Expert Panel

Technical Assessment Synopsis Report

European Green Capital Award 2022

May 2020

www.ec.europa.eu/europeangreencapital
Acknowledgements

The authors of this Technical Assessment Report are the European Green Capital Award Secretariat, RPS Group Limited (hereafter RPS) together with the contribution of the Expert Panel. We would like to thank the Expert Panel and the European Commission Directorate-General for Environment for their assistance in the preparation of this report.

RPS, an environmental and communications consultancy based in Ireland, is currently appointed as the European Green Capital Award Secretariat. The competition application process and the work of the Expert Panel and the Jury are facilitated by the Secretariat.

The Secretariat also assists with PR activities related to the European Green Capital Award through the European Green Capital Award website, Facebook, Twitter and LinkedIn pages, and through various communication channels such as brochures, press releases, newsflashes and film clips etc.

Copyright
© RPS 2020

The report has been prepared on behalf of our client, the European Commission Directorate-General for Environment. All or part of this publication may be reproduced without further permission, provided the source is acknowledged. If this document or portions of this document are reproduced it shall be cited as: Technical Assessment Synopsis Report - European Green Capital Award 2022, RPS (2020).

No liability is accepted by RPS for any use of this report, other than the purpose for which it was prepared.

Disclaimer

RPS has taken due care in the preparation of this document to ensure that all facts and analysis presented are as accurate as possible within the scope of the project. RPS makes no warranty, express or implied, with respect to the use of any information disclosed in this document, or assumes any liabilities with respect to the use of, or damage resulting in any way from the use of any information disclosed in this document. While care has been taken in the production of the publication, no responsibility is accepted by RPS for any errors or omissions herein.

RPS accepts no responsibility for any documents or information supplied to RPS by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made.
Contents

1 INTRODUCTION .............................................................................................................................................1
  1.1 Annual Award Process ..........................................................................................................................4
  1.2 Aim of this Report ..................................................................................................................................5

2 TECHNICAL ASSESSMENT PROCEDURE ...............................................................................................6
  2.1 Rules of Contest .....................................................................................................................................6
  2.2 Applicant Cities for EGCA 2022 .............................................................................................................6
  2.3 Twelve Environmental Indicators .........................................................................................................9
  2.4 Application Form ...................................................................................................................................9
  2.5 Expert Technical Assessment Panel ....................................................................................................10
  2.6 Technical Assessment Procedure ........................................................................................................10
    2.6.1 Pre-selection Screening ..................................................................................................................10
    2.6.2 Primary Technical Review .............................................................................................................11
    2.6.3 Benchmarking ...............................................................................................................................11
    2.6.4 Ranking Criteria .............................................................................................................................11
    2.6.5 Peer Review .....................................................................................................................................11
    2.6.6 Conflicted Application ...................................................................................................................11
    2.6.7 Background Check ........................................................................................................................12

3 TECHNICAL ASSESSMENT RESULTS .....................................................................................................13

4 TECHNICAL ASSESSMENT OF FINALIST CITIES ...............................................................................15
  4.1 Finalist City Summaries .......................................................................................................................15
    4.1.1 Dijon .............................................................................................................................................15
    4.1.2 Grenoble ........................................................................................................................................16
    4.1.3 Tallinn ..........................................................................................................................................17
    4.1.4 Turin ............................................................................................................................................18
  4.2 Dijon Technical Assessment ..................................................................................................................20
    4.2.1 Climate Change: Mitigation ............................................................................................................20
    4.2.2 Climate Change: Adaptation ........................................................................................................20
    4.2.3 Sustainable Urban Mobility ........................................................................................................20
    4.2.4 Sustainable Land Use ..................................................................................................................21
    4.2.5 Nature & Biodiversity ..................................................................................................................21
    4.2.6 Air Quality .....................................................................................................................................22
    4.2.7 Noise ............................................................................................................................................22
    4.2.8 Waste ............................................................................................................................................23
    4.2.9 Water .............................................................................................................................................24
    4.2.10 Green Growth & Eco-innovation .................................................................................................24
    4.2.11 Energy Performance ..................................................................................................................25
    4.2.12 Governance ...............................................................................................................................26
  4.3 Grenoble Technical Assessment .............................................................................................................28
    4.3.1 Climate Change: Mitigation ...........................................................................................................28
    4.3.2 Climate Change: Adaptation .........................................................................................................28
    4.3.3 Sustainable Urban Mobility ........................................................................................................28
    4.3.4 Sustainable Land Use ..................................................................................................................29
    4.3.5 Nature & Biodiversity ..................................................................................................................30
    4.3.6 Air Quality .....................................................................................................................................30
    4.3.7 Noise .............................................................................................................................................31
    4.3.8 Waste ............................................................................................................................................31
    4.3.9 Water .............................................................................................................................................32
    4.3.10 Green Growth & Eco-innovation .................................................................................................33
    4.3.11 Energy Performance ..................................................................................................................34
    4.3.12 Governance ...............................................................................................................................34
4.4 Tallinn Technical Assessment ...................................................................................................... 36
  4.4.1 Climate Change: Mitigation ................................................................................................. 36
  4.4.2 Climate Change: Adaptation ............................................................................................... 36
  4.4.3 Sustainable Urban Mobility ............................................................................................... 37
  4.4.4 Sustainable Land Use ....................................................................................................... 37
  4.4.5 Nature & Biodiversity ...................................................................................................... 38
  4.4.6 Air Quality .......................................................................................................................... 38
  4.4.7 Noise .................................................................................................................................. 39
  4.4.8 Waste .................................................................................................................................. 39
  4.4.9 Water .................................................................................................................................. 40
  4.4.10 Green Growth & Eco-innovation .................................................................................... 40
  4.4.11 Energy Performance ...................................................................................................... 41
  4.4.12 Governance .................................................................................................................... 42

4.5 Turin Technical Assessment ......................................................................................................... 43
  4.5.1 Climate Change: Mitigation ............................................................................................... 43
  4.5.2 Climate Change: Adaptation ............................................................................................... 43
  4.5.3 Sustainable Urban Mobility ............................................................................................... 43
  4.5.4 Sustainable Land Use ....................................................................................................... 44
  4.5.5 Nature & Biodiversity ...................................................................................................... 45
  4.5.6 Air Quality .......................................................................................................................... 45
  4.5.7 Noise .................................................................................................................................. 46
  4.5.8 Waste .................................................................................................................................. 46
  4.5.9 Water .................................................................................................................................. 47
  4.5.10 Green Growth & Eco-innovation .................................................................................... 47
  4.5.11 Energy Performance ...................................................................................................... 48
  4.5.12 Governance .................................................................................................................... 49
Appendices

Appendix A Application Form for the European Green Capital Award 2022

Appendix B Expert Panel Profiles

Figures

Figure 2.1 - Map of European Green Capital 2022 Applicant Cities .................................................................8

Tables

Table 2.1 - Details of Applicant Cities (presented in alphabetical order) .................................................................6
Table 2.2 - Expert Technical Assessment Panel .......................................................................................................10
Table 2.3 - Indicators and corresponding Primary Expert & Peer Reviewers ............................................................11
Table 3.1 - Technical Ranking of Finalist Cities for the European Green Capital Award 2022 ..............................14
Table 4.1 - Dijon Key Performance Indicators EGCA 2022 ..................................................................................15
Table 4.2 - Grenoble Key Performance Indicators EGCA 2022 ............................................................................16
Table 4.3 - Tallinn Key Performance Indicators EGCA 2022 ...............................................................................17
Table 4.4 - Turin Key Performance Indicators EGCA 2022 ...............................................................................18
1 INTRODUCTION

Europe’s cities are recognised as the engines of the European economy, providing jobs and services, and serve as hubs that catalyse creativity and innovation. Cities are the living environment for 72% of all Europeans with this percentage expected to rise to 80% by 2050. They possess potential such as economic growth, innovation and employment opportunities. However, they are facing ever increasing challenges, with regards to the environment, and social cohesion.

The European Green Capital and European Green Leaf Awards are underpinned by European Policy supporting sustainable urban planning and design. The Awards support the goals set out most recently in the European Green Deal published in 2019, Urban Agenda for the EU-Pact of Amsterdam, signed in 2016, and prior to this the 7th Environment Action Programme (EAP), as adopted in 2013.

The European Green Deal

The European Green Deal (EGD) for the European Union (EU) and its citizens was launched by the new von der Leyen Commission on 11 December 2019. The EGD is the new growth strategy for Europe with the ambition to be the world’s first climate-neutral continent by 2050. The Communication sets out the Commission’s commitment to tackling climate change and environmental related challenges.

The EGD is the roadmap for making the EU’s economy sustainable. This will happen by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

The EGD provides a roadmap with actions to:
- Boost the efficient use of resources by moving to a clean, circular economy (the Circular Economy Action plan was adopted on 11 March 2020); and
- Restore biodiversity and cut pollution.

It outlines investments needed and financing tools available and explains how to ensure a just and inclusive transition.

The EU will be climate neutral in 2050. To do this, it is proposed to have a European Climate Law in place turning the political commitment into a legal obligation and a trigger for investment. Public consultation on the European Climate Pact is open until 27 May 2020.

Reaching this target will require action by all sectors of the economy, including:
- Investing in environmentally friendly technologies;
- Supporting industry to innovate;
- Rolling out cleaner, cheaper and healthier forms of private and public transport;
- Decarbonising the energy sector;
- Ensuring buildings are more energy efficient; and
- Working with international partners to improve global environmental standards.

---

2 https://ec.europa.eu/info/files/communication-european-green-deal_en
3 https://ec.europa.eu/info/files/annex-roadmap-and-key-actions_en
5 https://ec.europa.eu/clima/policies/eu-climate-action/pact_en
The EU will also provide financial support and technical assistance to help people, businesses and regions that are most affected by the move towards the green economy. This is called the Just Transition Mechanism and will help mobilise at least €100 billion over the period 2021-2027 in the most affected regions.

Policy Areas

- **Eliminating pollution**: measures to cut pollution rapidly and efficiently
- **Biodiversity**: measures to protect our fragile ecosystem
- **Sustainable industry**: ways to ensure more sustainable, more environmentally respectful production cycles (the Industrial Strategy Action plan\(^6\) was adopted on 10 March 2020)
- **Building and renovating**: the need for a cleaner construction sector
- **Clean energy**: opportunities for alternative, cleaner sources of energy
- **Sustainable mobility**: promoting more sustainable means of transport
- **From Farm to Fork**: ways to ensure more sustainable food systems

The 12 EGCA indicators are aligned with the key EGD policy areas. Cities will play an important role in the delivery of the EGD through how they deliver policy in the city, engage with citizens, business, industry, academia, and networks, amongst other stakeholders in order to create cities fit for life. It is the EU vision to be a global leader, and European Green Capital winners will be important role models and ambassadors in Europe and across the world.

The Urban Agenda for the EU - Pact of Amsterdam

Following a public consultation process in 2014, the Urban Agenda for the EU was launched in May 2016 with the EU Member States agreement on the Pact of Amsterdam. The Urban Agenda for the EU aims to address the challenges faced by cities and also to fully exploit the potential of cities by integrating the urban dimension into EU policies. The EU Urban Agenda also aims to promote cooperation and partnerships between member states, the European Commission, European institutions, cities and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe through:

1. **Better Regulation**: Improving the development, implementation and evaluation of EU legislation;
2. **Better Funding**: Ensuring better access to and utilisation of European funds; and
3. **Better Knowledge**: Improving the EU urban knowledge base and stimulating the sharing of best practices and cooperation between cities.

The Urban Agenda for the EU outlines a number of priority themes, which are important to achieve the smart, green, and inclusive growth of urban areas. Many of the themes outlined align with the indicators and topic areas assessed in the EGC and EGL Awards, including; Air Quality, Circular Economy, Sustainable Use of Land and Nature-Based Solutions, Climate Adaptation, Urban Mobility, and Energy Transition.

Thematic Partnerships representing various governmental levels and stakeholders are the key delivery mechanism within the Urban Agenda for the EU.

The Partnerships analyse challenges and bottlenecks to recommend implementable actions in the form of an Action Plan to be finalised within two years after the start of their work.

The Partnerships are now beginning to deliver results and put actions in place. All the latest information on the partnerships can be found here: https://ec.europa.eu/futurium/en/urban-agenda.

The Urban Agenda for the EU will contribute to the implementation of the UN 2030 Agenda for Sustainable Development, notably Goal 11 ‘Make cities inclusive, safe, resilient and sustainable’ and the global ‘New Urban Agenda’ as part of the Habitat III process.

---

7th Environment Action Programme (EAP)

The Commission commenced the 7th Environment Action Programme (EAP) in 2013 which sets out a strategic agenda for environmental policy-making with nine priority objectives to be achieved by 2020. It establishes a common understanding of the main environmental challenges Europe faces and what needs to be done to tackle them effectively. This programme underpins the European Green Capital Award (EGCA) in relation to policies for sustainable urban planning and design.

Protecting and enhancing natural capital, encouraging more resource efficiency and accelerating the transition to the low-carbon economy are key features of the programme, which also seeks to tackle new and emerging environmental risks and to help safeguard health and welfare of EU citizens. The results should help stimulate sustainable growth and create new jobs to set the European Union on a path to becoming a better and healthier place to live.

Cities play a crucial role as places of connectivity, creativity and innovation, and as centres of services for their surrounding areas. Due to their density, cities offer a huge potential for energy savings and a move towards a carbon-neutral economy.

Most cities face a common core set of environmental problems and risks, including poor air quality, high levels of noise, greenhouse gas (GHG) emissions, water scarcity, contaminated sites, brownfields and waste. At the same time, EU cities are standard setters in urban sustainability and often pioneer innovative solutions to environmental challenges. An ever-growing number of European cities are putting environmental sustainability at the core of their urban development strategies.

The 7th EAP sets the target of meeting local, regional and global challenges by enhancing the sustainability of cities throughout the European Union and fixes the goals that by 2020 a majority of cities in the EU are implementing policies for sustainable urban planning and design.

European Green Capital Award

With over two thirds of Europeans now living in urban areas, cities across Europe are presented with problems related to pollution including air and noise, waste management, water management, energy consumption, housing and land use, unemployment, transport and climate effects.

By showcasing the achievements of European cities in tackling these issues, the European Green Capital and European Green Leaf Awards aim to lead by example and inspire others to take action.

A highlight of our recent award cycles is that the applicants to both awards have been from the four corners of Europe with north, south, east and western cities represented. This is a testament that the European Green Capital and European Green Leaf Awards seeds have truly taken root. The diversity of experiences that these applicants bring shows that there are many and varied paths to becoming a modern Green city.

It is important to reward cities that are making efforts to improve the urban environment and move towards healthier and sustainable living areas. Progress is its own reward, but the satisfaction involved in winning a prestigious European award spurs cities to invest in further efforts and boosts awareness within the city as well as in other cities. Award winners act as ambassadors for change, leading by example to showcase that any city can be a green and modern city by sharing examples of good practices.


The objectives of the European Green Capital Award are to:

a) Reward cities that have a consistent record of achieving high environmental standards;

7 https://ec.europa.eu/environment/action-programme/
b) Encourage cities to commit to on-going and ambitious goals for further environmental improvement and sustainable development;

c) Provide a role model to inspire other cities and promote best practice and experiences in all other European cities.

The overarching message that the award scheme aims to communicate to the local level is that Europeans have a right to live in healthy urban areas. Cities should therefore strive to improve the quality of life for their citizens and reduce their impact on the global environment. This message is brought together in the Award’s slogan ‘Green cities-fit for life’.

In order to be eligible for the EGCA 2022 competition a town/city must have met the following criteria:

- Applicant cities from EU Member States, EU Candidate Countries, Iceland, Liechtenstein, Norway and Switzerland.
- Applicant cities from the countries listed above which have more than 100,000 inhabitants.
- In countries where there is no city with more than 100,000 inhabitants, the largest city is eligible to apply.
- A ‘city’ is understood to be an urban area, including metropolitan areas, and is understood as an administrative unit governed by a city council or another form of democratically elected body.
- In any given year, cities can apply for either the European Green Capital Award or European Green Leaf Award, but not both at the same time.
- Past winners may not apply for a period of ten years after they held the European Green Capital title year.
- The signatory should be the Mayor or highest ranking city representative, authorised by national law to legally represent the city.

1.1 Annual Award Process

The EGCA is presented on an annual basis by the European Commission. The EGCA 2022 competition cycle was launched on 15 May 2019 with a deadline for submission of applications from eligible cities until 14 October 2019.

The first cycle of the European Green Capital Award, a biennial process at that time, led to the inaugural award for 2010 going to Stockholm and Hamburg as the 2011 European Green Capital. The second cycle, completed in 2010, resulted in the Spanish City of Vitoria-Gasteiz becoming the 2012 European Green Capital and Nantes in France becoming European Green Capital in 2013. In 2011, the approach was modified to become an annual call. Since then the 2014 European Green Capital, Copenhagen, 2015 European Green Capital, Bristol, 2016 European Green Capital, Ljubljana, 2017 European Green Capital, Essen, 2018 European Green Capital, Nijmegen, 2019 European Green Capital, Oslo, 2020 European Green Capital, Lisbon, and 2021 European Green Capital, Lahti have all been annually awarded. This annual cycle continues on to find the 2022 European Green Capital.

As in previous years, the Expert Panel has carried out a technical assessment of each of the 12 environmental indicator areas (detailed in Section 2.3) and provided a ranking of applicant cities together with qualitative comments on each application. This ranking is derived as a result of primary expert assessment, and peer review from another expert and provides the basis for the proposed shortlist of finalist cities (more details on this procedure in Section 2). This information is presented to the Jury in the form of this report to form part of their deliberation at the Jury Day.

The finalist cities are invited to present a communication strategy substantiated by action plans on how they intend to fulfil their green capital year, should they win.

The Jury will assess the finalist cities based on the following evaluation criteria:

1. The city’s overall commitment, vision and enthusiasm as conveyed through the presentation.
2. The city’s capacity to act as a role model, inspiring other cities, promoting best practices and raising the awareness of the EGC model further - bearing in mind city size and location.
3. The city’s communication strategy and actions, which should address:
Citizen communication and involvement to date in relation to the 12 environmental indicators, effectiveness via changes in citizen behaviour, lessons learned and proposed modifications for the future.

The extent of the city's (local, regional and national) partnering to gain maximum social and economic leverage.

How they intend to fulfil their role of EU Ambassador, inspiring other cities.

Based on the proposals from the Expert Panel and information presented to the Jury, the Jury will make the final decision and select one city to be awarded the title of European Green Capital 2022. The winner will be announced at the EGCA Awards Ceremony later in the year.

The full details on the competition process were set out in the published Rules of Contest\(^8\) for this competition cycle, see Section 2.1.

1.2 Aim of this Report

This Technical Assessment Report provides an overview of the approach to this Award. It presents the technical assessment of the Expert Panel for each of the 18 applicant cities, which forms the basis for shortlisting the finalist cities. This is presented per indicator per city for transparency of the overall process.

2 TECHNICAL ASSESSMENT PROCEDURE

2.1 Rules of Contest

A ‘financial incentive’ of €350,000 for the winner of the EGCA title was introduced to the 2020 cycle of the EGCA competition, and remains in place for the 2022 EGCA competition. With the introduction of the financial incentive, Rules of Contest were published. The formal requirements for the applicants to follow were set out in the EGCA 2022 Guidance Note and Section 3.1.1 of the Rules of Contest:

- The full application shall be written in one of the official languages of the European Union;
- Candidate cities shall answer all the questions and complete all sections of the Application Form. In the event that a question cannot be answered, reasons should be given;
- For the pre-selection stage, applications shall adhere to the word limits indicated per section of the Application Form. Any words above the specified limit will not be taken into account and may leave application responses incomplete. Text included in the captions and headings (titles) of graphics/images/tables will not be included in the word count, however these should not exceed 20 words. Text included in the, body of graphics/tables will be included in the word count;
- There is a limit of graphics/images/tables to be provided per Indicator Area, City Introduction and Context section and Good Practice section of the Application Form that should be adhered to;
- For the pre-selection stage, applicants shall submit their application in word document format within the official EGCA 2022 application form and upload through the application portal on the European Green Capital Award website. An additional pdf file may be provided if desired.

2.2 Applicant Cities for EGCA 2022

A total of 18 cities applied for the EGCA 2022 competition representing 10 of the eligible countries from across Europe, and all submitted valid applications. Details of the 2022 applicants are included in Table 2.1 and Figure 2.1.

Of the 18 cities evaluated by the Expert Panel 16 are signatories of the Covenant of Mayors Office (CoMO). The smallest city by population is Maribor in Slovenia with a population of 110,871, whereas Budapest in Hungary has the largest population of 1,752,286.

Table 2.1 - Details of Applicant Cities (presented in alphabetical order)

<table>
<thead>
<tr>
<th>No.</th>
<th>City Name</th>
<th>Country</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Belgrade</td>
<td>Serbia</td>
<td>1,166,763</td>
</tr>
<tr>
<td>2</td>
<td>Budapest</td>
<td>Hungary</td>
<td>1,752,286</td>
</tr>
<tr>
<td>3</td>
<td>Dijon</td>
<td>France</td>
<td>155,090</td>
</tr>
<tr>
<td>4</td>
<td>Gdańsk</td>
<td>Poland</td>
<td>464,254</td>
</tr>
<tr>
<td>5</td>
<td>Grenoble</td>
<td>France</td>
<td>158,180</td>
</tr>
<tr>
<td>6</td>
<td>Katowice</td>
<td>Poland</td>
<td>296,262</td>
</tr>
<tr>
<td>7</td>
<td>Kraków</td>
<td>Poland</td>
<td>771,069</td>
</tr>
<tr>
<td>8</td>
<td>Lyon</td>
<td>France</td>
<td>515,695</td>
</tr>
<tr>
<td>9</td>
<td>Maribor</td>
<td>Slovenia</td>
<td>110,871</td>
</tr>
<tr>
<td>10</td>
<td>Murcia</td>
<td>Spain</td>
<td>447,182</td>
</tr>
<tr>
<td>11</td>
<td>Parma</td>
<td>Italy</td>
<td>195,687</td>
</tr>
<tr>
<td>12</td>
<td>Pécs</td>
<td>Hungary</td>
<td>144,188</td>
</tr>
<tr>
<td>13</td>
<td>Perugia</td>
<td>Italy</td>
<td>165,832</td>
</tr>
<tr>
<td>14</td>
<td>Poznań</td>
<td>Poland</td>
<td>538,633</td>
</tr>
<tr>
<td>15</td>
<td>Sofia</td>
<td>Bulgaria</td>
<td>1,238,438</td>
</tr>
<tr>
<td>16</td>
<td>Tallinn</td>
<td>Estonia</td>
<td>393,222</td>
</tr>
<tr>
<td></td>
<td>City</td>
<td>Country</td>
<td>Population</td>
</tr>
<tr>
<td>---</td>
<td>----------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>17</td>
<td>Turin</td>
<td>Italy</td>
<td>882,523</td>
</tr>
<tr>
<td>18</td>
<td>Zagreb</td>
<td>Croatia</td>
<td>790,019</td>
</tr>
</tbody>
</table>
Figure 2.1 - Map of European Green Capital 2022 Applicant Cities
2.3 Twelve Environmental Indicators

The selection of the European Green Capital 2022 is based on the following 12 environmental indicators:

1. Climate Change: Mitigation
2. Climate Change: Adaptation
3. Sustainable Urban Mobility
4. Sustainable Land Use
5. Nature and Biodiversity
6. Air Quality
7. Noise
8. Waste
9. Water
10. Green Growth and Eco-innovation
11. Energy Performance
12. Governance

For the 2022 cycle, there were some changes made to the text content of several indicators, but there were no changes to indicator areas or titles.

2.4 Application Form

The format of the Application Form was modified for the 2015 award cycle to ask cities to provide information for each of the 12 indicator areas in the format of ‘Present Situation, Past Performance and Future Plans’ underpinned by the Environmental Management System (EMS) principles of ‘Plan, Do & Check and Act’. This was found to be successful and was retained for the succeeding award cycles. The format of the Application Form was modified for the 2018 cycle to ask cities to provide environmental data in table format for each indicator. This facilitated the extraction of data to be used for benchmarking of the cities and has been retained since. Additionally, Section E of each indicator, Good Practices, was removed from the Indicator sections and a new section called the Good Practices section was added to the end of the Application Form asking cities to provide six examples of Good Practices in their city. This was retained for the 2022 cycle. A copy of the 2022 EGCA Application Form is attached in Appendix A.

For this award cycle some modifications have been made to the indicator structure, allowing for a more consistent document across the 12 indicators. The Guidance Note was also revised for the 2018 award cycle to provide a policy background and further relevant information to shape applicant city responses. These revisions were retained for the 2022 cycle. The 2022 Award Application Form has four sections per indicator as follows:

a) Describe the present situation.

b) Describe the measures implemented over the last five to ten years.

c) Describe the short and long-term objectives for the future and proposed approach to achieve these.

d) List how the above information can be documented, add links where possible. Further detail may be requested during the clarification phase. Documentation should not be forwarded at this stage.

Indicator 12 is an exception to the above. The expert modified the sections to better contextualise the information, and ensure the questions asked are appropriate for the indicator area. The updated Indicator 12 section titles are as follows:

a) Plans and Commitments

b) Governance and Management Arrangements

c) Partnerships and Public Involvement

d) References
For all indicator areas, information should be provided on short and long-term commitments in the form of adopted measures and approved budgets. These measures must be proven by references and links where possible to published reports, plans or strategies. The ‘budgets’ refer to approved budgets to be used for the implementation of these reports, plans or strategies.

The 2016 EGCA Application Form introduced a new section at the start of the application form ‘City Introduction & Context’. This section has been retained for all subsequent EGCA cycles as it is considered to provide valuable insight and context to the Expert Panel.

