

Review of the 2019 submission under Decision 529/2013

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Joint Research Centre

Decision 529/2013 - Status of the submissions

Red: missing

Light grey: MS
elected CM and/or
GM

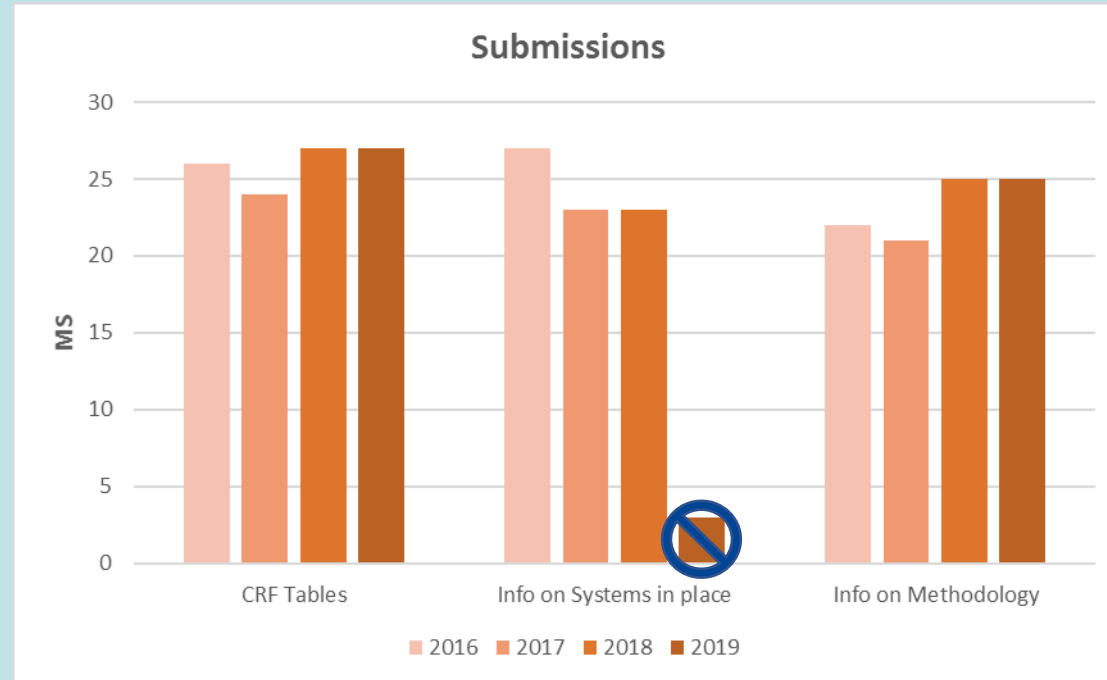
Dark grey: No
compulsory this
year

	2019		
	529 / 3(2)a (systems)	529/ 3(2)b (CRF tables)	749 / 40 (methodologies)
AT		✓	✓
BE		✓	✓
BG	✓		✓
CY			
CZ		✓	✓
DE		✓	
DK			
EE		✓	✓
GR		✓	✓
ES	✓	(no 1990 GM)	✓
FI		✓	✓
FR		✓	✓
HR	✓	✓	✓
HU		✓	✓
IE			
IT			
LT		✓	✓
LU		✓	✓
LV		✓	✓
MT		✓	
NL		✓	✓
PL		✓	✓
PT			
RO		✓	✓
SE		✓	✓
SI		✓	
SK		✓	✓
UK			

Decision 529/2013 - Status of the submissions

	Cropland and Grassland Management												Actions	
	2016			2017			2018			2019			2014	2016
	529 / 3(2)a (systems)	529/ 3(2)b (CRF tables)	749 / 40 (methodologies)	529 / 3(2)a (systems)	529/ 3(2)b (CRF tables)	749 / 40 (methodologies)	529 / 3(2)a (systems)	529/ 3(2)b (CRF tables)	749 / 40 (methodologies)	529 / 3(2)a (systems)	529/ 3(2)b (CRF tables)	749 / 40 (methodologies)	529 / 10 (initial)	529 / 10 (progress)
AT	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓
BE	✓	✓			✓			✓			✓	✓	✓	✓
BG	(✓)	✓		✓	✓		✓		✓		✓	✓	✓	✓
CY	✓	✓											✓	✓
CZ	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
DE	✓	✓	✓	✓	✓	✓		✓			✓		✓	✓
DK	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓
EE	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
GR	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
ES	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓(no 1990 GM)	✓	✓	✓
FI	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓
FR	✓							✓	✓		✓	✓	✓	✓
HR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HU	✓	✓	✓	✓		✓	✓		✓		✓	✓	✓	✓
IE	✓	✓	✓	✓	✓	✓		✓					✓	✓
IT	✓	✓	✓	✓	✓	✓		✓					✓	✓
LT	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓
LU	(✓)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
LV	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
MT	✓			✓			✓	✓			✓		✓	✓
NL	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
PL	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
PT	✓	✓	✓	✓	✓	✓		✓					✓	✓
RO	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
SE	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓
SI	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓
SK	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
UK	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓

Decision 529/2013 - Status of the submissions



Still some submissions incomplete, especially for the textual information.

