



# 1st Performance Report of Elected Dutch Municipalities of BNG Bank Sustainability Bond of November 2019



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## Executive summary

November 2019, BNG Bank launched its sixth Sustainability Bond, a new EUR 750 million | 0.05%, 10-year benchmark. Additionally, a second AUD 400 million, 10-year bond was issued based on the same selection of sustainable municipalities in 2019. Both bonds are due November 20<sup>th</sup> 2029. The Framework document for the BNG Bank Sustainability Bond 2019 was provided to BNG Bank by Telos -Tilburg University- on 7 October 2019, describing the selection process of best-in-class Dutch municipalities eligible for the bond.

An important quality indicator of the bond is the 'Use of proceeds reporting (UPR)'. BNG Bank intends to include in the UPR a yearly impact report, during the period 2019–2029, based on updated data for the sustainability scores of all Dutch municipalities. The update will give insight in the changes in sustainability scores of the group of 114 Elected Municipalities compared to the total group of 355 municipalities of the Netherlands. BNG Bank asked Telos -Tilburg University- to provide the yearly impact reports for this bond, based on its yearly National Monitor Sustainable Municipalities. This performance report is the first impact report of the 2019 Sustainability Bonds, covering the years 2019-2020.

The Elected Municipalities continued to outperform the total group of municipalities with 2.5 percentage points (53.71 vs 51.25), as listed in table 1. Both groups of municipalities show an improvement of the overall score with 0.37-0.42 percentage points. Largest improvements occurred this year for the economic capital (0.74/0.89 percentage points), while those for the ecological and socio-cultural capital were relatively small (0.29/0.21 and 0.74/0.89 percentage points).

**Table 1. Sustainability scores of 114 elected municipalities and of the total group of 355 Dutch municipalities in 2020 compared to 2019**

Sustainability capital	Elected 2019	Total 2019	Elected 2020	Total 2020	Elected: Difference 2019-2020	Total: Difference 2019-2020
<b>Total</b>	53.34	50.83	53.71	51.25	0.37	0.42
Socio-cultural	52.54	50.13	52.63	50.27	0.09	0.14
Ecological	54.11	51.28	54.40	51.50	0.29	0.21
Economic	53.36	51.08	54.11	51.97	0.74	0.89

The analysis shows that 80% of Elected Municipalities realized past year a stable or improved total sustainability score and a bit more than 40% of Elected Municipalities reduced or stabilized their CO<sub>2</sub>-emissions. A closer look at the CO<sub>2</sub> reductions shows that the group of Elected did not realize a reduction in CO<sub>2</sub> emissions; it increased with 0.97%, while the other municipalities realized a reduction of -2.81%. This is not what was expected for the Elected group.

Scores of municipalities are rather dynamic from year to year, although major differences and advantages among municipalities are of a structural nature. In the reporting period Elected Municipalities Oldenzaal, Voerendaal, Rijssen-Holten and

Meerssen were able to improve their total sustainability score most with 1.4 to 1.6 percentage points or more. The largest reduction in sustainability score among Elected Municipalities was detected in Waterland, Rozendaal, Amsterdam and Hattem.

Comparison over the years 2019 and 2020, as shown in table 6.1, makes clear that the performance of several goals improved substantially (Goals 1, 4, 7, 8, 9, 10, 12 and 16) , but other showed a small fallback (Goals 3 and 15). The elected municipalities still outperforms the total group in 13 out of the 14 measured goals, but the differences become smaller. Only for goal 13 (Climate action) the total group performs better than the elected group, as was the case in 2019. The total group shows a higher improvement on goal 10 (Reduced Inequalities) than the elected municipalities.



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# 1 Introduction

At the request of BNG Bank, Telos -Tilburg University, has provided a Framework document on 7 October 2019 to BNG Bank<sup>1</sup> that describes the sustainability criteria and selection process of best-in-class Dutch municipalities eligible for a BNG Bank Sustainability Bond 2019. Telos developed this framework based on its National Monitor of Sustainable Municipalities 2019, from which the 6<sup>th</sup> edition was presented in November 2019. The National Monitor of Sustainable Municipalities was produced for the first time in 2014 on behalf of the Dutch Ministry for Infrastructure and Environment.

November 20, 2019, BNG Bank launched its sixth Sustainability Bond, a new EUR 750 million, 10-year benchmark<sup>2</sup>. Additionally, a second AUD 400 million, 10-year bond was issued based on the same selection of sustainable municipalities in 2019. Both bonds are due November 20<sup>th</sup> 2029.

An important quality indicator of these bonds is the ‘Use of proceeds reporting (UPR)’. BNG Bank intends to include in the UPR a yearly impact report, during the period 2019 – 2029, based on updated data for the sustainability scores of all the 355 Dutch municipalities. The update will give insight in the changes in sustainability scores of the group of 114 Elected Municipalities. Besides this impact report, other aspects are relevant for UPR, such as types of investment projects, governance aspects in relation to the sustainability performance of municipalities, etc. These other aspects are not included in this assessment by Telos, because such data are not yet available in sufficient detail.

BNG Bank has asked Telos to provide the yearly updating of the database over the years 2019-2029 and report on the annual changes in scores of the Elected Municipalities. This is the first of such reports on the 2019 bonds, covering the period 2019-2020. It describes how the performance is assessed, the general outcome of the comparison over the years 2019-2020, including the impact on CO2-emissions. Additionally, this reports gives insights in the development of the elected municipalities on the UN Sustainable Development Goals (SDGs).

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<sup>1</sup>

<https://www.bngbank.com/Documents/Investors/Sustainability%20Framework%202018.pdf>

<sup>2</sup> <https://www.bngbank.com/funding/sustainability-bond>



## 2 Description of activities

### 2.1 Update of database

The main activity to be able to produce an impact report for 2020 on the municipalities elected for the BNG Bank sustainable municipalities bond of 2019 was to update the database for the sustainability assessment of Dutch municipalities used in the National Monitor Sustainable Municipalities 2020. The monitor is basically designed on the basis of the UN and EU concept of sustainable development, which implies that three dimensions of development are considered of equal importance: economic, socio-cultural and ecological. Each of these three 'capitals' are subdivided into themes, called 'stocks', which are operationalized by measuring 'indicators'. Indicator values are assessed against sustainability goals, as described in more detail in the National Monitor report. These sustainability goals have been designed independently from the later agreed UN Sustainable Development Goals (SDGs) or Global Goals in 2015. A detailed analysis of the comparability and differences by Telos, as described in the National Monitor of 2017<sup>3</sup>, has shown that these goals have a wide similarity.

The United Nations SDGs include a set of 17 Global Goals that cover, more categorized from a policy than from a scientific point of view, urgent tasks to be addressed by national governments, local authorities and private actors. A detailed analysis of the differences and overlaps between the triple P approach, used in this framework, and the 17 Goals of the SDGs shows that a large part of the indicators are the same but for some goals clear differences occur. Goal 14 on seas and oceans is for example not included because this is not relevant for municipalities. Governance issues, as implemented by partnerships, have explicitly not yet been included in the triple P approach, amongst others because of the different nature of this domain and because comparable data are difficult to collect. The basic structure of the triple P model will be kept as leading in this impact report, as it better represents a structure that can be founded and explored scientifically. Like in the 2019 framework report, the relevant indicators will also be used to assess the progress on the SDGs for the municipalities.

