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signed by Mr Jordi AYET PUIGARNAU, Director

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To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of  
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THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL  
COMMITTEE AND THE COMMITTEE OF THE REGIONS  
Review of progress on implementation of the EU green infrastructure  
strategy

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Delegations will find attached document COM(2019) 236 final.

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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE  
COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE  
COMMITTEE OF THE REGIONS**

**Review of progress on implementation of the EU green infrastructure strategy**

{SWD(2019) 184 final}

## 1. Context and introduction

Green infrastructure is defined in the EU green infrastructure strategy as ‘a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services. It incorporates green spaces (or blue if aquatic ecosystems are concerned) and other physical features in terrestrial (including coastal) and marine areas. On land, green infrastructure is present in rural and urban settings’.

Unlike single-purpose grey infrastructure, biodiversity-rich green spaces can perform a variety of extremely useful functions, often simultaneously and at very low cost, for the benefit of people, nature and the economy.

In the EU, green infrastructure (GI) includes the Natura 2000 network as its backbone, as well as natural and semi-natural spaces outside Natura 2000, such as parks, private gardens, hedges, vegetated buffer strips along rivers or structure-rich agricultural landscapes with certain features and practices, and artificial features such as green roofs, green walls, or eco-bridges and fish ladders. The annual benefits of eco-system services provided by the Natura 2000 network alone have been estimated at EUR 300 billion across the EU<sup>1</sup>, with the benefits of GI going well beyond.

Target 2 of the EU 2020 biodiversity strategy states that ‘by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems’. Fully meeting this target 2 and restoring Natura 2000 to favourable status could further generate respectively up to 50 000 and 140 000 jobs; and up to EUR 4.2 and 11.1 billion of direct outputs annually; as well as a wider range of benefits from ecosystem services<sup>2</sup>.

The Commission adopted an EU strategy on green infrastructure (GI strategy) in 2013<sup>3</sup> to enhance these economic benefits by attracting greater investment in Europe’s natural capital to achieve its biodiversity objectives by 2020. It included four priority work streams: promoting GI in the main policy areas; improving information, strengthening the knowledge base and promoting innovation; improving access to finance; and contributing to the development of GI projects at EU level.

The strategy envisaged that **by the end of 2017, the Commission should review progress on developing GI and publish a report on the lessons learned together with recommendations for future action.** The Action Plan for nature, people, and the economy<sup>4</sup> stipulates that this review will further inform the way forward on strategically investing in green infrastructure in the EU. It will also contribute to the final evaluation of the EU 2020 biodiversity strategy.

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<sup>1</sup> The Economic benefits of the Natura 2000 Network; 2013, ISBN 978-92-79-27588-3

<sup>2</sup> Eftec, ECNC, UAntwerp & CEEWEB (2017) Promotion of ecosystem restoration in the context of the EU biodiversity strategy to 2020

<sup>3</sup> COM(2013) 249 final

<sup>4</sup> COM(2017)198 final

The review addresses the progress made and challenges encountered at both EU and Member State<sup>5</sup> level in carrying out the Strategy's four priority work streams; draws some lessons and puts forward some suggestions for the further implementation of the strategy.

## **2. Assessment of progress and challenges**

### **2.1 Promoting green infrastructure in the main policy areas: progress and challenges**

The GI strategy stressed the need to ensure that GI becomes a standard part of spatial planning and territorial development and that it is fully integrated into the implementation of the policies whose objectives can be achieved as a whole or in part through nature-based solutions. It provided that regional or cohesion, climate change and environmental policies, disaster risk management, health and consumer policies and the Common Agricultural Policy would be the main policy areas through which Green Infrastructure would be promoted. The sites and functions of the Natura 2000 network are the backbone of EU GI. The fitness check of the Nature Directives concluded that, although the Directives are key instruments for the EU 2020 biodiversity strategy, they could not deliver alone on the EU 2020 goal of halting the loss of biodiversity. The Action Plan for Nature, People and the Economy provides for additional measures such as the establishment of guidance to support the deployment of GI projects at EU level for better connectivity of Natura 2000 areas to help achieve the objectives of the Nature Directives, while also contributing to other EU biodiversity targets.

