

16th EUROSAI WGEA Annual Meeting
25 September 2018

Auditing climate change at EU level - ECA's perspective

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**EUROPEAN
COURT
OF AUDITORS**

Auditing Climate Change at EU level – ECA's perspective

This presentation aims at:

- Giving an overview of recent ECA work in the area of climate change
- Focusing on how we used data
- Raising some issues for discussion

Recent ECA work in the area of climate change

What I will talk about today	What I will not talk about
EU action on energy and climate change: a landscape review (2017)	Renewable energy (SR 5/2018)
Spending at least one euro in every five from the EU budget on climate action (SR 31/2016)	Instruments for climate action (CCS and innovative renewables) (SR 24/2018)
The EU Floods Directive (end 2018)	Research and innovation for climate and energy (end 2018)
GHG emissions (mid 2019)	Wind and solar PV power (early 2019)

EU action on energy and climate change: a landscape review

“landscape reviews” - what & why?

- Descriptive + analytical, based on experience, knowledge, publicly available information
- No new audit findings, no opinion (e.g. on performance), no recommendations
- Increased types of products/publications improves communication with stakeholders



EU action on energy and climate change: a landscape review

How?

Our approach:

Documentary analysis of:

- EU directives, regulations, decisions, strategies, impact assessments, evaluations and studies
- Relevant EU case law
- Published academic research

Interviews:

- 21 Commission's Directorate Generals
- European Environment Agency
- Organisation for Economic Co-operation and Development (OECD)
- Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC)
- Information visits to:
 - Germany
 - Poland
 - Spain

- Collection of more than 650 **Supreme Audit Institutions (SAI) performance audit reports** dealing with energy, climate policy and investments related to mitigation and adaptation
- Selection of **269 most relevant reports for in-depth reading**, published between January 2012 and March 2017

- Survey of EU SAIs about what they have audited and on the challenges they face
- Seminar with EU SAIs on auditing Energy and Climate

EU action on energy and climate change: a landscape review

Published September 2017

Three main parts:

- overview of what the EU is doing in this field
- summarise key audit work of ECA and other SAIs in the EU
- identify main challenges to inform the legislative debate and future audit work

EU action on energy and climate change: a landscape review

What is the EU doing?

	International commitments		EU domestic legislation			
	Kyoto Protocol	Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework	
			EU ETS	Effort Sharing Decision (ESD)	EU ETS (as proposal COM(2015) 337 final)	Effort Sharing Regulation (ESR) (as proposal COM(2016) 482)
Target year of period	Second commitment period (2013-2020) (target for EU-28)	Already in force – covers the period post 2020	2013-2020	2013-2020	2021-2030	2021-2030
Emission reduction target	-20%	at least -40% in 2030	-21% in 2020 compared to 2005 for ETS emissions	Annual targets by MS. In 2020 -10% compared to 2005 for non-ETS emissions	-43% in 2030 compared to 2005 for ETS emissions	Annual targets by MS. In 2030 -30% compared to 2005 for non-ETS emissions
			Overall target: -20% GHG emissions reduction vs 1990"			
Further targets	-	<ul style="list-style-type: none"> limiting global warming to well 	<ul style="list-style-type: none"> ✓Renewable Energy Directive: 20% share of renewable energy of gross final energy consumption; 		<ul style="list-style-type: none"> ✓At least 27% share of renewable energy in EU energy consumption; 	

What is the EU doing

Policy framework for reducing GHG emissions

ETS - about 40 % of EU GHG emissions

- a single EU-wide emission cap and a 'carbon market' through which emission allowances can be traded
- emissions from large point sources, mostly industrial installations: the power generation sector, cement/iron/steel production, oil refining (and from 2012 EU aviation)

ESD - about 60 % of emissions

- EU Decision setting annual targets for each MS for 2013-2020
- "non-ETS" emissions from a more diverse range of sectors and activities, including road transport, energy consumption in buildings, agriculture (cattle and soils) and waste management

What is the EU doing

New policy framework for the PA (2030)

Revised legislation in the areas of climate action, energy and transport adopted April 2018

Three main pillars of the EU's proposed 2030 climate policy:

ETS phase 4 (2021-2030)

- Target -43% by 2030

ESD (2021-2030):

- EU target -30%, sharing efforts from 0%-40% depending on fairness, solidarity, cost-effectiveness and environmental integrity

LULUCF

- “no debits rule” – GHG emissions must be compensated

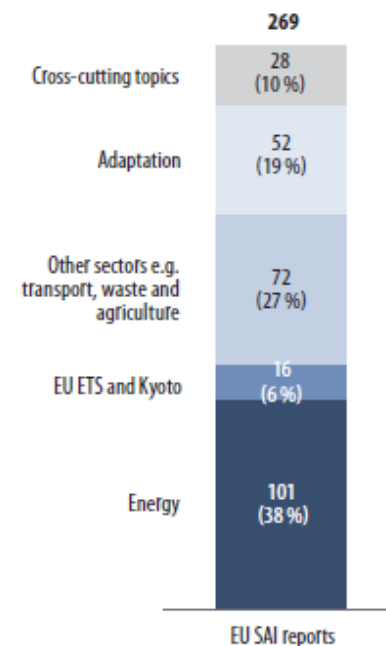
EU action on energy and climate change: a landscape review

Key audit work of ECA and other SAIs

A wide field of different topics, focus on energy:

Some common findings:

- completing the EU's internal energy market hampered by differences in implementing EU legislation/administration of energy markets
- cost-effectiveness issues and obstacles in investments in renewables
- significant cost increases and delays in the field of nuclear energy
- the shift to low-carbon transport modes is not taking place to a sufficient degree



Source: EU SAI reports (January 2012 - March 2017).