The updating activities include:

1. Motivation of new sustainability stocks, indicators and goals for indicators to meet new scientific insights and practical developments.
2. Generating most recent data for the indicators used in the National Monitor Sustainable Municipalities from open public sources or by acquiring them.

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<sup>3</sup> Bastiaan Zoeteman, John Dagevos, Rens Mulder, Corné Wentink, Naomi Hoven, Christien Visser, 2017, Nationale Monitor Duurzame Gemeenten 2017, Document number 17.170, Telos, Tilburg University, 29 September; <http://www.telos.nl/publicaties/publicatiesrapporten/default.aspx#folder=894859>

3. Eventual reassessment of city typology (this was not needed in the recent version of the Monitor).
4. Harmonization with national monitoring activities by third parties on theme specific issues such as climate, mobility, health, etc.
5. Adjustment to the outcome of municipality rearrangements, which are continuously resulting in larger municipalities and a lower total number of municipalities.

The National Monitor Sustainable Municipalities 2019 discerned 14 city types. These 14 types have been used for the Framework of the BNG Bank Sustainability Bond of 2019 and are the basis for the performance report at hand.

## 2.2 Assessment of performance of Elected Sustainable Municipalities

Based on the updated Database, sustainability performance of 114 Elected Municipalities in 2019 will be evaluated and discussed. The group of Elected Municipalities, described in the Framework of the BNG Bank Sustainability Bond of October 2019, has been selected by identifying the 15 best scoring municipalities for each of 14 types of cities, such as ‘agricultural’, ‘old industrial’, ‘shrinking’, etc. municipalities. The 114 Elected Municipalities have been selected out of the total number of 355 municipalities in the Netherlands in 2019. Since 2019, no rearrangements among the municipalities were made.

Furthermore, the number of indicators was partially expanded due to new possibilities but also reduced due to lack of continued data collection, resulting in 140 indicators now, compared to 132 in 2019. Such changes had to be included in the comparison between 2020 and 2019. Where needed new data for 2019 were separately collected and calculated. The reader is referred to the Framework report for the 2020 BNG Bank Sustainability bond<sup>4</sup>, for the details of the amendments made in the calculation of the sustainability scores and how comparability between the years 2019 and 2020 was ascertained.

This assessment includes:

1. A comparison of sustainability scores of Elected Municipalities with the total group of Dutch municipalities for 2019 and 2020.
2. A comparison of sustainability scores for Elected Municipalities between 2019 and 2020, including:
  - a. overall scores
  - b. capital scores, and a selection of:
  - c. stock scores and where useful
  - d. indicator scores.

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<sup>4</sup> Mulder, R., Paenen, S., Bijster, F., & Dagevos, J. (2020). BNG Bank sustainability bond for Dutch best-in-class municipalities. document nr 205275, October, Het PON & Telos, [www.telos.nl](http://www.telos.nl)

3. A list of Elected Municipalities, which show the largest improvement or reduction in overall score and in CO2 emissions.
4. An overview of the development on the Sustainable Development Goals (SDGs) of the elected municipalities between 2019 and 2020.

In the next chapters, the outcome of these activities is presented. Finally, the overall changes observed for reporting period 2019-2020 will be discussed.

### 3 Outcome of updating exercise and comparison of 2019 and 2020

#### 3.1 National Monitor Sustainable Municipalities 2020

In November 2020, Telos has completed its National Monitor Sustainable Municipalities 2020. The major outcome is shown in table 3.1:

**Table 3.1 Sustainability performance of the total group of Dutch municipalities in 2019-2020**

Sustainability capital	2019	2020
<b>Total</b>	50.83	51.25
Socio-cultural	50.13	50.27
Ecological	51.28	51.50
Economic	51.08	51.97

Last year the average overall sustainability score improved from 50.83 till 51.25 percentage. This was due to improvements of all three capitals. The ecological capital improved only marginally the past year from 51.28 to 51.50. The socio-cultural capital also improved marginally from 50.13 to 50.27 percentage. The economic capital showed the largest increase in sustainability score from 51.08 till 51.97.

#### 3.2 General characteristics of Elected Municipalities for the BNG Bank Sustainability Bond 2019

The group of Elected Municipalities represents the sum of highest scoring municipalities in each of the 14 types of municipalities considered. They are therefore not a representative sample of the total group of Dutch municipalities. This is illustrated in table 3.2, using municipality size as criterion.

**Table 3.2 Distribution of municipality sizes in the Netherlands and in the group of Elected**

Municipality size (number of inhabitants)	Total number of municipalities in the Netherlands	Total number of municipalities in elected group
Less than 50,000	267 (75.2%)	83 (72.8%)
50,000-100,000	56 (15.8%)	15 (13.2%)
More than 100,000	32 (9.0%)	16 (14.0%)

As table 3.2 shows, the size distribution of the elected group of municipalities differs from the average distribution in the country. The small and midsize municipalities are underrepresented, while the large municipalities are overrepresented in the elected group. In case the outcome for the elected group is compared with the total group of municipalities this has to be taken into account.

### 3.3 General performance of Elected Municipalities compared to total group of Dutch Municipalities

BNG Bank has chosen to allocate the proceeds of the Sustainability Bond to the best performing municipalities in their class as instrument for several reasons. These include:

- Highlighting the importance of sustainable development to municipalities,
- Enabling investors that want to see their capital used for investments in municipalities that have experience in improving sustainability, and
- Increasing awareness of successful strategies used in high scoring municipalities, etc.

It would be welcome, against this background, if the comparison between performance of the group of Elected Municipalities and the total group of Dutch municipalities would show that the Elected Municipalities outperform the others over the years. Yet, it may not be as simple as that. Best performing municipalities may not have as much opportunities left for further improvement as low performing municipalities, which can more easily improve their performance.

Table 3.3 gives a summary of the overall differences between 2019 and 2020 for the total group of Dutch municipalities and the group of Elected Municipalities. It shows that general trends, an improvement of the overall score with 0.37-0.42 percentage points, are similar in both groups.

**Table 3.3 Sustainability performance of Elected Municipalities and of the total group of Dutch municipalities in 2019 compared to 2020 (percentage points)**

Sustainability capital	Elected 2019	Total 2019	Elected 2020	Total 2020	Elected: Difference 2019-2020	Total: Difference 2019-2020
<b>Total</b>	53.34	50.83	53.71	51.25	0.37	0.42
Socio-cultural	52.54	50.13	52.63	50.27	0.09	0.14
Ecological	54.11	51.28	54.40	51.50	0.29	0.21
Economic	53.36	51.08	54.11	51.97	0.74	0.89

The Elected Municipalities continued to outperform the total group of municipalities with 2.5 percentage points (53.71 vs 50.27), as listed in table 1. Largest improvements occurred this year for the economic capital (0.74-0.89 percentage points), while those for the ecological and socio-cultural capital were

relatively small (0.09/0.14 and 0.29/0.21 percentage points). The elected group has higher sustainability scores on all capitals compared to the total group. However, the changes between 2019-2020 were larger in the total group, except from the ecological capital.

In the next paragraph, the more detailed stock scores are considered.

### 3.4 Changes in stock scores of Elected and the total group of municipalities

A closer look at the level of stocks, see table 3.4, shows that differences between the years show a similar pattern in both groups of municipalities.

