5th Performance Report of Elected Dutch Municipalities of BNG Bank Sustainability Bond of November 2018

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Executive summary

Per November 26, 2018, BNG Bank launched its fifth Sustainability Bond, a new EUR 750 million 7-year benchmark with a coupon rate of 0.5%. The Framework document for the BNG Bank Sustainability Bond 2018 was provided to BNG Bank by Telos -Tilburg University- on 4 October 2018, describing the selection process of best-in-class Dutch municipalities eligible for the bond. The same selection of sustainable best-in-class municipalities was used to issue another sustainability bond per 4 June 2019. This concerned an AUD 400 million sustainability bond (with a coupon rate of 1.9%) which, like the EUR 750 million 7-year benchmark, also has its maturity date per 26 November 2025.

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 2019–2025, 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 115 elected municipalities compared to the total group of 342 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 fifth impact report of the 2018 Sustainability Bonds, covering the years 2018-2023.

The elected municipalities continued to outperform the total group of municipalities with 2.2 percentage points (52.6 vs. 50.4), as listed in table 1. Both groups of municipalities show an improvement of the overall score with 3.5 and 3.4 percentage points. Largest improvements occurred this year for the economic capital (5.1 to 5.3 percentage points), while those for the ecological and socio-cultural capital were smaller (2.8 to 3.0 and 1.9 to 2.3 percentage points).

Table 1 Sustainability scores of 115 elected municipalities and of the total group of 342 Dutch municipalities in 2023 compared to 2018

Sustainability capital	Elected 2018	Total 2018	Elected 2023	Total 2023	Elected: Difference 2018-2023	Total: Difference 2018-2023[1]
Total	49.1	47.1	52.6	50.4	3.5	3.4
Socio-cultural	49.5	46.9	52.5	49.8	3.0	2.8
Ecological	49.0	47.8	51.3	49.7	2.3	1.9
Economic	48.9	46.5	54.1	51.8	5.1	5.3

A closer look at the CO2 reductions shows that the group of elected municipalities realized a reduction in CO2 emissions over the last years by 12.8%. The other municipalities realized a smaller reduction of 4.6%.

[1] The calculated differences can be 0.1 percentage point higher or lower due to rounding differences in the calculation. This is the case for all calculated differences in the report.

Scores of municipalities are rather dynamic from year to year, although major differences and (dis)advantages among municipalities are of a structural nature. In the reporting period the elected municipalities Leusden, Heusden, Rijssen-Holten and Utrechtse Heuvelrug were able to improve their total sustainability score the most by 5.7 or more percentage points. The least improvement in sustainability score among elected municipalities was detected in Oostzaan, Urk, Ouder-Amstel and Scherpenzeel.

Comparison over the years 2018 and 2023 makes clear that the performance of several SDGs improved substantially (SDG 1, 3, 5, 6, 7, 8, 9, 12, 13, 14 and 16), but others showed a (small) decrease (SDG 2, 4, 10 and 11). One goal's score did not change (SDG 15). The performance of the group of elected municipalities deviates for some goals from the total group of municipalities. The elected municipalities still outperform the total group for 8 out of the 14 measured SDGs, but the differences become smaller.

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1 Introduction

At the request of BNG Bank, Telos -Tilburg University, has provided on 4 October 2018 a Framework document to BNG Bank[2] that describes the sustainability criteria and selection process of best-in-class Dutch municipalities eligible for a BNG Bank Sustainability Bond 2018. Telos developed this framework based on its National Monitor of Sustainable Municipalities 2018, from which the 5th edition was presented in October 2018. The National Monitor of Sustainable Municipalities was produced for the first time in 2014 on behalf of the Dutch Ministry for Infrastructure and Environment.

Per November 26, 2018, BNG Bank launched its fifth Sustainability Bond, a new EUR 750 million, 7-year benchmark[3]. Additionally, an AUD 400 million, 6.5-year bond was issued based on the same selection of sustainable municipalities in 2018. Both bonds have their maturity date on 26 November 2025. 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 – 2025, based on updated data for the sustainability scores of all the 342 Dutch municipalities. The update will give insight in the changes in sustainability scores of the group of 115 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 2019-2025 and to report on the annual changes in scores of the elected municipalities. This is the fifth report with respect to the 2018 EUR bond and 2019 AUD bond, covering the reporting period 2018-2023. It describes how the performance is assessed as well as that it describes the general outcome of the comparison over the years 2018-2023, including the impact on CO2-emissions. Additionally, this report gives insights in the development of the elected municipalities on the UN Sustainable Development Goals (SDGs).

[2] https://www.bngbank.com/Funding/ESG-Bonds
[3] https://www.bngbank.com/Funding/ESG-Bonds

2 Description of activities

2.1 Update of database

First step for this update impact report was to update the database for the sustainability assessment of Dutch municipalities used in the National Monitor Sustainable Municipalities 2018. The monitor is in its essence 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 developed independently from the later agreed UN Sustainable Development Goals (SDGs) in 2015. A detailed analysis of the comparability and differences by Telos, as described in the National Monitor of 2017[4], has shown that these goals have a wide similarity.

The United Nations SDGs include a set of 17 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 SDGs shows that a large part of the indicators are the same but for some goals clear differences occur. SDG 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 2018 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.
3. Harmonization with national monitoring activities by third parties on theme specific issues such as climate, mobility, health, etc.
4. 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 2018 discerned 14 municipality types. These 14 types have been used for the Framework of the BNG Bank Sustainability Bond of 2018 and are the basis for the performance report at hand.

[4] 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

2.2 Assessment of performance of elected sustainable municipalities

Based on the updated database, sustainability performance of 115 elected municipalities in 2018 will be evaluated and discussed. The group of elected municipalities, described in the Framework of the BNG Bank Sustainability Bond of October 2018, 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. Originally 125 elected municipalities have been selected out of the total number of 380 municipalities in the Netherlands in 2018. Since 2018, the number of municipalities is decreasing due to rearrangements among the municipalities. Hence in 2023 there are only 342 municipalities. This influenced the originally selected 125 municipalities for the bond of 2018 as well. The municipalities of Nuth, Schinnen, Haren, Winsum, Molenwaard, Ferwerderadiel, Geldermalsen, Zuidhorn, Grave and Langedijk are no longer independent entities. They are therefore no longer taken in consideration in this performance report. That means that the group of elected municipalities as of now consists of 115 municipalities.

Furthermore, the number of indicators was expanded due to new possibilities but also reduced due to lack of continued data collection, resulting in 146 indicators now, compared to 126 in 2018. Such changes had to be included in the comparison between 2023 and 2018. Where needed new data for 2018 were separately collected and calculated. The reader is referred to the Method report for the 2023[5] BNG Bank Sustainability bond, for the details of the amendments made in the calculation of the sustainability scores and how comparability between the years 2018 and 2023 was ascertained.

