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IMPLEMENTING THE UNECE CLIMATE CHANGE INDICATORS – THE ITALIAN EXPERIENCE

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Istat's commitment to producing climate change related information

Istat's representatives actively involved in:

- Task Force on climate change-related statistics and indicators
- Task Force on measuring extreme events and disasters

Specific activity on 'Development of statistics and indicators for the measurement of extreme events and disasters and climate change related issues'

Some indicators regularly produced for annual reports:

- Istat's Report on SDGs indicators
- Istat's Report on competitiveness of enterprises
- Ministry of ecological transition's Report on the energy situation

Italy's first implementation of the core set of Unece climate change indicators - timeline and overview of results

2020 → Istat implemented for the first time the Unece set of core climate change-related indicators for Italy at national level.

Timeline

- ✓ first half of 2020 (started within a traineeship): first screening and pilot implementation
- ✓ Second half of 2020 final compilation and analysis – 15 pages of analysis and presentation of the indicators in the context of a comprehensive ebook on environmental accounts.

Summary results here.

Detailed analysis: ebook (in Italian only) : ECONOMIA E AMBIENTE: UNA LETTURA INTEGRATA. Istat. (<https://www.istat.it/it/archivio/258752>).

2021 → Feasibility assessment of implementation at **sub-national level**

Breakdown by NACE and households not included in relation to the indicators but available for emissions and some energy indicators in other parts of the same publication

UNECE indicators by AREA - Total number and number that can be implemented in Italy

AREA	Total n.	of which available for Italy (n.)
Drivers	9	7
Emissions	9	9
Impacts	13	5
Mitigation	8	3
Adaptation	5	3
TOTAL	44	27

Statistical sources for Unece indicators on DRIVERS – ITALY

Indicator	TIER	National territory	Nuts 2/3
Total energy use by the national economy	II	environmental accounts	n.a.
Total primary energy supply (TPES)	I	other statistics	other statistics
Share of fossil fuels in total energy use by the national economy	III	n.a.	n.a.
Share of fossil fuels in total primary energy supply (TPES)	I	other statistics	other statistics
Losses of land covered by (semi-) natural vegetation	III	n.a.	n.a.
Total support for fossil fuels in relation to GDP	III	other statistics	n.a.
Total energy intensity of production activities of the national economy	II	environmental accounts	n.a.
Total CO2 intensity of energy used in production activities of the national economy	II	environmental accounts	n.a.
Energy use by resident households per capita	I	environmental accounts	n.a.

n.a.=not available

Statistical sources for Unece indicators on EMISSIONS – ITALY

Indicator	TIER	National territory	Nuts 2/3
Total greenhouse gas emissions from the national economy	I	environmental accounts	n.a.
Total greenhouse gas emissions from the national territory	I	other statistics	other statistics
CO2 emissions from fuel combustion attributable to the national economy	III	environmental accounts	n.a.
CO2 emissions from fuel combustion within the national territory	I	other statistics	other statistics
Greenhouse gas emissions from land use change (LULUCF)	I	other statistics	other statistics
Total greenhouse gas emissions from production activities	I	environmental accounts	n.a.
Greenhouse gas emission intensity of production activities	I	environmental accounts	n.a.
Direct greenhouse gas emissions from households	I	environmental accounts	n.a.
Carbon footprint	II	environmental accounts	n.a.

n.a.=not available

Statistical sources for Unece indicators on IMPACTS – ITALY

Indicator	TIER	National territory	Nuts 2/3
Direct economic loss attributed to hydro-meteorological disasters in relation to GDP	II	n.a.	n.a.
Mean temperature anomaly (compared to climate normal 1961 - 1990)	I	other statistics	n.a.
Percentage of land area suffering from unusually wet or dry conditions (Standard Precipitation Index)	I	n.a.	n.a.
Occurrence of extremes of temperatures and precipitation	I	other statistics	other statistics
Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	I	other statistics (partial)	other statistics (partial)
Carbon stock in soil	III	n.a.	n.a.
Proportion of land that is degraded over total land area	I	other statistics (proxy)	other statistics (proxy)
Placeholder for indicator on CC impact on biodiversity			
Number of deaths and missing persons attributed to hydro-meteorological disasters, per 100,000 population	II	other statistics (partial)	other statistics (partial)
Number of people whose destroyed dwellings were attributed to hydro-meteorological disasters	II	n.a.	n.a.
Incidence of climate-related vector-borne diseases	II	n.a.	n.a.
Excess mortality related to heat	III	n.a.	n.a.
Direct agricultural loss attributed to hydro-meteorological disasters	II	n.a.	n.a.

n.a.=not available

Statistical sources for Unece indicators on MITIGATION – ITALY

Indicator	TIER	National territory	Nuts 2/3
Renewable energy share in total energy use by the national economy	III	n.a.	n.a.
Renewable energy share in the total final energy consumption within the national territory	I	other statistics	n.a.
Share of climate change mitigation expenditure in relation to GDP	III	n.a.	n.a.
Share of energy and transport related taxes in total taxes and social contributions	I	environmental accounts	n.a.
Total climate change related subsidies and similar transfers in relation to GDP	III	n.a.	n.a.
Average trading carbon price	I	other sources	n.a.
Amounts provided and mobilized in United States dollars per year in relation to the continued existing collective mobilization goal of the \$100 billion commitment through to 2025	II	n.a.	n.a.
Net emissions/removals of carbon dioxide by forest land	I	other statistics	n.a.

n.a.=not available

Statistical sources for Unece indicators on ADAPTATION – ITALY

Indicator	TIER	National territory	Nuts 2/3
Share of government adaptation expenditure in relation to GDP	III	n.a.	n.a.
Change in water use efficiency over time	I	other statistics (partial)	other statistics (partial)
Share of green urban areas in the total area of cities	III	other statistics	other statistics
(Placeholder for indicator on CC adaptation by forests)			
Proportion of agricultural area under productive and sustainable agriculture	II	other statistics (proxy)	other statistics (proxy)

n.a.=not available

Methodological remarks

Further refinement of metadata for:

Indicator 05a 'Total energy intensity of production activities of the national economy':

NUMERATOR: *Net domestic energy use for energy purposes*

Source: Physical Energy Flow Accounts (Eu Regulation on economic environmental accounts)

Indicator IND06a (Table D, row 7)

DENOMINATOR: Gross Domestic Product (in PPP, constant prices)

Main conclusions

The first implementation of Unece indicators for Italy highlighted that:

- actual implementation may result in methodological hints for the future revision of the indicators
- in addition to the publication of ad hoc analysis based on core CC indicators, other regular statistical reports or ad hoc analysis may adopt some of the indicators. In Italy: SDGs report, report on competitiveness, report on the energy situation make explicit reference to the list.
- Statistical sources other than environmental accounts play an important role particularly with regard to spatial breakdown.

Thanks!

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