**Table 3.4 Differences in sustainability scores (percentage points) of stocks between 2019 and 2020 for the group of elected Municipalities and all Dutch municipalities**

Sustainability stock	Difference 2019-2020 of 114 Elected Municipalities	Difference 2019-2020 of all 355 municipalities
<b>Socio-cultural</b>		
Arts & culture	-0.24	-0.26
Economic participation	1.17	1.51
Education	-0.94	-0.70
Health	-1.14	-1.02
Housing	0.70	1.40
Lifestyle and health	0.00	0.00
Political Participation	0.00	0.00
Residential environment	-0.06	-0.03
Safety	0.91	0.08
Social participation	0.50	0.43
<b>Ecological</b>		
Air	0.36	0.33
Annoyance and External safety	0.03	-0.03
Energy	2.31	2.12
Nature & landscape	0.00	0.00
Soil	-1.57	-1.68
Resources & waste	0.87	0.73
Water	0.00	0.00
<b>Economic</b>		
Competitiveness	0.62	0.83
Infrastructure & mobility	1.44	1.41
Knowledge	0.91	1.14



Labor	1.68	1.61
Spatial location conditions	-0.93	-0.53

#### Socio-cultural stocks

Among socio-cultural stocks, differences between both groups of municipalities were small. Most striking is the improvement in 'housing' and 'economic participation' in the both groups of municipalities. The decline in both groups of 'education', 'health' and 'arts & culture' is not what can be expected in a thriving society.

#### Ecological stocks

Also here, the group of Elected Municipalities shows a similar pattern as the total group of municipalities, with large improvements over the period 2018-2020 for the stocks of 'energy' and 'resources and waste'. These are the two priorities of the national government: climate change and circular economy. The largest decline is shown in 'soil', and is visible in both groups.

#### Economic stocks

Elected Municipalities improved practically as much as the total group of municipalities. The biggest improvement is found in 'labor' and 'infrastructure & mobility', while 'spatial location conditions' shows a decline.

## 4 Elected Municipalities showing largest improvement or reduction in sustainability score in 2019–2020 depending on city typology

In this chapter, a closer examination of the improvements or reductions in total sustainability score of individual Elected Municipalities will be discussed. The assessment will be presented for each of the 14 types of municipalities that are discerned in the Framework for the BNG Bank Sustainability Bond of 2019: agricultural-, center-, green-, growth-, historic-, old industrial-, mid-sized-, New Town-, shrink-, small, residential, tourist, work- and 100,000plus municipalities. The list of best-in-class municipalities in each type of municipalities will be presented as described in the framework document. The scores for 2019 have in this assessment been corrected for additional indicators used in 2020 to make them comparable with the 2019 data. The results are therefore sometimes differing from those given in the 2019 Framework document.

### 4.1 Elected agricultural municipalities

Table 4.1 presents the 15 best-in-class municipalities of the agricultural type, their reconstructed 2019 scores and the 2020 scores for total sustainability. Three municipalities were performing less over the past year, while twelve municipalities improved their score. Oost Gelre improved the most in the period 2019–2020. Overall, the score of the group of elected agricultural municipalities improved 0.3 percentage point since 2019.

**Table 4.1 Improvements and reductions in total sustainability scores of elected agricultural municipalities over 2019–2020**

Agricultural municipality	Sustainability score 2019	Sustainability score 2020	Difference
Oost Gelre	53.5	54.8	1.3
Bunnik	54.8	55.5	0.7
Raalte	53.9	54.6	0.7
Hof van Twente	55.5	56.1	0.6
Voorst	53.8	54.3	0.5
Dinkelland	55.3	55.8	0.5
Kampen	53.4	53.8	0.4
Wijk bij Duurstede	54.2	54.4	0.2
Staphorst	54.6	54.8	0.2
Tynaarlo	55.4	55.6	0.2
Eemnes	52.4	52.5	0.1
Dalfsen	55.1	55.2	0.1
Winterswijk	54.3	54.2	-0.1

Midden-Delfland	56.6	56.3	-0.3
Lochem	53.9	53.5	-0.4
Average	54.5	54.8	0.3



Figure 4.1 Bunnik (Photo: Ben Bender)

## 4.2 Elected center municipalities

As table 4.2 shows, four municipalities did not improve their score last year. Apeldoorn improved the most (1.0 percentage point), followed by Ede.

Table 4.2 Improvements in total sustainability scores of elected center municipalities over 2019-2020

Center municipality	Sustainability score 2018	Sustainability score 2020	Difference
Apeldoorn	53.2	54.2	1.0
Ede	53.5	54.4	0.9
Utrecht (gemeente)	53.7	54.4	0.7
Deventer	54.0	54.7	0.7
Huizen	54.3	54.9	0.6
Delft	54.5	55.1	0.6
Groningen (gemeente)	53.3	53.8	0.5
Hilversum	53.1	53.6	0.5
Nijmegen	54.7	55.1	0.4
Zwolle	53.8	54.1	0.3
Castricum	55.5	55.6	0.1

Leiden	52.4	52.4	0.0
Gooise Meren	53.5	53.4	-0.1
Haarlem	52.3	52.1	-0.2
Amsterdam	52.1	50.7	-1.4
<b>Average</b>	53.6	53.9	0.3

### 4.3 Elected green municipalities

Elected green municipalities on average improved only slightly with 0.1 percentage points. Seven municipalities show a decrease in their sustainability score between 2019-2020, as shown in Table 4.3. Leusden improved most with 1.3 percentage points.

**Table 4.3 Improvements and reductions in total sustainability scores of elected green municipalities over 2019-2020**

Green municipality	Sustainability score 2019	Sustainability score 2020	Difference
Leusden	55.4	56.7	1.3
Bloemendaal	57.2	58.1	0.9
Heerde	53.9	54.7	0.8
Hilversum	53.1	53.6	0.5
Mook en Middelaar	55.4	55.7	0.3
Hellendoorn	54.2	54.5	0.3
Nunspeet	54.9	55.0	0.1
Schiermonnikoog	53.9	53.9	0.0
Ameland	54.4	54.3	-0.1
Soest	53.8	53.5	-0.3
Vlieland	55.7	55.4	-0.3
Ermelo	55.1	54.6	-0.5
Heeze-Leende	55.9	55.4	-0.5
Waalre	55.3	54.8	-0.5
Rozendaal	53.0	51.2	-1.8
<b>Average</b>	54.7	54.8	0.1



Figure 4.2 St. Josephkerk in Leusden stad (Photo: IjslandGek)

#### 4.4 Elected growth municipalities

The elected growth municipalities showed an improvement of 0.2 percentage point last year. Six municipalities did not improve their score. Highest improvement was found at Leusden, followed by Wageningen and Bloemendaal.

Table 4.4 Improvements and reductions in total sustainability scores of elected growth municipalities over 2019-2020

Growth municipality	Sustainability score 2019	Sustainability score 2020	Difference
Leusden	55.4	56.7	1.3
Wageningen	56.9	58.0	1.1
Bloemendaal	57.2	58.1	0.9
Houten	55.6	56.3	0.7
Bunnik	54.8	55.5	0.7
Delft	54.5	55.1	0.6
Nijmegen	54.7	55.1	0.4
Zwolle	53.8	54.1	0.3
Dalfsen	55.1	55.2	0.1

Voorschoten	54.1	54.0	-0.1
Ameland	54.4	54.3	-0.1
Urk	55.4	55.2	-0.2
Midden-Delfland	56.6	56.3	-0.3
Heeze-Leende	55.9	55.4	-0.5
Rozendaal	53.0	51.2	-1.8
<b>Average</b>	55.2	55.4	0.2

## 4.5 Elected historic municipalities

Bronckhorst, Rheden and Utrecht showed the largest improvement in their score last year, 0.8 percentage points. The average score improved last year with 0.1 percentage points, as presented in Table 4.5.

