

SDG localising tool: Localising and measuring Sustainable Development Goals in cities and regions

Draft Final Report

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Disclaimer:

This document is a draft final report.

The information contained herein is subject to change and does not commit the ESPON EGTC and the countries participating in the ESPON 2020 Cooperation Programme.

The final version of the report will be published as soon as approved.

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Abbreviations

EC	European Commission
ESPON	European Territorial Observatory Network
ESPON EGTC	ESPON European Grouping of Territorial Cooperation
EU	European Union
NUTS	Nomenclature of Territorial Units for Statistics
SDGs	Sustainable Development Goals

1 Introduction

The draft final draft report provides an overview of the progress made since the 3rd of April 2020. It is composed of three main sections.

The first section (chapter 4) describes the SDGs data feeding the tool. It presents the regional SDG indicators by SDG goal, describes the approach in setting the targets, the calculations to summarise data and the data gaps.

The second section (chapter 5) describes the stakeholders' involvement in validating the indicator framework and in co-designing/testing the SDG localising tool.

The third section (chapter 6) describes the beta version of the tool. This section includes the user guide and administrator module but also the guidance sheet and leaflet.

Before detailing the aforementioned sections the objective and overall approach are described.

2 Objective

The project aims to develop and implement a Sustainable Development Goal (SDG) localising tool in the form of a web application that offers support to regional and national governments in localising and achieving the SDGs.

A simple, intuitive and user-friendly application can inform stakeholders on regional disparities and inequalities and urge regional and national governments in all the countries participating in the ESPON 2020 Cooperation Programme to include the SDGs in local development plans and step-up actions.

The result informs regional, and national policy-makers and citizens alike on SDG-related policy areas.

3 Approach

The SDGs localising tool presents indicators to measure, monitor and benchmark the SDGs at the regional level. The approach regarding the indicator framework for regions, the final selection of indicators and the tool is described briefly below.

Indicator framework: For the framework at NUTS 2 level we adopted Eurostat's SDGs reference indicator framework, which is used to monitor progress towards the SDGs in the EU context and particularly at the national level.¹ This framework and associated indicator set is the result of a consultative process involving Commission services, Member States, Council Committees, users, NGOs, academia and international organisations. The initial set of indicators was adopted in April 2017 by the Working Group on SDG-related reporting of the

¹ https://ec.europa.eu/eurostat/documents/276524/9479054/2019-01-08__EU_SDG_indicator_set_2019_review_final_report.pdf

Commission Services, mandated by the Inter Service Steering Group on SDGs, and received the favourable opinion of the European Statistical System Committee (ESSC) in May 2017. The criteria used for selecting indicators are policy relevance, admissibility requirements and quality grading. The framework limits the maximum number of indicators for each SDG to six, with it also being possible to have “multi-purpose indicators” to monitor progress towards more than one SDG. The Eurostat approach allows for new indicators to replace existing indicators, provided they better meet the criteria.

However, since the Eurostat framework applies at the national level we validated the proposed framework for its relevance at the regional level by consulting the approach of the OECD in its recently published report “A Territorial Approach to the Sustainable Development Goals” (henceforth referred to as the OECD report) and by piloting the proposed framework with three EU regions.

Indicators: To select the indicators for the SDGs localising tool, a three step approach has been followed.

Firstly, to achieve alignment with the Eurostat approach in terms of the conceptual choices made by goal an examination of the availability of indicators included in Eurostat’s SDGs & me tool has been conducted. The considerations made to select the indicators considered:

- (1) Availability at national level: if an indicator covers large EU countries at national level only alternatives were considered [ongoing assessment]]
- (2) Availability at regional level: If an indicator is available for less than 70% of the regions alternatives were considered [ongoing assessment]]

Secondly, the indicator framework has been checked for its relevance at the regional level in two ways:

- (1) By cross checking the approach and selection of indicators of the OECD report “A Territorial Approach to the Sustainable Development Goals”: The two approaches from the perspective of indicators put forward appear conceptually aligned. Some interesting indicators proposed in the latter report even if not aligned with Eurostat have been considered for the tool e.g. the difference between land consumption rate and population growth rate using satellite imagery data for goal 11 as an alternative to the settlement area using the LUCAS database.
- (2) By piloting the indicator framework with three regions: Eastern and midland (IE), 2) Catalonia (ES) and 3) Easten Slovenia (SI).

Thirdly, in the case of remaining gaps compared to Eurostat’s SDGs & me and OECD indicators RACER criteria (Relevant, Acceptable, Credible, Easy and Robust), (DEVCO, 2016) were considered for the selection of alternative indicators:

- 1) Relevance: The indicator should have a strong correlation with the SDGs. Indicators /good proxies of the Eurostat approach at regional level fulfil the criterion.

- 2) **Acceptable:** The indicator must be easily understood and should be accepted by all stakeholders. Indicators /good proxies of the Eurostat approach at regional level fulfil the criterion.
- 3) **Credible:** The indicators must be accessible to non-experts, unambiguous and easy to interpret. Indicators /good proxies of the Eurostat approach at regional level fulfil the criterion.
- 4) **Easyness:** It should be possible to collect the data with available resources for the updates of the SDGs localising tool.
- 5) **Robustness:** The indicators should be sensitive enough to monitor changes; therefore it is important to select them according to the time lag between the action and the expected change that points to current progress towards long-term or future improvements. It is therefore important not to rely on i) old data; ii) indicators that, having been developed to compare countries or situations, are not suitable for monitoring changes; iii) variables influenced by long-term impacts; iv) variables that are deeply affected by uncontrolled short-term changes hiding the expected long-term changes.

Tool: The tool contributes to the accessibility of indicators and information to localise the SDGs, to measure progress of the SDGs in regions and reflect on differences across regions in Europe. The overall technical objective is to create a modern and user-friendly web system by following the latest online standards in web development. More specifically, our aim is to: keep the highest standards of user-friendliness; visually attract online visitors; enhance the process of transferring good practices by providing space for an easy information dissemination.

4 SDG indicators and calculations

4.1 SDG indicators

The final list of indicators and sources is described in Table 1. Currently the 17 goals are considered at EU28 level including Iceland, Switzerland, Norway and Liechtenstein.

Table 1 SDG indicators

Goal ID	Indicator	Source
1.1	People at risk of poverty or social exclusion	EU SILC
1.2	In work at-risk-of-poverty rate	EU SILC
1.3	Satisfaction with housing: Percentage of people who feel satisfied with the dwelling they live in	EU SILC
1.4	Lack of adequate heating: Percentage of people who are in the state of enforced inability to keep home adequately warm	EU SILC
1.5	Overcrowding: Percentage of people living in an overcrowded dwelling, as defined by the number of rooms available to the household, the household's size, as well as its members' ages and family situation	MPI/European Quality of Institutions Index and DG Regio own computations
2.1	Insufficient food (EU SILC)	EU SILC
2.2	Main farm land use by NUTS 2 regions	ESS
2.3	Structural funds Thematic Objective 1: Research & Innovation: Farm performance & New Farmers	ESS (GBAORD)
2.4	Manure storage facilities by NUTS 3 regions	EEA
3.1	Life expectancy at birth	ESS
3.2	General health status: Proportion of persons who assess their health to be very good or good to the question on self-perceived health ('How is your health in general?')	EU SILC
3.3	Death rate due to tuberculosis, HIV and hepatitis by sex	EUROSTAT
3.4	Self-reported unmet need for medical examination and care by sex	EU SILC
4.1	Early leavers from education and training by sex	EUROSTAT
4.2	Tertiary educational attainment, age group 25-64 by sex and NUTS 2 regions	EUROSTAT
4.3	Employment rates of young people not in education and training by sex, educational attainment level, years since completion of highest level of education and NUTS 2 regions	EUROSTAT
4.4	Participation rates of selected age groups in education at regional level	EUROSTAT
5.1	Difference between female and male employment rates	ESS (LFS), EUROSTAT and DG Regio own computations
5.2	Students enrolled in tertiary education by education level, programme orientation, sex and NUTS2 regions (measured as percent of women)	EUROSTAT
5.3	Employment rates of young people not in education and training by sex, educational attainment level, years since completion of highest level of education and NUTS 2 regions (measured as percent of women)	EUROSTAT
5.4	Early leavers from education and training by sex (measured as percent of women)	ESS (LFS)
6.1	Bathing sites with excellent water quality	EEA
6.2	Population connected to wastewater collection and treatment systems by river basin district (RBD)	EUROSTAT
6.3	Satisfaction with water quality	Gallup
6.4	Lack of toilet in dwelling	EU-SILC
6.5	Sewage treatment	European Environment Agency
7.1	Household energy consumption per capita	ESPON LOCATE project (1)
7.2	Share of renewable energy in heating and cooling of buildings	ESPON LOCATE project (1)
7.3	Carbon footprint of household consumption	EXIOBASE ²

² Calculating carbon footprints for households at the NUTS2 level can be done by using the CIRCUMAT platform (<https://cml.liacs.nl/cmat/>). However the CIRCUMAT platform cannot provide the carbon footprint directly, but the data behind the platform could be used. The raw data however dates back from 2010 and there is currently no plans for future updates. The main limitation of the methodology used is that estimates are grounded on production and technology is not accounted for. Hence any advancements in the use of new technologies is not reflected in the