GI deployment can be achieved through both the conservation of existing biodiversity-rich ecosystems in good condition and the restoration of degraded ecosystems, both inside and outside of the Natura 2000 network. Under the Birds and Habitats Directives, Member States are required to formulate restoration objectives and measures for the Natura 2000 sites where species and habitats have not yet attained a favourable conservation status. A key tool for setting priorities for conservation and restoration at regional or national level are the Prioritised Action Frameworks developed by the Member States according to Article 8 of the Habitats Directive. The new format for these Prioritised Action Frameworks<sup>6</sup> includes the possibility to include information on related wider green infrastructure measures.

Action 6a of the Biodiversity Strategy called upon Member States by 2014, with the assistance of the Commission, to develop a strategic framework to set priorities for ecosystem restoration at sub-national, national and EU level. In 2014, the Commission published a study to help Member States prioritise the restoration of degraded ecosystems<sup>7</sup>. Although few restoration prioritisation frameworks (RPFs) are in place at national and sub-national level<sup>8</sup>, some restoration activity is taking place<sup>9</sup> - often in response to other relevant EU legislation, such as the Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD). Increased efforts are needed to complete national RPFs to implement Action 6b, in

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<sup>5</sup> See the accompanying staff working document, and the 28 country fact sheets based on information gathered in 2017

<sup>6</sup> <http://ec.europa.eu/environment/nature/natura2000/financing/docs/PAF%20format%20EN.docx>

<sup>7</sup> <http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/RPF.pdf>

<sup>8</sup> Germany, the Netherlands and the region of Flanders (BE)

<sup>9</sup> See footnote 2

complement with the Prioritised Action Frameworks (PAFs) under the Nature Directives, in a way that is consistent with the methodological approach of the EU initiative on mapping and assessment of ecosystems and their services (MAES<sup>10</sup>), and with restoration activities required under EU legislation.

Several Member States have established national ecological networks or equivalent instruments. In many Member States, objectives or requirements specifically related to GI are included in broader biodiversity and nature conservation policies and legislation. For example, several national biodiversity strategies and plans include references to GI (whether labelled as such or using other terminology reflecting the same concept). GI is also implicitly addressed in instruments related to particular ecosystems, such as Ireland's National Peatlands Strategy. However, with the exception of Germany's 'national GI concept'<sup>11</sup>, Member States have not yet adopted national strategies specifically dedicated to GI. Nevertheless, some national strategies are being developed (e.g. in Spain), and other policies and legislative instruments address - at least implicitly - the concept of GI as defined by the EU GI strategy.

With regard to **EU water policy**, natural water retention measures (NWRM) can help to slow down the flow of storm water, increase infiltration and reduce pollution through natural processes. Such measures are identified as cost-effective approaches to reach the objectives of the WFD and the Floods Directive<sup>12</sup> while also contributing to biodiversity protection and adaptation to climate change. Guidance on NWRM was developed<sup>13</sup> and their implementation via EU structural and agricultural funds encouraged in the elaboration of Member States operational and agricultural programmes<sup>14</sup>. An ex-post assessment<sup>15</sup> of the operational programmes has suggested that in spite of some progress, more needs to be done to promote strategic and integrated programmes; and that planning of larger-scale GI and NWRM could provide benefits for water quality, protect against floods and deliver on biodiversity objectives. Planning opportunities can be informed through the MAES work, River Basin Management Plans and PAFs to identify multifunctional spaces that offer the highest opportunity for ecosystem service delivery.

Under the **EU policy on maritime affairs and fisheries**<sup>16</sup>, GI is referred to as a tool contributing to the sustainable development of coastal areas. Article 5 of the Directive on maritime spatial planning<sup>17</sup> covers the principal objectives of GI, stating that 'Member States shall aim to contribute to the preservation, protection and improvement of the environment, including resilience to climate change impacts'. GI though is not sufficiently used in maritime spatial plans, whereas it could contribute to healthy marine ecosystems and deliver substantial

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<sup>10</sup> Mapping and Assessing Ecosystems and their Services:  
[http://ec.europa.eu/environment/nature/knowledge/ecosystem\\_assessment/index\\_en.htm](http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/index_en.htm)

