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# SDG MONITOR

## CONSTRUCTION AND ANALYSIS

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# The 2022 SDG Monitor

## Construction and Analysis

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## 1 Introduction

There is a growing recognition that the successful implementation of the Sustainable Development Goals (SDGs) is dependent upon whether the Goals are adopted locally. As estimated by Sustainable Development Solutions Network (SDSN), 65% of the successes of the SDGs depend on the immediate and active involvement of municipalities ([Lafortune et al., 2019](#)). In this context, the SDG monitor outlined here tries to define the extent to which the Flemish cities and municipalities are partners in these global goals. The main goal of the SDG monitor is to help municipalities and stakeholders evaluate ‘*where are we doing well and where are we underperforming, where are we making progress or going backwards?*’ ([VVSG, 2020](#), p.18).

Two years ago, IDEA Consult launched the first edition of the SDG monitor along with a [website](#) that allows municipalities to explore their SDG performance. It coincided with a similar report by United Nations University Institute on Comparative Regional Integration (UNU-CRIS). The latter focused mainly on identifying the patterns in the SDG scores of Flemish municipalities, particularly the effect of differences in municipal income and size ([Standaert et al., 2020](#)). Given the complementarity of their approach, UNU-CRIS and IDEA consult decided to join forces for the second edition of the SDG monitor. In addition to combining their analyses, the 2021 edition centred on the updated citizen’s survey data in the *Gemeente-en Stadsmonitor* and how SDG performance has changed over time ([Standaert et al., 2021](#)).

This third edition of the index is created as part of a larger project in preparation for the upcoming Voluntary Sub-national Review and in cooperation with the *Vereniging van Vlaamse Steden en Gemeenten* (VVSG) and the *Vereniging Vlaamse Provincies* (VVP). Within the context of this project, our primary goal for the index was to increase its usefulness as a policy tool for local municipalities. To that end, we collected feedback from a large group of stakeholders to identify which indicators are relevant in the Flemish context. From this list, we selected indicators that track the progress towards the SDGs, leaving out the ones measuring the efforts undertaken, whether money-related or personal-related, or contextual factors.<sup>1</sup> This is a departure from last year’s index, which included all types of indicators. As such, the SDG index indicates those areas where further efforts are needed, irrespective of any actions already undertaken.

Altogether, we collect more than 200 indicators detailing the socio-economic and environmental outcomes of all 300 Flemish municipalities. About three-fifths of our data is provided by the *Gemeente- en Stadsmonitor*: 95 indicators from

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<sup>1</sup>The only exception is SDG17, Partnership for the Goals, where spending on development assistance is still included.

their citizens' survey and an additional 30 collected from other sources. New to this version of the SDG monitor are the 45 indicators accessed through the *Vereniging Vlaamse Provincies*' data platform.<sup>2</sup> Finally, a further 42 indicators were collected from 11 primary sources. These include detailed employment statistics from the VDAB's Arvastat website,<sup>3</sup> health statistics from the health insurance funds (IMA: *Intermutalistisch Agentschap*) and education statistics from the Flemish Department of Education's *DataLoep* website.

The index's construction mainly follows last year's approach, with two critical changes. First, we rescale each indicator relative to the top and bottom performance in Flanders *over the past decade*. This is a departure from the previous version, where the minimum and maximum values were determined each year. The new normalisation scheme allows for a more direct interpretation of the evolution in the index: any increases represent an actual improvement in that municipality's performance on the SDGs. Like last year, we assign a score of 100 to the municipalities that have the highest score and vice versa for a score of zero.

The second methodological change is implemented to deal with the substantial increase in the number of indicators. Specifically, we grouped the indicators into sub-indexes, which are subsequently combined into the 16 SDGs.<sup>4</sup> Depending on the available information, this results in between 2 and 10 sub-indexes per SDG, as seen in Table 1. On the one hand, grouping the thematically similar indicators into sub-indexes keeps the indexes tractable while still allowing us to incorporate fine-grained indicators. For example, this year's version includes indicators on school delays that distinguish based on gender or country of birth. The use of sub-indexes also provides a straightforward way to give specific indicators a higher weight in the final SDG index.

Despite the methodological differences and the increase in indicators in this version of the SDG monitor, the overall pattern remains consistent between both versions. The correlation in the scores is high (85%); for example, seven of the municipalities in this year's top ten were also in last year's top ten. Nevertheless, when studying changes over time, the methodology has changed to such an extent that this year's version should not be compared directly with the older version. For this reason, we also compute the older values of the index using the new indicator selection and methodology.

This relative scoring, comparing only within Flanders, ensures a more representative sample. The municipalities are compared only to those with highly similar legal, historical and economic contexts. The downside is that the SDG indexes in this report do not indicate how much a town is on its way to meeting all SDG goals.

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<sup>2</sup><https://provincies.incijfers.be/>

<sup>3</sup>VDAB: *Vlaamse Dienst voor Arbeidsbemiddeling*

<sup>4</sup>SDG 14, Life below Water, is left out as this is not relevant for most Flemish municipalities.

Table 1: Summary table of the sub-indexes per SDG

| SDG                                     | Sub-index   | SDG  | Sub-index  | SDG  | Sub-index  |
|---|---|--|--|--|--|
| <b>1 NO POVERTY</b><br>                 | Relative poverty<br>Low work intensity<br>Payment difficulties  | <b>7 AFFORDABLE AND CLEAN ENERGY</b><br>             | Sustainable energy production<br>Energy intensity<br>Affordable energy                 | <b>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</b><br> | Trash & recycling<br>Environmental consciousness   |
| <b>2 ZERO HUNGER</b><br>                | Organic agriculture<br>Agricultural emissions<br>Sustainable food   | <b>8 DECENT WORK AND ECONOMIC GROWTH</b><br>         | Employment<br>Unemployment<br>Circular & social economy<br>Growth                      | <b>13 CLIMATE ACTION</b><br>                         | CO <sub>2</sub> emissions<br>Floods<br>Heatwaves and droughts                            |
| <b>3 GOOD HEALTH AND WELL-BEING</b><br> | Physical health<br>Mental health<br>Road safety<br>Health infrastructure<br>Elderly care<br>Preventative care<br>Sports | <b>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</b><br> | Knowledge intensive economy<br>Infrastructure  | <b>15 LIFE ON LAND</b><br>                           | Green surface<br>Deforestation<br>Erosion  |
| <b>4 QUALITY EDUCATION</b><br>          | General<br>Babies<br>Toddlers & primary education<br>Secondary education<br>Higher & adult education                    | <b>10 REDUCED INEQUALITIES</b><br>                   | Diversity<br>Income Inequality<br>Discrimination<br>Origin gap in employment           | <b>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</b><br> | Safety<br>Social fabric<br>Satisfaction w. city council<br>Communication<br>Consultation |
| <b>5 GENDER EQUALITY</b><br>            | Equality in employment<br>Discrimination and violence   | <b>11 SUSTAINABLE CITIES AND COMMUNITIES</b><br>     | Sustainable transportation<br>Cycling safety<br>Passenger cars<br>Nuisances<br>Culture | <b>17 PARTNERSHIPS FOR THE GOALS</b><br>             | Development assistance   |
| <b>6 CLEAN WATER AND SANITATION</b><br> | Drinking water<br>Sewer system<br>Protecting waterways  |  |  |  |  |

Most importantly, a perfect score on a particular SDG does not necessarily suggest that there is no further room for improvement. That being said, the latest version of the SDG monitor does paint a relatively good picture of the SDG performance in Flanders. There is evidence of significant improvements in the SDGs. All but a few municipalities have dramatically increased their performance over the past decade.

The way that the index is constructed, does mean that municipalities with vastly different characteristics are directly compared. This includes, e.g., Antwerp and Herstappe whose populations in 2021 counted respectively 539,417 and 78. Following last year's report, we run a series of regressions on the SDG indexes to measure how well the SDG scores correlate with socio-economic and demographic characteristics that lie outside a municipality's immediate control. We find that a municipality's income level has the highest explanatory power of all of the contextual factors that were considered. Moreover, the income level was positively correlated with all of the SDGs.

The following section provides a general overview of how Flemish municipalities perform on the SDG index and discusses the evolution of the indexes. Section 3 provides a detailed description of how the index was constructed and the selection criteria used.

## 2 The 2022 SDG indexes

This section provides a general overview of the SDG performance in Flanders and sketches out the context within which a municipality's scores should be interpreted. Specifically, we discuss the distribution of the scores, the existence or absence of geographical patterns and how the scores have evolved over the past decade. For a more detailed look at a specific municipality or region, we refer you to the website [www.sdgmonitor.be](http://www.sdgmonitor.be).

### 2.1 The distribution of the scores

Before they are combined into the (sub)indexes, all indicators are first normalised such that their values lie between zero and a hundred, respectively the worst and best Flemish performance. Intuitively, we might expect to observe a median score of 50 for most indicators and, consequently, for most indexes. However, the majority of municipalities score above 50 on most indicators, i.e., above the halfway point between the top and bottom scores. This top-heavy distribution is also reflected in SDG indexes. As shown in Figure 1, the 2021 median score of most SDG indexes lies above 50. The overall SDG performance has a median score of 57, and only one municipality (Ronse in East-Flanders) scores below the 50 mark. It is important to emphasise that these relatively high SDG scores do not necessarily indicate that Flanders would also do well in an international comparison of the SDGs. The indexes presented here only compare Flemish cities with each other and with their historical performance.

SDG 17, Partnership for the Goals, is the clear outlier with an extensive range and five out of six observations below 50. The reason is that SDG index contains only one indicator: development assistance spending per inhabitant. In addition, the values for SDG17 are bottom-heavy, leading to the distribution shown in Figure 1. According to the BBC tool (*Beleids- en BeheersCyclus*) about one in four municipalities failed to report spending anything on foreign aid in 2021. It should be noted though, that this not necessarily mean that those municipalities did not provide this support through other channels.

Apart from SDG17, the second most striking result is that of SDG 1, No Poverty, which has a median score of 85 in 2021. In this case, this is mostly driven by the strong decrease in the number of people whose net taxable income is below a critical boundary,<sup>5</sup> and the number of people living in a family with low work-intensity over the last 10 years. For the first variable, the lowest score even lies above 50, indicating that this improvement has happened uniformly for all Flemish municipalities.

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<sup>5</sup>That critical boundary is 10,000 euro for individual tax returns and 20,000 for joint tax returns.

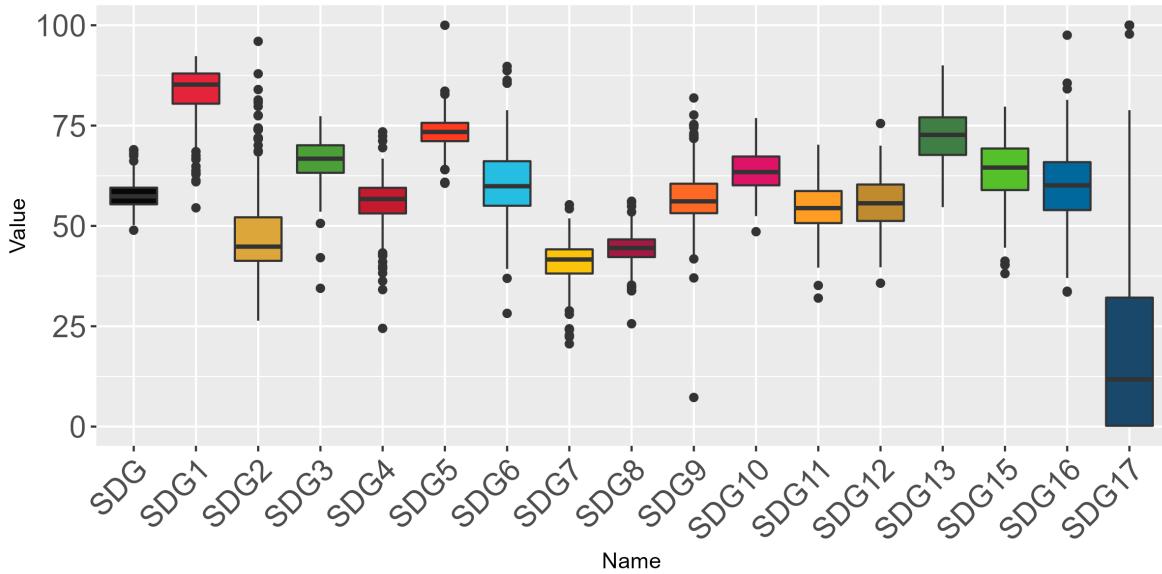


Figure 1: Boxplot of the 2021 SDG values

The coloured box indicates the data lying in the 25<sup>th</sup> (Q1) and 75<sup>th</sup> percentile (Q3) and the mid-line the median value. The whiskers (lines) extend to indicate the furthest data outside of this box, up to 1.5 times the interquartile range (Q3-Q1). Any data beyond this distance, the outliers, are marked by dots.

