



© Thomas Seegers - Fotolia.com

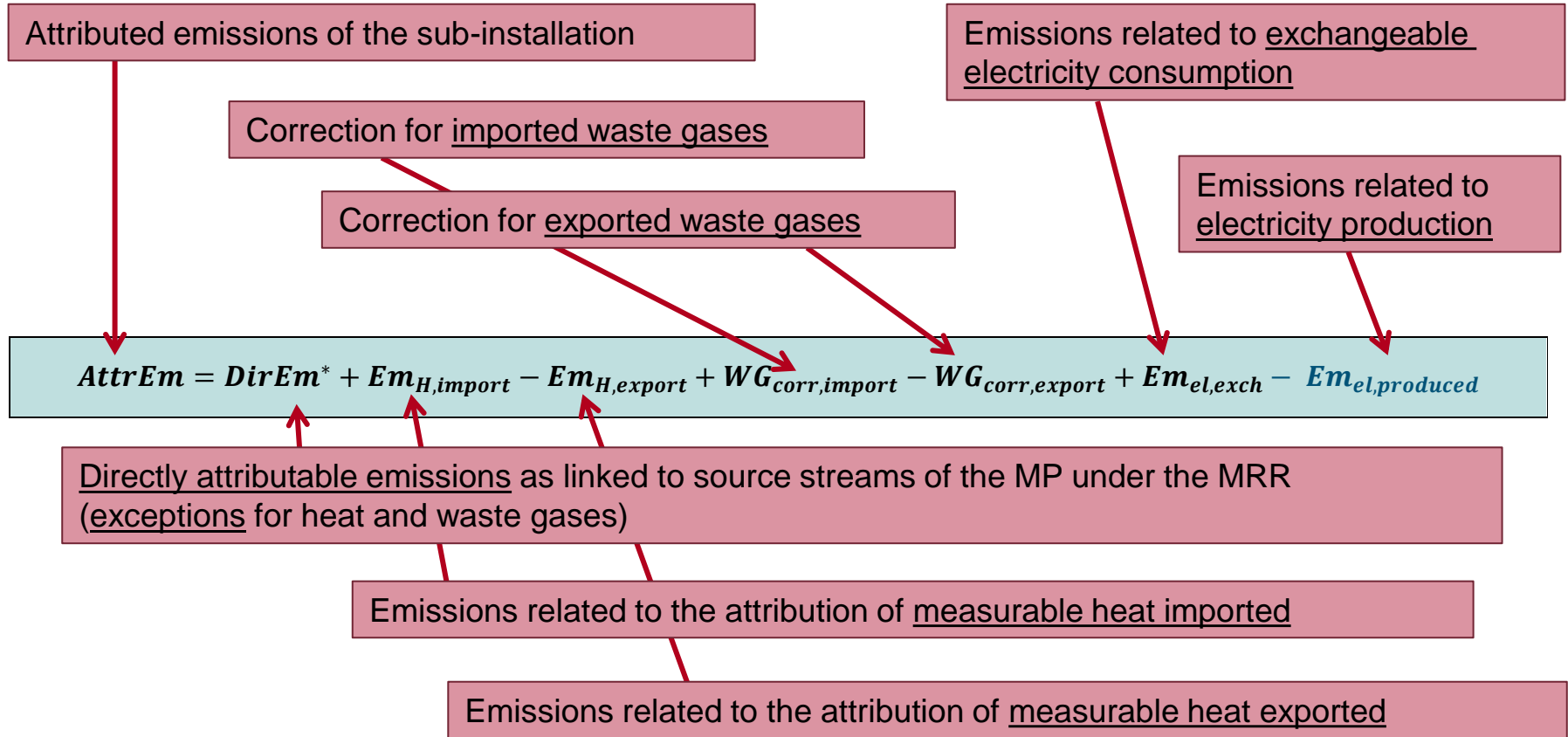
# EU ETS - Free Allocation Rules post 2020

WORKSHOPS FOR COMPETENT AUTHORITIES



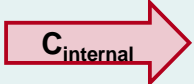



 **SQ**  
sustainable quality consult

ENVIRONMENT  
AGENCY AUSTRIA **umweltbundesamt**<sup>U</sup>

# BM Update – Attributed emissions



# Examples – colour codes

Arrow type	Description
	Green arrows are used for source streams found in the MP under the MRR (“MP source streams”).
	Grey arrows are used for fuels which are combusted outside the system boundaries of the installation, i.e. not covered by the MP under the MRR.
	Light red arrows are used for “internal source streams” which are not covered by the MP (e.g. because a mass balance is applied over the whole installation).
	Dark blue arrows are used for measurable heat flows.
	Blue arrows are used for products, e.g. product BM products.
	Red arrows are used for electricity flows.

# Attribution of emissions to sub-installations

## DirEm\*

### ● MP source streams

- Attribution of emissions from source streams / emission sources in accordance MRR
- Exceptions for measurable heat: if heat produced onsite is consumed by MORE THAN ONE sub-installation, it should not be included under **DirEm\*** but treated like heat imported from other installations under **Em<sub>H,import</sub>**
- Exceptions for waste gases: if they are IMPORTED from other installations, they should not be included under **DirEm\*** but under **WG<sub>corr,import</sub>**