2.5 Expert Technical Assessment Panel

The Technical Assessment Panel consists of 12 Experts who bring internationally recognised expertise within each of the areas covered by the indicators to the process. Profiles for each of the Experts can be found in Appendix B.

Table 2.2 - Expert Technical Assessment Panel

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Expert</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Climate Change: Mitigation</td>
<td>Dr. Matthew Kennedy</td>
<td>Head of Strategy and Business International Energy Research Centre, Ireland</td>
</tr>
<tr>
<td>2 Climate Change: Adaptation</td>
<td>Ms. Birgit Georgi</td>
<td>Urban and Adaptation Expert, Founder of ‘Strong Cities in a Changing Climate’, Germany</td>
</tr>
<tr>
<td>3 Sustainable Urban Mobility</td>
<td>Dr. George Angelou</td>
<td>Staff member of the Greek Ministry of Transport and Networks, HCAA HANSP Headquarters, Greece</td>
</tr>
<tr>
<td>4 Sustainable Land Use</td>
<td>Dr. Henk Wolfert</td>
<td>Programme Manager at the Amsterdam Institute for Advanced Metropolitan Solutions, and the Wageningen Environmental Research, The Netherlands</td>
</tr>
<tr>
<td>5 Nature and Biodiversity</td>
<td>Mr. David Jamieson</td>
<td>Parks, Greenspace &amp; Cemeteries Manager, City of Edinburgh Council, and Director, Greenspace Scotland, United Kingdom</td>
</tr>
<tr>
<td>6 Air Quality</td>
<td>Mr. Joan Marc Craviotto Amau</td>
<td>Air Quality Consultant at Barcelona City Council, Spain</td>
</tr>
<tr>
<td>7 Noise</td>
<td>Dr. César Asensio</td>
<td>Researcher at the Instrumentation and Applied Acoustics Research Group of the Technical University of Madrid, Spain</td>
</tr>
<tr>
<td>8 Waste</td>
<td>Mr. Olivier Gaillot</td>
<td>Director of Environment, Energy and Resource Management, RPS, Ireland</td>
</tr>
<tr>
<td>9 Water</td>
<td>Mr. Christof Mainz</td>
<td>Senior/First Officer at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Germany</td>
</tr>
<tr>
<td>10 Green Growth and Eco-innovation</td>
<td>Ms. Zita Dibáczi</td>
<td>Senior Expert, Integrated Sustainable Urban Civil Engineering Planning &amp; Management, UNITEF Engineering, Hungary</td>
</tr>
<tr>
<td>11 Energy Performance</td>
<td>Ms. Vesna Kolega</td>
<td>Independent Consultant, Croatia</td>
</tr>
<tr>
<td>12 Governance</td>
<td>Mr. Alex Minshull</td>
<td>Innovation and Sustainable City and Climate Change Manager, Bristol City Council, United Kingdom</td>
</tr>
</tbody>
</table>

2.6 Technical Assessment Procedure

2.6.1 Pre-selection Screening

In accordance with Section 4.3: Pre-selection of the Rules of Contest, the Secretariat validated the applications for compliance with the criteria set out in Section 3 of the Rules of Contest. Compliant applications were issued to the Expert panel for technical evaluation.
2.6.2 Primary Technical Review

The Experts were asked to assess each application based on its own merit and then benchmark all applications against each other within each indicator area. Each indicator area has three component parts: present, past and future. Each part is considered on an equal basis by the Expert.

2.6.3 Benchmarking

Benchmarking was undertaken by the EGCA Secretariat; key performance data provided by the cities was extracted from their application forms and synthesised into a presentation for the Expert Panel to help inform their evaluation of the applicant cities. The benchmarking data was made available to the Experts for the duration of the technical evaluation process. This data will be further utilised in EGCA publications prepared by the Secretariat.

2.6.4 Ranking Criteria

Experts use a defined ranking system. Under this ranking system a position of 1st, 2nd, 3rd etc. is applied to each city per indicator. Since there are 18 applications to be evaluated then each city must be ranked from 1st as the best to 18th as the weakest. Note: these are not quantitative scores but rankings.

2.6.5 Peer Review

It is important to note that a peer review was carried out as part of the technical assessment. All Expert Panel members assessed their respective primary indicator, and each indicator was also assessed by a second panel member (peer reviewer). This peer review exercise ensures a quality check of the assessment process. Where the two experts differ on a ranking, they must work together to reach a consensus. The final agreed ranking is a combination of both reviewers’ assessments.

Table 2.3 - Indicators and corresponding Primary Expert & Peer Reviewers

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Primary Expert</th>
<th>Peer Reviewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Climate Change: Mitigation</td>
<td>Dr. Matthew Kennedy</td>
<td>Ms. Vesna Kolega</td>
</tr>
<tr>
<td>2 Climate Change: Adaptation</td>
<td>Ms. Birgit Georgi</td>
<td>Mr. Christof Mainz</td>
</tr>
<tr>
<td>3 Sustainable Urban Mobility</td>
<td>Dr. George Angelou</td>
<td>Mr. Alex Minshull</td>
</tr>
<tr>
<td>4 Sustainable Land Use</td>
<td>Dr. Henk Wolfert</td>
<td>Mr. David Jamieson</td>
</tr>
<tr>
<td>5 Nature and Biodiversity</td>
<td>Mr. David Jamieson</td>
<td>Dr. Henk Wolfert</td>
</tr>
<tr>
<td>6 Air Quality</td>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>Dr. César Asensio</td>
</tr>
<tr>
<td>7 Noise</td>
<td>Dr. César Asensio</td>
<td>Mr. Joan Marc Craviotto Arnau</td>
</tr>
<tr>
<td>8 Waste</td>
<td>Mr. Olivier Gaillot</td>
<td>Ms. Zita Dibáčzi</td>
</tr>
<tr>
<td>9 Water</td>
<td>Mr. Christof Mainz</td>
<td>Ms. Birgit Georgi</td>
</tr>
<tr>
<td>10 Green Growth and Eco-innovation</td>
<td>Ms. Zita Dibáčzi</td>
<td>Mr. Olivier Gaillot</td>
</tr>
<tr>
<td>11 Energy Performance</td>
<td>Ms. Vesna Kolega</td>
<td>Dr. Matthew Kennedy</td>
</tr>
<tr>
<td>12 Governance</td>
<td>Mr. Alex Minshull</td>
<td>Dr. George Angelou</td>
</tr>
</tbody>
</table>

2.6.6 Conflicted Application

In the event of a conflicted application, where an Expert cannot complete an unbiased assessment of an application for personal or professional reasons, a suitable external expert is identified by the EGCA Secretariat to complete both the primary technical review and the peer review of the conflicted application. The review carried out by the external expert is discussed with the main evaluator for the indicator and the peer reviewer, and the overall rank is agreed amongst the three experts involved. There was no conflict of interest raised in the 2022 EGCA cycle.
2.6.7 Background Check

As part of the EGCA process a high level background check is carried out by the European Commission on all cities shortlisted as finalists to identify if any of the finalists are in breach of environmental legislation or do not meet European reporting requirements. This background check is not presented to the Expert Panel during the technical assessment process. It is provided to the Jury in advance of the Jury Meeting and their deliberations on selecting the title winner.
3 TECHNICAL ASSESSMENT RESULTS

Based on the technical assessment results, the Expert Panel has proposed to shortlist as finalists the following four cities (presented in alphabetical order) for the title of European Green Capital 2022:

Dijon - Grenoble - Tallinn - Turin

The Commission will invite these four cities to the next stage of the evaluation process.

The Expert Panel's detailed ranking for the shortlist of finalist cities in all indicator areas is detailed in Table 3.1.
Table 3.1 - Technical Ranking of Finalist Cities for the European Green Capital Award 2022

<table>
<thead>
<tr>
<th>Indicator / Applicant City</th>
<th>Climate Change: Mitigation</th>
<th>Climate Change: Adaptation</th>
<th>Sustainable Urban Mobility</th>
<th>Sustainable Land Use</th>
<th>Nature &amp; Biodiversity</th>
<th>Air Quality</th>
<th>Noise</th>
<th>Waste</th>
<th>Water</th>
<th>Green Growth and Eco-innovation</th>
<th>Energy Performance</th>
<th>Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dijon</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Grenoble</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Tallinn</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>14</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Turin</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>
4 TECHNICAL ASSESSMENT OF FINALIST CITIES

4.1 Finalist City Summaries

4.1.1 Dijon

Dijon is situated between Paris and Lyon on the Rhine-Rhone axis near to Germany and Switzerland, with 155,090 inhabitants and a growing urban area with approximately 260,000 inhabitants. It is the historical capital of the Burgundy Region, and its history is linked with the great wines of Burgundy.

The town of Dijon is very compact, has a population density of 3,935 inhabitants per km², with 60% of the inhabitants living within 3 kms of the inner city, and the greater metropolis is characterised by its proximity to nature, with 68% of the region made up of agricultural and natural spaces. There is a dynamic mix of economic activity, with activities in the tertiary, agri-food and pharmachem sectors. The City is committed to preserving its identity, lifestyle and rich heritage having a double UNESCO recognition, while putting sustainable development at the core of its inhabitants’ living environment.

The City of Dijon shows strong performance across many of the indicator areas and demonstrates great proficiency, ranking top in Nature and Biodiversity, Waste and Green Growth and Eco-innovation, and also performs well in Energy Performance, Climate Change: Mitigation, Sustainable Urban Mobility and Noise. Some key statistics for Dijon are outlined in Table 4.1 below.

Table 4.1 - Dijon Key Performance Indicators EGCA 2022

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions (tCO₂/capita)</td>
<td>3.8 tCO₂/capita</td>
</tr>
<tr>
<td>Proportion of population living within 300 m of an hourly (or more frequent) public transport service</td>
<td>85%</td>
</tr>
<tr>
<td>Percentage of people living within 300 m of green urban areas ≥ 5,000 m² in overall city area (%)</td>
<td>95%</td>
</tr>
<tr>
<td>Amount of municipal waste generated per capita</td>
<td>445 kg/capita/year</td>
</tr>
<tr>
<td>Domestic water usage (Litres per capita per day)</td>
<td>137 l/capita/day</td>
</tr>
<tr>
<td>Waste water load (population equivalent)</td>
<td>257,933 p.e.</td>
</tr>
<tr>
<td>Energy usage/capita (kWh/capita)</td>
<td>22,363 kWh/capita</td>
</tr>
</tbody>
</table>

Dijon is a city that values and makes the most of its natural surroundings and setting. This is evident by its top ranking in Nature and Biodiversity, and high ranking in Sustainable Land Use. Dijon has integrated its Biodiversity Plan into the Climate Plan to help increase recognition of the threats to habitats and species from climate change, and the importance of conserving/enhancing biodiversity to limit the impacts of climate change. Impressively, Dijon is integrating ecological thinking into its gastronomy and viticulture, strengthening the links between biodiversity and local economic development.

Dijon takes the importance of pollination and the plight of pollinators very seriously and in addition to its Pollinator Plan has achieved APicité ‘3 bees’ status, a national award which denotes an exemplary approach to the involvement of communities in the preservation of bees and wild pollinators. This is a worthy recognition of its pollinator friendly grounds maintenance (differentia managed/ herbicide restrictions etc.), citizen science and education, and urban bee keeping programme. Further citizen science nature programmes have been created by Dijon to encourage interest and involvement in practical conservation volunteering in the field.

Dijon has demonstrated a strong commitment to waste prevention over the last decade, including a local household waste prevention target of 7% between 2010 to 2020, and achieved a 5% reduction in municipal waste between 2010 to 2018. It is setting even more ambitious targets beyond 2020 with future waste
prevention targets of 10% to 2025, and 20% to 2030 in place. The City also has good reuse initiatives with social enterprises at civic amenity sites since 2009, reuse markets, repair villages, upcycling workshops and notable initiatives in the area of food donations, and an online school meal booking cancellation system.

‘Sustainable Food 2030’ is Dijon’s flagship eco-innovation project, an ambitious and innovative 10 year plan to reach a fully sustainable agri-food model in Dijon Métropole, through integrated activities of the territory by encouraging transversal synergies, using digital leverage, and places the citizen end user consumer at its core.

4.1.2 Grenoble

Located in the Alps, east of the Rhone valley corridor, Greater Grenoble is called the ‘Alps capital’ due to its size. The City has a population of approximately 158,000 and is situated at the junction of three glaciated valleys shaped by the Rivers Isère, Drac and Romanche and surrounded by three alpine massifs - Chartreuse, Belledonne and Vercors.

With a terrain that limits urban sprawl, Grenoble is now the 3rd densest city in France (outside the Ile-de-France region) with 8,861 inhabitants per km². This constraint has become an asset: fully urbanised, the city has no choice but to rely on urban regeneration and rehabilitation, efficient public transport and quality public spaces to renew itself. This is highlighted by the urban regeneration programmes, and the transformation of brownfields into eco-neighbourhoods. The city is an important research, technology, and innovation centre with a high proportion of research and development (R&D) jobs and has a mix of traditional and high-tech industries including renewable energy.

Grenoble demonstrates consistently high performance across all of the indicators, ranking top in several indicators including; Climate Change: Mitigation, Sustainable Urban Mobility, Sustainable Land Use, Noise and Energy Performance, and performing very strongly in the remaining indicators. Some key statistics for Grenoble are outlined in Table 4.2 below.

Table 4.2 - Grenoble Key Performance Indicators EGCA 2022

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 emissions (tCO2/capita)</td>
<td>4.17 tCO2/capita</td>
</tr>
<tr>
<td>Proportion of population living within 300 m of an hourly (or more frequent) public transport service</td>
<td>98%</td>
</tr>
<tr>
<td>Percentage of people living within 300 m of green urban areas ≥ 5,000 m2 in overall city area (%)</td>
<td>92%</td>
</tr>
<tr>
<td>Amount of municipal waste generated per capita</td>
<td>532 kg/capita/year</td>
</tr>
<tr>
<td>Domestic water usage (Litres per capita per day)</td>
<td>109 l/capita/day</td>
</tr>
<tr>
<td>Waste water load (population equivalent)</td>
<td>482,431 p.e.</td>
</tr>
<tr>
<td>Energy usage/capita (kWh/capita)</td>
<td>24,463 kWh/capita</td>
</tr>
</tbody>
</table>

Due to its topography Grenoble has had to make the most of the limited green space within the city, and is dedicated to improving the city's living environment through the use of green areas, implementation of an ambitious urban planning protocol, and through the enhancement of urban gardening. The municipality encourages the opening of private gardens and vertical greening, has an ambitious tree planting programme, and makes unused areas available to residents to create small gardens. The city has been unsealing, regenerating and actively building new parks for the last 15 years. Grenoble’s eco-neighbourhoods have won national awards, and the Flaubert eco-neighbourhood is a great example for other cities, and a model in the development of cities of tomorrow.

The City is very aware of climate impacts and has set clear ambitions and targets to become more sustainable, and already has achieved a 25% reduction in Greenhouse gas (GHG) emissions between 2005 and 2016, and demonstrated that reductions in transport is decoupling from population growth. Grenoble is
working towards a 50% reduction by 2030 and shows leadership as many of its regulations are stricter than those set at a national level.

Grenoble is strongly committed to improved energy performance and was the first local authority in France to adopt a Climate Plan in 2005. The City also created a Commitment Charter engaging local players and an Observatory to assess the actions and monitor energy use, the production of renewable energy and GHG emissions. Looking forward, Grenoble has set ambitious and realistic goals through the Metropolitan Local Climate Air and Energy Plan 2019 which aims to reduce energy use by 40% by 2030 and 50% by 2050.

### 4.1.3 Tallinn

Tallinn is the capital and largest city of Estonia with a population of 393,222 and population density of 2,781 inhabitants per km². It is a coastal city on the Gulf of Finland of the Baltic Sea and is an old historic city with an interesting past. There have been many changes in the city since Estonian independence in 1991 as the previous Soviet era imposed development restrictions. In 1997, the Old Town of Tallinn earned recognition as a UNESCO World Heritage site due to its medieval architecture. The park network of Tallinn is uniquely established on the bastion belt around the Old Town with 90 m² of public green areas and 207 m² of green areas per capita. Protected areas at the local or state level make up 19.5% of Tallinn’s area and the Natura 2000 network of protected areas covers 8.2% of the territory.

Tallinn had a history of more polluting heavy industries including minerals and paper. Today, there is no major industry and the city is fostering entrepreneurship and has put in place facilities to connect academic institutions with new and developing technology companies.

Tallinn performed well with regard to Noise, Nature & Biodiversity, Water, Green Growth & Eco-innovation and Governance. Some key statistics for Tallinn are outlined in Table 4.3 below.

<table>
<thead>
<tr>
<th>Table 4.3 - Tallinn Key Performance Indicators EGCA 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions (tCO₂/capita)</td>
</tr>
<tr>
<td>Proportion of population living within 300 m of an</td>
</tr>
<tr>
<td>hourly (or more frequent) public transport service</td>
</tr>
<tr>
<td>Percentage of people living within 300 m of green</td>
</tr>
<tr>
<td>urban areas ≥ 5,000 m² in overall city area (%)</td>
</tr>
<tr>
<td>Amount of municipal waste generated per capita</td>
</tr>
<tr>
<td>Domestic water usage (Litres per capita per day)</td>
</tr>
<tr>
<td>Waste water load (population equivalent)</td>
</tr>
<tr>
<td>Energy usage/capita (kWh/capita)</td>
</tr>
</tbody>
</table>

Tallinn has demonstrated some very good practices with regards to Noise and related monitoring. The noise strategy starts from the planning stages. All noise plans have clearly defined noise zoning and limits associated with each area and activity. A noise impact survey must be carried out on any action that may cause conflict, and a set of potential solutions must be presented, and implemented before any activity can start. This is all possible due to the significant strategic noise mapping and action plans that have been produced by the City. Tallinn has also identified and categorised quiet areas in the city and carried out works to allow pedestrian access to avail of and enjoy these amenities. The City has mechanisms to inform and raise awareness of residents on the importance of living in quiet areas, and it has also implemented some participatory measures to get citizens involved in mapping and action plans.

Tallinn has been focusing on developments in a range of water related areas and includes recent improvements made to its shore and lake protection measures and has a blue flag for the high quality of its bathing water. Other projects of note are the sustainable storm water system that has been recently installed.
in a public area, also acting as a mechanism to raise awareness and communicate issues to its citizens, the HEAWATER river/waterbody restoration programme, housing requirements and water permeable parking areas, and campaign encouraging free tap water in restaurants. The City has also demonstrated its commitment to improving water quality through its efficient and effective adaptation of the new requirements for drinking water and waste water, which include the addition of biofiltering and sludge composting. The City has also put in place impressive plans for the future. The City has a long-term strategy ‘Tallinn 2030’, which has the overall objective of a ‘healthy city environment and sustainable use of natural resources’ by the year 2030. This strategy is supported by several specific development documents, the Tallinn Landscaping Action Plan, the Rainwater Strategy, and the Sustainable Energy Action Plan. This integrated approach is key to successfully achieving goals. Tallinn was strong on public engagement when developing this strategy, with a ‘thought paper’, several workshops, good feedback process and quantification of the participation. In addition, a Strategy Unit has been created to ‘strengthen coherence between different sectors and set and achieve horizontal objectives’.

4.1.4 Turin

Turin is located in northwest Italy. It is surrounded on the northern and western front by the Alps and on the eastern front by a high hill that is the natural continuation of the hills of Monferrato. The city has a population of 882,523 with a population density of 6,376 inhabitants per km².

Turin is an historical city and the city centre which is seen today was first developed from the mid-1500s growing until the 1800s. This historical past means that while the baroque architecture is an extraordinary asset, it poses limitations on the ability of the city to adapt the urban core to modern challenges and develop new infrastructure within it. It is also a hugely industrial town, which led to an unprecedented period of concentrated economic, population and physical growth. This rapid expansion and urbanisation gave way to greenfield loss and social tension. With the rapid demise of the industrial era, huge swathes of the city were abandoned by departing industry and population decline.

Turin has made great strides reinventing and revitalising itself over the past two decades, with many of these changes highlighted in its application. The City ranked highly in Air Quality, Sustainable Land Use, Sustainable Urban Mobility, and Green Growth and Eco-innovation. Some key statistics for Turin are outlined in Table 4.4 below.

Table 4.4 - Turin Key Performance Indicators EGCA 2022

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions (tCO₂/capita)</td>
<td>3.48 tCO₂/capita</td>
</tr>
<tr>
<td>Proportion of population living within 300 m of an hourly (or more frequent) public transport service</td>
<td>95%</td>
</tr>
<tr>
<td>Percentage of people living within 300 m of green urban areas ≥ 5,000 m² in overall city area (%)</td>
<td>78.42%</td>
</tr>
<tr>
<td>Amount of municipal waste generated per capita</td>
<td>509.7 kg/capita/year</td>
</tr>
<tr>
<td>Domestic water usage (Litres per capita per day)</td>
<td>198 l/capita/day</td>
</tr>
<tr>
<td>Waste water load (population equivalent)</td>
<td>1,931,129 p.e.</td>
</tr>
<tr>
<td>Energy usage/capita (kWh/capita)</td>
<td>13,461 kWh/capita</td>
</tr>
</tbody>
</table>

The deindustrialisation and demographic contraction reduced development pressure on green areas in Turin. The 1995 General Masterplan showed the City’s early acknowledgment of the need to develop a sustainable approach to land and increase the green spaces around the city. It designated huge areas of formerly industrial land for green and mixed-use development, over 600 ha, with 400 ha now green areas and has applied a professional public-private partnership approach. The City has implemented many projects, such creating riverbank parks, connecting green areas to urban farming, where animal grazing results in savings
in park maintenance, or projects directed at citizen engagement through the design and creation of public parks and playgrounds.

In 2011, Turin adopted a 10-year Sustainable Urban Mobility Plan (SUMP) that aims to achieve its modal share targets by encouraging intermodality and implemented a range of actions to support this goal. The City has approved and adopted a cycling masterplan (Biciplan) with the objective of increasing cycling to 15% of all trips of less than 5 km, currently cycling is 3.5%, public transport 15%, walking 51%, and car use is 30%, whilst also promoting multi-modal and public transport options. This is paired with many initiatives promoting cycling and walking, such as ‘Car-free Sundays’, bike pride events, and urban walks.

Turin shows strong environmental commitment to improving and maintaining its high standards for air quality monitoring and testing. There is a specific regional plan, and the City is aware that regional and national involvement is required given the challenges it faces due to its location with a valley associated with low atmospheric ventilation, and much human activity. The City has undertaken significant efforts to assess their air quality, with data from the monitoring sites completed with modelling activities that give spatial resolution. As the main emission sources are domestic heating and traffic, initiatives are correctly focused on those sectors such as banning pollutant heavy vehicles and measures to target winter smog episodes. The City also plans to bring in a Pigouvian tax in the form of a vehicles emissions tax.
4.2 Dijon Technical Assessment

4.2.1 Climate Change: Mitigation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Matthew Kennedy</td>
<td>Ms. Vesna Kolega</td>
<td>3/18</td>
</tr>
</tbody>
</table>

In Dijon, decreases in emissions are shown to have decoupled from population growth with the influencing factors clearly presented in the application. The City has a good monitoring structure for emissions (i.e. ORECA - for public assets) with regional observatory. The City also references environmental performance data 2016-2019 outside of inventory data.

The application provides a good explanation of the planning framework. There are clear objectives, sectorial targets by greenhouse gas (GHG) and measures. The application could have been improved with a description of the impact of the ‘Renoveco platform’ and would have benefitted with more quantification of measures targeting transport given that it is the largest emitter.

The application does not provide details on investment, cost allocations nor clarity on ongoing actions. Moreover, there is no mention of a mechanism to engage the private sector outside of the freight sector. Finally, the application does not refer to green infrastructure.

4.2.2 Climate Change: Adaptation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Birgit Georgi</td>
<td>Mr. Christof Mainz</td>
<td>4/18</td>
</tr>
</tbody>
</table>

Dijon has exhibited continuous action in tackling the impacts associated with climate change over the past few years. Since 2010, adaptation has been discussed as part of Dijon’s Climate Energy Territorial Plan. The first adaptation strategy was developed in 2012 as an integrated part of the plan. This is under revision and will be updated in 2020, including a vulnerability assessment from 2016 that systematically considers all sectors. The City is committed to delivering climate action and has signed both the original (2008) and new (2018) Covenant of Mayors.

Dijon successfully applies a participatory and integrative approach. Implementation is mainstreamed into a variety of urban plans and sectoral measures. A group of state and regional services was assembled in 2010, and more than 20 of these actors were involved in the development of the first strategy. A specific public interest group for dealing with the future of Burgundy, an identity for the city and region, has been created. This group collaborates with a university to explore how Burgundy wine can be adapted to climate change.

A plethora of measures have been implemented in Dijon, both soft and hard measures, as well as the establishment of monitoring stations for heat. However, information on the budget and timeline of new measures, such as the programme for 12 eco-districts, is unclear; and measures do not seem to cover all types of impacts equally. In continuing its engagement, Dijon will need to pay more attention to impacts other than heat. In addition, it should establish comprehensive monitoring for assessments on the progress of implementation and the effectiveness of measures in reducing the city’s vulnerabilities.

4.2.3 Sustainable Urban Mobility

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. George Angelou</td>
<td>Mr. Alex Minshull</td>
<td>3/18</td>
</tr>
</tbody>
</table>

Dijon’s existing public transport infrastructure is quite impressive with 100% electric tramways, 43.8% low-emission buses and 16.3% alternatively fuelled buses. The same is true for active mobility with 35,000 m² of pedestrianised roads in the city centre, 316 km of cycle paths, 2,630 bike arches and 11 protected bike parks.
A recent transport survey showed a positive trend in the modal shares of public transport and active modes, as well as a decrease in car use (i.e. +58% car passengers and -4.7% car drivers between 2009 and 2015). In addition, 15% of the city's inhabitants stated that they had changed their habits as a result of the policies aimed at reducing the use of cars in the city.