EU action on energy and climate change: a landscape review

Seven areas of main challenges



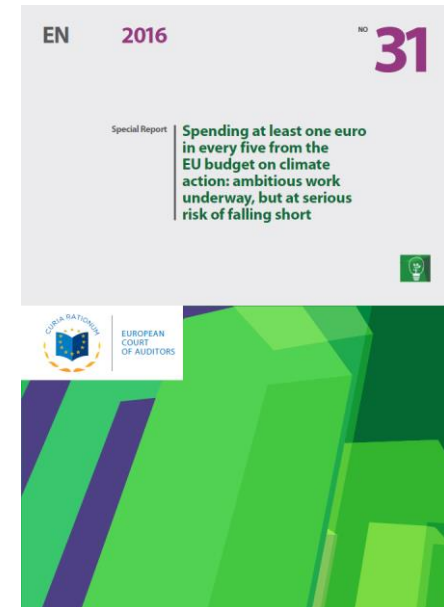
Our audit report from October 2016

Spending at least one euro in every five from the EU budget on climate action: ambitious work underway, but at serious risk of falling short

EU spending target to be achieved by 'mainstreaming' climate action within different EU funding instruments (instead of creating one dedicated funding instrument)

Our audit questions:

- Is the action underway on track to meet the overall target?
- Is the target likely to add value by leading to more and better-focused funding on climate action?



Spending at least one euro in every five on climate action

- progress made towards reaching the target, but a serious risk that the 20 % target will not be met
- more and better-focused climate action funding in the ERDF and CF
- but in the ESF and in agriculture, rural development and fisheries there was no significant shift towards climate action

Audited budget areas in 2014-2020 multiannual financial framework and the Commission's associated climate funding forecasts

Audited budget area	Planned expenditure 2014-2020 (billion euro)	Planned target of climate funding 2014-2020 (%)	Planned climate funding 2014-2020 (billion euro)
Heading 1 a - Research (Horizon 2020)	74.9	≥ 35.0	16.6
Heading 1 b - Cohesion Fund	63.3	28.4	18.0
Heading 1 b - European Social Fund	91.4	1.2	1.1
Heading 1 b - European Regional Development Fund	200.3	18.5	37.0
Heading 2 - European Agricultural Guarantee Fund (agricultural direct payments)	288.0	16.3	47.0
Heading 2 - European Agricultural Fund for Rural Development	99.5	57.5	57.2
Heading 2 - European Maritime and Fisheries Fund	6.4	15.6	1.0
Heading 2 - LIFE	3.5	49.3	1.6
EU BUDGET	1 062.6	≥ 20.0	212.5
Share of budget areas audited in EU budget	77.9 %		84.5 %

Spending at least one euro in every five on climate action

Weaknesses of the EU approach:

- based on identifying planned expenditure, not on actual spending, but underestimates spending through financial instruments
- no comprehensive information on the results achieved
- no distinction between funding for mitigation and adaptation measures

Our recommendations:

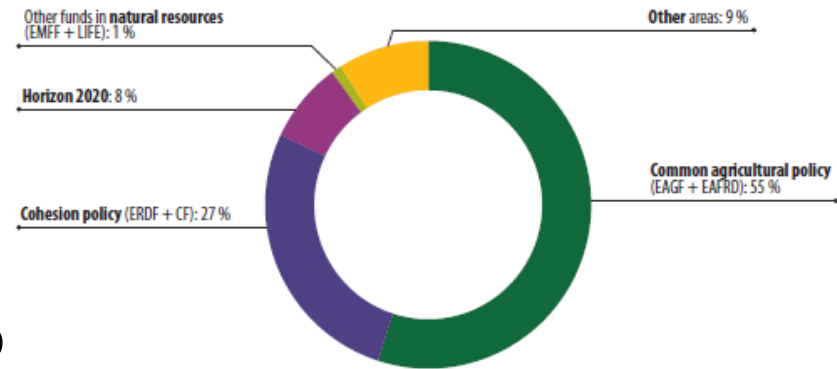
- assessment of climate change needs and an exploration of all potential opportunities to ensure a real shift towards climate action
- set up a comprehensive monitoring and reporting framework
- correct overestimates be corrected
- action plans for areas that have fallen behind, and that actual spending and results be monitored

Spending at least one euro in every five on climate action

The largest contribution is from agriculture and rural development ...