Goal ID	Indicator	Source
7.4	Inability to keep home adequately warm (percent of households)	EU SILC
8.1	Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions	EUROSTAT
8.2	Employment rates by sex, age, educational attainment level, citizenship and NUTS 2 regions	EUROSTAT
8.3	Long-term unemployment (12 months and more) by NUTS 2 regions	EUROSTAT
8.4	In work at-risk-of-poverty rate	EU SILC
9.1	Intramural R&D expenditure (GERD)	EUROSTAT
9.2	Total R&D personnel	EUROSTAT
9.3	Equipment rate for public transport vehicles (number of motor coaches, buses and trolleybuses per 1000 inhabitants)	EUROSTAT
10.1	Disposable income of private households by NUTS 2 regions per inhabitant	EUROSTAT
10.2	Disposable income of private households by NUTS2 regions relative to national average (based on tgs00026)	EUROSTAT
10.3	People at risk of poverty or social exclusion by NUTS 2 regions	EU SILC
11.1	Overcrowding rate	EU SILC
11.2	Settlement area per capita/Difference between land consumption rate and population growth rate	EUROSTAT/OECD ³
11.3	Victims killed in road accidents by NUTS2 regions	DG MOVE
11.4	Air pollution – pm 2.5	EEA, DG REGIO
12.1	Municipal waste by NUTS 2 regions (pilot project data)	EUROSTAT
12.2	Final energy consumption by households and business	ESPON LOCATE Project (1)
12.3	Uncollected sewage	European Environment Agency
13.1	Air pollution-pm10 Air pollution - pm2.5 Air pollution - ozone	EEA, DG REGIO
13.2	Percent of population satisfied with efforts to preserve the environment	Gallup ⁴
14.1	Surface of marine sites designated under NATURA 2000	EEA
14.2	Bathing sites with excellent water quality	EEA ⁵
15.1	Share of forest area	LUCAS
15.2	Land covered by artificial surfaces	EEA
15.3	Protected land (Natura 2000)	EEA
16.1	Crimes recorded by the police by NUTS 3 regions	EU SILC
16.2	Trust in the legal system	EU-SILC ad-hoc Quality of Life module
16.3	European Quality of Government Index (EQI)	Transparency International
16.4	Trust in the EU	DG COMM
16.5	Trust in the police	EU-SILC ad-hoc Quality of Life module
17.1	Online interaction with public authorities	EUROSTAT
17.2	Innovative SMEs collaborating with others	Regional Innovation Scoreboard
17.3	Broadband at home	EUROSTAT
17.4	Public-private co-publications	Regional Innovation Scoreboard
17.5	International scientific co-publications	Regional Innovation Scoreboard

allocation of carbon footprints to a region. More potential could arise via the FIGARO project which provides multi-regional EU tables (<https://ec.europa.eu/eurostat/web/experimental-statistics/figaro>) and is currently explored. This indicator may however need to be dropped.

³ A request to the OECD has been made for the indicator Difference between land consumption rate and population growth rate which represents an indicator based on novel data using satellite imagery.

⁴ The availability of this indicator from Gallup will need to be inquired to DG REGIO in case it has been inquired for the EU SPI.

⁵ EEA has informed that bathing water quality data are stored at <https://www.eea.europa.eu/data-and-maps/data/bathing-water-directive-status-of-bathing-water-12>. The database contains data on more than 22 000 bathing water sites and is organised by country Code and coordinates. To access information at NUTS 2 level, it will require an overlay with the NUTS 2 regions as EEA does not possess a dataset with bathing water sites by NUTS 2 regions. Given lack of resources this indicator will need to be skipped.

4.1.1 Data collected and shortcomings

The process of data collection has been made in several steps:

- 1) Assessment of the data coverage by region
- 2) Assessment of the availability of time series: As one of the objectives of the tool is to show progress in time we are relying on time series of the selected indicators. Two periods are constructed 2011-2013 and 2014-2016. As we are relying on data from the EU SPI we need to follow the same approach in defining the periods.
- 3) imputation approach based on the typology of gaps.

We identified three main typologies of data gaps: (1) indicators for which regional data is not available, (2) gaps in some countries which do not report any regional data and (3) gaps in time series. We addressed the gaps as follows:

- (1) No indicator available at regional level matching the Eurostat indicator: In our proposed set of indicators we include alternative indicators which are good proxies of the indicators selected by Eurostat to include in the SDGs & Me tool. As such we opt for selecting indicators that fulfil our criteria on geographic coverage rather than regionalising or imputing data.
- (2) No regional breakdown available for some countries: In the case of indicators for which some countries do not report the regional breakdown or allow the publication of regional data we will only present the national level indicator. However, if an indicator covers large EU countries at national level only alternative indicators are proposed. The objective is to avoid using national level indicators.

Considering that the availability of data varies by indicator we used three years averages to show the progress from period to period. This helps to address any missing values as well as smooth out fluctuations in indicator values which might be misleading.

The 17 goals are described below in more detail, showing data availability per period, coverage in terms of data gaps and alternative indicators proposed.

Table 2 Final data availability time series and gaps

Goal/id	indicator	Alternative indicator/comment	Availability of data	Period 2011-2013 used	Period 2014-2016 used
1.1	People at risk of poverty or social exclusion			2011-2013	2014-2016
1.2	In work at-risk-of-poverty rate			2011-2013	2014-2016
1.3	Satisfaction with housing: Percentage of people who feel satisfied with the dwelling they live in		awaited from EU SPI period B	2012	missing
1.4	Lack of adequate heating: Percentage of people who are in the state of enforced inability to keep home adequately warm		awaited from EU SPI period B	2011-2013	missing

Goal/id	indicator	Alternative indicator/comment	Availability of data	Period 2011-2013 used	Period 2014 -2016 used
1.5	Overcrowding: Percentage of people living in an overcrowded dwelling, as defined by the number of rooms available to the household, the household's size, as well as its members' ages and family situation		awaited from EU SPI period B	2011-2013	missing
2.1	Insufficient food (EU SILC)		awaited from EU SPI period B	2011-2013	missing
2.2	Organic farming: selected variables by size of farm (UAA) and NUTS 2 regions	Main farm land use by NUTS 2 regions	No update is expected	2000, 2003, 2005	last available 2007
2.3	Structural funds Thematic Objective 1: Research & Innovation: Farm performance & New Farmers	The indicator is currently processed	DG REGIO	2007-2013	2014 - 2020
2.4	Manure storage facilities by NUTS 3 regions	Farm net value added per agricultural work unit (labour productivity) (source: FADN; SE425)	No update is expected	last available 2010	last available 2010
3.1	Life expectancy at birth			2011-2013	2014-2016
3.2	General health status: Proportion of persons who assess their health to be very good or good to the question on self-perceived health ('How is your health in general?')		Awaited from EU SPI period B	2011-2013	missing
3.3	Death rate due to tuberculosis, HIV and hepatitis by sex			2011-2013	2014-2016
3.4	Self-reported unmet need for medical examination and care by sex		awaited from EU SPI period B	2011-2013	missing
4.1	Early leavers from education and training by sex			2011-2013	2014-2016
4.2	Tertiary educational attainment, age group 25-64 by sex and NUTS 2 regions			2011-2013	2014-2016
4.3	Employment rates of young people not in education and training by sex, educational attainment level, years since completion of highest level of education and NUTS 2 regions			2011-2013	2014-2016
4.4	Participation rates of selected age groups in education at regional level			only 2013	2014-2016
5.1	Difference between female and male employment rates		awaited from EU SPI period A and B	2011-2013	missing
5.2	Students enrolled in tertiary education by education level, programme orientation, sex and NUTS2 regions (measured as percent of women)			only 2013	2014-2016
5.3	Employment rates of young people not in education and training by sex, educational attainment level, years since completion of highest level of education and NUTS 2 regions (measured as percent of women)			2011-2013	2014-2016
5.4	Early leavers from education and training by sex (measured as percent of women)			2011-2013	2014-2016

Goal/id	indicator	Alternative indicator/comment	Availability of data	Period 2011-2013 used	Period 2014 -2016 used
6.1	Bathing sites with excellent water quality	No data at NUTS 2 level, proposed to drop			
6.2	Population connected to wastewater collection and treatment systems by river basin district (RBD)	No data at NUTS 2 level, proposed to drop	No update is expected	2008-2010	2011-2013
6.3	Satisfaction with water quality		awaited from EU SPI period A and B	multiple latest years	missing
6.4	Lack of toilet in dwelling		awaited from EU SPI period B	2011-2013	missing
6.5	Sewage treatment		awaited from EU SPI period B	2010	missing
7.1	Household energy consumption per capita ⁶	The indicator is requested from OIR (the lead contractor of the LOCATE project)	request from Espon	2002	2012
7.2	Share of renewable energy in heating and cooling of buildings ⁷	The indicator is requested from OIR (the lead contractor of the LOCATE project)	request from Espon	2002	2012
7.3	Carbon footprint of household consumption	Alternatives to this indicator are explored with the FIGARO project proposed to drop	Request FIGARO	missing	missing
7.4	Inability to keep home adequately warm (percent of households)		request EU SILC	2011-2013	missing
8.1	Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions			2011-2013	2014-2016
8.2	Employment rates by sex, age, educational attainment level, citizenship and NUTS 2 regions			2011-2013	2014-2016
8.3	Long-term unemployment (12 months and more) by NUTS 2 regions			2011-2013	2014-2016
8.4	In work at-risk-of-poverty rate				
9.1	Intramural R&D expenditure (GERD)			2011-2013	2014-2016
9.2	Total R&D personnel			2011-2013	2014-2016
9.3	Equipment rate for public transport vehicles (number of motor coaches, buses and trolleybuses per 1000 inhabitants)			2011-2013	2014-2016
10.1	Disposable income of private households by NUTS 2 regions per inhabitant			2011-2013	2014-2016
10.2	Disposable income of private households by NUTS2 regions relative to			2011-2013	2014-2016