A free application enables access to information on all mobility services, the purchase of online tickets, the creation of nominative tickets, and awareness-raising for citizens. In addition, the City has launched an innovation programme for start-ups to develop new digital solutions.

Dijon has the necessary plans in place to deliver a sustainable transport system by 2030, which includes clear and ambitious objectives for improving the performance of public transport networks, building a cycling and 'walkable' urban area, encouraging a modal shift and ensuring the coherence of public policies in particular those that link travel and urban development projects.

Future plans include actions to improve access to public transport (e.g. pricing and infrastructure), strengthen active mobility, encourage the development of shared mobility, implement a global policy for organising the flow of goods (e.g. develop railway logistics and study the evolution of urban logistics) and develop hydrogen mobility (e.g. replace existing buses with ‘hydrogen’ buses). Although the future plans are clearly described, it would be good to have more detailed information on their financing. The inclusion of references would be a good source of evidence for the major achievements illustrated in the application.

4.2.4 Sustainable Land Use

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Henk Wolfert</td>
<td>Mr. David Jamieson</td>
<td>4/18</td>
</tr>
</tbody>
</table>

Dijon wants to become a city of reference in terms of ecology and has carried out interesting work in this area. Urban green landscapes are being designed within Dijon Métropole's urban planning framework. Since 2001, 1 m² of green space has been created for each 1 m² of housing built. In 2018, more than half of the total surface area of green spaces have achieved ‘EcoJardin’ (EcoGarden) accreditation. Through the Jardin des Sciences and the Démocratie Locale service, citizens have been involved in various initiatives including shared family gardens, operation adopt a tree, and nature in the city projects; these were administered by nine district committees with participatory budgets.

Dijon wants to limit urban sprawl and renew the city, and has an excellent and coherent set of policies, that provide a very strong link between urban planning, land control and development. The City also has ISO certified development procedures. This has resulted in 17 wasteland conversion projects since 2010, the development of 10 eco-districts with 3,000 housing units at present (with a target of 6,000 by 2030), and an ERASME campus car park which has been redeveloped into a green esplanade.

The City places special emphasis on policies aimed at becoming a front runner in urban agriculture. Dijon’s 10-year ambition is to make the city a showcase for efficient and sustainable agriculture in urban and peri-urban areas; including food self-sufficiency and enhancement of the identity of the territory. Dijon Sustainable Food 2030 is an impressive and rare example of a city food policy that is well connected to its stakeholders. It would be beneficial for Dijon to consider developing similar visions for the green urban area and sustainable land use aspects, as these were not well represented in the ‘Future Plans’ section.

4.2.5 Nature & Biodiversity

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. David Jamieson</td>
<td>Dr. Henk Wolfert</td>
<td>1/18</td>
</tr>
</tbody>
</table>

Dijon and its authorities have taken the importance of pollination and the plight of pollinators very seriously. Dijon is to be commended for securing APticité ‘3 bees’ status, a worthy recognition for its pollinator friendly grounds maintenance (differential management/herbicide restrictions etc.), citizen science and education, and urban bee keeping programme.
Integrating the Biodiversity Plan into the Climate Plan will help increase recognition of the threats to habitats and species from climate change, and the importance of conserving/enhancing biodiversity to limit the impacts of climate change. It is also impressive that Dijon is integrating ecological thinking into its gastronomy and viticulture, strengthening the links between biodiversity and local economic development.

The monitoring programmes established for black locust, ailanthus, buddleia davidii, hornet, harlequin ladybird, processionaly caterpillar, and ragweed suggest that Dijon is actively seeking to control invasive non-native species. The installation of nest boxes to encourage tit populations is a particularly innovative biological solution to control the spread of the processionaly caterpillar.

Dijon has created an impressive array of opportunities for citizens to directly engage with science. The ‘Dijon, c’est ma nature’ and ‘Agissez avec nous’ programmes seem to be a particularly effective route for many residents to observe and record nature in their city, and no doubt help create a groundswell of interest that leads on to practical conservation volunteering activities for many.

Given the significant amount of biological information collected, and active biodiversity protection and management measures taking place across Dijon, it is likely that the biological status of species and habitats is positive. It would therefore have been beneficial to include some relevant trend data in the application to demonstrate this point.

### 4.2.6 Air Quality

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>Dr. César Asensio</td>
<td>5/18</td>
</tr>
</tbody>
</table>

Dijon has excellent air quality, with all of the parameters registered in 2018 below the World Health Organization (WHO) Air Quality Guidelines recommended limit values for the protection of human health. The reason for such good air quality seems to be twofold; firstly, favourable conditions including almost permanent winds allow for the dispersion of air pollutants, and secondly the small size of the city results in lower emissions from traffic. In addition, the contribution of domestic heating to (particulate matter) PM emissions is low, which suggests that citizens are using alternatives to solid fuels. In general, the air quality assessment is quite robust and presents the situation clearly. The exposure assessment is a valuable addition to air quality management in the city.

The downward trend of air pollution levels in recent years is welcomed, and it shows actual decreases in emissions over and above those attributed to the aforementioned favourable conditions experienced in the city. Since 2014, the City has implemented an Atmosphere Protection Plan, within which several traffic-oriented measures are outlined. The pedestrianisation of downtown areas and the ring-road may have been crucial contributors to the reduced air pollution. In addition, the ‘eco-districts’ initiative is important as it makes cities more liveable.

Given its current situation, it would be reasonable not to prioritise actions that improve air quality. However, the City is committed to this goal and has adopted an integrated energy-air-climate plan with very ambitious objectives to reduce emissions by 2050, although this target year may be too distant. Other initiatives, such as the efforts to develop a hydrogen distribution network and to promote green areas are welcome as they demonstrate that the City is acting for the global community. Finally, actions involving scholarships, such as the PURE platform, are valuable due to their power to change ideas and improve knowledge.

### 4.2.7 Noise

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. César Asensio</td>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>3/18</td>
</tr>
</tbody>
</table>

Dijon has now fully adopted the strategy of systematic assessment and actions defined in the Environmental Noise Directive (END) by preparing a strategic noise map and action plan in 2019. It should be noted that over the last decade, a very significant reduction in the rates of the population exposed to noise in the city.
has been observed, which demonstrates the benefits of the suite of actions undertaken during this time to help reduce noise pollution.

In the last decade, Dijon has made major changes affecting urban mobility including improving the public transport network and encouraging soft modes such as walking and cycling. In addition, Dijon has implemented major traffic management measures to help reduce the use of private vehicles for internal travel and their associated emissions and has made a considerable commitment to move to a more efficient public transport network based on electrification. The increase in the number of pedestrianised streets is also considered to be extremely positive for the improvement of the city's acoustic quality.

Dijon has an inventory of quiet areas which in turn are classified into three different categories. It would be advisable to describe and clarify the differences between these area types in terms of their preservation and promotion mechanisms. Additionally, Dijon has defined a project for the creation of a blue and green belt that aims to bring nature closer to the city and several eco-district projects. All these initiatives have great potential as quiet areas where special preservation and promotion measures should be considered.

Dijon métropole has launched approximately ten eco-district projects involving measures such as limiting cars and promoting soft modes. These types of initiatives are valuable in improving the quality of life of the residents living in these areas, and also in improving the quality of their acoustic environment. These types of areas are likely to become, on the whole, quiet areas, and the City should promote actions to improve soundscape.

Dijon describes a series of very positive actions aimed at increasing citizen awareness of noise pollution and involving various stakeholders in noise management processes. ‘HARMONUITS’ is a noteworthy initiative and involves various student and professional associations that work to reduce noise pollution at night.

4.2.8 Waste

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Olivier Gaillot</td>
<td>Ms. Zita Dibáčzi</td>
<td>1/18</td>
</tr>
</tbody>
</table>

Overall the quality of the application was very good. However, some of the details were presented in the wrong sections (e.g. details about waste plans were provided in 8B instead of 8A). The City's collection system is well established, with door-to-door services since 2001, complemented by on-call/request services, bring banks and recycling centres. Furthermore, the City has a good level of hazardous waste collection. The application provides sufficient detail regarding future plans, demonstrating a strong commitment to waste prevention and plastic waste management.

The City has a local household waste prevention target of 7% between 2010 to 2020, and achieved a 5% reduction in municipal waste between 2010 to 2018. Specific initiatives of note relate to food donations, and an online school meal booking cancellation system. Future waste prevention targets of 10% to 2025, and 20% to 2030 are in place.

Additionally, the City has good reuse initiatives, with social enterprises at civic amenity sites since 2009, reuse markets, repair villages, and upcycling workshops. Dijon has a 61% reuse rate for textiles collected at bring banks.

It is considered that the City should start rolling out door-to-door collection of household food waste to progress further, and explore economic instruments to target waste reduction and separate waste collection.
4.2.9 Water

The present situation regarding water in Dijon is satisfactory, and it demonstrates full compliance with regard to drinking water and waste water. All sludge generated from the city’s sanitation system is currently used for agriculture purposes and energy generation.

Most data has been made available, however there was no detailed description of the figures provided. All actions taken by the City seem to be standard practice, and there were no exciting projects described. The information provided on the Water Framework Directive (WFD) relates to the current groundwater situation, and is included in the City’s Master Plan for Water Development (2016-2021). However, the surface water quality status in the Dijon area is unclear; the Rhône-basin was referred to in the application. An initiative to recycle water from a car park to irrigate 100,000 m² of tramway lawn in the city is mentioned, and unfortunately was not described further. A local flood risk management strategy is mentioned and a map included, but again, not described in detail. No additional measures were described beyond standard requirements.

In terms of past performance, the City describes measures it has taken to achieve compliance or to maintain their systems. This includes the rehabilitation of plants, pipes, and reservoirs. Despite improvements, the City’s system is still subject to quite high loss rates. Energy savings measure are described, as are the measures to manage storm water overflow which has significantly reduced the spill out volume, which is positive. Some information on the City’s work to improve ecological continuity of surface waters was included, however, no information was provided regarding citizens engagement.

Future plans for drinking water are described in terms of the City’s new Drinking Water Master Plan. This Plan takes into account factors such as droughts and pollution, which is positive. Some basic improvements on waste water, as well as rainwater management, such as rainwater infiltration, to compensate for scarcity of resources, were also included in the city’s response. Various potential projects are currently being considered by the City, however, official planning of these is yet to occur.

Information provided in the context of EU water legislation was very basic, mainly confirming the City’s level of compliance with the Drinking Water Directive (DWD) and the Urban Waste Water Treatment Directive (UWWTD). Furthermore, no information regarding initiatives that go beyond the legal requirements were included in the application. Only one public activity was mentioned, which is intended to provide information to those in poverty. Finally, no public campaigns or public participation activities were described by the City.

Overall, it seems that the water sector in Dijon is meeting the level required by relative legislation. Aside from standard measures, only a limited number of activities and additional measures have been described. For example, the ecological continuity of rivers is given, however, no major ideas or associated projects were described. It would appear that activities are carried out predominately by the water operator, with very few carried out by the City itself.

4.2.10 Green Growth & Eco-innovation

Dijon is on track to leverage its ‘green influencer’ potential. A circular economy model has been well developed with innovative elements to manage resources and includes 27% of households equipped for composting, 63 shared composting sites, bio-waste from 30 voluntary companies recovered as compost, and heat generation from residual waste which is re-injected into the urban heat network. The circular economy relationship between the university, industry and agriculture is well represented through the organic recovery of local brewery by-products by farmers. Several good circular economy thinking actions are in place, such as the Charter of eco-responsible traders and artisans, and operational synergy actions with 62 local companies etc. In 2018, 29 initiatives were launched for promoting and enabling sharing, reuse, and repair,
which is positive to see. A proactive policy of sustainable mobility has also been launched, which is promising. Since early 2019 all procurement contracts include green criteria, and several green-energy training packages were launched in September 2019. Some further events are being considered, however, stakeholder engagement could be envisaged further.

Overall, Dijon provided a very well-structured application with full explanations for all the questions.

The descriptions provided in Section B Past Performance show that very good initiatives were implemented to promote Green Growth and Smart City solutions. There are a number of good systematic developments ongoing in the city, such as the connection of municipal buildings to the Urban Heat Network and renewables integration through the use of Photovoltaics (PV) and biomass. The transposition of European and national policies/schemes are appropriate and well considered, such as the targeting of; 50% reduction in final energy consumption by 2050, 30% reduction in fossil energy consumption by 2030; and >7% of gross domestic product (GDP) to be invested in environmental research and development (R&D), environmental training, and the strengthening of links between education, enterprise, and actors in innovation. The annual Sustainable Development Report has been published by the City since 2011, with results based on a series of indicator monitoring and shows positive progress towards the city targets.

The current and future flagship project for eco-innovation in Dijon Métropole is the ‘Sustainable Food 2030’ project. This is an interesting and ambitious plan to reach a fully sustainable agri-food model in Dijon Métropole to become a territory that will demonstrate a sustainable and innovative food system within 10 years, through integrated activities of the territory by encouraging transversal synergies and using digital leverage. All the actors of the sector are very well-considered, with the citizen-consumers at the heart of the solution, structuring an innovation ecosystem that generates projects throughout the chain. The portfolio of actions is considered credible to ensure the transformation of the entire value chain and to develop different tools. A collective restoration of the territory focused on organic and local agriculture with nearly 30% of organic products in collective restoration and one third of school meals containing at least one regional product.

Dijon has very good future plans to encourage eco-innovation through several interesting industrial partnerships and projects, which are very well outlined. A Smart Building Cluster has already been created in September 2019, which is promising. Dijon Métropole has ambitious goals to become a pioneering hydrogen territory, and a very well structured action plan is outlined, including the renewal of the entire bus fleet and a study to assess the need for a second hydrogen station at the tramway depot etc. Extension of the Urban Heat Network to 120 km by 2023 is also planned, which is positive. Furthermore, partnerships with the research community are very well defined.

The promotion of green economy thinking among the population and industry is well considered, such as through the ‘Renoveco Platform’, ‘Eco-housing family challenge’, ‘Data Challenge On Dijon#1’ and the ‘Smart City’ Business Chair. Greater emphasis on monitoring would be welcomed, such as through impact monitoring of the planned and ongoing actions.

### 4.2.11 Energy Performance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Vesna Kolega</td>
<td>Dr. Matthew Kennedy</td>
<td>2/18</td>
</tr>
</tbody>
</table>

In 2016, Dijon signed an 8-year energy performance contract and invested €2 million with the aim of increasing thermal energy efficiency of public buildings and reducing their heat consumption by 14%. The policy of systematically connecting municipal buildings to the district heating network resulted in an eightfold increase in surfaces connected and heated by the network over a 5-year period (i.e. 24,000 m² in 2013 to 206,000 m² in 2018). There is a 13% renewable energy share of the final energy demand in the city with 7% of the renewable energy being produced locally and 34% of the energy consumption of public buildings is being delivered by renewable energy sources. Overall, these are highly commendable achievements and progress in these areas should be maintained in the years to come whilst also continuing to work on substituting fossil fuels with renewable energy sources.
It is promising that total energy consumption has decreased by 3.4% between 2010 and 2016 due to the City’s efforts and the many structural policies implemented, and additional efforts should be made to achieve remarkable results such as a target of approximately 30% reduction by the year 2030.

The description of projects and measures implemented shows the City’s strong dedication to the development of sustainable energy in the residential sector. This is demonstrated by the financial support provided for thermal renovations of 3,400 low-income housing units between 2010 and 2017, the financial support for the renovation of 1,000 low-income homes since 2013 as part of the ‘Living Well in Your Home’ programme, the establishment of 12 eco-districts and the establishment of the Rénovéco platform that supports the energy efficient renovations of the residential sector as well as the awareness raising campaign ‘Eco-Logis Family Challenge’ which encourages residents to reduce their energy consumption.

With regard to the 2030 and 2050 plans and strategies, the City has outlined a clearly defined development plan with the following sustainable energy targets:

- Accelerate the deployment of renewable energy in the city to supply 24% in 2030 and 69% in 2050 of total energy demand;
- Extend the urban heating network to 120 km and increase production from 380 GWh in 2018 to 550 GWh by 2023;
- Invest €20 million in the construction of an anaerobic digestion plant in 2023 with 27 GWh/year production capacity;
- Develop a 16.5 MW PV power plant in 2020 with expected residential sector energy savings of 31% by 2030 and 69% by 2050;
- Achieve energy savings in the service sector of 32% by 2030 and 42% by 2050; and
- Implement numerous actions, activities and campaigns to engage and mobilise citizens and stakeholders.

The repurposing of a 15.6 hectare site, transforming it from its previous use of solid-waste landfill to build a PV Dijon-Valmy solar farm with a 16.5 MW capacity and expected electricity production potential of 17,800 MWh is a great initiative demonstrating an integrated approach and accomplishes the ecological rehabilitation of the site and the significant improvement of the City’s ability to supply its own energy.

4.2.12 Governance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Alex Minshull</td>
<td>Dr. George Angelou</td>
<td>4/18</td>
</tr>
</tbody>
</table>

The City has a new 2019 planning document which has been extended to Dijon Metropole. The plan called eco-PLU. addresses bioclimatic design, densification, sustainable mobility, sustainable energy, air quality, climate change and biodiversity. Alongside this document is the Air, Energy and Climate Plan, which is currently being renewed.

Along with the example projects these plans suggest that the City has an integrated environmental vision. Unfortunately, the application does not state what the vision is, and this would have strengthened Dijon’s application.

A coherent description of the integrated city region governance model with the Metropole is provided along with clear practical demonstrations. For example, it details the creation of an Urban Ecology and Soft Mobility Service which is in charge of environmental policies and reports directly to the General Director of Services to strengthen transversal action. Unfortunately, the role of other departments in the city council is not discussed.

From 2015 Dijon has invested approximately €3 million per year in its environmental strategy and a similar amount from the Metropole. Investment is continuously increasing to an estimated €13 million per year.

Unfortunately, the scope of this investment is unclear from the application, it is presumed to encompass the actions listed in the Sustainable Development Annual Report. It should be noted that supplementary funding is also used. For example, there is an annual budget for communication and environmental awareness which has increased to €1 million. This is a good level of funding for such activities.
A Sustainable Development Report is produced annually and includes action, budget and performance indicators. In 2018 there were 70 actions. This report is presented to and debated by politicians. From the application, this appears to be an excellent initiative.

The application details work being done by the city council to improve its environmental performance in areas such as procurement, ISO 14001 for its companies, and the European Energy Award. Dijon’s application could have been improved if a more systematic approach was demonstrated through, for example, a wider application of EMS (environmental management system) and more detailed evidence of resultant improvements in performance.

The application lists a considerable range of stakeholders who engaged in the development of the 2012 climate strategy and who are planned to be re-engaged in its renewal. It explains that District Committees were consulted on the Biodiversity Plan and Climate Plan. Unfortunately, it does not describe those involved in the development of the eco-PLU, which is the key strategic document.

District committees, of which there are nine, fund citizen projects with €40,000 per project annually. Approximately 65% of these are environmentally focused. Such projects range from community gardens to composting activities and organic markets, amongst others.

In addition, the City has a municipal children's council which runs awareness campaigns on renewable energy and vehicle idling, for example.

Whilst there is good regional cooperation, the application does not provide examples of wider cooperation and learning, at an international level.
4.3 Grenoble Technical Assessment

4.3.1 Climate Change: Mitigation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Matthew Kennedy</td>
<td>Ms. Vesna Kolega</td>
<td>1/18</td>
</tr>
</tbody>
</table>

The application indicates that Grenoble achieved an emission reduction of 25% between 2005 and 2016. There is a coherent methodology presented for GHG assessments with clear data collection methodologies. The application provides concise reasoning for the observed emissions reduction, especially in transport which is decoupling from population growth.

The application presents clear targets, ambition, budgets and monitoring systems. In addition, the application quantifies savings and highlights the city regulations (which can be stricter than state regulations). The application provides a clear demonstration of tools to enact change and future measures.

Overall, the application could be improved with a discussion of the required infrastructure to deliver the plans. Finally, there appears to be a lack of private sector mobilisation.

4.3.2 Climate Change: Adaptation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Birgit Georgi</td>
<td>Mr. Christof Mainz</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Grenoble has been aware of the impacts associated with climate change for many years and has implemented effective measures. The disastrous impact of the 2003 heatwave triggered action, in particular the development of a strategy to tackle the heat island effect. The City shows commitment to adaptation by becoming a signatory to the original and new Covenant of Mayors. In addition, it has established positions for a heat wave officer and SECAP (Sustainable Energy and Climate Action Plan) officer. Many, partially ambitious, measures had been implemented to combat heat and storm water management, such as desalting of areas, active rainwater infiltration, tree planting and green roofs, greening of neighbourhoods and imposing 60% of green area per plot.

Grenoble shows an impressive participatory and creative approach to raise awareness and support for implementation, such as the Civic Lab and several other flagship projects. With the planned ‘Cool to go challenge’ (2019-2022), users can identify the coolest route from one point to another using a map. Another example is the photo exhibition which envisions the future migrations of city-dwellers, who due to heat, will take the bus to go to the cooler mountain area to sleep by 2030.

On the basis of the citizens budget (€800,000 per year), green projects, such as greening streets and other places, have been implemented and further green roofs and facades, green areas and fountain rehabilitation have been planned. Advice and subsidies are offered to residents for greening roofs and facades. However, other funding for future activities is not mentioned in the application.

While Grenoble has adopted a climate change adaptation strategy and action plan and completed a vulnerability assessment, little information is provided on these items. Grenoble could make its approach to climate change adaptation more comprehensive and effective by linking measures to the aforementioned documents as well as with the results of planned monitoring.

4.3.3 Sustainable Urban Mobility

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. George Angelou</td>
<td>Mr. Alex Minshull</td>
<td>1/18</td>
</tr>
</tbody>
</table>

The City has implemented effective measures to support public transport, walking and cycling. Grenoble leads by example, as it encourages its staff to use alternative modes of transport by providing incentives such as, reimbursement of 50% of bike rental costs, reimbursement of 50% of public transport subscriptions...
and reimbursement of 100% of car-sharing service subscriptions. The city has an impressively high modal share of cycling, which stems from the actions that the City has taken to facilitate and promote cycling. In addition, Grenoble has a well-developed car-sharing scheme and prescribed pedestrian areas to encourage walking. Moreover, the City is actively trying to reduce vehicle dependency through a number of parking rules.

A feasibility study in 2010 illustrated that 42% of daily journeys are made on foot, 21% by public transport and 5% by cycling. The proportion of low emission and alternatively fuelled buses operating in the city is impressive with 57% of buses being low emission (at least Euro VI) and 74% alternatively fuelled (e.g. electric, hydrogen and liquefied natural gas (LNG)). Current measures to reduce and renew the fleet of municipal vehicles include the replacement of personal staff cars with a subscription to the ‘Citiz’ car-sharing service, the acquisition of 152 electric, 99 natural gas vehicles (NGV) and 1 hydrogen car and a fleet of 700 bikes available to municipal staff.

Grenoble has adopted a 16-point action plan for sustainable urban logistics, which was co-produced with public and private stakeholders.

The 2018 SUMP sets out future mobility guidelines for 2030 with the main guidelines being:

- A fossil-fuel and pollution-free urban area;
- Support to change mobility behaviours;
- Promoting active and shared modes of transport; and
- Improving interconnections within the entire mobility area.

The application illustrates a number of measures to expand the public transport network, develop gas, electricity and hydrogen infrastructure supporting the renewal of vehicle fleets, and encourage integrated and sustainable mobility.

The application provides a good description of future plans, however information on how they would be financed is minimal. The City's targets, with respect to sustainable transport (e.g. reducing vehicle use, increasing public transport and cycling), for 2030 are unclear. In addition, it would be interesting to understand more about the City’s plans to provide timely and multi-modal travel information.

### 4.3.4 Sustainable Land Use

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Henk Wolfert</td>
<td>Mr. David Jamieson</td>
<td>1/18</td>
</tr>
</tbody>
</table>

Grenoble is fully dedicated to improving the city's living environment through the use of green areas, implementation of an ambitious urban planning protocol, and through the enhancement of urban gardening. This is reflected in the application which is of a high standard and is well illustrated, using excellent maps and photos.

Grenoble's green areas appear to be of high quality and are intensively used for various types of activities. Given the scarcity of usable land, the municipality encourages the opening of private gardens and vertical greening, has an ambitious tree planting programme, and provides citizens with access to unused areas so they can create small gardens within the urban setting. Residents are actively engaged in greening their city through the ‘Let’s transform our streets into gardens’ programme. Over a 15 year period the share of permeable and greened areas in regenerated neighbourhoods has increased through the development of new parks, including; Bonne, Flaubert, and Esplanade amongst others.

Grenoble is especially proud of its eco-neighbourhoods which have won national awards and are regarded as best practice examples for other French cities. The Flaubert eco-neighbourhood is an example that can be presented as a model of the city of tomorrow. The partners involved in these districts’ regeneration, include public and semi-public urban development companies (SAGES and InnoVia), private building companies, architects, and the Local Energy and Climate Agency (ALEC).
Grenoble is confined by surrounding Alpine mountains and usable land is scarce. Consequently, the city is forced to focus sustainable land use policies on its central, urbanised parts of Grenoble city. Nevertheless Grenoble has had much success and its achievements may be an example of how to enhance the living environment in densely urbanised parts of other cities. It is hoped that a continuation of efforts will lead to zero land take in the future.

Although several plans and policies are mentioned in the application, the underlying concepts and integrated visions of urban planning as a whole should have been elaborated upon. For example, inclusion of information such as; what kind of green infrastructure is needed and wanted? Which neighbourhood has priority in the coming years and why? In addition, data from monitoring programmes could have been presented in a table or figure to show changes in developments through time.