...but if calculated in accordance with internationally established methodologies, it would be up to 33 billion euros* lower...

Climate funding in 2014-2016 by EU budget area



OECD categories and EU climate coefficients

OECD		EU	
Applicable category	Categories of activity	EU climate coefficients	Example: Criteria used in European Structural and Investment Funds
2	Expenditure for activities for which climate is the principal (primary) objective.	100 %	The support makes a significant contribution towards climate change objectives.
1	Expenditure for activities for which climate is a significant, but not the principal , objective.	40 %	The support makes a moderate contribution to climate change.
0	Expenditure not targeted at climate objectives.	0 %	The support does not contribute towards those objectives or the contribution is insignificant.

- *3 percentage points

Spending at least one euro in every five on climate action

For 2014-2020 CAP direct payments contribute 47 bio euro to climate action based on the following calculation:

Overview of the method designed by the Commission to calculate climate funding from agricultural direct payments

Share of direct payments	Contribution to climate	EU climate coefficient	Contribution of direct payments to climate
Greening (30 %)	Crop diversification (33 %) X	0 % =	0.00 %
	Ecological focus areas (33 %) X	40 % =	3.96 %
	Permanent pastures (33 %) X	100 % =	9.90 %
Direct payments outside greening (70 %)	20 % X	40 % =	5.60 %

Spending at least **two euros** in every five on climate action??

For 2021-2027 CAP direct payments aim to contribute 40% (!) to climate action* which seems unrealistic:

- This is supposedly the expected contribution from “conditionality” (the successor to cross-compliance and greening)
- Our audit showed that the justification for the corresponding figure from the current period 19,46 % could already be challenged!
- Overestimating the CAP contribution could lead to lower financial contributions from other policy areas, thus adversely affecting the EU budget’s overall contribution to climate change mitigation and adaptation!

* On 1 June 2018, the Commission published its legislative proposal for the post-2020 common agricultural policy (CAP). The 40% is in Article 87 of COM (2018) 392

Our audit report on Floods (to be published soon)

The EU Floods Directive from 2007

Our audit questions:

- Is flood prevention, protection and preparedness based on sound analysis?
- Is the approach employed likely to be effective?

Main criteria:

1. Energy and climate change governance
2. Evidence-based policy
4. Using research and innovation effectively
5. Planning for and tackling adaptation
6. Financing
7. Involving EU citizens



Our audit report on Floods (to be published soon)

What did we find for our main criteria:

Governance:

- the Floods Directive enabled coordination and standardisation

Evidence-based policy and using research and innovation

- we found good practices

Planning for and tackling adaptation:

- the impact of climate change on of floods was typically based on historical data, with the risk that changes in weather conditions and floods are not well reflected

Financing:

- plans only partially identified and secured financing; weaknesses in cost-benefit analysis

Involving EU citizens:

- the Floods Directive required MSs to raise flood awareness among citizens and actions were carried out



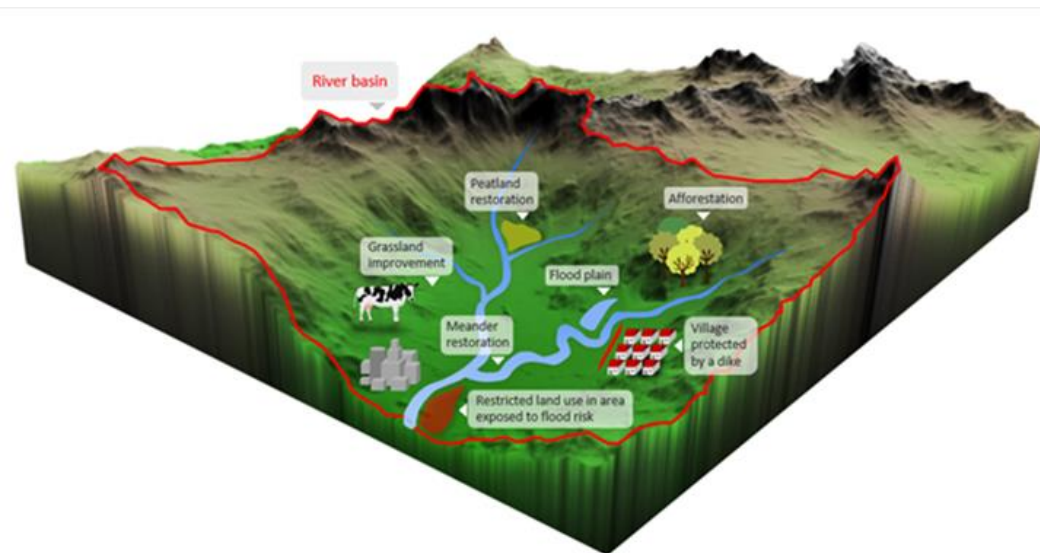
Our audit report on Floods (to be published soon)

What did we find on cost-efficiency

cross-border investments are limited:

- no specific EU programmes at international river basin level
- no analysis of where in international river basins investments would be most cost-efficient

for instance planning upstream investments can be more cost-efficient than the corresponding downstream costs



Our audit on GHG emissions (just started)

Is the Commission's and the EEA's management of GHG accounting and reduction appropriate?