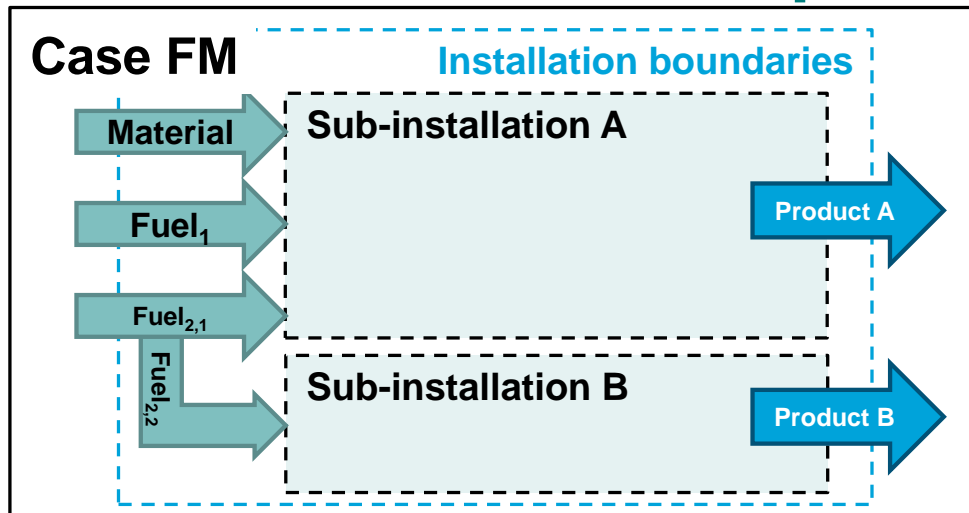
### ● “Internal” source streams

- Source streams produced in one sub-installation and consumed by another and not included in the MP, e.g. where a mass balance is applied

### ● CO<sub>2</sub> feedstock

- Amount of CO<sub>2</sub> imported or exported

# Attribution of emissions – simple case



Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	$Fuel_1 \times EF_{F1} + Fuel_{2,1} \times EF_{F2} + Material \times EF_{material}$	$Fuel_{2,2} \times EF_{F2}$
<i>All other parameters</i>	0 or "not relevant"	0 or "not relevant"
<i>AttrEm</i>	<b>Sum of the above</b>	<b>Sum of the above</b>
Parameter: Fuel input	$Fuel_1 + Fuel_{2,1}$	$Fuel_{2,2}$
Parameter: Fuel input (weighted EF)	$(Fuel_1 \times EF_{F1} + Fuel_{2,1} \times EF_{F2}) /$ "Fuel input"	$EF_{F2}$

# Attribution of emissions – measurable heat (1)

## ● $Em_{H,import}$

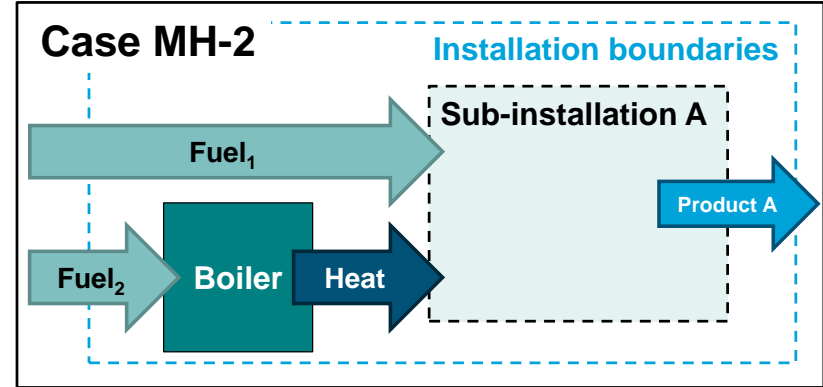
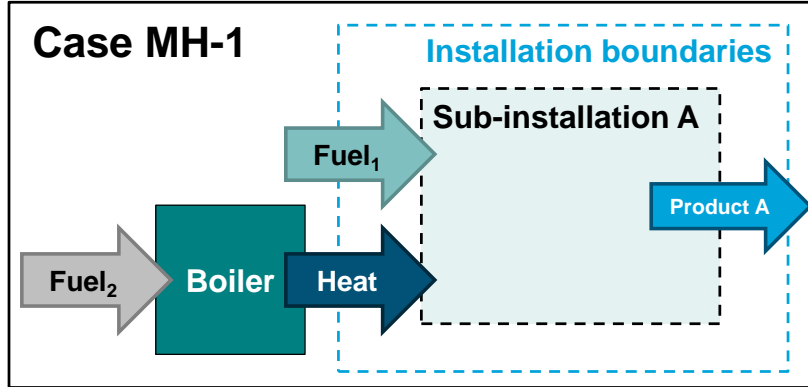
- Emissions associated with measurable heat imported to the sub-installation, includes:
  - imports from other installations / entities (EU ETS and non-ETS)
  - “input” from measurable heat produced onsite if the heat is consumed by more than one sub-installation
- Respective emission factor (t CO<sub>2</sub> per TJ measurable heat)
  - Where known (e.g. heat produced onsite), use the actual EF
  - Where not known or not clearly defined, only report TJ (EF will be based on the (updated) heat BM value\*, once published)

## ● $Em_{H,export}$

- Similar to imports
- Special case: heat exported from product BM sub-installations (e.g. recovered heat), EF will be based on the (updated) heat BM value\*, once published

*\* in such cases no values for the emission factor should be provided in the Commission’s baseline data collection template, i.e. cell is left empty*

