I. Project Context
   Country Context
   Peru has enjoyed a period of broad-based rapid economic growth in the last decade. Sound macroeconomic management during the boom years created the fiscal space needed for countercyclical policies to soften the impact of the global economic crisis. With the country's countercyclical fiscal policy to support aggregate demand and the ongoing application of structural reforms, it is expected that the country should progressively recover to a growth average rate of 4 percent in 2017. Between 2005 and 2014, rapid economic growth in Peru yielded important declines in poverty rates from 55.6 percent to 22.7 percent and extreme poverty rates from 15.8 percent to 4.3 percent. Since December 2014, Peru has an OECD Country Program. Through this program, the Government of Peru (GoP) has participated in several of the OECD's Specialized Committees and undertaken policy and capacity reviews including the Environmental Performance Review of Peru, which provides recommendations for enhancing Peru's environmental policy and management. The new administration aims for Peru to join the OECD by 2021. This cooperation will generate an enabling environment on environmental quality control and improved access to environmental data and information to help the nation in achieving this goal.

   Sectoral and institutional Context
As one of the most ecologically diverse countries in the world with rich natural resources, Peru's natural capital contributes 13 percent to the total wealth of the country. It is estimated that 15 percent of the country's GDP is linked to the direct extraction of natural resources. Historically, the nation has experienced different peaks of economic growth based on the exploitation of natural resources such as rubber, guano, saltpeter, anchoveta, hydrocarbons and minerals. However, Peru has not been able to tap these economic opportunities to achieve sustainable development. Instead, as for many other developing countries, its economic development model has led to mounting environmental challenges such as degraded air quality in urban areas, indoor air pollution, exposure to lead, water pollution, deforestation and overfishing. A World Bank study estimates that in 2012 the annual cost of environmental degradation in Peru amounted to 3.5 ➞ 5.0 percent of its GDP with a mid-point estimate of 4.1 percent.

It is noteworthy that GoP has adopted specific policy measures to curb environmental degradation and achieved remarkable results. For example, since 2001 the government has promoted conversion of vehicles to natural gas and supplied clean diesel (with a sulfur content less than 50 ppm) in areas affected by high levels of air pollution such as Lima-Callao, Arequipa, Puno, Cuzco and Madre de Dios. The GoP has also strengthened its vehicle inspection system, and prohibited the import of low-quality used vehicles. These measures contributed to important improvements. For example, population exposure to outdoor PM2.5 in Lima-Callao has declined by 15 percent over the 2001-2012 period, in spite of a 27 percent increase in the population. Limited data shows that population exposure to outdoor PM2.5 has also declined from 2003 to 2012 in all urban areas of the country. Another example is the country's successful phase-out of lead in gasoline, which has substantially contributed to reduce risk of lead poisoning in the country. During the same period, GoP expanded the coverage of improved sanitation from around 58 percent to 67 percent of the total population, primarily in the rural areas.

Despite these achievements, the high costs of environmental degradation and frequently reported air, water and soil contamination events in the country urge the GoP to step up its efforts to protect the environment and public health. In this regard, lax environmental enforcement has been highlighted as a key challenge in the country's environmental protection efforts, which is also directly associated with the environmental conflicts particularly in the mining sector. As the World Economic Forum report points out, Peru is positioned higher among the Latin American countries in terms of aggregate environmental sustainability but performs poorer on indicators related to the stringency and enforcement of the country's environmental regulations. The report specifically highlights that "the enforcement of environmental regulations is quite lax, to the detriment of efforts to preserve the environment" and "the pollution of water resources, especially in areas with strong mining development ➞_; has recently spurred several local protests in the country."

Several key factors are identified as the cause of the country's weak environmental enforcement: (a) some environmental quality and compliance standards are lacking or lax and inadequate; (b) limited environmental monitoring and analysis capacities; (c) limited information sharing among the key agencies in charge of environmental monitoring; and, (d) limited disclosure of environmental information and lack of effective channels for public participation in environmental quality control. Altogether these factors have contributed to lack of transparency and accountability and limited effectiveness of the government's efforts to improve environmental quality.

In Peru, the government uses environmental quality standards (ECAs) to monitor and evaluate
environmental quality and maximum permissible limits (LMPs) to control environmental discharges and emissions from regulated entities. The Department of Environmental Quality (DGCA) of the Ministry of Environment is responsible for the development of ECAs and LMPs. In addition to Ministry of Environment, three other ministries have established LMPs for their own sectors: Ministries of Energy and Mining, Production, and Housing, Construction and Sanitation. Even with these efforts, according to Ministry of Environment (MINAM), the government does not have sufficient ECAs and appropriate LMPs to manage the country's environmental quality. Furthermore, the currently regulated values of ECAs and LMPs do not adequately take into account the uncertainties of data quality attributed to different measurement systems and time coverages. Clearly, ECAs and LMPs need to be complemented and some of them revised to control effectively the country's environmental quality.