Our detailed audit questions:

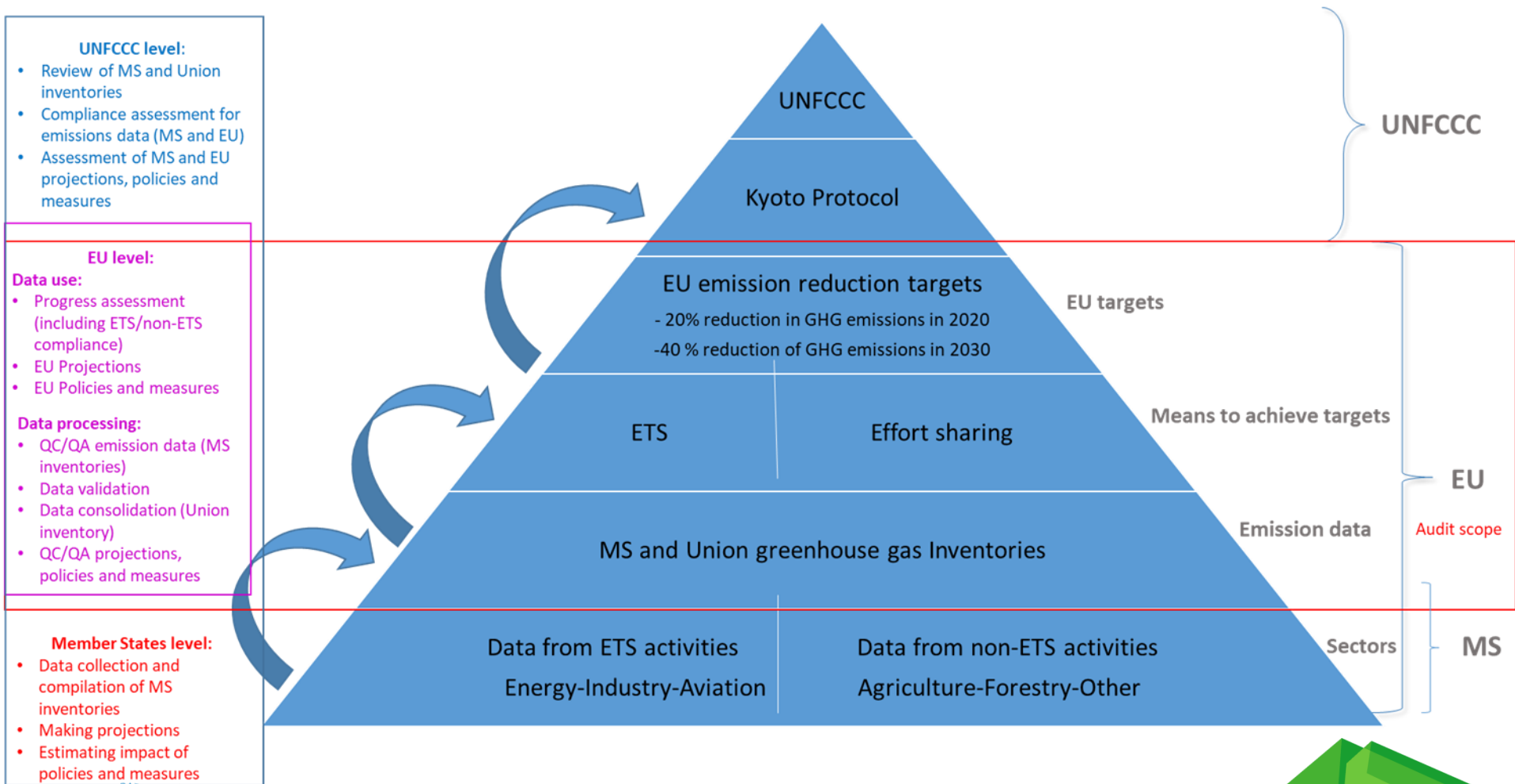
Do the Commission and EEA appropriately check and improve the EU's GHG accounting?

- Do the Commission and the EEA ensure that the Union inventory meets the EU and international requirements?
- Do the Commission and the EEA complement the inventory with additional data relevant to the overall objective of reducing the greenhouse gas emissions?

Do the Commission and the EEA appropriately assess progress towards EU GHG reduction targets?

- Does the Commission and the EEA's assessment of the progress towards GHG reduction targets meet the EU and international requirements?
- Does the Commission and the EEA's assessment consider other relevant information?

Our audit on GHG emissions (just started)



Our audit on GHG emissions (just started)

Is the Commission's and the EEA's management of GHG accounting and reduction appropriate?