**Table 4.5 Improvements and reductions in total sustainability scores of elected historic municipalities over 2019-2020**

Historic municipality	Sustainability score 2019	Sustainability score 2020	Difference
Bronckhorst	53.5	54.3	0.8
Rheden	53.1	53.9	0.8
Utrecht (gemeente)	53.7	54.4	0.7
Delft	54.5	55.1	0.6
Eijsden-Margraten	52.7	53.2	0.5
Hilversum	53.1	53.6	0.5
Molenlanden	53.1	53.5	0.4
Kampen	53.4	53.8	0.4
Staphorst	54.6	54.8	0.2
Schiermonnikoog	53.9	53.9	0.0
Leiden	52.4	52.4	0.0
Ameland	54.4	54.3	-0.1
Vlieland	55.7	55.4	-0.3
Amsterdam	52.1	50.7	-1.4
Waterland	53.8	51.6	-2.2
<b>Average</b>	53.6	53.7	0.1

## 4.6 Elected mid-sized municipalities

Table 4.6 shows that mid-sized municipalities improved sustainability score on average with 0.4 percentage points last year. Only three municipalities did not improve their score. Gouda and Barneveld improved their score most.



**Table 4.6 Improvements and reductions in total sustainability scores of elected mid-sized municipalities over 2019-2020**

Mid-sized municipality	Sustainability score 2019	Sustainability score 2020	Difference
Gouda	51.6	52.7	1.1
Barneveld	52.8	53.9	1.1
Assen	51.0	51.8	0.8
Deventer	54.0	54.7	0.7
Woerden	53.5	54.1	0.6
Katwijk	52.3	52.9	0.6
Westerkwartier	52.0	52.6	0.6
Hilversum	53.1	53.6	0.5
Kampen	53.4	53.8	0.4
Doetinchem	50.7	50.9	0.2
Heerenveen	52.3	52.4	0.1
Stichtse Vecht	50.6	50.7	0.1
Krimpenerwaard	53.5	53.5	0.0
Gooise Meren	53.5	53.4	-0.1
Amstelveen	53.6	53.0	-0.6
<b>Average</b>	<b>52.5</b>	<b>52.9</b>	<b>0.4</b>

## 4.7 Elected New Town municipalities

Elected New Town municipalities improved on average their score with 0.3 percentage points (see table 4.7). Tubbergen and Woudenberg both improved their score with 0.8 percentage points since 2019.

**Table 4.7 Improvements and reductions in total sustainability scores of elected New Town municipalities over 2019-2020**

New Town municipality	Sustainability score 2019	Sustainability score 2020	Difference
Tubbergen	53.5	54.3	0.8
Woudenberg	54.5	55.3	0.8
Houten	55.6	56.3	0.7
Harderwijk	53.5	54.2	0.7
Amersfoort	52.2	52.8	0.6
Heumen	54.5	55.0	0.5
Zeewolde	54.5	54.9	0.4
Overbetuwe	50.7	51.0	0.3
Culemborg	53.5	53.6	0.1
Eemnes	52.4	52.5	0.1
Aalsmeer	51.1	51.2	0.1
IJsselstein	52.6	52.6	0.0

Urk	55.4	55.2	-0.2
Nijkerk	53.4	53.1	-0.3
Midden-Delfland	56.6	56.3	-0.3
<b>Average</b>	53.6	53.9	0.3



Figure 4.3 Glasboom Tubbergen (Photo: Gewild)

## 4.8 Elected old industrial municipalities

Elected old industrial municipalities scored on average 0.6 percentage points higher over the reporting period, as shown in Table 4.8. Oldenzaal improved the most with 1.6 percentage points, followed by Rijssen-Holten. Two municipalities decreased their score over time.

Table 4.8 Improvements and reductions in total sustainability scores of elected old industrial municipalities over 2019–2020

Old industrial municipality	Sustainability score 2019	Sustainability score 2020	Difference
Oldenzaal	53.1	54.7	1.6
Rijssen-Holten	53.3	54.8	1.5
Wierden	53.2	54.5	1.3
Haaksbergen	53.6	54.9	1.3
Losser	53.4	54.4	1.0
Putten	55.1	56.0	0.9
Best	52.6	53.5	0.9
Bladel	54.2	54.9	0.7
Borne	52.0	52.5	0.5
Oisterwijk	52.9	53.3	0.4

Hellendoorn	54.2	54.5	0.3
Culemborg	53.5	53.6	0.1
Bergeijk	54.6	54.6	0.0
Waalre	55.3	54.8	-0.5
Hattem	53.1	52.0	-1.1
<b>Average</b>	53.6	54.2	0.6

## 4.9 Elected residential municipalities

Residential municipalities kept the same sustainability score in 2020 as in 2019, as can be seen in Table 4.9. Hendrik-Ido-Ambacht and Bloemendaal both increased their score with 0.9 percentage points since last year.

**Table 4.9 Improvements and reductions in total sustainability scores of elected old industrial municipalities over 2019-2020**

Residential municipality	Sustainability score 2019	Sustainability score 2020	Difference
Hendrik-Ido-Ambacht	51.5	52.4	0.9
Bloemendaal	57.2	58.1	0.9
Landsmeer	52.4	53.2	0.8
Sint-Michielsgestel	53.6	54.2	0.6
Eijsden-Margraten	52.7	53.2	0.5
Heumen	54.5	55.0	0.5
Borne	52.0	52.5	0.5
Reusel-De Mierden	54.3	54.6	0.3
Mook en Middelaar	55.4	55.7	0.3
Wijk bij Duurstede	54.2	54.4	0.2
Castricum	55.5	55.6	0.1
Voorschoten	54.1	54.0	-0.1
Waalre	55.3	54.8	-0.5
Rozendaal	53.0	51.2	-1.8
Waterland	53.8	51.6	-2.2
<b>Average</b>	54.0	54.0	0.0

## 4.10 Elected shrink municipalities

As far as elected shrink municipalities are concerned, it is found that they improved 0.5 percentage points on average last year (see Table 4.10). Voerendaal improved most with 1.5 percentage points, and two municipalities decreased their score.

**Table 4.10 Improvements and reductions in total sustainability scores of elected shrink municipalities over 2019–2020**

Shrink municipality	Sustainability score 2019	Sustainability score 2020	Difference
Voerendaal	50.0	51.5	1.5
Meerssen	51.2	52.5	1.3
Beekdaelen	47.9	48.8	0.9
Berkelland	53.8	54.6	0.8
Bergen (NH.)	53.7	54.5	0.8
Bronckhorst	53.5	54.3	0.8
Brummen	52.0	52.8	0.8
Laren (NH.)	49.4	50.2	0.8
Gulpen-Wittem	49.8	50.4	0.6
Westervoort	50.2	50.7	0.5
Leudal	51.1	51.5	0.4
Mook en Middelaar	55.4	55.7	0.3
Roerdalen	49.0	49.0	0.0
Valkenburg aan de Geul	51.2	50.6	-0.6
Stein (L.)	49.5	48.7	-0.8
<b>Average</b>	51.2	51.7	0.5

#### 4.11 Elected small municipalities

The group of small municipalities has improved its score in 2020 by 0.2 percentage points, as shown in Table 4.11. Leusden leads this group by improving 1.3 percentage points, followed by Wageningen and Bloemendaal.