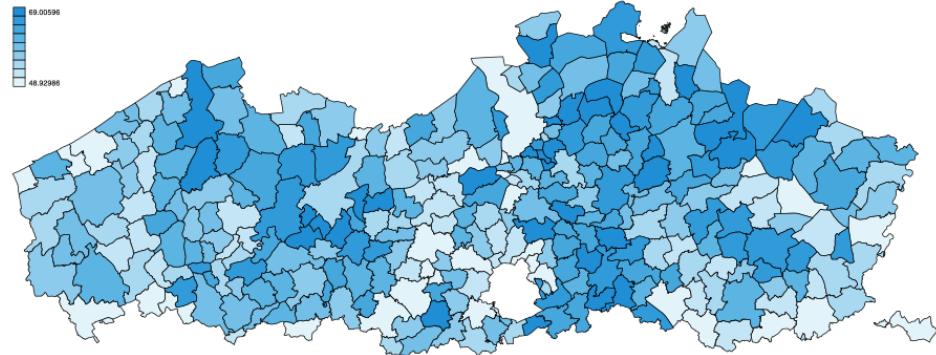
There are four SDGs in 2021 for which most municipalities score below 50: SDG 17, SDG 2, No Hunger, SDG 7, Clean and Sustainable Energy, and SDG 8, Decent Work and Economic Growth. All four SDGs have had these lower scores since 2010, primarily due to the bottom-heavy distribution of one or a few underlying indicators. For example, most municipalities score very low on the fraction of land devoted to organic agriculture (SDG 2) or the fraction of people working in the circular economy (SDG 8).

As shown in Figure 1, the individual SDG indexes have a much wider range than the overall SDG index, where the values lie within a 20-point interval. This indicates that no municipality scores low on all SDGs, but instead, scores low on one particular aspect tend to be compensated by higher scores elsewhere.

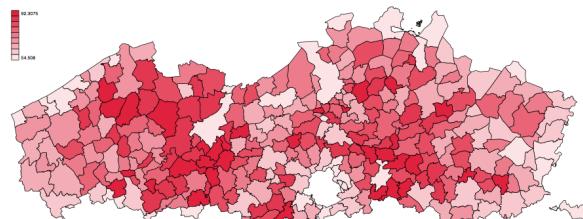
## 2.2 Geographical patterns in the scores

To give a broad overview of the scores, Figure 2 shows the values of the SDG indexes on a map of Flanders. For all graphs, a darker colour indicates a better performance.

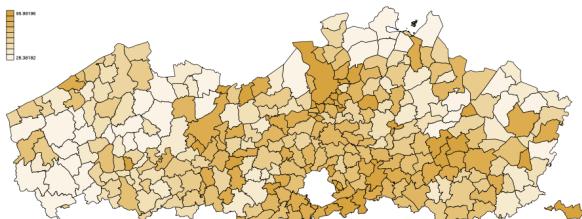
For most SDGs, the results seem to be clustered geographically, although this pattern can differ strongly depending on which goal is considered. For example, in the case of SDG 13, Climate Action, the high scores are in the Western portion of



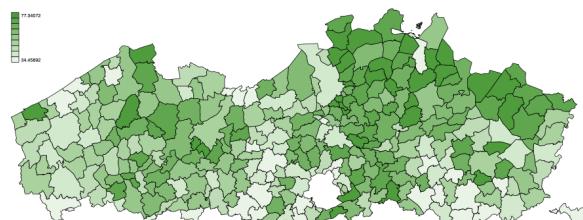
(a) SDG overall



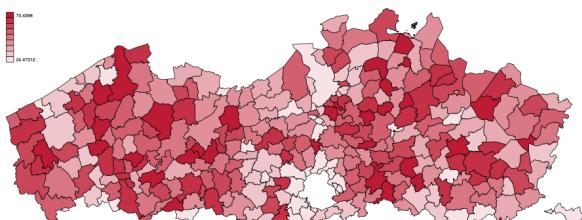
(b) SDG1 - No Poverty



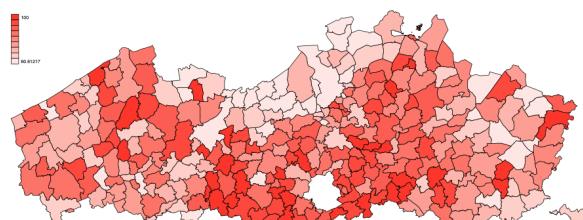
(c) SDG2 - Zero Hunger



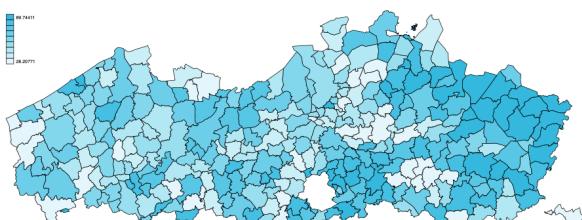
(d) SDG3 - Good Health



(e) SDG4 - Quality Education



(f) SDG5 - Gender Equality



(g) SDG6 - Clean Water and Sanitation

Figure 2: 2021 SDG scores  
Darker colours corresponding a higher level of preparedness.

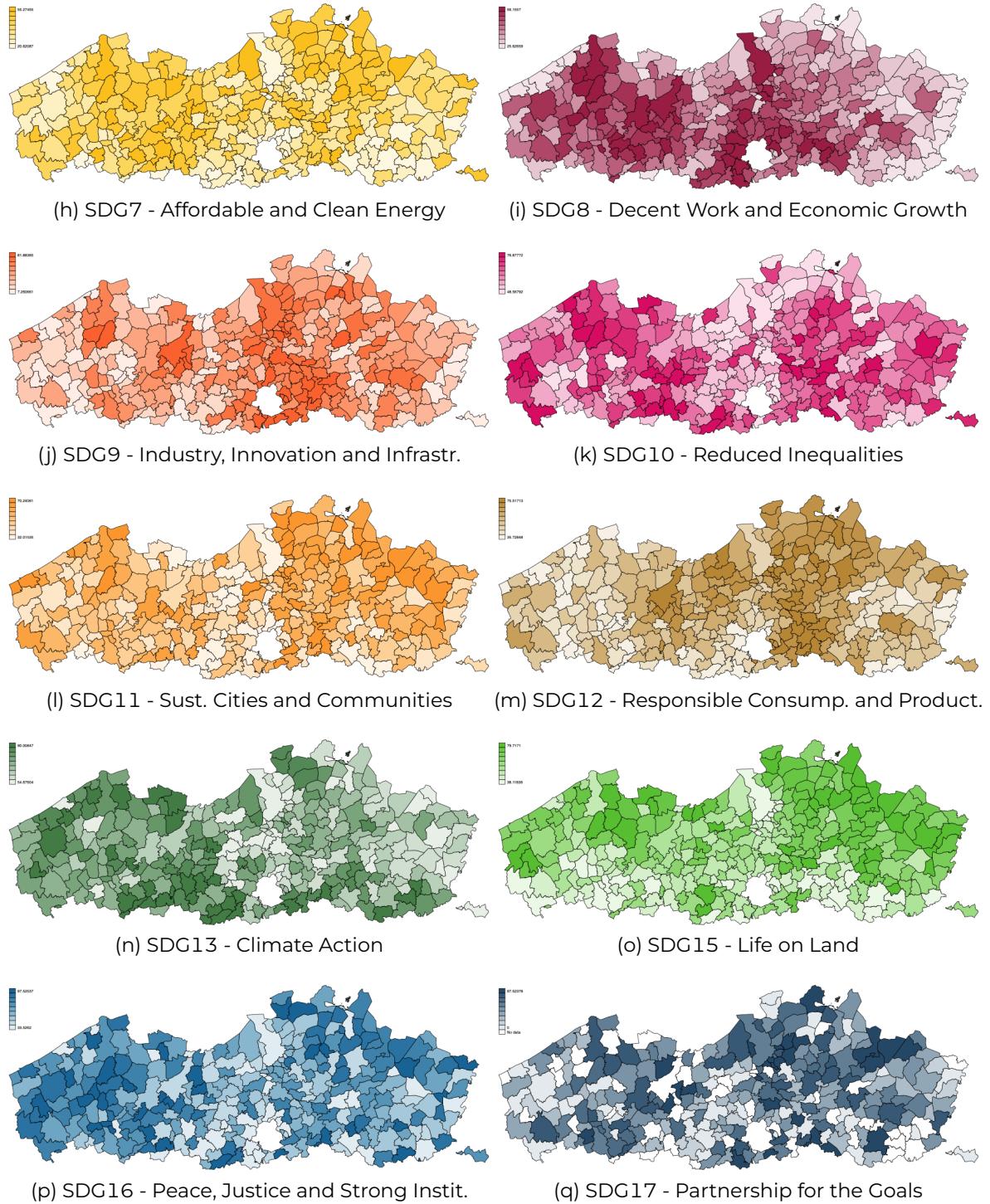


Figure 2: Maps of the Flanders Cities SDG indexes for each goal  
Darker colours indicate to higher scores.

Flanders, while SDG 6, Clean Water and Sanitation, displays the opposite pattern.

Overall, the larger cities and regional hubs seem to score (slightly) worse compared to the other municipalities. This is particularly noticeable for SDG 1 (-9.2), SDG 16 (-9.1), SDG 15 (-6.4) and SDG 13 (-6.4), where tests of the means confirm that the difference is statistically significant. Cities also have a lower than average score on SDG 10 (-4.3), SDG 5 (-3.7), and SDG 3 (-3.3), but compensate with higher scores on SDG 12 (+3.8), SDG 9 (+5.1) and especially SDG 2 (+6.7). The overall difference with the average Flemish municipality, on the other hand, is small and barely statistically significant.

### 2.3 Changes in the SDG scores

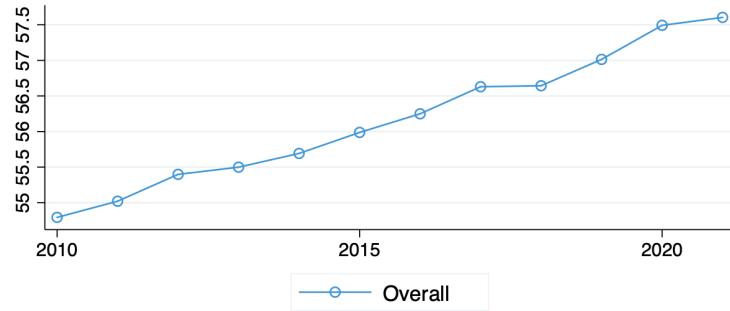
Given the many changes to last year's index, it makes little sense to discuss any changes in the performance between both versions. However, whenever possible, we also look for older values of the indicators to be able to discuss the evolution in the SDG indexes.

One specific problem when computing the older index values is that of the many gaps in the database. As explained in section 3, we solve this in a way that minimises the impact of differences in the availability of the data on the index values, allowing for a more intuitive comparison of the changes over time. Specifically, we fill in the gaps such that a change in the index can be ascribed to a change in the underlying data in that year.