Audit scope

We will not re-perform the estimations or quality control procedures of MSs

- Such checks require considerable expertise, which is not available in ECA (+ issues about our audit rights)
- Both EEA and UNFCCC experts perform thorough checks on inventory data and our work would not add value

Instead, we will use the findings of EEA and UNFCCC experts and assess the follow-up actions and their results

Box 2: Difficulties in reviewing greenhouse gas inventories

"For 1990–2014, the CO₂ IEF for solid fuels reported for the category residential – stationary combustion (1.A.4.b.i), 72.2-75.3 t CO₂/TJ, is lower than the values reported by other Parties. Which fuels are reported under solid fuels for the category? Which EFs are used and what are the sources of those EFs? It would also be helpful if you could send the fuel use by fuel type, for example for 2014."

(Note: EFs are Emission Factors, or how much emissions are produced by a unit of fuel.)

Source: Questions during a UNFCCC expert review report.

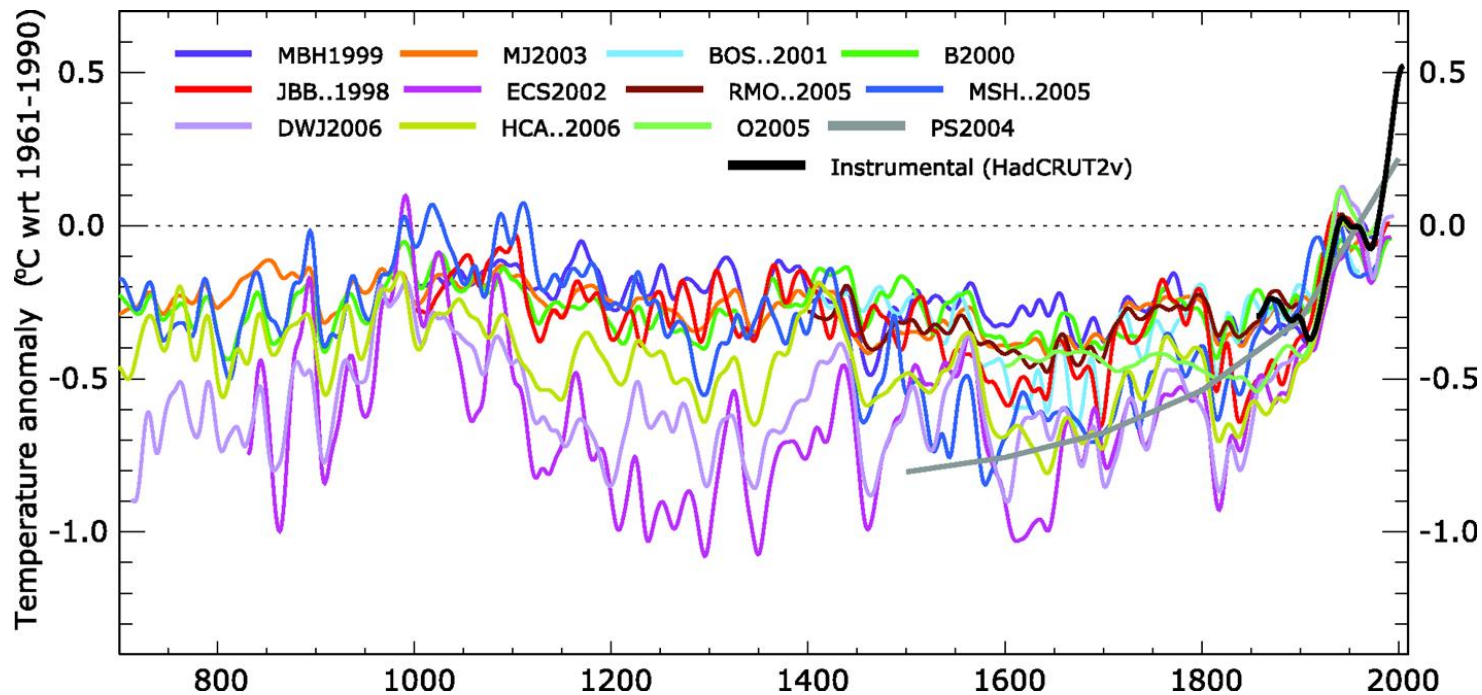
data

noun [U, + sing/pl verb] • UK  /'deɪ.tə/ US  /'deɪ.tə/

★ **B2** information, especially facts or numbers, collected to be examined and considered and used to help decision-making, or information in an electronic form that can be stored and used by a computer:

How did we use data?

What is data and what does it mean?



How did we use data?