# Attribution of emissions – measurable heat (2)

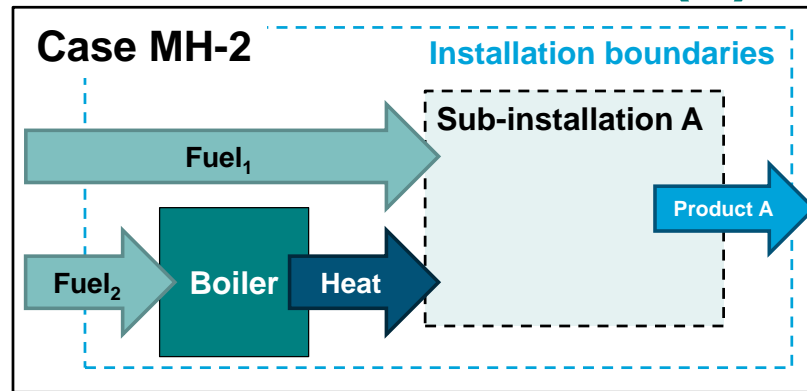
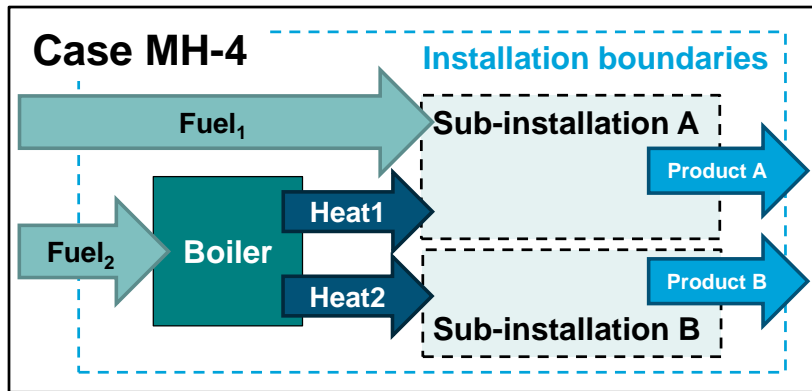


Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	Fuel <sub>1</sub> x EF <sub>F1</sub>	–
<i>Em<sub>H,import</sub></i>	+ Heat x EF <sub>imported heat</sub> (†)	–
<i>Em<sub>H,export</sub></i>	0	–
<i>All other parameters</i>	0 or “not relevant”	0 or “not relevant”
<i>AttrEm</i>	Sum of the above	–
Parameter: Fuel input	Fuel <sub>1</sub>	–
Parameter: Fuel input (weighted EF)	EF <sub>F1</sub>	–

Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	Fuel <sub>1</sub> x EF <sub>F1</sub> + Fuel <sub>2</sub> x EF <sub>F2</sub>	–
<i>Em<sub>H,import</sub></i>	0	–
<i>Em<sub>H,export</sub></i>	0	–
<i>All other parameters</i>	0 or “not relevant”	0 or “not relevant”
<i>AttrEm</i>	Sum of the above	–
Parameter: Fuel input	Fuel <sub>1</sub> + Fuel <sub>2</sub>	–
Parameter: Fuel input (weighted EF)	(Fuel <sub>1</sub> x EF <sub>F1</sub> + Fuel <sub>2</sub> x EF <sub>F2</sub> ) / “Fuel input”	–

Information from supplier. If not known or available: **BM<sub>heat</sub>** (not known yet, leave “EF” empty in template)

# Attribution of emissions – measurable heat (3)



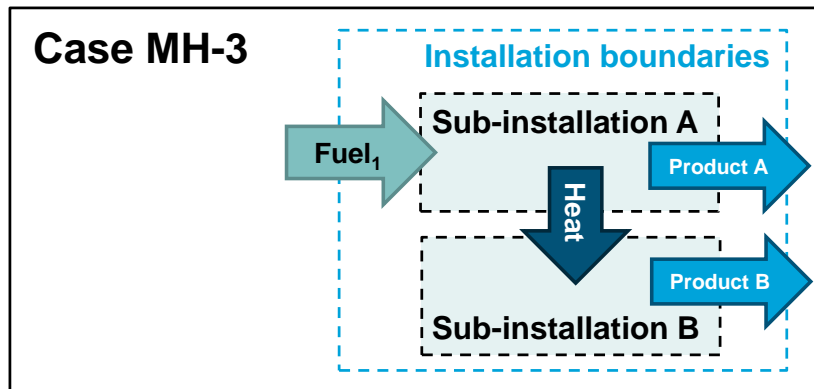
Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	Fuel <sub>1</sub> x EF <sub>F1</sub>	0
<i>Em<sub>H,import</sub></i>	+ Heat <sub>1</sub> x EF <sub>heat</sub> (†)	+ Heat <sub>2</sub> x EF <sub>heat</sub> (††)
<i>Em<sub>H,export</sub></i>	0	0
<i>All other parameters</i>	0 or "not relevant"	0 or "not relevant"
<i>AttrEm</i>	Sum of the above	Sum of the above
Parameter: Fuel input	Fuel <sub>1</sub>	0
Parameter: Fuel input (weighted EF)	EF <sub>F1</sub>	0

Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	Fuel <sub>1</sub> x EF <sub>F1</sub> + Fuel <sub>2</sub> x EF <sub>F2</sub>	–
<i>Em<sub>H,import</sub></i>	0	–
<i>Em<sub>H,export</sub></i>	0	–
<i>All other parameters</i>	0 or "not relevant"	0 or "not relevant"
<i>AttrEm</i>	Sum of the above	–
Parameter: Fuel input	Fuel <sub>1</sub> + Fuel <sub>2</sub>	–
Parameter: Fuel input (weighted EF)	(Fuel <sub>1</sub> x EF <sub>F1</sub> + Fuel <sub>2</sub> x EF <sub>F2</sub> ) / "Fuel input"	–

Not under **DirEm\*** because the heat is consumed by **2 sub-installations**



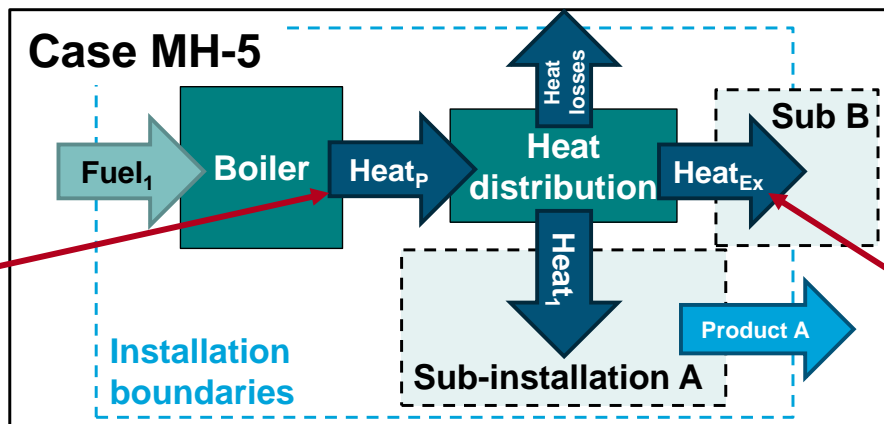
# Attribution of emissions – measurable heat (4)