### 4.3.5 Nature & Biodiversity

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. David Jamieson</td>
<td>Dr. Henk Wolfert</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Grenoble has an extensive inventory of its animal and plant species, and monitoring of key species in natural locations is being undertaken. It would be helpful to see this data to learn more about their status. Have there been species losses or gains since monitoring started? Perhaps the Metropolitan Biodiversity Observatory will be able to provide such trend data via the ‘biodiversity barometer’?

Bee-related activities in schools is an excellent way of introducing young people to the concept of pollination and the importance of biodiversity. Training officers to be apiarists and using their skills to help others learn about pollination is a commendable approach to take, and supplying the resultant honey to participating schools is a wonderful gesture.

It will be interesting to learn more about how implementing open space and ecology ratios into new development decision making will work in reality. This is an innovative approach that merits wider dissemination if it successfully achieves urban biodiversity benefits.

The city’s green and blue network is impressive for its scale, biological richness, and connectivity. The City’s ambition to strengthen it even further over the next few years is welcomed; it is positive that there are a number of policies, strategies, and actions to achieve this aim.

Grenoble is to be praised for the variety of ways it is encouraging residents to become actively involved in monitoring and improving their local biodiversity. The ‘Street Wild’ participatory science programme, the ‘green classes’, the ‘We want Poppies’, and ‘Let’s turn our streets into gardens’ initiatives are all very impressive.

### 4.3.6 Air Quality

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>Dr. César Asensio</td>
<td>3/18</td>
</tr>
</tbody>
</table>

Grenoble has a good understanding of its air quality. Unfortunately, the city is limited by its geographical constraints as being surrounded by high mountains results in poor ventilation and dispersal of pollutants. In recent years, the pollution levels are generally shown to be decreasing and, in terms of PM, they comply with the EU limit values. In its air quality assessment, Grenoble demonstrated its commitment by complementing the permanent measurement points with indicative measurements using a mobile laboratory. The use of modelling to improve the assessment’s spatial resolution is a positive addition.

It is good to see the emissions breakdown for air pollutants, though it would have been useful to quantify the tonnes of pollutants emitted. The emission inventory is a key element for designing effective measures to reduce air pollution and to assess the effectiveness of past plans.

Grenoble’s air quality improvement strategy is supported by different sectoral plans, including those for climate and mobility, which is a smart way to focus it because it may avoid trade-offs between greenhouse...
gases and local pollutants. The ‘Wood Air Bonus’, which subsidises the substitution of old domestic heating systems, stands out along with the ‘Low Emission Zone’, although it only applies to the delivery of goods. Public awareness campaigns are valuable because of their power in behavioural change. The most impressive measure relates to the improvement of indoor air quality and the fact that it links to public health.

In terms of future planning, the City adheres to a Metropolitan Climate, Air and Energy Plan with ambitious goals and innovative measures, with some described more generally and others in more detail. It is great that the City sets an example by renewing its own fleet. In addition, the introduction of air quality factors into urban design, the awareness raising campaigns, and the involvement of the scientific community in air quality related projects are all important measures to ultimately improve air quality.

### 4.3.7 Noise

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. César Asensio</td>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>1/18</td>
</tr>
</tbody>
</table>

Grenoble demonstrates a high level of commitment against noise pollution. Its strategy addresses all the basic aspects that need to be considered for effective noise management. This strategy considers acoustics from the urban planning stages and addresses different issues such as the management of transport noise, nightlife noise and the identification of quiet areas in the city.

Grenoble’s strategic vision against noise is highlighted by two particularly positive measures:

a) In 2006, a reference guide on noise for urban planners was published; and

b) The Noise Observatory launched in 2010.

Both actions have undoubtedly laid the foundations for a long-term strategy that has and will continue to improve noise quality in the city.

Grenoble’s efforts to reduce road traffic noise are very positive. The implementation of the Environmental Noise Prevention Plan, promoting cycling and the reduction of speed limits have been very positive and successful actions. Their continuity seems to be guaranteed by the new initiatives that the City has programmed for the coming years.

Grenoble also includes nightlife noise in its strategy and has implemented a ‘Charter in favour of quality of life at night’ in collaboration with hotels, restaurants and bars, in order to avoid conflict between patrons and residents.

It is recommended that Grenoble reconsider its definition of ‘quiet areas’. With the current definition and the maps presented, it seems that practically the whole city is a large quiet area. Quiet areas should be used for de-stressing and relaxation. They should be specifically delimited so that criteria for their preservation and protection can be established, and their use by citizens can be promoted.

The reference levels that the City applies in residential areas are striking, as they are quite high. Particular attention should be drawn to a night-time reference level (Ln) of 65 dBA, not only far from the recommendations established by the World Health Organization (WHO), but also far from the reference values used in many other European cities.

### 4.3.8 Waste

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Olivier Gaillot</td>
<td>Ms. Zita Dibáčzi</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Grenoble’s application shows that municipal solid waste per capita has been steady between 2005 to 2018, and that the city has a national household waste prevention target of 10% between 2010 to 2020. In addition, the application highlights some good waste prevention initiatives such as food waste with schools and home composting, but shows that these initiatives have not been as successful in decreasing waste as in some
other cities. It is noted that the City should also consider measures for dealing with single use plastics in the future.

The application outlines some good reuse initiatives such as seven mobile depots, three reuse chalets in civic amenity sites, bicycle collections, and a reuse directory, all contributing to 57.5 tonnes of items reused in 2018.

The application has some gaps in terms of trends in municipal and packaging waste treatment, and the evolution of its collection system.

The City's collection system is well developed with door-to-door services complemented by on-call/request services, bring banks and recycling centres. Furthermore, the application shows a satisfactory level of hazardous waste collection and a good level of recycling. Residual waste is treated using energy recovery (includes district heating) at 42.9% and landfill at 8.3%. However, the system could be further improved by the introduction of separate collection of food waste, which the application states is due to commence in 2021.

It is noted that current economic instruments do not encourage waste reduction or separate collection but it is recognised that pay-as-you-throw is due to be introduced in 2020.

4.3.9 Water

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Christof Mainz</td>
<td>Ms. Birgit Georgi</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Grenoble described its present situation in relation to waste water and drinking water, and has shown good performance with all relevant data provided. The City uses groundwater for heating purposes, however, no detailed information was provided. Further information regarding the Water Framework Directive (WFD), the Drinking Water Directive (DWD), and the Urban Waste Water Treatment Directive (UWWTD) would have been welcomed. There was no mention of any further measures taken by the City beyond those required by legislation.

The City’s description of its past performance is excellent. Grenoble has a Local Flood Risk Management Strategy which was mentioned. Since 2005, it has been mandatory for all urban projects to include rainwater infiltration and storage systems, as well as mandatory plot vegetation ratios of 20-30% (open-area ratio) on construction projects. This project was described very well.

The rehabilitation of the river banks has made them accessible and open for leisure activities. The City has also taken action to protect drinking water. A strategy has been put in place to reduce water consumption, and this has seen a reduction of 37% take place since 2006. Grenoble has implemented many different public awareness-raising campaigns. Another positive measure includes the development of a carbon-neutral waste water treatment plant, which produces biogas that fuels buses in the city, and is considered an example of a good practice.

Grenoble’s future plans include reinforcing drinking water protection through its long-term Drinking Water Supply Master Plan, which is a €105 million 10-year programme aimed at protecting and securing drinking water resources in the city. Other future plans include, enforcing a more stringent Inter-Municipal Plan, addressing water pricing issues, optimising rainwater management, disconnection from rainwater-network, actions to reconnect river banks and nearby districts, and re-assessing the relationship between water and adapting to climate change in the city. These are all very positive plans for the future.

Overall, Grenoble provided quite an impressive application. All information requested was provided, including full compliance with EU water legislation. However, detail provided regarding the WFD could be improved, as this was somewhat brief, especially with regard to water quality aspects.

Grenoble is very active and has implemented numerous measures in relation to water, carrying out additional activities to tackle various issues, whilst developing many good ideas for the future. The City’s public awareness campaigns are effective for informing citizens about areas such as rainwater measures
and unsealing. Furthermore, very good public initiatives have been demonstrated regarding water retention measures and making the river banks accessible.

### 4.3.10 Green Growth & Eco-innovation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Zita Dibáczi</td>
<td>Mr. Olivier Gaillot</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Grenoble’s main focus is on the development and experimentation of energy innovation through alternative energy sources, energy efficiency, fuel cell technology and smart network innovations which are sound and serve the local transition. Waste-to-energy process solutions are very well represented, such as how by-products can close the loop and improve energy efficiency. The stimulation of sharing, reuse and repair of different categories of goods is encouraged through, seven new recycling/reuse depots (fifty four tonnes of items reused in 2018), approximately twenty associations repairing worn-out objects, nine Repair cafés, and car sharing availability.

The application would have been strengthened by inclusion of information on the following areas, and these should be addressed in any future applications made:

- Further promotion of Green Public Procurement (GPP) including a higher share of green criteria in procurement contracts; and
- Further awareness-raising and training to encourage the development and uptake of environmentally friendly technologies.

The descriptions provided in Section B Past Performance show various positive Energy transition projects, including eco-innovation demonstration projects within the municipality, such as 5i® Forum events, etc. A number of environmental strategies and action plans ambitiously integrate EU policy objectives, which is very good. The waste prevention and circular economy development policies have been translated effectively into two complementary programmes: (PLP2) and (CODEC). A Sustainable Development Report describing the actions carried out by the municipality is published online annually, which is good. The urban tissue/infrastructure development is focused on innovative/sustainable measures including the improvement of energy efficiency, and high renewable and recovered energy share which is a great way to reduce energy use.

The current flagship eco-innovation project in Grenoble is mainly delivered in the district of Presqu’île, the home of GIANT (Grenoble Innovation for Advanced New Technologies), a research campus which is aiming for energy excellence in the construction of buildings with a higher energy performance than required by national regulations (-30%), and an open-loop of groundwater heat pumps which connect to a single water discharge pipe system. The district seeks to invent new ways of living together by providing collective indoor areas such as community gardens on roof tops and a mobility house providing mobility services.

Grenoble’s future plans outline three circular economy areas to be developed, organic waste, construction & demolition waste, and waste electrical and electronic equipment, and these are well thought out and adapted to the local context. Grenoble has clear strategies to stimulate eco-innovation initiatives and actions that promote energy efficiency, renewable energy, and quality energy services, such as through the Metropolitan Climate, Air and Energy Plan, and its Action Plan and Commitment Charter.

The sustainable urban mobility network in Grenoble is very well planned, with the expansion of the electric vehicle (EV) charging points, urban cable car system, carpooling incentives and the bike-renting scheme ‘Métrovélo’. The Waste and Circular Economy contract has a solid set of objectives in place, with aims to divert 5,000 tonnes/year of waste from civic amenities, and achieve 30% reuse and 65% materials recovery. Some very good initiatives are outlined, such as the circular economy platform, material yards (areas in civic amenities where materials can be taken away for free) and the ‘Employers Reuse Cheques’ which encourage responsible consumption practices.

The key future eco-innovation flagship project for Grenoble was not specified in the application, however, based on information included in the future plans section, the circular economy platform development in...
2020 which includes sorting, repair, reuse, dismantling activities, and a materials library sounds like a very neat and compact solution.

4.3.11 Energy Performance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Vesna Kolega</td>
<td>Dr. Matthew Kennedy</td>
<td>1/18</td>
</tr>
</tbody>
</table>

The present energy situation in Grenoble is remarkable as it has:

- Locally produced renewable energy accounting for 18% of the total energy mix in 2016;
- Increased its renewable and recovered energy production by 28% from 1,568 GWh in 2002 to 2,009 GWh in 2016;
- Installed the first renewable hydrogen production unit in 2018 as part of the Hyway project;
- A 170 km district heating network (DHN) servicing 100,000 equivalent dwelling units has gone from using 0% to 72% recovered (36% generated from the incineration of household waste) and renewable energy;
- Increased the amount of heat distributed through the DHN by a factor of 30 over the same time period;
- Achieved the ‘eco-DHN’ certification for its environmental performance from 2013 to 2018;
- Renewable energy provided by 11 hydropower plants (25 MW), 1 wind farm (8 MW), 24 PV plants, including 12 in the urban area (18 MW) and 1 biogas unit (19 GWh/year); and
- Since 2015, 7,000 m$^3$/day of biogas has been produced by the Aquapole waste water treatment plant and injected into the public network.

Although the level of renewable energy sources (RES) is relatively high, fossil fuels (gas, gasoline and coal) still remain the main sources of energy accounting for 57% of the final energy consumption. However, natural gas consumption fell sharply, decreasing by 39%, between 2005 and 2016 which was mainly due to a decrease in the industrial and building sectors. A plan for further substitution of fossil fuels with RES should be developed and implemented.

The overview of the policies, programmes and projects implemented over the past ten years demonstrates that Grenoble is strongly dedicated to sustainable energy development. In 2005, the City was among the first local authorities in France to adopt a Climate Plan, with a ‘Commitment Charter’ to engage with local stakeholders and an ‘Observatory’ to assess the actions and monitor energy use, the production of renewable energy and GHG emissions. The City was awarded European Energy Award (EEA) certification in 2017 and EEA Gold certification in 2019. In the 1st Mur-Mur project, 1,442 dwellings were retrofitted to improve their energy performance resulting in 31% energy savings and up to 60% savings on heating expenses, thus contributing to alleviating fuel poverty. The 2nd Mur-Mur project plans to retrofit a further 2,000 dwellings by 2023 and will implement higher standards than those specified in national regulations for new buildings.

Grenoble’s future targets for 2030 and 2050 are ambitious, convincing and appropriate. The Metropolitan Local Climate Air and Energy Plan (2019) aims to reduce energy use by 40% by 2030 and 50% by 2050 respectively which is commendable.

The City has plans to increase the production of solar thermal energy and PVs by factors of 4.5 and 6 respectively which are clearly presented and realistic. A further plan is to increase the share of biomass wood by 1.5 by developing four wood-fuelled heating networks and a new biomass production unit for the DHN. This is expected to enable the network to reach its 85% renewable and recovered energy target by 2022 and 100% by 2033.

4.3.12 Governance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Alex Minshull</td>
<td>Dr. George Angelou</td>
<td>2/18</td>
</tr>
</tbody>
</table>

The application does not describe a vision for the city. However, the actions described in this section do imply a clear vision and leadership role within France. The City has plans for urban development, mobility,
health and heatwaves and an integrated plan for air, energy and climate which have been formally adopted. It was disappointing to be unable to award more credit in Section 12A.

The city council has taken an innovative approach to organising its departments around the following themes ‘empowering city, inclusive and citizen orientated city and sustainable city’. This implies an integrated approach. Unfortunately, the role of key departments and political leadership was not clearly demonstrated in the application.

Much of the governance focuses on the Air, Energy and Climate Plan, however the application would have been stronger if the wider governance had been described.

The city council is working to improve its environmental performance, and some good examples were included, but the application would have been stronger if data had been included, as with the transport example. It would also be stronger if the city council was adopting a systematic approach e.g. ISO 14001 or Eco-Management and Audit Scheme (EMAS).

The application describes a wide range of citizen participation activities, such as participatory budgeting and support for civil society. The City has developed a Citizen Participation Guide to support this area. Unfortunately, the application does not describe how stakeholders were involved in the development of the City’s strategies and plans.
4.4 Tallinn Technical Assessment

4.4.1 Climate Change: Mitigation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Matthew Kennedy</td>
<td>Ms. Vesna Kolega</td>
<td>9/18</td>
</tr>
</tbody>
</table>

Tallinn’s application shows a rich data inventory and achieved an 18.5% reduction in GHG emissions between 2007 and 2015. The application shows good projections for CO2 reductions by fuel type. In addition, there are two clear scenarios, with actions and investment pool, illustrated for emissions from housing and transport under 'Business-as-Usual' and ‘SECAP’. The main weakness in this application is the lack of sectoral analysis given the data available from the three inventories, therefore the quantification of trends and the justification for particular actions is difficult.

The application would have improved if the inventory data informed measures across buildings. Furthermore, no reference is made to energy or GHG savings resulting from the €12 million investment.

The scenarios would benefit from clear budgets per measure and clear key performance indicators (KPIs) in place for measurement. The application makes no reference to the private sector nor too green infrastructure.

4.4.2 Climate Change: Adaptation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Birgit Georgi</td>
<td>Mr. Christof Mainz</td>
<td>7/18</td>
</tr>
</tbody>
</table>

In 2016, Tallinn introduced an emergency risk assessment, enabling a more effective approach to the assessment of adaptation to current natural disasters. As well as stormwater management, the City considers heat as a major issue e.g. establishing shading structures at municipal buildings to cool and avoid mal-adaptation by air condition, which is an issue that is often not yet considered in northern countries. Tallinn also integrates adaptation measures into plans, such as including flood risk in urban plans - comprehensively undertaken in Northern Tallinn. However, in the absence of an adaptation strategy subsequent action is not as streamlined.

Tallinn is preparing a systematic adaptation framework, which will enable it to consider adaptation comprehensively and prioritise action. The City also plans to sign the Covenant of Mayors. An adaptation strategy was developed in 2019 and a SECAP is being developed. The draft covers affected sectors and their interlinkages. Sector-specific packages of measures are listed and the overall costs are identified. Three short-term measures and a monitoring process is planned. However, it remains unclear how the 2016 risk assessment which includes only current risks, will suffice to cover future risks of climate change given that an update to this is not mentioned.

There are some shortcomings in the application, most likely because Tallinn has only recently begun to systematically prepare for adaptation. For example, the vulnerability assessment is incomplete as it is geared towards emergencies, but not for future climate risks. While the application mentions that collaboration between city agencies and integration of adaptation into sectoral plans has improved, there is little information or evidence provided. The participatory approach, in particular with residents, could be better explored. Information on the level of stakeholder awareness and awareness raising activities is not provided. Monitoring focuses on action implementation, but should also measure the action’s effectiveness in reducing vulnerabilities.
4.4.3 Sustainable Urban Mobility

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. George Angelou</td>
<td>Mr. Alex Minshull</td>
<td>7/18</td>
</tr>
</tbody>
</table>

Tallinn adopted a SUMP to 2035. The plan was developed in consultation with various local stakeholders, Road Administration and neighbouring municipalities. The City is proactive in encouraging and enabling the use of alternatively fuelled vehicles. Tallinn has a projected increase in the share of low-emission buses from 31% to 87%, which is impressive. The City is implementing a range of measures to promote electro-mobility, including the use of electric cars by social workers for their daily work errands and free parking in the city centre.

Various measures are in place to decrease the density of traffic in the centre. Examples include offering free public transport for the residents, increasing public transport by using a priority system and public transport lanes, large-scale reconstruction of traffic junctions, a park and ride system and real-time information system allowing passengers to plan their journeys. Efforts to promote cycling, walking and car sharing are poorly described.

The application would have improved with details on freight sustainability within the city - beyond stating tendencies towards bypassing the city centre.

The SUMP 2035 transport policy aims to provide people and businesses with mobility options that are accessible, convenient, safe, fast and sustainable. A number of thematic categories are identified (e.g. cycling strategy, new foot and cycle strategy and thematic plan for green areas), but it would have been useful to have more information on specific interventions as well as targets on the modal share of public transport, cycling and walking. The sources of funding are also unclear.

4.4.4 Sustainable Land Use

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Henk Wolfert</td>
<td>Mr. David Jamieson</td>
<td>6/18</td>
</tr>
</tbody>
</table>

Tallinn is developing valuable green infrastructure for the city. Its plans include the objective of creating corridors to connect the surrounding county with the city’s urban green areas by 2030, and are part of the thematic plan ‘Tallinn Green Areas’. Approximately 20% of Tallinn’s surface area is comprised of protected areas. Well maintained greenery is an important factor in achieving increased citizen satisfaction on the quality of the living environment and the level of green areas (respectively 94% and 83% in 2018). Tallinn has successfully supported buildings and gardens improvement schemes of apartment associations in order to improve the city's look and increase the quality of its living environment such as the ‘Hoovid korda’ (Spruce Up Grounds) scheme and the ‘Roheline õu’ (Green Yard) scheme. The City is working on street landscaping and experimenting with roof and vertical landscaping. The accessibility of green areas has increased considerably through the development of a network of cycle paths and health paths.

Tallinn has a comprehensive plan which prioritises increasing the compactness of the city centre and redeveloping numerous former industrial sites surrounding the centre. This includes creating new business and residential areas within the city’s harbour area and ensuring that the residents have access to parks, recreational areas, and workplaces within a short distance. The Ülemiste City Business Park and the Rotermann Industrial Quarter in Tallinn serve as good examples of former brownfields that have become high-quality work and living environments. However, the description of this work lacked detail, the inclusion of which could have strengthened the application.

Citizen involvement in Tallinn is particularly strong with a total engagement of 6,700 citizens mentioned. Furthermore, there are 25 neighbourhood societies in Tallinn. The ‘Thought Shower’ organised during ‘Maintenance Month’ and the ‘Let’s Do It’ campaign seem to have delivered positive results. The methodology behind these initiatives may be an interesting example for other cities, however, it is not
highlighted in the application. Perhaps, the ‘Thought Shower’ approach can help Tallinn develop urban farming policy.

### 4.4.5 Nature & Biodiversity

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. David Jamieson</td>
<td>Dr. Henk Wolfert</td>
<td>3/18</td>
</tr>
</tbody>
</table>

Tallinn has a very long history of protecting its nature, not many cities can boast about their protective measures dating back to the 13th century. It is encouraging that the national and local authorities continue to preserve this natural heritage, and even more so given the opportunities afforded to citizens to contribute to conservation through species observation and biological recording.

There are lots of opportunities for adults and children to learn about and appreciate the nature in their city through the Environmental Education Centres. Anyone can get involved in some of the educational sessions which are aimed at raising awareness of nature and biodiversity to the residents of Tallinn and include nature programmes, study trips, birdsong mornings and more. It would be helpful to learn if there are also practical conservation activities, such as the eradication of invasive non-native species, that people can volunteer to participate in to conserve and improve their local biodiversity.

The planned Tondiraba eco-golf course is an excellent way of integrating design for nature into a recreational and economic development. The use of an ‘Inventory procedure of woody vegetation and greenery’ to ensure due protection and compensation for the loss of habitats associated with development is also very innovative, and should ensure net-biodiversity gain over the long-term.

The decline of urban pollinators is an increasingly concerning trend. It is encouraging that Tallinn is examining how it can begin to address the matter in its city. Further local research will hopefully identify the most effective means to conserve existing pollinator-friendly habitats, and further reductions in the use of herbicides will remove a notable threat to local pollinator populations. It would also be worthwhile drawing-up a pollinator strategy to see what other measures could be integrated into existing development planning, operational and educational activities.

It is helpful to learn of the condition status of the key habitats within the city’s principal landscape reserves and protection areas. If data is available, it would also be beneficial to present population and distribution trend-data on the critical species groups.

### 4.4.6 Air Quality

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>Dr. César Asensio</td>
<td>7/18</td>
</tr>
</tbody>
</table>

The citizens of Tallinn enjoy good air quality. All of the presented parameters meet the WHO recommended values, which are lower than the legal limits for PM pollution. The low levels of air pollution in the city is impressive, given that it has a population of over 400,000 inhabitants. Furthermore, it would be expected that the use of anti-slip treatments over the tarmacs and the instances of thermal inversion experienced in winter would impact air pollution levels. Unfortunately, the application does not indicate the reason for such good air quality, which could be linked to geographical factors. Similarly, the application details the sources of pollution but does not quantify them. Overall, the air quality assessment is at a good standard, but it could be improved. However, it is noted that the City does not have any incentive to further improve air quality management, which is understandable.

In terms of previous planning, Tallinn poorly describes a conurbation air quality plan. However, it details a number of implemented measures consistent with the air quality assessment. Efforts are primarily focused on mobility with many varied and ambitious initiatives referenced. Unique measures worth noting include free public transport and the use of public transport data to understand mobility patterns within Tallinn with the objective of improving the service. In addition, the measure to reduce dust emissions in spring and the ban
on burning garden waste are very beneficial. Finally, the application mentions actions focused on raising awareness which inform the public on regional air quality.

In relation to future policies, Tallinn mentions it has an Environmental Strategy, a Sustainable Energy Action Plan, and a SUMP 2035. More information in this section was expected, showing the synergies between the different strategies and their link to common objectives.

### 4.4.7 Noise

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. César Asensio</td>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Tallinn has demonstrated a high level of commitment in the fight against environmental noise, having participated in the three rounds of strategic noise mapping as defined in the END. It has also drawn up three action plans, although the application provides limited detail on the actions undertaken, the foreseen budget and the monitoring of their implementation and performance.

The fact that the noise strategy starts from the planning stages is highly commendable. The City has noise zoning and limits associated with each type of area and activity. A noise impact survey must be carried out on any action likely to cause conflict and solutions proposed that will avoid any problems. Tallinn checks that the actions are implemented prior to the start of the activities.

In its City strategy, Tallinn has clearly identified the need to promote mobility, that is not based on the use of private vehicles. The City indicates the mobility plan it is currently preparing provides for the promotion of public transport and an increase in walking and cycling. The actions outlined in the application are considered positive, setting out concrete, modest, but achievable goals.

Tallinn has identified and categorised the existing quiet areas in the city and has provided pedestrian access to many of these areas. These are undoubtedly extremely positive aspects since quiet areas must be accessible for the enjoyment of citizens. However, it would be useful to know what mechanisms have been put in place to ensure that these areas are not only accessible but also remain quiet in the future.

The City has established some mechanisms to inform and raise awareness among residents about the importance of living in quieter spaces. It has also implemented some information and participation mechanisms in relation to noise maps and action plans. It is still considered necessary to improve the communication strategy with the citizens, in order to achieve greater awareness, participation and involvement.