⁶ This indicator was provided at NUTS 3 level. In order to aggregate this indicator to NUTS2 level we used the following approach:

1. Total household energy consumption of the NUTS3 region in kwh =the values at NUTS3 per capita (in kwh) * population at NUTS3 level
2. Total household energy consumption NUTS2 in kwh = aggregate sum of all NUTS3 regions within a NUTS2 region
3. Household energy consumption per capita = Total household energy consumption NUTS2 in kwh / population of the NUTS 2 region

⁷ This indicator was provided at NUTS 3 level. In order to aggregate this indicator to NUTS2 level we used the following approach:

1. Renewable energy in heating and cooling of buildings in kwh per NUTS3 region = proxy of the share of renewable energy in heating and cooling of buildings at NUTS 3 level in Total household energy consumption of the NUTS3 region in kwh
2. Aggregate sum of Renewable energy in heating and cooling of buildings in kwh per NUTS3 region within a NUTS2 region
3. Aggregate sum of Total household energy consumption of the NUTS3 region in kwh within a NUTS2 region
4. Share of renewable energy in heating and cooling of buildings at NUTS2 level = Step 2./ Step 3.

Goal/id	indicator	Alternative indicator/comment	Availability of data	Period 2011-2013 used	Period 2014 -2016 used
	national average (based on tgs00026)				
10.3	People at risk of poverty or social exclusion by NUTS 2 regions			2011-2013	2014-2016
11.1	Overcrowding rate		awaited from EU SPI period B	2011-2013	missing
11.2	Settlement area per capita	Difference between land consumption rate and population growth rate (source (OECD)	request to ESPON	2012	2018
11.3	Victims killed in road accidents by NUTS2 regions			2011-2013	2014-2016
11.4	Air pollution – pm 2.5		awaited from EU SPI period B	2011-2013	missing
12.1	Municipal waste by NUTS 2 regions (pilot project data)	Number and capacity of recovery and disposal facilities by NUTS 2 regions [env_wasfac]	No update is expected	2012	2014,2016
12.2	Final energy consumption by households and business	The indicator is requested from OIR (the lead contractor of the LOCATE project)	request from Espon	2002	2012
12.3	Uncollected sewage		awaited from EU SPI period B	2010	missing
13.1	Air pollution-pm10		awaited from EU SPI period B	2011-2013	missing
13.2	Air pollution - pm2.5		awaited from EU SPI period B	2011-2013	missing
13.3	Air pollution - ozone		awaited from EU SPI period B	2011-2013	missing
13.4	Carbon footprint of household consumption	Requested from Exiobase, an alternative indicator can be used for EU SILC: Percent of population satisfied with efforts to preserve the environment		missing	missing
14.1	Surface of marine sites designated under NATURA 2000	Own calculation based on EEA data		2012	2018
14.2	Bathing sites with excellent water quality (sdg_14_40)	data available additional calculation are however required (proposed to drop)			
15.1	Share of forest area			2012	2015
15.2	Land covered by artificial surfaces			2012	2015
15.3	Protected land (Natura 2000)	Own calculation based on EEA data ⁸			
16.1	Crimes recorded by the police by NUTS 3 regions		no update is expected	2008-2010	missing
16.2	Trust in the legal system		awaited from EU SPI period B	2013	missing
16.3	European Quality of Government Index (EQI)			2013	2017
16.4	Trust in the EU			missing	2015

⁸ Recently EEA clarified the availability of data at the NUTS2 level (<https://www.eea.europa.eu/data-and-maps/dashboards/natura-2000-data-viewer>). The indicator to add will be "total NATURA km² as share in total land cover [lan_lcv_art]"

Goal/id	indicator	Alternative indicator/comment	Availability of data	Period 2011-2013 used	Period 2014-2016 used
16.5	Trust in the police		awaited from EU SPI period B	2013	missing
17.1	Online interaction with public authorities		awaited from EU SPI period B	2013	missing
17.2	Innovative SMEs collaborating with others			2011-2013	2014-2016
17.3	Broadband at home			2011-2013	2014-2016
17.4	Public-private co-publications			2011,2013	2015,2016
17.5	International scientific co-publications			2011,2013	2015,2016

The following shortcomings with indicators are noted:

1. Gallup indicators will be provided by DG REGIO since Gallup does not sell individual indicators. The indicators will be shared around September/October.
2. EU SILC indicators will be partly provided by DG REGIO: DG REGIO has obtained a tailor-made extraction from EU-SILC, following an ESTAT consultation of the National Statistical Institutes. Under the agreement with EUROSTAT, the indicators included in the next SPI will be disseminated once the EU SPI Index is published. The date of publication is still to be confirmed by DG REGIO. In the table above the indicators provided by EU SILC are mentioned as "awaited from EU SPI".

4.2 Data imputation

Imputation is used to address the time series gaps. For the purpose of this project the single imputation method is proposed which is considered the most suitable method, due to its simplicity and efficiency.

Several typologies of data gaps have been identified. In order to impute the missing values in a data set for two periods 2011-2013 and 2014-2016 at NUTS2 level, we propose the following methods:

1. If the data for the chosen period is available only for one year, we will use only this year;
2. If the data for the chosen period is available only for two years with/without a one-year gap between two reported years, an interpolation of high quality can be assumed. We will replace missing values with the average of the two values adjacent and calculate the average for the chosen period;
3. If at least 50% of the indicator is observed at the NUTS2, then the indicator can be included in the SDG localising tool. The NUTS1 or national values will be assigned to all the missing NUTS2 regions within the country. This approach means that the within-country variability of the Index at goal level is underestimated.

4. An alternative approach to the “50% rule”, mentioned above, is the use of backward or forward values in case of missing data in either one of the periods. In the case of consecutive missing values, the carry forward method uses the next preceding non-missing value and the carry backward the next succeeding non-missing value. The main advantage of this method is the possibility to show the variability among different regions in time, however, at the same time it can introduce bias in the analysis and perform poorly when data has a visible trend. Missing values should not be apart further than one year. This approach should be discussed with EUROSTAT.
5. We also used the following approach proposed by RIS (2019)⁹: If regional data are available for the previous year, the ratio between the corresponding NUTS level and that at a higher aggregate level (NUTS 1 for NUTS 2 regions, country level for NUTS 1 regions) for the previous year is multiplied with the current value at the higher aggregate level. If regional data for the previous year are not available, the same procedure as in step 2 is applied using the ratio between the corresponding NUTS level and that at a higher aggregate level.

4.3 Data standardisation and recalibration to the SDGs targets

The proposed indicators scoring is scaled 0 to 100, where 0 means worst performance, 100 best performance. The maximum scaled value (100) for each of 50 indicators is set based on a theoretical perfect performance (for example, the best possible school enrollment is 100% of students) or, where there is no such theoretical maximum, the best performance of any region in the last 10 years. To obtain a better understanding of the global SDG challenge we recalibrated the maximum (100) scores to correspond with the SDG targets and produced an SDG progress score for each of the NUTS2 regions. The following formula has been used:

Rescale from 0-100 = $(x - \min(x)) / (\max(x) - \min(x)) * 100$, where the values $\min(x)$ and/or $\max(x)$ correspond to the target settings.

Following the aforementioned methodology, the composite indicators are constructed as a simple average of individual indicator scores adjusted to corresponding target settings. The composite indicator for a region is calculated only in case if all indicators within the goal are available.

⁹ https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwiRidH-t8fnAhWNzaQKHQhZC84QFjACegQIBBAB&url=https%3A%2F%2Fec.europa.eu%2Fdocsroom%2Fdocuments%2F35946%2Fattachments%2F1%2Ftranslations%2Fen%2Frenditions%2Fnative&usg=AOvVaw2LPIUJugl2ZHqSz_nSVvyh

4.4 Target setting

To define the targets a three step approach has been followed:

1. **Review of the OECD target setting:** specifically the targets defined in the report “A Territorial Approach to the Sustainable Development Goals”. The majority of them, with a few exceptions, apply a best performer approach to set the boundaries. While this approach is methodologically fully legitimate, the project team felt this would not fully integrate the specific SDG targets and would not holistically reflect the reality of EU regions. Therefore the team have suggested the most suitable approach for boundaries setting for each indicator based on associated targets (see step 2).
2. **Review of the associated UN targets:** a typology based on the language used has been created distinguishing predominantly between: reduce by half, ensure e.g. equal access, substantiantially increase, end e.g. hunger, double, universal/full and sustain. The latter typology allows us to build on the definition of a quantifiable target. While the UN language is the reference the final target needs to be tailored to the EU reality (see step 3).
3. **Review of EU targets:** a non exhaustive review of EU targets has ben performed by examining EU strategy documents (e.g. Green deal, Europe 2020 targets, the 2030 climate & energy framework etc.). Targets that are quantified are directly used. Given the limited resources for an in depth examination of EU targets (examine relevant regulation, white papers, strategy documents) and given the timing (end of Europe 2020 and targets yet to be defined for 2030) inputs from ESPON EGTC and the steering committee to improve the target setting are very welcomed.

