Recalculation of Poland's FRL

Overview

Table 0: FRL for Poland (t CO_2e yr^{-1})

	With HWP	*Without HWP*
Draft NFAP	**-29,433,000**	**-24,612,000**
Revised NFAP	**-27,888,000**	**-23,872,000**
Draft FRL in delegated act	**-28,400,000**	**-24,384,000**

Data inconsistency in carbon pools included in the FRL

Table 24 of the PL NFAP (courtesy English translation) lists all estimates of carbon stock changes of carbon pools included in the PL FRL and their total, and Table 25 lists emissions from forest fires by gas (in CO_2-eq) and its total. Table 1 of this document, column "revised NFAP" lists all estimates in CO_2-eq as average over the compliance period. The Commission communicated, inter alia[1], an incorrect total of the individual carbon pools and greenhouse gases to the PL authorities (Table 1, column "EC correction of sum"). PL authorities responded in writing and clarified a clerical error (Table 1, column "PL response to EC correction", Table 2 for full detail of annual data between 2010-2025 corresponding to Table 24 in PL NFAP).

Inconsistencies between the FRL and GHG inventory with regard to carbon pools

The Commission also found inconsistencies regarding the inclusion of carbon pools between the FRL and GHG inventory submission of 2019 used in the PL NFAP (Table 1, column "GHGI 2019 average 2000-2009"). Notably, the GHG inventory (2019 submission) does not include estimations of carbon stock changes for carbon pools dead wood and litter, which are included in the PL FRL proposal. In addition, the estimation of carbon stock changes in mineral soils differs significantly from the entire GHG time series. To ensure consistency between the FRL and the GHG inventory, the Commission sets the individual carbon pools as indicated in Table 1, column "FRL PL proposed for delegated act", resulting in an FRL of -**28,400,000 t CO_2-eq yr^{-1}** including HWP (-24,394,000 t CO_2-eq yr^{-1} without HWP).

Table 1: Emissions and removals by carbon pools and greenhouse gases in the PL NFAP, communications between EC and PL, and FRL proposed for delegated act [kt CO_2-eq yr^{-1}].

	revised NFAP[2]	**EC correction of sum**	**PL response to EC correction**	**GHGI 2019 average 2000-2009**	**FRL PL proposed for delegated act[3]**
Living biomass	-24,783	-24,783	**-22,402**	-35,326	**-22,402**
Litter	-1,906	-1,906	-1,906	**NO**	**NO**
Deadwood	-186	-186	-185	**NO**	**NO**
Mineral soils	-289	-289	-289	**-2,892**	**-2,892**
Organic soils	638	638	638	**557**	**638**
Biomass burning	272	272	272	**35**	**272**
HWP	-4,016	-4,016	-4,016	-3,230	**-4,016**
FRL (excluding HWP)	-23,872	**-26,254**	-23,872	-37,626	**-24,384**
FRL (including HWP)	-27,888	**-30,270**	-27,888	-40,857	**-28,400**

[1] This recalculation sheet only addresses issues of relevance to the recalculation of the PL FRL.

[2] Estimates converted to CO_2.

[3] Regarding dead wood, the Commission notes in accordance with Art 5(4) of Regulation (EU) 2018/841 the need to include estimations in the annual GHG reporting for forest land remaining forest land (Managed forest land accounting category) and consequently a need for technical correction, at the latest at the end of the compliance period.

Table 2: Data for carbon pools as reported in the PL NFAP (section A and section D), and the corrected values (sections B, C, E); changes to the PL NFAP are marked with yellow. **SECTION A**: original values (including the signs) by carbon pools, including the total as reported by PL in Table 24 of the NFAP. **SECTION B**: correction of clerical error (yellow) for living biomass by PL. **SECTION C:** conversion of the corrected carbon pools of section B to CO_2-eq yr^{-1} (negative values reported within the table represent a sink and positive values represent a source). **SECTION D**: original values for emissions resulting from forest fires, including the total as reported by PL in Table 25. **SECTION E:** total net emissions including all carbon pools reported by country within Table 24 (C) plus fire emissions (D). The last column within each section reports the average net emissions calculated within the CP (2021-2025). LB=living biomass, LT=litter, DW=dead wood, mineral soil=SOM, organic soil=SOC.