The assessment in this report includes:

1. A comparison of sustainability scores of elected municipalities with the total group of Dutch municipalities for 2018 and 2023.
2. A comparison of sustainability scores for elected municipalities between 2018 and 2023, including:
    a. overall scores
    b. capital scores, and a selection of:
    c. stock scores and where useful
    d. indicator scores.
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 SDGs of the elected municipalities between 2018 and 2023.

In the next chapters, the outcome of these activities is presented. Finally, the overall changes observed for reporting period 2018-2023 will be discussed.

[5] www.hetpon-telos.nl/methodreport2023

3 Outcome of updating exercise and comparison of 2018 and 2023

3.1 National Monitor Sustainable Municipalities 2023

In June 2023, Het PON & Telos has completed its National Monitor Sustainable Municipalities 2023. The overall outcomes are shown in table 3.1:

Table 3.1 Sustainability performance of the total group of Dutch municipalities in 2018-2023

Sustainability capital	2018	2019	2020	2021	2022	2023
Total	47.06	47.86	48.64	49.82	50.23	50.42
Socio-cultural	46.94	47.43	48.22	48.48	49.30	49.79
Ecological	47.75	48.10	48.30	49.78	50.42	49.70
Economic	46.48	48.06	49.42	51.19	50.99	51.77

In the period 2018-2023, the average overall sustainability score improved from 47.06 till 50.42 percentage points (on a scale 0-100). This was due to improvements in all three capitals. The economic capital improved the most over the period 2018-2023, from 46.48% to 51.77%. The socio-cultural capital improved from 46.94% to 49.79% and the ecological capital improved from 47.75% to 49.70%

3.2 General characteristics of elected municipalities for the BNG Bank Sustainability Bond 2018[6]

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	250 (73.1%)	82 (71.3%)
50,000-100,000	60 (17.5%)	17 (14.8%)
More than 100,000	32 (9.4%)	16 (13.9%)

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 and the large municipalities are overrepresented in the elected group. In

[6] The calculated differences can be 0.1 percentage point higher or lower due to rounding differences in the calculation. This is the case for all calculated differences in the report.

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 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 potentially more easily improve their performance.

Table 3.3 gives a summary of the overall differences between 2018 and 2023 for the total group of Dutch municipalities and the group of elected municipalities. It shows that the general trend, an improvement of the overall score, happens in both groups (3.5 and 3.4 percentage points improvement).

Table 3.3 Sustainability performance of Elected Municipalities and of the total group of Dutch municipalities in 2018 compared to 2023 (percentage points)

Sustainability capital	Elected 2018	Total 2018	Elected 2023	Total 2023	Elected: Difference 2018-2023	Total: Difference 2018-2023[7]
Total	49.1	47.1	52.6	50.4	3.5	3.4
Socio-cultural	49.5	46.9	52.5	49.8	3.0	2.8
Ecological	49.0	47.8	51.3	49.7	2.3	1.9
Economic	48.9	46.5	54.1	51.8	5.1	5.3

The elected municipalities continued to outperform the total group of municipalities with 2.2 percentage points (52.6 vs. 50.4), as listed in table 1. Both groups of municipalities show an improvement of the overall score with more than 3.0 percentage points. Largest improvements occurred this year for the economic capital (5.1 to 5.3 percentage points), while those for the ecological and socio-cultural capital were smaller (2.3 to 1.9 and 3.0 to 2.9 percentage points).

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 (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 2018 and 2023 for the group of elected Municipalities and all Dutch municipalities

Sustainability stock	Difference 2018-2023 of 115 elected municipalities	Difference 2018-2023 of all 342 municipalities
Socio-cultural		
Arts & culture	0.0	-0.2
Economic participation	14.4	14.7
Education	-0.9	-0.6
Health	2.7	1.5
Housing	-1.0	0.9
Lifestyle & health	5.4	4.9
Political Participation	3.1	2.2
Residential environment	-1.4	-1.8
Safety	9.3	8.9
Social participation	-1.6	-2.0
Ecological		
Air	1.9	1.7
Annoyance and external safety	-0.2	-0.2
Energy	5.9	6.0
Nature & landscape	0.0	0.0
Soil	1.5	0.0
Resources & waste	3.2	2.8
Water	4.1	3.3
Economic		
Competitiveness	7.6	7.7
Infrastructure & mobility	5.1	5.1
Knowledge	4.6	5.0
Labor	9.6	10.0
Spatial location conditions	-1.3	-1.3

Socio-cultural stocks

Among socio-cultural stocks, differences between both groups of municipalities were small. Most significant are the differences in improvement in the stock 'Economic participation': the elected groups score improved with 14.4 percentage points and the total group with 14.7 percentage points. The stock 'Safety' improved for the elected group by 9.3 percentage points and for the total group by 8.9 percentage points. The decreases in 'Social

participation', 'Residential environment', 'Housing' and 'Education' are somewhat at odds with what might be expected in times of economic growth.

Ecological stocks

Also for this stock, the group of elected municipalities shows a similar pattern as the total group of municipalities, with large improvements during the period 2018-2023 for the stocks of 'energy', 'Resources & waste' and 'water'. These are priorities of the national government: climate change and circular economy. The decline of 'External safety and annoyance' in both groups is a point of interest.

Economic stocks

Also here, the group of elected municipalities shows a similar pattern as the total group of municipalities, with biggest improvements over the period 2017-2023 for the stock of 'Labor' and 'Competitiveness'. 'Spatial location conditions' is the only stock within the economic capital that decreased, for both groups.

4 Elected municipalities showing largest improvement or reduction in sustainability score in 2018-2023 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 2018: 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 2018 have in this assessment been corrected for additional indicators used in 2023 to make them comparable with the 2023 data. The results are therefore sometimes differing from those given in the 2018 Framework document.

4.1 Elected agricultural municipalities

Table 4.1 presents the 15 best-in-class municipalities of the agricultural type, their reconstructed 2018 scores and the 2023 scores for total sustainability. All municipalities improved over the past four years. Montfoort, Dinkelland and Wierden improved the most in the period 2018-2023. Overall, the score of the group of elected agricultural municipalities improved 3.5 percentage point since 2018.

Table 4.1 Improvements and reductions in total sustainability scores of elected agricultural municipalities over 2018-2023

Agricultural municipality	Sustainability score 2018	Sustainability score 2023	Difference
Montfoort	48.7	53.3	4.6
Dinkelland	51.2	55.5	4.3
Wierden	49.9	54.2	4.3
Bunnik	50.2	54.3	4.1
Voorst	49.6	53.7	4.1
Eemnes	46.5	50.5	4.0
Oost Gelre	50.0	53.9	3.9
Staphorst	51.7	55.3	3.6
Raalte	50.8	54.4	3.6
Zwartewaterland	49.7	53.2	3.5
Dalfsen	52.3	55.4	3.1
Zoeterwoude	47.1	50.0	2.9
Midden-Delfland	51.0	53.9	2.9
Olst-Wijhe	50.3	53.0	2.7
Eijsden-Margraten	49.4	50.8	1.4
Average	49.9	53.4	3.5

4.2 Elected center municipalities

As table 4.2 shows, all elected municipalities in this sub-group improved their sustainability score over the past four years. Ede improved the most with 4.2 percentage points, followed by Utrecht and Apeldoorn.