### 4.4.8 Waste

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Olivier Gaillot</td>
<td>Ms. Zita Dibáčzi</td>
<td>14/18</td>
</tr>
</tbody>
</table>

Tallinn’s application shows that there has been an approximate 15-20% decrease in terms of overall waste generation per capita. Some good waste prevention initiatives highlighted are on food (e.g. foodbank a project on food saving tips for agencies, students and families) and plastic (e.g. plastic food container ban at events, and ‘Baltic’ a project to reduce marine waste). Additionally, the application shows further good reuse activities with charity shops and online exchange services.

The application has some gaps including on economic instruments and the evolution of its separate collection system. In addition, there is a lack of detail on waste treatment infrastructure and future plans.

It is noted that the City’s collection system is relatively well developed with door-to-door services complemented by on-call/request services, bring banks and recycling centres. It was surprising to see that there is no separate collection for glass. It is positive that there is a good level of hazardous waste collection.
4.4.9 Water

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Christof Mainz</td>
<td>Ms. Birgit Georgi</td>
<td>3/18</td>
</tr>
</tbody>
</table>

The topic of water was initially mentioned in the city description due to Tallinn’s coastal location. A detailed description was provided regarding the present situation. However, the response predominately focused on drinking water and waste water. The benchmarking data requested was well prepared. The city’s Waste Water Treatment Plant (WWTP) appears to be working at double overcapacity. The results shown for the associated effluent parameters were at acceptable levels. The description of the city’s water supply system was very good. The City provided a description of its Stormwater Strategy 2030 and its flood risk management plans. Unfortunately, no information was provided on the Water Framework Directive (WFD), including surface water quality, impacts, or river restoration etc. Furthermore, no information on groundwater was provided. Regarding housing requirements and water, permeable parking areas have been developed by the City which is interesting.

Tallinn’s past performance was very well described, with very detailed information provided on improved efficiency and goals, and on adaptation to drinking water and waste water requirements including biofiltering and sludge composting. Improvements to Tallinn’s Shore and Lake protection measures were also mentioned. The description of the sustainable stormwater system which has been installed in a public area, with full visibility to citizens, is very interesting. The river/waterbody restoration Programme ‘HEAWATER’, running from 2018 to 2021, is commendable. In terms of awareness raising, the campaign launched aimed at encouraging the use of tap water in restaurants is a positive initiative. More information on past performance in terms of the WFD would have been welcomed. It should be noted, the city was awarded a blue flag for its good bathing water quality. Overall, the response in terms of past performance was quite good. However, the descriptions of the situation with regard to drinking water and waste water were too long, whereas the descriptions for other issues were too short.

The City’s future plans are described by the Tallinn Environmental Strategy 2030. Tallinn has set clear goals for future activities in the coming years and across several water sectors, including the WFD, surface water quality, waste water, drinking water, bathing water, stormwater, and groundwater. Tallinn’s plans are quite impressive especially if realised. The plans also include some actions on generating visibility of water sector issues to the public which is positive.

Overall, detailed information in the context of EU water legislation was included and quite a number of measures were described that go beyond the legal requirements. Furthermore, Tallinn has taken action to improve and develop stormwater sewers and stormwater systems in the city. Finally, detailed goals and a timeline for future measures were clearly defined. In general, the quality of Tallinn’s application was very good. It was well presented, easy to read and detailed good quality information with a wide variety of actions. A good overview was provided, although at times the descriptions given were too short. Overall, Tallinn’s application was of a high standard.

4.4.10 Green Growth & Eco-innovation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Zita Dibáczi</td>
<td>Mr. Olivier Gaillot</td>
<td>3/18</td>
</tr>
</tbody>
</table>

The robust growth of green economy enterprises in Tallinn is very promising, with many good green economy business developments and innovations including circular economy, materials use, and the growth of the wider green community. These developments and innovations can be seen through the Tallinn Science Park ‘Tehnopol’ and the ‘Cleantech ForEst’. There are some highly relevant ongoing events that aim to stimulate green growth and eco-innovation such as the Innovation Forum MELT, Tallinn Digital Summit, GreenEst Summit conference, and circular economy conference ‘Tark tormab’ (‘The wise rushes in’).

It is noted that there are several very good initiatives that are ongoing in Tallinn:
Promotion of public transport: the introduction of free public transport for city residents since 2013 minimises car usage and thus reduces the environmental impacts of cars in the city. There is also an annual Car-Free Day;

- Paperless e-services;

- Reduction of plastic waste: the use of plastic food containers has been banned at public events in Tallinn since the 1st of October 2019, and only biodegradable food containers can be used;

- The Energy Discovery Centre is an interactive experience where children can learn about energy savings from waste reduction.

The descriptions provided in Section B Past Performance show that Tallinn has implemented various initiatives and projects supporting eco-innovation which are very good, especially the information communication technology (ICT) projects that promote resource efficiency. The transposition of European and national policies/schemes are well accounted for in local policy, with several policies and programmes supporting eco-innovation, such as the Tallinn Environmental Strategy 2030. Since 2010, an environmental yearbook is published annually, providing a comprehensive overview of activities and investments that are carried out to improve both the quality of life and biodiversity in Tallinn.

The development of the urban tissue/infrastructure is an innovative and sustainable way of including actions inspired by circular economy thinking, and is well represented, through the solar energy e-pavement, and the prioritisation of materials recycling especially as 95% of construction waste is recycled. In the application Tallinn provided examples of eco-innovations which were clearly listed and well defined, however, the flagship eco-innovation was not highlighted. Based on the information provided, the most relevant action is the ‘Use of e-services and e-solutions’ referenced in Good Practice 6). Since 2001, Tallinn City Government started paperless record management with currently 38% of all public services offered by the City accessible online, which is commendable.

Tallinn’s future plans are well specified and indicates that it is preparing a new Development Plan for 2021 and beyond. The plans priorities will be to achieve climate goals, improve energy efficiency, and adapt to global warming, and will be key in the development of the city centre. Future targets are detailed, such as further development of electric transport, PV investments, and solar-powered smart road pavement solutions (that integrates snow and ice melting, motion, other sensors that support the management of the infrastructure, and need-based road and object lighting). Tallinn is very well engaged in dialogue with all eco-innovation stakeholders in the city, including business support structures, clusters, and universities which is welcome. A great example is the Entrepreneurship Day event where the best entrepreneurs in various categories are awarded and helps to create awareness of ‘Eco-innovation’.

Furthermore, promoting green economy thinking among citizens is well-considered by encouraging journeys on foot and developing the network of public transport and cycle paths by linking them to integrated urban solutions. Overall, the key future eco-innovation flagship plan of Tallinn is not specified.

4.4.11 Energy Performance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Vesna Kolega</td>
<td>Dr. Matthew Kennedy</td>
<td>10/18</td>
</tr>
</tbody>
</table>

Utilisation of RES was at a low level up to 2015 but since the construction of the combined heat and power infrastructure in 2016, it has increased to 13%. However, it was unclear from the application exactly how this significant result was achieved.

The comparison of the total energy consumption and the energy consumption in each sector in 2007 and 2015, shows that the total energy consumption and energy consumption in the transport, residential and service sectors have increased. Although a decrease in energy consumption of municipal facilities from 222 to 196 GWh shows a positive trend, the fact it decreased by only 1% over an 8-year period is not promising.

The most challenging sector is transport showing an increase from 2,590 to 3,224 GWh, followed by the residential sector with an increase from 2,265 to 2,643 GWh and services increased from 1,345 to 1,509
GWh. Given that transport, residential and service sectors represent 85% of the City’s total energy consumption, this situation is of concern and concrete actions should be taken as a matter of priority.

The statement that the roofs of all new municipal buildings will be equipped with photovoltaics plants is positive. However additional information to support this statement should have been included in the application such as what official City document has set this action, budget allocated, and timeframe etc.

Tallinn’s district heating system consists of a 458 km of heating network, 2 combined heat and power plants, 3 large and 14 small boiler plants, 4,000 connected buildings with 99% of municipal buildings connected. These appears highly effective and the City indicates an expected increase in RES utilisation from 50% in 2018 to 80% in 2020. It is considered the processes to achieve these set targets are realistic and clearly outlined.

The presented summary from Tallinn SECAP 2030 with Vision 2050 on carbon neutrality due to be published by the end of 2019 seems highly ambitious, convincing and professionally prepared with clearly described activities to achieve the set targets.

4.4.12 Governance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Alex Minshull</td>
<td>Dr. George Angelou</td>
<td>3/18</td>
</tr>
</tbody>
</table>

The City has a long-term strategy called Tallinn 2030. Under this it has adopted an Environmental Strategy for 2030. This strategy has an objective of a ‘healthy city environment and sustainable use of natural resources’. There are additional, specific goals included. The plans have been adopted by Council. Unfortunately, the application does not give an indication of how these will be achieved and no information was provided to answer the question about projects which demonstrate the delivery of the strategy. This omission reduced the ranking of the city in this sub-section.

The city council structure is explained and that the City Council and City Government are responsible for environmental policy. How this is arranged is not illustrated, for example is there a Council member leading environmental work?

An organogram is included in the application, highlighting the Environment and Public Works Department as the lead department for the environmental policy. In addition, a Strategy Unit has been created to ‘strengthen coherence between different sectors and set and achieve horizontal objectives’. It reports to the Mayor and Chairman of the Council and has an advisory board of external experts mainly from research institutes. It is currently updating the 2030 plan.

The application shows some good work being done by the city council to improve its environmental performance, such as the Green Office, Green Schools and ISO 14001 and EMAS for the Environment and Public Works Department. The application would have been stronger if it indicated the impacts of these schemes on performance.

The application describes the development of the Tallinn 2030 strategy and the strong engagement process, from public engagement on a ‘thought paper’ and workshops, to feedback processes. The level of participation is quantified which is helpful in the assessment.

The City engages through neighbourhood services as well as with citizens. This is good, but the application would have been stronger if the work to engage other parts of the community was more fully demonstrated.

The City has extensive regional and international cooperation.
4.5 Turin Technical Assessment

4.5.1 Climate Change: Mitigation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Matthew Kennedy</td>
<td>Ms. Vesna Kolega</td>
<td>5/18</td>
</tr>
</tbody>
</table>

Turin’s application shows a good baseline inventory analysis and sectoral disaggregation. A clear narrative is provided on GHG savings across measures, technologies, regulations and trends analysis. There is also good analysis of modal use and qualification of measures. However, the application makes no reference to governance approaches and no explanation of data collection inputs.

The application would improve with some explanation on the specific impact of the national heating fund on measures. Given the role of residential sector, it would have been useful to quantify relevant actions with budgets and KPIs. Lastly, a clear outline of the budgetary requirements for renovations is needed.

4.5.2 Climate Change: Adaptation

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Birgit Georgi</td>
<td>Mr. Christof Mainz</td>
<td>6/18</td>
</tr>
</tbody>
</table>

Turin is well-prepared to commence action on adaptation. Recently, it developed a comprehensive vulnerability assessment and an adaptation strategy; an action plan was foreseen for 2019. The City shows its commitment by having signed Mayors Adapt and the new Covenant of Mayors, as well as by collaborating with national networks and with American cities. The City has implemented adaptation-related measures in the past. Future action is ambitious and will be supported by declared budget sources and figures. The City is in the process of developing a monitoring system that will enable progress tracking on the implementation of measure’s and on the effectiveness of actions.

Turin is making an effort to raise awareness on the risk of climate change. It has conducted communication campaigns and performed internal training courses for staff, which laid the foundations for mainstreaming adaptation into the policy of different departments. An interdepartmental working group has also been established. Citizen participation is not overly developed yet, but a Citizens Environmental Board can be used and residents can benefit from incentives to establish green roofs and facades.

To date, the City, in collaboration with the regional government, has invested significant amounts into large-scale projects for flood risk prevention and green infrastructure, which are relevant for adaptation. However, this approach focused mainly on disaster risk reduction and geared towards flood risks, but doesn’t address other issues such as heat. The contribution of these measures to climate change adaptation is vague. In addition, the link between the ambitious future measures and the adaptation strategy and plan should be better presented, and the climate risks more equally considered, going beyond flood risks.

4.5.3 Sustainable Urban Mobility

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. George Angelou</td>
<td>Mr. Alex Minshull</td>
<td>4/18</td>
</tr>
</tbody>
</table>

Turin has adopted a SUMP that aims to achieve its modal share targets by encouraging intermodality. Actions to support this include: park & ride areas for suburbs connected to public transport in the metropolitan area, local public transport (LPT) dedicated lanes, car, bike and moped sharing services, over 200 km of cycling lanes in the urban area interconnected with the metropolitan cycling network and bike parks close to stations, a limited traffic zone (LTZ) that limits access to the historic centre and bans highly polluting vehicles (Euro 2 and prior) with an electronic monitoring and ticketing system, intelligent transport systems (ITS) and dynamic traffic lights to give LPT vehicles priority, amongst others.
The plan was developed in consultation with various local stakeholders (e.g. consumer associations, environmentalists, LPT conductors, groups representing people with disabilities, students, local ward councils and so on) and in coordination with other institutional actors. The previous actions on public transport and cycling are presented clearly, but there is little information on freight, shared mobility, alternative fuels and measures to reduce car use.

The City has approved the Cycling Masterplan (Biciplan) which aims to increase the proportion of cycling to 15% of all trips under 5 km while promoting intermodal trips with public transport. Initiatives promoting cycling and walking (e.g. car-free Sundays, bike pride events, urban walks, non-competitive sports events, European mobility week among others) are also in place. There are 120 electric car sharing stations with 278 charging points and 173 vehicles, and an electric motor scooter sharing service operating 150 motor scooters. Since 2004, in order to reduce the number of cars entering the LTZ, two electric bus lines connect car parks with the city centre. An extensive analysis of journeys in an average working day per the mode of transport is also provided.

The LPT fleet consists of 185 electric trams and 836 buses, of which 264 are Euro 5 methane-powered, 279 Euro 5 Energy Efficient Vehicle (EEV), 51 electric buses and 58 metropolitan trains. A total of 779 vehicles of the LPT fleet have low environmental impacts (76% of the fleet as of May 2019). To improve the efficiency of urban freight distribution, the application refers to partnerships, however, no specific actions are proposed.

The City has multiple actions planned to promote intermodality, strengthen metropolitan public transport, enhance electric and shared mobility as well as cycling and walking, however, the information on how the planned developments are to be financed is excluded from the application.

4.5.4 Sustainable Land Use

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Henk Wolfert</td>
<td>Mr. David Jamieson</td>
<td>3/18</td>
</tr>
</tbody>
</table>

Turin’s goal is not only to become the greenest city in Italy, but the greenest large city in Europe. This ambition is reflected in Turin’s application, which is very well written, with succinctly presented information. Due to deindustrialisation and suburbanisation, the city has experienced demographic contraction which has greatly reduced development pressure on green areas. Since the 1990s, this has led to a very positive trend in the increase in green spaces within the city. Some of the projects the City has accomplished to date include; the Turin City of Rivers Project creating riverbank parks and the Green Crown Project which connects historic sites along cycle ways. Although Turin has a valuable set of quality indicators in place, it would have been helpful to use these to describe the current quality status of green areas in the application.

An interesting aspect used by the City to encourage the connection of green areas to urban farming is allowing shepherds to graze animals through meadows resulting in significant savings in park maintenance costs. It is positive to see numerous city programmes which are specifically geared towards citizen and student engagement in the design and creation of public parks and playgrounds, such as AxtO and Beni Comuni.

The City’s 1995 General Master Plan designated large parts of formerly industrial land as new green areas and mixed-use development, developing 600 ha of land, of which 400 ha are now green areas. This has included the reclamation of the Central Rail Corridor and the redevelopment of major industrial zones known as ‘Spines’. Turin’s approach to brownfield revitalisation through public-private partnerships is very professional. Much of the reclamation process has occurred with the public sector remediating and developing open spaces, whilst private developers establish housing and mixed-use areas. The application would have benefited from more information on how many brownfields have been transformed, as well as a better description of the newly developed neighbourhoods with a focus on best practices.

An area for improvement within the application is the City’s response on future plans. Where past performance described was particularly strong, in contrast the future plans lacked detail in particular on sustainable land use planning and objectives. It would have useful for the City to identify which areas are
planned for soil unsealing, brownfield reclamation and increasing ecosystem services, including detail on how this will be done and budgets allocated.

4.5.5 Nature & Biodiversity

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. David Jamieson</td>
<td>Dr. Henk Wolfert</td>
<td>5/18</td>
</tr>
</tbody>
</table>

Given the abundance of nature in the city, helped by a long history of reclamation and naturalisation, it is surprising that Turin only has three sites of local biodiversity importance. Could the city authorities consider an appropriate designation for sites and biological features, such as woodland avenues, river corridors etc., that merit some form of protection from development or inappropriate use?

Turin demonstrates a strong record of re-establishing nature across former areas of industry, commerce, and transport. The scale of reclamation and greening is impressive, notably in the daylighting and naturalisation of formerly canalised riparian corridors.

Although there are opportunities for residents to directly improve their neighbourhood through planting trees, as well as schoolchildren receiving some environmental education, given the scope and scale of Turin's natural resources much more could be done to encourage citizens to become active in protecting and enhancing the city's biodiversity.

It would have been helpful if a key (legend) had been provided with the Protected Areas map to allow a better understanding of the ecological network of Turin.

The initiatives to conserve and improve habitats that benefit pollinators is commendable. However, given the ongoing decline of many pollinating species, applying a ban on the use of damaging herbicides across the whole city may be an appropriate measure at this time.

4.5.6 Air Quality

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>Dr. César Asensio</td>
<td>2/18</td>
</tr>
</tbody>
</table>

Turin presents a robust air quality assessment. Data from the monitoring sites was modelled, giving it spatial resolution. Although the modelling was undertaken at a regional level, important information can be extracted from it. In addition, the City has a good apportionment of sources from a chemical transport model for each monitoring site, which suggests that the source breakdown is given in terms of immissions and is therefore much more accurate than in terms of emissions. The City understands its geographical constraints, lying in the Po Valley where there is a low atmospheric ventilation and a lot of human activity. As such, the City notes both regional and national involvement is needed to address air pollution.

The activities undertaken by the City are holistic and consistent with the assessment. A regional plan is mentioned and several local measures are described. Initiatives are correctly focused on domestic heating and traffic, which are the main emission sources. Amongst the measures, banning pollutant-heavy vehicles is especially valuable, because it demonstrates political courage and will. In addition, applicable measures to target smog episodes are beneficial considering the level of recurrent pollution peaks occurring in winter time as a consequence of thermal inversions.

In terms of future planning, the integrated vision of the different strategies is sufficient and may prevent trade-offs between climate action and air quality policies. An innovative measure worth noting is the implementation of a charging scheme for mobility, where the price is based on a vehicle’s emissions. The effectiveness of that type of Pigouvian tax is scientifically proven in many studies across Europe, therefore implementation of this measure is very effective.
### 4.5.7 Noise

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. César Asensio</td>
<td>Mr. Joan Marc Craviotto Arnau</td>
<td>10/18</td>
</tr>
</tbody>
</table>

Turin has only produced one strategic noise map and action plan to date, so it appears there is no real commitment to the processes of systematic assessment and action as outlined in the strategy of the END. The 2013 map showed quite high percentages of the population exposed to noise. The 2014 action plan has only been implemented to a limited extent (55%) and it is not possible to evaluate its effectiveness based on the information provided.

In the case of community noise, information, communication and participation of citizens and stakeholders are extremely important. Turin has been carrying out some actions concerning public information and awareness, as well as consultations on noise maps and action plans. The implementation of a nightlife noise monitoring network with public access is considered a positive step as is the development of low-cost monitors and the OpenNoiseApp app. The presence of a ‘noise manager’ to coordinate and involve companies, the City of Turin, supervisory bodies and citizens in minimising the noise impact from construction sites is also considered very positive.

Much of the strategy described by Turin is based on reducing nightlife noise levels. This is an important problem in a city with large numbers of university students and venues. The City has a monitoring network and has drawn up a nightlife noise map. It has also been involved in a Horizon 2020 research project, that addresses this issue. In addition, for the future, Turin is working on an interesting Action Plan to help protect residents from nightlife noise. A more detailed description of the City's strategy on transport noise in the application would be greatly appreciated.

### 4.5.8 Waste

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Olivier Gaillot</td>
<td>Ms. Zita Dibáčí</td>
<td>5/18</td>
</tr>
</tbody>
</table>

Overall the application shows that municipal solid waste generation has decreased since 2003, but this has begun to increase again since 2016, it would have benefitted the application to explain why waste generation has increased. A waste prevention programme targeting plastics (e.g. reducing plastic bottle waste by providing public water points and ban of single use plastic ware in school canteens) and food waste (e.g. foodbanks and award winning REPOPP (Re-design Project of Organic waste in Porta Palazzo market) with performance indicators provided is noted. The main reuse activities relate to reuse cafés and initiatives targeting unsold books. The application shows Turin has some interesting initiatives planned for the future such as a reuse factory, circular buildings, urban aquafarm and ‘Beautiful Precious Plastic’. The City should consider the provision of home/shared composting bins in its future plans.

The City's collection system is well developed with door-to-door services, with separate collection starting in 1995 which is complemented by on-call/request services, bring banks and recycling centres. However, there are some gaps regarding the evolution of the separate collection system. The main waste streams collected include residual waste, recycling waste, biowaste and hazardous waste, with hazardous waste noted for having a good level of collection.

The application presents an interesting initiative, the ‘Junker’ phone app allows residents to scan barcodes of products to determine how to sort them properly based on the local recycling system, and this should build good habits as Turin plans to introduce pay-as-you-throw in 2021.
Turin provided the main data requested, however, the description in terms of the present situation mainly focused on drinking water, and the situation regarding quality and compliance with EU-legislation was unclear. Water consumption levels in the city are relatively high, and the reported water losses of 50% are of serious concern. Turin does not appear to have any water reuse initiatives in place. In terms of projects, the City referred to a bathing water spot, however more detail would have been welcome. Information was not included on the Water Framework Directive (WFD), surface water quality, groundwater, and flooding. Furthermore, no evidence of public awareness campaigns was included.

In terms of past performance, Turin mentioned the ‘SMAT’ project which has been carried out over the past ten years to improve drinking water and waste water infrastructure, with a focus on safety of service, which seems to be improved. However, the City did not provide any explanation of the ‘SMAT’ project, which would have been beneficial for understanding what it is and how it improved the system. A project mentioned as part of ‘SMAT’ was the Fuel Cell system at the Waste Water Treatment Plant (WWTP), which is positive. The City provided some graphics which were relevant to the response, however, a picture of a water point pavilion was included but no explanation provided. Furthermore, no past awareness raising campaigns were mentioned, and important information on past performance in areas such as the WFD, flooding, and groundwater was missing from the response.

Turin described its future plans in general statements on the effects of climate change on water management. However, future activities or goals for Turin’s water sector were not mentioned. Some research projects were described, however, whether the results of these will be taken into account was unclear. There was no information on future plans in terms of public engagement and awareness. The City provided information on general activities, and did not highlight any future water project. It would be expected that the City would have a programme planned in order to tackle the very high leakage rate, however, nothing was mentioned.

Even though some of the required data and information was provided, the application was missing the quantity and quality of information requested. The descriptions were vague, and no defined goals were outlined. In general, the focus was on waste water and drinking water and did not include any information or initiatives that go beyond what is legally required. The City’s focus appears to be on maintaining the status quo of the current services and systems.

4.5.10 Green Growth & Eco-innovation

Turin embeds the concept of circular economy well at strategic levels such as through the ‘Turin 2030 - Sustainable and Resilient’ Action Plan. The city’s core values are outlined very well in the action plan and are promising by targeting a liveable city through connected, clean, healthy, and green core values.

Turin has several valuable projects and initiatives that are ongoing and listed below:

- Four initiatives promoting and enabling sharing, reuse, and repair;
- All electricity consumed by municipal buildings and services is 100% certified from renewable sources;
- Energy efficiency investments have led to a 20% reduction in municipal buildings energy consumption;
- Innovations in district heating infrastructure, energy efficiency systems in residential and municipal buildings, and investments in sustainable mobility infrastructure;
- Promotion of tap water drinking;
- Environmental education programmes in schools; and
- Turin is a co-founder of the Environment Park, aimed at creating green and technology skills and jobs.
There is a discrepancy in the application in terms of the information provided on the percentage of GPP contracts that include green issues with three different figures cited, 0%, 65% and 100%. This application also listed projects which were not directly linked with Indicator 10, such as the EU ‘LIFE DERRIS’ project, the Smart Rainfall project and ‘SigFox’ project.

The descriptions provided in Section B Past Performance show that Turin has initiated and implemented various impressive projects such as FaciliTO, AxTo Living Lab, Living Lab IoT/IoD, and the UrbanWins projects. European and national policies have been translated well at a city level, particularly through Agenda 2030 and the Circular Economy Package. Various sustainability reports are published periodically, as well as annually, which is very good. Actions inspired by circular economy thinking are well represented in the development of the urban tissue/infrastructure in a sustainable manner. The flagship eco-innovation of Turin is the development of Italy’s largest district heating system, which includes cogeneration plants. This system combines the production of electricity and heat for urban district heating purposes. Approximately 50% of all non-industrial buildings are connected to a network of district heating plants serving 67% of the population, which together are responsible for about 16% of the total energy consumed in the city.

A clear structural projects plan is well outlined to achieve the vision of a Sustainable and Resilient Turin. The programmes to reach the population promoting green economy thinking are well considered, including the location of bike-sharing stations, drinking water fountains, water distribution points and so on. The Turin 2030 Action Plan has well detailed programmes to help reach the industries promoting green economy thinking and targeting to reach critical mass. The future plan considered the flagship of eco-innovation in Turin is following up on the commitments made in the Covenant of Mayors for Climate and Energy where the City of Turin is taking bold steps to achieve a true energy transition which is admirable.