SECTION	Table 24 (NFAP): Effect of the modelling of carbon stock changes in its pools for category 4.A.1 *Forest land remaining in forest land*													CP					Avg. CP
	Carbon pool	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
A	LB	kt C	-10,885	-10,726	-10,523	-10,244	-9,901	-9,560	-9,024	-8,628	-8,177	-7,947	-7,719	-7,346	-6,958	-6,909	-6,482	-6,100	
	LT	kt C	-387	-562	-646	-688	-704	-703	-718	-697	-673	-651	-630	-603	-571	-494	-475	-456	
	DW	kt C	665	500	389	293	210	136	29	-15	-54	-88	-115	-114	-117	26	-10	-39	
	SOM	kt C	203	100	36	-6	-33	-51	-65	-73	-78	-82	-85	-83	-82	-79	-76	-74	
	SOC	kt CO_{2eq}	575	579	584	588	593	598	603	608	613	618	623	628	633	638	643	648	
	Total	kt CO_{2eq}	-39,229	-38,604	-37,631	-36,907	-35568	-34,168	-32,414	-30,749	-29,099	-28,250	-27,417	-26,052	-24,602	-24,418	-22,846	-21,443	-23,872
B	LB	kt C	-11,366	-10,764	-10,302	-9,843	-9,374	-8,942	-8,271	-7,843	-7,372	-7,125	-6,890	-6,547	-6,188	-6,363	-5,920	-5,531	
	LT	kt C	-387	-562	-646	-688	-704	-703	-718	-697	-673	-651	-630	-603	-571	-494	-475	-456	
	DW	kt C	665	500	389	293	210	136	29	-15	-54	-88	-115	-114	-117	26	-10	-39	
	SOM	kt C	203	100	36	-6	-33	-51	-65	-73	-78	-82	-85	-83	-82	-79	-76	-74	
	SOC	kt CO_{2eq}	575	579	584	588	593	598	603	608	613	618	623	628	633	638	643	648	
	Total	kt CO_{2eq}	-39,338	-38,750	-38,002	-36,973	-35,711	-34,456	-32,486	-31,028	-29,368	-28,520	-27,680	-26,307	-24,879	-24,694	-23,123	-21,719	-24,145
C	Conversion of C pools reported on Tab. 24 to CO_2 (considering the stoichiometric ratio 44/12 and that negative values reported within the table represent sinks and positive values represent sources)																		
	LB	kt CO_{2eq}	-41,677	-39,469	-37,773	-36,091	-34,370	-32,788	-30,326	-28,759	-27,030	-26,126	-25,262	-24,005	-22,688	-23,330	-21,708	-20,280	-22,402
	LT	kt CO_{2eq}	-1,419	-2,061	-2,370	-2,522	-2,580	-2,577	-2,633	-2,555	-2,467	-2,388	-2,309	-2,209	-2,095	-1,811	-1,743	-1,671	-1,906
	DW	kt CO_{2eq}	2,437	1,833	1,425	1,074	769	499	107	-55	-197	-324	-423	-417	-428	97	-35	-143	-185
	SOM	kt CO_{2eq}	746	367	132	-22	-122	-188	-238	-268	-287	-301	-310	-304	-302	-289	-280	-273	-289
	SOC	kt CO_{2eq}	575	579	584	588	593	598	603	608	613	618	623	628	633	638	643	648	638
	Total	kt CO_{2eq}	-39,338	-38,750	-38,002	-36,973	-35,711	-34,456	-32,486	-31,028	-29,368	-28,520	-27,680	-26,307	-24,879	-24,694	-23,123	-21,719	-24,145
D	Table 25 (NFAP): Estimates and projections of emissions resulting from forest fires (natural disturbances)																		
	CO_2	kt	98	131	335	59	128	259	65	251	243	243	236	231	249	249	249	249	
	CH_4	kt CO_{2eq}	10	13	33	6	13	26	6	25	24	24	23	23	24	24	25	25	
	N_2O	kt CO_{2eq}	1	2	4	1	1	3	1	3	3	3	3	3	3	3	3	3	
	Total Fire	kt CO_{2eq}	109	146	372	66	142	288	73	279	270	270	262	256	276	276	277	277	272
E= C+D	Total + fire	kt CO_{2eq}	-39,229	-38,604	-37,631	-36,907	-35,568	-34,168	-32,414	-30,749	-29,099	-28,250	-27,417	-26,052	-24,602	-24,418	-22,846	-21,443	-23,872