 and the non-road mobile machinery (NRMM) chapter completed in 2027

Agenda

- Amended approach for the revised TAs
- Key sources considered in the revised TAs

Reminder of the latest developments

Outcome of the 3rd July ad-hoc group of experts:

Experts recommended further refining the identification of key emission sources by:

- Also provide key sources per individual country;
- Using country-specific key source analyses;
- Including a future projection year (2030) alongside the historical reference year;
- Considering an analysis of key sources for current Parties or the UNECE region as a whole as a second priority.

HoD meeting conclusions:

- Considered that the amended approach for simplified technical annexes that are focused on key source categories based on the needs of current non-Parties as presented by TFTEI is a useful starting point for further discussions and that TFTEI should continue to elaborate it.

Updated key source analysis

Basis: Emission data from GAINS, provided by the International Institute for Applied Systems Analysis (IIASA)

Years: 2015 and 2030 (scenario CLE)

Methodology: Sources were ranked by their contribution to national (excluding agriculture emissions for SO_2, $PM_{2.5}$, NOx and VOCs) and key sources were identified using the EMEP cumulative contribution approach. Stationary and mobile sources accounting collectively for at least 80% of total emissions (emissions for SO_2, $PM_{2.5}$, NOx and VOC) where retained

Results: Key sources determined for each non-Party, the two groups of non-Parties (EU candidates and non-EU candidates) and the whole of non-Parties

Updated key source analysis based on GAINS

	>=50%
	>=20% and <50%
	<20%

AGP Non-Parties *2015*: PM2.5

		EUCandidates									Non-EU Candidates						
Code GAINS	Full title	Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	**Total**
DOM	Residential-commercial	51%	69%	86%	79%	47%	64%	37%	22%	47%	56%	10%	30%	43%	41%	12%	31%
PP	Power & district heat plants					9%	8%	9%	12%	30%				23%	5%	10%	**12%**
IN_OC	Industrial furnaces													3%			
PR_CEM	Cement production	4%						3%			6%	10%			6%	2%	**2%**
PR_EARC	ISP: Electric arc furnace					26%		15%					8%			2%	**5%**
PR_BAOX	ISP: Basic oxygen furnace							13%	19%	6%		4%		7%		9%	**10%**
PR_HEARTH	ISP: Open hearth furna								8%							5%	**3%**
PR_SINT	ISP: Agglomeration plant - sinter								9%							3%	**2%**
PR_ALPRIM	Aluminum production - primary				6%											2%	
PR_COKE	Coke oven								10%							4%	**3%**
PR_FERT	Fertilizer production										9%		21%			4%	**2%**
DOM_MB_A	Medium boilers (<50MW) - automatic						5%							3%			
PR_REF	Petroleum refineries												2%				
PR_PULP	Paper pulp mills																
PR_SMIND_F	Small industrial and business facilities - fugitive															2%	
PROD_AGAS	Production of oil or gas: venting of flaring of APG															5%	
TRA_RD_HD	Heavy duty vehicles and busses	11%	13%				3%	3%			9%	33%	4%		9%	4%	**3%**
TRA_RD_LD4	Cars and light duty vehicles	7%					3%				5%	13%	8%	4%	8%	2%	**2%**
TRA_OT_AGR+CNS	NRMM Agriculture + Construction machinery	2%						2%				8%	7%		4%	3%	**3%**
TRA_OT_LB	Other NRMM																
TRA_OT_RAI	Railways												2%			5%	
RES_BBQ	Meat frying, food preparation, BBQ	3%										4%			4%	3%	**2%**
MSW_RUR_PAP	Rural Municipal solid waste: paper														4%	2%	
MSW_RUR_FOOD	Rural Municipal solid waste: food & garden															2%	
MSW_RUR_OTH	Rural Municipal solid waste: other waste															2%	
MSW_URB_FOOD	Urban Municipal solid waste: food & garden	3%															
		82%	**82%**	**86%**	**84%**	**82%**	**83%**	**82%**	**80%**	**83%**	**85%**	**82%**	**82%**	**83%**	**81%**	**80%**	**80%**