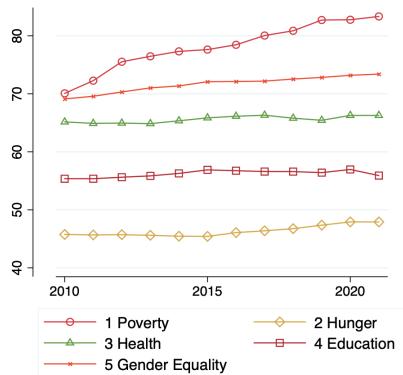
Figures 3 show the evolution in the average index values for all SDGs. To keep these figures readable, we split them up according to the five Ps: people, planet, prosperity, peace and partnership. Panel a shows a gradual increase in the SDG performance in Flanders, most of which can be traced back to a few SDGs: SDG 1, No Poverty, SDG 8, Decent Work and Economic Growth, and SDG 10, Reduced Inequality, which have grown with between 5 to 10 points. Furthermore, SDG 9, Industry, Innovation and Infrastructure, has a sudden 6-point jump in 2020, caused by a further reduction in the number of people without internet access.

There are a few SDGs where the overall score has remained constant since the early 2010s. However, in some cases, like SDG 3, Good Health and Well-being, this is due to contradicting movements in the sub-indexes. SDG 3C, road safety, and SDG 3F, preventative care, have increased but are compensated by a substantial decrease in SDG 3A, physical health. The latter is caused by a gradual worsening of the prevalence of diabetes and chronic illnesses.

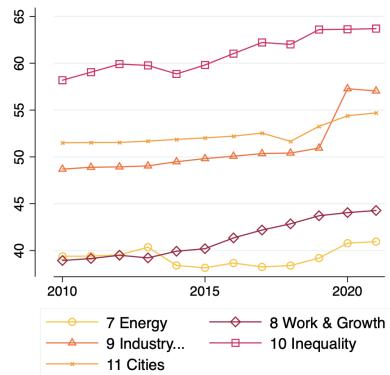
There is one goal that has consistently deteriorated since 2010: SDG 15, Life on Land. This is mainly caused by a constant reduction in non-developed land in all but two municipalities and a reduction of green spaces in 87% of municipalities. A small number of SDGs have also seen a downward movement in recent



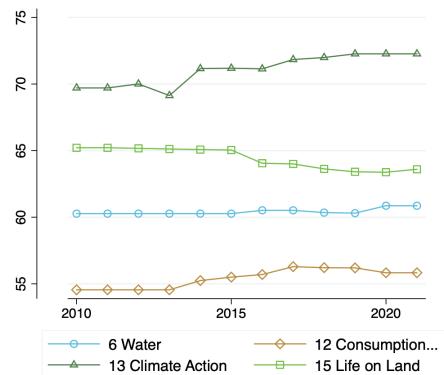
(a) Overall SDG scores



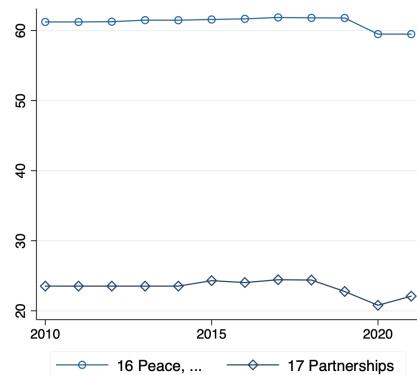
(b) People



(c) Prosperity



(d) Planet



(e) Peace & Partnership

Figure 3: Change in the SDG indexes from 2010 to 2021

years: SDG4, SDG 12, SDG 16, and SDG 17. First, the decrease in SDG 4, Quality Education, is mainly caused by a decrease in the attendance records in kindergarten and, to a lesser extent, adult learning. Second, SDG 12's downturn can be traced back to an increase in the amount of trash generated. Third, SDG 16, Peace, Partnership and Strong Institutions, saw a small decline in 2020. While most of its sub-indexes has small decreases, the main culprit is SDG16E, is a decrease in the satisfaction with the municipal council, and in particular their counter services (*loketdiensten*). Finally, a large group of municipalities decreased their spending on development per inhabitant slightly between 2019 and 2020, leading to the decrease in SDG17. The uptick in 2021 is caused by a separate group of municipalities that increased their spending.

While some of these results, like the reduction in attendance in Kindergarten, seem consistent with the consequences of the COVID-19 pandemic, most of the data in the SDG monitor still predates this period. As such, it is still too early to get an unbiased view of how the corona-virus has impacted the SDG performance in Flanders.

## 2.4 Regression results

As we did in last year's version of the SDG monitor (Standaert et al., 2021) we run a simple regression analysis on each SDG to gauge the impact of the population, the age structure, the median income, the geographical size, and whether it concerns a larger city or regional hub.

The goal of these regressions is not to establish any causal patterns. Instead we merely seek to establish if, e.g., cities still have a negative correlation with SDG 16 once we control for contextual factors like their population size or median income. In other words, these regressions allow us to establish if cities would still score lower if every municipality had the same income level, population size etc. The choice of these contextual determined by their applicability to all SDG goals and their availability for all municipalities. More information on the regressions and the full results table are available in Appendix B.

The regressions reveal that the strong negative results for larger cities visible in Figure 2 are mainly due to their larger population sizes. Except for SDG 1 and SDG 3, the negative scores for large cities disappear when we control for population size, and, in some cases, they are even reversed (SDG 16). However, their positive effect on SDG 2 and SDG 12 remains significant and even increases.

As was the case last year, the most powerful explanatory factor for the differences in SDG progress between the Flemish cities is their median income. As shown in Appendix B, it is positively and significantly correlated with all SDGs. This is evidenced by the fact that leaving the median income out of the model drop the

explanatory power of the model by more than half.<sup>6</sup> Following the patterns with the country-level SDGs in international comparisons (see e.g. Lin et al., 2019), it is the more affluent municipalities that have the highest probability of meeting the SDGs.

What can also be seen in the regressions detailed in Appendix B, is whether the geographical patterns spotted in Figure 2 remain intact once we control for population, municipality size and income. As the patterns change depending on which SDG is considered, we limit our discussion here to the most notable results. As suggested in Figure 2, the Kempen and Region Bruges have the best SDG performance, and this does not change once we control for the contextual factors. While the total scores for the regions of Antwerp and Oost-Brabant are also high, the regressions reveal that they are actually performing less well than we would have expected based on their higher median income. The opposite happens for the province of Limburg. Its overall scores are significantly lower than elsewhere in Flanders, but once we control for the specific context in which they operate we find that they are among the highest scoring.

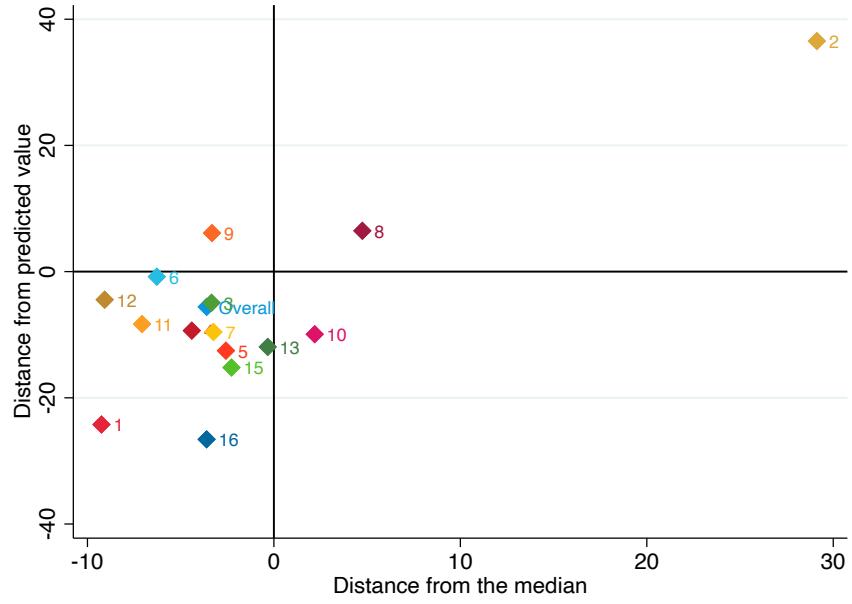
Figure 4 summarises the relative scores and expected scores. From left to right, the x-axis shows how far the city's score is removed from the median score (indicated by the vertical line). From bottom to top, the y-axis compares this each SDG index value to what we would have expected the municipality to score given the contextual factors (the horizontal line). Put together, this graph separates the scores into four quadrants:

- Top right are the SDGs where the city scores high and better than expected;
- Top left are the SDGs where the scores are low, but still better than expected;
- Bottom left we find the SDGs that are scoring low and lower than expected;
- Bottom right are the SDGs where the municipality scores high, but still below what we would have expected a city of that size, population and wealth to score.

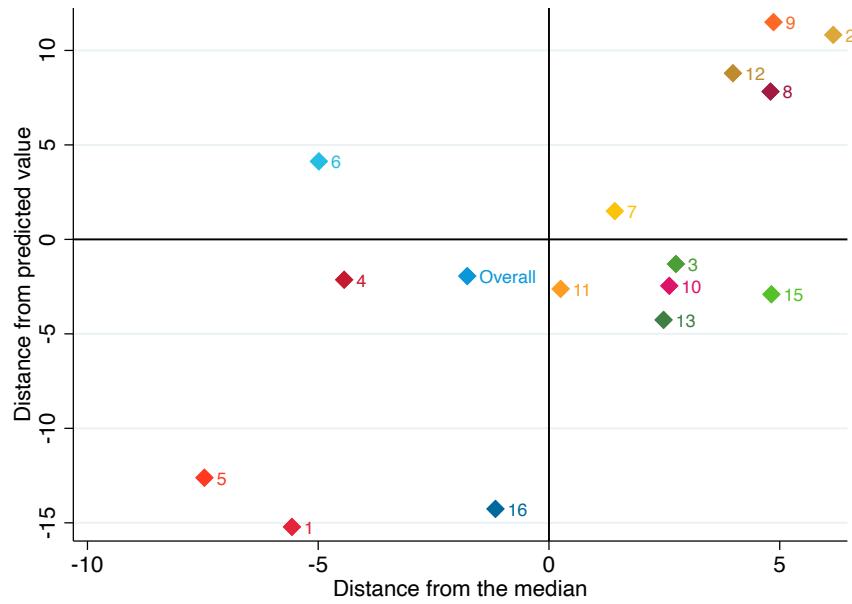
By way of illustration, figure 4 focuses only on the two most populous cities in Flanders, but these graphs are available for all cities. They reveal two very different patterns for Antwerp and Ghent. In Antwerp's case, most SDGs fall in the bottom right quadrant. However, not all indicators are alike. SDG 16 is close the Flemish median but lies more than 20 points below the score we would have expected. Its score on SDG 6, on the other hand, lies relatively far from the median but matches

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<sup>6</sup>The R<sup>2</sup> - a measure of how much of the variation is explained by the variables included in the model - drops from 52% in the overall regressions to only 24%. Also leaving out the dummies for the reference regions further lowers the R<sup>2</sup> to 3%.



(a) Antwerp



(b) Ghent

Figure 4: Distance from the median vs. Distance from the expected score  
 X-axis: difference between the municipality's score and the median for each SDG (except SDG 14 and SDG 17). Y-axis: difference between the municipality's score and its expected score based on its population, size and median income, as predicted by the model in Appendix B.

our expectations exactly. SDG 2 lies on the other side of the spectrum and lies so far into the top right quadrant that it distorts most of the picture. This is mostly caused by the abundance of organic farms that are headquartered in the Antwerp.

The first thing to note when comparing Antwerp's graph to that of Ghent, is that the latter is more zoomed in. The y-axis is three times smaller, and the x-axis 2.5 times. Except for SDG1, SDG 16 and SDG 2, the scores mostly fall in the same range. Second, Ghent has three times as many indicators on the left-hand side of the horizontal line, indicating relatively high scores. Nevertheless, half of those indicators lie still below expectations, indicating that these high scores need not be an excuse for complacency. In addition to the overall score, there are 4 SDGs in Ghent's bottom left quadrant. SDG 1, SDG 16 and SDG4 are in similar positions as was the case for Antwerp, but SDG 5, Gender Inequality, lies further both in absolute terms and in terms of our expectations.