- If EF not known or not applicable, e.g. export from product BM sub-installation: use  $BM_{heat}$  (not known yet, leave “EF” empty in template)
- If sub A is a fuel BM, the EF should be determined by assuming a virtual efficiency of the heat production of 90% ( $EF_{exported\ heat} = EF_{F1} / 90\%$ ).

Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	$Fuel_1 \times EF_{F1}$	0
<i>Em<sub>H,import</sub></i>	0	+ Heat x $EF_{exported\ heat}(\dagger)$
<i>Em<sub>H,export</sub></i>	- Heat x $EF_{exported\ heat}(\dagger)$	0
<b>All other parameters</b>	0 or “not relevant”	0 or “not relevant”
<b>AttrEm</b>	<b>Sum of the above</b>	<b>Sum of the above</b>
Parameter: Fuel input	$Fuel_1$	0
Parameter: Fuel input (weighted EF)	$EF_1$	0

# Attribution of emissions – measurable heat (5)

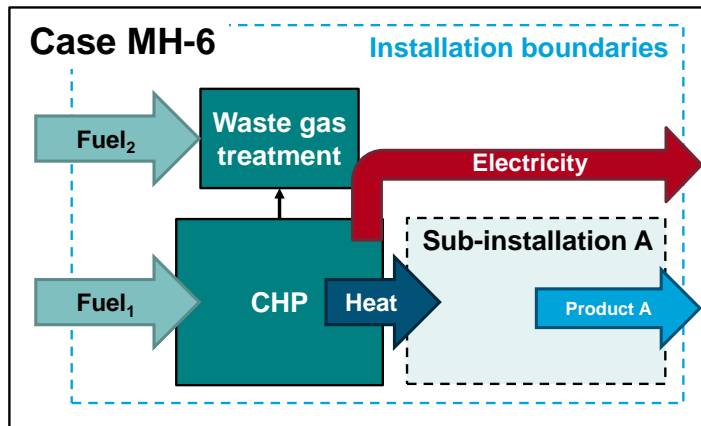


Heat produced

Heat exported

Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	0	0
<i>Em<sub>H,import</sub></i>	$+ \text{Heat}_1 \times \text{EF}_{\text{heat,p}} \times [\text{Heat}_p / (\text{Heat}_1 + \text{Heat}_{\text{Ex}})]$ (+)	$+ \text{Heat}_{\text{Ex}} \times \text{EF}_{\text{heat,p}} \times [\text{Heat}_p / (\text{Heat}_1 + \text{Heat}_{\text{Ex}})]$ (++)
<i>Em<sub>H,export</sub></i>	0	0
<b>All other parameters</b>	0 or "not relevant"	0 or "not relevant"
<b>AttrEm</b>	<b>Sum of the above</b>	<b>Sum of the above</b>
Parameter: Fuel input	0	0
Parameter: Fuel input (weighted EF)	0	0
Parameter: Heat produced (+++)	$\text{Heat}_1 \times [\text{Heat}_p / (\text{Heat}_1 + \text{Heat}_{\text{Ex}})]$	$\text{Heat}_{\text{Ex}} \times [\text{Heat}_p / (\text{Heat}_1 + \text{Heat}_{\text{Ex}})]$

# Attribution of emissions – measurable heat (5)



Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	$Em_{CHP,heat} (+)$	-
$Em_{H,import}$	0	-
$Em_{H,export}$	0	-
<b>All other parameters</b>	0 or "not relevant"	-
<b>AttrEm</b>	<b>Sum of the above</b>	-
Parameter: Fuel input	$Fuel_{CHP,heat} (++)$	-
Parameter: Fuel input (weighted EF)	$Em_{CHP,heat} / Fuel_{CHP,heat}$	-
Parameter: Heat produced	Heat	-

Determined via "CHP Tool"

# Attribution of emissions – measurable heat (5)

## Example for the “CHP Tool”:

- Fuel<sub>1</sub> and Fuel<sub>2</sub> are natural gas of which **100 TJ** are fired in the CHP and **2 TJ** are used for flue gas cleaning.
- The annual output of heat and electricity is **60 TJ** and **20 TJ**, respectively.
- The fuel’s total emissions correspond to **5,712 t CO<sub>2</sub>** per year using the emission factor of natural gas.
- *Results:*
  - $Em_{CHP,heat}$  would correspond to the value of **3,634.91 t CO<sub>2</sub>**
  - $Fuel_{CHP,heat}$  would correspond to the value of **64.91 TJ**
  - $EF_{heat}$  would correspond to the value of **60.58 t CO<sub>2</sub> / TJ**