**Table 4.11 Improvements and reductions in total sustainability scores of elected old industrial municipalities over 2019–2020**

Small municipality	Sustainability score 2019	Sustainability score 2020	Difference
Leusden	55.4	56.7	1.3
Wageningen	56.9	58.0	1.1
Bloemendaal	57.2	58.1	0.9
Houten	55.6	56.3	0.7
Bunnik	54.8	55.5	0.7
Heumen	54.5	55.0	0.5
Mook en Middelaar	55.4	55.7	0.3
Tynaarlo	55.4	55.6	0.2
Noordenveld	55.7	55.9	0.2

Dalfsen	55.1	55.2	0.1
Schiermonnikoog	53.9	53.9	0.0
Ameland	54.4	54.3	-0.1
Urk	55.4	55.2	-0.2
Midden-Delfland	56.6	56.3	-0.3
Rozendaal	53.0	51.2	-1.8
<b>Average</b>	55.3	55.5	0.2



Figure 4.4 Bloemendaal aan Zee (Photo: Fabimaru)

## 4.12 Elected tourist municipalities

The sustainability score of the elected tourist type of municipalities has improved on average 0.1 percentage points (see Table 4.12). Four municipalities show a decrease in their sustainability score since 2019, and three municipalities remained with the same score in 2020 as in 2019.

Table 4.12 Improvements and reductions in total sustainability scores of elected tourist municipalities over 2019-2020

Tourist municipality	Sustainability score 2019	Sustainability score 2020	Difference
Westerveld	53.7	54.8	1.1
Hilvarenbeek	54.1	55.2	1.1
Bergen (NH.)	53.7	54.5	0.8

Groningen (gemeente)	53.3	53.8	0.5
Eijsden-Margraten	52.7	53.2	0.5
Terschelling	54.5	55.0	0.5
Mook en Middelaar	55.4	55.7	0.3
Steenwijkerland	54.0	54.2	0.2
Schiermonnikoog	53.9	53.9	0.0
Bergeijk	54.6	54.6	0.0
Leiden	52.4	52.4	0.0
Ameland	54.4	54.3	-0.1
Vlieland	55.7	55.4	-0.3
Amsterdam	52.1	50.7	-1.4
Waterland	53.8	51.6	-2.2
<b>Average</b>	53.9	54.0	0.1

#### 4.13 Elected work municipalities

Elected work municipalities performed the past year on average well (plus 0.5 percentage point), as illustrated in table 4.13. Oldenzaal improved the most with 1.6 percentage points.

**Table 4.13 Improvements and reductions in total sustainability scores of elected work municipalities over 2019–2020**

Work municipality	Sustainability score 2019	Sustainability score 2020	Difference
Oldenzaal	53.1	54.7	1.6
Rijssen-Holten	53.3	54.8	1.5
Oost Gelre	53.5	54.8	1.3
Utrecht (gemeente)	53.7	54.4	0.7
Deventer	54.0	54.7	0.7
Woerden	53.5	54.1	0.6
Delft	54.5	55.1	0.6
Groningen (gemeente)	53.3	53.8	0.5
Hilversum	53.1	53.6	0.5
Nijmegen	54.7	55.1	0.4
Zwolle	53.8	54.1	0.3
Nunspeet	54.9	55.0	0.1
Leiden	52.4	52.4	0.0
Ouder-Amstel	54.2	54.0	-0.2
Amsterdam	52.1	50.7	-1.4
<b>Average</b>	53.6	54.1	0.5



#### 4.14 Elected 100,000plus municipalities

The, for Dutch dimensions, relative large elected 100,000plus cities, on average improved their score with 0.4 percentage point. Apeldoorn improved most, followed by Ede and Eindhoven.

**Table 4.14 Improvements and reductions in total sustainability scores of elected 100,000plus over 2019-2020**

100,000plus municipality	Sustainability score 2019	Sustainability score 2020	Difference
Apeldoorn	53.2	54.2	1.0
Ede	53.5	54.4	0.9
Eindhoven	51.8	52.6	0.8
Utrecht (gemeente)	53.7	54.4	0.7
Delft	54.5	55.1	0.6
Amersfoort	52.2	52.8	0.6
Groningen (gemeente)	53.3	53.8	0.5
Arnhem	52.9	53.4	0.5
Nijmegen	54.7	55.1	0.4
Zwolle	53.8	54.1	0.3
Almere	52.1	52.3	0.2
's-Hertogenbosch	51.4	51.6	0.2
Leiden	52.4	52.4	0.0
Haarlem	52.3	52.1	-0.2
Amsterdam	52.1	50.7	-1.4
Average	52.9	53.3	0.4



**Figure 4.5 Paleis het Loo – Apeldoorn (Photo: Natataek)**

#### 4.15 Summary of score changes of Elected Municipalities and their typology

Table 4.15 gives an overview of the average performance of the 14 groups of municipalities. The largest improvements in percentage points were found in former industrial municipalities and shrink municipalities. Highest sustainability scores were measured in small municipalities (55.5 percentage points) and lowest in shrink municipalities (51.7 percentage points).

**Table 4.15 Changes in total sustainability scores of 14 types of elected municipalities over 2019-2020**

Type of municipality	Sustainability score 2019	Sustainability score 2020	Difference
Small municipalities	55.3	55.5	0.2
Mid-sized municipalities	52.5	52.9	0.4
100.000plus municipality	52.9	53.3	0.4
Agricultural municipality	54.5	54.8	0.3
Center municipality	53.6	53.9	0.3
Former industrial municipality	53.6	54.2	0.6
Green municipality	54.7	54.8	0.1
Growth municipalities	55.2	55.4	0.2
Historic municipalities	53.6	53.7	0.1
New Town municipality	53.6	53.9	0.3
Residential municipalities	54.0	54.0	0.0
Shrink municipality	51.2	51.7	0.5
Touristic municipalities	53.9	54.0	0.1
Work municipality	53.6	54.1	0.5

## 5 Overall outcome for Elected Municipalities including their CO2-emission scores in 2019–2020

This chapter presents a final overview of the performance of the Elected Municipalities, independent from their typology.

The green bonds were started by the World Bank to help promote the transition to a low carbon economy, in order to slow down further climate change. Considering this background, this chapter includes a description of the performance of the Elected Municipalities in relation to CO2-emissions. Although they are included as indicator in the ecological capital, this aspect will be highlighted as an element of special interest, being often the key factor for green bond and sustainability bond investors.

### 5.1 General outcome of improving and regressing Elected Municipalities

Among Elected Municipalities 80% had similar or higher sustainability scores in 2020 compared to 2019 (see also Annex 1).

Tables 5.1 and 5.2 show the elected Municipalities that showed the largest improvement or decrease in their sustainability score over time. The best performing municipality in this respect among Elected Municipalities is Oldenzaal followed by Voerendaal and Rijssen-Holten.