In several cases a best performer approach has been used in particular when UN or EU targets were not identified. A best performer approach is based on the OECD approach i.e. based on an anweighted average estimate using the top performing region of each country. This is a second best approach given the lack of quantitative targets for all the indicators. The value of the target should be interpreted with caution as the best performer value may represent an underestimation or overestimation of the associated target described qualitatively.

For each indicator the UN target, typology based on the language used in the UN target and the proposed target are provided in Table 3. The baseline period used is the first period 2011-2013.

Table 3 SDG Targets *[in red targets that could be discussed with the steering committee]*

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
Goal 1	1.1	People at risk of poverty or social exclusion	Percent age	Reduce number of Europeans living below national poverty lines by 25% (following: Europe 2020) baseline period= period A 2011-2013	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
Goal 1	1.2	In work at-risk-of-poverty rate	Percent age	Reduce at least by half ¹⁰	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Goal 1	1.3	Satisfaction with housing: Percentage of people who feel satisfied with the dwelling they live in	Percent age	All (following: UN)	Ensure equal access	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Goal 1	1.4	Lack of adequate heating: people who are in the state of enforced inability to keep home adequately warm	Percent age	All (following: UN)	Ensure equal access	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Goal 1	1.5	Overcrowding: people living in an overcrowded dwelling, as defined by the number of rooms available to the household, the household's size, as well as its members' ages and family situation	Percent age	Reduce by half baseline period= period A 2011-2013	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Goal 2	2.1	Insufficient food (EU SILC)	Percent age	Zero (following: UN)	End hunger	By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
Goal 2	2.2	Organic farming: proportion of utilised agricultural area	Percent age	Best performer	Ensure	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
Goal 2	2.3	Manure storage facilities: Holdings with covered manure storage facilities as percentage of the total number of holdings having manure storage facilities	Percent age	Best performer		
Goal 3	3.1	Life expectancy at birth	Years	UN predictions for Europe (ESPON 32 countries average)	Ensure	Ensure healthy lives and promote well-being for all at all ages
Goal 3	3.2	General health status: Proportion of persons who assess their	Percent age	Best performer(s)	Ensure	Ensure healthy lives and promote well-being for all at all ages

¹⁰ It should be noted that following Europe 2020 the target could have been defined as a reduction of the number of Europeans living below national poverty lines by 25% and baseline period= period A 2011-2013

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
		health to be very good or good to the question on self-perceived health ('How is your health in general?')				
Goal 3	3.3	Death rate due to tuberculosis, HIV and hepatitis by sex	Rate	Zero (following UN)	End	End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
Goal 3	3.4	Self-reported unmet need for medical examination and care by sex	Percent age	Zero (following: UN)	Universal	Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
Goal 4	4.1	Early leavers from education and training by sex	Percent age	10% (following: Europe 2020)	Ensure - all	Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
Goal 4	4.2	Tertiary educational attainment, age group 25-64 by sex and NUTS 2 regions	Percent age	At least 40% having completed tertiary education (following: Europe 2020)	Substantially increase	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
Goal 4	4.3	Employment rates of young people not in education and training by sex, educational attainment level, years since completion of highest level of education and NUTS 2 regions	Percent age	At least 75% employment rate (following: Europe 2020 represents the wider EU employment target)	Substantially increase	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
Goal 4	4.4	Participation rates of selected age groups in education at regional level	Percent age	Completion (100%) (following: UN)	Ensure	Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
Goal 5	5.1	Difference between female and male employment rates	Percent age	Zero (following: UN)	End	End all forms of discrimination against all women and girls everywhere
Goal 5	5.2	Female students enrolled in tertiary education	Percent age of women	50% (following: UN)	Ensure equal access/substantially increase	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
Goal 5	5.3	Employment rates of females not in education and training since completion of highest level of education	Percent age of women	At least 75% employment rate (following: Europe 2020)	Substantially reduce/increase	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
						jobs and entrepreneurship
Goal 5	5.4	Early female leavers from education and training	Percent age of women	Less than 10% (following: Europe 2020)	Ensure - all	ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes
Goal 6	6.1	Bathing sites with excellent water quality	Percent age of bathing sites	All (following: UN)	Universal	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Goal 6	6.2	Population connected to wastewater collection and treatment systems by river basin district (RBD)	Percent age of population	All (following: UN)	Universal	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Goal 6	6.3	Satisfaction with water quality	Per cent	All (following: UN)	Universal	By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Goal 6	6.4	Lack of toilet in dwelling	Per cent	All (following: UN)	Universal	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Goal 6	6.5	Sewage treatment: Urban wastewater with more stringent treatment as a percentage of collected wastewater	Percent age	All (following: EU Urban Wastewater Treatment Directive)	Universal	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Goal 7	7.1	Household energy consumption per capita		Best performer		Espon to inform if a better approach is recommended
Goal 7	7.2	Renewable energy in heating and cooling of buildings	Percent age renewable	Increase share of renewable energy in final energy consumption to 32% (following: 2030 climate & energy framework)	Increase substantially	By 2030, increase substantially the share of renewable energy in the global energy mix
Goal 7	7.3	Carbon footprint of household consumption (Mt CO2 per capita)	Mt CO2	Reduce to 40% of 1990 level (following: EU GHG targets in Climate Strategy)		
Goal 7	7.4	Inability to keep home adequately warm	Percent age of households	All (following: UN)	Ensure equal access	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
Goal 8	8.1	Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions	Per cent	Sustain ESPON 32 countries average	Sustain	Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 percentage gross domestic product growth per annum in the least developed countries
Goal 8	8.2	Employment rates by sex, age, educational attainment level, citizenship and NUTS 2 regions	Per cent	At least 75% employment rate (following: Europe 2020)	Full	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Goal 8	8.3	Long-term unemployment (12 months and more) by NUTS 2 regions	Per cent	At least 75% employment rate (following: Europe 2020)	Full	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
Goal 8	8.4	In work at-risk-of-poverty rate	Per cent	Reduce at least by half ¹¹	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Goal 9	9.1	Intramural R&D expenditure (GERD)	Per cent	3% of GDP in R&D (Europe 2020)	Enhance	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending
Goal 9	9.2	Total R&D personnel	per 1000 inhabitants	Increase/best performer	Enhance	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

¹¹ It should be noted that following Europe 2020 the target could have been defined as a reduction of the number of Europeans living below national poverty lines by 25% and baseline period= period A 2011-2013

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
Goal 9	9.3	Equipment rate for public transport vehicles	Number of motor coaches , buses and trolleybuses per 1000 inhabitants	Best performer		Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
Goal 10	10.1	Disposable income of private households by NUTS 2 regions per inhabitant	PPS per inhabitant	60% of national median equivalised disposable income (ESPON 34 countries) (following eurostat at-risk-of-poverty rate)	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Goal 10	10.2	People at risk of poverty or social exclusion by NUTS 2 regions	Per cent	Reduce at least by half ¹²	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Goal 11	11.1	Overcrowding rate by poverty status	Per cent	All (following: UN)	Ensure equal access	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Goal 11	11.2	Difference between land consumption rate and population growth rate	rate	The end value for the gap between land consumption rate and population growth rate was established as zero, implying that the land consumption rate should follow the growth path of the population.	Maintain	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
Goal 11	11.3	Victims killed in road accidents by NUTS2 regions	rate	Use all ESPON 32 countries average reduced by half	Reduce by half	By 2020, halve the number of global deaths and injuries from road traffic accidents
Goal 11	11.4	Air pollution – pm 2.5	mean annual concentration (µg/m3)	Reduce to current target of 25 µg/m3 (EU Air Quality Directive)	Reduce	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Goal 12	12.1	Municipal waste by NUTS 2 regions (pilot project data)	tons per capita	Use all ESPON 32 countries average reduced by half	Reduce by half	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
Goal 12	12.2	Final energy consumption by households and business	ESPON to provide	At least 32.5% improvement in energy efficiency (Agreement on Revised Energy Efficiency Directive)		By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound

¹² It should be noted that following Europe 2020 the target could have been defined as a reduction of the number of Europeans living below national poverty lines by 25% and baseline period= period A 2011-2013