Table 4.2 Improvements in total sustainability scores of elected center municipalities over 2018-2023

Center municipality	Sustainability score 2018	Sustainability score 2023	Difference
Ede	49.9	54.1	4.2
Utrecht	50.5	54.5	4.0
Apeldoorn	50.6	54.4	3.8
Hilversum	47.7	51.4	3.7
Middelburg	46.7	50.4	3.7
Castricum	49.9	53.4	3.5
Zwolle	50.3	53.8	3.5
Katwijk	50.3	53.7	3.4
Leiden	48.5	51.8	3.3
Deventer	49.4	52.6	3.2
Nijmegen	51.7	54.6	2.9
Westland	46.8	49.3	2.5
Groningen	49.6	51.9	2.3
Amsterdam	46.7	48.7	2.0
Delft	50.2	52.1	1.9
Gooise Meren	48.3	50.2	1.9
Average	49.2	52.3	3.1

4.3 Elected green municipalities

Elected green municipalities improved their score on average by 3.8 percentage points over the last years.. Leusden improved the most with 6.1 percentage points, as shown in Table 4.3, followed by Utrechtse Heuvelrug and Baarn.

Table 4.3 Improvements and reductions in total sustainability scores of elected green municipalities over 2018-2023

Green municipality	Sustainability score 2018	Sustainability score 2023	Difference
Leusden	50.9	57.0	6.1
Utrechtse Heuvelrug	48.2	53.9	5.7
Baarn	48.1	53.0	4.9
Ede	49.9	54.1	4.2
Mook en Middelaar	50.1	54.0	3.9
Bloemendaal	51.4	55.2	3.8
Elburg	50.3	54.0	3.7
Barneveld	50.5	54.1	3.6

Waalre	50.0	53.4	3.4
Nunspeet	49.7	53.1	3.4
Rozendaal	48.9	52.0	3.1
Heeze-Leende	51.3	54.3	3.0
Putten	48.8	51.4	2.6
Ermelo	51.0	53.5	2.5
Wassenaar	49.4	51.8	2.4
Average	49.9	53.7	3.8

4.4 Elected growth municipalities

The elected growth municipalities showed on average an improvement of 3.4 percentage points since 2018.Each of the included municipalities in this sub-group improved their score. Woudenberg improved the most with 5.5 percentage points, followed by Oegstgeest and Bunnik.

Table 4.4 Improvements and reductions in total sustainability scores of elected growth municipalities over 2018-2023

Growth municipality	Sustainability score 2018	Sustainability score 2023	Difference
Woudenberg	48.8	54.3	5.5
Oegstgeest	50.1	54.7	4.6
Bunnik	50.2	54.3	4.1
Houten	51.0	54.9	3.9
Bloemendaal	51.4	55.2	3.8
Staphorst	51.7	55.3	3.6
Wageningen	52.4	55.8	3.4
Dalfsen	52.3	55.4	3.1
Voorschoten	50.4	53.5	3.1
Heeze-Leende	51.3	54.3	3.0
Bladel	50.6	53.6	3.0
Midden-Delfland	51.0	53.9	2.9
Ameland	50.8	52.9	2.1
Scherpenzeel	49.3	50.4	1.1
Average	50.8	54.2	3.4

4.5 Elected historic municipalities

Lopik improved its score the past four years the most, with 4.5 percentage points, followed by Utrecht and Bronckhorst. The average score improved with 2.9 percentage points, as presented in Table 4.5.

Table 4.5 Improvements and reductions in total sustainability scores of elected historic municipalities over 2018-2023

Historic municipality	Sustainability score 2018	Sustainability score 2023	Difference
Lopik	47.3	51.8	4.5
Utrecht	50.5	54.5	4.0
Bronckhorst	51.8	55.5	3.7
Staphorst	51.7	55.3	3.6
Kampen	49.8	53.1	3.3
Leiden	48.5	51.8	3.3
Oudewater	44.8	48.0	3.2
Schiermonnikoog	48.4	51.0	2.6
Ameland	50.8	52.9	2.1
Vlieland	53.4	55.5	2.1
Delft	50.2	52.1	1.9
Waterland	48.3	49.8	1.5
Eijsden-Margraten	49.4	50.8	1.4
Average	49.6	52.5	2.9

4.6 Elected mid-sized municipalities

All municipalities in this sub-group improved their sustainability scores in the past two years. Table 4.6 shows that mid-sized municipalities improved their sustainability scores on average with 3.6 percentage points since 2018. Zeist improved its score the most, with 4.6 percentage points, followed by Heerenveen and Woerden.

Table 4.6 Improvements and reductions in total sustainability scores of elected mid-sized municipalities over 2018-2023

Mid-sized municipality	Sustainability score 2018	Sustainability score 2023	Difference
Zeist	46.7	51.3	4.6
Heerenveen	49.0	53.5	4.5
Woerden	48.4	52.8	4.4
Veenendaal	47.8	52.1	4.3
Hardenberg	48.6	52.8	4.2
Doetinchem	46.7	50.8	4.1
Hilversum	47.7	51.4	3.7
Meierijstad	47.1	50.7	3.6
Barneveld	50.5	54.1	3.6
Krimpenerwaard	48.2	51.7	3.5
Katwijk	50.3	53.7	3.4
Kampen	49.8	53.1	3.3
Deventer	49.4	52.6	3.2
Pijnacker-Nootdorp	49.7	52.7	3.0
Gooise Meren	48.3	50.2	1.9

Amstelveen	50.5	52.1	1.6
Average	48.7	52.2	3.6

4.7 Elected New Town municipalities

Elected New Town municipalities improved their score with on average 3.5 percentage points (see table 4.7). Culemborg is on top of the list of improvement, followed by Duiven and Renswoude.

Table 4.7 Improvements and reductions in total sustainability scores of elected New Town municipalities over 2018-2023

New Town municipality	Sustainability score 2018	Sustainability score 2023	Difference
Culemborg	47.7	52.9	5.2
Duiven	45.3	50.2	4.9
Renswoude	48.6	53.2	4.6
Best	48.1	52.3	4.2
Eemnes	46.5	50.5	4.0
Zeewolde	48.9	52.8	3.9
Houten	51.0	54.9	3.9
Tubbergen	49.0	52.7	3.7
Barneveld	50.5	54.1	3.6
Koggenland	46.5	50.0	3.5
Midden-Delfland	51.0	53.9	2.9
Heumen	50.1	52.1	2.0
Hendrik-Ido-Ambacht	49.7	51.6	1.9
Urk	51.1	52.3	1.2
Average	48.9	52.4	3.5

4.8 Elected old industrial municipalities

Elected old industrial municipalities scored on average 3.7 percentage points higher over the reporting period, as shown in Table 4.8. Heusden improved the most by 6.0 percentage points.