**Table 5.1 Ten Elected Municipalities improving sustainability score most in the period 2019–2020**

Elected municipality	Typology	Total score 2019	Total score 2020	Difference
Oldenzaal	Former industrial, Work	53.1	54.7	1.6
Voerendaal	Shrink	50.0	51.5	1.5
Rijssen-Holten	Former industrial, Work	53.3	54.8	1.5
Meerssen	Shrink	51.2	52.5	1.3
Wierden	Former industrial	53.2	54.5	1.3
Leusden	Small, Green, Growth	55.4	56.7	1.3
Oost Gelre	Agricultural, Work	53.5	54.8	1.3
Haaksbergen	Former industrial	53.6	54.9	1.3
Wageningen	Small, Growth	56.9	58.0	1.1
Westerveld	Tourist	53.7	54.8	1.1

The largest reduction in sustainability score among Elected Municipalities was detected in Waterland, followed by Rozendaal and Amsterdam.

**Table 5.2 Ten Elected Municipalities with largest declining sustainability score in the period 2019-2020**

Municipality	Typology	Total score 2019	Total score 2020	Difference
Waterland	Historic, Residential, Tourist	53.8	51.6	-2.2
Rozendaal	Small, Green, Growth, Residential	53.0	51.2	-1.8
Amsterdam	Large, Centre, Historic, Tourist, Work	52.1	50.7	-1.4
Hattem	Former industrial	53.1	52.0	-1.1
Stein (L.)	Shrink	49.5	48.7	-0.8
Amstelveen	Medium	53.6	53.0	-0.6
Valkenburg aan de Geul	Shrink	51.2	50.6	-0.6
Waalre	Former industrial, Green, Residential	55.3	54.8	-0.5
Heeze-Leende	Green, Growth	55.9	55.4	-0.5
Ermelo	Green	55.1	54.6	-0.5

## 5.2 CO2-emission score performance of Elected Municipalities

Finally, the outcome of the CO2-emission assessment of Elected Municipalities will be discussed. This is one of the key transitions to which national governments have committed themselves in the framework of the UN Climate Change Convention and particularly since the 2015 Paris Agreement. But also individual municipalities have similar commitments, e.g. in the framework of the Covenant of Mayors to combat climate change. In the Netherlands the Association of Dutch Municipalities (VNG) has signed an agreement in 2013 with the national government and other parties to substantially reduce CO2-emissions the coming years. New agreements are underway.

Data on CO2 emissions are available for each municipality via the web-portal of the Dutch Emissions Authority . They calculate the CO2 emissions every five years, including the most recent two years. At this moment, data are available for 1990-2015 in a five-year interval, supplemented with the two most recent years in their database (2017 and 2018). In this impact report, the reduction over the two most recent years has been used.

A closer look at the CO2 reductions shows that the group of Elected Municipalities did not realize a reduction in CO2 emissions over the last year; the CO2 emissions increased with 0.97%. This is not what was expected from the Elected Municipalities, given the fact that the national CO2 emissions decreased with

decreased with 2.11% in the past year. The outcome of this analysis is shown in table 5.3.

**Table 5.3 CO2 reductions in different time periods of the Elected Municipalities and the total group of municipalities**

Considered group of municipalities	1990-2018	2010-2018	2017-2018
Elected (114)	-20.69%	-19.22%	0.97%
Others	14.95%	-5.98%	-2.81%
Total (355)	5.83%	-8.84%	-2.11%

The highest reduction was found Brummen, followed by Ameland and Doetinchem. Table 5.4 shows that Hilvarenbeek, Berkelland and Vlieland noted the largest increase in CO2 emissions. Vlieland however produces the lowest degree of CO2 emissions of the Netherlands. CO2 emission changes for all municipalities over the last year are given in Annex 2.

**Table 5.4 Ten Elected Municipalities with most and least reduction in CO2-emissions over the last year (equals measuring years 2017-2018)**

Elected municipality	Emission change over measuring years 2017-2018	Elected municipality	Emission change over measuring years 2017-2018
Brummen	-6	Hilvarenbeek	15
Ameland	-5	Berkelland	15
Doetinchem	-4	Vlieland	11
Stein (L.)	-4	Leiden	10
Lochem	-4	Hattem	5
Bergeijk	-3	Groningen (gemeente)	4
Barneveld	-3	Nunspeet	4
Tubbergen	-3	Amsterdam	3
Reusel-De Mierden	-3	Terschelling	3
Deventer	-2	Heerde	2

## 6 SDGs scores

In the 2018 framework report, a method was introduced to measure the achievement of the 2015 UN Sustainable Development Goals (SDGs). Showing the impacts of societal activities in terms of their contribution to the SDGs, is recently becoming a must for many organizations and particularly for banks and pension funds. These have been active since 2015 to develop a so-called 'taxonomy on Sustainable Development Investments (SDIs)' that translates the SDGs into investable opportunities from the perspective of Asset Owners<sup>5</sup>.

An elaborated description of the methodology used to calculate the SDG scores can be found in the framework report 2020<sup>6</sup>. In essence it is based on aggregating elements of the sustainability scores in a way consistent with the definitions of the SDGs.

### 6.1 Progress of the elected municipalities towards the SDGs

Comparison over the years 2019 and 2020, as shown in table 6.1, makes clear that the performance of several goals improved substantially (Goals 1, 4, 7, 8, 9, 10, 12 and 16) , but other showed a small fallback (Goals 3 and 15).

In general, table 6.1 shows that the municipalities improved their performance between 2019 and 2020 for 8 of the 14 goals measured.

**Table 6.1 SDG scores for elected (n=114) and all (n=355) municipalities 2019-2020**

SDG	All municipalities (n=355)			Elected municipalities (n=114)		
	2019	2020	Difference 2019-2020	2019	2020	Difference 2019-2020
1. No Poverty	65.3	65.8	0.5	68.8	69.3	0.5
2. Zero Hunger	40.1	40.1	0.0	46.1	46.1	0.0
3. Good Health and Well-being	48.3	47.9	-0.4	49.9	49.4	-0.5
4. Quality Education	60.4	60.9	0.5	62.8	63.4	0.6
5. Gender Equality						
6. Clean Water and Sanitation	57.3	57.3	0.0	59.8	59.8	0.0
7. Affordable and Clean Energy	34.6	36.7	2.1	35.4	37.6	2.2

<sup>5</sup> [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-fi-nance\\_en](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-fi-nance_en)

<sup>6</sup> Mulder, R., Paenen, S., Bijster, F., & Dagevos, J. (2020). BNG Bank sustainability bond for Dutch best-in-class municipalities. document nr 205275, October, Het PON & Telos, [www.telos.nl](http://www.telos.nl)



8. Decent Work and Economic Growth	50.8	51.9	1.1	53.8	55.0	1.2
9. Industry, Innovation and Infrastructure	39.4	41.6	2.2	43.4	45.6	2.2
10. Reduced Inequalities	53.3	54.1	0.8	56.8	57.5	0.7
11. Sustainable Cities and Communities	52.1	52.1	0.0	53.6	53.5	-0.1
12. Responsible Consumption and Production	53.9	54.9	1.0	54.9	55.9	1.0
13. Climate Action	52.9	52.9	0.0	52.2	52.2	0.0
14. Life below Water						
15. Life on Land	44.5	42.8	-1.7	47.3	45.7	-1.6
16. Peace, Justice and Strong Institutions	50.9	51.5	0.6	53.5	54.8	1.3
17. Partnerships for the Goals						

As shown in table 6.1, 3 of the 17 SDGs could not be measured because of lack of data, or because they are not relevant for municipalities. These are nr. 5 (Gender equality), nr. 14 (Life below water) and nr.17 (Partnerships for the Goals).