### 4.5.11 Energy Performance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Vesna Kolega</td>
<td>Dr. Matthew Kennedy</td>
<td>6/18</td>
</tr>
</tbody>
</table>

The final energy consumption in 2017 compared to the baseline year of 1991 shows reductions of 49% in municipal buildings, 39% in the residential sector and 25% in public transport. These reductions are noted as impressive but it is of concern that the residential sector comprises 51% of the total city energy consumption and asks the question: does the City have effective policies and measures in place that strictly target its residential sector.

The benchmarking data presented in the application shows that 35% of the final energy demand is from renewable sources of which 29% is locally produced. This appears to be unjustifiably high, particularly considering the data shown in Graphic 1: ‘Breakdown of energy consumption per sector and source - the year 2017’. A more detailed explanation would have been welcomed.

The number of RES plants has significantly increased in the last 10 years, mainly due the introduction of a policy of incentives and there are currently 895 photovoltaic plants with a total capacity of 20 MW which is commendable. However, the following sentence in the application is unclear and further elaboration would have been welcomed ‘As to the energy consumption of the buildings and services depending on the City of Turin, the percentage of energy produced from renewable sources has steadily grown in time, until reaching 100% in the last two years’.

The list of energy efficiency projects achieving a building energy performance above the legal requirements seem highly effective, particularly Revamping projects 1, 2 and 3. However, the energy savings achieved by these projects was not included in the application.

Turin’s SECAP aims to reduce CO₂ emissions by 60% by 2030 and reach the ‘Emission Free City’ goal by 2050. This is very ambitious and based on the proposed measures and projects seem justified and achievable.
4.5.12 Governance

<table>
<thead>
<tr>
<th>Main Evaluator</th>
<th>Co-evaluator</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Alex Minshull</td>
<td>Dr. George Angelou</td>
<td>6/18</td>
</tr>
</tbody>
</table>

The City has developed a new strategic action plan ‘Turin 2030 - Sustainable and Resilient’ which focuses on sustainability. The environmental theme addresses Climate Change (both mitigation and adaptation), green infrastructure and nature-based solutions, sustainable transport, and circular economy.

The application describes how projects from the Strategic Action Plan spur the creation of other plans (as shown above). These are good examples of integrated environmental management. However, in this question practical projects demonstrating integration were requested.

The application describes the clear leadership from the Mayor and Deputy Mayors as well as the good arrangements in place for oversight from the wider elected Council.

The application would could have been improved if it included further information on the budget, the management tools, and monitoring arrangements in place.

The application details some of the work being done by the city council to improve its environmental performance, for example in procurement, ISO 14001 for its companies and seeking ISO 20121 for events. The application would have strengthened if a more systematic approach could have been demonstrated, for example with a wider application of EMS.

The application demonstrated good involvement of stakeholders, through thematic boards, in the on-going management of the city and the development of the Strategy.

The City also has sound citizen engagement approaches. The application would have been stronger if the scale and impact of this engagement was more clearly demonstrated.
Appendix A

Application Form for the European Green Capital Award 2022
European Green Capital Award 2022
Application Form

Please complete your submission for the EGCA 2022 Award in this Application Form. All sections must be answered and all questions should be addressed. In the instance that an applicant cannot provide an answer to a question, reasons must be provided in the relevant section.

Text included in square brackets [EXAMPLE] should be deleted and replaced with the applicant’s response to each respective section. Do not delete the questions in the application form.

Please note, The ‘City Introduction and Context’ section does not form part of the overall assessment however it is a key component of the application and therefore must be completed. This section sets the scene for the application as a whole in the context of historical, geographic, socio-economic and political constraints, contentious infrastructure/environmental projects and initiatives, and provides the Expert Panel with a clear insight into the factors influencing the city’s development and environmental quality.

All 12 indicators carry equal weight. Within each indicator, sections A, B and C are also equally weighted.

Word exceedances will not be accepted and applicants must complete the Word Count Check at the end of each Indicator to verify that their response is within the word limits outlined in the application form. This word count is a tool for cities to check that word exceedances have not occurred and ensure that answers are not left incomplete.

Applicants must read the Guidance Note before completing their application and consult this document while undertaking their responses.
City Introduction and Context

Give an overview of the city and a general background to the application, including examples of social and economic sustainability in the city.

Discuss positive and negative factors that have influenced the quality of the environment within the city and its surrounding area.

Provide a description of the key environmental challenges which the city faces including historical, geographical and/or socio-economic factors which have influenced the city’s development.

The city’s infrastructure plan should be briefly explained.

Applicants are advised to include any former or outstanding environmental legal proceedings in this section.

Please provide the following two maps:

- Map 1 should show the layout of urban areas, geographical and other features across the city;
- Map 2 should show your city in the context of the wider surrounding area.

Please also complete the following table:

**Table 1: Benchmarking Data - City Introduction and Context**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Units</th>
<th>Year of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Number of inhabitants</td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>km²</td>
<td></td>
</tr>
<tr>
<td>Population Density</td>
<td>Inh/km²</td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>€/capita</td>
<td></td>
</tr>
<tr>
<td>Köppen climate classification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(max. 1,000 words and five graphics, images or tables plus the two requested maps as detailed above)

[POPULATE TABLE 1: BENCHMARKING DATA - CITY INTRODUCTION AND CONTEXT ABOVE AND INSERT RESPONSE HERE]

Word Count Check

Please complete the below word count check for City Introduction and Context.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - City Introduction and Context.
<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
</tbody>
</table>
1. Climate Change: Mitigation
Refer to Section 2.1 of the Guidance Note

1A. Present Situation

Please complete the following table with most recent data available:

**Table 1: Benchmarking Data - Climate Change: Mitigation**

<table>
<thead>
<tr>
<th>City’s emissions reduction targets (add rows if needed for further commitments)</th>
<th>Base Year</th>
<th>Target Year</th>
<th>% Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where possible please use 2005 as the base year for listing city reduction targets</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO₂ (and possibly other greenhouse gases) emissions</th>
<th>Units</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CO₂ emissions/capita</td>
<td>t CO₂/capita</td>
<td></td>
</tr>
<tr>
<td>Total transport CO₂ emissions/capita</td>
<td>t CO₂/capita</td>
<td></td>
</tr>
<tr>
<td>Total (less transport) CO₂ emissions/capita</td>
<td>t CO₂/capita</td>
<td></td>
</tr>
<tr>
<td>Total CO₂ emissions per year</td>
<td>t CO₂</td>
<td></td>
</tr>
<tr>
<td>Total CO₂ emissions per MWh electricity consumed</td>
<td>t CO₂</td>
<td></td>
</tr>
</tbody>
</table>

Describe the present situation in relation to CO₂ (and possibly other greenhouse gases) emissions, including any relevant disadvantages or constraints resulting from historical, geographical and/or socio-economic factors which may have influenced this indicator.

Give details of any Baseline Emission Inventory prepared by the city, mentioning the baseline year and the applied methodology (direct/indirect emissions, data collection process, monitoring system), as well as the competent department. Provide a breakdown of the main sources of emissions.

Where available, information/data on the inventory and on the following indicators should be provided from previous (5-10) years to show trends, together with an explanation of the evolution.

Scientific grounds should be provided for any claimed reduction in CO₂ (and other greenhouse gases) emissions. Describe how the inventory system and information is integrated in the design of policies and measures.

Provide figures (in the table above), and comment on, the following specific indicators for the city:

1. Total CO₂ emissions (tonnes) per year;
2. CO₂ emissions per capita (tonnes) per year;
3. CO₂ emissions per capita (tonnes) resulting from fuel use in transport;
4. CO₂ emissions (tonnes) per MWh electricity consumed;
5. CO₂ emissions reduction target(s) (e.g. 20% by 2020 compared to 1990).

Please also state clearly what year the data provided relates to.

Mention any target(s) adopted specifically for the municipal administration (e.g. carbon neutral municipality by 2020, adaptation measures set on municipal level).

(max. 600 words and five graphics, images or tables)

[POPULATE TABLE 1: BENCHMARKING DATA - CLIMATE CHANGE: MITIGATION ABOVE AND INSERT RESPONSE TO SECTION A HERE]

1B. Past Performance

Describe the measures implemented over the last five to ten years to reduce greenhouse gas emissions, including resources allocated to implement these measures. Comment on which measures have been most effective and how the implementation and impacts have been monitored.

Make reference to:

1. An overall strategy for climate change or any other strategy or action plan to reduce emissions;
2. Mainstreaming of climate protection measures across municipal services and in key areas of action such as energy efficiency in residential and commercial buildings, public transport and waste management. Highlight any innovative schemes for the built environment such as low carbon zones;
3. Mechanisms used (e.g. local regulations, financing schemes, partnerships). Explain how the city works on emissions reduction with other governmental bodies, private sector service providers, enterprises and citizens. Mention relevant national legislation or programmes and participation in EU funded projects or networks.

Provide details on the monitoring system (frequency, responsibility, outcomes) and how lessons learned have been used.

(max. 1,200 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

1C. Future Plans

Describe the future short and long term objectives and proposed approach for further emissions reduction. Describe planned measures, including timescales and emphasise to what extent plans are supported by commitments, budget and staff allocations and monitoring and performance evaluation schemes.

Make reference to any long-term strategy employed and how it is integrated with other environmental areas.

Briefly explain the rationale for choosing these future measures and highlight any innovative financing
arrangements.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

1D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection stage. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 1: Climate Change: Mitigation, Sections 1A, 1B and 1C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Climate Change: Mitigation.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>1B</td>
<td></td>
<td></td>
<td></td>
<td>1,200</td>
</tr>
<tr>
<td>1C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
2. Climate Change: Adaptation

Refer to Section 2.2 of the Guidance Note

2A. Present Situation

Please, complete the following table with most recent data available:

**Table 1: Benchmarking Data - Climate Change: Adaptation**

*double left click the check box and select ‘Default Value - Checked’ where appropriate*

<table>
<thead>
<tr>
<th>Systematic climate risks and vulnerabilities assessment</th>
<th>Considering:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>If yes, year it was or will be finished:</td>
<td></td>
</tr>
<tr>
<td>In preparation</td>
<td>[………]</td>
<td>[………]</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Climate change adaptation strategy</th>
<th>Considering:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>If yes, year it was approved or will be finished:</td>
<td></td>
</tr>
<tr>
<td>In preparation</td>
<td>[………]</td>
<td>[………]</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action plan for climate change adaptation</th>
<th>Considering:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>If yes, year it was approved or will be finished:</td>
<td></td>
</tr>
<tr>
<td>In preparation</td>
<td>[………]</td>
<td>[………]</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Showing self-commitment in Europe, nationally or internationally</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Signed Covenant of Mayors for Climate and Energy</td>
<td>[…Year]</td>
</tr>
<tr>
<td>Others</td>
<td>[...list here]</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>
In relation to the above, describe the present state of climate change adaptation in the city. Thereby, include an answer to each of the following questions:

**Awareness and Commitment**
- How does the city assess the level of awareness on the need to adapt to climate change with different stakeholder groups - administration, politicians, citizens, business etc.?
- How has the city organised the responsibility for adaptation in the administration and established collaboration between different departments?
- Does the political level show commitment and in which way?

**Vulnerability and Risk Assessment**
- Does the city have a systematic vulnerability and risk assessment to identify and prioritise the future climate change impacts in your city? In addition to the basic information in the table, please provide more detail on the:
  - Identified climate impacts (temperature, different types of flooding, droughts, vulnerability of certain population groups, etc.);
  - Sectors it considered (e.g. transport, water management, health etc.);
  - Identified specific climate challenges for the city.

**Climate Change Adaptation Strategy/Action Plan**
- Does the city have a climate change adaptation strategy and/or an action plan? In addition to the basic information in Table 1, please provide more detail on the:
  - Status of development/approval/implementation;
  - Relation to overall city planning and other plans and strategies;
  - The impacts and sectors considered;
  - Targets and milestones set.

**Adaptation Measures**
- Does the city implement or plan adaptation measures?
- Does the city have a comprehensive adaptation action plan or systematic list of measures?
- Which types of measures does the city consider (technical measures, green and blue infrastructure, soft measures like regulation and behavior)?
- Describe key measures. Reference relevant adaptation measures in other indicator areas and explain how these are designed to support adaptation;
- Do you mainstream measures into other sectors like water management, climate mitigation, green spaces or other to use win-win-options? Please, describe and cross reference to other relevant indicators where appropriate;
- What share of the budget or €/inhabitant is invested in climate change adaptation?

**Participation**
Application Form for the European Green Capital Award 2022

- How does the city involve stakeholders, like citizens, other sectors, public and private owners etc. in awareness raising, planning and implementation?

Monitoring

- How does the city monitor progress in terms of the implementation of measures and of actual reduced vulnerability/risks?

(max. 1,000 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION A HERE]

2B. Past Performance

Describe the city’s situation of climate change adaptation five to ten years ago and how the action evolved over time to reach the present situation. Which climate and adaptation challenges was the city facing, how did the city overcome these and what actions were taken? Use the questions under Section 2A as a guide to formulate the response.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

2C. Future Plans

Following on from the present situation described under Section 2A, describe the future short and long term objectives and proposed approach for further ‘climate-proofing’ and adaptation to the impacts of climate change. Describe planned measures, including timescales, and emphasise to what extent plans are supported by commitments, budget and staff allocations, participatory approaches and monitoring and performance evaluations schemes.

Make reference to any long-term strategy employed and how it is integrated with other environmental areas.

Briefly explain the rationale for choosing these future measures and highlight any innovative financing arrangements.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

2D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)
Application Form for the European Green Capital Award 2022

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 2: Climate Change: Adaptation, Sections 2A, 2B and 2C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form and captions.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>2B</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>2C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
3. Sustainable Urban Mobility

Refer to Section 2.3 of the Guidance Note

3A. Present Situation

Please complete the following table providing the most recent data that is available:

Table 1: Benchmarking Data - Sustainable Urban Mobility

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Data</th>
<th>Units</th>
<th>Year of Data Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of population living within 300 metres of an hourly (or more frequent) public transport service</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>For all journeys under 5 km, proportion of these journeys undertaken by:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Car</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Public transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) Bicycle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv) Foot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v) Multimodal (active/shared mobility + public transport)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi) Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of buses operating in the city that are:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Low emission (at least Euro VI); and</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>▪ Alternatively fuelled (electric, hydrogen, LNG etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In relation to the above, please state:

- For the ‘proportion of population living within 300 metres of an hourly (or more frequent) public transport service’: the data and calculation method of the figure;
- For public transport, please include journeys by any type of public transport present in the city (e.g. buses, trams, trolleybuses, light rail, and other rail services) even if these are privately operated;
- For ‘other’ in the table above please state what is included by any figure presented as ‘other’.

The remainder of the text in this section should describe the present situation for both local passenger transport and urban freight transport. This should include qualitative and quantitative information on:

- Infrastructure for public transport, cycling and walking;
- Numbers of public transport vehicles;
Application Form for the European Green Capital Award 2022

- Mobility flows;
- Infrastructure management tools;
- Existing modal shares;
- Shared mobility schemes;
- Use of alternative-fuel vehicles;
- Any disadvantages or constraints of relevance to transport;
- Governance arrangements and responsibilities;
- Sustainable Urban Mobility Plans (SUMP) in force or in revision;
- Urban vehicle access regulation (UVAR) schemes such as low-emission zones or congestion charging;
- Involvement of stakeholders in development of strategies, plans and measures.

Provide references where possible and relevant details.

(max. 600 words and five graphics, images or tables)

[POPULATE TABLE 1: BENCHMARKING DATA - SUSTAINABLE URBAN MOBILITY ABOVE AND INSERT RESPONSE TO SECTION A HERE]

3B. Past Performance

The aim of this section is to make clear how the situation described in Section 3A has been achieved. Where available, quantitative information and data should be provided for the previous five to ten years in order to show recent trends.

The section should describe the strategies and plans that have been implemented over the last five to ten years (including any SUMP or equivalent) to ensure that the development of transport in the city was undertaken in an integrated manner (see Guidance Note for more details).

Describe the measures implemented, including those that have helped to deliver:

- Increased use of public transport, cycling and walking;
- Decreased, and more efficient, car use, including measures to reduce congestion;
- Improvements in the environmental performance of urban freight (including diverting trucks from the city centre and urban freight deliveries);
- Increased use of alternatively-fuelled vehicles, using renewable and sustainable fuels;
- Urban vehicle access regulation (UVAR) schemes such as low-emission zones or congestion charging, to reduce emissions and congestion;
- Measures to promote shared mobility;
- Spatial planning approaches which have led to more environmentally-friendly transport models.

(max. 1,000 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]
3C. Future Plans

The aim of this section is to demonstrate that there are plans and strategies in place to continue to develop the city’s transport system in a sustainable direction.

Describe the short and long term objectives for local transport (both passenger and freight) and how you plan to achieve these.

Outline the plans and strategies in which these objectives are found, and the extent to which these are supported by political commitments, budget allocations, and monitoring and performance evaluation schemes. If new plans and/or strategies are to be developed, describe how these build on previous plans and strategies. Refer to integrated transport, land use planning, stakeholder involvement and the use of a SUMP or equivalent.

Set out the measures, including those adopted but not yet implemented, that contribute to the delivery of the objectives, including:

- Increased use of public transport, cycling and walking;
- Decreased, and more efficient, car use;
- Improvements in the environmental performance of urban freight (diverting trucks from the city and urban freight deliveries);
- Increased use of alternatively-fuelled vehicles;
- Development of shared mobility schemes.

(max. 1,000 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

3D. References

List supporting documentation (e.g. survey about user satisfaction with the urban transport system), and add links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]
Word Count Check

Please complete the below word count check for Indicator 3: Sustainable Urban Mobility, Sections 3A, 3B and 3C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Sustainable Urban Mobility.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>3A</td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>3B</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>3C</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
</tbody>
</table>
4. Sustainable Land Use

Refer to Section 2.4 of the Guidance Note

4A. Present Situation

Please complete the following table providing the most recent data that is available:

Table 1: Benchmarking Data - Sustainable Land Use

<table>
<thead>
<tr>
<th>Land use within the city (this will provide important background information on the character of the city and is not an evaluation criterion itself)</th>
<th>Inner City[4]</th>
<th>Overall City[4]</th>
<th>Unit</th>
<th>Year of Data Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Green Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Green Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Urban) Agricultural Land</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial/Economic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed[1]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brownfield[2]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other[3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population density in built-up areas (city area minus green and blue)</td>
<td></td>
<td></td>
<td>Inhabitants per ha</td>
<td></td>
</tr>
<tr>
<td>Population density (inhabitants per hectare) for new developments</td>
<td></td>
<td></td>
<td>Inhabitants per ha</td>
<td></td>
</tr>
<tr>
<td>Percentage of people living within 300 m of green urban areas of any size</td>
<td></td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of people living within 300 m of green urban areas of &gt;5,000 m²</td>
<td></td>
<td></td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

[1] Please specify the land use types within the ‘mixed land’
[2] See guidance note for clarification
[3] Please specify ‘other’ within Table 1: Benchmarking Data – Sustainable Land Use. Add additional rows as required.
[4] Please refer to Guidance Note section 2.4 on how to delineate ‘Inner City’ and ‘Overall City’.

[INSERT RESPONSE to Footnotes [1] and [4] HERE. Please note that this text response is not included in the word count]
Green Urban Areas/Green Infrastructure

1. Is there a main policy implemented on green areas/green infrastructure within the urban tissue (or on the connection of urban green scapes to rural or natural ‘hinterland’)? What are the effects of this policy on public and private places?

2. In what way do green areas (green infrastructure) affect the living environment (in the environmental, social, and economic contexts)?

3. What is the quality of urban green (and blue) areas, and what indicators are used to assess the quality of the green areas? Is there a budget to ensure this quality?

4. How is accessibility to green urban areas ensured for all citizens?

Sustainable Land Use

5. Is there a medium term strategy for sustainable land use (including urban sprawl, soil sealing and/or redeveloping underused areas) which has been implemented in urban and regional planning during the 10 last years?

6. How does the city anticipate dealing with current and future changes (such as economic growth, demographic or climate change) in sustainable land use planning?

7. How much land within the city consists of brownfields (or derelict or underused zones) and how many of those areas have been regenerated during the last 5 years (please refer to the map)?

8. To what extent is the (percentage of) sealed surface (with buildings, pavement or otherwise) causing challenges within the urban tissue?

Urban Farming

9. Are there any areas allocated for urban agriculture/allotment gardening? If so, how many?

10. To what extent do the urban farming areas contribute to the urban food supply?

Maps

- Provide a land use map that indicates:
  a) the municipality boundaries delineating the overall city area;
  b) the inner city area;
- Provide additional map(s) showing green and blue areas in the city, and their connectivity and coherence;
- Provide map(s) of the location of brownfield sites (derelict zones) that:
  a) Have been regenerated in the past ten years;
  b) Have not been redeveloped (yet).

(max. 1,100 words and five graphics, images or tables plus the three requested maps detailed above)
Application Form for the European Green Capital Award 2022

4B. Past Performance

Green Urban Areas/Green Infrastructure

1. Regarding the green heritage and potential of the city, has there been a trend in increasing or decreasing accessibility of green areas? If so, please explain the trend.

2. What measures have been undertaken to increase green infrastructure and what was the effect of the measures taken? (for example see Guidance Note);

3. What investments or policies have been used for promoting the use of green infrastructure and what was the effect of the measures taken? (e.g. tax reductions for green roofs, building permits, funding schemes for green roofs or biodiversity-rich communal gardens);

4. To what extent have citizens been involved in planning, designing or creating green urban areas?

Sustainable Land Use

5. What other measures or plans were important for the city in regard to sustainable land use of green urban areas? What were the main policies on housing and settlements to preserve the environment in the last 25-30 years?

6. What measures have been taken to minimise the total area of fallow, derelict and contaminated land (brownfields)? Please include some concrete examples;

7. What stakeholders, partners, local, regional or national governments have been involved in the renovation or regeneration of derelict zones?

8. What measures have been taken to minimise the environmental effects of soil sealing? How effective are those measures? Please include some concrete examples;

Urban Farming

9. Does the city have a history or culture of urban farming, or is it a recently emerging development? If urban farming is not happening please indicate this;

10. What stakeholders have been involved in urban farming or urban gardening to date?

(max. 1,200 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

4C. Future Plans

Green Urban Areas/Green Infrastructure

1. What will the future of the city look like with respect to green infrastructure?

2. What are the long term objectives to the establishment and management (maintenance) of green urban areas (publicly and privately owned)?

3. Are green urban areas/green infrastructure perceived as beneficial or costly? How will they be paid for? Is there a budget or plan?
Application Form for the European Green Capital Award 2022

4. Are there any monitoring and performance evaluation schemes? If so, what criteria will be used to measure progress and impacts?

Sustainable Land Use

5. What will the future city look like with respect to sustainable urban land use planning?
6. Are the long term objectives, which address the rehabilitation of brown field sites (derelict and/or contaminated land) for both new development and/or desueling measures designed specifically for environmental purposes?
7. To what extent are plans supported by commitments and budget allocations?
8. Are there any monitoring and performance evaluation schemes? If so, what criteria will be used to measure progress and impacts?

Urban Farming

9. What are the city’s future plans on urban farming? And detail the linkages between the city and its surrounding region?
10. What stakeholders will be involved and how will they impact on the plans and projects?

(max. 800 words and five graphics, images or tables)

4D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

Word Count Check

Please complete the below word count check for Indicator 4: Sustainable Land Use, Sections 4A, 4B and 4C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form and captions and text in Table 1: Benchmarking Data - Sustainable Land Use.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>4A</td>
<td></td>
<td></td>
<td></td>
<td>1,100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4C</td>
<td></td>
<td>800</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Nature and Biodiversity

Refer to Section 2.5 of the Guidance Note

5A. Present Situation

Please complete the following table providing the most recent data that is available:

Table 1: Benchmarking Data - Nature and Biodiversity

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Number</th>
<th>Total Area (ha)</th>
<th>Year of Data Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and total area of Natura 2000 sites that are located in the city or nearby (i.e. within 10 km)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number and total area of designated sites of national biodiversity importance within the city (habitat/species management areas)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number and total area of designated sites of local (city) biodiversity importance within the city (habitat/species management areas)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date and time horizon of your city’s Biodiversity Action Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe how nature and biodiversity is monitored, protected and managed in your city, and how local people are engaged in nature conservation and biodiversity action.

Please provide details of the following:

1. Maps showing protected sites, habitats, ecosystems or biotopes;
2. Examples of species and habitat monitoring programmes;
3. Current strategies, plans and projects for the management of ecological networks, key sites, and priority species;
4. The city’s approach to involving and engaging residents, visitors, business and institutions in planning and action for nature.

(max. 600 words and five graphics, images or tables)

5B. Past Performance

Describe how your city created and developed its measures to protect and improve nature and biodiversity
over the last five to ten years. Comment on how effective these have been.

1. Indicate changes in the extent of sites and ecological network protected for nature and biodiversity (e.g. Natura 2000 network of sites);
2. Illustrate habitat and species trends using collected monitoring data;
3. Give examples of conservation actions to manage and restore sites and habitats, and redress species, including any measures introduced to control invasive non-native species;
4. Explain how the city encourages nature in other open spaces. Has naturalisation been encouraged outside of formal nature reserves?
5. What communication and educational activities have been introduced to promote awareness of nature and biodiversity among the public, including young people?