Table 4.8 Improvements and reductions in total sustainability scores of elected old industrial municipalities over 2018-2023

Old industrial municipality	Sustainability score 2018	Sustainability score 2023	Difference
Heusden	47.5	53.5	6.0
Rijssen-Holten	48.9	54.6	5.7
Oisterwijk	48.1	53.3	5.2
Losser	48.7	53.7	5.0
Hellendoorn	49.5	53.9	4.4
Brummen	50.1	54.5	4.4

Hattem	48.2	52.5	4.3
Wierden	49.9	54.2	4.3
Best	48.1	52.3	4.2
Waalre	50.0	53.4	3.4
Bergeijk	50.5	53.6	3.1
Bladel	50.6	53.6	3.0
Putten	48.8	51.4	2.6
Nuenen. Gerwen en Nederwetten	52.2	54.8	2.6
Landsmeer	46.3	47.7	1.4
Oostzaan	48.7	48.8	0.1
Average	49.1	52.9	3.7

4.9 Elected residential municipalities

Residential municipalities are a well performing elected group of municipalities when comparing the scores in 2018 with those of 2023, resulting in an average increased score of 3.3 percentage points (Table 4.9). Heusden improved the most with 6.0 percentage points, followed by Buren and Mook en Middelaar.

Table 4.9 Improvements and reductions in total sustainability scores of elected old industrial municipalities over 2018-2023

Residential municipality	Sustainability score 2018	Sustainability score 2023	Difference
Heusden	47.5	53.5	6.0
Buren	46.5	51.3	4.8
Mook en Middelaar	50.1	54.0	3.9
Bloemendaal	51.4	55.2	3.8
Castricum	49.9	53.4	3.5
Waalre	50.0	53.4	3.4
Wijk bij Duurstede	50.6	53.9	3.3
Rozendaal	48.9	52.0	3.1
Voorschoten	50.4	53.5	3.1
Heiloo	49.3	52.0	2.7
Heumen	50.1	52.1	2.0
Waterland	48.3	49.8	1.5
Eijsden-Margraten	49.4	50.8	1.4
Average	49.4	52.7	3.3

4.10 Elected shrink municipalities

The elected shrink municipalities improved by 3.6 percentage points on average during the reporting period (see Table 4.10). None of the municipalities decreased in its sustainability score. Berkelland improved the most by 4.4 percentage points.

Table 4.10 Improvements and reductions in total sustainability scores of elected shrink municipalities over 2018-2023

Shrink municipality	Sustainability score 2018	Sustainability score 2023	Difference
Berkelland	48.8	53.2	4.4
Aalten	48.3	52.6	4.3
Mook en Middelaar	50.1	54.0	3.9
Voerendaal	45.0	48.7	3.7
Bronckhorst	51.8	55.5	3.7
Leudal	47.1	50.4	3.3
Gulpen-Wittem	45.6	48.7	3.1
Valkenburg aan de Geul	47.4	50.5	3.1
Meerssen	47.1	50.2	3.1
Bergen	47.9	51.0	3.1
Average	47.9	51.5	3.6

4.11 Elected small municipalities

The group of small municipalities has improved its score in the years until 2023 by 3.2 percentage points on average. Oestgeest leads this group by improving 4.6 percentage points.

Table 4.11 Improvements and reductions in total sustainability scores of elected old industrial municipalities over 2018-2023

Small municipality	Sustainability score 2018	Sustainability score 2023	Difference
Oegstgeest	50.1	54.7	4.6
Bunnik	50.2	54.3	4.1
Mook en Middelaar	50.1	54.0	3.9
Houten	51.0	54.9	3.9
Bloemendaal	51.4	55.2	3.8
Wijk bij Duurstede	50.6	53.9	3.3
Rozendaal	48.9	52.0	3.1
Dalfsen	52.3	55.4	3.1
Voorschoten	50.4	53.5	3.1
Heeze-Leende	51.3	54.3	3.0
Bladel	50.6	53.6	3.0
Midden-Delfland	51.0	53.9	2.9
Ameland	50.8	52.9	2.1
Vlieland	53.4	55.5	2.1
Heumen	50.1	52.1	2.0
Average	50.8	54.0	3.2

4.12 Elected tourist municipalities

The sustainability score of the elected tourist municipalities has improved on average by 2.4 percentage points. (see Table 4.12). The biggest improvement over time was found for Noordwijk, while the least improvement was found for Oostzaan.

Table 4.12 Improvements and reductions in total sustainability scores of elected tourist municipalities over 2018-2023

Tourist municipality	Sustainability score 2018	Sustainability score 2023	Difference
Noordwijk	51.3	56.3	5.0
Mook en Middelaar	50.1	54.0	3.9
Bergeijk	50.5	53.6	3.1
Veere	49.7	52.8	3.1
Schiermonnikoog	48.4	51.0	2.6
Hilvarenbeek	51.4	53.9	2.5
Wassenaar	49.4	51.8	2.4
Groningen	49.6	51.9	2.3
Ameland	50.8	52.9	2.1
Vlieland	53.4	55.5	2.1
Terschelling	51.3	53.2	1.9
Waterland	48.3	49.8	1.5
Landsmeer	46.3	47.7	1.4
Eijsden-Margraten	49.4	50.8	1.4
Oostzaan	48.7	48.8	0.1
Average	49.9	52.3	2.4

4.13 Elected work municipalities

Elected work municipalities performed well with an improvement of 3.4 percentage points on average, as illustrated in table 4.13. Oldenzaal showed a large improved of 5.5 percentage points.

Table 4.13 Improvements and reductions in total sustainability scores of elected work municipalities over 2018-2023

Work municipality	Sustainability score 2018	Sustainability score 2023	Difference
Oldenzaal	49.3	54.8	5.5
Noordwijk	51.3	56.3	5.0
Duiven	45.3	50.2	4.9
Best	48.1	52.3	4.2
Utrecht	50.5	54.5	4.0
Apeldoorn	50.6	54.4	3.8
Veldhoven	50.1	53.8	3.7
Barneveld	50.5	54.1	3.6
Zwolle	50.3	53.8	3.5

Son en Breugel	47.2	50.7	3.5
Leiden	48.5	51.8	3.3
Westland	46.8	49.3	2.5
Groningen	49.6	51.9	2.3
Amsterdam	46.7	48.7	2.0
Amstelveen	50.5	52.1	1.6
Ouder-Amstel	48.0	49.3	1.3
Average	49.0	52.4	3.4

4.14 Elected 100,000plus municipalities

The, for Dutch dimensions, relative large elected 100,000plus municipalities performed well with an average improvement of 3.2 percentage points from 2018 to 2023. Amersfoort improved the most followed by Ede and Utrecht.

