

**EN**

**ANNEX to the Commission Decision C(2018)4801 of 25.7.2018**

**ANNEX I**

**WORK PROGRAMME FOR 2018**

List of pilot projects and preparatory action

1. Pilot project "Mapping and assessing the state of ecosystems and their services in the outermost regions and overseas countries and territories: establishing links and pooling resources"
2. Pilot project "Effect of residential solid waste burning on ambient air quality in Europe and potential mitigation measures"
3. Pilot project "Establishing regional or local platforms on coexistence between people and large carnivores focused on key actions for large carnivores in areas with high levels of conflict"
4. Pilot project "Map of solutions, best practices and remedies for Lindane pesticide waste decontamination in the Union"
5. Pilot project "Assessing, identifying, sharing and disseminating best practices for the humane management of invasive alien species"
6. Pilot project. "Nature-Based Solutions for climate and water pollution mitigation in agricultural regions"
7. Preparatory action "Operationalising capacity building for programmatic development and mapping objectives in the field of environmental taxation and budgetary reform"

## **1. Pilot project - Mapping and assessing the state of ecosystems and their services in the outermost regions and overseas countries and territories: establishing links and pooling resources**

### **1.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for grants (implemented under direct management) (1.2)

### **1.2. Grants**

The overall budgetary allocation reserved for grants in 2018 amounts to EUR 1 500 000.

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 35

#### ***Priorities of the year, objectives pursued and expected results***

Action 5 of the EU Biodiversity Strategy<sup>1</sup> urges Member States to map and assess the state of ecosystems and their services in their national territory. A Working Group on Mapping and Assessment of Ecosystems and their Services (MAES)<sup>2</sup> was established in 2012.

The second year financing for this pilot project will provide a further tangible contribution to the MAES initiative to support regional policy in overseas Europe by mobilising stakeholders and pooling resources and by demonstrating the feasibility and the added value of a bottom-up approach, involving and empowering local actors. It will complement and expand the activities of the on-going project MOVE<sup>3</sup>. It will allow further testing and implementation of the MAES methodology in different regions of the world as Outermost Regions (ORs) and Overseas Countries and Territories (OCTs) are located in the Caribbean, Pacific, Indian Ocean, Amazon, South Atlantic, Macaronesian, polar and subpolar regions. It will provide methodologies and good practice guidelines and will contribute to worldwide EU leadership in this area.

It will involve policymakers, researchers and civil society in the development of methodologies for mapping and assessing the state of ecosystems and their services in ORs and OCTs.

#### ***Description of the activities to be funded under the call for proposals***

The call for proposals will select one project having the following aims:

1. Supporting regional biodiversity policy in overseas Europe, further mobilising stakeholders and pooling resources financed under the first year of the pilot project, assessing the state of the art of the MAES within the participating overseas entities,

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<sup>1</sup> Biodiversity Strategy COM(2011)244

<sup>2</sup> MAES initiative <https://biodiversity.europa.eu/maes>

<sup>3</sup> The project MOVE is funded under the call for proposals MAES OR OCT 2017 implementing the first year of the pilot project.

making an inventory and confirming and substantiating the human and material capacities present in each of them.

2. Building on the work carried out in the frame of the NETBIOME network<sup>4</sup> and the BEST<sup>5</sup> (Biodiversity and Ecosystem Services in Territories of European overseas) initiative.
3. Analysing case studies in specific regions and identifying on which regions to focus the work of dedicated teams of local experts, policymakers and civil society members pooled from across the OR and OCTs.

### Essential eligibility selection and award criteria

<b>Key eligibility criteria</b>	The applicants and their partners can be public and private bodies, NGOs, universities, research institutes and international organisations.	
<b>Key selection criteria</b>	<ul style="list-style-type: none"> <li>- Financial capacity: stable and sufficient sources of funding to maintain the activity throughout the period during which the proposal is being carried out and to participate in its funding.</li> <li>- Operational capacity of the applicant and partners: professional competencies of the staff and previous experience in terms of projects undertaken.</li> </ul>	
<b>Key award criteria</b>	<ol style="list-style-type: none"> <li>1. Understanding of the call for proposals and scope of the project: <ul style="list-style-type: none"> <li>- complementarity and collaboration with the MOVE project;</li> <li>- involvement of ORs and OCTs, as targeted areas and in terms of participation of relevant authorities;</li> <li>- contribution to the MAES initiative;</li> <li>- involvement of the different stakeholders and/or target groups.</li> </ul> </li> <li>2. Organisation and management of the project: <ul style="list-style-type: none"> <li>- consistency of the expenditures with the foreseen activities;</li> <li>- feasibility of the project in terms of</li> </ul> </li> </ol>	<p>(max. 50 points)</p> <p>(max. 40 points)</p>