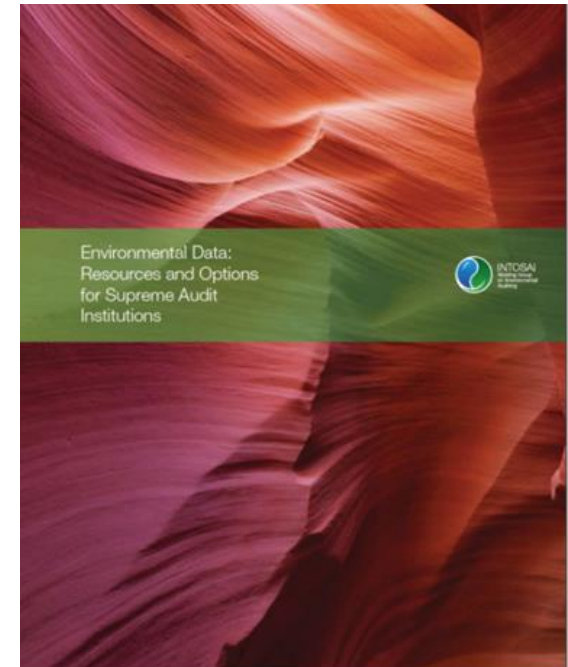
Intosai publication “Environmental Data: Resources and Options for SAIs”

Auditors use environmental data for

- Planning (identifying topics, scope audits)
- Conducting audits (assess government action against targets & goals)
- Reporting (provide context)

Tools and methods when data is lacking

- Surveys
- Expert opinions
- Lack of data can be a relevant audit finding!

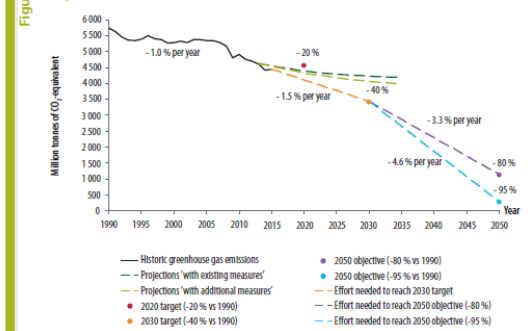


How did we use data?

landscape review - EU action on energy and climate change

Data used for Reporting (provide context)

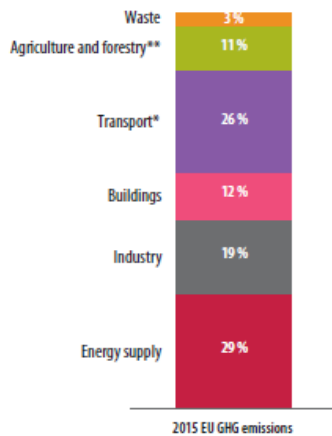
Figure 1 EU greenhouse gas emission trends, projections and reduction targets and objectives



Source: European Environmental Agency, Trends and projections in Europe 2016 – Tracking progress towards Europe's climate and energy targets.

Figure 5

2015 EU greenhouse gas emissions by sector

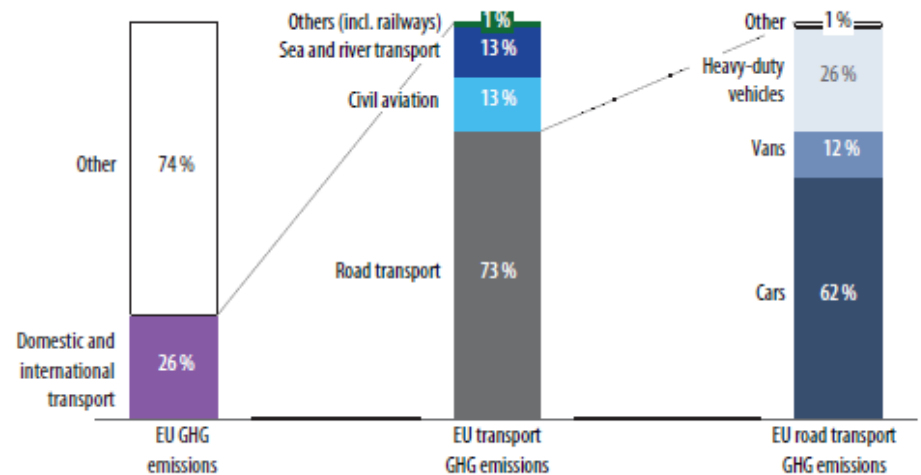


* Including international shipping and aviation.
 ** Excluding LULUCF.

Source: EEA greenhouse gas – data viewer, EEA, 2017.

Figure 12

EU greenhouse gas emissions in the transport sector in 2015



Source: EEA greenhouse gas – data viewer, EEA, 2017; ECA analysts.

How did we use data?

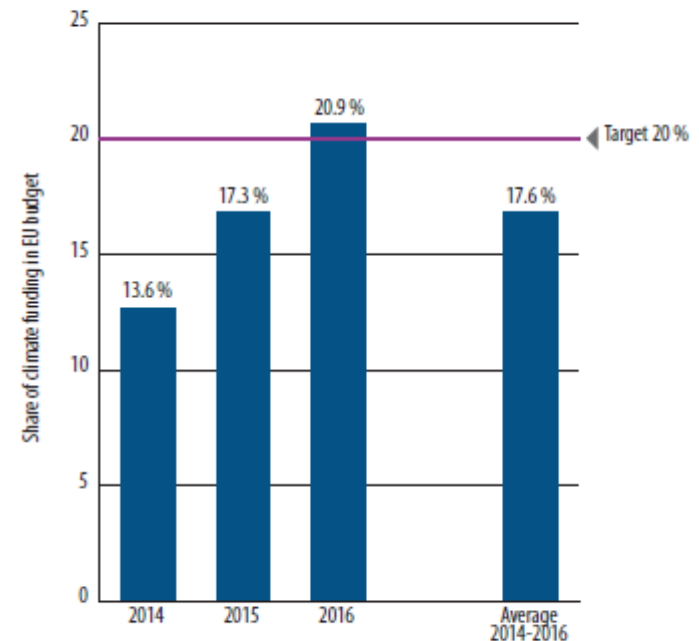
Spending at least one euro in every five from the EU budget on climate action