Table 4.14 Improvements and reductions in total sustainability scores of elected 100,000plus over 2018-2023

100,000plus municipality	Sustainability score 2018	Sustainability score 2023	Difference
Amersfoort	48.0	53.3	5.3
Ede	49.9	54.1	4.2
Utrecht	50.5	54.5	4.0
Apeldoorn	50.6	54.4	3.8
Eindhoven	48.9	52.6	3.7
Zwolle	50.3	53.8	3.5
's-Hertogenbosch	47.4	50.9	3.5
Leiden	48.5	51.8	3.3
Breda	48.3	51.5	3.2
Nijmegen	51.7	54.6	2.9
Arnhem	49.0	51.5	2.5
Westland	46.8	49.3	2.5
Groningen	49.6	51.9	2.3
Amsterdam	46.7	48.7	2.0
Delft	50.2	52.1	1.9
Average	49.1	52.3	3.2

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. Highest improvements in percentage points were found in green municipalities, with 3.8 percentage points. Highest sustainability scores were measured in growth and small municipalities (scores of 54.2 and 54.0 on the scale of 0-100).

Table 4.15 Changes in total sustainability scores of 14 types of elected municipalities over 2018-2023

Type of municipality	Sustainability score 2018	Sustainability score 2023	Difference
Small municipalities	50.8	54.0	3.2
Mid-sized municipalities	48.7	52.2	3.6
100.000plus municipality	49.1	52.3	3.2
Agricultural municipality	49.9	53.4	3.5
Center municipality	49.2	52.3	3.1
Former industrial municipality	49.1	52.9	3.7
Green municipality	49.9	53.7	3.8
Growth municipalities	50.8	54.2	3.4
Historic municipalities	49.6	52.5	2.9
New Town municipality	48.9	52.4	3.5
Residential municipalities	49.4	52.7	3.3
Shrink municipality	47.9	51.5	3.6
Touristic municipalities	49.9	52.3	2.4
Work municipality	49.0	52.4	3.4

5 Overall outcome for elected municipalities including their CO2-emission scores in 2018-2023

This chapter presents a final overview of the performance of the elected municipalities, independent from their typology.

The initiative has been with the World Bank that started the green bond instrument in order to help promote the transition to a low carbon economy, and to slow down 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 actually all of them had at least the same or better sustainability scores in 2023 compared to 2019 (see also Annex 1).

Table 5.1 shows elected municipalities for which the sustainability improved the most, and Table 5.2 shows the elected municipalities for which the sustainability score improved relatively the least. The best performing municipality in this respect among elected municipalities is Leusden, followed by Heusden and Rijssen-Holten.

Table 5.1 Ten elected municipalities improving sustainability score most in the period 2018-2023

Elected municipality	Typology	Total score 2018	Total score 2023	Difference
Leusden	Large. Centre. Growth. Historic. Tourist. Work	50.9	57	6.1
Heusden	Large. Centre. Growth. Historic. Tourist. Work	47.5	53.5	6
Rijssen-Holten	Small. Growth	48.9	54.6	5.7
Utrechtse Heuvelrug	Small. Green. Shrink. Tourist	48.2	53.9	5.7
Woudenberg	Small. Former industrial. Growth. Residential. Tourist	48.8	54.3	5.5
Oldenzaal	Small. Green. Tourist	49.3	54.8	5.5
Amersfoort	Large. Centre. Growth. Work	48	53.3	5.3
Culemborg	Medium. Growth. Work	47.7	52.9	5.2
Oisterwijk	Small. Former industrial	48.1	53.3	5.2
Noordwijk	Medium. Centre. Green. Growth	51.3	56.3	5

There were no decreases in sustainability score among elected municipalities. The least performing municipality in this respect among elected municipalities is Oostzaan, with an increase of 0.1 percentage points.

Table 5.2 Ten elected municipalities with largest declining sustainability score in the period 2018-2023

Municipality	Typology	Total score 2018	Total score 2023	Difference
Oostzaan	Small. Growth. Historic. Tourist	48.7	48.8	0.1
Scherpenzeel	Small. Historic. Tourist	49.3	50.4	1.1
Urk	Small. Agricultural	51.1	52.3	1.2
Ouder-Amstel	Small. Tourist	48	49.3	1.3
Eijsden-Margraten	Small. Former industrial. Growth. Tourist	49.4	50.8	1.4
Landsmeer	Small. Growth	46.3	47.7	1.4
Waterland	Small. Green. Residential	48.3	49.8	1.5
Amstelveen	Small. Former industrial. Residential	50.5	52.1	1.6
Hendrik-Ido-Ambacht	Small. Agricultural	49.7	51.6	1.9
Delft	Small. Agricultural. Residential	50.2	52.1	1.9

5.2 CO2-emission score performance of elected municipalities

In this paragraph, 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 the commitment has been underlined since the 2015 Paris Agreement. 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 in 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 (2019 and 2020). 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 realized a reduction in CO2 emissions over the last years; in which the CO2 emissions decreased by 12.8%. The other municipalities realized a smaller reduction of 4.6%. 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	1990-2019	2010-2020	2019-2020
Elected (115)	-28.9%	-31.7%	-12.8%
Others	2.4%	-13.8%	-4.6%
Total (344)	-5.3%	-17.8%	-6.2%

The highest reduction was found in Amsterdam, Leiden, Haarlem and Wageningen. Table 5.4 shows that Ameland and Schiermonnikoog noted the largest increase in CO2 emissions. CO2 emission changes for all municipalities over the last year are given in Annex B.

Table 5.4 Ten Elected Municipalities with most and least reduction in CO2-emissions over the last year (equals measuring years 2018-2019)

Elected municipality	**Emission change over measuring years** 2018-2019	**Elected municipality**	**Emission change over measuring years** 2018-2019
Amsterdam	-35,9	Ameland	18.9
Leiden	-18,0	Schiermonnikoog	18.8
Haarlem	-17,2	Zoeterwoude	10.2
Wageningen	-15,7	Hilvarenbeek	10.0
Bergen (NH.)	-15,4	Oostzaan	8.0
Wassenaar	-15,2	Scherpenzeel	8.0
Breda	-15,0	Rozendaal	6.7
Amstelveen	-14,7	Olst-Wijhe	5.0
Leidschendam-Voorburg	-14,7	Buren	4.2
Rijssen-Holten	-14,3	Dantumadiel	4.1

6 SDG scores

In the earlier 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, has become very important 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[8].

An elaborated description of the methodology used to calculate the SDG scores can be found in the Method report 2023[9]. 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 2018 and 2023 makes clear that the performance of several goals improved substantially (SDG 1, 3, 5, 6, 7, 8, 9, 12, 13, 14 and 16), but others showed a (small) fallback (SDG 2, 4, 10 and 11). One goal's score did not change (SDG 15). The performance of the group of elected municipalities deviates for some goals from the total group of municipalities.