## 3 Construction of the index

### 3.1 Data sources

While the previous edition of the index was built on the *Gemeente-Stadsmonitor database* (GSM),<sup>7</sup> the 2021 edition casts a wider net. The main secondary source of data is the *Provincies in Cijfers* database (PiC),<sup>8</sup> which like the *Gemeente-Stadsmonitor* collates a large number of regional, provincial and federal databases. This is further augmented with information from eleven additional sources. The full list of sources, including those accessed via GSM and PiC is listed in table 2. For the specific origin of each indicator, we refer to the table 3 in the appendix.

### 3.2 Selection criteria for the indicators

Based on the feedback we received following last year's SDG monitor, we revisited our selection of indicators. As such, our primary goal was to improve the relevance of the monitor for Flemish municipalities. As part of a project commissioned by the *Vereniging van Vlaamse Steden en Gemeenten* (VVSG), we organised stakeholder meetings that looked at the measurement of the SDGs in preparation for the upcoming Voluntary Sub-national Review (VSR).<sup>9</sup> One outcome of this project was an extensive list of suggested indicators that track the progress toward the SDGs, which we narrow down according to the selection criteria listed below.

The crucial way this index differs from international indicators is the selection was based on the indicators' relevance in the Flemish context. Some indicators were excluded, like the number of people living on less than 2\$ a day. However, the indicators that we were able to incorporate that are not typically part of the SDG framework are more important. For example, SDG 2, No Hunger, includes indicators tracking how often you eat organic or vegetarian food. While vegetarianism is not mentioned directly in the SDGs, given its impact on the environment and sustainable nature, it clearly falls into the remit of SDG 2.4 '*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.*'<sup>10</sup>

The richness of the available data on the local level for Flanders remains unseen

<sup>7</sup> Available at <https://gemeente-stadsmonitor.vlaanderen.be/>.

<sup>8</sup> Available at [provincies.incijfers.be](http://provincies.incijfers.be).

<sup>9</sup> Participating in these meetings were representatives from the municipal administrations of Balen, Boechout, Brugge, Deinze, Evergem, Harelbeke, Hasselt, Sint-Niklaas and Zoersel.

<sup>10</sup> <https://www.un.org/sustainabledevelopment/hunger/>

Table 2: Data sources (in dutch)

| Gemeente-stadsmonitor (GSM)                          | Provincies.inCijfers.be (PiC)                                  |
|--|--|
| Agentschap Informatie Vlaanderen                     | Centrum voor Kankeropsporing                                   |
| Agentschap Innoveren en Ondernemen                   | Criminaliteitsstatistieken Federale Politie                    |
| Burgerbevraging Gemeente-Stadsmonitor                | Databank Ondergrond Vlaanderen                                 |
| Kruispuntbank <sup>(a)</sup>                         | Departement Landbouw en Visserij                               |
| Departement Omgeving                                 | Fluvius  |
| Departement Onderwijs & Vorming                      | InterMutualistisch Agentschap                                  |
| Departement Werk & Sociale Economie                  | Landgebruiksbestand  |
| Vlaams steunpunt voor cultureel erfgoed              | Nationale Bank van België                                      |
| Kind & Gezin   | Openbare Vlaamse Afvalstoffenmaatschappij                      |
| Rijksdienst voor Sociale Zekerheid                   | Rijksinstituut voor de Sociale Verzekeringen der Zelfstandigen |
| Statbel  | Statbel  |
| Steunpunt Werk <sup>(b)</sup>                        | Vlaams Energie- en Klimaatagentschap                           |
| UiT-databank, Cultuurnet                             | Vlaamse Milieumaatschappij                                     |
| Vlaamse Instelling voor Technologisch Onderzoek      |  |
| Vlaamse Milieumaatschappij                           |  |
| Vlaamse Regulator van de Elektriciteits- en Gasmarkt |  |
| Vlaamse Statistische Autoriteit                      |  |
| Wonen Vlaanderen                                     |  |
| Andere bronnen (niet in PiC of GSM)                  |  |
| InterMutualistisch Agentschap                        | Onderwijs Vlaanderen - Dataloop                                |
| Agentschap Binnenlands Bestuur                       | Statbel  |
| autodelen.net  | Vaccinatieteller   |
| bosteller.be   | VDAB - arvastat  |
| Jobsmonitor Circle Economy                           | Vlaamse Milieumaatschappij                                     |
| klimaatportaal vlaanderen                            |  |

<sup>(a)</sup> Datawarehouse Arbeidsmarkt en Sociale Bescherming van de Kruispuntbank van de Sociale Zekerheid

<sup>(b)</sup> Vlaamse Arbeidsrekening o.b.v. RSZ, RSVZ, RIZIV, RVA, Statbel (Algemene Directie Statistiek – Statistics Belgium), DWH AM&SB bij de KSZ, BISA

elsewhere, allowing for a much more detailed set of indicators than is typically included, let alone on this level of disaggregation. Included in SDG 10, Reduced Inequalities, are statistics on discrimination based on gender, origin and disability and SDG 8, Decent Work and Economic Growth, has separate employment statistics based on gender and origin.

For the index presented here, we narrow our selection of indicators based on a simple set of instructions.

1. The most important selection criterion is that the indicator has to measure a specific development **outcome**, i.e., it has to measure to what extent the sustainable development goals are being realised.

This rules out indicators that measure a municipality's efforts either in terms

of resources used (money or personnel) or actions taken (number of meetings organised). It also excludes indicators that track the direct participation or results of specific activities (so-called output indicators). Consider, for example, the amount of trash picked up from the streets. While removing waste is undoubtedly a societal good, the amount that is picked up depends primarily on how much is littered in the first place. This makes it hard to compare changes over time or differences between municipalities.

What is new to the 2021 edition of the index is that we also rule out contextual factors. For example, the *Onderwijs Kansarmoedeindex* is no longer included in SDG 4 Quality Education. This indicator consists of four indicators, including a measure of school delays, the language spoken at home, and the mother's education level. While the latter two might indicate that extra support is needed for those students, it does not directly measure their school performance. The new SDG monitor instead incorporates indicators of school delay, including specific indicators for students with a non-Belgian or non-European background.

2. Following last year's selection criteria, we restrict the indicators to those with a 'clearly identifiable impact on the SDG preparedness.' In practical terms, an increase in an indicator must be either unambiguously positive or unambiguously negative for the SDGs.

A positive by-product of the focus on outcome indicators is that it resolves several difficult choices made in last year's version of the index. For example, we previously included the number of people receiving income assistance from the government in SDG 1, No Poverty. The assistance given to these people is a societal good, meaning an increase should be positive. As the rules for entitlement to income assistance are the same for all Flemish municipalities, we instead use it as an indirect measure of poverty. As such, an increase was interpreted as something negative.<sup>11</sup> In this new version of the index, the number of people receiving income assistance is no longer included as it is an output indicator. Instead, we have the number of people living in (relative) poverty and those reporting financial difficulties in making ends meet.

3. Following last year's index, a basic requirement is that the data is available for all or most Flemish municipalities (at least 80%).

The full list of indicators that met these criteria can be found in Table 3, along with their source.

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<sup>11</sup>This was somewhat of an oversimplification, as municipalities could still differ in their efforts to ensure that all eligible people received such assistance.

In mapping those indicators to specific SDG goals, we follow two previous indexes created by [Lafortune et al. \(2019\)](#) and [Aalbers \(2020\)](#). One restriction when assigning indicators to SDGs is that we avoid assigning the same indicator to different goals. However, the number of indicators for which such a choice had to be made is relatively limited and often quite straightforward. For example, while the gender gap in unemployment can be assigned to *SDG10 Reduced Inequalities*, it is a more natural fit for *SDG5 Gender Equality*.

The more than doubled number of indicators means that for most sub-goals, there are multiple suitable indicators, each presenting a slightly different aspect of the more general question. Do we look at instances of discrimination based on sexual preference, origin or mental or physical disability?<sup>12</sup> Following last year's example, we avoid this choice by combining similar indicators into a sub-index. Table 1 provides an overview of all sub-indexes per SDG. It should be noted, however, that in some cases (e.g., SDG 1 Relative poverty), there is only one indicator in the sub-index.

### 3.3 Standardisation

After selecting the indicators, we put them on equal footing such that they can be more easily compared and combined. To that end, we follow the methodology proposed in [Lafortune et al. \(2019\)](#) and [Aalbers \(2020\)](#) to normalise the indicators and combine them into the SDG indexes.

Specifically, the construction of the indexes follows these steps:

1. For each indicator, we define a direction, negative or positive, according to whether or not the increase of this indicator is socially desirable. The last column of table 3 summarises the directions associated with each indicator.
2. Since the SDG achievement of the Flemish cities is evaluated intra-regionally, we use the best and worst performers [over the last 12 years](#) as the benchmark values to rescale the indicators (i.e., from 2010 onward). This is our main methodological departure from the previous year's version ([Standaert et al., 2021](#)), where this normalisation was done each year, making the changes in the index value more difficult to interpret. With this change in normalisation, an increase in the index values can be interpreted as improvement in that municipality's performance.<sup>13</sup>

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<sup>12</sup>While you could take the sum of all three, this will result in the most frequent form of discrimination dominating the result. In this case, discrimination based on origin is twice as prevalent as disability-based and three times as prevalent as gender-based.

<sup>13</sup>As was the case last year, we still exclude Herstappe's score when computing the minimum and maximum values as its small population size (< 90) can otherwise distort our results.

3. Having defined the minimum ( $\min_t^x$ ) and maximum value ( $\max_t^x$ ) for each index  $x_t$ , we then apply the min-max method to normalise the score of the indicators. For the positive indicators, the scores are derived using Equation 1 while the negative indicators are normalised using Equation 2. So, if  $x_{it}$  is the indicator value of municipality  $i$  in year  $t$  before normalisation, the rescaled value  $y_{it}$  is given by

$$y_{it} = 100 \frac{x_{it} - \min_t^x}{\max_x - \min_t^x} \text{ if } x \text{ is a positive indicator} \quad (1)$$

$$y_{it} = 100 \frac{\max_t^x - x_{it}}{\max_t^x - \min_t^x} \text{ if } x \text{ is a negative indicator} \quad (2)$$

After normalisation, a score of 100 means that the municipality has the best performance on that indicator of all municipalities in Flanders, while 0 means the opposite.

4. In three cases, the distribution in the indicator was pushed so much to the left that most of the municipalities ended up with a score close to zero. To reduce the impact of the outlying municipalities and increase the level of detail for the others, we reduced the maximum value  $\max_t^x$ . Examples include fraction of land used for organic agriculture (max = 10%), shared cars per inhabitant (max = 1%) and spending on foreign aid per inhabitant (max = 5). Municipalities with values exceeding the maximum, received the score of 100.

### 3.4 Computation of the index

The second methodological change compared to last year's index is implemented to deal with the increase in the number of indicators. We first group the indicators into sub-goals using a simple average. These sub-goals are then combined into a score per SDG, which is aggregated into an overall score, each time using an (unweighted) average. This results in an index with the same interpretation as the indicators: 100 means the municipality has the highest score on all indicators and vice versa for 0.

The main difficulty that needs to be overcome is the difference in the data availability of the indicators. Some indicators are available with a lag, while others are only available in 2021. We use the last available data for the 2021 values of the index. To make comparisons over time possible, we used the same approach to compute the older index values: each time using the last available data. Only when no older data was available was future data used to fill in the gaps. As such, any change in the index value represents a change in the underlying indicators **in that year**.