Data used for conducting audits (assess government action against targets & goals)

in this case financial data

Figure 6

Overview of climate-related spending plans for 2014 to 2016



Source: Commission data, mid-term review of the multiannual financial framework 2014-2020, SWD(2016) 299 final.

How did we use data?

The EU Floods Directive

Lack of data can be a relevant audit finding!

Data is important for managing flood risks:

- data on weather and precipitations, topography and land cover, river and hydrological regimes and human activities. We found good examples of investments in technology and data to run models helping to manage flood risks such as pluvial and fluvial measuring stations (picture)
- however, the impact of climate change on of floods was typically based on historical data, with the risk that changes in weather conditions and floods are not well reflected



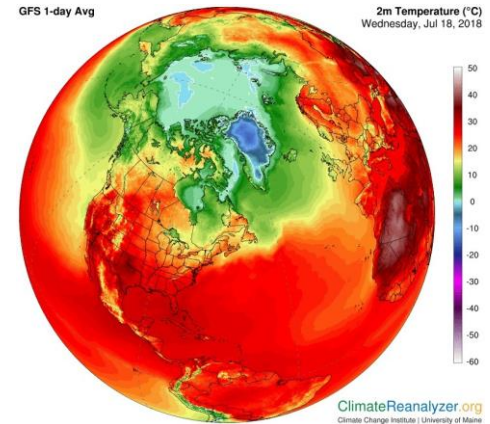
How did we use data?

GHG inventories

We will use data when conducting the audit, but...

We will NOT check emission data directly, but review:

- the functioning and results of the EU system for ensuring and improving the quality of emission estimates, including the use of external data for verification purposes
- the additional actions to improve the completeness and quality of the data concerning EU emissions, including by knowledge-sharing and coordination



Use of data – perception of citizens

The Eurobarometer: a survey under EU citizens. A specific one on climate change from 2017 shows (a.o.) that:

Only two in ten respondents say that they are personally responsible for tackling climate change

Respondents were asked to say who within the EU they believe is responsible for tackling climate change (more responses, selected from a list of 16 options). Results:

- National governments 43%
- the European Union 39%
- Business and industry 38%
- Regional and local authorities 22%
- Personally responsible 22%**
- Environmental groups 21%



Use of data – perception of citizens

The standard Eurobarometer: one on general issues (from May 2017 shows (a.o.) that:

The main concerns for EU citizens are not climate change but

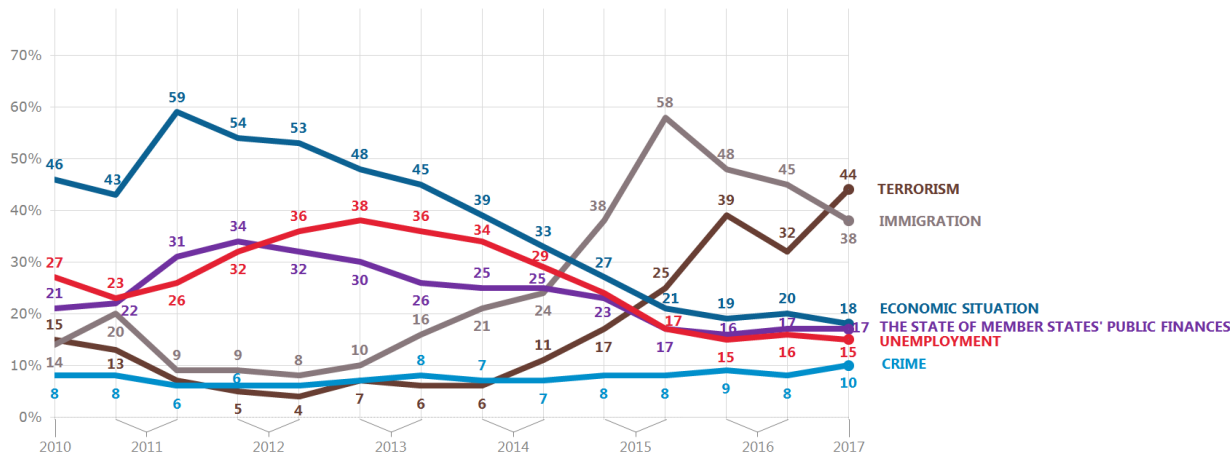
In the EU: Terrorism, immigration, the economic situation,...