Updated key source analysis based on GAINS

AGP Non-Parties *2030*: PM2.5

	>=50%
	>=20% and <50%
	<20%

		EUCandidates											Non-EU Candidates				
Code GAINS	Full title	Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	**Total**
DOM	Residential-	50%	61%	85%	77%	65%	72%	14%	32%	67%	71%	6%	42%	36%	25%	6%	26%
PP	Power & district heat						4%	6%	5%	10%				27%	7%	10%	**10%**
IN_OC	Industrial furnaces															5%	**2%**
PR_CEM	Cement production	10%						3%			4%	12%			8%	3%	**2%**
PR_EARC	ISP: Electric arc	3%	6%			7%		29%	11%				8%			2%	**10%**
PR_BAOX	ISP: Basic oxygen						6%	20%	14%	6%		6%		11%		7%	**11%**
PR_HEARTH	ISP: Open hearth																
PR_SINT	ISP: Agglomeration plant - sinter								11%							3%	**3%**
PR_ALPRIM	Aluminum production - primary				10%				3%								
PR_OT_NFME	Non-ferrous metals prod. (excl aluminum)																
PR_COKE	Coke oven							3%	3%					4%			**2%**
PR_FERT	Fertilizer production								3%		9%		24%			6%	**3%**
DOM_MB_A	Medium boilers (<50MW) - automatic							2%									
PR_REF	Petroleum refineries																
PR_PULP	Paper pulp mills															2%	
PR_GLASS	Glass production (flat, blown, container							2%									
PR_SMIND_F	Small industrial and business facilities -											3%			4%	2%	
PROD_AGAS	Production of oil or gas: venting of flaring															7%	**2%**
TRA_RD_HD	Heavy duty vehicles and busses	8%	7%			4%						11%	4%		16%	3%	**2%**
TRA_RD_LD4	Cars and light duty	4%	8%			4%						17%		3%		2%	**2%**
TRA_OT_AGR+CNS	NRMM Agriculture + Construction											18%	6%			7%	**3%**
TRA_OT_LB	Other NRMM															4%	
TRA_OT_RAI	Railways															3%	
RES_BBQ	Meat frying, food preparation, BBQ	4%						3%				6%			6%	3%	**2%**
MSW_RUR_PAP	Rural Municipal solid waste: paper														8%	2%	
MSW_RUR_FOOD	Rural Municipal solid waste: food & garden														7%	2%	
MSW_RUR_OTH	Rural Municipal solid waste: other waste														3%	2%	
MSW_URB_FOOD	Urban Municipal solid waste: food & garden	4%															
		82%	**82%**	**85%**	**87%**	**80%**	**81%**	**81%**	**81%**	**83%**	**84%**	**81%**	**84%**	**81%**	**85%**	**81%**	**81%**

Updated key source analysis based on GAINS

	>=50%
	>=20% and <50%
	<20%

AGP Non-Parties *2015*: NOx

		EUCandidates									Non-EU Candidates						
Code GAINS	Full title	Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	**Total**
DOM	Residential-commercial		5%	13%				6%	6%							5%	**5%**
PP	Power & district heat plants			14%	57%	39%	57%	12%	16%	47%		12%	25%	41%	7%	31%	**26%**
PR_CEM	Cement production	10%	7%					14%	6%		23%	14%			22%	5%	**7%**
PR_HEARTH	ISP: Open hearth furna								8%								
PR_SINT	ISP: Agglomeration plant - sinter								12%								
IN_OC	Industrial furnaces								4%					7%		4%	**3%**
IN_BO	Industry (boilers)													10%			
TRA_RD_HD	Heavy duty vehicles and busses	54%	41%	45%	24%	28%	20%	39%	15%	29%	29%	34%	19%		26%	17%	**21%**
TRA_RD_LD4	Cars and light duty vehicles	15%	31%	12%		14%	9%		5%	8%	31%	14%	14%	17%	24%	10%	**10%**
TRA_OT_AGR+CNS	NRMM Agriculture + Construction machinery	7%					4%	9%	12%			11%	13%	8%	7%	5%	**7%**
TRA_OT_RAI	Railways												4%				
TRA_OT_LB	Other NRMM												8%			7%	**4%**
		85%	**84%**	**84%**	**81%**	**81%**	**89%**	**80%**	**84%**	**85%**	**83%**	**86%**	**83%**	**83%**	**86%**	**82%**	**83%**