<b>(a) Total amount of fuel input into CHP units</b>		
	<b>Unit</b>	<b>2014</b>
Fuel input into CHP	TJ / year	102,00
<b>(b) Heat output from CHP</b>		
	<b>Unit</b>	<b>2014</b>
Heat output from CHP	TJ / year	60,00
<b>(c) Electricity output CHP</b>		
	<b>Unit</b>	<b>2014</b>
Electricity output CHP	TJ / year	20,00
<b>(d) Total emissions from CHP</b>		
	<b>Unit</b>	<b>2014</b>
i. From fuel input to CHP	t CO <sub>2</sub> / year	5.600,00
ii. From flue gas cleaning	t CO <sub>2</sub> / year	112,00
iii. Total emissions	t CO <sub>2</sub> / year	5.712,00
<b>(e) Default efficiencies:</b>		
		Heat:
<b>(f) Efficiencies for heat and electricity</b>		
	<b>Unit</b>	<b>2014</b>
i. Heat production	-	0,5882
ii. Electricity production	-	0,1961
<b>(g) Reference efficiencies</b>		
	<b>Unit</b>	<b>2014</b>
i. Heat production	-	90,00%
ii. Electricity production	-	52,50%
<b>(h) Emissions attributable to heat production from CHP</b>		
	<b>Unit</b>	<b>2014</b>
i. Emissions attributable to heat output	t CO <sub>2</sub> / year	3.634,91
ii. Emission factor, heat	t CO <sub>2</sub> / TJ	60,58
<b>(i) Fuel input attributable to heat and electricity production</b>		
	<b>Unit</b>	<b>2014</b>
i. Fuel input for heat	TJ / year	64,91
ii. Fuel input for electricity	TJ / year	37,09

# Attribution of emissions – waste gases (1)

- **WG<sub>corr,import</sub>**

- Correction for imported waste gases
- As part of the waste gas emissions are attributed to the producer ( $WG_{corr,export}$ ), double counting is avoided by attributing emissions for imports according to the following formula:

$$WG_{corr,import} = V_{WG,imported} \cdot NCV_{WG} \cdot BM_F$$

- **WG<sub>corr,export</sub>**

- Correction for exported waste gases

$$WG_{corr,export} = V_{WG,exported} \cdot NCV_{WG} \cdot EF_{NG} \cdot Corr_{\eta}$$

$V_{WG}$  volume of waste gas imported/exported

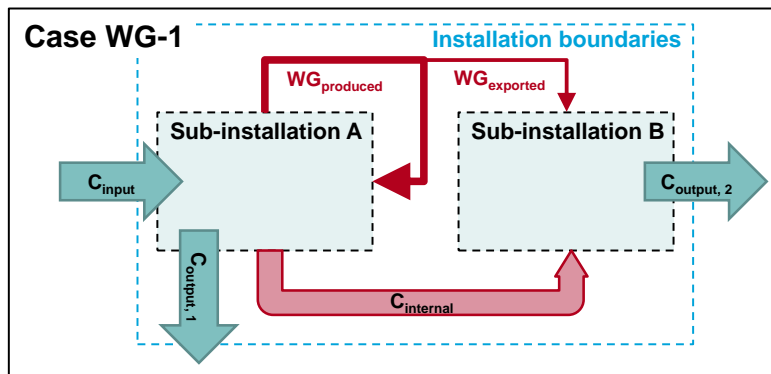
$NCV_{WG}$  (actual) net calorific value of the waste gas

$BM_F$  The (updated) fuel benchmark

$EF_{NG}$  Emission factor natural gas

$Corr_{\eta}$  correction factor of 0.667 to account for different reference efficiencies waste gas/natural gas

# Attribution of emissions – waste gases (2)

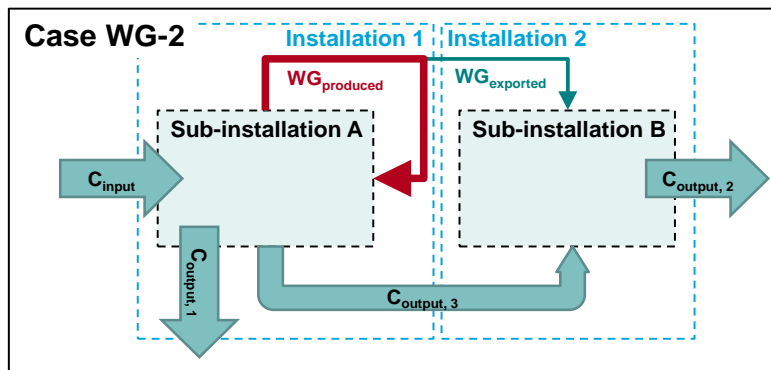


Attributed emissions	Sub A	Sub B
$DirEm^*$ (MP source streams)	$3.664 \times (C_{input} - C_{output,1})$	$- 3.664 \times C_{output,2}$
$DirEm^*$ (Internal source streams)	$- 3.664 \times C_{internal}$	$+ 3.664 \times C_{internal}$
$WG_{corr,import}$	0	$+ WG_{exported} \times BM_{fuel} (++)$
$WG_{corr,export}$	$- WG_{exported} \times EF_{NG} \times CorrF (+)$	0
All other parameters	0 or "not relevant"	0 or "not relevant"
<b>AttrEm</b>	<b>Sum of the above</b>	<b>Sum of the above</b>
Parameter: Fuel input	$Fuel_{C,input}$	$WG_{exported} + Fuel_{C,internal}$
Parameter: Fuel input (weighted EF)	$EF_{C,input}$	$(WG_{exported} \times EF_{WG,exported} + Fuel_{C,internal} \times EF_{C,internal}) / \text{"Fuel input"}$
Parameter: Fuel input from WG	0	$WG_{exported}$
Parameter: Fuel input from WG (EF)	0	$EF_{WG,exported}$
Parameter: Waste gases produced	$WG_{produced}$	0
Parameter: Waste gases produced (EF)	$EF_{WG,produced} = EF_{WG,exported}$	0
Parameter: Waste gases consumed	$WG_{produced} - WG_{exported}$	$WG_{exported}$
Parameter: Waste gases consumed (EF)	$EF_{WG,produced} = EF_{WG,exported}$	$EF_{WG,produced} = EF_{WG,exported}$
Parameter: Waste gases flared	0	0