<sup>4</sup> Networking tropical and subtropical Biodiversity research in Outermost regions and territories of Europe in support of sustainable development: <http://www.netbiome.eu/>

<sup>5</sup> Biodiversity and Ecosystem Services in Territories of European overseas: [http://ec.europa.eu/environment/nature/biodiversity/best/projects/current/index\\_en.htm](http://ec.europa.eu/environment/nature/biodiversity/best/projects/current/index_en.htm)

	coherence of the actions with the expected results, resources and timetable, including measures for quality.	
	3. Control and risk management	(max. 10 points)

**Implementation**

This action will be implemented under direct management by the Directorate-General for Environment.

**Indicative timetable and indicative amount of the call for proposals**

Reference	Date	Amount
Call MAES OR OCT 2018	Launching of the call for proposals: November/December 2018 Receipt of the proposals: March/April 2019 Notification of the results: April/May 2019 Finalisation of the grant agreement: October/November 2019	EUR 1 500 000

**Maximum possible rate of co-financing of the eligible costs**

The Commission will finance a maximum rate of 95 % of eligible/total expenditures.

The grant will be based on the reimbursement of direct eligible costs and on a flat-rate funding of the indirect costs up to a maximum of 7 % of total eligible direct costs of the action, except where the beneficiary is in receipt of an operating grant financed by the Union budget.

## **2. Pilot project - Effect of residential solid waste burning on ambient air quality in Europe and potential mitigation measures**

### **2.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for procurement (implemented under direct management) (2.2)

### **2.2 Procurement**

The overall budgetary allocation reserved for procurement contracts in 2018 amounts to EUR 1 400 000.

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 37

#### ***Subject matter of the contracts envisaged***

The objective is to build further on the activities implemented during the first year of financing of this pilot project and its study which looks at the nature and magnitude of solid waste burning for residential heating purposes in Central and Eastern Europe and its contribution to air pollution, notably in terms of particulate matter.

The work will focus on five main areas:

- Further developing the knowledge base for evaluating the impact of residential solid waste burning on ambient air quality in Europe, by also assessing the health impact of such waste burning practices, building on work already carried out, by, for example, the World Health Organisation, or other entities.
- Developing proposals for concrete actions which could be taken at local, regional or national level to tackle the effects and reduce the occurrence of such waste burning practices and, where relevant, test/pilot them at local or regional scale.
- Estimating the cost-benefit ratio of potential different options for tackling such waste burning practices.
- Raising awareness, including through targeted information campaigns and specific capacity-building activities, to facilitate communication on the outcomes of the ongoing pilot project on the same subject.
- Assessing and testing possibilities to foster administrative and technical capacity building (including monitoring and surveillance) and to include relevant measures and practices in air quality plans and national air pollution control programmes as mentioned in Union air quality and air emissions legislation, Ecodesign and in relation to EU 2030 climate and energy framework.

The work will concentrate on Hungary and Romania while drawing on experiences from other Member States of the Union which were or are facing similar problems, and will focus on assessing the overall impact on local populations, raising awareness among medical professionals and authorities at local and regional level.

A key element of the project will be to test/pilot identified measures to address the issue of solid waste burning, for viability and cost-benefit, which, in addition to providing valuable information on their subsequent scalability potential would also help deliver immediate results in the test areas. Dissemination activities will be organised in cooperation with relevant projects elsewhere in the Union (such as LIFE Integrated Projects).

The implementation will be done with the support of external consultants selected on the basis of two calls for tender, over a period of three years.

One contract will cover the analytical work related to building up the knowledge base, in particular on health impacts, developing proposals for concrete actions to reduce the occurrence of residential solid waste burning practices and estimate their cost-benefit ratios. A second contract will focus on raising awareness of citizens on the issue and on possible mitigating measures, undertake some pilot tests and assess their usefulness for air quality plans and programmes in Union legislation. The contracts will also include a communication and dissemination component aimed at raising awareness about the project and its results.