[8] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en
[9] www.hetpon-telos.nl/methodreport2023

Table 6.1 SDG scores for all (n=344) municipalities and elected municipalities (n=115) for 2018-2023

	All municipalities (n=344)						Elected municipalities (n=115)					
SDG	**2019**	**2020**	**2021**	**2022**	**2023**	**Difference 2019-2023**	**2019**	**2020**	**2021**	**2022**	**2023**	**Difference 2019-2023**
1. No Poverty	38.9	42.3	45.0	48.7	51.8	14.5	45.0	48.7	51.6	54.5	57.3	14.4
2. Zero Hunger	46.7	44.5	44.4	44.4	44.3	-2.4	47.9	45.8	45.8	45.8	45.7	-2.3
3. Good Health and Well-being	45.6	45.9	47.1	47.0	46.7	1.6	49.5	49.8	51.1	51.2	50.9	2.4
4. Quality Education	50.9	50.6	52.9	51.9	51.1	-0.6	54.1	53.9	55.7	55.0	54.1	-0.9
5. Gender Equality	55.8	56.9	57.7	59.1	59.8	3.9	56.4	57.2	58.0	58.9	60.3	3.8
6. Clean Water and Sanitation												
7. Affordable and Clean Energy	40.2	45.5	47.8	49.6	48.1	9.2	41.4	46.6	49.0	50.7	49.3	9.0
8. Decent Work and Economic Growth	49.9	51.3	52.0	51.2	52.0	3.8	51.8	53.1	53.8	52.8	53.4	3.4
9. Industry, Innovation and Infrastructure	41.0	41.9	44.5	44.9	45.8	5.2	42.5	43.5	46.4	46.6	47.3	5.2
10. Reduced Inequalities	52.3	51.9	52.0	52.0	52.9	-0.7	52.5	51.9	52.2	52.1	53.3	-0.7
11. Sustainable Cities and Communities	49.5	50.7	49.4	49.1	47.5	-2.1	50.5	52.1	50.8	50.6	48.9	-1.9
12. Responsible Consumption and Production	59.2	59.8	60.6	60.0	61.1	2.8	61.0	61.7	62.4	61.8	62.9	3.2
13. Climate Action	46.4	46.8	48.0	48.2	47.6	0.9	47.3	47.7	49.1	49.3	48.7	1.1
14. Life below Water	37.3	37.2	38.7	41.5	39.0	3.2	38.9	38.9	40.7	44.3	41.1	4.0
15. Life on Land	45.5	45.5	45.5	45.5	45.5	0.0	47.9	47.9	47.9	47.9	47.9	0.0
16. Peace, Justice and Strong Institutions	44.7	48.6	48.4	50.2	51.2	8.5	47.5	52.0	52.3	53.7	54.5	8.9
17. Partnerships for the Goals												

As shown in table 6.1, 2 of the 17 SDGs could not be measured because of lack of data, or because they are not relevant for municipalities. These are SDG 6 (Clean water and sanitation) and SDG 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 for 8 out of the 14 measured goals, but the differences become smaller.
The biggest difference in the 2023 scores can be found for SDG 3, Good Health and Well-being and SDG 14, Life below water, where the elected group scores 0.8 percentage points higher than the total group. The total group outperforms the elected group in score for SDG 8, Decent work and Economic Growth by 0.4 percentage points. Between 2018 and 2023, SDG 1, 7, 9 and 16 improved the most, for both the total group and the elected group. The scores on SDG 2, 4, 10, and 11 decreased for both groups of municipalities.

More information about the method of analysis on the SDGs can be found in the 2023 method report for municipalities[10].

[10] www.hetpon-telos.nl/methodreport2023

7 Discussion and overview of outcome of assessment period 2018-2023

The general trend which is visible for both municipality groups (the elected group and the total group) indicates an improvement of the overall score. The elected municipalities continued to outperform the total group of municipalities by 2.2 percentage points (52.6 vs. 50.4), as listed in table 1 of this report. Both groups of municipalities show an improvement of the overall score with 3.5-3.4 percentage points. Largest improvements occurred this year for the economic capital (5.1 to 5.3 percentage points), while those for the ecological and socio-cultural capital were smaller (3.0 to 2.8 and 2.3 to 1.9 percentage points).

A closer look at the CO2 reductions shows that the group of elected municipalities realized a reduction in CO2 emissions over the last years; during which the CO2 emissions decreased by 12.8%. The other municipalities realized a smaller reduction of 4.6%.

Scores of municipalities are rather dynamic from year to year, although some major differences and (dis)advantages among municipalities are of a structural nature. The best performing municipality in this respect among elected municipalities is Leusden, followed by Heusden and Rijssen-Holten. There were no decreases in sustainability score among elected municipalities. The least performing municipality in this respect among elected municipalities is Oostzaan, with a slight increase of 0.1 percentage points.

Comparison over the years 2018 and 2023 makes clear that the performance on several SDGs improved substantially (SDG 1, 3, 5, 6, 7, 8, 9, 12, 13, 14 and 16), but others showed a (small) decrease (SDG 2, 4, 10 and 11). One goal's score did not change (SDG 15). The performance of the group of elected municipalities deviates for some goals from the total group of municipalities. The elected municipalities still outperform the total group for 8 out of the 14 measured goals, but the differences become smaller.

The biggest difference in the 2023 scores can be found for SDG 3, Good Health and Well-being and SDG 14, Life below water. The elected group scores for these goals 0.8 percentage points higher than the total group. The total group outperforms the elected group in score for SDG 8, Decent work and Economic Growth by 0.4 percentage points. Between 2018 and 2023, SDG 1, 7, 9 and 16 improved the most, for both the total group and the elected group. The scores on SDG 2, 4, 10, and 11 decreased for both groups of municipalities.