**$EF_{NG}$ ,  $CorrF$**  calculated automatically in the NIMs template (no entries required)

**$BM_{Fuel}$**  not known yet (no entries required in NIMs template)

# Attribution of emissions – waste gases (3)

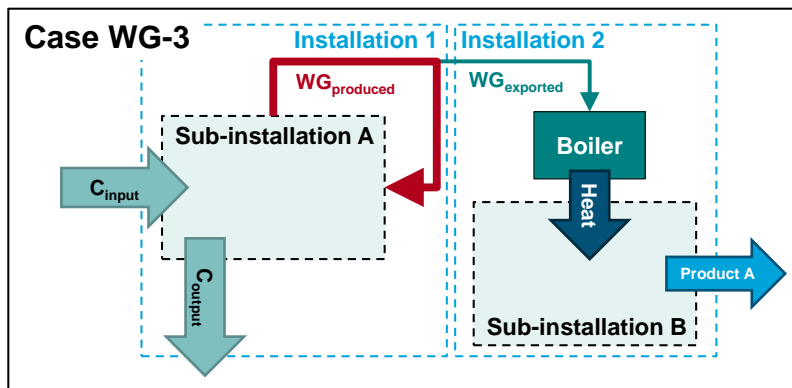


$EF_{NG}$ ,  $CorrF$  calculated automatically in the NIMs template (no entries required)

$BM_{Fuel}$  not known yet (no entries required in NIMs template)

Attributed emissions	Sub A	Sub B
$DirEm^*$ (MP source streams)	$3.664 \times (C_{input} - C_{output,1} - C_{output,3})$	$3.664 \times (C_{output,3} - C_{output,2})$
$DirEm^*$ (Internal source streams)	0	0
$WG_{corr,import}$	0	$+ WG_{exported} \times BM_{fuel} (++)$
$WG_{corr,export}$	$- WG_{exported} \times EF_{NG} \times CorrF (†)$	0
All other parameters	0 or "not relevant"	0 or "not relevant"
<b>AttrEm</b>	<b>Sum of the above</b>	<b>Sum of the above</b>
Parameter: Fuel input	$Fuel_{C_{input}}$	$WG_{exported} + Fuel_{C_{output,3}}$
Parameter: Fuel input (weighted EF)	$EF_{C_{input}}$	$(WG_{exported} \times EF_{WG,exported} + Fuel_{C_{output,3}} \times EF_{C_{output,3}}) /$ "Fuel input"
Parameter: Fuel input from WG	0	$WG_{exported}$
Parameter: Fuel input from WG (EF)	0	$EF_{WG,exported}$
Parameter: Waste gases produced	$WG_{produced}$	0
Parameter: Waste gases produced (EF)	$EF_{WG,produced} = EF_{WG,exported}$	0
Parameter: Waste gases consumed	$WG_{produced} - WG_{exported}$	$WG_{exported}$
Parameter: Waste gases consumed (EF)	$EF_{WG,produced} = EF_{WG,exported}$	$EF_{WG,produced} = EF_{WG,exported}$
Parameter: Waste gases flared	0	0

# Attribution of emissions – waste gases (4)



Attributed emissions	Sub A	Sub B
$DirEm^*$ (MP source streams)	$3.664 \times (C_{input} - C_{output})$	0
$DirEm^*$ (Internal source streams)	0	0
$Em_{H,import}$	0	+ Heat x $BM_{heat}$ (††)
$WG_{corr,import}$	0	0
$WG_{corr,export}$	$- WG_{exported} \times EF_{NG} \times CorrF$ (†)	0
All other parameters	0 or "not relevant"	0 or "not relevant"
<b>AttrEm</b>	<b>Sum of the above</b>	<b>Sum of the above</b>
Parameter: Fuel input	$Fuel_{C,input}$	$WG_{exported} + Fuel_{C,output,3}$
Parameter: Fuel input (weighted EF)	$EF_{C,input}$	$(WG_{exported} \times EF_{WG,exported} + Fuel_{C,output,3} \times EF_{C,output,3}) /$ "Fuel input"
Parameter: Fuel input from WG	0	$WG_{exported}$
Parameter: Fuel input from WG (EF)	0	$EF_{WG,exported}$
Parameter: Waste gases produced	$WG_{produced}$	0
Parameter: Waste gases produced (EF)	$EF_{WG,produced} = EF_{WG,exported}$	0
Parameter: Waste gases consumed	$WG_{produced} - WG_{exported}$	$WG_{exported}$
Parameter: Waste gases consumed (EF)	$EF_{WG,produced} = EF_{WG,exported}$	$EF_{WG,produced} = EF_{WG,exported}$
Parameter: Waste gases flared	0	0

**$EF_{NG}$ , CorrF** calculated automatically in the NIMs template (no entries required)

**$BM_{Heat}$**  not known yet (no entries required in NIMs template)



# Attribution of emissions – electricity (1)

- **Em<sub>el,exch</sub>**

- Emissions equivalent to the “exchangeable” electricity quantity

$$Em_{el,exch} = El_{cons,exch} \cdot EF_{El}$$

- **Em<sub>el,produced</sub>**

- Emissions equivalent to the electricity produced in a sub-installation
- only covers electricity that is produced other than via the intermediate production of measurable heat (e.g. steam). This includes electricity that is produced e.g. from expansion of compressed gases via an expansion turbine.
- Any electricity that is produced and exported via measurable heat should not be covered here but deducted under **Em<sub>H,export</sub>**