Updated key source analysis based on GAINS

	>=50%
	>=20% and <50%
	<20%

AGP Non-Parties *2030*: NOx

		EUCandidates										Non-EU Candidates					
Code GAINS	Full title	Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	**Total**
DOM	Residential-commercial		8%	15%			7%	7%	9%	7%	13%		4%	11%		8%	**8%**
PP	Power & district heat plants						16%	9%	11%	16%		20%		55%	9%	26%	**23%**
PR_CEM	Cement production	21%	15%	7%		5%	5%	23%	8%		34%	13%			35%	5%	**9%**
PR_HEARTH	ISP: Open hearth furna																
PR_SINT	ISP: Agglomeration plant - sinter								15%								
IN_OC	Industrial furnaces							9%	5%					6%		6%	**6%**
IN_BO	Industry (boilers)													5%			**3%**
PR_REF	Petroleum refineries												5%				
PR_GLASS	Glass production (flat, blown, container glass)							6%									
PR_LIME									8%								
TRA_RD_HD	Heavy duty vehicles and busses	48%	37%	47%	62%	54%	42%	17%	11%	44%	26%	13%	47%		37%	20%	**18%**
TRA_RD_LD4	Cars and light duty vehicles	11%	14%	13%	22%	25%	13%	8%	6%	14%	12%	17%	8%	5%			**6%**
TRA_OT_AGR+CNS	NRMM Agriculture + Construction machinery							6%	10%			19%	18%			12%	**10%**
TRA_OT_RAI	Railways															5%	
TRA_OTS_M	Coastal shipping, medium vessels	5%															
TRA_OT_LB	Other NRMM		10%														
		85%	**85%**	**82%**	**84%**	**85%**	**84%**	**85%**	**83%**	**82%**	**85%**	**82%**	**83%**	**83%**	**81%**	**82%**	**83%**

Updated key source analysis based on GAINS

	>=50%
	>=20% and <50%
	<20%

AGP Non-Parties *2015*: SO2

AGP Non-Parties

		EUCandidates										Non-EU Candidates					
Code GAINS	Full title	Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	**Total**
DOM	Residential-commercial			63%				13%		91%			17%	14%	19%	6%	**8%**
PP	Power & district heat plants				98%	82%	89%	67%	68%			47%	15%	47%	42%	39%	**60%**
PR_CEM	Cement production	44%	42%	13%								27%					
PR_SINT	ISP: Agglomeration plant - sinter								10%							5%	
IN_BO	Industry (boilers)	21%										15%			21%	6%	**5%**
IN_OC	Industrial furnaces		8%														
PR_OT_NFME	Non-ferrous metals prod. (excl aluminum)	15%						6%			96%			20%		15%	**9%**
PR_REF	Petroleum refineries												18%			9%	
CON_COMB	Transformation - combustion												12%				
PR_SUAC	Sulfuric acid production								5%				20%				
PR_ALPRIM	Aluminum production - primary																
OTHER_SO2	Other SO2 emissions																
TRA_RD_HD	Heavy duty vehicles and busses		16%	6%													
TRA_RD_LD4	Cars and light duty vehicles		23%														
		80%	**89%**	**83%**	**98%**	**82%**	**89%**	**86%**	**82%**	**91%**	**96%**	**90%**	**82%**	**81%**	**83%**	**81%**	**82%**

Updated key source analysis based on GAINS

	>=50%
	>=20% and <50%
	<20%

AGP Non-Parties *2030*: SO2

			EUCandidates									Non-EU Candidates				
Code GAINS	Full title	Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	**Total**
DOM	Residential-commercial	6%		60%	45%	13%	32%	9%				7%	10%	17%	16%	10%	**11%**
PP	Power & district heat plants						34%	37%	31%	78%				51%	48%	30%	**39%**
PR_CEM	Cement production	66%	55%	23%		16%					88%	69%	8%				
PR_SINT	ISP: Agglomeration plant - sinter								18%								**5%**
IN_BO	Industry (boilers)							7%		5%			9%		15%	12%	**8%**
IN_OC	Industrial furnaces		9%		36%	49%	6%	13%	7%							13%	**9%**
PR_OT_NFME	Non-ferrous metals prod. (excl aluminum)	14%				10%		16%	19%					16%		10%	**14%**
PR_REF	Petroleum refineries		13%									8%	27%			7%	
CON_COMB	Transformation - combustion																
PR_SUAC	Sulfuric acid production						10%		10%				29%				
PR_ALPRIM	Aluminum production - primary																
OTHER_SO2	Other SO2 emissions																
TRA_RD_HD	Heavy duty vehicles and busses		5%												9%		
TRA_RD_LD4	Cars and light duty vehicles																
		86%	**83%**	**83%**	**81%**	**88%**	**83%**	**83%**	**86%**	**84%**	**88%**	**85%**	**83%**	**84%**	**88%**	**82%**	**84%**