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## A Full list of indicators (in Dutch)

Table 3: Indicators included in the SDG monitor (in dutch)

| Naam   | Bron                             | teken |
|--|----------------------------------|-------|
| <b>SDG 1 - Geen armoede</b>  |                                  |       |
| <b>1A Relatieve armoede</b>  |                                  |       |
| Fiscale inkomen beneden de kritische grens   | GSM - Statbel                    | -     |
| <b>1B Lage werkintensiteit</b>   |                                  |       |
| Personen in een gezin met zeer lage werkintensiteit  | GSM - Kruispuntbank              | -     |
| <b>1C Betalingsproblemen</b>   |                                  |       |
| Inwoners met betalingsmoeilijkheden  | GSM - Burgerbevraging            | -     |
| kredietnemers met achterstallige lening op afbetaling<br>(tav totaal leningen op afbetaling) | PiC - NBB                        | -     |
| kredietnemers met achterstallig hypothecair krediet (tav totaal hypothecaire schulden)       | PiC - NBB                        | -     |
| <b>SDG 2 - Geen honger</b>   |                                  |       |
| <b>2A Biologische landbouw</b>   |                                  |       |
| Aandeel biologische landbouw (max = 10%)   | PiC - Dep't Landbouw en Visserij | +     |
| <b>2B Landbouwemissies</b>   |                                  |       |
| Niet-energie gerelateerde uitstoot: N2O uit de bodem   | PiC - VEKA                       | -     |
| Niet-energie gerelateerde uitstoot: Veeteelt   | PiC - VEKA                       | -     |
| Ammoniak emissies landbouw   | PiC - VEKA                       | -     |
| CO2 intensiteit landbouw   | PiC - VEKA                       | -     |
| <b>2C Duurzame voeding</b>   |                                  |       |
| Aandeel lokaal gekweekte groenten en fruit   | GSM - Burgerbevraging            | +     |
| Aandeel biologische producten  | GSM - Burgerbevraging            | +     |
| Aandeel vegetarisch gegeten  | GSM - Burgerbevraging            | +     |
| Aandeel seizoensgroenten   | GSM - Burgerbevraging            | +     |
| <b>SDG 3 - Goede gezondheid en welzijn</b>   |                                  |       |
| <b>3A Fysieke gezondheid</b>   |                                  |       |
| Oversterfte per gemeente   | Statbel - Bevolking              | -     |
| Diabetes   | PiC - IMA                        | -     |
| Chronische aandoeningen  | PiC - IMA                        | -     |
| <b>3B Mentale gezondheid</b>   |                                  |       |
| antidepresiva  | IMA                              | -     |
| antipsychotica   | IMA                              | -     |
| alcoholverslaving  | IMA                              | -     |
| antidementie   | IMA                              | -     |
| stimulantia  | IMA                              | -     |
| Geluksgevoel   | GSM - Burgerbevraging            | +     |
| <b>3C Verkeersveiligheid</b>   |                                  |       |
| Verkeersslachtoffers   | GSM - Statbel                    | -     |
| Verkeersslachtoffers bij fietsers en voetgangers   | GSM - Statbel                    | -     |

|  |                                    | Sign |
|--|------------------------------------|------|
| Veilig naar school   | GSM - Burgerbevraging              | +    |
| <b>3D Gezondheidsvoorzieningen</b>   |                                    |      |
| Tevredenheid gezondheidsvoorzieningen  | GSM - Burgerbevraging              | +    |
| Voldoende huisartsen   | GSM - Burgerbevraging              | +    |
| betalingsmoeilijkheden gezondheidszorg   | GSM - Burgerbevraging              | -    |
| <b>3E Voorzieningen voor ouderen</b>   |                                    |      |
| Voldoende zorgvoorzieningen voor ouderen   | GSM - Burgerbevraging              | +    |
| Tevredenheid ouderenvoorzieningen  | GSM - Burgerbevraging              | +    |
| <b>3F Preventieve zorg</b>   |                                    |      |
| Baarmoederhalskankerscreening  | PiC - Centrum voor Kankeropsporing | +    |
| Borstkankerscreening   | PiC - Centrum voor Kankeropsporing | +    |
| Darmkankerscreening  | PiC - Centrum voor Kankeropsporing | +    |
| Preventieve mondzorg   | PiC - IMA                          | +    |
| COVID 19 Vaccinaties   | Vaccinatieteller                   | +    |
| <b>3G Beweging en sport</b>  |                                    |      |
| Actief bewegen   | GSM - Burgerbevraging              | +    |
| Sportparticipatie (minstens wekelijks)   | GSM - Burgerbevraging              | +    |
| Voldoende sportvoorzieningen   | GSM - Burgerbevraging              | +    |
| <b>SDG 4 - Kwaliteitsonderwijs</b>   |                                    |      |
| <b>4A Algemeen</b>   |                                    |      |
| Tevredenheid over onderwijsvoorzieningen   | GSM - Burgerbevraging              | +    |
| Betaalmoeilijkheden schoolkosten   | GSM - Burgerbevraging              | -    |
| <b>4B Baby's en peuters</b>  |                                    |      |
| Voorschoolse opvangplaatsen baby's en peuters  | GSM - Kind & Gezin                 | +    |
| Voorschoolse opvangplaatsen baby's en peuters met inkomenstarief                         | GSM - Kind & Gezin                 | +    |
| Tevredenheid kinderopvang kwaliteit  | GSM - Burgerbevraging              | +    |
| Betalingsmoeilijkheden kinderopvang  | GSM - Burgerbevraging              | -    |
| <b>4C Kleuters en lager onderwijs</b>  |                                    |      |
| Participatie kleuter Onderwijs   | GSM - Dept. Onderwijs & Vorming    | +    |
| Minimale aanwezigheid kleuteronderwijs (%)   | GSM - Dept. Onderwijs & Vorming    | +    |
| Schoolse vertraging lager onderwijs, naar woonplaats (>=2jaar)                           | Onderwijs Vlaanderen - Dataloep    | -    |
| Buitenschoolse opvangplaatsen per 100 kinderen   | GSM - Kind & Gezin                 | +    |
| <b>4D Secundair onderwijs</b>  |                                    |      |
| Fractie vroegtijdige schoolverlaters in secundair onderwijs, naar woonplaats             | Onderwijs Vlaanderen - Dataloep    | -    |
| Fractie vrouwelijke vroegtijdige schoolverlaters in secundair onderwijs, naar woonplaats | Onderwijs Vlaanderen - Dataloep    | -    |
| Fractie Niet-Belgen vroegtijdige schoolverlaters in secundair onderwijs, naar woonplaats | Onderwijs Vlaanderen - Dataloep    | -    |

|  |                                 | Sign |
|--|---------------------------------|------|
| Fractie Niet-EU vroegtijdige schoolverlaters in secundair onderwijs, naar woonplaats | Onderwijs Vlaanderen            | -    |
| Schoolse vertraging secundair onderwijs, naar woonplaats (>=2jaar)                   | Dataloep                        |      |
|  | Onderwijs Vlaanderen            | -    |
|  | Dataloep                        |      |
| <b>4E Hoger en volwassenonderwijs</b>  |                                 |      |
| Studenten hoger onderwijs, naar woonplaats   | GSM - Dept. Onderwijs & Vorming | +    |
| Inschrijvingen volwassenenonderwijs (naar woonplaats) tav bevolking 15+              | GSM - Dept. Onderwijs & Vorming | +    |
| <b>SDG 5 - Gendergelijkheid</b>  |                                 |      |
| <b>5A Gelijkheid in tewerkstelling</b>   |                                 |      |
| Werkzaamheidsratio vrouw/man   | GSM - Vlaamse Arbeidsrekening   | +    |
| Gender gap in voltijdse tewerkstelling   | VDAB - Arvastat                 | -    |
| Gender gap in deeltijdse tewerkstelling  | VDAB - Arvastat                 | -    |
| Gender gap in langdurige werkloosheid  | VDAB - Arvastat                 | -    |
| <b>5B Discriminatie en geweld</b>  |                                 |      |
| Discriminatie - geslacht   | GSM - Burgerbevraging           | -    |
| Intra-familiaal geweld: fysiek   | PiC - Federale Politie          | -    |
| Intra-familiaal geweld: seksueel   | PiC - Federale Politie          | -    |
| Intra-familiaal geweld: psychisch  | PiC - Federale Politie          | -    |
| Intra-familiaal geweld: economisch   | PiC - Federale Politie          | -    |
| <b>SDG 6 - Schoon water en sanitair</b>  |                                 |      |
| <b>6A Drinkwater</b>   |                                 |      |
| Afsluiting watervoorziening  | VMM                             | -    |
| Gemiddeld waterverbruik gezinnen   | PiC - VMM                       | -    |
| <b>6B Riolering</b>  |                                 |      |
| Zuiveringsgraad  | GSM - VMM                       | +    |
| Rioleringsgraad  | GSM - VMM                       | +    |
| <b>6C Beschermen waterlopen</b>  |                                 |      |
| Gewogen gemiddelde waterkwaliteit waterlopen   | PiC                             | +    |
| Gem. waterkwaliteit waterlopen: Biologie   | VMM                             | -    |
| Gem. waterkwaliteit waterlopen: Fysiochemie  | VMM                             | -    |
| <b>SDG 7 - Betaalbare en duurzame energie</b>  |                                 |      |
| <b>7A Duurzame productie energie</b>   |                                 |      |
| Lokale productie hernieuwbare energie (% verbruik)                                   | PiC - VEKA                      | +    |
| PV benuttingsgraad daken (%)   | PiC - VEKA                      | +    |
| windturbines - geïnstalleerd vermogen [MW]   | PiC - VEKA                      | +    |
| Tevredenheid over ondersteuning hernieuwbare energie                                 | GSM - Burgerbevraging           | +    |
| <b>7B Energieintensiteit</b>   |                                 |      |
| Energieverbruik huishoudens tav aantal inwoners                                      | PiC - VEKA                      | +    |
| Energieverbruik bedrijven tav toegevoegde waarde                                     | PiC - VEKA                      | +    |
| % verlichting gemeente dat LED is  | PiC - Fluvius                   | +    |
| <b>7C Betaalbare energie</b>   |                                 |      |

|  |   | Sign |
|--|---|------|
| Afsluiting van electriciteitsnetwerk (in %)  | GSM - VREG                                | -    |
| Afsluiting van gasnetwerk (in %)   | GSM - VREG                                | -    |
| Betaalbaarheid energie en water  | GSM - Burgerbevraging                     | -    |
| <b>SDG 8 - Eerlijk werk en economische groei</b>   |   |      |
| <b>8A Tewerkstelling</b>   |   |      |
| Werkzaamheidsgraad 20-64 jaar (%)  | GSM - Steunpunt Werk                      | +    |
| werkzaamheidsgraad vrouwen   | GSM - Steunpunt Werk                      | +    |
| Werkzaamheidsgraad ouderen 50-64   | GSM - Steunpunt Werk                      | +    |
| Werkzaamheidsgraad niet-belgen, EU   | GSM - Kruispuntbank                       | +    |
| Werkzaamheidsgraad niet-belgen, niet-EU  | GSM - Kruispuntbank                       | +    |
| <b>8B Werkloosheid</b>   |   |      |
| Werkzoekendegraad vrouwen  | VDAB - Arvastat                           | -    |
| Werkzoekendegraad jongeren 20-24   | VDAB - Arvastat                           | -    |
| Werkzoekendegraad ouderen 55-64  | VDAB - Arvastat                           | -    |
| Werkloosheidsgraad (%): langdurig (t.o.v. NWWZ)  | VDAB - Arvastat                           | -    |
| Werkloosheidsgraad (%): zeer langdurige (t.o.v. NWWZ)  | VDAB - Arvastat                           | -    |
| Werkloosheidsgraad(%): Laaggeschoold   | VDAB - Arvastat                           | -    |
| <b>8C Circularie en sociale economie</b>   |   |      |
| Doelgroepwerkenemers in tewerkstelling sociale economie (per 1000 inwoners)  | GSM - Dept. Werk en Sociale Economie      | +    |
| Tewerkstelling circulaire jobs ratio   | Jobsmonitor Circle Economy                | +    |
| <b>8D Groei</b>  |   |      |
| Nettogroeiratio van ondernemingen  | PiC - Statbel                             | +    |
| Bruto toegevoegde waarde per inwoner   | GSM - Vlaamse Statistische Autoriteit     | +    |
| <b>SDG 9 - Industrie, innovatie en infrastructuur</b>  |   |      |
| <b>9A Kennisintensieve economie</b>  |   |      |
| Aandeel zelfstandigen in kennisintensieve dienstensectoren en hoog en mediumhoogtechnologische industrie                       | PiC - RSVZ                                | +    |
| Het aandeel werknemers in kennisintensieve en creatieve sectoren op het totale aantal werknemers werkzaam in de stad/gemeente. | GSM - RSZ                                 | +    |
| <b>9B Infrastructuur</b>   |   |      |
| Internetansluiting in de woning  | GSM - Burgerbevraging                     | +    |
| Bezette oppervlakte van bedrijventerreinen tav oppervlakte gemeente  | GSM - Agentschap Innovieren en Ondernemen | +    |
| <b>SDG 10 - Ongelijkheid verminderen</b>   |   |      |
| <b>10A Houding tegenover diversiteit</b>   |   |      |
| Aanwezigheid mensen met verschillende herkomst is verrijking (%eens)   | GSM - Burgerbevraging                     | +    |
| Mensen met verschillende herkomst leven goed samen (%eens)   | GSM - Burgerbevraging                     | +    |