$$Em_{el,produced} = El_{produced} \cdot EF_{El}$$

El<sub>cons,exch</sub>

Amount of exchangeable electricity consumed

El<sub>produced</sub>

Amount of electricity produced other than via measurable heat intermediate

EF<sub>el</sub>

Harmonised emission factor of 0.376 t CO<sub>2</sub> / MWh

# Special aspects

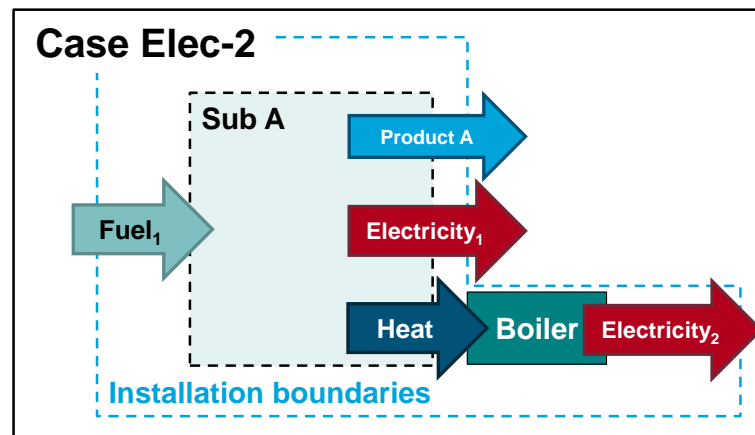
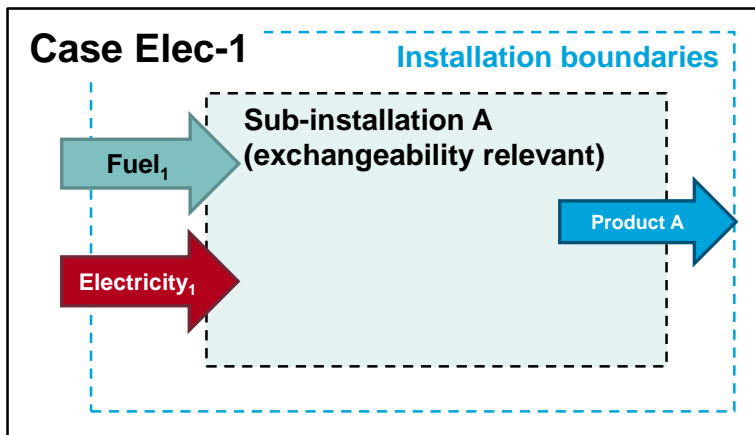
## Flaring

- Allocation: only for “safety flaring”, none for “non-safety flaring”
- Attribution emissions: all flaring included in a product BMs attributable emissions

## Intermediate products

- Art. 16(7) of the FAR: “...*In particular, where an intermediate product that is covered by a product benchmark according to the definition of the respective system boundaries set out in Annex I is imported by an installation, emissions shall not be double-counted when determining the preliminary total annual amount of emission allowances allocated free of charge for both installations concerned.*”
- This means materials which fall under the product definition of a product benchmark given in Annex I of the FAR, but where for example, the process under consideration adds a finishing step.
- Examples:
  - Dolime where this product is used as an input for production of sintered dolime in another installation
  - Synthesis/Hydrogen gas which is transferred to another installation for the production of ammonia

# Attribution of emissions – electricity (2)



Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	Fuel <sub>1</sub> x EF <sub>F1</sub>	–
<i>Em<sub>H,export</sub></i>	0	–
<i>Em<sub>el,exch</sub></i>	+ Electricity <sub>1</sub> x EF <sub>el</sub> (†)	–
<i>Em<sub>el,produced</sub></i>	0	–
<b>All other parameters</b>	0 or “not relevant”	–
<b>AttrEm</b>	<b>Sum of the above</b>	–
Parameter: Fuel input	Fuel <sub>1</sub>	–
Parameter: Fuel input (weighted EF)	EF <sub>F1</sub>	–

Attributed emissions	Sub A	Sub B
<i>DirEm*</i>	Fuel <sub>1</sub> x EF <sub>F1</sub>	–
<i>Em<sub>H,export</sub></i>	– Heat x EF <sub>heat</sub> (†)	–
<i>Em<sub>el,exch</sub></i>	–	–
<i>Em<sub>el,produced</sub></i>	– Electricity <sub>1</sub> x EF <sub>el</sub> (††)	–
<b>All other parameters</b>	0 or “not relevant”	–
<b>AttrEm</b>	<b>Sum of the above</b>	–
Parameter: Fuel input	Fuel <sub>1</sub>	–
Parameter: Fuel input (weighted EF)	EF <sub>F1</sub>	–

# Link to templates

Notes required for the determination of the benchmark improvement rate personal to Article 90(2) of the Sub-installation with product benchmark:

[More information on the calculation can be found in section 6.10.4.2 of the](#)

14) Directly attributable emissions [DirEm\*] (MPP source streams) in this sub-installation