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
						technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Goal 12	12.3	Uncollected sewage: Urban wastewater not collected by collecting systems nor treated by individual or other appropriate systems as a % of generated load	Per cent	zero (Urban Waste Water Treatment Directive)	Reduce	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Goal 13	13.1	Air pollution-pm10	pm10: number of days	pm10: Reduce number of days with level exceeding 50 µg/m3 to 35	Reduce	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Goal 13	13.2	Air pollution - pm2.5	pm2.5: mean annual concentration (µg/m3)	pm2.5: Reduce to current target of 25 µg/m3	Reduce	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Goal 13	13.3	Air pollution - ozone	ozone: number of days	ozone: Reduce number of days with level exceeding 120 µg/m3 to 25 (Air Quality Directive)	Reduce	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Goal 13	13.4	Carbon footprint of household consumption	Mt CO2	Reduce to 40% of 1990 level (EU GHG targets in Climate Strategy)	Reduce	UNFCCC By 2030, double the global rate of improvement in energy efficiency
Goal 14	14.1	Surface of marine sites designated under NATURA 2000	Per cent share in marine sites (km²)	Increase/best performer	Reduce, halt, protect	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
Goal 15	15.1	Share of forest area	hectares of forest per capita	Increase/best performer	Reduce	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
Goal 15	15.2	Land covered by artificial surfaces	(proportion of all land)	Reduce or halt growth (following UN)	Reduce, halt, protect	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species
Goal 15	15.3	Protected land (Natura 2000) Note: EU SPI to be checked	Per cent of land (km²) belonging to the EU's Natura2	increase/best performer	Reduce, halt, protect	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
			000 network			extinction of threatened species
Goal 16	16.1	Crimes recorded by the police	Percent age	EU average reduction by 2/3	Significantly reduce	Significantly reduce all forms of violence and related death rates everywhere
Goal 16	16.2	Trust in the legal system	Average rating	Increase/best performer	Ensure	Ensure responsive, inclusive, participatory and representative decision-making at all levels
Goal 16	16.3	Quality of Government	Index	Increase/best performer	Ensure	Ensure responsive, inclusive, participatory and representative decision-making at all levels
Goal 16	16.4	Trust in the EU	Average rating	Increase/best performer	Promote	Promote the rule of law at the national and international levels and ensure equal access to justice for all
Goal 16	16.5	Trust in the police	Average rating	Increase/best performer	Promote	Promote the rule of law at the national and international levels and ensure equal access to justice for all
Goal 17	17.1	Online interaction with public authorities	Percent age	Increase/best performer	Ensure	Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements
Goal 17	17.2	Innovative SMEs collaborating with others	Percent age	Increase/best performer	Enhance	Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism
Goal 17	17.3	Broadband at home	Percent age	Increase/best performer	Significantly increase	9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020
Goal 17	17.4	Public-private co-publications	Percent age	Increase/ best performer	Enhance	Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in

Goal		Confirmed indicator		Target proposed	Language used with UN target	Associated UN target
						particular at the United Nations level, and through a global technology facilitation mechanism
Goal 17	17.5	International scientific co-publications	Percent age	Increase/best performer	Enhance	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

5 Stakeholders involvement

5.1 Pilots for the indicator framework and targets

The following three regions have been invited to act as pilots: 1) Eastern and midland (IE), 2) Catalonia (ES) and 3) Eastern Slovenia (SI). All three accepted, but at the moment only one region, Eastern and midland has tested the indicator framework and targets (point 1 as described below).

The pilot study is conducted in two steps:

- 1) The stakeholders from regional authorities are asked to test the indicator framework. The objective is to validate the relevance at the regional level and the acceptance and credibility of the proposed indicator framework.
- 2) The pilot regions are requested to test, evaluate and informally report back on their experience and observations about the beta-version of the tool. Further adjustments of the tool will be applied.

An excel file with the indicator framework and corresponding targets was shared with the regions and written feedback within the excel has been inquired namely by stating the 1) relevance (low, medium, high) of the indicators, 2) indicator gaps and 3) suitability of the target.

Due to the exceptional circumstances of COVID-19, only Eastern and midland (IE) region was able to give substantial feedback on the framework of indicators and proposed targets. More details are provided in Annex 1. Feedback from Catalonia and Slovenian regions is still expected.

5.2 Interviews for the tool's functionalities

To design a user centric tool, consultations with final users, i.e. representatives of regional and national governments were performed. The interview template can be found in Annex 1.

At regional level three interviews were performed complemented by information from four interviews undertaken with policy advisors in regional (provincial) governments in the Netherlands on their views concerning online dashboard tools.

Moreover, insights gained during the peer learning event of the Pilot Project “Measuring what matters to EU Citizens: Social Progress in European Regions” focusing on the comparability issue in indexes have also been taken into account.

The outcome of this consultation is presented in Table 4 in which functionalities are rated as follows:

1=must have;

2=nice to have;

3=not so useful for my reporting, monitoring.

Table 4 consultations with final users on the functionalities of the SDGs localising tool

FUNCTIONALITIES	PT Centro	NL	EU SPI project	IE Eastern & Midland	ES Catalonia
Customisable and interactive maps by indicator	1	3	na	1	3
Display similar regions to showcase and compare your status based on criteria (population, income, geography ...)	1	2	1	1	1
Choose the regions you want to be compared to	2	2	1	3	1
Compare your development over time on the SDGs with that of other regions	1	2	na	1	2
Display only regions within your country	3	3	1	2	2
Display distance to your targets	1	3	na	2	1
Insert your own national/regional/local target	na	3	na	1	2
Display a ranking of regions	2	3	1	2	2
'Generic' recommendations by goal	2	3	na	3	2
Downloading and printing of customised maps and charts	1	1	1	1	2
Downloading the data in order to produce own graphs.	1	1	1	1	1

At national level an interview with the Lithuanian Ministry of Environment has been conducted.

6 SDG localising tool

The SDG localising tool homepage, user guide, benchmarking, library, guidance sheet, leaflet and administrator module are described and visualised in the subsequent sections. A clickable version can also be viewed here: <http://sdg-dev.waat.eu/homepage> (using username= user and password=WaatUser).

6.1 Homepage

The design of the SDG localising tool homepage is presented below. Two entries to the tool are provided:

1. 'Tool' icon in the top and bottom right menu and
2. SDG icon in the centre of the homepage with an option to choose a Goal of interest

Using the 'About' button the user could have access to a summary of the report and a link to download the report. An alternative would be to have a summary on the SDGs.

Icons 'Library' and 'Home' are also provided in the top and bottom right menu of the homepage.

A discussion on the above in order to finalise the texts is needed during the draft final meeting.



6.2 Benchmarking

The tool is split in two parts the map and the two charts (radar and box plot) which visualise distance to targets and progress. The map appears as soon as one selects an SDG and an indicator. The charts appear as soon as the user selects the benchmark group.

6.2.1 Benchmark groups

The following territorial typologies are available in the tool that allows the user to conduct a European wide SDGs benchmarking exercise:

- Population density
- Urban-rural
- Metropolitan regions
- Income
- Regions in the same country
- Regions with similar results

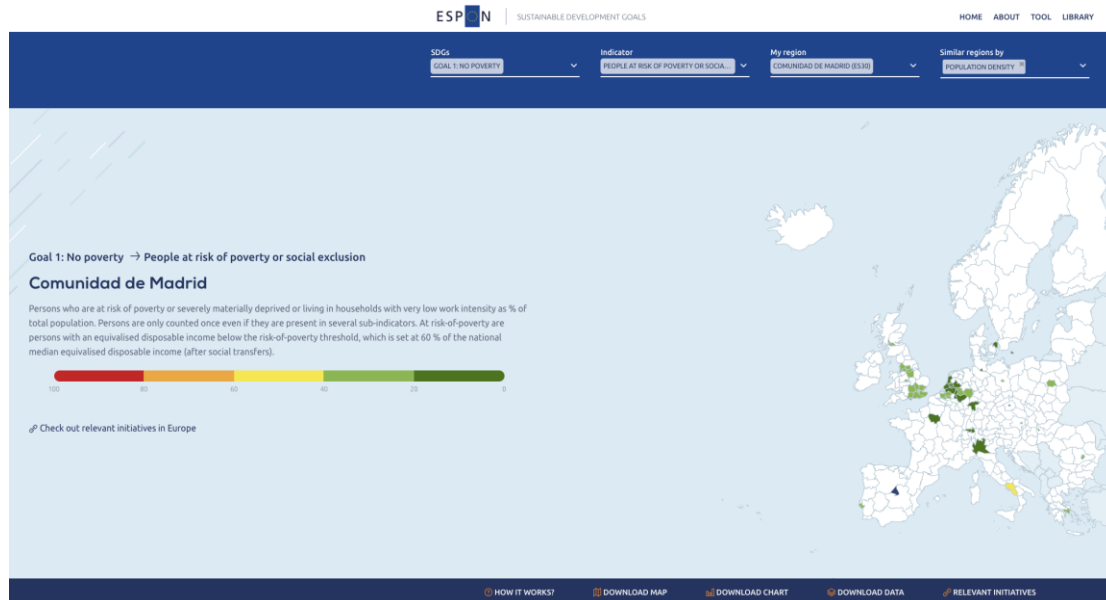
In the tool the user is able to make combinations of the above territorial typologies (e.g. showcase regions withing the same grouping in terms of both population density and income).

