



Climate change statistics and indicators - Luxembourg experience

9th meeting of the Expert Group on
Environment Statistics

Dr Olivier Thunus

STATEC

Key milestones

International initiatives

- **UNECE Expert Forum on Climate change related statistics**
 - Task Force => *ECE List of climate change related indicators and the Implementation guidelines*
- **UNSD EGES** => *Global set of climate change statistics and indicators*
- **OECD IPAC Technical Expert Group** => *Dashboard*

at national level

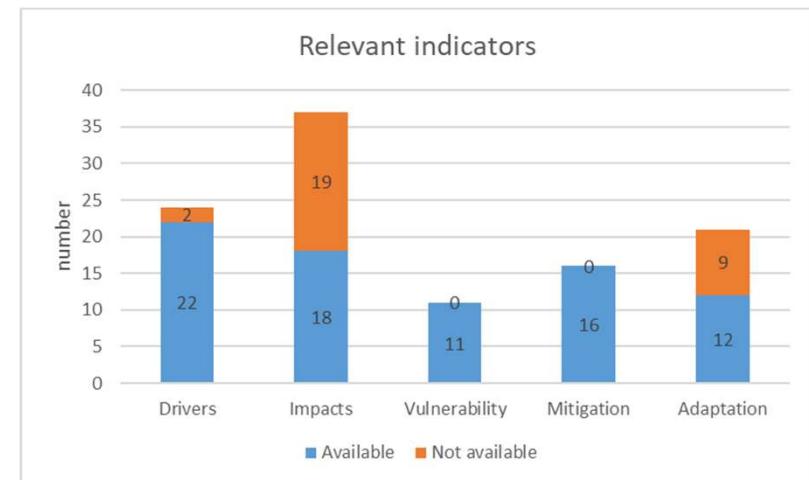
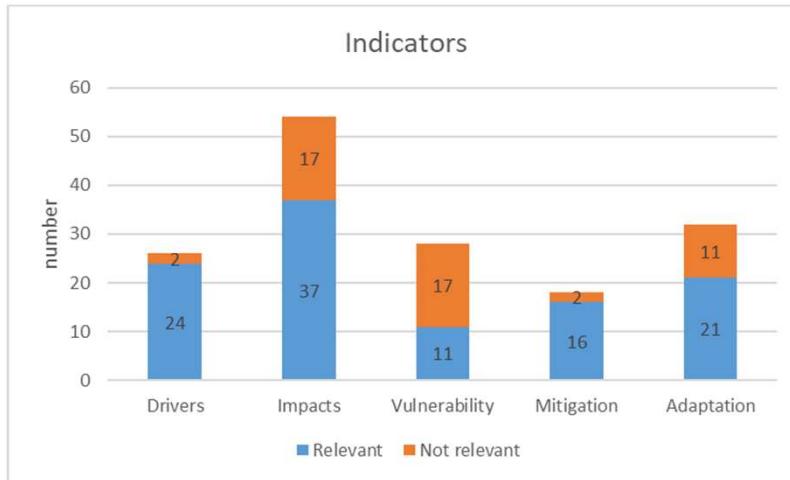
- **First national list published in October 2019**
[N° 20/2019 - 25 indicateurs pour suivre le changement climatique au Luxembourg - Statistics Portal - Luxembourg \(public.lu\)](#)
- **Review exercise in 2022**

Review exercise

Aim: complete the national list, if necessary, based on an analysis of the “Global set”

Results:

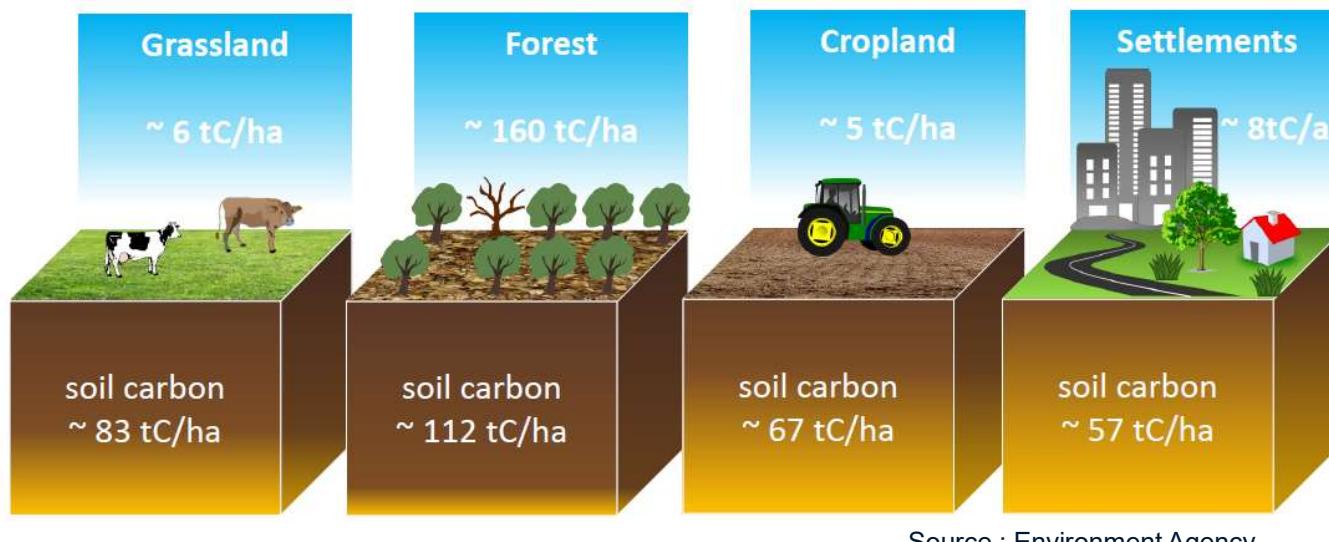
	Total	Relevant for LU	Relevance unknown	Data availability	Data availability unknown	New data/indicators
Indicators	158	108	2	82	5	5
Statistics	190	126	5	114	5	8