The second key factor is the country's weak environmental monitoring and analysis capacity. According to the Agency for Environmental Assessment and Enforcement (OEFA), an agency with an independent budget status under MINAM and responsible for environmental control, inspection and enforcement, the existing air and water quality monitoring systems are only covering limited areas of the country, with inadequate monitoring frequencies. In fact, regular air quality monitoring is limited to major urban centers such as Lima-Callao and water quality monitoring is performed only in the country's main river basins. In addition, monitoring practices are not consistent across different monitoring stations. As a result, OEFA and MINAM have not been able to establish good baselines and trends of air and water quality in priority areas of the country.

This situation is further exacerbated by the low-quality monitoring and analysis services provided by public and private laboratories. To date, most environmental monitoring in the country is undertaken by third parties whose sampling and analytical practices are yet to be rigorously supervised by the authorities. According to OEFA, nationwide only 35 out of 200 laboratories providing environmental analytical services are accredited. In addition, OEFA indicates that these laboratories do not cover all necessary parameters to ensure that environmental quality is adequately protected. The existing laboratories can only analyze up to 53 parameters out of the 105 legally required parameters related to water ECAs, with a great variability in their analytical capacity that ranges from 1 to 42 parameters. In addition, there are just a few laboratories that are capable of measuring air quality parameters. Moreover, for similar reasons, there is no sufficient data on soil environmental quality to meet the requirements set under the national environmental regulations.

Another issue is the weak selection of monitoring sites. Monitoring plans often fail to cover priority areas and tend to focus on hotspots where environmental complaints or conflicts are frequently reported. Moreover, the quality of statistical methods used for sampling including the uncertainty level associated with the sampling results has also been called into question. Altogether, the current practices to assure data quality and representativeness of key environmental parameters are questionable. Because of these analytical weaknesses, aggregate results of environmental quality data in air and watersheds are not always reliable and, therefore, of little usefulness for environmental policy at the local, regional and national levels.

As a result of weak monitoring and analytical capacity, the available environmental quality data has not been able to satisfy the demand and needs for sound decision-making in both the public and private sectors. This may have caused or exacerbated the distrust among communities, investors
and government entities when making key investment decisions, such as those in the extractive industry. Evidently, the lack of trust on the role of the state as a fair environmental arbiter is a factor that contributes environmental local problems to escalate into conflicts and conflicts to escalate into crisis with serious costs for the peace and growth of the country. Environment-related conflicts in the extractive industries have delayed or halted a number of mining and hydrocarbon projects, which have adversely affected economic growth.

The third issue is related to the inability of sharing information across agencies involved in different aspects of environmental quality control. While the GoP has made a significant progress in establishing norms for inter-operational processes to facilitate information exchange among the agencies, the implementation of these norms is lagging behind. For example, many official documents are not in electronic formats yet. In many cases information cannot be shared electronically without going through formal application processes. For air quality monitoring, the Department of Environmental Health (DIGESA) of the Ministry of Health manages five air quality monitoring stations in Lima and Callao, while the National Meteorology and Hydrology Service (SENAMHI) manages ten air quality monitoring stations focusing on monitoring atmospheric pollutants; and a municipal transport company Protransporte has three monitoring stations to monitor air pollution emissions from the Bus Rapid Transit services in the same metropolitan area. However, air quality control in Lima-Callao has suffered from insufficient coordination and challenges to exchange monitoring information across these entities.

To address this critical issue, the GoP set up in 2004 a National System for Environmental Management (SNGA) under MINAM to organize the territorial and functional systems for environmental and natural resources management. In 2010, the SNGA developed a National Environmental Information System (SINIA) with the purpose of collecting environmental management information from related authorities, performing data processing and analysis, and enabling data access and dissemination. However, environmental data for the system to collect and store is insufficient because of inadequate monitoring equipment and field recording devices, teams with low technical capacity, outdated technical equipment, and incomplete procedures and protocols for data recording and quality control. In addition, MINAM recognizes that it has limited capacity to perform information analysis and that the SINIA portal does not have sufficient processing capacity to collect, store and share the environmental quality information generated by all agencies as per the requirements of Peruvian regulations. Together with the lack of procedures and protocols for digitally exchanging information between SINIA and environmental data gathering organizations, SINIA has yet to achieve its mandate of sharing environmental quality information across agencies and supporting sound decision making for sustainable economic development activities.