Some data missing (e.g. base year in a couple of cases)

Cropland Management: Completeness (Notation Keys)

CM	CHANGE IN CARBON POOL REPORTED ⁽¹⁾						GREENHOUSE GAS SOURCES REPORTED ⁽²⁾									
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾			
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	N ₂ O	CO ₂ ⁽¹⁰⁾
Austria																
Belgium	R	R	NO	NO	R	R		R		R			NO	NO	NO	
Bulgaria																
Croatia	R	R	IE	NO	R	R		NO		R			R	R	R	
Cyprus																
Czech Republic	R	R	NO	NO	R	NO		NO		R			NO	NO	NO	
Denmark	R	R	NO	NO	R	R		R		R			NO	NO	NO	
Estonia	R	R	NO	R	R	R		NA		R			NO	NO	NO	
Finland	R	R	R	R	R	R		R		R			IE	IE	IE	
France	R	R	R	R	R	R		R		R			R	R	R	
Germany	R	R	IE	IE,NO	R	R		NO,R		R			NO	NO	NO	
Greece	R	IE	NO	NO	R	R		NO		R			NO	NO	NO	
Hungary	R	NA	NA	NA	R	NA		NA		R			IE	R	R	
Ireland	R	IE	NO	NO	R	NO		NO		IE			NO	R	R	
Italy	R	R	NO	NO	R	R		NO		NO			R	R	R	
Latvia	R	R	NA	R	R	R		R		R			NA	R	R	
Lithuania	R	IE	NE	NO	R	R		R		R			NO	R	R	
Luxembourg	R	R	NO	NO	R	NA		NA		NA			NA	NA	NA	
Malta	R	NO	NO	NO	R	NO		NO		IE			NA	NA	NA	
Netherlands	R	R	NO	NO	R	R		NE		R			NO	NO	NO	
Poland	R	R	R	R	R	R		NO		NO			NO	NO	NO	
Portugal	R	R	R	NO	R	NO		NO		R			R	R	R	
Romania	R	R	NR	NR	R	NO		NO		R			R	R	R	
Slovakia	R	NO	NO	NO	R	NO		NO		R			NO	NO	NO	
Slovenia	R	R	R	R	R	R		NO		IE			NO	NO	NO	
Spain	R	IE	R	NR	R	NO		NO		NE,R			NO,R	IE,NO,R	IE,NO,R	
Sweden	R	R	R	R	R	R		R		R			R	R	R	
United Kingdom	R	IE	NR	NR	R	R		NE		R			NE	R	R	



Cropland Management: Completeness

CM	CHANGE IN CARBON POOL REPORTED ⁽¹⁾							GREENHOUSE GAS SOURCES REPORTED ⁽²⁾							
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾		
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	CO ₂ ⁽¹⁰⁾
R	25	18	8	8	26	16		7		18		6	11	11	
NO	0	2	11	13	0	8		12		2		12	10	10	
NA	0	1	2	1	0	2		3		1		3	2	2	
NE	0	0	1	0	0	0		2		0		1	0	0	
NR	0	0	2	3	0	0		0		0		0	0	0	
IE	0	5	2	0	0	0		0		3		2	1	1	
Tot	25	26	26	25	26	26		24		24		24	24	24	
Not Complete	2	2	2	2	2	2		3		3		3	3	3	
Not correct	1	0	0	1	0	0		1		1		1	1	1	

✓ Biomass and mineral soils pools are reported most often.

Cropland Ma

Submission 2019
(year 2017)

Submission 2018
(year 2016)

Submission 2016
(year 2014)

CM	CHANGE IN CARBON POOL REPORTED ⁽¹⁾						GREENHOUSE GAS SOURCES REPORTED ⁽²⁾								
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾		
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	N ₂ O
R	25	18	8	8	26	16		7		18		6	11	11	
NO	0	2	11	13	0	8		12		2		12	10	10	
NA	0	1	2	1	0	2		3		1		3	2	2	
NE	0	0	1	0	0	0		2		0		1	0	0	
NR	0	0	2	3	0	0		0		0		0	0	0	
IE	0	5	2	0	0	0		0		3		2	1	1	
Tot	25	26	26	25	26	26		24		24		24	24	24	
Not Complete	2	2	2	2	2	2		3		3		3	3	3	
Not correct	1	0	0	1	0	0		1		1		1	1	1	
R	25	18	9	5	20	16		10		12		3	7	7	
NO	0	2	11	17	1	10		11		9		18	11	11	
NA	1	1	2	1	1	1		1		2		1	1	1	
NE	0	0	0	0	0	0		3		0		2	0	0	
NR	0	0	2	2	5	0		0		0		0	0	0	
IE	0	5	2	0	0	0		0		3		2	2	2	
Tot	26	26	26	25	27	27		25		26		26	21	21	
Not Complete	1	1	1	1	1	1		1		1		1	6	6	
Not correct	1	1	1	2	0	0		2		1		1	1	1	
Cropland management	CHANGE IN CARBON POOL REPORTED ⁽¹⁾						GREENHOUSE GAS SOURCES REPORTED ⁽²⁾								
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾		
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	N ₂ O
R	19	12	2	3	23	13		4		7		4	6	6	
NO	0	0	15	17	0	7		12		5		9	7	7	
NA	2	2	2	1	0	2		2		4		4	3	3	
NE	0	0	0	0	0	0		5		2		3	3	3	
NR	2	4	2	2	1	2		0		0		0	0	0	
IE	0	5	2	0	0	0		0		5		3	4	4	