Table 5 Territorial typologies sources and method

Typology	Source	Method
1.Population density	Eurostat [TGS00024]	Metric: Persons per square kilometer Bands: 1. ≥ 3.4 to 56.9 2. ≥ 56.9 to 85.8 3. ≥ 85.8 to 126.1 4. ≥ 127 to 212.2 5. ≥ 213.2 to 410.6 6. ≥ 413.2 Level: Nuts2
2.Urban-Rural	Eurostat [urt_d3area] / ESPON CU Typology Compilation https://ec.europa.eu/eurostat/cache/metadata/en/reg_typ_esms.htm	1. predominantly urban region 2. intermediate region 3. predominantly rural region
3.Metropolitan regions	ESPON CU Typology Compilation	1. metropolitan region 2. non-metropolitan
4. Income	EUROSTAT [reg_eco10]	1. less developed with less than 75% 2. regions in transition between 75% and 90% 3. developed regions with GDP per capita over 90% of the EU average
5.Regions in the same country		
6.Regions with similar results	Based on SDGs dataset	Quartiles based approach

6.2.2 Map

The map visualises each goal indicator by indicator with the possibility to choose similar regions for benchmarking purposes. Every time an indicator is selected an explanation of the indicator is provided (the final labels and sources will be added when the data has been finalised).



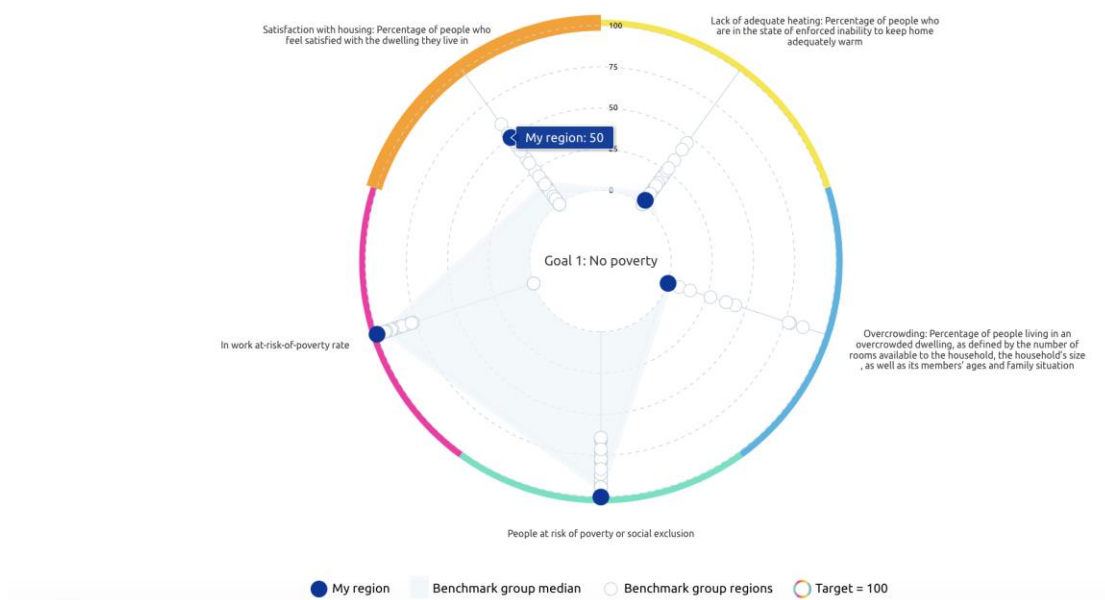
6.2.3 Distance to targets

Scrolling down the map, the radar chart shows all the indicators of the goal selected. It simultaneously benchmarks the region's to the median of the benchmark group of regions (highlighted in light blue colour) and the distance to the targets (the outer coloured circle). The selected benchmark region is presented by a dark blue circle and is labeled as 'My region'.

Benchmark

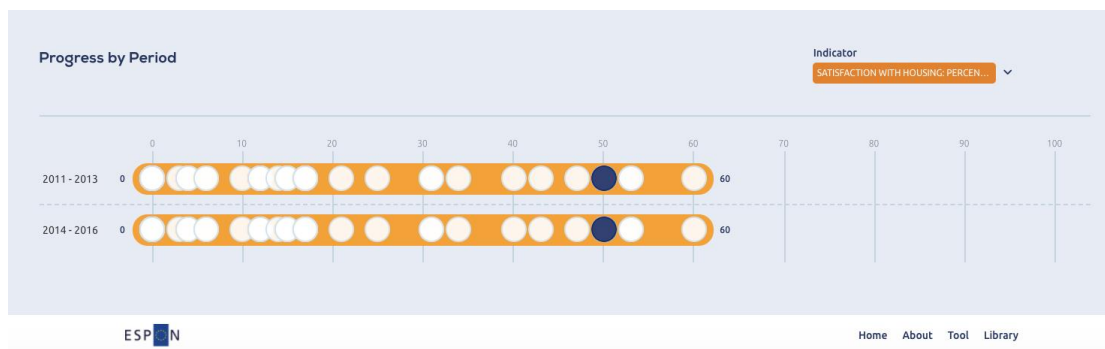
Distance to Targets

2014 - 2016



6.2.4 Progress

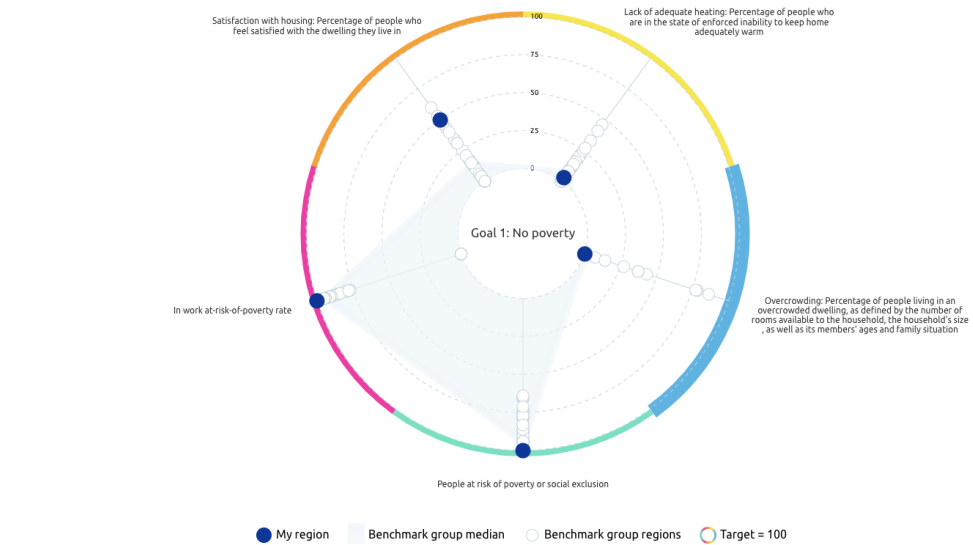
The box plot uses a filter to show indicator by indicator the growth by visualising the values in the different periods. The colour of the indicator corresponds to the colour of the indicator in the radar plot. The box plot displays 'my region', the median of the benchmark group and if another region is selected in the radar chart it also displays it with a different colour. In addition, there is an option to choose an indicator of interest by clicking on the coloured circle line of the radar chart and the result will be illustrated in the box plot with the identical colour of radar chart line.



Benchmark

Distance to Targets

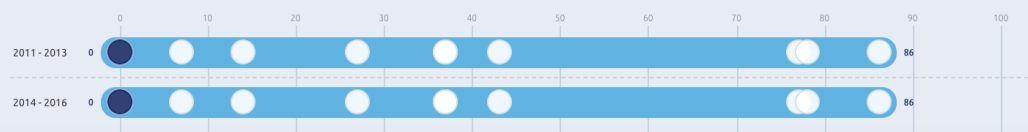
2014 - 2016



Progress by Period

Indicator

OVERCROWDING: PERCENTAGE OF PEO...



6.3 Library

Access to the library is provided through:

- Homepage: top right and bottom right corner taking the user to the library homepage with all SDGs
- In the tool: A link is provided taking the user to the library of the SDG

The library contains two types of documents:

- Initiatives of European countries or regions related to SDGs
- Studies on SDGs (namely those of EU institutions and of international organisations)

The content of the library and in particular that of the initiatives is tagged according to the 17 SDGs: Initiatives are tagged by all the relevant SDGs (hence one initiative may be tagged by more than one SDG). Since the library compiled includes initiatives for all SDGs we propose not to include an additional filter for the Five Ps (People, Prosperity, Planet, Peace).



6.4 Administrator module

The administrator module is built around the xls-file containing all data. Key features of the administrator module include:

- Editorial changes:

- Edit texts across the website (homepage, benchmark, about section, library).
- Add new content to the library section.
- Edit "goal" landing page (texts, images etc)
- Data import:
 - Import data for the SDG tool (source data for the map and charts).
 - Add new: period / goal / indicator / region information / period data / composite data - use the import tool.
- Edit/delete imported data:
 - Delete all imported data.
 - Rename existing period
 - Rename existing goal
 - Rename existing indicators
 - Delete existing period
 - Delete existing goal
 - Delete existing indicator

6.4.1 Editorial changes

Another functionality provided in the Administrator module is a creation of SDG page. Site administrators are able to create new pages visible on the website. In order to create a new page, the user should visit the following page: http://sdg-dev.waat.eu/node/add/sdg_page or follow the path: Admin menu: Content > Add content > SDG Page.

Create SDG Page ☆

[Home](#) » [Node](#) » [Add content](#)

Title *

Page Unique ID

Section
No Section added yet.