(max. 1,200 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

5C. Future Plans

Describe the city’s short and long term ambitions and objectives for nature and biodiversity and how these proposals will be achieved. Indicate strategic and policy commitments, budget allocations and monitoring and performance evaluation schemes. Include references to any plans, projects or activities supporting the conservation of wild bees and pollinators. Demonstrate how this work coincides with the EU 2020 Biodiversity Strategy, Nature Directives and other relevant Directives such as sustainable use of pesticides and complementary national strategies.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

5D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 5: Nature and Biodiversity, Sections 5A, 5B and 5C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table
1: Benchmarking Data - Nature and Biodiversity.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>5A</td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>5B</td>
<td></td>
<td></td>
<td></td>
<td>1,200</td>
</tr>
<tr>
<td>5C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
6. Air Quality

Refer to Section 2.6 of the Guidance Note

6A. Present Situation

Please complete the following table providing the most recent data that is available:

**Table 1: Benchmarking Data - Air Quality**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PM\textsubscript{10} monitoring stations</td>
<td>No. of monitoring stations</td>
<td></td>
</tr>
<tr>
<td>For each station provide the number of days per year PM\textsubscript{10} exceeded 50 µg/m\textsuperscript{3}</td>
<td>Days</td>
<td></td>
</tr>
<tr>
<td>For each station provide annual average PM\textsubscript{10} concentration</td>
<td>µg/m\textsuperscript{3}</td>
<td></td>
</tr>
<tr>
<td>Number of NO\textsubscript{2} monitoring stations</td>
<td>No. of monitoring stations</td>
<td></td>
</tr>
<tr>
<td>For each station provide the number of hours with NO\textsubscript{2} concentrations higher than 200 µg/m\textsuperscript{3}</td>
<td>Hours</td>
<td></td>
</tr>
<tr>
<td>For each station provide annual average NO\textsubscript{2} concentration</td>
<td>µg/m\textsuperscript{3}</td>
<td></td>
</tr>
<tr>
<td>Number of PM\textsubscript{2.5} monitoring stations</td>
<td>No. of monitoring stations</td>
<td></td>
</tr>
<tr>
<td>For each station provide the annual average PM\textsubscript{2.5} concentration</td>
<td>µg/m\textsuperscript{3}</td>
<td></td>
</tr>
</tbody>
</table>

Describe the present situation in relation to ambient air quality, including any relevant disadvantages or constraints resulting from historical, geographical and/or socio-economic factors which may have influenced this indicator. Topographical constraints should also be mentioned where relevant.

Make reference, providing data in the table above, to:

1. Assess the contribution from local sources and from long-range transport to annual mean concentration of NO\textsubscript{2}, PM\textsubscript{10} and PM\textsubscript{2.5};
2. If available, provide information on the relative contribution of different local sources (e.g. road traffic, residential wood combustion etc.) to the annual mean of NO\textsubscript{2}, PM\textsubscript{10} and PM\textsubscript{2.5};
3. If exceedances occur, describe the extent of the exceedances in the city as a whole, not only at the monitoring sites. If available, provide maps of air pollutant concentrations.
Charts:

Air quality data (addressing NO₂, PM₁₀ and PM₂.₅ at a minimum) should be provided to show trends over time. Please use five charts to illustrate:

1. Trend (10 years at least) of annual average NO₂ for each monitoring site;
2. Trend (10 years at least) of annual average PM₁₀ for each monitoring site;
3. Trend (10 years at least) of annual average PM₂.₅ for each monitoring site;
4. Trend (10 years at least) of number of daily limit exceedances of PM₁₀;
5. Trend (10 years at least) of number of hourly limit exceedances of NO₂.

An example of the requested chart is provided in the Guidance Note, Figure 2.1.

Describe whether air quality objectives and measures taken go beyond what is required by the Ambient Air Quality Directives, and how this is achieved.

Describe whether and how air quality planning and measures are integrated with other plans and measures in the city, and whether and how synergies have been achieved between objectives and measures on air quality and those in other areas.

(max. 1,000 words and five graphics, images or tables plus the five requested charts detailed above)

[POPULATE TABLE 1: BENCHMARKING DATA - AIR QUALITY ABOVE AND INSERT RESPONSE TO SECTION A HERE]

6B. Past Performance

Describe the plans and measures implemented over the last five to ten years for the improvement of ambient air quality. Comment on which measures have been most effective.

Particular reference should be given to:

1. Existence and implementation status of an air quality management plan (specify if it is a local, regional and/or national plan);
2. Local measures taken to improve air quality and quantify their effect on air quality in terms of pollutant emissions abatement;
3. Information for the public (both inhabitants and tourists) on air quality levels (e.g. web pages, information screens) in order to increase public awareness and behavioural change. Make reference to relevant stakeholder/citizen participation process.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]
6C. Future Plans

Describe the short and long term objectives for the future, proposed plans and the proposed approach and measures for their achievement. Quantify the expected effects of proposed measures on air quality in terms of immissions (if possible).

Emphasise to what extent plans are supported by commitments, budget allocations, and monitoring and performance evaluation schemes.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

6D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 6: Air Quality, Sections 6A, 6B and 6C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Air Quality.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>6A</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>6B</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>6C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
7. Noise

Refer to Section 2.7 of the Guidance Note

7A. Present Situation

Please complete the following table providing the most recent data that is available:

Table 1: Benchmarking Data - Noise

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of population exposed to total noise values of $L_{den}$ above 55 dB(A)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Share of population exposed to total noise values of $L_{den}$ above 65 dB(A)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Share of population exposed to total noise values of $L_n$ (night noise indicator) above 45 dB(A)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Share of population exposed to total noise values of $L_n$ (night noise indicator) above 55 dB(A)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>The percentage of citizens living within 300 m of quiet areas</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of implementation of the last noise action plan</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Which limits or reference value does the city apply to residential areas? (Ld/Le/Ln)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last year how many noise complaints did the city receive related to leisure or recreational activities?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many noise experts does the city have?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe the present situation in relation to the quality of the acoustic environment, including any disadvantages or constraints resulting from historical, geographical and/or socio-economic factors which may have influenced this indicator. Where available, information/data should be provided from previous years (5-10) to show trends. Present situation may also include information describing the city’s commitment to the aims of the Environmental Noise Directive.

Additional figures for noise exposure to individual noise sources (road, rail, air, industry, and leisure/entertainment) can also be included.

Information on formally defined and delimited quiet areas, or sound improved areas, should also be included.

(max. 800 words and five graphics, images or tables)
7B. Past Performance

Describe the measures implemented in recent years for improving the urban sound quality and increasing awareness to noise. Comment on which measures have been most effective.

Make reference to:

1. Classification of territory (if applicable) into appropriate noise classes and with appropriate noise limits (e.g. specially protected, hospitals/schools, residential, commercial, industrial) including details on enforcement mechanisms if in place;
2. Stakeholder involvement;
3. Communication with citizens (participation/involvement/engagement);
4. Preservation and improvement of good acoustic urban environments such as quiet areas;
5. Noise reduction measures that influenced the current situation;
6. Municipal regulations concerning noise management and reduction;
7. With respect to action plans that are already adopted, what is the percentage of the plan effectively implemented (e.g. overall amounts already paid for actions versus overall amounts initially committed). A clear description of the following issues will be valuable: noise action plan integration with city strategy, time plan, budget, and tools for monitoring its implementation.

(max. 1,000 words and five graphics, images or tables)

7C. Future Plans

Describe the short and long term objectives for quality of the acoustic environment and the proposed approach for their achievement. Emphasise to what extent plans are supported by commitments, budget allocations, and monitoring and performance evaluation schemes.

Make reference to:

1. Stakeholder involvement;
2. Consultation with the population including noise perception surveys; citizen participation, involvement and engagement initiatives; and awareness initiatives;
3. Actions planned to reduce the impact of noise from transportation or other sources (probably those integrated in the Noise Action Plan);
4. Foreseen reduction in the share of population exposed to noise values of $L_{den}$ (day-evening-night indicator) above 55 dB(A) and above 65 dB(A) and in the share of population exposed to noise values of $L_n$ (night indicator) above 45 dB(A) and 55 dB(A), mention targets;
5. Actions to preserve, extend, or improve urban quiet areas, and raising awareness and promoting quiet areas;
6. Holistic/qualitative approaches to the acoustic environment (e.g. by soundscape design approaches, using green infrastructure solutions etc.).

[max. 800 words and five graphics, images or tables]

[INSERT RESPONSE TO SECTION C HERE]

7D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

[max. 400 words]

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 7: Noise, Sections 7A, 7B and 7C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Noise.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>7A</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>7B</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>7C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
8. Waste

Refer to Section 2.8 of the Guidance Note

8A. Present Situation

Please complete the following table providing the most recent data that is available for your city. If city data is not available, please provide a brief explanation and use regional or national data where available. If no data is available, please state this and indicate the reason why.

To ensure a correct interpretation of the concepts used in sections 8A to 8C ('municipal' waste, 'biowaste', 'packaging waste' etc.) it is important to refer to the explanation in the Guidance Note.

Table 1: Benchmarking Data - Waste

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Type of Data (City/Regional/National)</th>
<th>Unit</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of municipal waste generated per capita</td>
<td></td>
<td>kg/capita/year</td>
<td></td>
</tr>
<tr>
<td>Percentage of municipal waste that is recycled (including through composting and digestion of biowaste)</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of municipal biowaste that is recycled (through composting and digestion)</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of municipal waste sent for energy recovery (R1 code)</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of municipal waste sent to landfill (or other forms of disposal (D codes))</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of municipal waste that is collected separately</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of recycled packaging waste</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage of packaging waste that is collected separately</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Established collection systems for hazardous waste:</td>
<td></td>
<td>Yes/No</td>
<td>Unit</td>
</tr>
<tr>
<td>i) WEEE</td>
<td></td>
<td></td>
<td>kg/capita/year</td>
</tr>
<tr>
<td>ii) Batteries</td>
<td></td>
<td></td>
<td>kg/capita/year</td>
</tr>
<tr>
<td>iii) Waste oils</td>
<td></td>
<td></td>
<td>kg/capita/year</td>
</tr>
</tbody>
</table>
Describe the present situation in relation to waste production and management by providing details about each of the following areas:

1. Waste management strategies or plans in place;
2. Waste prevention strategies or plans in place including possible specific measures to reduce food waste, plastic waste and other waste materials;
3. Reuse and/or repair initiatives or partnerships currently in the city (include examples describing the types and quantities of materials reused);
4. Current waste collection system including the types of waste collected separately (both covering dry recyclables such as paper, plastics, glass metals and biowaste, as well as hazardous waste) and the extent of roll-out (% coverage) of the systems as well as clean-up initiatives;
5. Sorting, recycling and other treatment of separately collected and residual waste as well as any home/community composting practices;
6. Application of the ‘polluter pays’ principle and economic instruments, including through differentiated tariffs (‘Pay as You Throw’ (PAYT) initiatives) and landfill and incineration charges.

(max. 800 words and five graphics, images or tables)

<table>
<thead>
<tr>
<th>(v)</th>
<th>Household chemicals</th>
<th>kg/capita/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>(v)</td>
<td>Asbestos</td>
<td>kg/capita/year</td>
</tr>
<tr>
<td>(vi)</td>
<td>Construction &amp; demolition waste</td>
<td>kg/capita/year</td>
</tr>
<tr>
<td>(vii)</td>
<td>Unused pharmaceuticals</td>
<td>kg/capita/year</td>
</tr>
</tbody>
</table>

8B. Past Performance

Describe the measures implemented over the last five to ten years for improving waste management and include details on the following:

1. Past trends in the amount of municipal and packaging waste produced per capita in the city;
2. Past measures which have promoted waste prevention and recycling;
3. Trends in municipal and packaging waste treatment in the city including changes in recycling (including composting and digestion), recovery and disposal rates over the previous 5-10 years;
4. Evolution of separate collection systems in the city;
5. The collection market in terms of how it has developed and the role of municipal (public) authorities and/or private waste companies;
6. Type and scale of infrastructure put in place to treat municipal and packaging waste distinguishing between dry recyclables, biowaste and residual waste, and progress to date;
7. Use of instruments (economic or regulatory) applied in the city to manage municipal and packaging wastes.
Application Form for the European Green Capital Award 2022

8C. Future Plans

Describe the future plans of the city in terms of progressing towards better waste management and the transition to a circular economy in a wider sense (i.e. maintaining the value of materials and resources within the system for as long as possible and closing material loops through activities such as green public procurement, reuse, repair, refurbishment etc.). Your response should address:

1. How your city is taking account of recently updated EU policy on waste management within the broader policy framework of the Circular Economy including a description of the short and long term objectives and targets for the future management of waste and measures to ensure these are achieved and monitored;
2. Your city’s approach to the future management of plastics (inter alia taking account of the EU Strategy for Plastics in relation to the Circular Economy) and the prevention of food waste;
3. Other specific initiatives to promote the transition to a circular economy in your city.

8D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

Word Count Check

Please complete the below word count check for Indicator 8: Waste, Sections 8A, 8B and 8C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Waste.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>8B</td>
<td></td>
<td>1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8C</td>
<td></td>
<td>800</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 9. Water

Refer to Section 2.9 of the Guidance Note

### 9A. Present Situation

Please complete the following table providing the most recent data that is available:

**Table 1: Benchmarking Data - Water**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic usage (drinking water) - litres per capita per day</td>
<td>Litres/capita/day</td>
<td></td>
</tr>
<tr>
<td>Total usage (drinking water) - litres per capita per day</td>
<td>Litres/capita/day</td>
<td></td>
</tr>
<tr>
<td>Water loss in pipelines</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Percentage (%) of total annual generated waste water load, connected to waste water collecting system + urban waste water treatment plants (UWWTPs)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>No. of WWTP</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Total design capacity (Population Equivalent - PE)</td>
<td>PE</td>
<td></td>
</tr>
<tr>
<td>Total load received by UWWTP (PE)</td>
<td>PE</td>
<td></td>
</tr>
<tr>
<td>Connection rate</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Treatment level which is applied in each UWWTP: secondary or more stringent; in this case, type of treatment: nitrogen and/or phosphorus removal, disinfection etc.</td>
<td>Treatment level</td>
<td></td>
</tr>
<tr>
<td>Waste water reuse (describe type of reuse)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Water pricing (overall and split into water supply and waste water services, incl. taxes and service charges)</td>
<td>€/m³ (overall)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>€/m³ (water supply)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>€/m³ (waste water supply)</td>
<td></td>
</tr>
</tbody>
</table>

Describe the present situation in relation to water management, including any relevant disadvantages or constraints resulting from historical, geographical and/or socio-economic factors which may have influenced this indicator.

Describe the current general features of waste water treatment according to national requirements and the
requirements of the Urban Waste Water Treatment Directive (UWWTD, 91/271/EEC), and the situation regarding drinking water quality and the requirements concerning the Drinking Water Directive 98/83/EC.

Please provide information of the EU Water Framework Directive 2000/60/EC and its daughter directives regarding implementation.

In detail, please make reference to:

1. Total water drinking water consumption (in cubic meters/year and litres/capita/year) including a breakdown for different sectors (e.g. households, industry, energy, agriculture, small business, tourism, public sector); describe plans currently in place to reduce water consumption and to improve water status;
2. Proportion of urban water supply subject to water metering, both for domestic and non-domestic metering;
3. Source of water (surface water, groundwater) - make reference to aquifers and river basin management;
4. Quality of drinking water (e.g. how many days of non-compliance with the Drinking Water Directive?) - make reference to connection to large/small supplies;
5. Water loss in pipelines, leakage management and network rehabilitation; please provide information on leakage management and network rehabilitation;
6. Storm water management (including number of storm water overflows) and use of natural water retention measures (www.nwrm.eu) and/or sustainable urban drainage systems (SUDS);
7. How the links between water and energy consumption (water-energy nexus) if available provide data on yearly energy consumption (kWh/m³ of distributed water); describe measures in place to reduce/optimise the energy consumption for waste water plants or water supply services;
8. Compliance with the EU Water Framework Directive and other EU/national/regional legislation applicable at the city level indicating status of water bodies relevant for the urban area within the city limits and relevance of measures enshrined in the applicable river basin management plans; this shall include the status of the relevant river basin (e.g. water bodies in good/bad status; if information on droughts, scarcity; expected future trends);
9. Compliance with the EU Water Framework Directive and link to the relevant Flood Risk Management plans;
10. Use of 'non-conventional resources’ and water recycling initiatives (rain water use and grey water or waste water reuse);
11. The scale of river restoration projects planned e.g. for resurfacing (lost) rivers, naturalising previous channeled rivers;
12. Projects to reconnect citizens with waterbodies e.g. creation of wetland parks, improving water quality to allow for swimming.

Include data and a short explanation for the following specific indicators. Provide explanation in the case of missing information.

1. Proportion (%) of total generated waste water load, not connected to waste water collecting systems and explanation of the type of waste water treatment applied to this fraction (reference to individual or other appropriate systems, i.e. IAS);
2. If the city is located in an EU Member State include data on waste water treatment obligations according to the UWWTD (based on city’s size and nature of the area of discharge);

3. Waste water collecting systems: main type of collecting system (combined/separated) and annual proportion (%) of COD-loads discharged via storm water overflows;

4. UWWTPs: organic design capacity (PE), most advanced treatment level, annual incoming and discharged loads (load or concentration) of BOD$_5$, COD, Ntot and Ptot and treated waste water amounts (m$^3$/annum) of all UWWTPs serving the city. If the city is located in an EU Member State, indicate whether the UWWTP complies with the treatment requirements under the UWWTD;

5. Annual amounts of generated sewage sludge (tonnes/year) and description of treatment/disposal pathways (% of total amount);

6. Further information (e.g. on treated waste water reuse, economic sustainability, use of integrated constructed wetlands or other GI/nature-based solutions) is highly appreciated.

Please note:

In case the city is served by a private, or public/private services company, or your regional/national authorities are responsible for the water services, please provide the information requested and describe the additional city activities.

(max. 800 words and 5 graphics, images or tables)

9B. Past Performance

Describe the measures implemented over the last five to ten years for improving water management, including waste water management. Describe the baseline (situation) ten years ago and comment on which measures have been most effective and what progress has been achieved.

With specific reference to waste water and drinking water, please note that if the city is located in an EU Member State, special reference should be given to non-compliance situation, exceedances and relevant infringement cases. Particular reference may be given to capacity building, measures for maintenance, management and restoration of waste water collecting systems and UWWTPs, as well as for water supply systems.

Make reference to:

1. Technical, nature-based, economic and institutional measures adopted and their effectiveness in achieving reduction of total water consumption or improvement of water status;

2. Bye-law implementation in relation to efficiency in water usage, tariff and metering systems and water quality;

3. Citizen engagement and public awareness initiatives;

4. Actual and projected improvements (in %) of water status/potential compared to 2009, when the first river basin management plans were to be in place.

Describe actions and activities carried out by the city (or service provider) over the last ten years to improve
the situation (e.g. information of citizens, public activities such as flyer or public information desk).

(max. 1,200 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

9C. Future Plans

Describe the short and long term objectives for water management and the proposed approach for their achievement, including how they are influenced by the expected impacts from climate change and other long-term trends. Emphasize to what extent plans are supported by commitments, budget allocations, and monitoring and performance evaluation schemes.

Place particular emphasis on water quality goals and on key water saving and reuse targets for the future and the proposed approach to achieve these, including technical and nature-based measures incorporating water infrastructure to deal with future impacts of climate change.

Describe the future short and long term objectives for waste water treatment and management and the proposed approach, and specify the measures for their achievement. Emphasize to what extent plans are supported by commitments, budget allocations, and monitoring and performance evaluation schemes. Emphasize to what extent plans are triggered by the demands of EU and national regulations.

Please describe future action/plans taken regarding water (re-opening of water-courses, housing development with specific regard to water issues). Reference to legal action may be give (e.g. obligation for green roofing, subsidies for disconnection to sewer, unsealing measures); describe intentions and best practice measures and indicate its planning status (intention or detailed planning).

Refer to:

1. Improvement/maintenance/management of collecting systems;
2. Improvement of connection to collecting systems and to the UWWTPs (inter alia, additional percentage of PE forecasted to be connected);
3. Improvement of design capacity, treatment level and treatment performance of UWWTPs and indicate if these go beyond the requirements in the Directive;
4. Improvements of further environmental and economic aspects of waste water treatment (e.g. removal of emerging substance, micropollutants, pharmaceuticals, micro-plastic particles and pollution prevention measures; and measures on water reuse;
5. Measures to improve public information and participation;
6. Other improvements.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]
9D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selelction phase. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 9: Water, Sections 9A, 9B and 9C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Water.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>9A</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>9B</td>
<td></td>
<td></td>
<td></td>
<td>1,200</td>
</tr>
<tr>
<td>9C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
10. Green Growth and Eco-innovation
Refer to Section 2.10 of the Guidance Note

10A. Present Situation

Please complete the following table providing the most recent data available:

Table 1: Benchmarking Data - Green Growth and Eco-innovation

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of electric (green) vehicles owned by the municipality</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Share of electric vehicles owned by the municipality (as a percentage of all cars owned by the municipality)</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Number of charging outlets available for cars owned privately in the public space</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Number of procurement contracts that include green issues</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Percentage of all procurement contracts that include green criteria</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Share of the city budget dedicated to support environmental R&amp;D by public and private entities</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Number of jobs created in green economic activities including:</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>i) Jobs created by municipality initiatives in the private and public sector; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Jobs in the municipality</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Number of initiatives for promoting and enabling sharing, reuse and repair such as, repair cafés, etc. initiated or facilitated by the municipality</td>
<td>Number</td>
<td></td>
</tr>
</tbody>
</table>

Describe the present situation in relation to green growth and eco-innovation, including any relevant disadvantages or constraints resulting from historical, geographical and/or socio-economic factors which may have influenced this indicator. Where available, information/data should be provided from previous years (5-10) to show trends.

Make reference to the below (note that the numbers listed below correspond to Figure 2.2 of the Guidance
Note):

1. Innovations that address material/resource use, (substitution, minimisation of material use, closing loops, etc.) and reduce environmental impacts, i.e. measures to improve resource efficiency;
2. Awareness raising and training to encourage the development and up-take of environmentally friendly technologies, particularly through training in industrial and business settings; new business models (sharing schemes), including actions inspired by circular economy thinking;
3. Efforts to promote green skills or green jobs;
4. Efforts to promote Green Public Procurement (GPP) and other green policy measures;
5. Social innovation/stakeholder participation, including for example community programmes, that shows entrepreneurship and new ways of organisation that promote sustainable development and protect the environment locally and globally;
6. Efforts to drive innovation that address societal and particularly environmental challenges through creating the right enabling conditions, like putting in place advanced infrastructure (IT or more traditional) or investing in and partnering with innovators, platforms, clusters and hubs;
7. What efforts does the municipality make to stimulate sharing, reuse and repair different categories of goods;
8. Describe how green growth and eco-innovation improve the livability of the city in the area of various aspects such as health and safety.

(max. 800 words and five graphics, images or tables)

[POPULATE TABLE 1: BENCHMARKING DATA - GREEN GROWTH AND ECO-INNOVATION ABOVE AND INSERT RESPONSE TO SECTION A HERE]

10B. Past Performance

Describe the measures implemented over the last five to ten years concerning green growth and eco-innovation. Please comment on which measures have been most effective.

Make reference to:

1. Initiatives aimed at increasing green growth and eco-innovation, e.g. projects under Cohesion Policy funds, Horizon 2020, COSME, LIFE, Eco-innovation Action Plan (EcoAP), Green Public Procurement (GPP), as well as national policy initiatives;
2. How European and national policies have been transferred into policy action at city level;
3. The publication of reports, such as green accounts, that make clear the timely implementation of planned initiatives and the focus group they were written for;
4. Describe the actions the city took in order to develop the urban tissue/infrastructures in an innovative/sustainable way including actions inspired by circular economy thinking;
5. Name/describe what you consider to be the flagship of eco-innovation in your city.

(max. 1,000 words and five graphics, images or tables)
10C. Future Plans

Describe the future short and long term objectives to promote green growth and eco-innovation and the proposed approach (strategy) for their achievement. Emphasise to what extent plans are supported by commitments, budget allocations, and monitoring and performance evaluation schemes.

Make reference to:

1. Plans to establish eco-innovation clusters, strategies and initiatives to attract public-private-partnerships for further developing eco-innovation and sustainable employment;
2. Future targets of how eco-innovations can be applied by the city, e.g. make reference to share of hybrid or fully electric cars in total stock of the public fleet, or plans to support the infrastructure development for electric cars in public areas (i.e. increase the number of charging points for electric cars in public car parks), sharing economy schemes (i.e. bike sharing), use of public procurement for innovation;
3. Participation at green business networks or partnerships and covenants and co-operation with knowledge institutions, such as universities;
4. Programmes to reach the population promoting green economy thinking;
5. Programmes to reach the industries promoting green economy thinking;
6. Identify one key future plan which is considered as the flagship of eco-innovation in your ‘City of the Future’.

(max. 800 words and five graphics, images or tables)

10D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

Word Count Check

Please complete the below word count check for Indicator 10: Green Growth and Eco-innovation, Sections 10A, 10B and 10C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1:
### Benchmarking Data - Green Growth and Eco-innovation.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>10A</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>10B</td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>10C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
11. Energy Performance

Refer to Section 2.11 of the Guidance Note

11A. Present Situation

Please complete the following table providing the most recent data that is available:

**Table 1: Benchmarking Data - Energy Performance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Unit</th>
<th>Year of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final energy consumption</td>
<td>MWh</td>
<td></td>
</tr>
<tr>
<td>Final energy use per capita</td>
<td>kWh/capita</td>
<td></td>
</tr>
<tr>
<td>Share of renewable energies of final energy demand</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Share of locally produced renewable energies of final energy demand</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Energy performance of municipal buildings</td>
<td>kWh/m²</td>
<td></td>
</tr>
</tbody>
</table>

**Final Energy Use/Sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture &amp; fisheries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial &amp; commercial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Describe the present situation and development (particularly in relation to the building sector), using quantitative data and figures. Where available, information/data should be provided from previous years (5-10) to show trends. Highlight the most relevant driving forces for the observed trends. List any disadvantages resulting from historical, geographical and/or socio-economic factors which may have influenced this indicator.