Grazing Land Management: Completeness

GM	CHANGE IN CARBON POOL REPORTED ⁽¹⁾						GREENHOUSE GAS SOURCES REPORTED ⁽²⁾									
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾			
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	N ₂ O	CO ₂ ⁽¹⁰⁾
Austria	R	R	R	R	R	R										
Belgium	R	R	NO	NO	R	R			R		R		NO	NO	NO	
Bulgaria	IE	NO	NO	NO	NO	R			NO		NO		R	R		
Croatia	R	R	IE	NO	R	R			NO		NO		R	R	R	
Cyprus																
Czech Republic	R	R	NO	NO	R	NO			NO		R		NO	NO	NO	
Denmark	R	R	NO	NO	R	R			R		R		R	R	R	
Estonia	R	R	NO	R	R	R			NA		NO		IE, NO	R	R	
Finland	R	R	R	R	R	R			R		R		R	R	R	
France	R	R	R	R	R	R			R		R		R	R	R	
Germany	R	R	IE	IE,NO	R	R			NO,R		NO		NO	NO	NO	
Greece	R	IE	NO	NO	R	NO			NO		R		NO	R	R	
Hungary	NA	NA	NA	NA	R	NA			NA		R		IE	R	R	
Ireland	R	IE	NO	NO	R	R			R		IE		NO	R	R	
Italy	NO	NO	NO	NO	R	NO			NO		NO		NO	NO	NO	
Latvia	R	IE	NA	R	R	R			R		R		NA	R	R	
Lithuania	R	IE	NE	NO	R	R			R		NO		NO	R	R	
Luxembourg	R	R	NO	NO	R	NA			NA		NA		NA	NA	NA	
Malta	NO	NO	NO	NO	NO	NO			NO		NO		NO	NO	NO	
Netherlands	R	R	NO	NO	R	R			NE		R		R	R	R	
Poland	R	R	R	R	R	R			NO		NO		R	R	R	
Portugal	R	R	R	NO	R	NO			NO		R		R	R	R	
Romania	R	R	NR	NR	R	NO			NO		R		R	R	R	
Slovakia	R	NO	NO	NO	R	NO			NO		R		NO	NO	NO	
Slovenia	R	R	R	R	R	NO			NO		NO		NE	NE	NE	
Spain	NR	NR	NR	NR	R	NO			NO		NE		NE	NE	NE	
Sweden	R	R	R	R	R	R			R		R		R	R	R	
United Kingdom	R	IE	NR	NR	R	R			NE		R		NE	R	R	

Grazing Land Management: Completeness

GM	CHANGE IN CARBON POOL REPORTED ⁽¹⁾							GREENHOUSE GAS SOURCES REPORTED ⁽²⁾										
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾		Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾		Indirect N ₂ O emissions from managed soil ⁽⁵⁾		Biomass burning ⁽⁹⁾		
					Mineral	Organic ⁽³⁾		N ₂ O	CH ₄ ⁽⁷⁾	N ₂ O	N ₂ O	N ₂ O	N ₂ O	CO ₂ ⁽¹⁰⁾	CH ₄	N ₂ O		
R	22	17	10	11	25	20			7		9			5	13	12		
NO	1	3	11	12	1	6			15		12			16	12	7		
NA	1	1	1	1	1	1			2		3			1	1	1		
NE	1	1	0	0	0	0			2		1			2	1	1		
NR	1	1	2	2	0	0			0		0			0	0	0		
IE	1	4	3	0	0	0			0		2			2	0	0		
Tot	27	27	27	26	27	27			26		27			26	27	21		
Not Cor	1	1	1	1	1	1			1		1			1	1	7		
Not cor	0	0	0	1	0	0			1		0			1	0	0		

✓ Mineral soils pool is reported most often, followed by biomass.

Grazing Land M

Submission 2019
(year 2017)

Submission 2018
(year 2016)

Submission 2016
(year 2014)

GM	CHANGE IN CARBON POOL REPORTED ⁽¹⁾							GREENHOUSE GAS SOURCES REPORTED ⁽²⁾								
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾			
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	N ₂ O	CO ₂ ⁽¹⁰⁾
R	22	16	7	8	25	16		0	8		14		10	17	16	
NO	2	4	12	14	2	9		0	12		9		9	6	6	
NA	1	1	2	1	0	2		0	3		1		2	1	1	
NE	0	0	1	0	0	0		0	2		1		3	2	2	
NR	1	1	3	3	0	0		0	0		0		0	0	0	
IE	1	5	2	0	0	0		0	0		1		1	0	0	
Tot	27	27	27	26	27	27		0	25		0		0	0	0	
Not Complete	1	1	1	1	1	1		28	2		2		2	2	3	
Not correct	0	0	0	1	0	0		0	1		26		26	26	25	
R	22	17	10	11	25	20			7		9			5	13	12
NO	1	3	11	12	1	6			15		12			16	12	7
NA	1	1	1	1	1	1			2		3			1	1	1
NE	1	1	0	0	0	0			2		1			2	1	1
NR	1	1	2	2	0	0			0		0			0	0	0
IE	1	4	3	0	0	0			0		2			2	0	0
Tot	27	27	27	26	27	27			26		27			26	27	21
Not Cor	1	1	1	1	1	1			1		1			1	1	7
Not cor	0	0	0	1	0	0			1		0			1	0	0
Grazing land management	CHANGE IN CARBON POOL REPORTED ⁽¹⁾							GREENHOUSE GAS SOURCES REPORTED ⁽²⁾								
	Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil		HWP ⁽⁴⁾	Fertilization ⁽⁵⁾	Drained, rewetted and other soils ⁽⁶⁾		Nitrogen mineralization in mineral soils ⁽⁸⁾	Indirect N ₂ O emissions from managed soil ⁽⁵⁾	Biomass burning ⁽⁹⁾			
					Mineral	Organic ⁽³⁾			N ₂ O	CH ₄ ⁽⁷⁾			N ₂ O	N ₂ O	N ₂ O	CO ₂ ⁽¹⁰⁾
R	16	10	3	3	19	14			4		6		8	10	10	
NO	1	1	11	12	1	8			9		8		5	6	6	
NA	2	2	2	2	2	2			5		4		4	4	4	
NE	2	2	2	1	1	0			5		2		3	3	3	
NR	2	5	3	4	1	0			0		0		0	0	0	
IE	0	3	2	1	0	0			0		3		3	0	0	