<sup>11</sup> <http://www.bfn.de/bkgi.html>

<sup>12</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52012DC0673>

<sup>13</sup> European Commission (2014). EU Water Policy Document on Natural Water Retention Measures. WFD CIS Working Group Programme of Measures. [https://circabc.europa.eu/sd/a/2457165b-3f12-4935-819a-c40324d22ad3/Policy%20Document%20on%20Natural%20Water%20Retention%20Measures\\_Final.pdf](https://circabc.europa.eu/sd/a/2457165b-3f12-4935-819a-c40324d22ad3/Policy%20Document%20on%20Natural%20Water%20Retention%20Measures_Final.pdf)

<sup>14</sup> [https://ec.europa.eu/agriculture/rural-development-2014-2020\\_en](https://ec.europa.eu/agriculture/rural-development-2014-2020_en)

<sup>15</sup> [Evaluation of the contribution of Operational Programmes to the implementation of EU water policy](#)

<sup>16</sup> COM(2014) 86 final

<sup>17</sup> Directive 2014/89/EU; O.J. EU 28.8.2014; L 257/135

benefits in terms of food production, recreation and tourism, climate change mitigation and adaptation, shoreline dynamics control and disaster prevention.

Although the GI concept was not embedded in the MSFD, its objectives are aligned with it since the Directive is designed to maintain biodiversity and provide clean, healthy and productive oceans and seas. Some attempts to set up marine GI networks are done through the establishment of coherent networks of marine protected areas pursuant to Article 13.4. Measures taken under the Directive will continue addressing pressures to improve the status of marine environment through a cross-border/regional perspective with the help of newly set criteria and methodological standards<sup>18</sup>. The deployment of GI can help reach this goal.

Ecosystem-based solutions and GI are recognised as relevant approaches to addressing **climate change** in the EU strategy on adaptation to climate change<sup>19</sup>. Action 7 of the strategy makes a specific reference to GI in relation to grey infrastructure resilience. At international level, climate-related benefits of ecosystem-based approaches have been highlighted in several decisions under the Convention on Biological Diversity<sup>20</sup> and in the Paris Agreement<sup>21</sup>. However, opportunities exist for further synergies, given the higher frequency of natural disasters induced by climate change such as the extreme weather-related events in 2017, including forest fires, storms and floods. More could be done to highlight the multiple benefits GI can provide to climate change mitigation and adaptation, directly through e.g. carbon sequestration, and indirectly by reducing energy demands and pollution through GI-related active transport (such as cycling and walking), mitigating heat island effects and reducing the needs for cooling and heating of buildings through green roofs and green walls.

The review of the EU Adaptation Strategy<sup>22</sup> provided an opportunity to consider how to encourage further the uptake of GI to deliver cost-effectively climate-resilient societies. Likewise does the review of EU water policies (Urban Waste Water Treatment Directive - UWWTD, WFD, FD)<sup>23</sup>. Further synergies could also be explored with the Covenant of Mayors for Climate & Energy<sup>24</sup>, or ICLEI - Local Governments for Sustainability<sup>25</sup>.

The strong linkages between **disaster risk management** and the environment are well acknowledged and magnified by the impact of climate change. The EU Action Plan on the Sendai Framework for Disaster Risk Reduction 2015-2030<sup>26</sup> explicitly recognises the positive contribution that GI can bring to disaster risk reduction and management. GI can be promoted through mechanisms to strengthen EU disaster management<sup>27</sup>. However, this has still to be translated into specific actions on the ground. Experience illustrates that **ecosystem-based approaches** such as GI, nature-based solutions, ecosystem-based adaptation, natural water

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<sup>18</sup> Commission Decision 2017/848

<sup>19</sup> COM(2013) 216

<sup>20</sup> <https://www.cbd.int/ecosystem/> ; <https://www.cbd.int/climate/>

<sup>21</sup> <https://unfccc.int/process/the-paris-agreement/the-paris-agreement>

<sup>22</sup> COM(2018)738

<sup>23</sup> [http://ec.europa.eu/environment/water/index\\_en.htm](http://ec.europa.eu/environment/water/index_en.htm)