|   |                       | Sign |
|---|-----------------------|------|
| Niet zo prettig als buren andere herkomst zouden hebben (%oneens)                   | GSM - Burgerbevraging | +    |
| Sympathiek indien beter leren kennen (%eens)  | GSM - Burgerbevraging | +    |
| Te veel mensen met een verschillende herkomst woonachtig in gemeente/stad (%oneens) | GSM - Burgerbevraging | +    |
| Zinvol om ontmoetingsactiviteiten te organiseren (%eens)                            | GSM - Burgerbevraging | +    |
| <b>10B Inkomensongelijkheid</b>   |                       |      |
| Inkomensongelijkheid: interkwartiele coëfficiënt                                    | PiC - Statbel         | -    |
| <b>10C Discriminatie</b>  |                       |      |
| Discriminatie - seksuele geaardheid   | GSM - Burgerbevraging | -    |
| Discriminatie - herkomst  | GSM - Burgerbevraging | -    |
| Discriminatie - fysieke of mentale beperking  | GSM - Burgerbevraging | -    |
| <b>10D Herkomstkloof in tewerkstelling</b>  |                       |      |
| Herkomstkloof in de werkzaamheid  | VDAB - Arvastat       | -    |
| Herkomstkloof in langdurige werkloosheid  | VDAB - Arvastat       | -    |
| <b>SDG 11 - Duurzame steden en gemeenschappen</b>                                   |                       |      |
| <b>11A Duurzaam verplaatsingen</b>  |                       |      |
| Duurzame verplaatsingen   | GSM - Burgerbevraging | +    |
| Duurzame verplaatsingen: korte afstanden  | GSM - Burgerbevraging | +    |
| Gebruik openbaar vervoer in vrije tijd  | GSM - Burgerbevraging | +    |
| Voldoende aanbod duurzame mobiliteitskeuzes   | GSM - Burgerbevraging | +    |
| Voldoende openbaar vervoer  | GSM - Burgerbevraging | +    |
| tevredenheid over staat van voetpaden   | GSM - Burgerbevraging | +    |
| <b>11B Veilig fietsen</b>   |                       |      |
| voldoende fietspaden  | GSM - Burgerbevraging | +    |
| Onveilig verplaatsen kinderen   | GSM - Burgerbevraging | -    |
| Onveilig fietsen  | GSM - Burgerbevraging | -    |
| Tevredenheid over staat van fietspaden  | GSM - Burgerbevraging | +    |
| Voldoende fietsstallingen, kluizen/trommers   | GSM - Burgerbevraging | +    |
| <b>11C Personenwagens</b>   |                       |      |
| Voldoende deelsystemen  | GSM - Burgerbevraging | +    |
| Aantal deelwagens (max = 1%)  | autodelen.net         | +    |
| Ecoscore auto's   | GSM - VITO            | +    |
| Aandeel geregistreerde wagens hybride of op elektriciteit                           | PiC - Statbel         | +    |
| Aantal personenwagens / huishouden  | PiC - Statbel         | -    |
| <b>11D Netheid / overlast</b>   |                       |      |
| Lastiggevallen worden op straat (nooit/zelden)                                      | GSM - Burgerbevraging | +    |
| Burenlawaaai (nooit/zelden)   | GSM - Burgerbevraging | +    |
| Andere vormen van lawaaai (nooit/zelden)  | GSM - Burgerbevraging | +    |
| Milieu hinder van zwerfvuil (nooit/zelden)  | GSM - Burgerbevraging | +    |
| Buurthinder: milieu hinder van dieren (nooit/zelden)                                | GSM - Burgerbevraging | +    |
| Milieu hinder van hondenpoep (nooit/zelden)   | GSM - Burgerbevraging | +    |
| Vandalisme (nooit/zelden)   | GSM - Burgerbevraging | +    |
| Drugsdealing (nooit/zelden)   | GSM - Burgerbevraging | +    |
| Verkeershinder van snel rijden (nooit/zelden)                                       | GSM - Burgerbevraging | +    |

|  |                                | Sign |
|--|--------------------------------|------|
| Verkeershinder van sluipverkeer (nooit/zelden)                       | GSM - Burgerbevraging          | +    |
| Netheid van straten en voetpaden                                     | GSM - Burgerbevraging          | +    |
| <b>11E Cultuur en vrije tijd</b>                                     |                                |      |
| Tevredenheid culturele faciliteiten                                  | GSM - Burgerbevraging          | +    |
| Aantal ingevoerde vrijetijdsactiviteiten 1.000 inwoners (alle types) | GSM - UiT-databank, Cultuurnet | +    |
| Tevredenheid over bibliotheekvoorzieningen                           | GSM - Burgerbevraging          | +    |
| Erfgoedorganisaties- en instellingen                                 | GSM - FARO                     | +    |
| Tevredenheid over recreatievoorzieningen                             | GSM - Burgerbevraging          | +    |
| <b>11F Recreatie voor de jeugd</b>                                   |                                |      |
| Geschikte plekken voor de jeugd                                      | GSM - Burgerbevraging          | +    |
| Tevredenheid over jongerenvoorzieningen                              | GSM - Burgerbevraging          | +    |
| Tevredenheid over veilig spelen                                      | GSM - Burgerbevraging          | +    |
| Voldoende activiteiten voor kinderen en jongeren                     | GSM - Burgerbevraging          | +    |
| <b>11G betaalbaar wonen</b>  |                                |      |
| Betaalbaarheid van het wonen (woonquote)                             | GSM - Burgerbevraging          | -    |
| Tevredenheid over de woning  | GSM - Burgerbevraging          | +    |
| Aantal ongeschikt verklaringen                                       | GSM - Wonen VI.                | -    |
| <b>11H Duurzaamheid woning</b>                                       |                                |      |
| Dubbel glas of driedubbel glas                                       | GSM - Burgerbevraging          | +    |
| Energiezuinige ketel   | GSM - Burgerbevraging          | +    |
| Gebruik regenwater   | GSM - Burgerbevraging          | +    |
| Groen dak  | GSM - Burgerbevraging          | +    |
| Isolatie dak   | GSM - Burgerbevraging          | +    |
| Isolatie muren   | GSM - Burgerbevraging          | +    |
| Warmtepomp   | GSM - Burgerbevraging          | +    |
| Zonneboiler  | GSM - Burgerbevraging          | +    |
| Zonnepanelen   | GSM - Burgerbevraging          | +    |
| E-peil nieuwbouwwoningen   |                                | -    |
| <b>11I Luchtvervuiling</b>   |                                |      |
| Luchtkwaliteit   | VMM                            | -    |
| <b>11J Groen in de gemeente</b>                                      |                                |      |
| Groen in de gemeente: wijkgroen                                      | GSM - VITO                     | +    |
| Tevredenheid over groen in de buurt                                  | GSM - Burgerbevraging          | +    |
| <b>SDG 12 - Verantwoorde consumptie en productie</b>                 |                                |      |
| <b>12A Afval</b>   |                                |      |
| Totaal afval per inwoner   | PiC - OVAM                     | -    |
| Restafval  | PiC - OVAM                     | -    |
| Aandeel bestemd voor recyclage                                       | PiC - OVAM                     | +    |
| <b>12B Milieubewust handelen</b>                                     |                                |      |
| Fiets voor korte afstanden   | GSM - Burgerbevraging          | +    |
| Te voet voor korte afstanden   | GSM - Burgerbevraging          | +    |
| Aankoop plastiek beperkt   | GSM - Burgerbevraging          | +    |
| Weggooien van eten beperkt   | GSM - Burgerbevraging          | +    |
| Producten van eerlijke handel  | GSM - Burgerbevraging          | +    |

**SDG 13 - Klimaatactie****13A CO2 emissies**

|  |            |   |
|--|------------|---|
| Totale CO2 uitstoot per inwoner  | PiC - VEKA | - |
| Groei in CO2 uitstoot  | PiC - VEKA | - |
| CO2 intensiteit huishoudens  | PiC - VEKA | - |
| CO2 intensiteit bedrijven  | PiC - VEKA | - |
| Afname CO2uitstoot door hernieuwbare elek. t.a.v. lokale<br>consumptie electriciteit | PiC - VEKA | + |

**13B Overstromingen & Wateroverlast**

|  |                    |   |
|--|--------------------|---|
| % gebouwen met wateroverlast (hoog impact 2050)                  | Klimaatportaal VI. | - |
| % gebouwen met overstroming (hoog impact 2050)                   | Klimaatportaal VI. | - |
| % kwetsbare instellingen met wateroverlast (hoog impact<br>2050) | Klimaatportaal VI. | - |
| % kwetsbare instellingen met overstroming (hoog impact<br>2050)  | Klimaatportaal VI. | - |

**13C Hitte & Droogte**

|   |                    |   |
|---|--------------------|---|
| % hitte getroffenen (0-4 en 65+) (hoogimpact 2030)                        | Klimaatportaal VI. | - |
| % Landbouwpercelen met significante droogtestress<br>(hoog impact 2050)   | Klimaatportaal VI. | - |
| % Kwetsbare ecotopen met significante droogtestress<br>(hoog impact 2050) | Klimaatportaal VI. | - |

**SDG 15 - Leven op het land****15A Oppervlakte groen**

|   |                   |   |
|---|-------------------|---|
| Oppervlakte groene ruimte (t.o.v oppervlakte<br>ruimtebeslag) | PiC - Landgebruik | + |
| Oppervlakte waardevol ecotoop                                 | PiC - Landgebruik | + |
| Bosteller: hectare nieuw bos (niet compensatie)               | bosteller.be      | + |

**15B Verharding**

|   |   |   |
|---|---|---|
| Onbebouwde gekadastreerde oppervlakte op totaal<br>gekadastreerde oppervlakte | Statbel                                     | + |
| Bodemafdichting (verharding)  | GSM - Agentschap Infor-<br>matie Vlaanderen | - |
| Leefdichtheid   |   | + |

**15C Erosie**

|                 |                                   |   |
|-----------------|-----------------------------------|---|
| Erosiekelpunten | PiC - DB Ondergrond<br>Vlaanderen | - |
|-----------------|-----------------------------------|---|