Updated key source analysis based on GAINS

AGP Non-Parties *2015*: VOC

	>=50%
	>=20% and <50%
	<20%

		Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	Total
DOM	Residential-commercial	26%	25%	35%	58%	39%	35%	16%	19%	53%	14%		13%			2%	9%
DOM_OS	Domestic use of solvents (other than paint)	19%		9%	8%	9%	10%	17%	16%	3%						6%	7%
IND_P_OT	Industrial paint use (other)	10%		14%		14%	4%	10%	9%	6%						5%	5%
DECO_P	Decorative paints	5%		4%			3%	4%	2%								2%
FOOD	Food and drink industry	4%		12%			8%	16%	3%								3%
DEGR	Degreasing	3%							6%								
GLUE	Industrial application of adhesives			6%												3%	2%
MINE_BC	Brown coal mining						9%										
MINE_HC	Hard coal mining								7%	9%				12%		5%	5%
PRT_PACK	Flexography & rotogravure - packaging					3%										4%	2%
PR_REF	Petroleum refineries							5%	8%				24%			6%	5%
VEHTR	(De)Waxing and underbody treatment of vehicles							2%									
EXD_LQ	Extraction of oil (incl delivery to terminals)							2%	3%			68%		32%		3%	10%
IND_OTH	Other industrial sources								2%	3%						4%	2%
OTH_ORG_PR	Organic chemical industry - downstream units															3%	1%
WOOD	Wood preservation (excl. creosote)															3%	
D_GASST	Gasoline distribution - service stations															3%	2%
EXD_GAS	Production & distribution of natural gas															2%	
D_REFDEP	Gasoline storage & distribution (excl. gasoline stations)															2%	
PHARMA	Pharmaceutical industry															2%	
INORG	Inorganic chemical industry															1%	
D_REFDEP_S	Gasoline storage & distribution (excl. transport sector)															1%	
TRA_RD_HD	Heavy duty vehicles and busses	6%						3%							15%	3%	3%
TRA_RD_LD4	Cars and light duty vehicles	9%	39%		9%	10%	13%	4%	4%	6%	35%		27%	25%	47%	18%	16%
TRA_OT_AGR+CNS	NRMM Agriculture + Construction machinery							3%	3%				5%				2%
TRA_RD_M4	Motorcycles												9%				
TRA_RD_EV	Road - gasoline engines - evaporative												4%		11%	2%	2%
TRA_RD_LD2	Mopeds															3%	
Other			23%		7%			2%			35%	13%		15%	10%		4%
		81%	87%	80%	82%	75%	82%	83%	81%	80%	84%	81%	83%	84%	83%	80%	80%

Updated key source analysis based on GAINS

AGP Non-Parties *2030*: VOC

	>=50%
	>=20% and <50%
	<20%

		Albania	Georgia	Moldova	Montenegro	North Macedonia	Serbia	Turkiye	Ukraine	B&H	Armenia	Azerbaijan	Belarus	Kazakhstan	Kyrgyzstan	Russia	Total
DOM	Residential-commercial	25%	25%	28%	58%	34%	48%	6%	26%	61%	29%	-	36%	-	6%	2%	8%
DOM_OS	Domestic use of solvents (other than paint)	25%		6%	10%	9%	8%	20%	20%	3%						6%	8%
IND_P_OT	Industrial paint use (other)	11%		9%		12%	3%	12%	6%	6%						5%	4%
DECO_P	Decorative paints	6%		5%			3%	5%	3%								2%
FOOD	Food and drink industry	5%		8%		3%	7%	19%	4%								4%
DEGR	Degreasing								3%								
GLUE	Industrial application of adhesives			26%					2%							3%	2%
MINE_BC	Brown coal mining					3%	7%										
MINE_HC	Hard coal mining								7%	6%				16%		5%	5%
PRT_PACK	Flexography & rotogravure - packaging					13%										4%	
PR_REF	Petroleum refineries							6%					35%			6%	4%
VEHTR	(De)Waxing and underbody treatment of vehicles							3%									
EXD_LQ	Extraction of oil (incl delivery to terminals)								2%			66%		46%		3%	14%
IND_OTH	Other industrial sources	3%							3%	4%						4%	3%
OTH_ORG_PR	Organic chemical industry - downstream units															3%	1%
WOOD	Wood preservation (excl. creosote)															3%	
D_GASST	Gasoline distribution - service stations															3%	1%
EXD_GAS	Production & distribution of natural gas															2%	
D_REFDEP	Gasoline storage & distribution (excl. gasoline stations)															2%	
PHARMA	Pharmaceutical industry															2%	
INORG	Inorganic chemical industry															1%	
D_REFDEP_S	Gasoline storage & distribution (excl. transport sector)															1%	
TRA_RD_HD	Heavy duty vehicles and busses	3%													11%	3%	4%
TRA_RD_LD4	Cars and light duty vehicles	4%	15%		4%	7%	5%	4%	5%		10%		5%		24%	18%	5%
TRA_OT_AGR+CNS	NRMM Agriculture + Construction machinery							3%					8%				3%
TRA_RD_M4	Motorcycles																
TRA_RD_EV	Road - gasoline engines - evaporative															2%	4%
TRA_RD_LD2	Mopeds															3%	2%
Other			41%		11%				2%		49%	15%		19%	41%		5%
		82%	81%	84%	83%	81%	82%	80%	81%	80%	88%	81%	84%	81%	81%	80%	81%