<sup>24</sup> [http://www.conventiondesmaires.eu/index\\_en.html](http://www.conventiondesmaires.eu/index_en.html)

<sup>25</sup> <http://iclei-europe.org/about-iclei/>

<sup>26</sup> [http://ec.europa.eu/echo/sites/echo-site/files/1\\_en\\_document\\_travail\\_service\\_part1\\_v2.pdf](http://ec.europa.eu/echo/sites/echo-site/files/1_en_document_travail_service_part1_v2.pdf)

<sup>27</sup> COM(2017) 773 final

retention measures and ecosystem-based disaster risk reduction measures are cost-efficient policy tools<sup>28</sup>; but they are not used to their full extent and their potential should be further strengthened at EU level.

Although the GI concept is not included per se in the **Common Agricultural Policy (CAP)**, the two pillars of the current CAP provide a set of instruments for addressing the sustainable management of natural resources and climate action, which can contribute to GI depending on their design and implementation. Under the cross-compliance system, the Good Agricultural and Environmental Conditions (GAEC) related to buffer strips and landscape features involve GI<sup>29</sup> but the benefits they deliver vary across member States. Under the first pillar of the CAP, compulsory ‘greening’ practices introduced in 2015 have the potential to benefit both the environment and climate; however the European Court of Auditors recently concluded<sup>30</sup> that as currently implemented, they are unlikely to provide significant benefits for the environment and climate, in particular for biodiversity. As regards the second pillar, a wide menu of rural development measures can be selected by Member States and regions to help achieve agri-environment-climate objectives, and farmers can receive an area-based payment for them; which can be complemented by targeted support to non-productive investments. Specific support may also be granted to the conversion to or the maintenance of organic farming, the direct implementation of provisions of the Habitats and Birds Directives and the WFD<sup>31</sup>. The European Agricultural Rural Development Fund (EARDF) can also be used to support forestry-related measures that potentially involve the development or maintenance of GI.

This contribution could be enhanced by incentivizing the reintroduction of landscape features in farmed areas and better protecting permanent grasslands. An ex-post assessment of the contribution of the Rural Development Programs towards the delivery of the WFD and the FD includes an assessment of the use of Natural Water Retention Measures and how this can be improved in the future. The Communication on the Future of Food and Farming<sup>32</sup> recommends innovative instruments that have the potential to strengthen existing GI.

Efforts have been made to mainstream GI in **EU regional policy**: the regulations for the European Regional Development Fund (ERDF) and Cohesion Fund for 2014-2020 provide<sup>33</sup> that sustainable development - including environmental protection requirements and biodiversity - is promoted horizontally. In its guidance<sup>34</sup> to Member States, the Commission highlighted GI and ecosystem-based adaptation as a cost-effective alternative or a complementary measure to grey infrastructure and intensive land use change.

The **EU macro-regional strategies**<sup>35</sup> are useful platforms for designing and implementing GI projects and bringing together countries (EU and non-EU), regions and stakeholders. GI can

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<sup>28</sup> <https://www.eea.europa.eu/publications/climate-change-adaptation-and-disaster>

<sup>29</sup> GAEC 1 and 7, see SWD

<sup>30</sup> <http://publications.europa.eu/webpub/eca/special-reports/greening-21-2017/en/>

<sup>31</sup> [Key descriptive statistics on the consideration of water issues in the Rural Development Programmes 2014-2020](#)

<sup>32</sup> COM(2017) 713 final

<sup>33</sup> Article 8 of Regulation (EU) No 1303/2013

<sup>34</sup> [http://ec.europa.eu/regional\\_policy/en/information/legislation/guidance/](http://ec.europa.eu/regional_policy/en/information/legislation/guidance/)

<sup>35</sup> Adriatic-Ionian, Alpine, Baltic Sea and Danube

become the structural and functional backbone for the sustainable development of those regions. As a good example, in the context of the EU macro-regional strategy for the Alpine Region, a ministerial joint declaration on Alpine GI was adopted in October 2017.