Completeness of submissions

Cropland management (CM) and Grazing land management (GM)

- submitted by 25 MS (25 in 2017 and 2018, 24 in 2016)
- not submitted by 3 MS

The most used notation keys for CM, GM:

- R - reported and NO – not occurring

The most reported carbon pools for CM and GM:

- above ground biomass, mineral soil

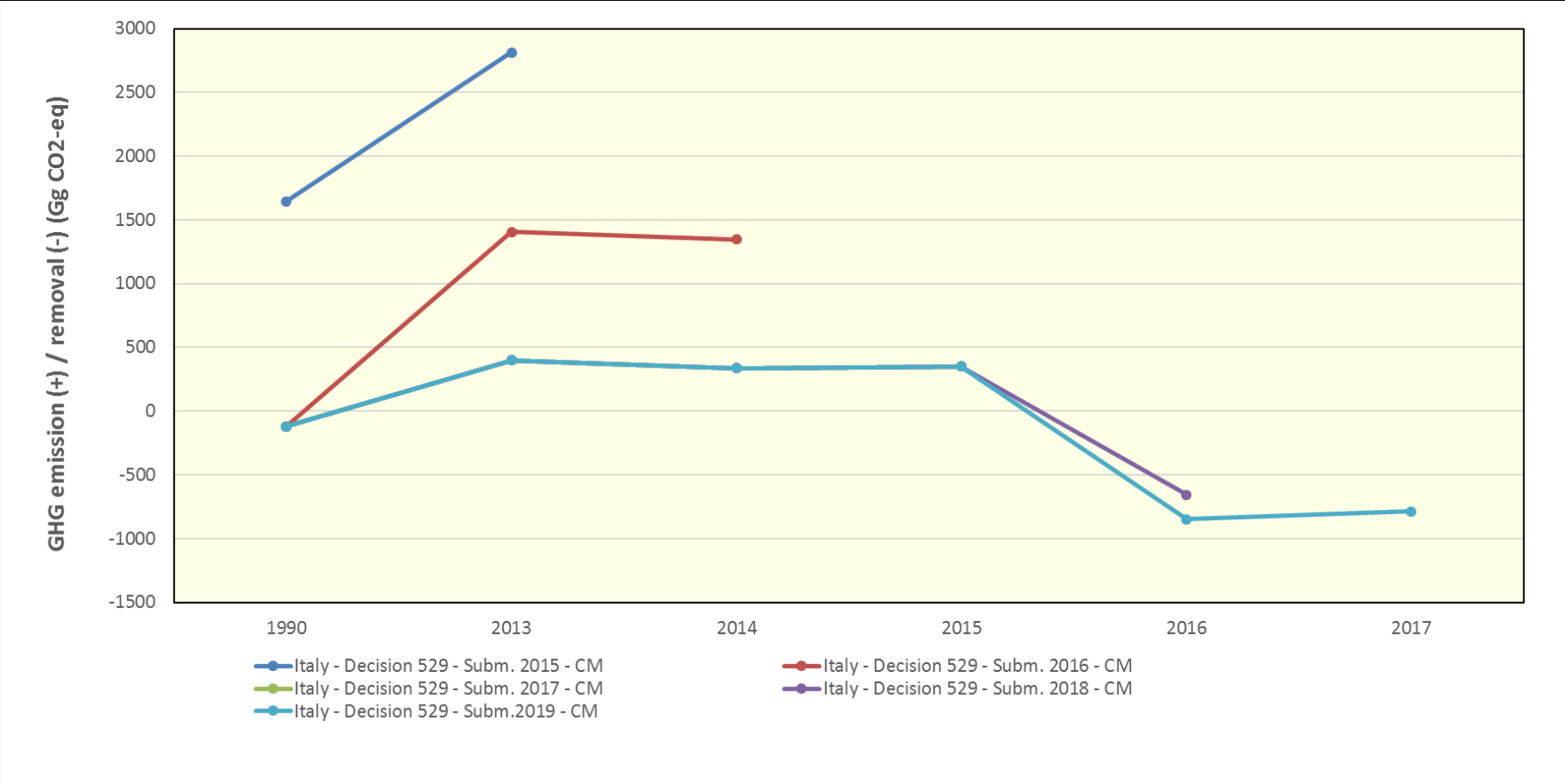
The most reported Non-CO2 sources for CM