**SDG 16 - Vrede, veiligheid en sterke publieke diensten****16A Veiligheid**

|  |                        |   |
|--|------------------------|---|
| Onveiligheidsgevoel in de buurt: vaak/altijd | GSM - Burgerbevraging  | - |
| Diefstal en afpersing                        | PiC - Federale Politie | - |
| Beschadigen van eigendom                     | PiC - Federale Politie | - |
| Misdrijven tegen de lichamelijke integriteit | PiC - Federale Politie | - |
| Bedrog                                       | PiC - Federale Politie | - |
| Drugsgerelateerde misdrijven                 | PiC - Federale Politie | - |
| Overige geregistreerde misdrijven            | PiC - Federale Politie | - |

|  |                       | Sign |
|--|-----------------------|------|
| Vertrouwen in politie: weinig vertrouwen                 | GSM - Burgerbevraging | -    |
| <b>16B Sociaal weefsel</b>                               |                       |      |
| Mensen in de buurt willen hun buren helpen               | GSM - Burgerbevraging | +    |
| Mensen in de buurt zijn te vertrouwen                    | GSM - Burgerbevraging | +    |
| Veel contact met de mensen in de buurt                   | GSM - Burgerbevraging | +    |
| Zich thuis voelen bij mensen in de buurt                 | GSM - Burgerbevraging | +    |
| <b>16C Tevredenheid bestuur</b>                          |                       |      |
| Vertrouwen in gemeente-/stadsbestuur                     | GSM - Burgerbevraging | +    |
| Tevredenheid over loketvoorziening                       | GSM - Burgerbevraging | +    |
| Tevredenheid over digitale dienstverlening               | GSM - Burgerbevraging | +    |
| Tevredenheid over huisvuilvoorzieningen                  | GSM - Burgerbevraging | +    |
| <b>16D Communicatie</b>                                  |                       |      |
| Voldoende info over geplande activiteiten                | GSM - Burgerbevraging | +    |
| Voldoende info over gemaakte beslissingen                | GSM - Burgerbevraging | +    |
| Voldoende info over nieuwe ingrepen.                     | GSM - Burgerbevraging | +    |
| Tevredenheid over communicatie van gemeentebestuur       | GSM - Burgerbevraging | +    |
| <b>16E Consultatie en participatie</b>                   |                       |      |
| Consultatie inwoners                                     | GSM - Burgerbevraging | +    |
| Aandeel actieve betrokken burgers                        | GSM - Burgerbevraging | +    |
| <b>SDG 17 Partnerschap om doelstellingen te bereiken</b> |                       |      |
| <b>17A Ontwikkelingssamenwerking</b>                     |                       |      |
| Uitgaven hup aan buitenland per inwoner (max = 5)        | BBC-Analysetool       | +    |

VEKA: Vlaams Energie- en Klimaatagentschap; PiC: Provincies in cijfers; GSM: Gemeente-Stad Monitor, Agentschap Binnenlands Bestuur; VMM: Vlaamse Milieu Maatschappij; OVAM: Openbare Vlaamse Afvalstoffenmaatschappij; VITO: Vlaamse Instelling voor Technologisch Onderzoek; RSZ: Rijksdienst voor Sociale Zekerheid; RSVZ: Rijksinstituut voor de Sociale Verzekeringen der Zelfstandigen; VREG: Vlaamse Regulator van de Elektriciteits- en Gasmarkt; IMA: InterMutualistisch Agentschap; NBB: Nationale Bank van België

## B Regression analysis

In this section, we try to determine the impact of the characteristics that are outside of the immediate control of a city on that city's SDG score. We do this using a regression analysis so that we can look at the average score of, e.g., being a regional city, independent of its population size, median income, etc. This allows us to determine whether the positive correlation between wealth and the SDG scores is not driven by other factors.

In this analysis we consider the following variables. The log of the population size, the median income, the log of the surface area, whether or not the municipality is one of the 13 larger regional cities, the fraction of the population that is 80 or older and the fraction of the population that is 19 or younger. For each of the 17 SDG indexes we run the following regression:

$$\text{SDG}_i^k = \beta_1^k \text{pop}_i + \beta_2^k \text{city}_i + \beta_3^k \text{area}_i + \beta_4^k \text{income}_i + \beta_5^k \text{pop}_i^{80+} + \beta_6^k \text{pop}_i^{19-} + \delta_i^k + \epsilon_i \quad (3)$$

where the subscript  $i$  denotes the specific municipality, superscript  $k$  denotes the SDG index, and  $\epsilon_i$  is a normally distributed error term with mean zero and variance  $\sigma^2$ . The results of this analysis is described in Table 4.

$\delta_i$  is a dummy variable indicating the reference region. The reference regions further subdivide the provinces into two to five smaller regions based on the intermediary structure and regional cooperation between the municipalities.<sup>14</sup> The number of municipalities ranges from seven (Region Ostend) to 33 (Halle-Vilvoorde). However, as the province of Limburg is not subdivided, it is technically the largest region with 49 municipalities. In the regression results presented below, the parameter estimates compare each reference region to Limburg. For most municipalities and SDGs, this results in negative coefficients indicating that the municipalities in Limburg score on average higher than you would expect based on their population, median income and other characteristics.

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<sup>14</sup><https://lokaalbestuur.vlaanderen.be/nieuws/vlaamse-regering-verdeelt-vlaanderen-in-17-referentieregio%20%99s>

Table 4: Revealing the patterns in Flemish SDG scores – reference regions

| City           | 0.88<br>(0.87)                 | -5.15 <sup>(a)</sup><br>(1.71) | 12.3 <sup>(a)</sup><br>(2.87)  | -5.72 <sup>(a)</sup><br>(1.28) | 2.93 <sup>(c)</sup><br>(1.64)  | 0.046<br>(1.10)                | -3.87 <sup>(c)</sup><br>(2.30) | -0.84<br>(1.38)                | 1.12<br>(0.99)                 |
|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Pop. (log)     | -0.34<br>(0.31)                | -2.66 <sup>(a)</sup><br>(0.62) | 1.67<br>(1.04)                 | 1.66 <sup>(a)</sup><br>(0.46)  | -1.16 <sup>(c)</sup><br>(0.59) | -1.02 <sup>(b)</sup><br>(0.40) | 6.37 <sup>(a)</sup><br>(0.83)  | -1.58 <sup>(a)</sup><br>(0.50) | 0.19<br>(0.36)                 |
| Area (log)     | 0.69 <sup>(b)</sup><br>(0.30)  | 3.20 <sup>(a)</sup><br>(0.60)  | -7.54 <sup>(a)</sup><br>(1.00) | 0.91 <sup>(b)</sup><br>(0.45)  | 1.95 <sup>(a)</sup><br>(0.57)  | -0.18<br>(0.38)                | -4.99 <sup>(a)</sup><br>(0.80) | 2.90 <sup>(a)</sup><br>(0.48)  | 0.98 <sup>(a)</sup><br>(0.35)  |
| Med. Income    | 0.23 <sup>(a)</sup><br>(0.018) | 0.28 <sup>(a)</sup><br>(0.036) | 0.16 <sup>(a)</sup><br>(0.060) | 0.27 <sup>(a)</sup><br>(0.027) | 0.21 <sup>(a)</sup><br>(0.034) | 0.12 <sup>(a)</sup><br>(0.023) | 0.030<br>(0.048)               | 0.22 <sup>(a)</sup><br>(0.029) | 0.11 <sup>(a)</sup><br>(0.021) |
| Pop. 80+       | 0.015<br>(0.22)                | -0.49<br>(0.43)                | 1.06<br>(0.72)                 | 1.07 <sup>(a)</sup><br>(0.32)  | -1.16 <sup>(a)</sup><br>(0.41) | -0.75 <sup>(a)</sup><br>(0.27) | -1.64 <sup>(a)</sup><br>(0.57) | -1.18 <sup>(a)</sup><br>(0.35) | -0.23<br>(0.25)                |
| Pop. 19-       | 0.29 <sup>(a)</sup><br>(0.098) | -0.084<br>(0.19)               | 0.69 <sup>(b)</sup><br>(0.33)  | 0.53 <sup>(a)</sup><br>(0.15)  | -0.65 <sup>(a)</sup><br>(0.19) | -0.36 <sup>(a)</sup><br>(0.12) | 0.74 <sup>(a)</sup><br>(0.26)  | -0.21<br>(0.16)                | 0.39 <sup>(a)</sup><br>(0.11)  |
| Const.         | 18.8 <sup>(a)</sup><br>(5.53)  | 25.2 <sup>(b)</sup><br>(10.9)  | 128 <sup>(a)</sup><br>(18.3)   | -10.2<br>(8.19)                | 30.3 <sup>(a)</sup><br>(10.5)  | 85.4 <sup>(a)</sup><br>(6.99)  | 84.8 <sup>(a)</sup><br>(14.6)  | -7.52<br>(8.80)                | 3.78<br>(6.33)                 |
| Kempen         | 1.88 <sup>(a)</sup><br>(0.64)  | 2.13 <sup>(c)</sup><br>(1.27)  | -6.34 <sup>(a)</sup><br>(2.13) | 2.75 <sup>(a)</sup><br>(0.95)  | 1.27<br>(1.22)                 | 0.39<br>(0.81)                 | -4.02 <sup>(b)</sup><br>(1.70) | 3.84 <sup>(a)</sup><br>(1.02)  | 0.49<br>(0.74)                 |
| Reg. Antwerp   | -0.18<br>(0.75)                | 3.72 <sup>(b)</sup><br>(1.48)  | -2.50<br>(2.49)                | -0.47<br>(1.11)                | -0.49<br>(1.42)                | -2.79 <sup>(a)</sup><br>(0.95) | -16.9 <sup>(a)</sup><br>(1.99) | 0.84<br>(1.20)                 | 1.52 <sup>(c)</sup><br>(0.86)  |
| Rivierenland   | -0.72<br>(0.90)                | 4.34 <sup>(b)</sup><br>(1.77)  | -4.66<br>(2.97)                | -1.80<br>(1.33)                | 0.76<br>(1.70)                 | 1.45<br>(1.14)                 | -15.3 <sup>(a)</sup><br>(2.38) | 1.93<br>(1.43)                 | 2.46 <sup>(b)</sup><br>(1.03)  |
| Halle-Vilv.    | -4.39 <sup>(a)</sup><br>(0.79) | -1.32<br>(1.55)                | -2.65<br>(2.60)                | -7.25 <sup>(a)</sup><br>(1.16) | -4.54 <sup>(a)</sup><br>(1.49) | 2.71 <sup>(a)</sup><br>(0.99)  | -11.2 <sup>(a)</sup><br>(2.08) | -4.45 <sup>(a)</sup><br>(1.25) | 4.02 <sup>(a)</sup><br>(0.90)  |
| East-Brabant   | -2.35 <sup>(a)</sup><br>(0.73) | 1.20<br>(1.45)                 | -1.47<br>(2.43)                | -5.42 <sup>(a)</sup><br>(1.09) | -1.17<br>(1.39)                | 1.34<br>(0.93)                 | -5.59 <sup>(a)</sup><br>(1.94) | -2.04 <sup>(c)</sup><br>(1.17) | 1.40 <sup>(c)</sup><br>(0.84)  |
| Midwest        | -0.40<br>(0.80)                | 6.63 <sup>(a)</sup><br>(1.59)  | -9.82 <sup>(a)</sup><br>(2.66) | 0.45<br>(1.19)                 | 4.14 <sup>(a)</sup><br>(1.52)  | 1.14<br>(1.02)                 | -10.1 <sup>(a)</sup><br>(2.13) | 4.92 <sup>(a)</sup><br>(1.28)  | 6.05 <sup>(a)</sup><br>(0.92)  |
| Reg. Bruges    | 0.083<br>(0.95)                | 2.99<br>(1.88)                 | -7.25 <sup>(b)</sup><br>(3.15) | -3.10 <sup>(b)</sup><br>(1.41) | 0.72<br>(1.80)                 | 1.75<br>(1.20)                 | -3.59<br>(2.52)                | 1.36<br>(1.51)                 | 4.23 <sup>(a)</sup><br>(1.09)  |
| Reg. Ostend    | -0.84<br>(1.11)                | 0.40<br>(2.18)                 | -5.96<br>(3.66)                | -3.88 <sup>(b)</sup><br>(1.64) | -0.43<br>(2.09)                | 0.24<br>(1.40)                 | -1.26<br>(2.93)                | 0.24<br>(1.76)                 | 0.19<br>(1.27)                 |
| Westhoek       | -0.69<br>(0.85)                | 0.51<br>(1.67)                 | -7.45 <sup>(a)</sup><br>(2.81) | -3.33 <sup>(a)</sup><br>(1.26) | 2.31<br>(1.60)                 | 0.88<br>(1.07)                 | -3.01<br>(2.25)                | 0.69<br>(1.35)                 | 1.50<br>(0.97)                 |
| SW-Flanders    | 0.24<br>(0.87)                 | 6.60 <sup>(a)</sup><br>(1.71)  | -12.2 <sup>(a)</sup><br>(2.86) | -0.16<br>(1.28)                | 4.27 <sup>(a)</sup><br>(1.64)  | -0.025<br>(1.09)               | -8.61 <sup>(a)</sup><br>(2.29) | 4.15 <sup>(a)</sup><br>(1.38)  | 5.11 <sup>(a)</sup><br>(0.99)  |
| Denderregio    | -3.58 <sup>(a)</sup><br>(0.84) | 3.46 <sup>(b)</sup><br>(1.65)  | -8.13 <sup>(a)</sup><br>(2.77) | -7.27 <sup>(a)</sup><br>(1.24) | -1.67<br>(1.58)                | 0.40<br>(1.06)                 | -12.4 <sup>(a)</sup><br>(2.21) | 1.49<br>(1.33)                 | 1.71 <sup>(c)</sup><br>(0.96)  |
| Reg. Ghent     | -0.74<br>(0.74)                | 3.56 <sup>(b)</sup><br>(1.46)  | -5.95 <sup>(b)</sup><br>(2.44) | -3.75 <sup>(a)</sup><br>(1.09) | 0.93<br>(1.40)                 | -1.76 <sup>(c)</sup><br>(0.93) | -7.65 <sup>(a)</sup><br>(1.95) | 2.95 <sup>(b)</sup><br>(1.18)  | 3.00 <sup>(a)</sup><br>(0.84)  |
| Fl. Ardennen   | -1.98 <sup>(b)</sup><br>(0.86) | 3.29 <sup>(c)</sup><br>(1.70)  | -1.65<br>(2.85)                | -4.85 <sup>(a)</sup><br>(1.28) | 0.060<br>(1.63)                | 2.23 <sup>(b)</sup><br>(1.09)  | -8.73 <sup>(a)</sup><br>(2.28) | 2.09<br>(1.37)                 | 3.48 <sup>(a)</sup><br>(0.99)  |
| Waasland       | -3.02 <sup>(a)</sup><br>(0.99) | 1.42<br>(1.96)                 | -4.86<br>(3.28)                | -4.72 <sup>(a)</sup><br>(1.47) | -2.95<br>(1.88)                | -5.35 <sup>(a)</sup><br>(1.25) | -10.5 <sup>(a)</sup><br>(2.63) | 2.24<br>(1.58)                 | -0.19<br>(1.14)                |
| Obs            | 300                            | 300                            | 300                            | 300                            | 300                            | 300                            | 300                            | 300                            | 300                            |
| R <sup>2</sup> | 0.515                          | 0.448                          | 0.428                          | 0.543                          | 0.363                          | 0.424                          | 0.399                          | 0.456                          | 0.427                          |

