

Technical Correction to the German Forest Reference Level

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„original“ FRL – pools

pool	[Mt CO ₂ -eq. y ⁻¹]	TC necessary?
Living biomass	-9.68	?
Mineral soils (including litter)	-15.31	yes
Organic soils	0.91	yes
Dead wood	-2.14	yes
Forest fire	0.004	yes
HWP	-8.16	yes
Sum (excl. HWP)	-26.21	yes
Sum (incl. HWP)	-34.37	yes

↑
improvements
of GHGI

„original“ FRL – mineral soils

1. Method:

„old“: extrapolation from soil inventory (stock difference)

2. Reason for TC:

Methodological change in GHG Inventory (use of soil model YASSO)

3. Change:

Climate-sensitive modelling of soil organic carbon

4. Effect on FRL: increase

5. Effect on accounting:
none (cancels out)



„original“ FRL – organic soils

1. Method: soil maps, tier 1 default emission factors
2. Reason for TC: new, higher-resolution data in GHGI (revised organic soil map, new data on drainage status)



3. Change:
new mean value for reference period; larger area of organic soils
4. Effect on FRL: increase
5. Effect on accounting: yes

„original“ FRL – dead wood



1. Method:
mean value from reference period
2. Reason for TC:
Review and correction of error in
previous GHGI
3. Change:
lower EF
4. Effect on FRL: decrease
5. Effect on accounting: yes

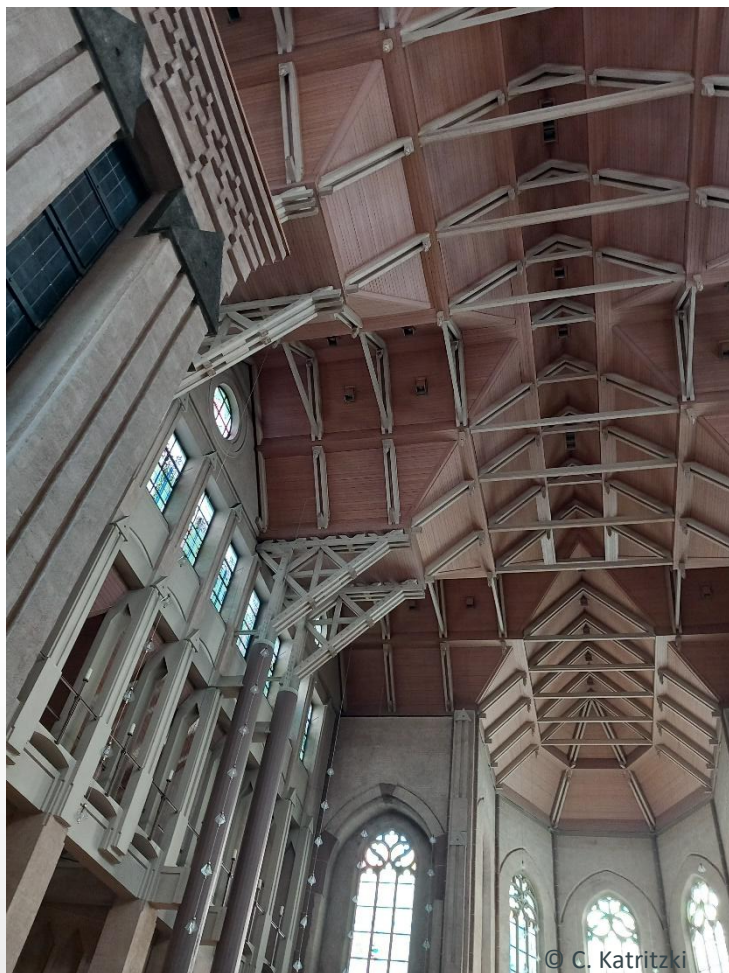
„original“ FRL – forest fire

1. Method: mean value from reference period (CH₄, N₂O)
2. Reason for TC: change in GHGI



3. Change:
consideration of dead wood
and litter in biomass burned
4. Effect on FRL: increase
5. Effect on accounting: yes

„original“ FRL – HWP



1. Method:

Estimated with WoodCarbon Monitor as in GHGI

2. Reason for TC:

new, better data in GHGI (recalculation of inherent legacy emissions back to 1990, with effect on emissions in reference period)

3. Change: (t.b.det.)

4. Effect on FRL: (t.b.det.)

5. Effect on accounting: new value

„original“ FRL – living biomass



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1. Method:

EF from reference period, forests modelled with Matrix-Model

2. Reason for TC:

new, better data (disturbances 2018ff)

3. Change: ?

4. Effect on FRL: ?

5. Effect on accounting: ?

FRL – technical correction

pools	FRL	FRL - corrected	Difference
	[Mt CO ₂ -eq. y ⁻¹]	[Mt CO ₂ -eq. y ⁻¹]	[Mt CO ₂ -eq. y ⁻¹]
Living biomass	-9.68	(-9.68?)	(0?)
Mineral soils (including litter)	-15.31	-6.15	9.16
Organic soils	0.91	3.09	2.18
Dead wood	-2.14	-1.04	1.10
Forest fire	0.004	0.004	0
HWP	-8.16	(tbd)	(tbd)
Sum (excl. HWP)	-26.21	(-13.78)	(12.44)
Sum (incl. HWP)	-34.37	(-21.94)	

More on living biomass:

→ „Impact of the 2018ff drought on forest sink capacity in Germany“