It is not always the (absolutely) best scoring municipality in a certain class that shows the largest improvement of its score year-on-year. The advantage of a high score on sustainability may turn into a (temporary) disadvantage, or a result that is harder to improve upon. Yet, the differences in position on a scoring list and the magnitude of improvement or decrease 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 2018 and 2023 for all 115 elected municipalities

Municipality	Total sustainability score 2018	Total sustainability score 2023	Difference 2018-2023
Leusden	50.9	57	6.1
Heusden	47.5	53.5	6
Rijssen-Holten	48.9	54.6	5.7
Utrechtse Heuvelrug	48.2	53.9	5.7
Woudenberg	48.8	54.3	5.5
Oldenzaal	49.3	54.8	5.5
Amersfoort	48	53.3	5.3
Culemborg	47.7	52.9	5.2
Oisterwijk	48.1	53.3	5.2
Noordwijk	51.3	56.3	5
Losser	48.7	53.7	5
Duiven	45.3	50.2	4.9
Baarn	48.1	53	4.9
Buren	46.5	51.3	4.8
Oegstgeest	50.1	54.7	4.6
Renswoude	48.6	53.2	4.6
Zeist	46.7	51.3	4.6
Montfoort	48.7	53.3	4.6
Lopik	47.3	51.8	4.5
Heerenveen	49	53.5	4.5
Berkelland	48.8	53.2	4.4
Woerden	48.4	52.8	4.4
Hellendoorn	49.5	53.9	4.4
Brummen	50.1	54.5	4.4
Veenendaal	47.8	52.1	4.3
Wierden	49.9	54.2	4.3
Aalten	48.3	52.6	4.3
Dinkelland	51.2	55.5	4.3
Hattem	48.2	52.5	4.3
Ede	49.9	54.1	4.2
Best	48.1	52.3	4.2
Hardenberg	48.6	52.8	4.2
Voorst	49.6	53.7	4.1
Bunnik	50.2	54.3	4.1
Doetinchem	46.7	50.8	4.1
Utrecht (gemeente)	50.5	54.5	4
Eemnes	46.5	50.5	4

Houten	51	54.9	3.9
Mook en Middelaar	50.1	54	3.9
Oost Gelre	50	53.9	3.9
Zeewolde	48.9	52.8	3.9
Bloemendaal	51.4	55.2	3.8
Apeldoorn	50.6	54.4	3.8
Eindhoven	48.9	52.6	3.7
Voerendaal	45	48.7	3.7
Bronckhorst	51.8	55.5	3.7
Elburg	50.3	54	3.7
Tubbergen	49	52.7	3.7
Middelburg (Z.)	46.7	50.4	3.7
Hilversum	47.7	51.4	3.7
Veldhoven	50.1	53.8	3.7
Barneveld	50.5	54.1	3.6
Meierijstad	47.1	50.7	3.6
Raalte	50.8	54.4	3.6
Staphorst	51.7	55.3	3.6
Zwolle	50.3	53.8	3.5
Castricum	49.9	53.4	3.5
Son en Breugel	47.2	50.7	3.5
Krimpenerwaard	48.2	51.7	3.5
Zwartewaterland	49.7	53.2	3.5
Koggenland	46.5	50	3.5
's-Hertogenbosch	47.4	50.9	3.5
Katwijk	50.3	53.7	3.4
Waalre	50	53.4	3.4
Wageningen	52.4	55.8	3.4
Nunspeet	49.7	53.1	3.4
Kampen	49.8	53.1	3.3
Wijk bij Duurstede	50.6	53.9	3.3
Leiden	48.5	51.8	3.3
Leudal	47.1	50.4	3.3
Oudewater	44.8	48	3.2
Breda	48.3	51.5	3.2
Deventer	49.4	52.6	3.2
Meerssen	47.1	50.2	3.1
Voorschoten	50.4	53.5	3.1
Bergen (NH.)	47.9	51	3.1
Dalfsen	52.3	55.4	3.1
Gulpen-Wittem	45.6	48.7	3.1
Valkenburg aan de Geul	47.4	50.5	3.1
Rozendaal	48.9	52	3.1

Bergeijk	50.5	53.6	3.1
Veere	49.7	52.8	3.1
Pijnacker-Nootdorp	49.7	52.7	3
Bladel	50.6	53.6	3
Heeze-Leende	51.3	54.3	3
Nijmegen	51.7	54.6	2.9
Midden-Delfland	51	53.9	2.9
Zoeterwoude	47.1	50	2.9
Olst-Wijhe	50.3	53	2.7
Heiloo	49.3	52	2.7
Schiermonnikoog	48.4	51	2.6
Putten	48.8	51.4	2.6
Nuenen. Gerwen en Nederwetten	52.2	54.8	2.6
Hilvarenbeek	51.4	53.9	2.5
Westland	46.8	49.3	2.5
Arnhem	49	51.5	2.5
Ermelo	51	53.5	2.5
Wassenaar	49.4	51.8	2.4
Groningen (gemeente)	49.6	51.9	2.3
Vlieland	53.4	55.5	2.1
Ameland	50.8	52.9	2.1
Heumen	50.1	52.1	2
Amsterdam	46.7	48.7	2
Terschelling	51.3	53.2	1.9
Gooise Meren	48.3	50.2	1.9
Delft	50.2	52.1	1.9
Hendrik-Ido-Ambacht	49.7	51.6	1.9
Amstelveen	50.5	52.1	1.6
Waterland	48.3	49.8	1.5
Landsmeer	46.3	47.7	1.4
Eijsden-Margraten	49.4	50.8	1.4
Ouder-Amstel	48	49.3	1.3
Urk	51.1	52.3	1.2
Scherpenzeel	49.3	50.4	1.1
Oostzaan	48.7	48.8	0.1

Annex B: Overview of the changes in CO2-emissions in 2019-2020 for all elected municipalities

Elected municipality	Typology	% Difference 2019-2020
Amsterdam	Large, Centre, Growth, Historic, Tourist, Work	-35.9
Leiden	Large, Centre, Growth, Historic, Tourist, Work	-18.0
Wageningen	Small, Growth	-15.7
Bergen (NH.)	Small, Green, Shrink, Tourist	-15.4
Landsmeer	Small, Former industrial, Growth, Residential, Tourist	-15.2
Wassenaar	Small, Green, Tourist	-15.2
Breda	Large, Centre, Growth, Work	-15.0
Amstelveen	Medium, Growth, Work	-14.7
Rijssen-Holten	Small, Former industrial	-14.3
Hilversum	Medium, Centre, Green, Growth	-14.3
Baarn	Small, Green	-14.0
Zeist	Medium, Green, Work	-13.7
Nijmegen	Large, Centre, Growth	-13.2
Veldhoven	Small, Former industrial, Work	-12.9
Woerden	Medium, Agricultural, Growth	-12.2
Deventer	Medium, Centre	-12.1
Utrechtse Heuvelrug	Small, Green	-11.9
Bergeijk	Small, Former industrial, Tourist	-11.5
Putten	Small, Former industrial, Green	-11.4
Voorschoten	Small, Growth, Residential	-11.2
Groningen (gemeente)	Large, Centre, Growth, Tourist, Work	-10.9
Amersfoort	Large, Growth, New town	-10.5
Veenendaal	Medium, Former industrial, Growth	-10.3
Katwijk	Medium, Centre, Growth	-10.1
Valkenburg aan de Geul	Small, Shrink, Tourist	-9.9
Woudenberg	Small, Growth	-9.7
Noordwijk	Small, Green, Tourist, Work	-9.4
Ouder-Amstel	Small, Work	-9.2
Oldenzaal	Small, Former industrial, Work	-9.1
Wijk bij Duurstede	Small, Residential	-8.8
Zwolle	Large, Centre, Growth, Work	-8.8
Koggenland	Small, Agricultural, Growth, New town	-8.5
Nuenen, Gerwen en Nederwetten	Small, Former industrial	-8.5
Eindhoven	Large, Centre, Former industrial, Growth, Work	-8.4
Arnhem	Large, Centre, Green, Growth, Tourist, Work	-8.3
Castricum	Small, Centre, Residential	-8.3