**Type of contract:** service contract

**Indicative number and amount of contracts envisaged:** Two service contracts of a total estimated value of 1 400 000 EUR.

**Indicative timeframe for launching the procurement procedure**

September 2018.

**Implementation**

This action will be implemented under direct management by the Directorate-General for Environment

### **3. Pilot project - Establishing regional or local platforms on coexistence between people and large carnivores focused on key actions for large carnivores in areas with high levels of conflict**

#### **3.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for procurement (implemented under direct management) (3.2)

#### **3.2 Procurement**

The overall budgetary allocation reserved for procurement contracts in 2018 amounts to EUR 500 000.

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 39

#### **Subject matter of the contracts envisaged**

Under the contract (ENV.D.3/SER/2017/0028) concluded in 2017 following the financing of the first year of this pilot project, three pilot local or regional platforms of stakeholders and authorities are being established to improve the coexistence between people and large carnivores, based on the model of the EU Large Carnivores Platform<sup>6</sup> and on the experience from other regional platforms, e.g. established through LIFE projects<sup>7</sup>.

The three geographical areas have been selected in those Member States/regions of the Union (in Romania, Spain and Italy) where there are serious conflicts with regard to coexistence between humans and large carnivores. The platforms include the main interest groups active in the area and the local/regional authorities responsible for large carnivores' management. The acceptance of the coexistence with large carnivores and of the principles established under the EU Platform should be the starting point/pre-condition of the stakeholders' involvement.

The future contract of this second pilot project will support the establishment of additional regional or local platforms.

In each of the selected areas, the contract will support the implementation of two or three relevant actions included in the document 'Key actions for large carnivore populations in Europe'<sup>8</sup>.

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<sup>6</sup> [http://ec.europa.eu/environment/nature/conservation/species/carnivores/coexistence\\_platform.htm](http://ec.europa.eu/environment/nature/conservation/species/carnivores/coexistence_platform.htm)

<sup>7</sup> [http://ec.europa.eu/environment/nature/conservation/species/carnivores/promoting\\_best\\_practices.htm](http://ec.europa.eu/environment/nature/conservation/species/carnivores/promoting_best_practices.htm)

Further more recent LIFE projects include: LIFE15 NAT/GR/001108 - LIFE AMYBEAR; LIFE16 NAT/ES/000573 - LIFE OSO COUREL; LIFE16 NAT/SI/000634 - LIFE Lynx and LIFE16 GIE/DE/000661 - LIFE EUROLARGE CARNIVORES. In particular, the latter involves 17 countries and proposes a stakeholder oriented information and learning approach to ensure effective implementation of population based conservation strategies for large carnivores.

<sup>8</sup>

[http://ec.europa.eu/environment/nature/conservation/species/carnivores/pdf/key\\_actions\\_large\\_carnivores\\_2015.pdf](http://ec.europa.eu/environment/nature/conservation/species/carnivores/pdf/key_actions_large_carnivores_2015.pdf)

The focus will be on actions relating to conflict resolution<sup>9</sup>, communication, reducing socio-economic problems, including human and animal welfare/safety and establishing win-win socio-economic benefits in line with the objectives of the EU Nature Directives<sup>10</sup> and the EU 2020 biodiversity strategy<sup>11</sup>.

**Type of contract:** service contract

**Indicative number and amount of contracts envisaged:** One service contract of an estimated value of 500 000 EUR.

**Indicative timeframe for launching the procurement procedure**

The third quarter of 2018.

**Implementation**

This action will be implemented under direct management by the Directorate-General for Environment.

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<sup>9</sup> [http://ec.europa.eu/environment/nature/conservation/species/carnivores/promoting\\_dialogue.htm](http://ec.europa.eu/environment/nature/conservation/species/carnivores/promoting_dialogue.htm)

<sup>10</sup> [http://ec.europa.eu/environment/nature/legislation/index\\_en.htm](http://ec.europa.eu/environment/nature/legislation/index_en.htm): Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds; Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora; Council Directive 1999/22/EC of 29 March 1999 relating to the keeping of wild animals in zoos; Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species

<sup>11</sup> [http://ec.europa.eu/environment/nature/biodiversity/strategy/index\\_en.htm](http://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm)

#### **4. Pilot project - Map of solutions, best practices and remedies for Lindane pesticide waste decontamination in the Union**

##### **4.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for procurement (implemented under direct management) (4.2)

##### **4.2 Procurement**

The overall budgetary allocation reserved for procurement contracts in 2018 amounts to EUR 600 000.