GI has also been promoted in **EU urban policy**. Under the Urban Agenda for the EU<sup>36</sup> on Sustainable use of land and nature-based solutions, a partnership was launched in 2017, and a call for proposals is also foreseen under Urban Innovative Actions<sup>37</sup>, which provide funding to cities to test innovative solutions on selected sustainable urban development topics. GI has been included in the award criteria of the European Green Capital and Green Leaf awards<sup>38</sup>. Knowledge of urban GI is also improving with the support of the MAES ‘EnRoute’ project<sup>39</sup>, and Horizon 2020 projects on nature-based solutions implemented in urban areas<sup>40</sup>. Several initiatives launched by European cities target GI at city and local level as well.

In **EU health policy**, despite many studies<sup>41</sup> demonstrating the positive link between GI and human health, GI is not widely used by decision-makers and stakeholders as a cost-efficient solution to health issues. Good practices need to be scaled up, such as Finland's initiatives to promote a holistic approach to GI and human health.

GI, by providing multiple ecosystem-based benefits, can contribute to increasing public acceptance of newly created **energy infrastructure**. Forms of habitat enhancement such as converting areas under power lines into habitats with low lying vegetation has been popular with local communities and land owners and has shown a reduction in vegetation maintenance costs for project promoters<sup>42</sup>. The Renewables Grid Initiative rewards projects with outstanding innovative practices in nature and biodiversity protection, such as those conducted by Elia and Terna<sup>43</sup>. Similar practices could be scaled up across the EU and potentially incentivized by regulators as best practices for ensuring the timely implementation of Projects of Common Interest along TEN-E priority corridors, a precondition for an integrated, secure, competitive and sustainable internal EU energy market and for achieving EU's climate and energy policy objectives.

Regarding **EU transport policy**, some examples illustrate good practices but they are still too isolated, and more efforts are required to enhance biodiversity by using GI alongside TEN-T<sup>44</sup> networks and benefit nature and the economy, increasing at the same time societal acceptance of new transport infrastructure. This can include the maintenance of biodiversity-rich areas alongside TEN-T corridors or the construction of specific structures to provide safe passage for wild fauna. It is therefore important to strengthen synergies between TENs and GI

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<sup>36</sup> <http://www.urbanagendaforthe.eu>

<sup>37</sup> <http://www.uia-initiative.eu>

<sup>38</sup> <http://ec.europa.eu/environment/europeangreencapital/>

<sup>39</sup> [www.oppla.eu/EnRoute](http://www.oppla.eu/EnRoute) and <http://publications.jrc.ec.europa.eu/repository/handle/JRC110402>

<sup>40</sup> E.g. Nature4Cities, GrowGreen, NAIAD, NATURVATION, UNALAB, Connecting and UrbanGreenUp

<sup>41</sup> e.g. Study report on the Health and social benefits of nature

<http://ec.europa.eu/environment/nature/biodiversity/intro/>

<sup>42</sup> BESTGRID Project, <https://www.bestgrid.eu>

<sup>43</sup> See SWD

<sup>44</sup> <https://ec.europa.eu/inea/en/ten-t>

deployment at EU level, including through exploring the potential to green Connecting Europe Facility<sup>45</sup> projects.

## **2.2. Improving information, strengthening the knowledge base and promoting innovation**

The GI strategy called on the Commission to improve and further disseminate GI-related information. Wider access to dedicated information on GI has been provided on the Biodiversity Information System for Europe<sup>46</sup>, including a library on GI<sup>47</sup>. Synergies are developed with other relevant information platforms. Guidance documents on integrating GI into specific policy areas have been published (e.g. regional and cohesion policies<sup>48</sup>, water and flood management<sup>49</sup>, Environmental Impact Assessments<sup>50</sup> and Strategic Environmental Assessments<sup>51</sup>).

Strengthening the knowledge base for GI is part of a broader action to provide the knowledge base for Target 2 of the EU 2020 biodiversity strategy. The EU initiative on mapping and assessment of ecosystems and their services (MAES) launched in 2013 provides methodological guidance for the EU and its Member States to mapping and assessing the state of ecosystems and their services. The fourth MAES report<sup>52</sup> published in 2016 was dedicated to urban GI.