1. Present total final energy consumption by sectors (structure of energy consumption);
2. Past development of energy consumption and current plan (activities) for energy efficiency improvements and decreasing the use of energy, particularly for energy performance of municipal buildings (in kWh/m²) with specific reference to city owned buildings and important developments related to other end-use sectors besides the building sector (e.g. transport, industry production, services, public, lighting, electrical appliances, food);
3. Present situation, development and current plan for the energy supply mix, particularly regarding the renewable versus non-renewable mix of energy sources during the past ten years (for both heat,
electricity and transport; expressed in kWh, MWh or GWh);

4. The current plan for integration and performance of renewable energy technology in municipal buildings and homes compared to the total energy use;

5. The development so far and the current plan of compatible and integrated district heating energy and of combined heat and power energy consumption compared to the total energy use, (expressed in kWh, MWh or GWh);

6. Application of innovative technologies (e.g. current plan for increasing the use of LED lamps in public lighting and use of green roofs/walls for energy saving).

(max. 600 words and five graphics, images or tables)

[POPULATE TABLE 1: BENCHMARKING DATA - ENERGY PERFORMANCE ABOVE AND INSERT RESPONSE TO SECTION A HERE]

11B. Past Performance

Describe the measures implemented over the last five to ten years concerning energy, as a qualitative narrative. Comment on which measures have been most effective.

Make reference to:

1. Attempts to improve the energy performance (i.e. energy efficiency standards particularly of municipal buildings) above national requirements;

2. Maximising and prioritising the use of renewable energy technology (particularly in municipal buildings);

3. Measures to facilitate integrated district system solutions (e.g. co-generation) and a more sophisticated city-wide control;

4. Measures to trigger stakeholder engagement in the city to improve overall energy demand performance preferably including local government institutions, local market actors and citizens; mention existing co-operations.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

11C. Future Plans

Describe the future short and long term objectives for shaping a sustainable energy system and the proposed approach for its achievement. Include measures adopted, but not yet implemented, and details for future measures already adopted.

Emphasise to what extent plans are consolidated by commitments, budget allocations, and monitoring and performance evaluation schemes, what potential there is and what kind of barriers you might expect in the implementation phase. Express and explain if and how far the strategies and targets go beyond national ambitions.
Make reference to the city’s strategy to achieve goals by 2030 and 2050 and highlight:

1. The role of energy efficiency improvements;
2. The role of an increasing share of renewable energy in the total energy supply;
3. The city’s strategy regarding renewable versus non-renewable energy mix, (please break down the the percentage of different renewable energy sources that comprise the renewable energy mix). Describe the planned energy mixes for at least the coming two decades, preferably add diagrams to describe this evolution;
4. Other measures affecting the total energy use in the city, e.g. changes in transport systems, industrial practices, food and commodities production and consumption, urban morphology and use of Green Infrastructure, consumer behaviour and import and export chains.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

11D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 11: Energy Performance, Sections 11A, 11B and 11C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Energy Performance.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>11A</td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>11B</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>11C</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
</tbody>
</table>
12. Governance

Refer to Section 2.12 of the Guidance Note

12A. Plans and Commitments

Please complete the following table providing the most recent data available:

Table 1: Benchmarking Data - Governance

<table>
<thead>
<tr>
<th>Commitments</th>
<th>Yes/No</th>
<th>Date From:</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signatory of CoM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aalborg signatory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISO14001 for municipal operations</td>
<td></td>
<td></td>
<td>[FOR WHICH ACTIVITIES?]</td>
</tr>
<tr>
<td>Eco-management and audit scheme for municipal operations</td>
<td></td>
<td></td>
<td>[FOR WHICH ACTIVITIES?]</td>
</tr>
</tbody>
</table>

Vision and Strategy

Describe if the city has a clearly defined, widely understood and supported *integrated environmental vision* for the city, for example as part of a broader commitment to urban sustainability.

Is this vision reflected in different *strategies and plans*, for individual sectors? Please list the most important strategies and plans and indicate their relationship to the overall vision and whether they have been formally adopted by the city council.

Describe the short and long term objectives of the *integrated environmental vision* and the proposed approach for their achievement.

Describe present and future projects that demonstrate your commitment to integrated management of the urban environment.

Historical, Geographical and/or Socio-economic Factors

List any disadvantages resulting from historical, geographical and/or socio-economic factors, which may have influenced this indicator.

(max. 800 words and five graphics, images or tables)

[POPULATE TABLE 1: BENCHMARKING DATA - GOVERNANCE ABOVE AND INSERT RESPONSE TO SECTION A HERE]
12B. Governance and Management Arrangements

Organisation

Describe the organisational structure of the city council (administration) and show how the environmental vision/strategies are embedded in the organisation.

Please include an organogram and indicate which department or political body is the driving force behind the environmental vision/strategies.

Budget

Is there a dedicated budget for implementing the environmental vision? If so please describe it.

Management, Monitoring and Evaluation

What management tools are used, to achieve your environmental objectives and targets? For example, sustainability impact assessment of policy proposals, cross departmental project structures, etc.

Describe the system of monitoring, reporting and evaluation of implementation of your environmental strategy and projects. What is generally reported to whom at what frequency?

In delivering its environmental policy does the city use any innovative approaches, tools or instruments?

Leadership by the City Council

Is the city council (administration) leading by example in environmental behavior? With reference to the commitments to ISO14001 and Eco-management and Audit Schemes listed in Table 1: Benchmarking Data - Governance, describe your activities regarding environmental management systems, green public procurement, skills development etc.

(max. 600 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION B HERE]

12C. Partnerships and Public Involvement

Which stakeholders have participated in the development of the city’s environmental vision and associated strategies and action plans (e.g. contribution of civil society and citizens)?

How was the participation organised?

How are stakeholders involved in the on-going integrated environmental management of your city?

Involvement of Citizens

Describe your activities and engagement with the different communities within your city that contribute to...
the development or implementation of your environmental vision and strategy.

Please reference any structures/projects/programmes that you have in place to involve particular groups of society e.g. young people, elderly citizens, disabled, deprived citizens, or people from different ethnic groups.

Describe the goals of these activities, e.g. awareness raising, shared responsibility, policy development, etc.

Co-operation and Learning

Does your city co-operate with other authorities at different levels or other organisations (regional, national, EU, international) on environmental and sustainability issues? Which of these co-operation activities or projects has your city initiated or acted as leading partner? Please also refer to your participation in European funded projects and to your commitment to international initiatives, charters, etc. (For example Agenda 21, Aalborg Commitments, Covenant of Mayors, C40, Climate Alliance, ICLEI, EUROCITIES, etc.).

Public Awareness and Involvement of your Bid to be the European Green Capital

Demonstrate public awareness of this bid i.e. public consultation, access/availability to read etc.

(max. 800 words and five graphics, images or tables)

[INSERT RESPONSE TO SECTION C HERE]

12D. References

List supporting documentation, adding links where possible. Further detail may be requested during the pre-selection phase. Documentation should not be forwarded at this stage.

(max. 400 words)

[INSERT RESPONSE TO SECTION D HERE]

Word Count Check

Please complete the below word count check for Indicator 12: Governance, Sections 12A, 12B and 12C.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form, captions and text in Table 1: Benchmarking Data - Governance.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>12A</td>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>12B</td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
</tbody>
</table>
### Application Form for the European Green Capital Award 2022

| 12C |   | 800 |
### Good Practices

Please provide details of at least one present or future flagship project that demonstrates your commitment to an integrated approach to the management of the urban environment. This must relate to Indicator 12: Governance (to be completed under heading: Good Practice 1 - Integrated Management Approach).

Please summarise up to five additional good practices, relating to any indicator(s) that demonstrate how your city is improving its environmental record. Please identify to which indicator(s) your good practice is relevant. To be completed under heading(s) Good Practice 2 to Good Practice 6 below.

Good practices should be taken from information already provided within the application form.

Each good practice should be supported by a maximum of three graphics, images or tables (max. 300 words per good practice).

<table>
<thead>
<tr>
<th>Good Practice 1 - Integrated Management Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>(max. 300 words and three graphics, images or tables)</td>
</tr>
<tr>
<td>Indicator: 12: Governance</td>
</tr>
<tr>
<td>[INSERT RESPONSE HERE]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Good Practice 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(max. 300 words and three graphics, images or tables)</td>
</tr>
<tr>
<td>Indicator: [INSERT NAME OF RELEVANT INDICATOR(S) HERE]</td>
</tr>
<tr>
<td>[INSERT RESPONSE HERE]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Good Practice 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(max. 300 words and three graphics, images or tables)</td>
</tr>
<tr>
<td>Indicator: [INSERT NAME OF RELEVANT INDICATOR(S) HERE]</td>
</tr>
<tr>
<td>[INSERT RESPONSE HERE]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Good Practice 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>(max. 300 words and three graphics, images or tables)</td>
</tr>
<tr>
<td>Indicator: [INSERT NAME OF RELEVANT INDICATOR(S) HERE]</td>
</tr>
<tr>
<td>[INSERT RESPONSE HERE]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Good Practice 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(max. 300 words and three graphics, images or tables)</td>
</tr>
<tr>
<td>Indicator: [INSERT NAME OF RELEVANT INDICATOR(S) HERE]</td>
</tr>
</tbody>
</table>
**Good Practice 6**
(max. 300 words and three graphics, images or tables)

Indicator: [INSERT NAME OF RELEVANT INDICATOR(S) HERE]

[INSERT RESPONSE HERE]

---

**Word Count Check**

Please complete the below word count check for Good Practices.

As per the Guidance Note (Annex 2 of the Rules of Contest), the word count includes text in graphics/tables and the body of text. The word count excludes text in the original application form and captions.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of words in graphics/tables</th>
<th>Number of words in body of text</th>
<th>Total number of words in graphics/tables and body of text</th>
<th>Max. words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Practice 1 - Integrated Management Approach - Indicator 12</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Good Practice 2</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Good Practice 3</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Good Practice 4</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Good Practice 5</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>Good Practice 6</td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
</tbody>
</table>
Appendix B

Expert Panel Profiles
**Indicator No. 1 - Climate Change: Mitigation**

**Expert: Dr. Matthew Kennedy, Head of Strategy and Business, International Energy Research Centre, Ireland**

Dr. Matt Kennedy is Head of Strategy and Business in the International Energy Research Centre, an Irish Government supported energy research centre. He was previously National Delegate (Energy) for Horizon 2020 for Ireland and led Energy R&D for the Irish Government's Sustainable Energy Authority of Ireland. Matt held the position of Special Advisor on energy and climate issues.

Matt was lead EU Negotiator for energy technology transfer at the UNFCCC's international climate change negotiations (COP21) and was a member of the UNFCCC's Technology Executive Committee (TEC) responsible for providing mitigation and adaptation technology policy advice to the UN Conference of the Parties.

Matt was Chair of UNEP's Climate Technology Centre and Network, Copenhagen, Chair of the IEA's Renewable Energy Technology Deployment Technology Collaboration Programme, Paris, and the Chair of the Programme Board of the Renewable Energy and Energy Efficiency Partnership (REEEP), Vienna.

Matt holds a PhD from the School of Engineering of Trinity College Dublin, and Masters' degrees from NUI Galway and University College Dublin.

**Indicator No. 2 - Climate Change: Adaptation**

**Expert: Ms. Birgit Georgi, Urban and Adaptation Expert, Founder of ‘Strong Cities in a Changing Climate’, Germany**

Birgit Georgi is a freelance expert in the areas of climate change adaptation, environment and integrated urban development. She has a deep and broad integrated understanding of the urban environment and sustainability due to her long-standing professional experience in these fields for more than 25 years.

From 2007-2017 she worked with the European Environment Agency, initially as Project Manager for urban issues, and, since 2011, on climate change adaptation relating to cities and transport. Among Birgit’s key contributions to the sector are the assessment reports; ‘Urban Adaptation to Climate Change in Europe’ (2012 and 2016), ‘Adaptation of transport to climate change in Europe’ (2014), and ‘Quality of life in Europe’s Cities and towns’.

Birgit was responsible for developing the interactive map book on urban vulnerability, the Urban Adaptation Support Tool, and the numerous case studies related to cities of the European Climate Adaptation Platform Climate-ADAPT. She supported the Commission in developing the Mayors Adapt initiative and its integration into the Covenant of Mayors for Climate and Energy. Birgit also organised the annual networking and learning event: Open European Day Resilient Cities - now the European Urban Resilience Forum. She has worked as an adviser for several EU projects such as PLUREL, SUME, RESIN and is a frequent speaker and moderator at many events on her topics.

Birgit's experience is complemented by her work at the German Federal Environment Agency from 1991-2007 where she developed action plans and supervised projects in the fields of sustainability planning, biodiversity, environmental management and sustainable transport. The scope ranged from local demonstration projects in Germany and other European countries to international activities, e.g. technical support in the framework of the UN Convention for Biological Diversity and as national contact point for the UNECE Programme, THE PEP.
Indicator No. 3 - Sustainable Urban Mobility

Expert: Dr. George Angelou, Staff member of the Greek Ministry of Transport and Networks, HCAA HANSP Headquarters, Greece

George Angelou possesses 20 years of industrial and academic experience working in the USA (IBM T.J Watson Research Center, NY), UK (CISCO Systems, London) and Greece (Assistant Professor, Institute of Technology). He is also the co-founder of Mobile E-Commerce Technologies Ltd. based in London, UK and the Founder and Director of G-Alpha Telecomms based in Athens, Greece.

George is the recipient of the 2018 EGNOS Award, awarded from the European GNSS Agency (GSA) in the 2018 World ATM Congress, the recipient of UK Research Excellence in 2000, awarded from RACAL Research, London, UK and the owner of one patent awarded from the Industrial Property Organisation of Greece.

Dr. Angelou is the author of three international books published from McGraw-Hill International, New York, USA and over thirty technical articles published in peer-reviewed journals and international conferences.

Indicator No. 4 - Sustainable Land Use

Expert: Dr. Henk Wolfert, Programme Manager at the Amsterdam Institute for Advanced Metropolitan Solutions, and at Wageningen Environmental Research, The Netherlands

Henk Wolfert is a programme manager at the Amsterdam Institute for Advanced Metropolitan Solutions. He is responsible for the Vital City research theme, which addresses the issues of urban climate resilience, metropolitan food systems and healthy urban living in Amsterdam. His main interest is strategic and applied research and setting up living labs, with both public and private partners.

He is one of the initiators of the Flevo Campus in the City of Almere and its scientific programme ‘The Feeding City’, focusing on a transition into more regionally oriented urban food systems. In addition, he is the driver behind the Wageningen City Agenda, aiming at cooperation between the city of Wageningen and Wageningen University & Research.

Henk has been working at Wageningen Environmental Research in various positions: researcher of geomorphology, team leader Landscape Systems Research, executive secretary of the Board of Directors and coordinator of the Wageningen Research programme System Earth Management. Henk was member of several peer and governmental advisory commissions.

He is a member of the team of coordinators of the Partnership for European Environmental Research (PEER), member of the advisory board of the New Water Ways project in Oslo and involved in an expert team of the European Science for Environment Policy News Alert.

Henk holds a master’s degree in Physical Geography from the University of Amsterdam, and a PhD degree from Utrecht University. His PhD was on river rehabilitation and geomorphological change.
**Indicator No. 5 - Nature & Biodiversity**

**Expert: Mr. David Jamieson, Parks Greenspace & Cemeteries Manager, City of Edinburgh Council, and Director of Greenspace Scotland, United Kingdom**

Based in Scotland, David is responsible for managing Edinburgh’s public parks and greenspace network, including the city’s nature reserves, woodlands, allotments, cemeteries and urban forest. As head of Edinburgh’s Parks Service he has secured a number of green accolades for the city, including winner of Britain in Bloom, Entente Florale Gold Medal, Eurocities, COSLA Gold Medal for Service Innovation & Improvement, the UK’s Best Parks, Grounds and Horticultural Service Team award, and Fields in Trusts’ Best UK Landowner.

Having led the development and implementation of Edinburgh’s Nature Conservation Strategy, Urban Forestry Strategy, and Biodiversity Action Plan, he is presently directing the Edinburgh Living Landscape initiative in partnership with local universities, wildlife trust, botanic garden and green space trust. This is an innovative ecosystems approach to urban open space management, bringing nature closer to people’s homes and work-places.

Having recently arranged a city-wide count and ecosystem services analysis of Edinburgh’s urban trees, he is now heading up a multi-agency effort to make Scotland’s capital a ‘Million Tree City’ by 2030. This aims to help address both the climate crisis and species extinction commitments made on behalf of Edinburgh’s residents and visitors by the local authority.

David is also Director and chair of the national charity, greenspace Scotland, championing the value of green space to government and other decision-makers. As a chartered ecologist and environmental manager, with degrees from Stirling, Heriot-Watt and Huddersfield universities, his career has ranged across the public, academic and voluntary sectors. In recent years he has also been a director of Volunteer Development Scotland, BTCV Scotland, Oatridge Agricultural College and the Falkirk Environment Trust - promoting volunteering as a means for positive social and environmental change.

As well as being the Expert Panel member for Nature and Biodiversity, David is also a UK-level judge for Britain in Bloom and assessor for Green Flag Award, the two largest green award programmes in Great Britain. This gives him insight into current best practice in green space management, urban ecology, community-driven environmental initiatives, and sustainable development.

**Indicator No. 6 - Air Quality**

**Expert: Mr. Joan Marc Craviotto Arnau, Air Quality Consultant at Barcelona City Council, Spain**

Joan Marc Craviotto Arnau is an Air Quality Consultant with extensive experience in urban air quality management and planning. He holds a degree in Industrial Engineering from the Polytechnic University of Catalonia and a postgraduate degree in Air Quality Management and Atmospheric Pollution Control from the University of Santiago de Chile.

For over 10 years he has collaborated with Barcelona City Council in its aim to improve citizens’ well-being. In his role, he has contributed to create a professional air quality management scheme and has advised on new policies and abatement measures. He also managed the development of Barcelona’s Air Quality Improvement plan and played a key role in the implementation of important abatement measures such as the Low Emission Zone. Joan Marc has put technology at the core of the strategy, promoting the use of state-of-the-art techniques in the decision-making process.
Joan Marc is a key contributor to the air quality public awareness campaign for the City of Barcelona, and is committed to sharing knowledge and raising awareness of environmental issues related to air quality. He engages with and promotes scientific research to increase the knowledge of the air quality dynamics in the city of Barcelona and is a regular speaker and attendant at air quality conferences, congresses and workshops.

**Indicator No. 7 - Noise**

**Expert: Dr César Asensio, Researcher at the Instrumentation and Applied Acoustics Research Group of the Technical University of Madrid**

Dr. César Asensio has a BSc in Telecommunication Engineering, MSc in Acoustics Engineering in Industry and Transport and a PhD in Acoustics Engineering.

He has vast experience in environmental acoustics including noise modelling, strategic noise mapping and noise monitoring in cities, industry and transport infrastructures. He was nominated by Spain as technical expert to be part of the CNOSSOS-EU Technical Committee (Common Noise assessment methods), which is aimed at improving the consistency and comparability of noise assessments results across the EU Member states. CNOSSOS-EU defined a methodological framework that formed the basis for the amendment of Annex II of Directive 2002/49/EC of the European Parliament and of the Council relating to the assessment and management of environmental noise in Europe.

César is highly committed to environmental noise research and information dissemination, aiming to raise the awareness of public administrations, citizens and other stakeholders about the risks that community noise can pose to public health. He is particularly interested in the influence that non-acoustic factors have on the response of citizens to noise, as well as in the exploitation of new technologies and smart city capabilities in the management of environmental noise.

**Indicator No. 8 - Waste**

**Expert: Mr. Olivier Gaillot, Director of Environment, Energy and Resource Management, RPS Group Ltd., Ireland**

Olivier Gaillot is Director of Environment, Energy, and Resource Management in RPS. Olivier is a Chartered Waste Manager with a master’s Degrees in Strategic Procurement and Environmental Engineering.

For the last 18 years Olivier has specialised in the waste and resource management sector, developing expertise in waste policy and legislation, strategy and planning, data analysis and technical assessments. Olivier served as project manager for rx3, ‘rethink recycle remake’, a national platform whose main focus was on closing the material loop, through the development of markets for reusable, remanufactured and recyclable materials. This closed loop recycling project correctly anticipated the ‘circular economy’ policy by the EU Commission favouring eco-innovation, economic development and job creation. The project received the best public sector award at the 2013 Green Awards. He has also served as the project manager for the development of green public procurement guidance and review of Extended Producer Responsibility in Ireland. Olivier is a member of the Irish National Waste Prevention Committee chaired by the EPA. In his current role in RPS, Olivier manages teams of engineers and scientists delivering high quality projects across the environmental, energy, waste/resource efficiency sectors.
**Indicator No. 9 - Water**

**Expert: Mr. Christof Mainz, Senior/First Officer at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Germany**

Christof Mainz is a civil engineer specialised in the environment and water sector. In May 2017 he commenced working at the Directorate for Water management at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) in Bonn, Germany.

Prior to his current position, he worked at the European Commission in Brussels (2011-2017) and at the regional Ministry for the Environment in Düsseldorf, North Rhine-Westphalia (1998-2011). While working at the European Commission’s Directorate General for the Environment (DG ENV), within the unit responsible for the Marine Environment and Water Industry, his main responsibilities were linked to several EU Water Industry Directives and their relationship with other EU legislation and policy areas, as well as supporting EU actions on innovation in the water sector, such as strategies for water reuse and resource efficiency. Prior to this, he worked in different regional administrations on technical checks and monitoring of urban waste water treatment plants.

**Indicator No. 10 - Green Growth & Eco-innovation**

**Expert: Ms. Zita Dibáczi, Senior Expert, Integrated Sustainable Urban Civil Engineering Planning & Management, UNITEF Engineering, Hungary**

Zita works for UNITEF Engineering in Hungary, as a senior expert on integrated sustainable urban civil engineering planning & management. Her responsibilities include feasibility studies, and licensing of projects which significantly contribute to the upgrading and transformation of local and regional development, in line with the long-term strategic plans and policy framework.

She holds a BSc in Environmental Engineering and MSc in Renewable Energy Engineering.

Since 2005, she has dedicated her professional activity to environmental and renewable energy technology. Zita is also passionate about environmental and sustainability issues, as well as climate change mitigation which she follows with interest. She has extensive experience working on international programmes and projects for both private and public organisations.

Throughout her career, she has gained an in-depth understanding of urban & regional planning from different perspectives, such as resource efficiency, waste management, water, noise, air pollution, climate change mitigation and adaptation, and low carbon technologies through integrating renewable energy sources.

Zita has expertise in Green Technologies and Environmental impact assessments [EIA], and holds a full-scale Environmental Expert Licence from the Hungarian Chamber of Engineers for Air Quality, Noise and vibration, Water, and Geological media protection, Waste management.

Since 2013, she has evaluated and reviewed more than 100 research and innovation projects under the FP7, EEA Grants and HORIZON 2020 calls related to Low Carbon/Sustainable projects submitted by public and private entities.
Indicator No. 11 - Energy Performance

Expert: Ms. Vesna Kolega, Independent Consultant, Croatia

Vesna Kolega has 28 years of experience in the field of sustainable energy, particularly sustainable energy urban planning. With 2 years at the Croatian Power Utility Institute, 14 years at Energy Institute Hrvoje Pozar, 8 years at North-west Croatia Regional Energy Agency and most recently 4 years as an independent consultant.

As the member of the Croatian negotiation team for EU access - Chapter 15: Energy and Environment, a key expert to high level advisory support for accession negotiations in Albania, a member of numerous working groups for transposition of EU energy policies, an author of numerous Croatian energy efficiency legislative documents, an author of numerous position papers and different analyses of energy legislation and policies, a project coordinator of multiple international energy efficiency and sustainable energy planning projects, Vesna has developed an in-depth knowledge and experience on the energy situation at Croatian, SEE countries, and EU level.

Vesna obtained her BSc and MSc at the Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia. Throughout her professional career, as an engineer, researcher, projects coordinator, head of different departments, and finally an independent consultant, Vesna has been fully dedicated to sustainable energy and environmental protection as the most important imperative of the 21st century.

Indicator No. 12 - Governance

Expert: Mr. Alex Minshull, Sustainable City and Climate Change Manager, Bristol City Council, United Kingdom

Alex Minshull is based in Bristol, United Kingdom, where he leads Bristol City Council’s Innovation and Sustainable City and Climate Change Service. His responsibilities include the City Council’s climate change, sustainable development, sustainable food, and air quality programmes.

He studied for his environmental science degree at Southampton University and for his master’s degree in the energy and environmental aspects of architecture at the Centre for Alternative Technology.

Alex has worked as a sustainability professional for over 20 years, in the private and public sectors, as well as volunteering with environmental NGOs.

At the Environment Agency (England) he produced integrated river catchment management plans and advised on urban development to achieve environmental protection within the Midlands region of England. In later years at the Environment Agency, and then at Bristol City Council, he implemented new environmental management systems, secured ISO 14001 and Eco Management and Audit Scheme accreditation, and delivered significant improvements in environmental performance of these organisations.

Since 2006 his role has focused on the sustainable development of the city of Bristol and he has managed professionals working on a range of sustainability issues including, urban development, water, food, energy, electric mobility, climate change and air quality. He has worked to create effective partnerships between the city council and other organisations, including universities, businesses and environmental NGO’s, bringing together their different capabilities to create a more sustainable city.

He has been involved with the European Green Capital Award since it began. He led Bristol’s bids to become European Green Capital, being shortlisted twice and securing the Award for the year of 2015. Alex is passionate about the role of cities in leading the transition to a sustainable world and in cities working
together to accelerate the transition. He has shared the learnings from Bristol with many cities across Europe, and across the globe.