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 44

##### **Subject matter of the contracts envisaged**

The aim of this project is to define effective methods for decontamination of the Lindane polluted spots, identifying funding options, research gaps and to create a framework for facilitating the decontamination efforts. Attention will also be given to raising public awareness on the Lindane pesticide, stimulating knowledge exchange between problem owners, policy makers, scientists and disseminating the results to the stakeholders.

It is necessary to take stock from existing studies and the significant work already undertaken, e.g. the study "Lindane (persistent organic pollutant) in the EU"<sup>12</sup> commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs at the request of the Committee on Petitions.

On the basis of the results of previous studies and information already available on Lindane, the contract will focus on the following objectives:

1. Defining practices and solutions developed for Lindane decontamination, assessing the effectiveness of experiences related to the decontamination of identified Lindane waste sites, taking stock of the results of projects funded by the Union and using all those findings to develop guidelines for the environmentally sound remediation of Lindane.
2. Facilitating the identification and dissemination of best practices for Lindane waste decontamination actions, identifying research gaps, as well as facilitating the technological transfer and exchange of views, knowledge and experiences between scientific experts and other actors and stakeholders (public authorities, citizens, NGOs) from various Member States of the Union, raising public awareness and disseminating the results to the stakeholders and the authorities confronted with Lindane pollution.

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<sup>12</sup>

PE 571.398

[http://www.europarl.europa.eu/RegData/etudes/STUD/2016/571398/IPOL\\_STU\(2016\)571398\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/571398/IPOL_STU(2016)571398_EN.pdf)

3. Investigating the funding options for the remediation and the redevelopment of sites contaminated with Lindane.

**Type of contract:** service contract

**Indicative number and amount of contracts envisaged:** One service contract of an estimated value of 600 000 EUR.

**Indicative timeframe for launching the procurement procedure**

The third quarter of 2018.

**Implementation**

This action will be implemented under direct management by the Directorate-General for Environment.

## **5. Pilot project - Assessing, identifying, sharing and disseminating best practices for the humane management of invasive alien species**

### **5.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for procurement (implemented under direct management) (5.2)

### **5.2 Procurement**

The overall budgetary allocation reserved for procurement contracts in 2018 amounts to EUR 500 000.

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 46

#### **Subject matter of the contracts envisaged**

The contract will provide technical assistance in identifying, assessing and then sharing and disseminating best practices for the humane management of invasive alien species.

Its main objective will be to provide support to Member States in their choice and application of effective management measures to eradicate, contain or control invasive alien animals, through lethal or non-lethal measures, while seeking to minimise side effects on animal welfare, as well as on non-targeted species and their habitats, the environment and human health, with a view to increase their public acceptability.

The management of established invasive alien animals is a resource-intensive and sensitive activity. The contract will identify and assess humane management measures for invasive alien vertebrate animals, so as to equip Member States with the tools to choose and apply effective measures in a cost-effective way, duly considering the implications for animal welfare.

The contract will therefore focus on the following:

- Reviewing and assessing existing practices with a view to develop technical guidance (e.g. the Agreement on International Humane Trapping Standards (AIHTS)<sup>13</sup>).
- Ensuring dissemination of the findings by developing multilingual guidance.
- Engaging with Member States to refine and adapt the guidance to needs.
- Promoting and disseminating the guidance to showcase best practice and ensure the exchange of best practices across Member States, including the organisation of workshop(s) involving the competent authorities and key stakeholders.

**Type of contract:** service contract

**Indicative number and amount of contracts envisaged:** One service contract of an estimated value of 500 000 EUR.

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<sup>13</sup> [http://ec.europa.eu/environment/biodiversity/animal\\_welfare/hts/index\\_en.htm](http://ec.europa.eu/environment/biodiversity/animal_welfare/hts/index_en.htm)

***Indicative timeframe for launching the procurement procedure***

July 2018.

***Implementation***

This action will be implemented under direct management by the Directorate-General for Environment.