- Nitrogen mineralization of soils - N_2O

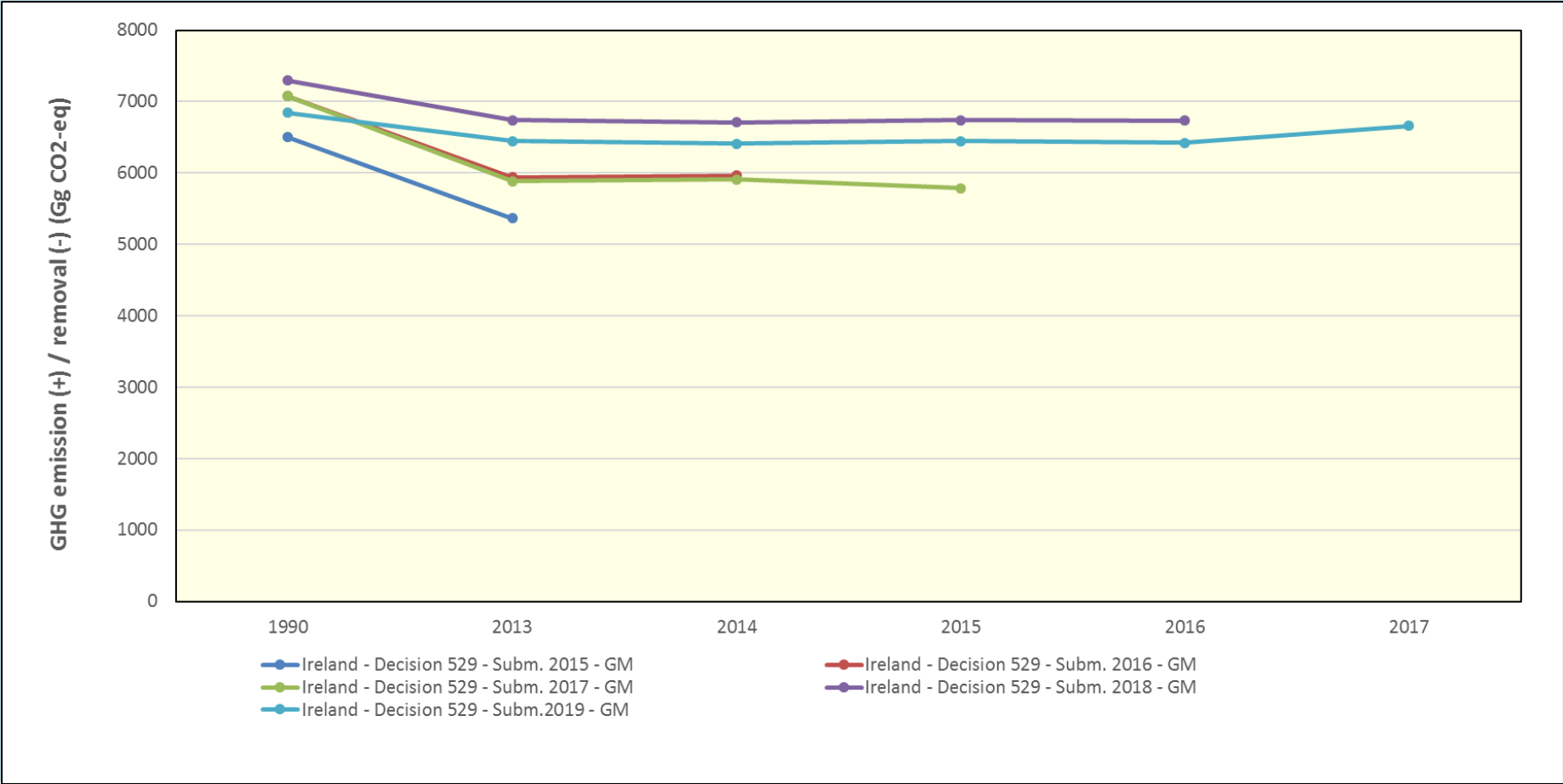
The most reported Non-CO2 sources for GM:

- Biomass burning - CH_4 , N_2O

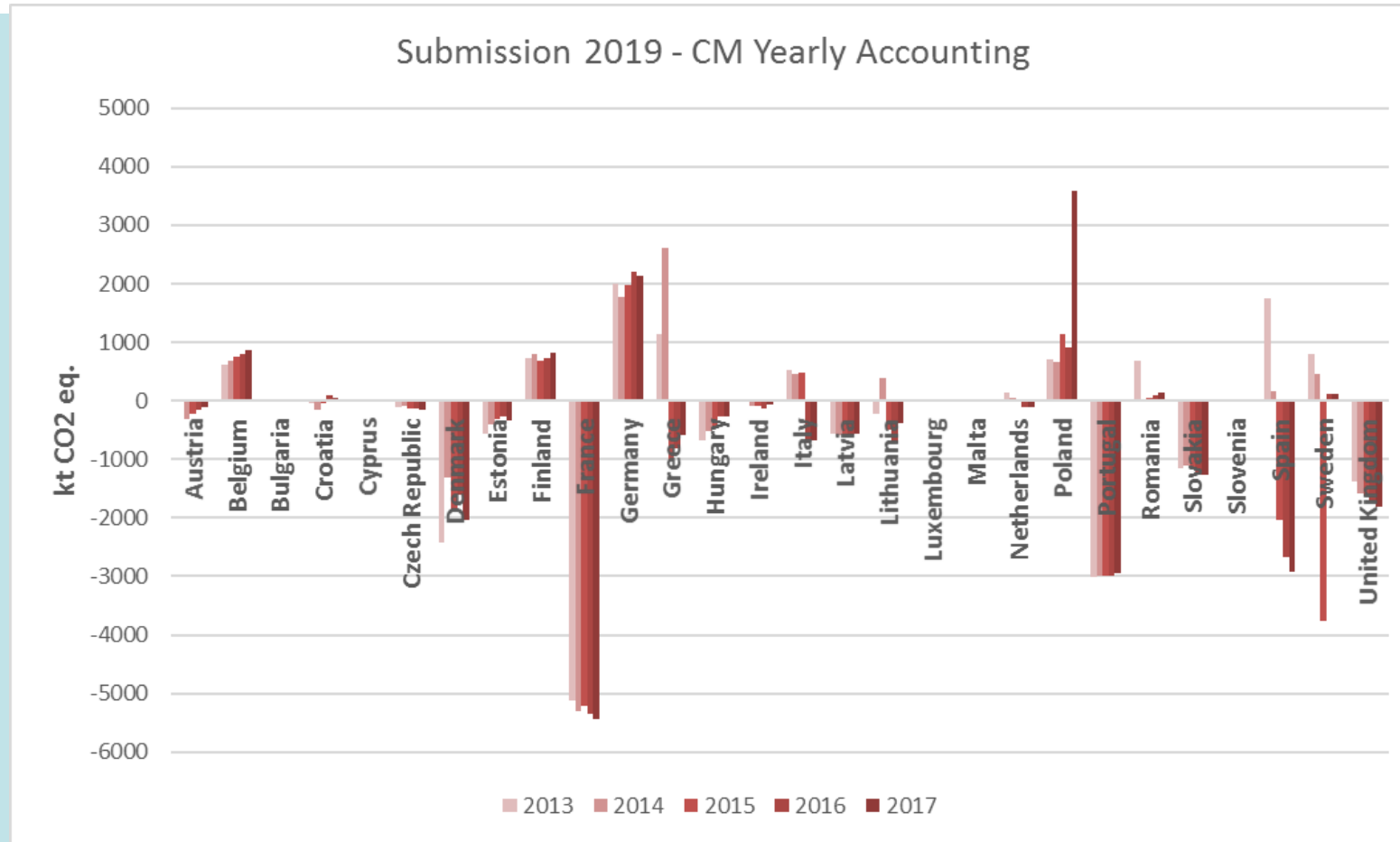
Differences among submissions: examples



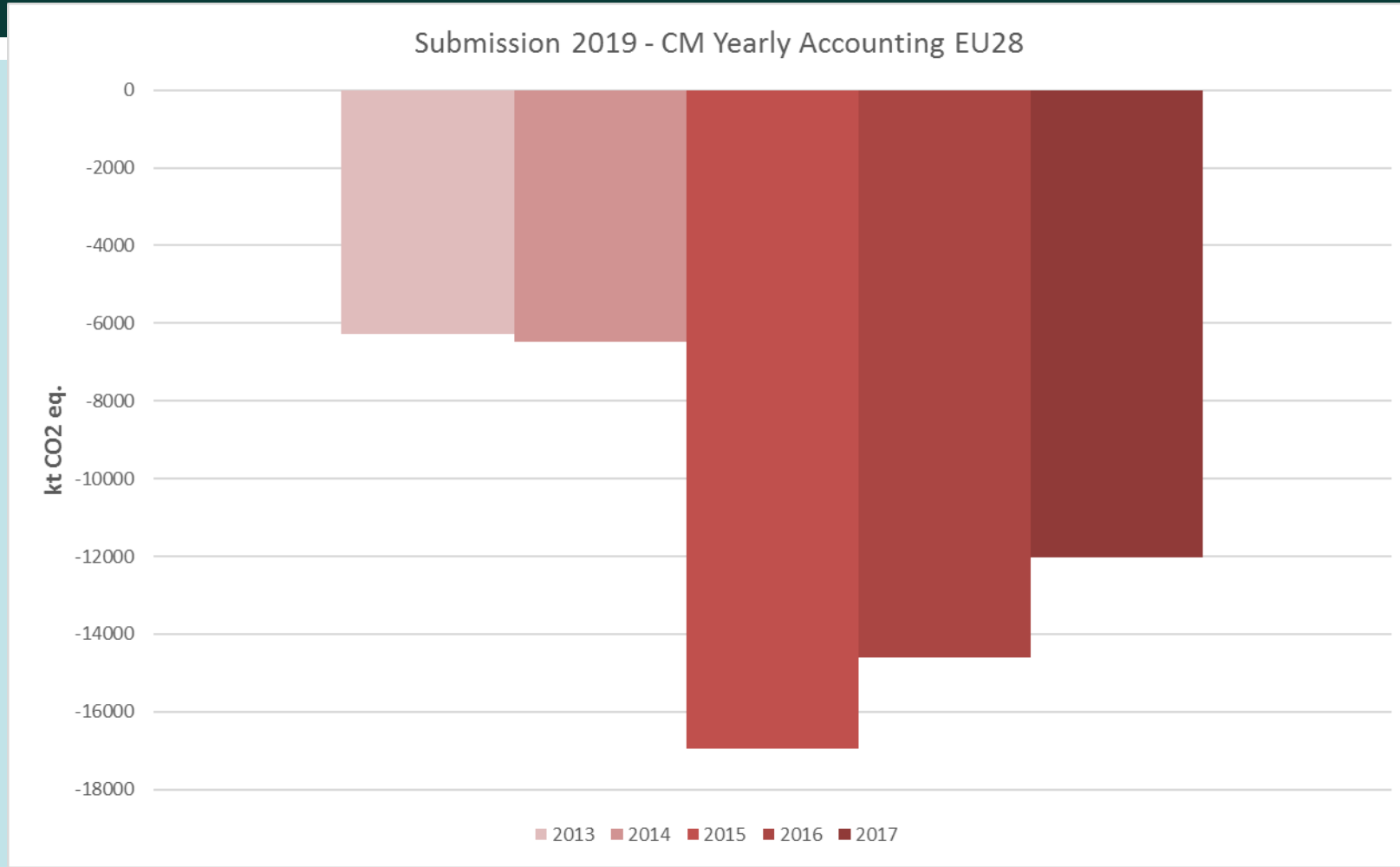