The Commission published a report on ‘strategic GI and ecosystem restoration; geospatial methods, data and tools’<sup>53</sup> as a response to the GI strategy’s call for a review of the ‘extent and quality of spatial and technical data available for decision-makers in relation to GI deployment’.

The European Environment Agency (EEA) and the Joint Research Centre (JRC) are developing support work for GI and restoration, and have published reports on the usability of existing data and new methodologies for GI deployment<sup>54</sup>.

As regards **EU research and innovation policy**, the Seventh Framework Programme (FP7), and since 2014 Horizon 2020, have been funding GI-relevant projects. Investment opportunities are provided through research, innovation and demonstration projects on the deployment and assessment of nature-based solutions. This has been complemented by policy integration, indicator setting, information sharing, promotion and outreach to businesses and society; as evidence about the multiple benefits provided by nature-based solutions triggers

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<sup>45</sup> <https://ec.europa.eu/inea/connecting-europe-facility/cef-transport>

<sup>46</sup> <http://biodiversity.europa.eu/>

<sup>47</sup> <http://biodiversity.europa.eu/topics/green-infrastructure>

<sup>48</sup> [http://ec.europa.eu/regional\\_policy/en/information/publications/guides/2013/guide-to-multi-benefit-cohesion-policy-investments-in-nature-and-green-infrastructure](http://ec.europa.eu/regional_policy/en/information/publications/guides/2013/guide-to-multi-benefit-cohesion-policy-investments-in-nature-and-green-infrastructure)

<sup>49</sup> <https://www.eea.europa.eu/publications/green-infrastructure-and-flood-management>

<sup>50</sup> <http://ec.europa.eu/environment/eia/eia-support.htm>

<sup>51</sup> <http://ec.europa.eu/environment/eia/sea-support.htm>

<sup>52</sup> <http://biodiversity.europa.eu/maes> and <http://publications.jrc.ec.europa.eu/repository/handle/JRC101639>

<sup>53</sup> Estreguil, C., Dige, G., Kleeschulte, S., Carrao, H., Raynal, J. and Teller, A., *Strategic Green Infrastructure and Ecosystem Restoration: geospatial methods, data and tools*, EUR 29449 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-79-97295-9, doi:10.2760/36800, JRC113815.

<sup>54</sup> See SWD.

upscaling and prioritisation of GI. Access to funding is facilitated through the research-funded information sharing platform Oppla<sup>55</sup> and the networking platform ThinkNature<sup>56</sup>.

The GI strategy also called on the Commission to ‘assess the contribution that technical standards, particularly in relation to physical building blocks and procedures, could make to develop a market for GI-friendly products’. The possible development of GI-related standards is included in the annual Union work programme for standardisation<sup>57</sup>, and the Commission carried out a study on the matter<sup>58</sup>. Work will continue over the coming months, involving relevant stakeholder and standardisation organisations, to assess whether and for which GI-related elements new standards would be needed.

### **2.3. Improving access to finance**

A recent study<sup>59</sup> estimated the level of EU funding for GI in the 2007-2013 programming period to around EUR 6 579 million in the 2007-2013 period, with the highest contribution from the European Agricultural Fund for Rural Development. The LIFE programme provides specific funding for biodiversity, including green infrastructure<sup>60</sup>.

For the 2014-2020 period, green infrastructure is further supported as part of European Regional Development Fund and Cohesion Fund direct allocations to biodiversity, nature and green infrastructure with EUR 3 700 million earmarked investments; as well as with investments in several related areas such as on flood protection, water purification or renovation of buildings.

The GI strategy called on the Commission to explore the opportunities for setting up innovative financing mechanisms to support GI and to set up an EU financing facility to support people seeking to develop GI projects. GI projects are eligible under the Natural Capital Financing Facility (NCCFF)<sup>61</sup>, a financial instrument that supports projects delivering on biodiversity and climate adaptation and that generate revenues or demonstrate cost savings. The first loan was signed in April 2017<sup>62</sup>, and is expected to provide strong GI and nature benefits. Three additional operations have been signed in 2018, including a loan to the City of Athens for Urban GI, and several other relevant projects are under preparation.