[Add Section header](#) [Add Section with a white background](#) [Add Section with an image in the background](#) [Add Step](#)

☒ Published

[Save](#)

In the page you can find 4 different section types which can be selected. For each section it is possible to select different fields and layout, allowing creators to organise content in a different manner. The figure below provides the example of the homepage edit form

Example of the homepage edit form:

Title*

Homepage

Page Unique ID

Show row weights

SECTION

+

Section header

Remove

Text*

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Format

•

☰

Source

Choose Sustainable Development Goal

+
















Section with an image in the background

Remove

Column left

Remove

Text

B I    |  |  |  |  |  |  |  |  |  |  | Format |  |  Source

ESPON's SDGs localising tool

The SDGs localising tool offers support to local and regional governments in localising and achieving the SDGs. It presents indicators to measure and monitor the SDGs and benchmark similar regions.

Text format

Full HTML

About text formats

CTA BUTTON

URL

/about

Start typing the title of a piece of content to select it. You can also enter an internal path such as `/node/add` or an external URL such as `http://example.com`. Enter `<front>` to link to the front page. Enter `<nolink>` to display link text only.

Link text

Find out more
















Custom block

None

Column right

Remove

Text

B I    |  |  |  |  |  |  |  |  |  |  | Format |  |  Source

Text format

Basic HTML

About text formats

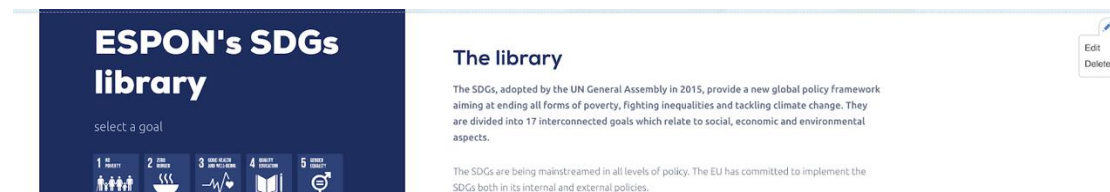
CTA BUTTON

URL

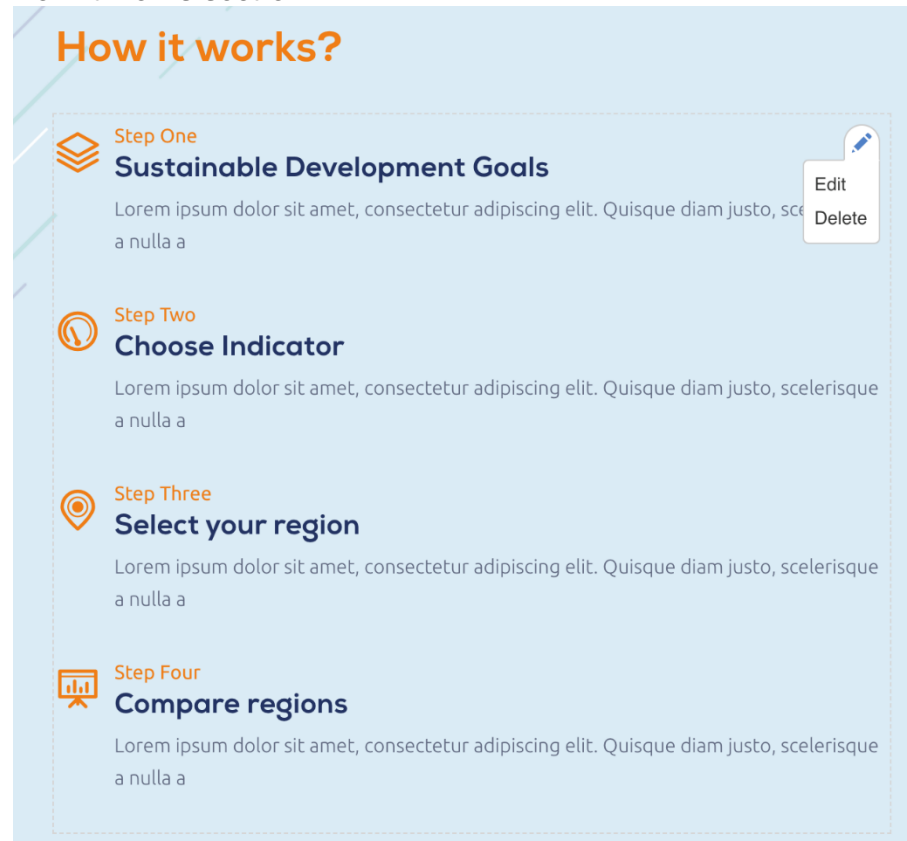
Start typing the title of a piece of content to select it. You can also enter an internal path such as `/node/add` or an external URL such as `http://example.com`. Enter `<front>` to link to the front page. Enter `<nolink>` to display link text only.

Link text

Library page:



How it works section:



6.4.3 Data import

Data import section allows the user to import data using CSV files. A template file has been created for each of the data types (CSV files with proper structure (column names etc)).

Following data types can be imported:

- Periods
- Goals
- Indicators
- Region information
- Period data (raw and calculated)
- Composite data

- Import workflow:
 - If data with a given unique key* do not exist in the DB – should be created a new entry.
 - If data with a given unique key* already exists – it is necessary to update all values in accordance to the data from the CSV file.
- All imported data is being saved in a custom, dedicated database table. In addition, as "goals" and "indicators" require some additional configuration (descriptions, icons, additional settings etc.) the system will automatically create "nodes" for each of the imported goals and indicators. Site administrators can edit each node at any time (using a simple, dedicated form) and adjust appropriate settings.

SDG management page can be find here: <http://sdg-dev.waat.eu/admin/sdg/management>

6.4.4 To import data for the tool:

In order to be able to import data in the tool, the user has to follow the next steps:

- Visit the following page: <http://sdg-dev.waat.eu/admin/sdg/management>
- In the form entitled “Import data” select a data type to be imported, e.g. “Period data”
- In field: “Choose CSV file” select a CSV file containing data to be imported.
- Once the file is uploaded, click on the “Import” button.

Example of importing the data:

Import data

Choose data type to import *

Period data ▼

Choose CSV file *

 SDG_period_data_csv - PD - Goal 1.csv

Remove

Import

6.4.5 Edit or delete imported data

In order to be able to delete the imported data in the tool, the user has to follow next steps:

- Visit the following page: <http://sdg-dev.waat.eu/admin/sdg/management>
- In the form entitled “Delete imported data” select a data type to be deleted, e.g. “Period raw and calculated data”
 - Optionally, you can select “drop all data” to delete all imported data (periods, indicators, goals, region information, composite data, raw and calculated data ect).
- You will be informed on how many entries will be deleted from the database.
- Click on the “Delete selected data” button to proceed.

Example of deleting imported data:

Delete imported data

Choose data type to be deleted

Period raw and calculated data ▼

38016 rows will be deleted. Are you sure you wish to continue?

Delete selected data

6.4.6 To change the name of imported periods, goals or indicators

The tool also allows the user to change the names of periods, goals and indicators. The user has to follow the advised steps:

- Visit the following page: <http://sdg-dev.waat.eu/admin/sdg/management>
- In the form entitled “Edit imported data” select a data type to edit, e.g.: “Periods”
- A list of all entries to be edited will be displayed. You can change the title or delete a given entry. Once ready, click on the “Save changes” button to confirm the changes.

Example on how to change names of imported periods, goals and indicators:

Edit imported data

Choose data type to edit

Periods ▼

Delete	ID	Title
<input type="checkbox"/>	period_2011_2013	2011 – 2013
<input type="checkbox"/>	period_2014_2016	2014 – 2016
<input type="checkbox"/>	period_2017_2019	2017 – 2019
<input type="checkbox"/>	period_2020_2022	2020 – 2022

Save changes

6.4.7 To select a “current period” (a period to be displayed in the tool.):

- Visit the following page: <http://sdg-dev.waat.eu/admin/sdg/management>
- In the form entitled “Tool configuration” select a “main” / “current” period.
- Click on the “Save configuration” button to confirm the changes.

Example on how to select a “current period”:

Tool configuration

Select a period to be displayed in the tool.

2014 – 2016 ▼

This period will be used to fetch data for the map and radar chart.