## 6.2 Differences between the elected and the total group of municipalities on the SDGs

The performance of the group of elected municipalities deviates for some goals from the total group of municipalities. The elected municipalities still outperforms the total group in 13 out of the 14 measured goals, but the differences become smaller. Only for goal 13 (Climate action) the total group performs better than the elected group, as was the case in 2019.

There are, however, some differences in the development of the scores between the two groups. For example, the difference between the Elected group and the total group of municipalities was 2.6 percentage points for goal 16 (Peace, Justice and Strong Institutions), and this difference grew even larger over the last year to 3.3 percentage points. The same is the case for goal 4 (Quality Education), 7 (Affordable and Clean Energy) and 8 (Decent Work and Economic Growth). The total group shows a higher improvement on goal 10 (Reduced Inequalities) than the elected municipalities.

More information about the method of analyses on the SDGs can be found in the 2020 framework report for municipalities<sup>7</sup>.

<sup>7</sup> Mulder, R., Paenen, S., Bijster, F., & Dagevos, J. (2020). BNG Bank sustainability bond for Dutch best-in-class municipalities. document nr 205275, October, Het PON & Telos, [www.telos.nl](http://www.telos.nl)

## 7 Discussion and overview of outcome of assessment period 2019–2020

The end result shows that the 114 Elected Municipalities continued to outperform the total group of municipalities with 2.5 percentage points (53.71 vs 51.25), as listed in Table 1. Both groups of municipalities show an improvement of the overall score with 0.37-0.42 percentage points. Largest improvements occurred this year for the economic capital (0.74/0.89 percentage points), while those for the ecological and socio-cultural capital were relatively small (0.29/0.21 and 0.09/0.21 percentage points).

The analysis shows that 80% of Elected Municipalities realized past year a stable or improved total sustainability score and a bit more than 40% of Elected Municipalities reduced or stabilized their CO<sub>2</sub>-emissions. A closer look at the CO<sub>2</sub> reductions shows that the group of Elected did not realize a reduction in CO<sub>2</sub> emissions; it increased with 0.97%, while the other municipalities realized a reduction of -2.81%. This is not what was expected for the Elected group.

Scores of municipalities are rather dynamic from year to year, although major differences and advantages among municipalities are of a structural nature. In the reporting period Elected Municipalities Oldenzaal, Voerendaal, Rijssen-Holten and Meerssen were able to improve their total sustainability score most with 1.4 to 1.6 percentage points or more. The largest reduction in sustainability score among Elected Municipalities was detected in Waterland, Rozendaal, Amsterdam and Hattem.

Comparison over the years 2019 and 2020, as shown in table 6.1, makes clear that the performance of several goals improved substantially (Goals 1, 4, 7, 8, 9, 10, 12 and 16), but other showed a small fallback (Goals 3 and 15). The elected municipalities still outperforms the total group in 13 out of the 14 measured goals, but the differences become smaller. Only for goal 13 (Climate action) the total group performs better than the elected group, as was the case in 2019. The total group shows a higher improvement on goal 10 (Reduced Inequalities) than the elected municipalities.

It is not always the best scoring municipality in a certain class that shows the biggest improvement of its score in the next year. The advantage of a high score on sustainability may turn into a (temporary) disadvantage under certain circumstances. Yet, the differences in position on a scoring list and the magnitude of improvement or fallback from year to year provide relevant incentives for municipalities to better understand their position, learn from each other, reduce vulnerabilities and develop new approaches to existing and new challenges. Impact reporting of Sustainability Bonds stimulates elected and other municipalities to invest proceeds from the bonds and other resources in most effective operational and innovative structural activities to improve sustainability.

## Annex A. Overview of the differences in total sustainability scores in 2019 and 2020 for all 114 Elected Municipalities

Municipality	Total sustainability score 2019	Total sustainability score 2020	Difference 2019-2020
Oldenzaal	53.1	54.7	1.6
Voerendaal	50	51.5	1.5
Rijssen-Holten	53.3	54.8	1.5
Leusden	55.4	56.7	1.3
Meerssen	51.2	52.5	1.3
Wierden	53.2	54.5	1.3
Oost Gelre	53.5	54.8	1.3
Haaksbergen	53.6	54.9	1.3
Wageningen	56.9	58	1.1
Hilvarenbeek	54.1	55.2	1.1
Gouda	51.6	52.7	1.1
Barneveld	52.8	53.9	1.1
Westerveld	53.7	54.8	1.1
Apeldoorn	53.2	54.2	1
Losser	53.4	54.4	1
Beekdaelen	47.9	48.8	0.9
Hendrik-Ido-Ambacht	51.5	52.4	0.9
Bloemendaal	57.2	58.1	0.9
Putten	55.1	56	0.9
Best	52.6	53.5	0.9
Ede	53.5	54.4	0.9
Eindhoven	51.8	52.6	0.8
Berkelland	53.8	54.6	0.8
Landsmeer	52.4	53.2	0.8
Laren (NH.)	49.4	50.2	0.8
Heerde	53.9	54.7	0.8
Assen	51	51.8	0.8
Bergen (NH.)	53.7	54.5	0.8
Bronckhorst	53.5	54.3	0.8
Tubbergen	53.5	54.3	0.8
Woudenberg	54.5	55.3	0.8
Brummen	52	52.8	0.8
Rheden	53.1	53.9	0.8
Bunnik	54.8	55.5	0.7
Raalte	53.9	54.6	0.7
Deventer	54	54.7	0.7
Harderwijk	53.5	54.2	0.7

Houten	55.6	56.3	0.7
Utrecht (gemeente)	53.7	54.4	0.7
Bladel	54.2	54.9	0.7
Huizen	54.3	54.9	0.6
Hof van Twente	55.5	56.1	0.6
Sint-Michielsgestel	53.6	54.2	0.6
Gulpen-Wittem	49.8	50.4	0.6
Woerden	53.5	54.1	0.6
Katwijk	52.3	52.9	0.6
Westerkwartier	52	52.6	0.6
Delft	54.5	55.1	0.6
Amersfoort	52.2	52.8	0.6
Groningen (gemeente)	53.3	53.8	0.5
Eijsden-Margraten	52.7	53.2	0.5
Hilversum	53.1	53.6	0.5
Arnhem	52.9	53.4	0.5
Heumen	54.5	55	0.5
Borne	52	52.5	0.5
Voorst	53.8	54.3	0.5
Westervoort	50.2	50.7	0.5
Dinkelland	55.3	55.8	0.5
Terschelling	54.5	55	0.5
Zeewolde	54.5	54.9	0.4
Leudal	51.1	51.5	0.4
Molenlanden	53.1	53.5	0.4
Nijmegen	54.7	55.1	0.4
Kampen	53.4	53.8	0.4
Oisterwijk	52.9	53.3	0.4
Reusel-De Mierden	54.3	54.6	0.3
Mook en Middelaar	55.4	55.7	0.3
Zwolle	53.8	54.1	0.3
Overbetuwe	50.7	51	0.3
Hellendoorn	54.2	54.5	0.3
's-Hertogenbosch	51.4	51.6	0.2
Steenwijkerland	54	54.2	0.2
Tynaarlo	55.4	55.6	0.2
Almere	52.1	52.3	0.2
Wijk bij Duurstede	54.2	54.4	0.2
Staphorst	54.6	54.8	0.2
Noordenveld	55.7	55.9	0.2
Doetinchem	50.7	50.9	0.2
Heerenveen	52.3	52.4	0.1
Culemborg	53.5	53.6	0.1