## **6. Pilot project — Nature-Based Solutions for climate and water pollution mitigation in agricultural regions.**

### **6.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for other actions (administrative agreement implemented under direct management) (6.2)

### **6.2 Other Action**

The overall budgetary allocation reserved for other action in 2018 amounts to EUR 750 000.

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line: 34 02 77 04 (nomenclature change requested in the 2019 draft budget to 07 02 77 48)**

#### ***Subject matter of the contracts envisaged***

The project will aim to identify the cost and benefits of a range of nature-based solutions, particularly aimed at the treatment of manure-derived waste and sludge (e.g. constructed wetlands), the reduction of diffuse pollution through buffer landscape elements in relatively wet and cold regions and the retention of water in the landscape (e.g. through ponds or small lakes) in relatively dry and hot regions, also as means to adapt to climate-induced water scarcity and drought.

It will be implemented using 9 pilot cases where nature-based solutions have been applied to deal with a range of problems: waste water treatment, limit impact of diffuse pollution and water retention. Each case will be studied in detail to establish costs and direct and indirect benefits, set up a hydrological model to allow extending the solution to the entire river basin, identify bottlenecks for implementation and identify a business model to allow implementation.

The results will be synthesized, drawing - besides the analysis of the pilot cases - also on the results of other relevant European Commission activities such as the Blue2 study<sup>14</sup> on the socio-economic assessment of policies aiming to improve the quality of freshwater and the marine environment, and previous work on natural water retention measures (NWRM)<sup>15</sup> aiming to safeguard and enhance the water storage potential of landscape, soil, and aquifers, by restoring ecosystems, natural features and characteristics of water courses and using natural processes. In comparison with the previous projects on NWRMs, this one will specifically address the explicit mapping of opportunities, costs and benefits of implementation in European river basin districts.

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<sup>14</sup> Blue2 study: [http://ec.europa.eu/environment/blue2\\_en.htm](http://ec.europa.eu/environment/blue2_en.htm)

<sup>15</sup> Natural water retention measures: <http://nwrn.eu/>

Green Infrastructure and the Water sector:

[http://ec.europa.eu/environment/nature/ecosystems/pdf/Green%20Infrastructure/GI\\_water.pdf](http://ec.europa.eu/environment/nature/ecosystems/pdf/Green%20Infrastructure/GI_water.pdf)

The project will be implemented through an administrative agreement with the Joint Research Centre (JRC) as the JRC has extensive expertise in modelling the impact of various activities on water quality and quantity and is experienced with appraising such nature-based solutions at European scale.

***Indicative timeframe for launching the procedure***

The administrative agreement is expected to be signed in July 2018.

***Implementation***

This action will be implemented under direct management by the Directorate-General for Environment.

## **7. Preparatory action — Operationalising capacity building for programmatic development and mapping objectives in the field of environmental taxation and budgetary reform**

### **7.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for procurement (implemented under direct management) (8.2)

### **7.2 Procurement**

The overall budgetary allocation reserved for procurement contracts in 2018 amounts to EUR 750 000.

**Legal basis:** Preparatory action within the meaning of Article 54(2)(b) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 45

#### ***Subject matter of the contracts envisaged***

The contract will build on the successful pilot project from 2015 entitled 'Capacity building, programmatic development, and communication in the field of environmental taxation and budgetary reform' (implemented in 2016-2017) and will aim at putting its conclusions into action.

The main objectives of the contract will therefore be:

- developing guidance to the stakeholders (including tool-kits) to achieve a higher level of stakeholders participation in the environmental taxation domain,
- following the thematic areas from the 2015 pilot project, mapping implementation gaps in Member States that could be addressed by the introduction of economic instruments,
- complementing the 2015 project by analysing subsidies that trigger environmentally harmful behaviours and by determining where a reform of such subsidies would be necessary, including an analysis of the consequences of such reforms.

All the above-mentioned actions will be supported by numerous workshops to have a wide consultation with stakeholders, build capacity among them, especially as regards the subsidies part, and get a broad feedback from them.

The main emphasis will be on providing the appropriate guidance and information to the stakeholders, civil society actors and decision-makers to make them more and better informed and equipped for/in the policy procedures.

**Type of contract:** service contract

**Indicative number and amount of contracts envisaged:** One service contract of an estimated value of 750 000 EUR.

#### ***Indicative timeframe for launching the procurement procedure***

Third quarter of 2018.