Differences among submissions: examples



Accounting



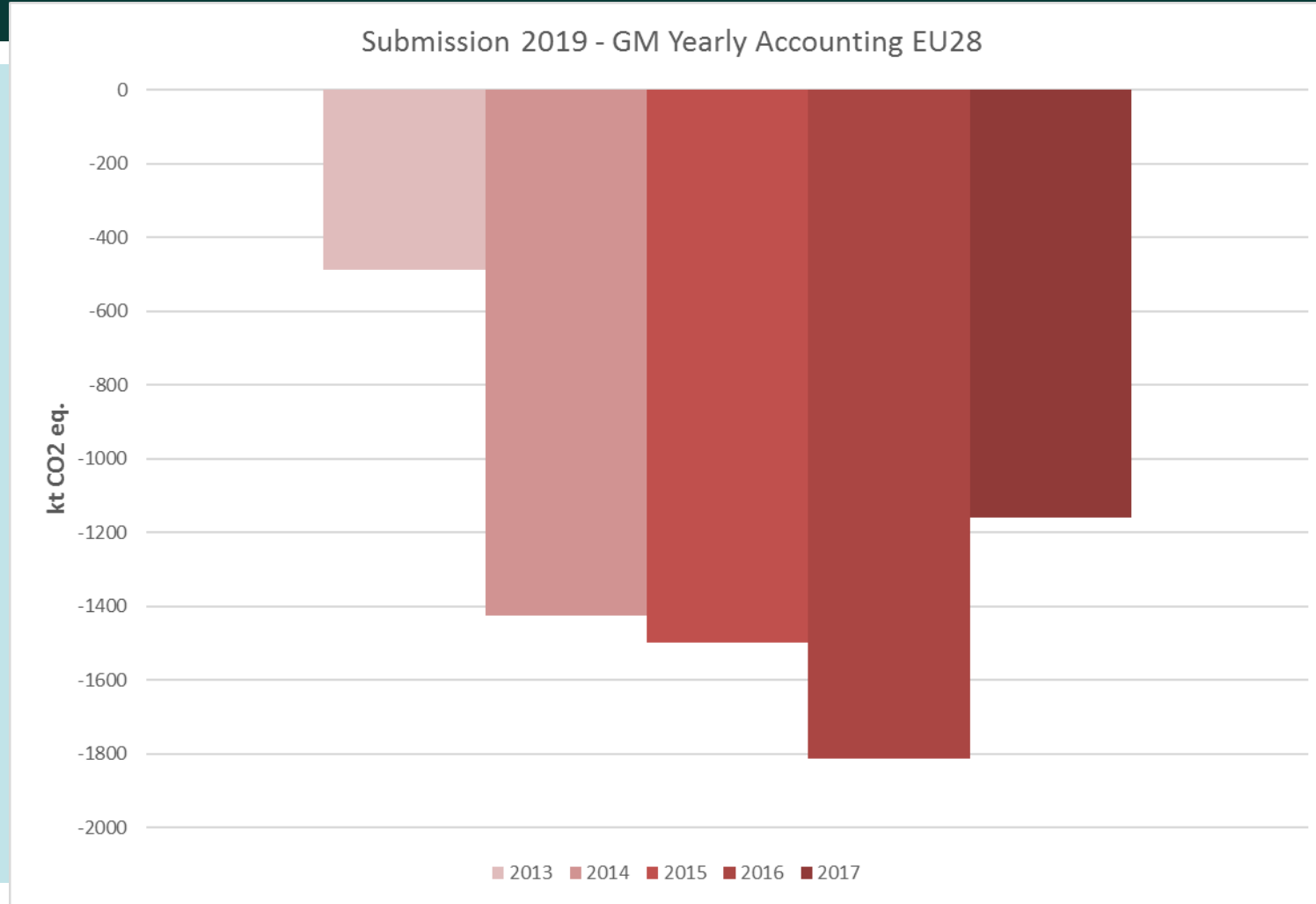
Accounting – EU28 totals – Cropland Management