Aalsmeer	51.1	51.2	0.1
Eemnes	52.4	52.5	0.1
Nunspeet	54.9	55	0.1
Castricum	55.5	55.6	0.1
Dalfsen	55.1	55.2	0.1
Stichtse Vecht	50.6	50.7	0.1
Schiermonnikoog	53.9	53.9	0
Bergeijk	54.6	54.6	0
IJsselstein	52.6	52.6	0
Roerdalen	49	49	0
Leiden	52.4	52.4	0
Krimpenerwaard	53.5	53.5	0
Winterswijk	54.3	54.2	-0.1
Voorschoten	54.1	54	-0.1
Ameland	54.4	54.3	-0.1
Gooise Meren	53.5	53.4	-0.1
Urk	55.4	55.2	-0.2
Haarlem	52.3	52.1	-0.2
Ouder-Amstel	54.2	54	-0.2
Soest	53.8	53.5	-0.3
Nijkerk	53.4	53.1	-0.3
Midden-Delfland	56.6	56.3	-0.3
Vlieland	55.7	55.4	-0.3
Lochem	53.9	53.5	-0.4
Ermelo	55.1	54.6	-0.5
Heeze-Leende	55.9	55.4	-0.5
Waalre	55.3	54.8	-0.5
Valkenburg aan de Geul	51.2	50.6	-0.6
Amstelveen	53.6	53	-0.6
Stein (L.)	49.5	48.7	-0.8
Hatterr	53.1	52	-1.1
Amsterdam	52.1	50.7	-1.4
Rozendaal	53	51.2	-1.8
Waterland	53.8	51.6	-2.2

## Annex B. Overview of the changes in CO2-emissions in 2017-2018 for all Elected Municipalities

Elected municipality	Typology	% Difference 2017-2018
Brummen	Shrink	-5.8
Ameland	Small, Green, Growth, Historic, Tourist	-5.3
Doetinchem	Medium	-4.4
Stein (L.)	Shrink	-4.1
Lochem	Agricultural	-3.5
Bergeijk	Former industrial, Tourist	-3.2
Barneveld	Medium	-3.2
Tubbergen	New town	-3.0
Reusel-De Mierden	Residential	-2.6
Deventer	Medium, Centre, Work	-2.2
Stichtse Vecht	Medium	-2.2
Hendrik-Ido-Ambacht	Residential	-1.8
Hof van Twente	Agricultural	-1.8
Dalfsen	Small, Agricultural, Growth	-1.7
Bladel	Former industrial	-1.4
Raalte	Agricultural	-1.4
Urk	Small, Growth, New town	-1.3
Wijk bij Duurstede	Agricultural, Residential	-1.2
Hilversum	Medium, Centre, Green, Historic, Work	-1.1
Soest	Green	-1.1
Heerenveen	Medium	-1.0
Haarlem	Large, Centre	-0.9
Oisterwijk	Former industrial	-0.8
Houten	Small, Growth, New town	-0.7
Best	Former industrial	-0.7
Ede	Large, Centre	-0.7
Borne	Former industrial, Residential	-0.6
Gulpen-Wittem	Shrink	-0.6
Valkenburg aan de Geul	Shrink	-0.6
Woudenberg	New town	-0.6
Leudal	Shrink	-0.5
Utrecht (gemeente)	Large, Centre, Historic, Work	-0.5
Wierden	Former industrial	-0.5
Almere	Large	-0.5
Westerkwartier	Medium	-0.5
Heeze-Leende	Green, Growth	-0.5
Huizen	Centre	-0.4

Zwolle	Large, Centre, Growth, Work	-0.4
Bronckhorst	Historic, Shrink	-0.4
Voorst	Agricultural	-0.3
Haaksbergen	Former industrial	-0.3
Apeldoorn	Large, Centre	-0.3
Harderwijk	New town	-0.3
Dinkelland	Agricultural	-0.3
Gooise Meren	Medium, Centre	-0.2
Oldenzaal	Former industrial, Work	-0.2
Roerdalen	Shrink	-0.2
Losser	Former industrial	-0.1
Rijssen-Holten	Former industrial, Work	-0.1
Amstelveen	Medium	-0.1
Meerssen	Shrink	-0.1
Wageningen	Small, Growth	0.0
Leusden	Small, Green, Growth	0.1
's-Hertogenbosch	Large	0.1
Bunnik	Small, Agricultural, Growth	0.1
Kampen	Medium, Agricultural, Historic	0.1
Beekdaelen	Shrink	0.2
Landsmeer	Residential	0.2
Nijkerk	New town	0.2
Westerveld	Tourist	0.2
Eijsden-Margraten	Historic, Residential, Tourist	0.2
Arnhem	Large	0.2
Bergen (NH.)	Shrink, Tourist	0.2
Assen	Medium	0.2
Bloemendaal	Small, Green, Growth, Residential	0.3
IJsselstein	New town	0.3
Castricum	Centre, Residential	0.3
Voerendaal	Shrink	0.3
Aalsmeer	New town	0.3
Voorschoten	Growth, Residential	0.4
Staphorst	Agricultural, Historic	0.4
Rozendaal	Small, Green, Growth, Residential	0.4
Tynaarlo	Small, Agricultural	0.4
Midden-Delfland	Small, Agricultural, Growth, New town	0.4
Heumen	Small, New town, Residential	0.4
Sint-Michielsgestel	Residential	0.4
Waalre	Former industrial, Green, Residential	0.4
Laren (NH.)	Shrink	0.5
Culemborg	Former industrial, New town	0.5
Noordenveld	Small	0.6

Gouda	Medium	0.6
Eindhoven	Large	0.6
Ouder-Amstel	Work	0.6
Steenwijkerland	Tourist	0.6
Oost Gelre	Agricultural, Work	0.6
Amersfoort	Large, New town	0.6
Eemnes	Agricultural, New town	0.6
Delft	Large, Centre, Growth, Historic, Work	0.6
Putten	Former industrial	0.7
Rheden	Historic	0.8
Overbetuwe	New town	0.9
Nijmegen	Large, Centre, Growth, Work	1.0
Katwijk	Medium	1.1
Winterswijk	Agricultural	1.1
Woerden	Medium, Work	1.1
Molenlanden	Historic	1.1
Hellendoorn	Former industrial, Green	1.1
Krimpenerwaard	Medium	1.2
Westervoort	Shrink	1.4
Zeewolde	New town	1.5
Mook en Middelaar	Small, Green, Residential, Shrink, Tourist	1.6
Ermelo	Green	1.8
Waterland	Historic, Residential, Tourist	1.9
Schiermonnikoog	Small, Green, Historic, Tourist	2.0
Heerde	Green	2.4
Terschelling	Tourist	2.9
Amsterdam	Large, Centre, Historic, Tourist, Work	3.4
Nunspeet	Green, Work	3.7
Groningen (gemeente)	Large, Centre, Tourist, Work	4.3
Hattem	Former industrial	5.4
Leiden	Large, Centre, Historic, Tourist, Work	9.6
Vlieland	Green, Historic, Tourist	11.4
Berkelland	Shrink	15.1
Hilvarenbeek	Tourist	15.5

(Source: [www.emissieregistratie.nl](http://www.emissieregistratie.nl))





**telos** brabants centrum voor  
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