The European Fund for Strategic Investments<sup>63</sup> (EFSI) and the objectives of the new EFSI II regulation (linking EFSI to more sustainable and cross-border projects, in particular those that contribute to achieving COP21 climate targets or the transition towards a more resource efficient, circular and (near) zero-carbon economy) can also contribute, indirectly though, to supporting GI projects.

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<sup>55</sup> <http://oppla.eu/>

<sup>56</sup> <https://www.think-nature.eu/>

<sup>57</sup> COM(2017) 453 final

<sup>58</sup> [http://ec.europa.eu/environment/nature/ecosystems/docs/green\\_infrastructures/GI%20Final%20Report.pdf](http://ec.europa.eu/environment/nature/ecosystems/docs/green_infrastructures/GI%20Final%20Report.pdf)

<sup>59</sup> [http://ec.europa.eu/environment/nature/ecosystems/docs/green\\_infrastructures/GI%20Final%20Report.pdf](http://ec.europa.eu/environment/nature/ecosystems/docs/green_infrastructures/GI%20Final%20Report.pdf)

<sup>60</sup> <http://ec.europa.eu/environment/life/index.htm>

<sup>61</sup> <http://www.eib.org/products/blending/nccff/index.htm>

<sup>62</sup> <http://www.eib.org/products/blending/nccff/project-examples/index.htm>

<sup>63</sup> <http://www.eib.org/efsi/>

EU co-funding for projects implementing GI through nature-based solutions, and restoration in the 2014-15 calls under Horizon 2020 reached EUR 38.6 million, and EUR 68 million for the calls in 2016, with further EUR 73 million in 2017. The BiodivERsA<sup>64</sup> ERA-net co-fund provided additional EUR 33 million for GI-related projects to national agencies in 2015-2016. Other funding instruments such as structural funds could then take up the results of GI-relevant research and innovation and add ambition in terms of scale of interventions and coherence among them, but this is not happening yet.

This review has shown that the opportunities embedded in the various EU financing instruments have not been fully used and that access to finance remains to be improved. Some stakeholders consulted in the framework of the Coordination Group on Biodiversity and Nature noted they perceived the lack of a dedicated financing instrument as an obstacle. There is a need to improve awareness of existing opportunities<sup>65</sup>, and to provide information on how to combine different sources for more strategic and integrated GI projects.

Investing in GI brings substantial returns to the private sector. GI can be used by developers to increase land value or to protect assets from the impact of climate change given the carbon storage, erosion and flood control services of many ecosystems. Guidance on quantifying the economic returns on investment in GI is needed to encourage uptake of these opportunities. Action 1b<sup>66</sup> of the action plan for nature, people and the economy addresses this need by providing Commission guidance on integrating ecosystems and their services into decision-making.

#### **2.4. Contributing to the development of GI projects at EU level**

The EU GI strategy highlighted the support to GI projects at EU level as an important objective to avoid a situation where GI projects would only be carried out as independent initiatives and would not achieve their full potential. It encouraged Member States and regions to seize the opportunities for developing GI in a cross-border/transnational context.

In Member States, only a few transnational initiatives have been successfully developed, such as the European Green Belt<sup>67</sup> or the Lower Danube Green Corridor<sup>68</sup>. In the latter, it has been estimated that each hectare of restored floodplain provided EUR 500 per year in ecosystem services, helping to diversify local livelihoods.

Regarding support to EU-wide GI projects, existing instruments are primarily oriented towards projects implemented within the territory of a single Member State (with the exception of INTERREG); and have their own procedural requirements and time frame, which does not ease the design and implementation of transboundary GI projects.

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<sup>64</sup> <http://www.biodiversa.org/>

<sup>65</sup> See the Commission's guide on Multi-benefit cohesion policy investments in nature and GI.

<sup>66</sup> [http://ec.europa.eu/environment/nature/legislation/fitness\\_check/action\\_plan/factsheets\\_en.pdf](http://ec.europa.eu/environment/nature/legislation/fitness_check/action_plan/factsheets_en.pdf)

<sup>67</sup> <http://www.europeangreenbelt.org/>

<sup>68</sup> <http://climate-adapt.eea.europa.eu/metadata/case-studies/lower-danube-green-corridor-floodplain-restoration-for-flood-protection>

More generally, there is scope to further integrate GI in a synergistic way in strategic planning instruments such as river basin management plans, Natura 2000 management plans, national air quality plans, rural development programmes and cohesion policy operational programmes, as well as in TENs. Such plans could contribute to setting up an EU-wide GI network.