***Implementation***

This action will be implemented under direct management by the Directorate-General for Environment.

## **ANNEX II**

In the Annex to Decision C(2018)1514, section 3 is replaced by the following:

### **“3. Pilot project — Integrating smart sensors and modelling for air quality monitoring in cities**

#### **3.1. Introduction**

On the basis of the objectives given in the budget remarks this work programme contains the actions to be financed and the budget breakdown for year 2018 for other actions (administrative agreement implemented under direct management) (3.2) and for procurement (implemented under direct management) (3.3).

**Legal basis:** Pilot project within the meaning of Article 54(2)(a) of Regulation (EU, Euratom) No 966/2012.

**Budget line:** 07 02 77 47

#### **3.2 Other Action**

The overall budgetary allocation reserved for other action in 2018 amounts to EUR 750 000.

#### ***Subject matter of the contracts envisaged***

The project aims at the development and on-line implementation of deployment and calibration procedures for air quality sensors, including researching potential, ways of integrating lower-cost sensors with conventional air quality monitoring systems. Additionally, the research encompasses quality assessment and control as well as the optimal set-up of sensor networks. The performance of lower-cost sensors as compared to conventional air quality monitoring and air quality modelling throughout the sensors' life cycles will also be documented. Furthermore, general guidance on the use of lower-cost air quality sensors, including power supply and network connectivity will be developed.

The core part of the project will be implemented through a three-year administrative agreement with the Joint Research Centre (JRC). The JRC is a natural choice to implement this pilot project meant to develop quality assessment and control strategies for urban air quality sensor networks, because it already runs the European Reference Laboratory for Air Pollution<sup>16</sup>, which is the Commission's body responsible for organizing European quality assurance programmes for air pollution measurements. It is therefore important to ensure continuation and further development of this work with a view to maximising synergies across sensor work streams at Union level and securing continued JRC scientific leadership on those matters.

The administrative agreement with JRC will cover the following objectives:

1. Comparing the capability and performance of lower-cost sensor systems to measure air pollution with conventional air quality monitoring and modelling.

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<sup>16</sup> <https://ec.europa.eu/jrc/en/research-facility/european-reference-laboratory-air-pollution>

2. Developing an online calibration technique for sensor systems.
3. Elaborating on a potential way to integrate lower-cost sensor systems in already existing air quality monitoring networks and air quality modelling systems.
4. Developing a platform for integration and visualization of data from sensors.

***Indicative timeframe for launching the procedure***

The administrative agreement is expected to be signed in July 2018.

***Implementation***

This action will be implemented under direct management by the Directorate-General for Environment.

***3.3 Procurement***

The overall budgetary allocation reserved for procurement in 2018 amounts to EUR 250 000.

***Subject matter of the contracts envisaged***

EUR 250 000 will be allocated for an open call for tenders. The selected contractor will develop a deployment strategy for an air quality sensor network and establish at least two such networks in three cities within the Union according to the technical specifications provided. A third deployment may be carried out in a smaller city with limited sensor systems.

An external contractor will set up an urban air quality sensor network in two or more test cities consisting of a limited selection of lower-cost sensors. Those pilot monitoring network(s) will be a platform for the development and on-line implementation of calibration procedures for air quality sensors, and they will be a practical demonstration of the unique hybrid approach of combining high-resolution modelling with high-resolution monitoring.

In the process of setting up the sensor network, research will be carried out to determine spatial deployment strategies for sensors (macro- and micro-scale siting criteria). To support the assessment of the performance of lower-cost sensors, the project will simultaneously gather air quality data from other sources (conventional air quality monitoring, air quality modelling, satellites, etc.). The performance of lower-cost sensors will be compared to those other sources of air quality information based on technical criteria such as uncertainty, bias, hysteresis, response time, effects of temperature and humidity on measurements, selectivity, sensitivity etc. This will feed into further research on ways to calibrate lower-cost sensors, covering aspects such as mode of calibration, location, time and frequency of calibration.

The interface with local authorities of the selected cities will be managed by the contractor.

***Type of contract:*** service contract

***Indicative number and amount of contracts envisaged:***

One service contract of an estimated value of 250 000 EUR.

***Indicative timeframe for launching the procurement procedure***

Third quarter of 2018.

***Implementation***

This action will be implemented under direct management by the Directorate-General for Environment.”