The last key issue is the lack of informed and active public participation. Peru is a country facing an increasing amount and intensity of social conflicts linked to perceived environmental impacts and degradation. Currently, the environmental information systems that are expected to deliver reliable and relevant environmental quality information to the public and effectively channel public concerns to decision makers in a timely manner are largely constrained in fulfilling their roles. In addition to the information availability issue mentioned above, there are two additional constraints. A constraint is the limited channels for the public to voice their environmental concerns and proposals for sound environmental quality management. Another constraint is the technological/geographical barriers such as limited access by the rural population to internet-based platforms as well as the user-unfriendly formats of the existing system. MINAM acknowledges that the
environmental complaints and grievance mechanisms in practice involve cumbersome and inflexible processes with limited transparency that inevitably discourage participation of the citizens, particularly, the rural poor.

MINAM has promoted information disclosure through its SINIA portal. However, environmental information disclosed through the SINIA website is still very limited and does not identify the priority environmental quality issues at the national and subnational levels to inform the formulation of an evidence based environmental policy. In addition to information generation, exchange and processing issues mentioned above, MINAM has limited technical infrastructure for effective information dissemination and limited technical and human capacity at the national, regional and local levels that additionally constrain the utilization of SINIA. The current SINIA system is designed as a one-way communication platform and provides no interfaces for the public to provide inputs on environmental management issues. As such, SINIA's function as the government's main interface for information exchange between the public on environmental management issues has been quite limited.

Recognizing these key factors limiting its effectiveness in promoting transparent, accountable and participatory management of environmental quality in the country, the Ministry of Environment through the Ministry of Economy and Finance requested the Bank's support for the preparation and implementation of this project. This project will be the government's first endeavor to systematically address the regulatory and information challenges for effective environmental quality control and monitoring in order to enhance environmental management and develop an evidence-based environmental policy.

II. Proposed Development Objectives
The objective of this project is to generate and share information for environmental quality control at the national level by supporting the Government of Peru to improve its environmental monitoring and analytical capacity, increase public access to environmental quality information, and promote informed public participation in environmental quality management.

III. Project Description
Component Name
Environmental Monitoring and Analysis
Comments (optional)
This component will support MINAM and OEFA to properly carry out their responsibilities in air, water and soil monitoring and analysis based on an enhanced regulatory framework, the development of capacities and infrastructure for an effective environmental monitoring, and the strengthening of analytical and quality control/quality assurance capacities. The component has three subcomponents: (1.1) Environmental Quality Standards and Guidelines; (1.2) Monitoring and Analytical Capacity Building; and, (1.3) Monitoring and Analysis. A national environmental analysis laboratory to be owned and operated by OEFA will be constructed under the third subcomponent. This component will also promote enhanced laboratory practices in public and private laboratories.

Component Name
Information Disclosure and Public Participation
Comments (optional)
This component will enable MINAM to improve SINIA's capacity to properly collect, store and
share environmental quality information generated by various agencies at the national and local levels and to develop and deploy public participation platforms to facilitate the dissemination of environmental quality information and public participation in environmental quality management.

**Component Name**
Project Management

**Comments (optional)**
This component will support MINAM and OEFA to properly implement the agreed project activities, through provision of works, goods, consultants’ services and operating costs. Special attention will be given to the close coordination of project activities under Components 1 and 2 to generate synergies to effectively achieve the PDO.

**IV. Financing (in USD Million)**

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**V. Implementation**
MINAM will establish a project steering committee (PSC) to oversee project implementation formed by the Vice Minister of Environment Management, the President of OEFA, the General Director of Public Investment from MEF and the Project Coordinator. MINAM has delegated OEFA to implement this project in close cooperation with related MINAM departments and other national agencies. OEFA will establish a Project Coordination Unit (PCU) to manage technical aspects of project implementation. A Project Operational Manual (POM) will be developed to clearly define (a) roles and responsibilities of all agencies involved in project implementation; (b) financial management, disbursement, procurement and safeguard arrangements; (c) procedures and processes to carry out project implementation; and, (d) Monitoring and Evaluation (M&E), reporting and information disclosure arrangements.

**VI. Safeguard Policies (including public consultation)**

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Comments (optional)
The safeguard policies associated with the project are discussed in detail in the Integrated Safeguards Data Sheet published jointly with this Project Information Document.

VII. Contact point

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