Leusden	Small, Green	-7.9
Ede	Large, Centre, Green, Growth	-7.6
Heerenveen	Medium, Centre, Work	-7.4
Apeldoorn	Large, Centre, Green, Work	-7.3
Barneveld	Medium, Green, Growth, New town, Work	-7.3
Zwartewaterland	Small, Agricultural	-7.1
Delft	Large, Centre, Growth, Historic	-7.0
Culemborg	Small, Former industrial, New town	-6.9
Nunspeet	Small, Green	-6.6
Voerendaal	Small, Agricultural, Former industrial, Residential, Shrink, Tourist	-6.1
Waterland	Small, Historic, Residential, Tourist	-5.9
Meerssen	Small, Former industrial, Residential, Shrink, Tourist	-5.9
Middelburg (Z.)	Small, Centre, Historic	-5.9
Hellendoorn	Small, Former industrial, Green	-5.9
Dinkelland	Small, Agricultural	-5.7
Ermelo	Small, Green	-5.6
Hardenberg	Medium, Agricultural	-5.4
Aalten	Small, Agricultural, Shrink	-5.1
Eijsden-Margraten	Small, Agricultural, Historic, Residential, Tourist	-5.0
Eemnes	Small, Agricultural, New town	-4.9
Duiven	Small, New town, Work	-4.7
Heeze-Leende	Small, Green, Growth	-4.7
's-Hertogenbosch	Large, Centre, Growth, Work	-4.6
Leudal	Small, Centre, Shrink	-4.5
Terschelling	Small, Tourist	-4.4
Waalre	Small, Former industrial, Green, Residential	-4.4
Son en Breugel	Small, Growth, Work	-4.3
Gulpen-Wittem	Small, Agricultural, Historic, Residential, Shrink, Tourist	-4.3
Elburg	Small, Green	-4.3
Montfoort	Small, Agricultural	-4.2
Westland	Large, Centre, Growth, Work	-4.2
Tubbergen	Small, Agricultural, New town	-4.1
Best	Small, Former industrial, New town, Work	-4.1
Bladel	Small, Former industrial, Growth	-4.1
Kampen	Medium, Growth, Historic	-3.9
Oisterwijk	Small, Former industrial	-3.8
Meierijstad	Medium, Work	-3.8
Urk	Small, Growth, New town	-3.8
Oegstgeest	Small, Growth	-3.7
Losser	Small, Former industrial	-3.7
Bunnik	Small, Agricultural, Growth	-3.6

Hendrik-Ido-Ambacht	Small, Former industrial, Growth, New town, Residential	-3.5
Utrecht (gemeente)	Large, Centre, Growth, Historic, Work	-3.2
Bloemendaal	Small, Green, Growth, Residential	-2.9
Doetinchem	Medium, Work	-2.7
Voorst	Small, Agricultural	-2.6
Wierden	Small, Agricultural, Former industrial	-2.5
Vlieland	Small, Historic, Tourist	-2.4
Renswoude	Small, Agricultural, Growth, New town	-2.3
Oudewater	Small, Agricultural, Historic	-2.0
Lopik	Small, Agricultural, Historic	-1.8
Veere	Small, Tourist	-1.5
Heumen	Small, New town, Residential	-1.4
Staphorst	Small, Agricultural, Growth, Historic	-1.4
Dalfsen	Small, Agricultural, Growth	-1.3
Pijnacker-Nootdorp	Medium, Growth, New town, Residential	-1.2
Gooise Meren	Medium, Centre	-1.1
Midden-Delfland	Small, Agricultural, Growth, New town	-1.0
Houten	Small, Growth, New town	-1.0
Bronckhorst	Small, Agricultural, Historic, Shrink	-0.6
Berkelland	Small, Agricultural, Shrink	-0.5
Raalte	Small, Agricultural	0.0
Krimpenerwaard	Medium, Agricultural	0.2
Zeewolde	Small, Growth, New town	0.2
Brummen	Small, Former industrial	2.0
Mook en Middelaar	Small, Green, Residential, Shrink, Tourist	2.6
Oost Gelre	Small, Agricultural	2.6
Hattem	Small, Former industrial	3.2
Heiloo	Small, Residential	3.4
Buren	Small, Agricultural, Residential	4.2
Olst-Wijhe	Small, Agricultural	5.0
Heusden	Small, Former industrial, Residential	5.8
Rozendaal	Small, Green, Residential	6.7
Scherpenzeel	Small, Growth	8.0
Oostzaan	Small, Former industrial, Growth, Tourist	8.0
Hilvarenbeek	Small, Tourist	10.0
Zoeterwoude	Small, Agricultural	10.2
Schiermonnikoog	Small, Historic, Tourist	18.8
Ameland	Small, Growth, Historic, Tourist	18.9

(Source: www.emissieregistratie.nl)

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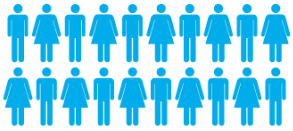
OPGERICHT IN
1947

GEVESTIGD IN
TILBURG

KENNISONDERNEMING
STICHTING ZONDER WINSTOOGMERK

AANTAL MEDEWERKERS

35



INTENSIEVE SAMENWERKINGEN
MET UNIVERSEITEN EN ANDERE KENNISINSTELLINGEN

EXPERTISE

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- WOON- & LEEFOMGEVING
- DUURZAAMHEIDSTRANSITIES
- SOCIAAL DOMEIN & ARBEID
- CULTUUR & ERFGOED
- DUURZAAMHEIDSIMPACT
- DATA EN METHODEN

ONZE OPDRACHTGEVERS

- PROVINCIES
- GEMEENTEN
- ZORG- EN WELZIJNSINSTELLINGEN
- FONDSEN
- BANKEN

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About Het PON & Telos

Improving social decision-making

Het PON & Telos is a social knowledge organisation at the heart of society. We consider it our mission to improve social decision-making. We do this by linking scientific knowledge to practical knowledge. In this process every voice counts! We collect, investigate, analyse, and interpret opinions and facts using stimulating approaches and innovative methods. In doing so, we are always focused on sustainable development: the harmonious connection between social, environmental and economic objectives. In this way we contribute to the quality of society at large, now and in the future.

With a multidisciplinary and creative team of nearly 30 research consultants, we work mainly for local and regional authorities in the Netherlands, but also for corporate bodies, banks, care and welfare institutions, funds, and social organisations. We work closely with civic organisations and other knowledge institutions and are an official partner of Tilburg University. We use our knowledge and insights to advise initiators, policy-makers and managers. This enables them to make informed choices and give a positive impulse to the society of tomorrow.

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