Key stationary sources included in the draft revised TA

Proposal of key stationary sources to be included in the revised Technical Annex on stationary sources (considering all non-Parties)

N	Key stationary sources proposed for the TAs	SO_2	NOx	$PM_{2.5}$	VOC
1	LCPs	v	v	v	-
2	Residential combustion installations	-	-	v	-
3	Iron and steel production (including sinter plants)	-	-	v	-
4	Cement production	-	v	v	-
5	Production and processing of non-ferrous metals	-	-	v	-
6	Mineral oil and gas refineries	v	v	v	-
7	Industrial painting and coating activities	-	-	-	v
8	Printing, including flexography and rotogravure	-	-	-	v

Proposal of key stationary sources to be included in the Informal document on ELVs for stationary sources (considering all non-Parties)

n°	Key stationary sources proposed to be covered in the informal document on ELVs achievable with BAT	SO_2	NOx	$PM_{2.5}$	VOC
1	Large combustion plants	v	v	v	-
2	**Residential and commercial combustion < 1 MWth**	v	v	v	v
3	Iron and steel production (including sinter plants)	-	-	v	-
4	Cement production	v	v	v	-
5	Production and processing of non-ferrous metals	v	-	v	-
6	Mineral oil and gas refineries	v	v	v	v
7	**Sulphuric acid production**	v	-	-	-
8	**Coke oven**	-	-	v	-
9	**Medium combustion plants**	v	v	v	-
10	**Fertilizer production**			v	-
11	Industrial painting and coating activities	-	-	-	v
12	Printing, including flexography and rotogravure	-	-	-	v

Key mobile sources included in the draft revised TA

Proposal of key mobile sources to be included in the revised Technical Annex on mobile sources (considering all non-Parties)

N	Key stationary sources proposed	NOx	$PM_{2.5}$	VOC
1	Heavy-duty vehicles and buses	v	v	v
2	Cars and light-duty vehicles	v	v	v
3	Diesel NRMM	v	v	v

Advantages of the amended approach

- **Simplification** in line with Parties' requests
- **Only key sources are focussed** (most of them already present in the AGP)
- **Through the introduction of ranges of ELVs or standards, facilitation of negotiations of the final ELVs or standards to be retained in the revised Protocol**
- **Through the consideration of new and existing plants, different ambition levels are possible**
- **With the informal documents, provision of comprehensive information to support non-Parties in developing emission reduction programmes and strengthening their legislative frameworks** to facilitate the achievement of their ERCs

Next steps

For the next EB_46 in December 2026 TFTEI will provide as informal documents:

- **A possible updated premise on the amended approach** with analysis of key sources after feedback from HoD and the TFTEI annual meeting
- **A second draft technical annex for stationary sources** including more key sources selected **and an appendix for the rationale of ELV range selection** and any requirement or provision. A larger number of key sectors will be possibly considered later (due to time constraints)
- **A second draft technical annex for mobile sources and an appendix for the rationale of standard range selection**
- **A preliminary draft informal document for relevant key stationary sources providing ELVs achievable by using BAT** developed for some sources, the completion of the informal document being scheduled for 2027
- **A preliminary draft informal document for mobile sources providing standards for some road transport sectors**, the completion of the informal document being scheduled for 2027

Comments received and discussion

Recent Expert comments:

- The choice of 2030 year for the projections
- Account for national circumstances, technical characteristics and emission reduction potential

Question for discussion

- Does the revised analysis of key sources adequately reflect the non-Parties as a whole key sources ?

Thanks for your attention

TFTEI web site: http://tftei.citepa.org

Contacts :
Nadine Allemand : nadine.allemand@citepa.org
Cecilia Camporeale: cecilia.camporeale@enea.it

TFTEI Techno-Scientific Board:
Natalia Sirina-Leboine: natalia.sirina-leboine@citepa.org
Gabriel Krenzer: gabriel,krenzer@citepa.org

Citepa Guider l'action Air & Climat

ENEA ITALIAN NATIONAL AGENCY FOR NEW TECHNOLOGIES, ENERGY AND SUSTAINABLE ECONOMIC DEVELOPMENT

MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE ET DE LA COHÉSION DES TERRITOIRES
Liberté Égalité Fraternité

MINISTERO DELL'AMBIENTE E DELLA SICUREZZA ENERGETICA