Accounting

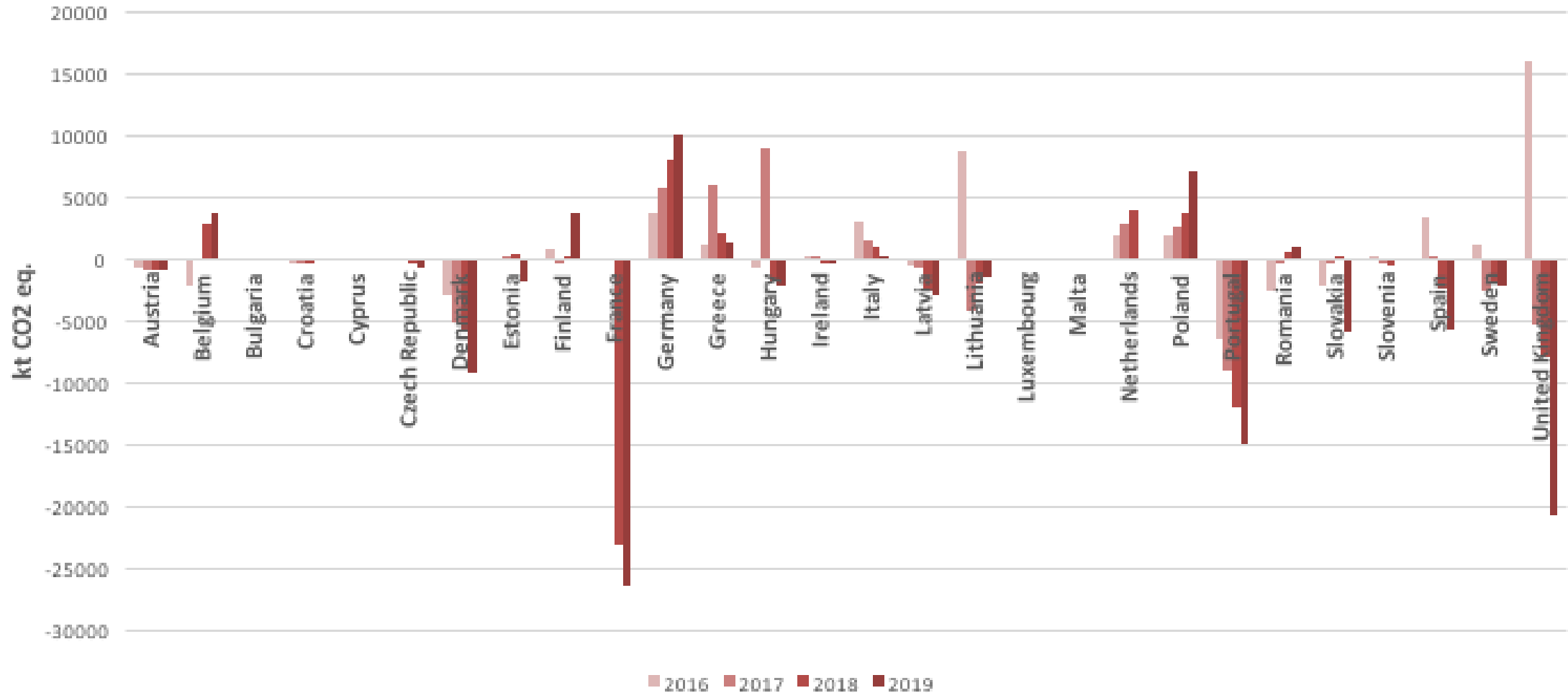


Accounting – EU28 totals – Grazing Land Management

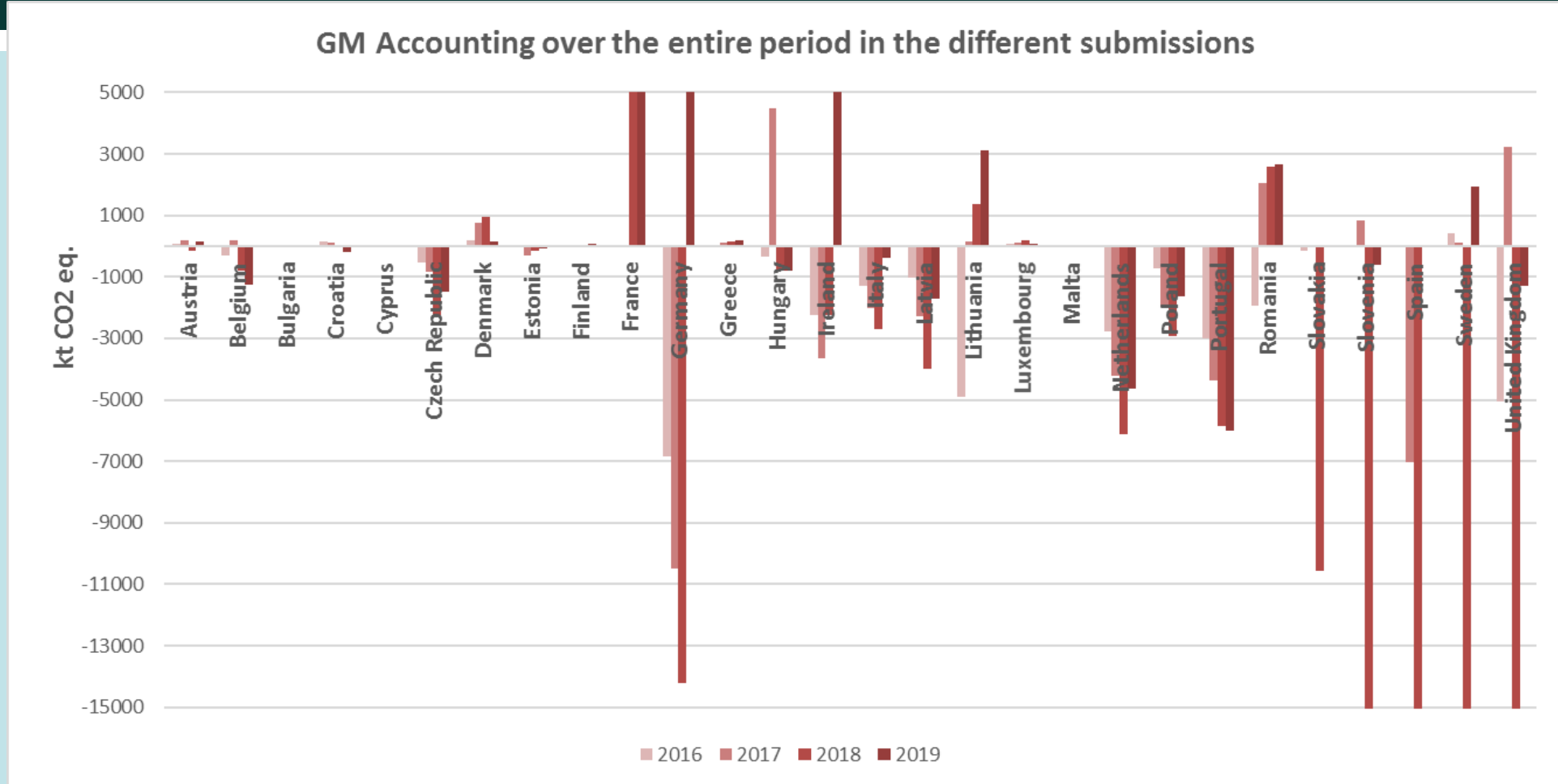


Accounting

CM Accounting over the entire period in the different submissions



Accounting



Conclusions

- ✓ Submissions slightly less precise than last year (some years missing, some table not well compiled)
- ✓ similar completeness in the estimations in terms of C stocks
- ✓ Increased agreement with previous estimations, probably due to more robust and established methodologies.
- ✓ In general there is agreement with Convention data, but some exceptions have to be investigated.

Thank you for your attention