Climate change ranked no. 8 (with 8 % of respondents)

Globally: poverty, hunger, lack of drinking water, international terrorism

Climate change: 12 %

QA5 What do you think are the two most important issues facing the EU at the moment?
(% - EU)



<http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/STANDARD/surveyKy/2142>

The 10 Science 'Must Knows' on Climate Change

Presented by Future Earth during COP23

Earth is approaching tipping points due to human pressures

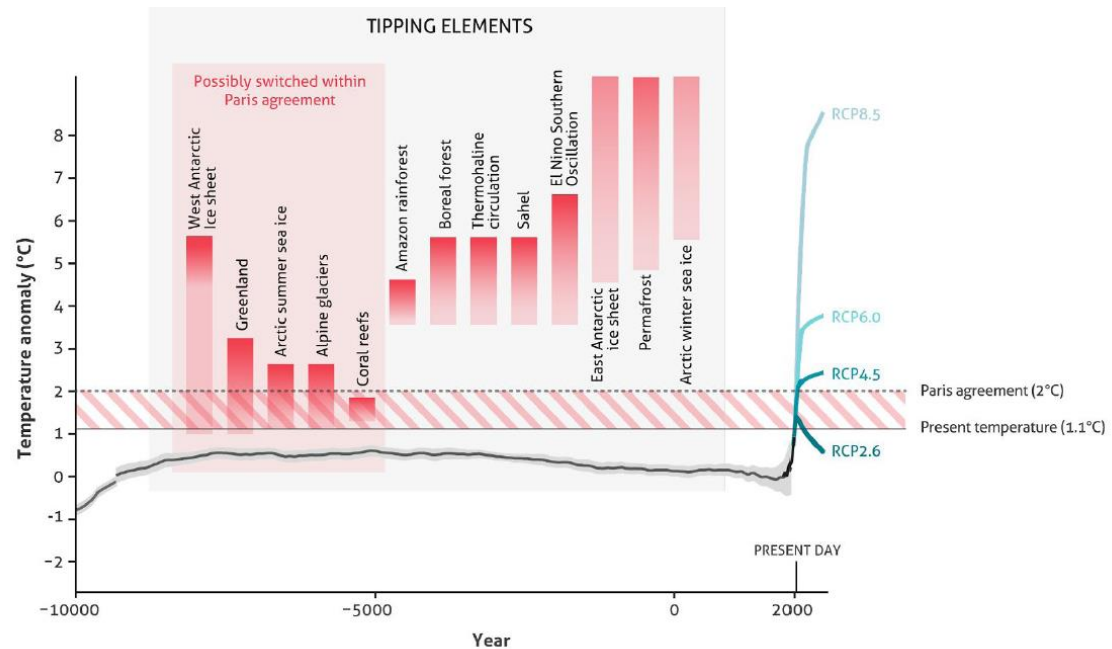


Figure 2. Global average surface temperatures during the last 10,000 years have been remarkably stable, fluctuating just plus or minus 1 °C (black line). In 2016 temperatures reached 1.1 °C above pre-industrial levels. Humanity is currently living in the warmest period in the history of modern civilisation. Red bars: Estimated temperature thresholds related to Earth system tipping elements. The tipping elements at risk within the Paris range of 1.5-2 °C global warming are shown within the inset. Blue lines: global average temperature to 2100 based on low (RCP2.6) to high (RCP8.5) emissions (Adapted from Schellnhuber et al. 2016).

Issues for discussion

Are we selecting the right topics?

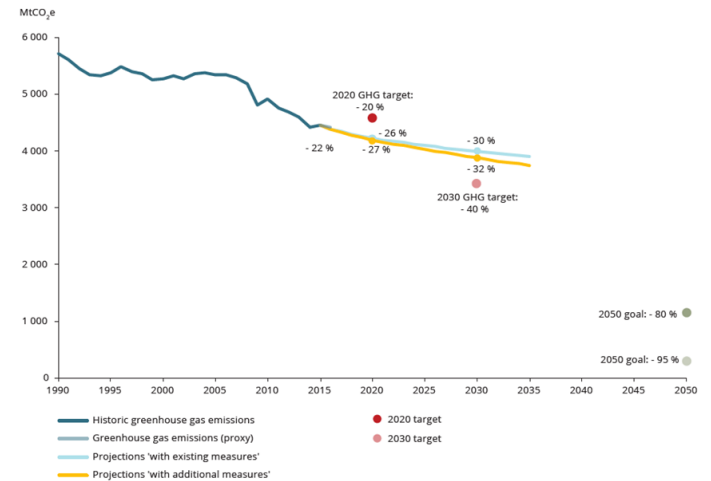
What do we mean with “data”?

Do we have the necessary expertise?

How should we communicate with our stakeholders?

How can we ensure that our work adds value?

What can we do about climate change?



Note: The greenhouse gas emission trends, projections and targets include emissions from international aviation, and exclude emissions and removals from the land-use sector. The 'with existing measures' (WEM) scenario reflects existing and adopted policies and measures, while the 'with additional measures' (WAM) scenario takes into account the additional effects of planned measures reported by Member States.

Thank you for your attention.

Any questions?