14.1 Directly attributable

14.2 Fuel input in this sub-installation and relevant emissions

14.3 Further internal source streams imported in and exported from this sub-installation

14.4 Name of further source streams - 9:

14.5 Name of further source streams - 8:

14.6 Name of further source streams - 7:

14.7 Name of further source streams - 6:

14.8 Name of further source streams - 5:

14.9 Name of further source streams - 4:

14.10 Name of further source streams - 3:

14.11 Name of further source streams - 2:

14.12 Name of further source streams - 1:

15) Annual of CO<sub>2</sub> imported or exported as feedstock

16) Residual heat input to and output from this sub-installation

16.1 Total heat imported

16.2 Specific heat imported

16.3 Specific heat exported

16.4 Heat input from waste gases

16.5 Heat input from nitric acid

16.6 Heat input from other sources

16.7 Total heat exported

16.8 Heat exported

16.9 Specific heat exported

17) Waste gas balance for this sub-installation

17.1 Are waste gases referred for this sub-installation?

17.2 Type of waste gases produced:

17.3 Waste gases produced:

17.4 Waste gas produced:

17.5 Specific heat produced

17.6 Type of waste gases consumed:

17.7 Waste gases consumed:

17.8 Waste gas consumed:

17.9 Waste gas consumed:

17.10 Specific heat consumed

17.11 Type of waste gases flared:

17.12 Waste gases flared:

17.13 Waste gas flared:

17.14 Waste gas flared:

17.15 Specific heat flared

18) Electricity production

18.1 Electricity produced

19) Total amount of pulp produced

19.1 Total amount of pulp produced

20) Impact on output of intermediate products covered by product benchmark

20.1 Impact on output of intermediate products covered by product benchmark

20.2 Impacted amount:

20.3 Impacted amount:

20.4 Impacted amount:

20.5 Impacted amount:

20.6 Impacted amount:

20.7 Impacted amount:

20.8 Impacted amount:

20.9 Impacted amount:

20.10 Impacted amount:

20.11 Impacted amount:

20.12 Impacted amount:

20.13 Impacted amount:

20.14 Impacted amount:

20.15 Impacted amount:

20.16 Impacted amount:

20.17 Impacted amount:

20.18 Impacted amount:

20.19 Impacted amount:

20.20 Impacted amount:

20.21 Impacted amount:

20.22 Impacted amount:

20.23 Impacted amount:

20.24 Impacted amount:

20.25 Impacted amount:

20.26 Impacted amount:

20.27 Impacted amount:

20.28 Impacted amount:

20.29 Impacted amount:

20.30 Impacted amount:

20.31 Impacted amount:

20.32 Impacted amount:

20.33 Impacted amount:

20.34 Impacted amount:

20.35 Impacted amount:

20.36 Impacted amount:

20.37 Impacted amount:

20.38 Impacted amount:

20.39 Impacted amount:

20.40 Impacted amount:

20.41 Impacted amount:

20.42 Impacted amount:

20.43 Impacted amount:

20.44 Impacted amount:

20.45 Impacted amount:

20.46 Impacted amount:

20.47 Impacted amount:

20.48 Impacted amount:

20.49 Impacted amount:

20.50 Impacted amount:

20.51 Impacted amount:

20.52 Impacted amount:

20.53 Impacted amount:

20.54 Impacted amount:

20.55 Impacted amount:

20.56 Impacted amount:

20.57 Impacted amount:

20.58 Impacted amount:

20.59 Impacted amount:

20.60 Impacted amount:

20.61 Impacted amount:

20.62 Impacted amount:

20.63 Impacted amount:

20.64 Impacted amount:

20.65 Impacted amount:

20.66 Impacted amount:

20.67 Impacted amount:

20.68 Impacted amount:

20.69 Impacted amount:

20.70 Impacted amount:

20.71 Impacted amount:

20.72 Impacted amount:

20.73 Impacted amount:

20.74 Impacted amount:

20.75 Impacted amount:

20.76 Impacted amount:

20.77 Impacted amount:

20.78 Impacted amount:

20.79 Impacted amount:

20.80 Impacted amount:

20.81 Impacted amount:

20.82 Impacted amount:

20.83 Impacted amount:

20.84 Impacted amount:

20.85 Impacted amount:

20.86 Impacted amount:

20.87 Impacted amount:

20.88 Impacted amount:

20.89 Impacted amount:

20.90 Impacted amount:

20.91 Impacted amount:

20.92 Impacted amount:

20.93 Impacted amount:

20.94 Impacted amount:

20.95 Impacted amount:

20.96 Impacted amount:

20.97 Impacted amount:

20.98 Impacted amount:

20.99 Impacted amount:

20.100 Impacted amount:

Attributed emissions	Relevant section in the baseline data collection template		Relevant section in the MMP Template		Relevant examples in this section
	Product BM	Fallback BM	Product BM	Fallback BM	
DirEm* (MP source streams)	F.g	G.c	F.e.i	G.c	All
DirEm* (Internal source streams)	F.i	-	F.e.ii	-	WG-1
DirEm* (CO <sub>2</sub> feedstock)	F.j	-	F.e.iii	-	-
Em <sub>H,import</sub>	F.k	G.1.f	F.g	G.1.f	MH(all), WG-3, Elec-2
Em <sub>H,export</sub>	F.k	G.4.e	F.g	G.4.e	MH(all)
WG <sub>corr,import</sub>	F.l	G.4.d	F.h	G.4.d	WG(all)
WG <sub>corr,export</sub>	F.l	-	F.h	-	WG(all)
Em <sub>el,exch</sub>	F.c	-	F.c	-	Elec-1
Em <sub>el,prod</sub>	F.m	-	F.c	-	Elec-2
Parameter: Fuel input	F.h	G.d	F.f	G.d	All
Parameter: Fuel input from waste gases (WG)	F.k	G.1.f	F.g	G.1.f	MH(all), WG-3, Elec-2
Parameter: Heat produced	-	G.4.e	-	G.4.e	MH(all)
Parameter: Heat from pulp	F.k	G.1.f	F.g	G.1.f	MH(all), WG-3, Elec-2
Parameter: Heat from nitric acid	F.k	G.1.f	F.g	G.1.f	MH(all), WG-3, Elec-2
Parameter: Waste gases produced	F.l	G.4.d	F.h	G.4.d	WG(all)
Parameter: Waste gases consumed	F.k	G.4.d	F.h	G.4.d	WG(all)
Parameter: Waste gases flared	F.l	-	F.h	-	WG(all)
Parameter: Total pulp produced	F.n	-	-	-	-
Parameter: Intermediate products	F.o	-	F.a	-	-

No direct impact on attributed emissions (consistency checks, etc.)

# Contact & Information



Christian Heller

[Christian.Heller@umweltbundesamt.at](mailto:Christian.Heller@umweltbundesamt.at)



Eliška Bystricky

[e.bystricky@sqconsult.com](mailto:e.bystricky@sqconsult.com)

Umweltbundesamt  
[www.umweltbundesamt.at](http://www.umweltbundesamt.at)

FAR workshops  
January-March • 2019