New indicators

List of new indicators	Domain	Tier
Carbon footprint	Drivers	2
Amount of fossil-fuel subsidies (production and consumption) per unit of gross domestic product	Drivers	2
Greenhouse gas emissions in gross fixed capital formation of direct investment	Drivers	3
Reduction in the extent of natural and semi-natural ecosystems	Impacts	2
Ecosystem carbon stocks	Vulnerability	2

Ecosystem carbon stocks



**Total carbon stock
in biomass
58 Mt CO₂eq
(2020)**

**Total carbon stock
in soil
82 Mt CO₂eq
(2020)**

Reduction in the extent of natural and semi-natural ecosystems

	OBS 1989	OBS 1999	OBS 2007	LU 2012	LIS-L 2015	LU 2018		Ha
Visual representation of LU classes								
Input data	In situ campaign, topographic maps	Aerial photographs 1999	Ikonos 2007, Aerial photographs 2007, topographic maps, OBS 1999, FLIK, Digital Model, National forest inventory	Rapid Eye 2012 Orthophotos 2007, 2010 (& 2013 if available)	Pleiades 2015, topographic maps, OBS07, FLIK	Orthophotos 2018, topographic maps, LIS-L 2015, FLIK, National forest inventory		
Nomenclature / No. of classes	Mix of land cover and land use 181 classes	Mix of land cover and land use 76 classes	Mix of land cover and land use 76 classes	LULUCF categories 11 LU classes	Land use 53 classes	Land use 47 classes		

	Area in ha	2018 (to)										Totals 2015
		Urban eco	Croplands	Grasslands	Forests and	Heathlands	Sparsely veg	Inland wet	Rivers and	Lakes and		
2015 (from)	Urban ecosystems	29 153,5	5,0	58,0	2,3	0,0	0,0	0,0	0,0	3,8	29 222,5	
	Croplands	216,8	58 410,3	2 326,5	0,3	0,0	0,0	0,0	0,0	0,0	60 953,8	
	Grasslands	398,5	1 339,3	72 092,3	6,5	0,0	0,0	0,3	0,0	0,3	73 837,0	
	Forests and woodlands	45,0	4,5	13,0	93 136,5	0,0	0,8	0,0	0,0	0,0	93 199,8	
	Heathlands and shrub	0,0	0,0	0,5	0,0	19,5	0,0	0,0	0,0	0,0	20,0	
	Sparsely vegetated ecosystems	1,8	0,0	0,0	0,8	0,0	23,5	0,0	0,0	0,0	26,0	
	Inland wetlands	0,0	0,0	0,0	0,0	0,0	0,0	213,0	0,0	0,0	213,0	
	Rivers and canals	0,8	0,0	0,0	0,0	0,0	0,0	0,0	776,8	0,0	777,5	
	Lakes and reservoirs	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	348,8	349,3	
	Totals 2018	29 816,8	59 759,0	74 490,3	93 146,3	19,5	24,3	213,3	776,8	352,8	258 598,8	

Conclusions

Helpful exercise at national level:

- to verify consistency of national indicators
- to identify gaps
- to give priorities on indicators development

Request to international institutions:

- missing information in metadata : possible disaggregation (importance of the narrative)
- missing methodology : Share of government adaptation expenditure in relation to gross domestic product
- missing domains : climate risk, climate finance



Institut national de la statistique
et des études économiques

- 13, rue Erasme
L-1468 Luxembourg
- (+352) 247-84219
- info@statec.etat.lu

Thank you! / Merci !

Dr Olivier Thunus

olivier.thunus@statec.etat.lu

statistiques.public.lu



@Statec
Luxembourg



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