Standard errors in parentheses. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> indicate significance at the 1%, 5%, and 10% level.

| City           | 1.51<br>(1.50)                 | 0.91<br>(1.43)                  | -1.03<br>(1.62)                | 5.06 <sup>(a)</sup><br>(1.52)  | -1.51<br>(1.79)                 | -2.03<br>(2.06)                | 4.90 <sup>(c)</sup><br>(2.57)  | 5.56<br>(8.15)                 |
|----------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Pop. (log)     | 4.37 <sup>(a)</sup><br>(0.54)  | -3.08 <sup>(a)</sup><br>(0.52)  | 0.91<br>(0.59)                 | 0.57<br>(0.55)                 | -4.25 <sup>(a)</sup><br>(0.65)  | -4.52 <sup>(a)</sup><br>(0.75) | -8.80 <sup>(a)</sup><br>(0.93) | 5.87 <sup>(b)</sup><br>(2.95)  |
| Area (log)     | -2.59 <sup>(a)</sup><br>(0.52) | 0.99 <sup>(b)</sup><br>(0.50)   | 0.51<br>(0.57)                 | -0.93 <sup>(c)</sup><br>(0.53) | 4.18 <sup>(a)</sup><br>(0.63)   | 4.92 <sup>(a)</sup><br>(0.72)  | 5.52 <sup>(a)</sup><br>(0.90)  | 1.15<br>(2.84)                 |
| Med. Income    | 0.33 <sup>(a)</sup><br>(0.031) | 0.053 <sup>(c)</sup><br>(0.030) | 0.27 <sup>(a)</sup><br>(0.034) | 0.19 <sup>(a)</sup><br>(0.031) | 0.089 <sup>(b)</sup><br>(0.037) | 0.15 <sup>(a)</sup><br>(0.043) | 0.33 <sup>(a)</sup><br>(0.053) | 0.82 <sup>(a)</sup><br>(0.17)  |
| Pop. 80+       | 0.83 <sup>(b)</sup><br>(0.38)  | 0.73 <sup>(b)</sup><br>(0.36)   | 0.64<br>(0.41)                 | -0.61<br>(0.38)                | 0.40<br>(0.45)                  | -0.22<br>(0.52)                | -0.86<br>(0.64)                | 2.66<br>(2.04)                 |
| Pop. 19-       | 1.45 <sup>(a)</sup><br>(0.17)  | 0.021<br>(0.16)                 | 0.20<br>(0.18)                 | -0.030<br>(0.17)               | 0.24<br>(0.20)                  | 0.037<br>(0.23)                | -0.089<br>(0.29)               | 1.77 <sup>(c)</sup><br>(0.92)  |
| Const.         | -9.67<br>(9.59)                | 66.4 <sup>(a)</sup><br>(9.12)   | 3.15<br>(10.3)                 | 49.1 <sup>(a)</sup><br>(9.67)  | 19.1 <sup>(c)</sup><br>(11.4)   | 8.64<br>(13.2)                 | 20.7<br>(16.4)                 | -197 <sup>(a)</sup><br>(51.9)  |
| Kempen         | -0.19<br>(1.12)                | -0.62<br>(1.06)                 | 0.94<br>(1.20)                 | 7.03 <sup>(a)</sup><br>(1.13)  | 1.99<br>(1.33)                  | 3.73 <sup>(b)</sup><br>(1.53)  | 1.76<br>(1.90)                 | 15.0 <sup>(b)</sup><br>(6.05)  |
| Reg. Antwerp   | -3.97 <sup>(a)</sup><br>(1.31) | -3.22 <sup>(a)</sup><br>(1.24)  | -2.66 <sup>(c)</sup><br>(1.41) | 3.70 <sup>(a)</sup><br>(1.32)  | 3.72 <sup>(b)</sup><br>(1.56)   | -2.27<br>(1.79)                | -0.24<br>(2.23)                | 19.2 <sup>(a)</sup><br>(7.07)  |
| Rivierenland   | -3.45 <sup>(b)</sup><br>(1.56) | -0.20<br>(1.48)                 | -2.59<br>(1.68)                | 4.54 <sup>(a)</sup><br>(1.57)  | 2.68<br>(1.86)                  | 0.90<br>(2.14)                 | -2.06<br>(2.66)                | -0.56<br>(8.44)                |
| Halle-Vilv.    | -5.16 <sup>(a)</sup><br>(1.36) | -2.82 <sup>(b)</sup><br>(1.30)  | -9.37 <sup>(a)</sup><br>(1.47) | -4.41 <sup>(a)</sup><br>(1.37) | 4.31 <sup>(a)</sup><br>(1.63)   | -5.41 <sup>(a)</sup><br>(1.87) | -6.68 <sup>(a)</sup><br>(2.32) | -16.1 <sup>(b)</sup><br>(7.38) |
| East-Brabant   | -3.46 <sup>(a)</sup><br>(1.27) | 0.038<br>(1.21)                 | -7.04 <sup>(a)</sup><br>(1.37) | 4.45 <sup>(a)</sup><br>(1.28)  | 3.61 <sup>(b)</sup><br>(1.52)   | -6.90 <sup>(a)</sup><br>(1.74) | -7.06 <sup>(a)</sup><br>(2.17) | -9.43<br>(6.88)                |
| Midwest        | -4.23 <sup>(a)</sup><br>(1.40) | -1.95<br>(1.33)                 | -3.10 <sup>(b)</sup><br>(1.51) | -3.19 <sup>(b)</sup><br>(1.41) | 6.82 <sup>(a)</sup><br>(1.67)   | -6.14 <sup>(a)</sup><br>(1.67) | 7.07 <sup>(a)</sup><br>(1.92)  | -5.13<br>(2.38)                |
| Reg. Bruges    | 0.92<br>(1.65)                 | 2.87 <sup>(c)</sup><br>(1.57)   | -2.35<br>(1.78)                | -3.92 <sup>(b)</sup><br>(1.66) | 5.57 <sup>(a)</sup><br>(1.97)   | 0.70<br>(2.26)                 | 2.28<br>(2.81)                 | -1.87<br>(8.93)                |
| Reg. Ostend    | -4.06 <sup>(b)</sup><br>(1.92) | -1.86<br>(1.83)                 | -2.89<br>(2.07)                | -4.59 <sup>(b)</sup><br>(1.94) | 9.53 <sup>(a)</sup><br>(2.29)   | 0.024<br>(2.64)                | 0.31<br>(3.28)                 | 0.54<br>(10.4)                 |
| Westhoek       | -0.76<br>(1.47)                | -2.37 <sup>(c)</sup><br>(1.40)  | -0.23<br>(1.59)                | 0.070<br>(1.48)                | 4.22 <sup>(b)</sup><br>(1.76)   | -4.69 <sup>(b)</sup><br>(2.02) | 3.63<br>(2.51)                 | -3.01<br>(7.97)                |
| SW-Flanders    | -4.60 <sup>(a)</sup><br>(1.50) | -0.65<br>(1.43)                 | -3.54 <sup>(b)</sup><br>(1.62) | -4.23 <sup>(a)</sup><br>(1.51) | 8.27 <sup>(a)</sup><br>(1.79)   | -7.78 <sup>(a)</sup><br>(2.06) | 5.70 <sup>(b)</sup><br>(2.56)  | 11.6<br>(8.13)                 |
| Denderregio    | -7.88 <sup>(a)</sup><br>(1.45) | -1.12<br>(1.38)                 | -9.18 <sup>(a)</sup><br>(1.56) | 1.55<br>(1.46)                 | 5.57 <sup>(a)</sup><br>(1.73)   | 0.63<br>(1.99)                 | -5.46 <sup>(b)</sup><br>(2.47) | -18.9 <sup>(b)</sup><br>(7.86) |
| Reg. Ghent     | -4.04 <sup>(a)</sup><br>(1.28) | 1.15<br>(1.22)                  | -6.93 <sup>(a)</sup><br>(1.38) | 1.18<br>(1.29)                 | 6.21 <sup>(a)</sup><br>(1.53)   | -0.99<br>(1.76)                | -0.21<br>(2.18)                | 0.42<br>(6.93)                 |
| Fl. Ardennen   | -5.44 <sup>(a)</sup><br>(1.50) | 2.29<br>(1.42)                  | -4.76 <sup>(a)</sup><br>(1.61) | 0.022<br>(1.51)                | 9.58 <sup>(a)</sup><br>(1.78)   | -7.81 <sup>(a)</sup><br>(2.05) | -4.54 <sup>(c)</sup><br>(2.55) | -16.9 <sup>(b)</sup><br>(8.10) |
| Waasland       | -6.20 <sup>(a)</sup><br>(1.72) | -4.42 <sup>(a)</sup><br>(1.64)  | -7.81 <sup>(a)</sup><br>(1.86) | 6.20 <sup>(a)</sup><br>(1.74)  | 4.34 <sup>(b)</sup><br>(2.05)   | 0.44<br>(2.36)                 | -6.81 <sup>(b)</sup><br>(2.94) | -9.15<br>(9.32)                |
| Obs            | 300                            | 300                             | 300                            | 300                            | 300                             | 300                            | 300                            | 300                            |
| R <sup>2</sup> | 0.611                          | 0.351                           | 0.395                          | 0.550                          | 0.392                           | 0.424                          | 0.496                          | 0.302                          |

Standard errors in parentheses. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> indicate significance at the 1%, 5%, and 10% level.