The GI strategy noted that developing a so-called TEN-G (trans-European network for GI), 'would have significant benefits for securing the resilience and vitality of some of Europe's most iconic ecosystems, with consequential social and economic benefits'. It provided that the Commission would carry out a study to assess the opportunities for developing an EU TEN-G initiative, including an assessment of the costs and the economic, social and environmental benefits of such an initiative. The European Parliament<sup>69</sup>, the Council<sup>70</sup> and the Committee of the Regions<sup>71</sup> also expressed support for a TEN-G initiative.

A cost-benefit analysis was published in 2016<sup>72</sup>, concluding that a more strategic approach to GI at EU level would have the potential to provide greater benefits per euro invested than the current GI policy implementation and funding allocation (with a benefit-cost ratio more than double the current approach).

Action 12 of the action plan for nature, people and the economy provides that the Commission should develop guidance providing a strategic framework for further supporting the development of EU-level GI. This should help identify projects of common European interest to be prioritised with appropriate funding within the current multiannual financial framework, at a scale that transcends administrative boundaries.

### **3. Conclusions and next steps**

The EU GI strategy has highlighted the benefits of GI and built some momentum for the deployment of GI in the EU. There has been progress at various levels but challenges remain and the deployment of GI needs to be further scaled up. Evidence shows that a strategic approach for GI at EU level has not been implemented yet; and a more robust enabling framework for GI should be considered. GI deployment is often only implemented at a small scale, not giving due recognition to the potential economic and social benefits of using green instead of grey infrastructure solutions.

At Member State level, increased efforts are required to develop and implement national GI strategies and prioritisation frameworks for the restoration of degraded ecosystems, consistent with the MAES approach. This will provide greater synergy and complementarity with the PAFs under the Nature Directives, and with the WFD and the MSFD.

The integration of GI into appropriate EU funding mechanisms has provided new opportunities; however, uptake is still too limited. Efforts should be stepped up to achieve

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<sup>69</sup> Resolution of 2 February 2016 on the mid-term review of the EU's Biodiversity Strategy to 2020, § 29

<sup>70</sup> Conclusions of 16 December 2015 on the mid-term review of the EU Biodiversity Strategy to 2020, § 30

<sup>71</sup> Opinion of 26 June 2014 on Multilevel governance in promoting the EU Biodiversity Strategy to 2020 and implementing the international Aichi Targets, § 53

<sup>72</sup> See footnote 59

effective mainstreaming of GI in relevant EU policies and legislation. It will be important to ensure a more strategic approach and make the best use of the future EU funding instruments to support green infrastructure. Besides, the coherence of ecosystem-based policies should be improved, including through better interoperability of related existing platforms.

The implementation of Action 12 of the EU Nature Action Plan and its related guidance on supporting the deployment of EU-level GI projects are an opportunity to further clarify the GI concept (in light of comments that the multiple aspects covered by the EU definition are sometimes challenging to capture). The guidance document also provides concrete examples on how GI relates to ecosystem restoration. It aims to help optimising investments in nature and biodiversity from the current multiannual financial framework as well as informing future debates on how to do this in the post-2020 period.

Moreover, the Commission's guidance on the integration of ecosystems and their services into decision-making<sup>73</sup> helps to better take into account the economic, social and environmental benefits provided by GI.

The findings included in this report will feed into the evaluation of the EU biodiversity strategy to 2020 and its follow up. They will contribute to achieving the objectives of other key EU policies in areas such as economic growth and jobs, climate mitigation and adaptation, disaster risk reduction, cohesion and sustainable agriculture and forestry, and in a broader perspective the Sustainable Development Goals.

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<sup>73</sup> [http://ec.europa.eu/environment/nature/index\\_en.htm](http://ec.europa.eu/environment/nature/index_en.htm)