Save configuration

Annex 1

– Table 6 Template for pilots

  Co-financed by the European Regional Development Fund
<h2>ESPON SDG LOCALISING TOOL</h2>
Objective of the project The project aims to develop and implement a Sustainable Development Goals (SDGs) localising tool in the form of a web application that offers support to regional and national governments in localising and achieving the SDGs. A simple, intuitive and user-friendly application can inform stakeholders on regional disparities and inequalities and urge regional and national governments in all the countries participating in the ESPON 2020 Cooperation Programme to include the SDGs in local development plans and step-up actions. The result will inform regional, and national policy-makers and citizens alike on SDG-related policy areas.
Piloting process The pilot study will be conducted in five steps: Step 1: the pilot regions participate in an interview on the design of the tool [this has already taken place] Step 2: The pilot regions are asked to assess the indicator framework and targets. The objective is to validate the relevance at the regional level and the acceptance and credibility of the proposed indicator framework and targets Step 3: A follow up call takes place to discuss the feedback provided Step 4: The pilot regions are invited to test, evaluate and informally report back on their experience and observations about the beta-version of the online tool Step 5: The region participates to the workshop during the week of the regions to share the experience using the tool
Input from pilot regions This excel file includes the SDGs indicator framework and corresponding targets. We would like to ask from you to send us your written feedback within the excel including the following: 1) Indicator framework relevance (low, medium, high) 2) Targets suitability (yes, no, no assessment performed) Comments are also welcomed
Timeline Step 1: November 2019 Steps 2-3: April-July Step 4: July-September Step 5: October
Target setting To define the targets a three step approach has been followed: 1. Review of the OECD target setting: specifically the targets defined in the report "A Territorial Approach to the Sustainable Development Goals". The majority of them, with a few exceptions, apply a best performer approach to set the boundaries. While this approach is methodologically fully legitimate, the project team felt this would not fully integrate the specific SDG targets and would not holistically reflect the reality of EU regions. Therefore the team have suggested the most suitable approach for boundaries setting for each indicator based on associated targets (see step 2). 2. Review of the associated UN targets: a typology based on the language used has been created distinguishing predominantly between: reduce by half, ensure e.g. equal access, substantially increase, end e.g. hunger, double, universal/full and sustain. The latter typology allows us to build on the definition of a quantifiable target. While the UN language is the reference the final target needs to be tailored to the EU reality (see step 3). 3. Review of EU targets: a non exhaustive review of EU targets has been performed by examining EU strategy documents (e.g. Green deal, Europe 2020 targets, the 2030 climate & energy framework etc.). Targets that are quantified are directly used. Given the limited resources for an in depth examination of EU targets (examine relevant regulation, white papers, strategy documents) and given the timing (end of Europe 2020 and targets yet to be defined for 2030) inputs from ESPON EGTC and the steering committee to improve the target setting are very welcomed. For each indicator the UN target, typology based on the language used in the UN target and the proposed target are provided in the 'INDICATORS AND TARGETS' sheet. The actual boundary will depend on assessing the data for each indicator and the final approach will be reviewed based on data quality and availability.

Goal	INDICATOR FRAMEWORK			TARGETS					
	Indicator	Relevance Is the indicator relevant for the goal at the regional level? [indicate low, medium, high]	Comments [e.g. indicator gaps, alternative indicators etc.]	Target proposed	Background information on Targets		Suitability [Is the target suitable to measure your region's distance to the target]	Comments [e.g. substantially below the region's performance, sceptical about the proposed approach, proposed alternative etc.]	
					Language used with UN target	Associated UN target			
Goal 1	End poverty in all its forms everywhere	People at risk of poverty or social exclusion	Percentage		Reduce number of Europeans living below national poverty lines by 25% (following: Europe 2020) baseline period- period A 2011-2013	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions		
Goal 1	End poverty in all its forms everywhere	In work at-risk-of-poverty rate	Percentage		Reduce number of Europeans living below national poverty lines by 25%(following: Europe 2020) baseline period- period A 2011-2013	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions		
Goal 1	End poverty in all its forms everywhere	Satisfaction with housing: Percentage of people who feel satisfied with the dwelling they live in	Percentage		All (following: UN)	Ensure equal access	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums		
Goal 1	End poverty in all its forms everywhere	Lack of adequate heating: people who are in the state of enforced inability to keep home adequately warm	Percentage		All (following: UN)	Ensure equal access	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums		
Goal 1	End poverty in all its forms everywhere	Overcrowding: people living in an overcrowded dwelling, as defined by the number of rooms available to the household, the household's size, as well as its members' ages and family situation	Percentage		Reduce by half: target defined by using ESPON 32 countries average reduced by half (following: UN)	Reduce at least by half	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions		
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Insufficient food (EU SILC)	Percentage		Zero (following: UN)	End hunger			

– *Table 7 Template with inputs from Eastern and midland*

Goals		Comments on indicator framework	Comments on Targets
Goal 1	End poverty in all its forms everywhere	Poverty is relative to the wealth of a particular country, in Ireland it is defined as 'A person is defined as living in poverty if their income and resources are so inadequate as to preclude them from having a standard of living that is regarded as acceptable by Irish society. Any adult earning €249.55 a week or less, or €13,022 or less annually, is counted as being at risk of poverty.'	Each country has their own approach to defininf poverty, even two countries with similar GDP could have very different definitions of poverty
Goal 1	End poverty in all its forms everywhere	The same definition as above applies in Ireland to those in work. The tax system in Ireland is more progressive than many EU countries.	
Goal 1	End poverty in all its forms everywhere	The difficulty here is satisfaction is subjective, I presume it's self-reported satisfaction	There may be some overlap with the indicator above
Goal 1	End poverty in all its forms everywhere	We have good data on the proportion of income spent of fuel, fuel poverty is defined as spending at least 10 per cent of your income on fuel.	Quite suitable but it may be subjective, and the definition of adequate housing is difficult to measure
Goal 1	End poverty in all its forms everywhere	A good indicator but can be difficult to measure	A big issue in Ireland
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	The term 'food poverty' is defined as the inability to have an adequate and nutritious diet due to issues of affordability or accessibility.	Subjective indicator
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	In Ireland the area is very low	Not all organic farms in Ireland are certified organic
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Big issue in terms of water quality	Organic pollution a major issue in Ireland, septic tanks
Goal 3	Ensure healthy lives and promote well-being for all at all ages	Good indicator	Data readily available and comparable
Goal 3	Ensure healthy lives and promote well-being for all at all ages	Good indicator	Data readily available and comparable
Goal 3	Ensure healthy lives and promote well-being for all at all ages	Good indicator	Data readily available and comparable
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Good indicator	Data readily available and comparable
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Regional data in Ireland is harder to access than national data	Data readily available and comparable
Goal 5	Achieve gender equality and empower all women and girls	This indicator is already over 50% in Ireland	
Goal 6	Ensure availability and sustainable management of water and sanitation for all	Very topical in Ireland	
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all	General building energy rating data is available	
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all	Not readily available	
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all	Some calculation needed	
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all	Very similar to the fuel poverty indicator	
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	GNI would be a better indicator	
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	I don't think this is available for Ireland	

Summary findings from the pilots

- The relevance of indicators varies depending on the local characteristics of regions and also own interpretation of SDGs when designed internally.
- Target setting could go beyond the suggested targets for individual regions. This is a combination of the level of advancement of a region and of political priorities.
- For many of the indicators target setting is performed at national level.
- Between 40-60% of the indicator framework is assessed as being highly relevant and between 70-80% as medium/high level of relevance.
- The low relevance is associated with indicators that do not fully capture the dimensions of the goal that are of high relevance (such as the inclusion of bathing sites with excellent water quality instead of more climate change indicators such as preparation against future droughts, water consumption per capita, etc.) to the regions. It is also related to challenges cities have resolved to a good extent e.g. sewage treatment. Also the use of perception based indicators from the EU SILC survey is often considered to be a second best option.

Annex 2 - Interview with Slovenian Ministry

Does your country/regions have specific programmes/agendas towards the SDGs?

The Development of the comprehensive territorial plan integrated SDGs; now provisions are also embedding the SDGs and monitoring.

Does your country/region use own/national targets?

No targets are defined; final provisions will create the basis and ground to achieve the targets; some national targets will be developed (for elderly for instance, poverty gap between regions)

Are you employing any existing data sources to support you in SDG-related activities?

Data from Lithuania statistics department; migration department; Eurostat; in 2015 and 2016 an SDG evaluation was made internally.

If yes, do you regularly monitor or report on SDG indicators?

- To whom do you report (citizens, central government, EU)?
- Are you required to report or is it your own initiative?
- How were indicators for reporting developed or selected?

No reporting is compulsory

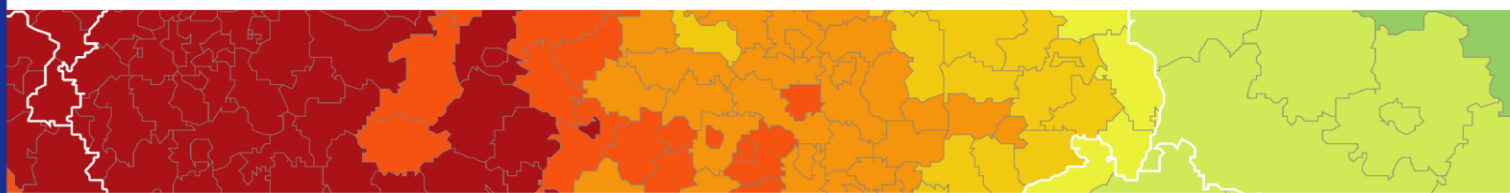
What should be the functionalities of an interactive SDG platform? Rate the tool's functionalities below as:

1=must have

2=nice to have

3=not so useful for my reporting, monitoring

FUNCTIONALITIES	RATE
Customisable and interactive maps by indicator	1
Display similar regions to showcase and compare your status based on criteria (population, income, geography ...)	1
Choose the regions you want to be compared to	2
Compare your development over time on the SDGs with that of other regions	2
Display only regions within your country	1
Display distance to your targets	1 (Powerful functionality)
Insert your own national/regional/local target	3 (Not the right moment; manipulation of the tool possible confusing for outcomes)
Display a ranking of regions next to the map by indicator	2 (For political agenda it works well)
'Generic' recommendations by goal	1 (But rather case studies from the library hence cases classified as good practice)
Downloading and printing of customised maps and charts	1
Downloading the data in order to produce own graphs.	1



ESPON 2020 – More information

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